

**A. INTRODUCTION**

According to the guidelines of the 2001 *New York City Environmental Quality Review (CEQR) Technical Manual*, an open space analysis is necessary when an action would result in the physical loss of public open space or the introduction of 200 or more residents or 500 or more workers to an area. The proposed project is the development of Brooklyn Bridge Park, an approximately 85-acre, 1.3-mile park with commercial and residential uses. While it would represent a major increase in the area's open space supply, it would also increase the number of residents and employees in the study area. Therefore, this chapter assesses existing conditions (for both open space users and resources), examines conditions in the future without the proposed project (No Build condition), and identifies potential impacts that would result in the future with the proposed project (Build condition). It accounts for the increased open space supply provided by a major new waterfront park, as well as the increased demand from the new residential population.

Overall, this analysis concludes that the proposed project would add a significant amount of open space and dramatically increase the recreational opportunities along and adjacent to the waterfront. Although the project would add new worker and residential populations to the area, the amount and character of new open space created would result in substantial beneficial effects to open space conditions and would not result in significant adverse open space impacts.

**B. METHODOLOGY****STUDY AREAS**

This analysis of open space was conducted based on methodologies contained in the *CEQR Technical Manual*. According to CEQR guidelines, the first step in conducting an open space analysis is to establish study areas appropriate for the new population(s) to be added as a result of the proposed actions. The study area is based on the distance a person is assumed to walk to reach a neighborhood open space. Workers typically use passive open spaces and are assumed to walk approximately 10 minutes (about a ¼-mile distance) from their places of work. Residents are more likely to travel farther to reach parks and recreational facilities. They are assumed to walk about 20 minutes (about a ½-mile distance) to reach both passive and active neighborhood open spaces. Because the proposed project would have both commercial and residential components, two study areas are evaluated—a commercial study area based on a ¼-mile distance from the project site, and a residential study area based on a ½-mile distance.

In accordance with CEQR methodology, the commercial open space study area comprises all census tracts that have 50 percent of their area located within a ¼-mile of the project area. Thus, all open spaces, as well as all residents and employees within census tracts with at least 50 percent of their area within the ¼-mile radius, have been included in the study areas for this

analysis (see Figure 5-1). The same methodology was applied to the ½-mile residential study area.

### **OPEN SPACE USER POPULATIONS**

Demographic data were used to identify potential open space users (residents and workers) within the ¼- and ½-mile study areas. To determine the number of residents located within the study areas, data were compiled from the 2000 Census for the study area tracts. The number of employees in each of the study areas was determined based on journey-to-work data from the 2000 Census Transportation Planning Package (CTTP).

### **INVENTORY OF OPEN SPACE RESOURCES**

All publicly accessible open spaces and recreational facilities within the ¼- and ½-mile study areas were inventoried to determine their size, character, and condition. Public spaces that do not offer useable passive or active recreational areas were excluded from the quantitative analysis, as were open spaces that are not accessible to the general public. However, some of these are presented in Table 5-3 and are noted in the qualitative analysis. The information used for this analysis was gathered through field studies conducted in June 2003; from the New York City Department of Parks and Recreation (DPR); and from *Privately Owned Public Space: The New York City Experience* (2000), a collaboration by the New York City Department of City Planning (DCP), Jerold S. Kayden, and the Municipal Art Society. At each open space, active and passive recreational spaces were noted. Active open space facilities are characterized by activities such as jogging, field sports, and children's active play. Such open space features might include basketball courts, baseball fields, or play equipment. Passive open space facilities are characterized by activities such as strolling, reading, sunbathing, and people-watching. Some spaces, such as lawns, public esplanades, and dog runs, can function as both active and passive recreation areas.

### **ADEQUACY OF OPEN SPACE RESOURCES**

After completing the inventory, the adequacy of open space in the study area was assessed both quantitatively and qualitatively. In the quantitative approach, the amount of useable open space acreage in relation to the study area population—referred to as the open space ratio—is compared with guidelines established by DCP. To determine the adequacy of open space resources for the working (daytime) population of a given area, DCP has established that 0.15 acres of passive open space per 1,000 workers represents a reasonable amount of open space. For the residential population, two sets of guidelines are used. The first guideline is a Citywide median open space ratio of 1.5 acres per 1,000 residents. The second is an optimal planning goal established by DCP of 2.5 acres per 1,000 residents—2.0 acres of active and 0.5 acres of passive open space per 1,000 residents. The needs of workers and residential populations are also considered together because it is assumed that both will use the same passive open spaces. Therefore, a weighted average of the amount of passive open space necessary to meet the DCP guideline of 0.50 acres of passive open space per 1,000 residents and 0.15 acres of passive open space per 1,000 workers is considered in this analysis. Because this ratio changes depending on the proportion of residents and workers in each study area, the analysis accounts for the amount of open space needed in each condition in each study area, and calculates the recommended weighted average ratio of passive open space acres per 1,000 residents and workers.



Impacts are based on how the proposed project would change the open space ratios in the study area. It is recognized that these goals are not feasible for many areas of the City, and they are not considered impact thresholds. Rather, these are benchmarks indicating how well an area is served by open space.

