Chapter 5: Open Space

A. INTRODUCTION

This chapter assesses the potential impacts of the Proposed Actions on open space resources. Open space is defined in the 2020 *City Environmental Quality Review (CEQR) Technical Manual* as publicly accessible, publicly or privately owned land that is available for leisure, play, sport, or serves to protect and enhance the natural environment. Public open space is accessible to the public on a consistent and regular basis, including for designated daily periods. Public open space may be under government or private jurisdiction and typically includes City, state, and federal parkland; esplanades; greenways; and plazas designated through regulatory approvals (such as zoning). Private open space is not considered publicly accessible if it is only available to limited users or is not available to the public on a regular or consistent basis. Examples of private open space are natural areas with no public access, front and rear yards, rooftop recreational facilities, stoops, and landscaped grounds used by community facilities, such as public and private educational institutions where the open space is accessible only to the institution-related population.

Open spaces can be characterized as either active or passive depending on the activities the space allows. In many cases, open space may be used for both active and passive recreation. Open space that is used for sports, exercise, or active play is classified as active open space. Passive open space is used for relaxation, such as sitting or strolling. Active and passive open spaces within the study area are further defined in Section C, "Existing Conditions."

A proposed project's effects on open space resources may be either direct or indirect. Direct effects may occur when the proposed project would encroach on, or cause a loss of, open space. Direct effects may also occur if the facilities within an open space would be so changed that the open space no longer serves the same user population. Other direct effects include the introduction of new noise, air pollutant emissions, odors, or shadows on public open space that may alter its usability. Indirect effects may occur when the population generated by the proposed project overtaxes the capacity of existing open spaces so that their utility or level of service to the future population of the affected area would be substantially or noticeably diminished. Per the *CEQR Technical Manual,* an open space assessment should be conducted if a project would have a direct effect on open space, such as eliminating or altering a public open space, or an indirect effect, such as the introduction of a substantial new population that could place added demand on an area's open spaces.

As discussed in Chapter 1, "Project Description," under the Reasonable Worst-Case Development Scenario (RWCDS), the Proposed Actions would result in the incremental development of approximately 8,500 dwelling units (DUs), 735,000 gross square feet (gsf) of commercial development (including office, and local and destination retail), 251,000 gsf of community facility space, and approximately six acres of new publicly accessible open space, including over an acre of newly mapped parkland. As discussed in more detail below, the incremental development

exceeds CEQR thresholds for a preliminary assessment and a detailed open space analysis has been prepared for the Proposed Actions.

PRINCIPAL CONCLUSIONS

It is concluded that the Proposed Actions would result in significant adverse impact to open space due to the added residential demand placed on active open space in an area that has limited available open space resources. In addition, the Proposed Actions would result in a significant adverse open space impact to the Douglass and Degraw Pool in Thomas Greene Playground, as the incremental shadow would be cast on the pool during warm summer months.

As discussed in greater detail below, the Proposed Actions would provide new publicly accessible open space including open space along the Gowanus Canal in the form of a continuous waterfront esplanade. This waterfront open space would provide new passive and active recreational space acreage and facilities for current and future residents and reconnect the community to the Gowanus Canal waterfront. As described in Chapter 1, "Project Description," the Proposed Actions would also improve neighborhood livability by increasing access to publicly accessible open space and facilitating public realm improvements in connection with planned private and public investments.

Much of the rezoning area is not located in an area that has been identified as well-served or underserved in open space and recreational facilities, except for two sites that are located in underserved areas (Projected Development Sites 39 and 51). While the study area is expected to continue to be neither well-served nor underserved in the future with or without the Proposed Actions, per the *CEQR Technical Manual*, it will continue to have a low ratio of public open space available to the population.

The proposed zoning changes and mapping actions under the Proposed Actions would facilitate the creation of approximately six acres of additional open space through the mapping of new parkland and implementation of the Gowanus Waterfront Access Plan (WAP). The mapping actions would also facilitate the development of a new waterfront park on a portion of the Gowanus Green Site along 5th Street. The WAP would result in almost five acres of continuous waterfront esplanade on both sides of the Canal.