## C. EXISTING CONDITIONS

### OPEN SPACE USER POPULATION

#### *¼-MILE STUDY AREA*

As presented in Table 5-1, 10 census tracts comprise the ¼-mile study area. Based on the 2000 Census, the residential population of this area is 27,796. The worker population in the ¼-mile area is estimated to be 24,417.

**Table 5-1  
Existing Resident and Worker Populations**

Census Tract	Resident Population	Worker Population
<b>¼-Mile Study Area</b>		
1	5,260	1,240
3.01	5,036	1,835
3.02	284	634
5	6,154	3,735
7	3,682	3,000
13	2,533	4,765
21	1,134	6,730
47	1,120	90
49	2,593	1,750
319 <sup>1</sup>	0 <sup>2</sup>	922 <sup>3</sup>
<b>¼-Mile Study Area Total</b>	<b>27,796</b>	<b>24,417</b>
<b>Additional Population Within ½-Mile Study Area</b>		
9	2,178	26,385
11	117	49,310
23	4,314	360
45	3,444	1,275
<b>½-Mile Study Area Total</b>	<b>37,849</b>	<b>101,747</b>
<b>Notes:</b>		
<sup>1</sup> Manhattan waterfront census tract that includes Brooklyn Piers 1-10.		
<sup>2</sup> Residential population based on block-level Census data.		
<sup>3</sup> One-third of the total Census tract, given that the majority of workers are located in Manhattan. Piers 1- 6 are part of the project site with approximately 150-170 employees; Piers 7-10 have additional employees, including those associated with waterfront shipping activities and other businesses.		
<b>Sources:</b> U.S. Census of Population and Housing, 2000; 2000 Census Transportation Planning Package (CTTP).		

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*½-MILE STUDY AREA*

Within the ½-mile study area are four additional census tracts (see Figure 5-1). The residential population of this larger area is 37,849 (see Table 5-1) There are 101,747 workers in the ½-mile study area (see Table 5-1).

**OPEN SPACE INVENTORY**

*¼-MILE STUDY AREA*

Sixteen open spaces are located within the ¼-mile open space study area, some of which are located within the area proposed for Brooklyn Bridge Park. These open space resources are both publicly and privately owned and are open to the public. Altogether, the open space resources in the study area total approximately 42.05 acres (see Figure 5-1 and Table 5-2).

**Table 5-2  
Open Space Resources**

Ref #	Name	Owner	Amenities	Total Acres	Active	Passive	Condition	Use Level
<b>¼-Mile Study Area</b>								
1	Brooklyn Bridge Park, Main Street Park	DPR	Beach area, grassy fields, small playground	2.7	1.35	1.35	Excellent	High
2	Empire-Fulton Ferry State Park	NYSOPRHP	Benches, lawn areas, paths, picnic benches	5.50	1.10	4.40	Good	Moderate
3	Fulton Ferry Pier	DPR	Seating, garden area, interpretive historic displays	1.15	0.0	1.15	Good/Excellent	Heavy
4	Hillside Park	DPR	Grassy area, dog run	2.06	1.75	0.31	Good	Moderate
5	Chapin Playground	DPR	Playground, swings, slides, benches, gaming tables	0.3	0.27	0.03	Excellent	Moderate/Heavy
6	Brooklyn Heights Promenade <sup>1</sup>	DPR	Esplanade with vistas, playgrounds, sitting areas, trees, plants	2.56	1.02	1.54	Excellent	Moderate/Heavy
7	Palmetto Playground	DPR	Benches, playground equipment, game tables, trees, plantings, sculpture, basketball courts, community garden, fitness area, and dog run	0.40	0.30	0.10	Excellent	Moderate
8	Van Vorhees Park	DPR	Tennis, handball, and basketball courts, asphalt play area, play equipment, swings, comfort station, spray showers, sculpture, benches, flowers and trees	5.25	2.63	2.63	Good	Moderate
9	LICH open spaces	LICH	Benches, playgrounds	0.93	0.39	0.54	Good/Excellent	Heavy
10	S. Parkes Cadman Plaza	DPR	Benches, walkways, Brooklyn War Memorial	10.38	2.08	8.3	Average	Moderate/ Heavy
11	Walt Whitman Park	DPR	Lawn area, benches	2.91	1.45	1.46	Average	Low
12	Columbus Park	DPR	Benches, walkways	4.14	0.0	4.14	Good	Moderate