DIRECT EFFECTS

The Proposed Actions would result in a direct significant adverse impact to open space as a result of incremental shadow cast on the Douglass and Degraw Pool in Thomas Greene Playground. Incremental shadows would be cast on the May 6/August 6 analysis day, significantly impacting the user experience of the pool on this analysis day, affecting open space users in the warmer months of the year. The shadow impact on the pool also constitutes a significant adverse direct impact on open space. However, no other direct impacts to open space would occur with the Proposed Actions. The Proposed Actions would not result in the direct displacement of any existing open space resources, or any significant adverse impacts related to construction, air quality, or noise impacts on open space resources. Since no open space resources would be physically displaced under the Proposed Actions, this chapter uses information from Chapter 6, "Shadows," Chapter 15, "Air Quality," and Chapter 17, "Noise," to determine whether the Proposed Actions would directly affect any open spaces within, or in close proximity to, the Project Area.

INDIRECT EFFECTS

In the non-residential study area, the detailed analysis of open space conditions finds that with the Proposed Actions the passive open space ratio would increase by approximately 16 percent, to 0.322 acres per 1,000 workers, as compared to the No Action condition. As this is above the City's planning guideline of 0.15 acres of passive space per 1,000 workers, the Proposed Actions would not result in any significant adverse impacts to passive open space in the non-residential study area.

Within the residential study area, the detailed analysis of open space conditions finds that with the Proposed Actions the total open space ratio would decrease by 1.45 percent, to 0.340 acres per 1,000 residents; the passive open space ratio would increase by 0.64 percent to 0.157 acres per 1,000 residents; and the active open space ratio would decrease by 2.7 percent, to 0.183 acres per 1,000 residents. Though the change with respect to the open space ratios would not surpass 5 percent and the passive open space ratio would not be reduced in the With Action condition, the Proposed Actions would result in significant adverse impacts to total open space and active open space due to the existing low open space per population ratio. Therefore, it is concluded that the Proposed Actions would result in a significant adverse impact on open space resources in the residential study area.

B. METHODOLOGY

DIRECT EFFECTS

According to the *CEQR Technical Manual,* a proposed project would directly affect open space conditions if it causes the loss of public open space, changes the use of an open space so that it no longer serves the same user population, limits public access to an open space, or results in increased noise, air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a public open space. Since no open space resources would be physically displaced as a result of the Proposed Actions, this chapter uses information from Chapter 6, "Shadows," Chapter 10, "Hazardous Materials," Chapter 15, "Air Quality," and Chapter 17, "Noise," to determine whether the Proposed Actions would directly affect any open spaces within, or in close proximity to, the Project Area.

INDIRECT EFFECTS

As described in the *CEQR Technical Manual*, open space can be indirectly affected by a proposed action if the project would add enough population, either residential or non-residential, to noticeably diminish the capacity of open space in the area to serve the future population. Typically, an assessment of indirect effects is conducted when a project would introduce more than 200 residents or 500 workers to an area; however, the thresholds for assessment are slightly different for areas of the City that have been identified as either underserved or well-served by open space.

If a project is located within an area which is neither underserved nor well-served, an open space assessment should be conducted if that project would generate more than 200 residents or 500 employees. The threshold for assessment of open space adequacy for underserved areas is the introduction of more than 50 residents or 125 workers, while for areas well-served by open space, the threshold for assessment is more than 350 residents or 750 workers. The Project Area is currently neither well-served nor underserved in open space and recreational facilities, except for two sites that are located in underserved areas (Projected Development Sites 39 and51). The two

sites that are underserved account for only 1 percent of new residents and 2 percent of new workers being introduced to the study area by the proposed actions. Because the existing ratio of population per acre of open space is far below the City's goal of 2.5 acres of open space per 1000 residents and the project is anticipated to introduce a large residential population to the study area, a 1 percent change in open space ratios was used as the threshold for a significant adverse impact.

In accordance with *CEQR Technical Manual* guidelines, the open space analysis is based on the projected development expected as a result of the Proposed Actions. As discussed in Chapter 1, "Project Description," by the 2035 analysis year the Proposed Actions are expected to introduce an estimated 8,300 DUs, 18,000 residents, and 3,300 workers to the Project Area compared with the future without the Proposed Actions (the "No Action" condition).[1] An analysis of indirect effects on open space resources is warranted as both the residential and non-residential populations anticipated to be introduced by the Proposed Actions are greater than CEQR analysis thresholds.