Table 5-2 (cont'd)  
Open Space Resources

Ref #	Name	Owner	Amenities	Total Acres	Active	Passive	Condition	Use Level
13	New York Technical College	CUNY	Benches, plants	0.22	0.0	0.22	Good	Low
14	McLaughlin Park	DPR	Ballfield and courts, benches	1.97	1.6	.37	Good	Low
15	Bridge Park 1	DPR	Seating area with benches, trees, landscaping, plantings	0.09	0.00	0.09	Good	Low
16	Bridge Park 2 <sup>2</sup>	DPR	Paved area with markings for football and baseball, playground, spray fountain, jungle gym, swings	1.49	1.28	0.21	Average	Low
<b>Additional Open Spaces within ½-Mile Study Area</b>								
17	Bridge Park 3 <sup>3</sup>	DPR	Playground, basketball courts, seating areas	1.33	1.14	0.19	Average	Low
18	Farragut Houses	NYCHA	Basketball, play equipment, benches	2.22	1.11	1.11	Average	Moderate
19	Trinity Park <sup>4</sup>	DPR	Sitting area	1.05	0.0	1.05	Average	Low
20	PS 287/Golconda Playground	DPR	Playground, paved play area	2.11	1.90	0.21	Average	Low
21	MetroTech Plaza and Malls	MetroTech Center	Pedestrian mall, walkways, benches	3.3	0.0	3.3	Good	Heavy
22	Renaissance Plaza	Marriott	Benches, walkway, flowers, trees	0.73	0.0	0.73	Good	Heavy
23	Borough Hall Park	DPR	Walkways, benches	0.87	0.0	0.87	Good/ Excellent	Moderate
24	111 Livingston St.		Seating	0.13	0.0	0.13	Poor	Low
25	Cobble Hill Park	DPR	Playground, jungle gyms, landscaping, trees, benches, tables	0.59	0.13	0.46	Excellent	Moderate/ Heavy
26	PS 29 Playground <sup>5</sup>	DOE	Mostly paved play area, jungle gym	0.67	0.67	0.0	Average	Heavy
<b>Open Spaces not included in the ¼-mile quantitative analysis</b>								
A	Squibb Park	DPR	NA	0.60	NA	NA	NA	NA
<b>Notes:</b> CUNY = City University of New York DOE = New York City Department of Education DPR = New York City Department of Parks and Recreation LICH = Long Island College Hospital NA = Not Available NYCHA = New York City Housing Authority NYSOPRHP = New York State Office of Parks, Recreation, and Historic Preservation <sup>1</sup> Includes the Promenade, Fruit Sitting Area, and Pierrepont Playground. <sup>2</sup> Total acreage of lot equals 2.12. Acreage of Bridge Park 2 used in this analysis represents usable open space. <sup>3</sup> Total acreage of lot equals 1.93. Acreage of Bridge Park 3 used in this analysis represents usable open space. <sup>4</sup> Total acreage of lot equals 6.30. Acreage of Trinity Park used in this analysis represents usable open space. <sup>5</sup> Not open to public after sundown.								
<b>Sources:</b> New York City Department of Parks and Recreation publications and website; AKRF, Inc., fieldwork; Lot info 2003.								

*Project Site*

Several open spaces located within the ¼-mile study area are expected to be incorporated into the project site, including the City-owned Main Street Playground and open space, Empire-Fulton Ferry State Park, and Fulton Ferry Park Pier (see Section E, “The Future With the

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Proposed Project”). Main Street Playground is a new playground and open space at the north end of Main Street. The children’s play area includes play equipment with a nautical theme and a sandbox. The open area includes a beach area, grassy fields, and an esplanade with seating and viewing areas.

Empire-Fulton Ferry State Park is located on the waterfront between the Brooklyn and Manhattan Bridges. Facilities in the park include an esplanade at the water's edge with panoramic views of the two bridges and the Manhattan skyline, lawn and picnic areas, and the historic warehouses of the Empire Stores. Although the park totals about 9 acres, including the warehouses, the land and water area devoted to park uses is approximately 5.5 acres.

Fulton Ferry Park, a pier at the foot of Old Fulton Street along the East River, features a nautical and historical theme. The railings surrounding the pier were designed to resemble the cable webbing of the Brooklyn Bridge, and the benches mimic nautical cleats. A small building that formerly housed a marine fireboat station and later a museum devoted to the Fulton Ferry is also contained in this waterfront open space.

### *Remainder of 1/4-Mile Study Area*

Several other parks are near the project site: Hillside Park, Chapin Playground, Brooklyn Heights Promenade, Palmetto Playground, Squibb Park, Van Vorhees Park, and public open spaces of Long Island College Hospital (LICH). Hillside Park is a sloping, grassy area adjacent to the Brooklyn-Queens Expressway (BQE) primarily used as a dog run. Chapin Playground is a small but well-utilized playground at the corner of Middagh Street and Columbia Heights. The Brooklyn Heights Promenade is known for its excellent views of Manhattan, the East River, and Upper New York Harbor. It consists of an esplanade with landscaped gardens. Located within the Promenade are the Fruit Sitting Area located between Orange and Cranberry Streets and Pierrepont Playground located at the foot of Pierrepont Street. The Palmetto Playground is located on the north side of Atlantic Avenue where it meets the ramp to the BQE. In addition to standard playground amenities, this park also contains a fitness area with exercise equipment and how-to signage, a community garden, and a dog run. Squibb Park is an open space located at Columbia Heights and Middagh Street. During a field visit, the park was locked and not accessible. Based on conversation with DPR, the park has been closed for several years due to safety concerns of park users. As a result, it was not included in the quantitative analysis. Van Vorhees Park is adjacent to the BQE and consists of 5.25 acres of active and passive uses. The park is mostly paved with tennis, handball, and basketball courts, children’s play area, comfort station, spray showers, metal fish-shaped sculptures for playing, benches, flowers and trees. LICH maintains four small, public open space areas. Altogether these open spaces total almost one acre in size, and are almost equally divided between playground use and landscaped seating areas.

A large area of open space consisting of various parks is located generally at Tillary Street and Cadman Plaza East. The open spaces include Walt Whitman Park, S. Parkes Cadman Park, and Columbus Park. These open space resources lie between the residential neighborhood of Brooklyn Heights, Brooklyn’s commercial and civic center and areas to the east. The users of these parks encompass a broad range of groups, including business people and municipal employees, families and children, and other residents. At 10.38 acres, S. Parkes Cadman Plaza is the largest park in the entire study area. The park does not feature active recreational equipment, but its large open field is often used for such sports as frisbee, touch football, and soccer. At the center of the open space is the Brooklyn War Memorial, which extends almost the entire width of the park and provides seating along its south side. The 2.91-acre Walt Whitman Park features benches along its perimeter, mature trees, and a small central lawn area. Columbus Park,

approximately 4 acres in size, is located west of the State Supreme Court Building and north of Borough Hall, between Cadman Plaza and Adams Street. The park also extends north of Johnson Street, which splits the park into two sections.<sup>1</sup> Both sections of the park, which contain benches, walkways and trees, are heavily used during the daytime.

McLaughlin Park occupies a full block close to the entrance to the Manhattan Bridge on the block bounded by Cathedral Place, Flatbush Avenue, and Tillary and Jay Streets. This park combines sitting areas with handball and basketball courts, a paved ballfield, a large sunken area with recreational spray fountains, and playground equipment. Across the street from McLaughlin Park is New York Technical College, which has a small passive open space along Tillary Street that contains benches and plantings/landscaping.

A series of open spaces and playgrounds that generally follow the alignment of the BQE in the vicinity of York, Jay, Sands, and Bridge Streets, are called Bridge Park 1, 2, and 3. Bridge Park 1 has a small seating area with trees and landscaping and is located on the southern side of the BQE. Bridge Park 2 is across the street from the project site and features a large, paved area with markings for football and baseball. The irregularly shaped park follows the alignment of the BQE (on the northern side) and features a playground area with jungle gyms, swings, and seating areas with game tables. Bridge Park 3 is located in the ½-mile study area and is described below. DPR has jurisdiction over these open spaces, as well as much of the area around the Brooklyn and Manhattan Bridges and the BQE. Another park—Squibb Park—is located directly across from the project area on Furman Street. This park is not considered useable parkland, as it is closed to public use and is thus not considered in the quantitative analysis.

#### *½-MILE STUDY AREA*

The ½-mile study area contains 26 public open spaces and recreational facilities that serve the surrounding residential and commercial populations. Public open spaces with no useable public amenities were not included in the study area inventory. Including all of the public parks and open spaces listed in the ¼-mile study area, the ½-mile study area contains a total of approximately 55.05 acres of public open spaces (see Table 5-2).

As mentioned above, Bridge Park 3 is one of a series of open spaces located along the alignment of the BQE. It is located to the south of Prospect Street and is bisected by the BQE. Amenities in the western portion of Bridge Park 3 include a seating area with trees and landscaping and several basketball courts. The eastern portion of the park features handball courts and a large paved area. Trinity Park is a sitting area located to the south of the three Bridge Parks and is located between the BQE and ramps to the Manhattan Bridge.

Several open spaces in the study area are associated with buildings. The Farragut Houses is a public housing complex under the jurisdiction of the New York City Housing Authority (NYCHA). This development has a tower-in-the-park configuration, which typically consists of a superblock with residential towers surrounded by lawns, trees, walkways, benches, playgrounds, basketball and handball courts, and sometimes parking and community centers. Although the open space associated with this type of development is primarily meant for the residents, it is publicly accessible and therefore included in this analysis. The open space acreage has been adjusted to reflect the fact that some of the open areas between the residential buildings

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<sup>1</sup> The southern section of Columbus Park is located within the ½-mile study area. For the purposes of this analysis, the entire acreage of the park is included in the ¼-mile study area.



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are fenced off and therefore not accessible. Altogether, the useable open spaces of the Farragut Houses total more than 2.2 acres.

MetroTech Commons is a public open space located between the buildings of MetroTech Center. The 3.3-acre public space, which functions primarily as a pedestrian mall, was created from former streets, and features crisscrossing pathways, a central lawn, landscaping, trees, seating, lunchtime concerts, and other music programs. West of MetroTech Commons, across Jay Street, is the Renaissance Marriott Hotel urban plaza. This open space consists of an open area with trees and plants, in addition to a 40-foot-wide, concrete-paved courtyard/walkway connecting Adams and Jay Streets that is lined with trees and benches. These open spaces are predominantly utilized by area workers during lunch and breaks. The southern portion of Columbus Park, described above in the ¼-mile study area section, extends without interruption into Borough Hall Park, located in front of Brooklyn Borough Hall. Several days a week this 0.87-acre area is the site of one of the City's Greenmarkets.

A few open spaces in the ½-mile study area are associated with public schools. The Golconda Playground is a school playground under the jurisdiction of DPR and is publicly accessible when school children are not present. The playground has a variety of features including jungle gyms and paved play areas. The P.S. 29 playground is under the jurisdiction of the DOE. The 0.67-acre playground consists of a mostly paved play area and a jungle gym for younger students. Although open to the public, the playground closes at sundown.

The remaining open space in the study area is Cobble Hill Playground. Located near Clinton and Congress Streets in the neighborhood of Cobble Hill, this park is just over ½-acre in size. The open space contains seating areas, a community garden and a tot lot.