STUDY AREAS

The *CEQR Technical Manual* recommends establishing a study area or areas as the first step in an open space assessment. The study areas are based on the distances that users—both workers and residents—are likely to walk to an open space. Workers are assumed to walk approximately 10 minutes, or a quarter of a mile, from their place of work to an open space, while residents are assumed to walk approximately 20 minutes, or a half-mile, to an open space.

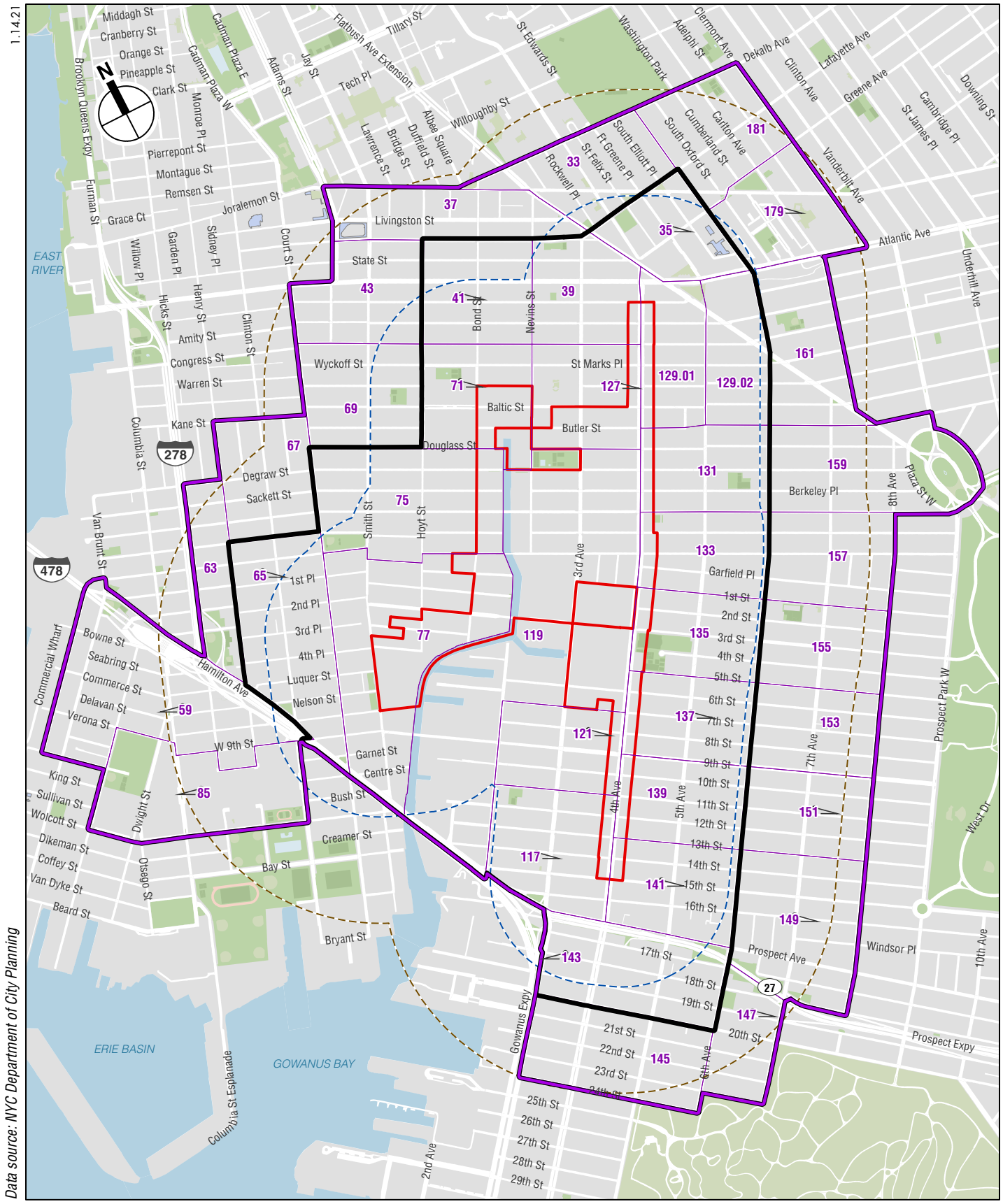
As the Proposed Actions would introduce a new residential population above the 50-resident threshold and a worker population above the 125-worker threshold, the adequacy of open space resources was assessed for the residential study area (generally defined as the area within a half-mile of the Project Area), and the non-residential study area (generally defined as the area within a quarter-mile of the Project Area). As demographic data is provided at the census tract level, the study areas are further adjusted to include all census tracts with at least 50 percent of their area within the half-mile and quarter-mile radii of the Project Area boundary.