## **ANALYSIS OF THE ADEQUACY OF OPEN SPACE RESOURCES**

### *¼-MILE STUDY AREA*

As described above, the analysis of the ¼-mile study area focuses on passive open spaces that may be used by workers in the area (and shared by residents in the area). To assess the adequacy of the open spaces in the area, the ratio of workers to acres of open space is compared to DCP's planning guideline of 0.15 acres of passive space per 1,000 workers. In addition, the passive open space ratio for both workers and residents in the area is compared to the recommended weighted average ratio (see Table 5-3).

As shown in Table 5-3, the ¼-mile study area includes a total of approximately 42.05 acres of open space, of which approximately 26.83 acres are passive space. A total of 27,796 residents live within this vicinity, and 24,417 people work within the ¼-mile study area boundary. The combined residential and worker population is 52,213.

Based on DCP guidelines, the area has a passive open space ratio of 1.10 acres of passive open space per 1,000 workers; this is higher than the City's guideline of 0.15 acres. The combined passive open space ratio is 0.51 acres per 1,000 residents and workers, which is higher than the recommended weighted average ratio of 0.34 acres per 1,000 residents and workers. Thus, based on DCP guidelines, there is sufficient passive open space to serve the combined worker and resident populations.

**Table 5-3**

**Analysis of Adequacy of Public Open Space Resources in the  
1/4-Mile and 1/2-Mile Study Area: Existing Conditions**

<b>1/4-Mile Study Area Existing Conditions</b>	
<b>Study Area Population</b>	
Residents	27,796*
Workers	24,417**
<b>Total</b>	<b>52,213</b>
<b>Open Space Acreage</b>	
Passive	26.83
<b>Open Space Ratios</b>	
Recommended Weighted Average Ratio for Passive	0.34/1,000 residents and workers
Combined Passive	0.51/1,000 residents and workers
Worker Passive	1.10/1,000 workers
<b>1/2-Mile Study Area Existing Conditions</b>	
<b>Study Area Population</b>	
Residents	37,849*
Workers	101,747**
<b>Total</b>	<b>139,596</b>
<b>Open Space Acreage</b>	
<b>Total</b>	<b>55.05</b>
Active	20.17
Passive	34.88
<b>Open Space Ratios</b>	
Active	0.53/1,000 residents
Recommended Weighted Average Ratio for Passive	0.24/1,000 residents and workers
Combined Passive	0.25/1,000 residents and workers
<b>Sources:</b>	
* 2000 U.S. Census.	
** 2000 Census Transportation Planning Package.	

#### *1/2-MILE STUDY AREA*

With a total of approximately 55.05 acres of open space, of which 20.17 are for active use and 34.88 are for passive use, and a total residential population of 101,747, the 1/2-mile study area has an overall open space ratio of approximately 1.45 acres per 1,000 residents. This is lower than the City's planning goal of 2.5 acres of combined active and passive open space ratio per 1,000 residents and is approximately equal to the citywide median of 1.5 acres per 1,000 residents. Overall, it suggests that the area currently has a shortage of open space typical of many neighborhoods in New York City.

The shortage in active open space is more pronounced, as the 1/2-mile study area's residential active open space ratio is only 0.53 (see Table 5-3), substantially less than the planning goal of 2.0 acres per 1,000 residents. The area's residential passive open space ratio is approximately 0.92 acres per 1,000 residents—above the City's planning goal of 0.5 acres per 1,000 residents.

With a worker and residential population of 139,596, the combined passive open space ratio in the ½-mile study area is 0.25, slightly higher than the recommended weighted average ratio of 0.24 acres per 1,000 residents and workers.

*QUALITATIVE ANALYSIS*

There are passive open spaces outside both the ¼-mile and ½-mile study areas that potential open space users could utilize. These are not reflected in the quantitative analyses, but could be used by people willing to travel slightly farther. Thus, additional passive amenities available to open space users in the ¼-mile study area may actually lie in the ½-mile study area and are described in detail in that portion of the analysis.

Two of the largest open spaces available just outside the ½-mile study area include Commodore John Barry Park and Fort Greene Park. Commodore John Barry Park and Playground is adjacent to the ½-mile study area to the east. The city park consists of approximately 10 acres located on a superblock between Nassau Street, Elliot Place, Park Avenue, and Navy Street. Amenities include baseball diamonds, football fields, basketball courts, playgrounds, and play areas, as well as a large area with walkways, benches, and trees. Fort Greene Park consists of more than 30 acres occupying approximately eight city blocks between Myrtle and DeKalb Avenues, Washington Park and St. Edwards Street. Fort Greene Park is under the jurisdiction of DPR and includes both active and passive uses—with walkways, benches, trees, open grassy areas, monuments, basketball and tennis courts, and playgrounds. Although these open spaces are located just outside of the open space study area boundary, it is likely that both residents and workers at least occasionally take advantage of the recreational resources that these parks have to offer.

**D. THE FUTURE WITHOUT THE PROPOSED PROJECT**

**OPEN SPACE STUDY AREA POPULATION**

*¼-MILE STUDY AREA*

As described in Chapter 2, “Land Use, Zoning, and Public Policy,” several projects are expected to be completed in the ¼-mile study area<sup>1</sup> by 2012 in the future without the proposed project. These projects consist of residential, commercial, institutional, and mixed-use developments that will bring additional residents and workers to the study area. Some of the larger projects include 85 Jay Street, a mixed-use religious facility and residential development; the new Federal courthouse at Adams and Tillary Streets; and two City University projects located on adjacent blocks on Tillary between Adams and Bridge Streets. In addition to the other No Build projects, these developments would bring the residential population to 32,236 and the worker population to 27,377. The 2012 combined residential and worker population in the ¼-mile study area is projected at 59,614 persons.

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<sup>1</sup> The land use and open space study areas have different boundaries. Several proposed projects located outside the land use study area are conservatively included in the No Build list for the open space study area. Bridge Plaza Rezoning spans both the ¼- and ½-mile study areas. For the purposes of this analysis, the total population generated by this project has been included in the ¼-mile study area.

*½-MILE STUDY AREA*

Residential and worker populations within the ½-mile study area are also expected to increase by 2012. New projects within the ½-mile study area (but outside the ¼-mile study area) include 330 Jay Street, a mixed-use courthouse and office building; a mixed-use residential project with a YMCA, retail and public parking at Atlantic Avenue and Court Street; and a mixed-use office and community facility project at Johnson and Jay Streets.<sup>1</sup> The ½-mile residential population (including the residential growth from the ¼-mile study area) is estimated to be 43,847. The total worker population within the ½-mile radius (including the new workers within the ¼-mile radius) is expected to increase to 109,348. By 2012, the total population of the ½-mile study area, including workers and residents, is estimated to be 153,195.

**OPEN SPACE RESOURCES**

*¼-MILE STUDY AREA*

Within the ¼-mile study area, as a result of the proposed City University (site A) development at Tillary and Adams Street, it is possible that the existing passive open space, consisting of approximately 0.22 acres, would be removed. DPR currently has plans to renovate and reopen Squibb Park for public recreational use prior to 2012. This would reintroduce 0.6 acres of parkland into the study area, approximately 0.5 acres of which is assumed to be active open space and 0.1 of which is assumed to be passive. With the addition of 0.1 acres of passive open space and the loss of 0.22 acres of passive open space, there would be 26.71 acres of passive open space in the ¼-mile study area.

*½-MILE STUDY AREA*

With the changes to public spaces mentioned above, the total open space in the ½-mile study area will increase to 55.43 acres. Passive recreational space will decrease to 34.75 acres. Active recreational space will increase to 20.67 acres.

**ANALYSIS OF THE ADEQUACY OF OPEN SPACES**

*¼-MILE STUDY AREA*

As mentioned above, it is anticipated that new development proceeding independently of the proposed project will result in an increase in the population. In addition, in the future without the proposed actions, passive open space is expected to decrease slightly. Therefore, the passive open space ratio would decrease by an estimated 13 percent from existing conditions, from 0.51 to 0.45 per 1,000 residents and workers (see Table 5-4). Nonetheless, this will still be above the recommended weighted average ratio of 0.34 acres per 1,000 workers and residents.

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<sup>1</sup> This proposed project with 720,000 square feet of office space and 80,000 square feet of community facility space is described as “Projected Site C” in the Downtown Brooklyn Development Final Environmental Impact Statement (FEIS). Although that FEIS projected development to be completed in 2013, its 2,960 employees are conservatively included within the 2012 Build year of this analysis. This is the only projected development site from that FEIS that falls within this project’s open space study areas.

**Table 5-4**

**Analysis of Adequacy of Public Open Space Resources in the  
1/4-Mile and 1/2-Mile Study Area: No Build Conditions**

<b>1/4-Mile Study Area Existing and No Build Conditions</b>		
<b>Study Area Population</b>		
	Existing	No Build
Residents	27,796*	32,236
Workers	24,417**	27,377
<b>Total</b>	<b>52,213</b>	<b>59,614</b>
<b>Open Space Acreage</b>		
Passive	<u>26.83</u>	<u>26.71</u>
<b>Open Space Ratios</b>		
Recommended Weighted Average Ratio for Passive	0.34/1,000 residents and workers	0.34/1,000 residents and workers
Combined Passive	0.51/1,000 residents and workers	0.45/1,000 residents and workers
Passive	1.10/1,000 workers	<u>0.98/1,000 workers</u>
<b>Percent Change</b>		
Combined Passive		-12.81%
Passive		-11.21%
<b>1/2-Mile Study Area Existing and No Build Conditions</b>		
<b>Study Area Population</b>		
	Existing	No Build
Residents	37,849*	43,847
Workers	101,747**	109,348
<b>Total</b>	<b>139,596</b>	<b>153,195</b>
<b>Open Space Acreage</b>		
Total	<u>55.05</u>	<u>55.43</u>
Active	<u>20.17</u>	<u>20.67</u>
Passive	<u>34.88</u>	<u>34.76</u>
<b>Open Space Ratios</b>		
Active	0.53/1,000 residents	<u>0.47/1,000 residents</u>
Recommended Weighted Average Ratio for Passive	0.24/1,000 residents and workers	0.25/1,000 residents and workers
Combined Passive	0.25/1,000 residents and workers	<u>0.23/1,000 residents and workers</u>
<b>Percent Change</b>		
Active		-11.54%
Combined Passive		-9.10%
<b>Sources:</b>		
* 2000 U.S. Census.		
** 2000 Census Transportation Planning Package.		