As shown in **Figure 5-1**, the residential study area includes Census Tracts 33, 35, 37, 39, 41, 43, 59, 63, 65, 67, 69, 71, 75, 77, 85, 117, 119, 121, 127, 129.01, 129.02, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 179, and 181. It is generally bounded by DeKalb Avenue to the north; 8th Avenue to the east; 24th Street and Fort Hamilton Avenue/Brooklyn Queens Expressway (BQE) to the south; and Imlay, Hicks, and Court Streets to the west. The non-residential study area consists of Census Tracts 35, 39, 41, 65, 71, 75, 77, 117, 119, 121, 127, 129.01, 129.02, 131, 133, 135, 137, 139, 141, and 143, and is generally bounded by Lafayette Avenue and Schermerhorn Street to the north, 6th Avenue to the east, Fort Hamilton Avenue/BQE to the south, and Henry and Court Streets to the west.

ANALYSIS FRAMEWORK

The *CEQR Technical Manual* methodology recommends conducting an initial quantitative assessment to determine whether a more detailed analysis is appropriate but also recognizes that for projects that introduce a large population in an area that is neither well-served nor underserved by open space, it may be clear that a full, detailed analysis should be conducted. Because the

[1] Based on the U.S. Census Bureau's 2010 Decennial Census estimates of the average household size within Brooklyn Community District 6 (2.19 people per DU). Employment estimates are based on the programming provided in the RWCDS multiplied by commonly utilized CEQR employment multipliers.



Open Space Study Areas

GOWANUS NEIGHBORHOOD REZONING AND RELATED ACTIONS

Figure 5-1

Proposed Actions would introduce sizeable new residential and worker populations to the study area, a detailed analysis was conducted.

With an inventory of available open space resources and potential users, the adequacy of open space in the study areas can be assessed both quantitatively and qualitatively. The quantitative approach computes the ratio of open space acreage to the population within the study area and compares this ratio with open space adequacy guidelines. The qualitative assessment examines other factors that may affect conclusions about adequacy, including proximity to additional resources beyond the study area, the availability of private recreational facilities, and the demographic characteristics of the area's population. Specifically, the assessment considers:

- Characteristics of the residents likely to utilize study area open spaces. To determine the number of residents in the study areas, 2014–2018 American Community Survey (ACS) data have been compiled for census tracts composing the residential and non-residential open space study areas.
- An inventory of all publicly accessible passive and active recreational facilities in the open space study areas.
- An assessment of the quantitative ratio of open space in the study area, conducted by computing the ratio of open space acreage to the residential and worker populations in the study areas and comparing this open space ratio with open space adequacy guidelines. According to the *CEQR Technical Manual*, in New York City local open space ratios vary widely, and the median ratio citywide at the Community District (CD) level is 1.5 acres of open space per 1,000 residents. Typically, for the assessment of both direct and indirect effects, citywide local norms have been calculated for comparison and analysis. As a planning goal, a ratio of 2.5 acres per 1,000 residents represents an area well-served by open spaces and is consequently used as an optimal benchmark for residential populations in large-scale proposals. Ideally, this would comprise 0.50 acres of passive space and 2.0 acres of active open space per 1,000 residents. According to the *CEQR Technical Manual*, for large-scale projects (and for planning purposes) the City also seeks to attain a planning goal of a balance of 80 percent active open space and 20 percent passive open space.
- An assessment of expected changes in future levels of open space supply and demand in the 2035 Build Year both in the No Action and With Action conditions. Open space adequacy in the No Action condition is based on planned development projects within the open space study areas. To estimate the residential population expected in the study areas in the No Action condition, an average household size of 2.19 persons was applied to the number of new housing DUs expected in the residential and non-residential study areas. Additional workers introduced in the No Action condition were calculated based on the employment multipliers presented in Table 1-3. Any new open space or recreational facilities that are anticipated to be operational by the analysis year are also taken into account.
- Open space ratios are determined for both the No Action and With Action conditions and compared to determine potential changes to open space adequacy in the 2035 Build Year.
- An evaluation of qualitative factors affecting open space use, including weekend and weekday utilization and the condition of facility equipment.
- A determination of the adequacy of open spaces within the open space study areas in the Existing, No Action, and With Action conditions.