*½-MILE STUDY AREA*

As a result of new development (including projects from the ¼-mile study area), the population in the ½-mile study area is expected to increase, and passive open space is expected to decrease in the future without the proposed actions. Therefore, the active open space ratio is expected to decrease by approximately 12 percent, from 0.53 to 0.47 acres per 1,000 residents. This would continue to be lower than DCP's recommended guidelines (2.0 acres per 1,000 residents), indicating an ongoing shortfall in the adequacy of active open space. The total open space ratio for the residential population will decrease from 1.45 to 1.26 acres per 1,000 residents. This is about half of the total open space guideline (2.5 acres) recommended by DCP. In addition, the total residential open space ratio will be lower than the citywide median of 1.5 acres per 1,000 residents. This indicates that under No Build conditions, the area will experience a shortage of open space greater than many neighborhoods throughout New York City.

The recommended weighted average ratio for passive open space will increase (from 0.24 to 0.25 acres per 1,000 workers and residents) as a result of increased populations. The passive open space ratio for the combined population would decrease from 0.25 to 0.23 acres per 1,000 workers and residents, representing a decrease in the ratio of approximately 9 percent. Therefore, No Build conditions indicate a shortage of passive open space.

**E. THE FUTURE WITH THE PROPOSED PROJECT**

The proposed project would introduce a substantial amount of open space with a wide range of amenities and recreational opportunities. The proposed project would provide 77 acres of recreational space, including 12.1 acres of safe paddling waters and 64.9 acres of park space on land. The open space analysis in this chapter conservatively excludes the 3 acres of vehicular roads within the park and the 2.2 acres of existing buildings that could be retained for park maintenance and operations purposes. Therefore, this chapter analyzes 59.7 acres of land-based recreational space and 12.1 acres of recreational space on the water. Approximately 39.42 acres are considered active open space. In addition, there would be three tennis courts on the rooftop of a Pier 1 building, which are not accounted for in the following analysis. These include 7.5 acres of sports courts and fields, 1 acre of playgrounds, 12.1 acres of safe paddling waters, and approximately 18.82 acres of lawns, landscaped areas, paths, and esplanades.<sup>1</sup> The remaining 32.38 acres are considered passive recreational space.

Because the existing Main Street and Empire-Fulton Ferry State Parks already provide approximately 8.2 acres of open space on the project site (of which 2.45 are considered for active use and 5.75 for passive use), the net increase in open space that would occur as a result of the proposed project would be 68.8 acres. Approximately 36.97 acres would be for active recreation and 26.63 would be for passive recreation.

*¼-MILE STUDY AREA*

The proposed project would add to both the residential and worker populations in the ¼-mile study area, while adding a significant amount of new passive open space. With the proposed

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<sup>1</sup> As lawns and paths can be used for both active and passive recreational purposes, for the purposes of this analysis, 1/3 of the park's lawns are assumed to be available for active recreational use. Based on CEQR Technical Manual guidelines 1/2 of the park's paths and esplanades are considered active recreational areas. The remaining area is considered passive recreational space.

project, the residential population would increase by approximately 2,541 (from 32,236 to 34,777). The worker population would increase by approximately 1,400 (from 27,377 to 28,777).

As shown in Table 5-5, this increase in population would be more than offset by the creation of new passive open space under the proposed project. Altogether, approximately 26.63 acres of new passive open space would be created in the proposed park. This would include a range of landscapes offering substantial opportunities for passive recreational activities such as public access to the water, large landscaped areas and lawns, paths and promenades, and sitting and gathering areas.

**Table 5-5  
Analysis of Adequacy of Public Open Space Resources  
in the ¼-Mile Study Area: Build Conditions**

<b>¼-Mile Study Area: Existing, No Build, and Build Conditions</b>			
<b>Study Area Population</b>			
	<b>Existing</b>	<b>No Build</b>	<b>Build</b>
Residents	27,796*	32,236	34,777
Workers	24,417**	27,377	28,777
<b>Total</b>	<b>52,213</b>	<b>59,614</b>	<b>63,554</b>
<b>Open Space Acreage</b>			
Passive	<u>26.83</u>	<u>26.71</u>	<u>53.34</u>
<b>Open Space Ratios</b>			
Recommended Weighted Average Ratio for Passive	0.34/1,000 residents and workers	0.34/1,000 residents and workers	0.34/1,000 residents and workers
Combined Passive	<u>0.51</u> /1,000 residents and workers	<u>0.45</u> /1,000 residents and workers	<u>0.84</u> /1,000 residents and workers
Passive	<u>1.10</u> /1,000 workers	<u>0.98</u> /1,000 workers	<u>1.85</u> /1,000 workers
<b>Percent Change</b>			
Combined Passive	—	-12.81%	+87.3%
Passive	—	-11.21%	+90.0%
<b>Sources:</b>			
* 2000 U.S. Census.			
** 2000 Census Transportation Planning Package.			

With the proposed project, passive open space ratios would increase substantially compared to conditions in the future without the proposed project. The combined passive ratio would increase from 0.45 to 0.84 acres per 1,000 residents and workers, remaining well above the recommended weighted average ratio of 0.34 acres per 1,000 workers and residents. The worker-only passive open space ratio would also be well above DCP’s planning guideline of 0.15 acres of passive open space per 1,000 workers, with 1.85 acres per 1,000 workers.

As described in greater detail in Chapter 1, “Project Description,” the proposed project would create a continuous open space extending along the East River from the foot of Atlantic Avenue to Jay Street, north of the Manhattan Bridge. The park would provide neighboring residents from the surrounding communities with an opportunity to experience their waterfront directly, while also serving future park users from the larger city, the region, and the world.

Several elements of the proposed plan permit a variety of interaction with the water, both visually and physically. Most of the park would feature a waterfront promenade extending roughly along the bulkhead line. This paved promenade would allow views of the water, piers, harbor and Manhattan skyline. It would also serve as a main pedestrian thoroughfare running through the park. Additional waterfront walkways would connect to the promenade and wrap around the perimeter of the piers, providing miles of esplanade area above the water. Water-level walkways would also be featured in the new park through a series of sloping ramps and floating and fixed walkways bringing park users down to sea level.

In addition to pedestrian access along the waterfront, a network of pedestrian routes is planned throughout the park. These primary and secondary pedestrian access routes would connect the different portions of the park, and would provide linkages to connect the park with the surrounding neighborhoods.

Together, the passive amenities of the proposed project would add a relatively modest number of new workers and residents to the ¼-mile study area, while creating a substantial amount of new passive open space. Overall, the proposed project would result in a notable, qualitative and quantitative improvement in passive open space conditions in the study.

Construction of a pedestrian bridge from the hill on Pier 1 to Squibb Park could involve limited construction within this New York City Park. As it is expected that the park will be open for public use by the 2012 Build year, construction of the pedestrian bridge could cause a temporary disruption at the park. Any use of the park for construction activities would be temporary in nature and would be coordinated with DPR. Additionally, by providing an additional entrance to the park and a connection to the adjacent park, the public benefit at this park would be enhanced by the addition of the bridge.

### *½-MILE STUDY AREA*

As with the ¼-mile study area for passive open space, population generated by the proposed project would result in a higher open space user population in the ½-mile study area. Likewise, the increase in population would be more than offset by new open space created as part of the proposed project. As shown in Table 5-6, the active open space ratio is expected to increase from 0.50 to 1.32 acres per 1,000 residents. This would continue to be lower than DCP's recommended guidelines (2.0 acres per 1,000 residents), but would represent a significant increase compared to conditions in the future without the proposed project. The total open space ratio for the residential population will increase from 1.26 to 2.57 acres per 1,000 residents. This is above the total open space guideline (2.5 acres) recommended by DCP and well above the citywide median of 1.5 acres per 1,000 residents.

The passive open space ratio for the combined population would increase from 0.23 to 0.39 acres per 1,000 workers and residents, above the recommended weighted average for passive open space (0.25 acres per 1,000 workers and residents).

In addition to the passive open space amenities described above for the ¼-mile study area, the proposed project would also create a considerable amount of new active open space. For example, playing fields on Pier 5 would allow for soccer and other active team sports, while Piers 2 and 3 would feature spaces for basketball, tennis, or other court sports. Biking and running paths will run throughout the length of the park. Pier 6 is expected to include sand volleyball courts, and a water play area, and the Pier 6 upland would have a playground for active play by children. The safe water areas would allow use of non-motorized boats like kayaks.



Together, the active amenities of the proposed project would add a relatively modest number of new workers and residents to the 1/2-mile study area, while creating a substantial amount of new active open space. Overall, the proposed project would qualitatively and quantitatively improve active open space conditions in the study area.

**Table 5-6  
Analysis of Adequacy of Public Open Space Resources  
in the 1/2-Mile Study Area: Build Conditions**

<b>1/2-Mile Study Area: Existing, No Build, and Build Conditions</b>			
<b>Study Area Population</b>			
	<b>Existing</b>	<b>No Build</b>	<b>Build</b>
Residents	37,849*	43,847	46,388
Workers	101,747**	109,348	110,748
<b>Total</b>	<b>139,596</b>	<b>153,195</b>	<b>157,136</b>
<b>Open Space Acreage</b>			
<b>Total</b>	<b>55.05</b>	<b>55.43</b>	<b>119.03</b>
Active	20.17	20.67	57.64
Passive	34.88	34.76	61.39
<b>Open Space Ratios</b>			
Active	0.53/1,000 residents	0.47/1,000 residents	1.32/1,000 residents
Recommended Weighted Average Ratio for Passive	0.24/1,000 residents and workers	0.25/1,000 residents and workers	0.25/1,000 residents and workers
Combined Passive	0.25/1,000 residents and workers	0.23/1,000 residents and workers	0.44/1,000 residents and workers
<b>Percent Change</b>			
Active	—	-11.65%	165.29%
Combined Passive	—	-9.18%	85.40%
<b>Sources:</b>			
* 2000 U.S. Census.			
** 2000 Census Transportation Planning Package.			

**CONCLUSIONS**

Overall, the proposed project would add a significant amount of open space and dramatically increase the recreational opportunities along and adjacent to the waterfront. It would represent a notable improvement both qualitatively and quantitatively by providing an important new open space resource to a neighborhood and borough that is severely underserved. Although the project would add new worker and residential populations to the area, the amount and character of new open space created would result in substantial beneficial effects to open space conditions and would not result in significant adverse open space impacts. \*