IMPACT ASSESSMENT

The assessment of the potential for significant adverse impacts on open space is both quantitative and qualitative. According to the *CEQR Technical Manual*, a total open space ratio decrease approaching or exceeding 5 percent suggests that a potential for a significant adverse open space impact may exist and warrants further consideration. In this analysis, a 1 percent change is used for impact assessment given the low existing open space ratio and limited active space resources in the study area. If a study area exhibits a low open space ratio, indicating a shortfall of open space, smaller decreases in that ratio as a result of the action may constitute significant adverse impacts. In addition to the quantitative factors cited above, the *CEQR Technical Manual* also recommends consideration of qualitative factors in assessing the potential for open space impacts, including the availability of nearby destination open space, the beneficial effects of new open space resources provided by a project, or other factors. It is recognized that the open space ratios of the City guidelines presented are not feasible for many areas of the City, and they are not considered impact thresholds on their own. Rather, these are benchmarks that indicate how well an area is served by open space.

When assessing the effects of a change in the open space ratio, the assessment should consider the balance of passive and active open space resources appropriate to support the affected population and the condition of existing open spaces within the study area. Determinations as to what constitutes a significant adverse open space impact are not based solely on the results of the quantitative assessment. Qualitative considerations—such as the distribution of open space, whether an area is considered "well-served" or "underserved" by open space, the distance to regional parks, the connectivity of open space, and any additional open space provided by the project—should be considered in a determination of significance.

C. EXISTING CONDITIONS

STUDY AREA POPULATION

NON-RESIDENTIAL STUDY AREA

As shown in **Table 5-1**, based on the 2017 Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics, the existing worker population within the non-residential study area is 31,599. In addition to study area workers, as shown in **Table 5-1**, the quarter-mile non-residential study area has a residential population of 70,551.

Total User Population

Within the non-residential study area, the total population (i.e., residents and workers) is estimated at 102,150 (see **Table 5-1**). As noted above, although this analysis conservatively assumes that the residents and employees are separate populations, it is likely that some of the residents live near their workplace or work from home. As a result, there is likely to be some double-counting of the daily user population in which residential and non-residential populations overlap, resulting in a more conservative analysis.

RESIDENTIAL STUDY AREA

As presented in **Table 5-2**, based on the 2014–2018 ACS, the residential study area has a total population of 141,527 persons.

Table 5-1
Total Population Non-Residential Study Area

Geography	Population
Census Tract 35	1,892
Census Tract 39	2,364
Census Tract 41	3,642
Census Tract 65	5,842
Census Tract 71	4,890
Census Tract 75	4,925
Census Tract 77	5,172
Census Tract 117	2,608
Census Tract 119	1,377
Census Tract 121	2,020
Census Tract 127	4,800
Census Tract 129.01	2,641
Census Tract 129.02	2,390
Census Tract 131	4,226
Census Tract 133	4,408
Census Tract 135	3,920
Census Tract 137	3,512
Census Tract 139	3,420
Census Tract 141	3,033
Census Tract 143	3,469
Total Residential Population	**70,551**
Total Worker Population[1]	**31,599**
¼-Mile Study Area Total Population[2]	**102,150**

Notes:
1. LEHD data is provided in aggregate for the open space study area, therefore, detailed data by census tract is unavailable.
2. It is likely that some study area residents live near their workplace or work from home. As a result, there is likely to be some double-counting of the daily user population in which residential and non-residential populations overlap, resulting in a more conservative analysis.

Sources: U.S. Census Bureau ACS 2014–2018 (5 Year Estimates); U.S. Census Bureau, Center for Economic Studies, LEHD Origin-Destination Employment Statistics (2002–2015).

Table 5-2
Residential Population within the Residential Study Area

Geography	Population
Census Tract 33	3,705
Census Tract 35	1,892
Census Tract 37	1,681
Census Tract 39	2,364
Census Tract 41	3,642
Census Tract 43	3,469
Census Tract 59	1,253
Census Tract 63	1,922
Census Tract 65	5,842
Census Tract 67	3,894
Census Tract 69	3,575
Census Tract 71	4,890
Census Tract 75	4,925
Census Tract 77	5,172
Census Tract 85	7,555
Census Tract 117	2,608
Census Tract 119	1,377
Census Tract 121	2,020
Census Tract 127	4,800
Census Tract 129.01	2,641
Census Tract 129.02	2,390
Census Tract 131	4,226
Census Tract 133	4,408
Census Tract 135	3,920
Census Tract 137	3,512
Census Tract 139	3,420
Census Tract 141	3,033
Census Tract 143	3,469
Census Tract 145	3,848
Census Tract 147	2,473
Census Tract 149	5,888
Census Tract 151	4,216
Census Tract 153	2,678
Census Tract 155	4,028
Census Tract 157	4,049
Census Tract 159	5,314
Census Tract 161	3,235
Census Tract 179	4,318
Census Tract 181	3,875
Total Residential Population	**141,527**

Source: U.S. Census Bureau ACS 2014–2018 (5-Year Estimates).

Age Distribution

Table 5-3 summarizes the age distribution of the residential population within the residential study area and compares this distribution to the age distributions of Brooklyn and New York City overall. As shown in **Table 5-3**, the study area has a relatively similar age distribution as compared to Brooklyn and New York City as a whole; however, its working adult population (residents 18 to 64 years old) comprises a greater proportion of its population at 70 percent, when compared with that of Brooklyn (64 percent) and New York City (65 percent).

Table 5-3
Residential Study Area Population Age Distribution

	Study Area		Brooklyn		New York City	
Age Category	**Persons**	**Percent**	**Persons**	**Percent**	**Persons**	**Percent**
Under 5 Years	10,658	8%	196,132	7%	560,358	7%
5 to 9 Years	6,944	5%	165,189	6%	486,318	6%
10 to 17 Years	11,544	8%	247,494	9%	747,968	9%
18 to 64 Years	97,492	69%	1,688,565	64%	5,597,160	65%
65 Years and Over	14,889	11%	337,741	13%	1,168,268	14%
Total	141,527	100%	2,635,121	100%	8,560,072	100%

Sources: U.S. Census Bureau ACS 2014–2018 (5-Year Estimates).

Within a given area, the age distribution of a population affects the way open spaces are used and the need for various types of recreational facilities. Typically, children five years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Children ages five through nine typically use traditional playgrounds as well as grassy and hard-surfaced open spaces, which are important for activities such as ball playing, running, and skipping rope. Children ages 10 through 14 typically use playground equipment, court spaces, and ball fields. Teenagers and young adults tend toward court game facilities such as basketball and field sports. Adults (ages 18 to 64) use court game facilities and sports fields, along with more individualized recreation such as rollerblading, biking, and jogging that require bike paths, and vehicle-free roadways. Adults also gather with families for picnicking, active informal sports such as Frisbee, and recreational activities in which all ages can participate. Senior citizens (65 years and older) engage in active recreation such as handball, tennis, gardening, fishing, walking, and swimming, as well as recreational activities that require passive facilities. The range of age groups present in the study area indicates a need for active and passive recreation facilities, flexible facilities, and open space areas that can be used for both active and passive recreation, like paths or promenades for running, open areas for informal sports, and benches for seating.

INVENTORY OF PUBLICLY ACCESSIBLE OPEN SPACES

According to the *CEQR Technical Manual*, open space resources may be public or private and may be used for active and/or passive recreational purposes. The *CEQR Technical Manual* defines publicly accessible open space as facilities open to the public at designated hours on a regular basis, and they are assessed for impacts using both a quantitative and a qualitative analysis, whereas private open space is not accessible to the general public on a regular basis and is only considered qualitatively.

Field surveys and secondary sources (including the New York City Department of Parks & Recreation [NYC Parks] online database) were used to determine the number, availability, and condition of publicly accessible open space resources within the non-residential and residential study areas.

An open space is determined to be active or passive based on the uses that the design of the open space allows. Active open space is the part of a facility used for active play, such as sports or exercise, and may include playground equipment, playing fields and courts, swimming pools, skating rinks, golf courses, lawns, and other paved areas for active recreation. Passive open space is used for sitting, strolling, and relaxation; these spaces typically contain benches, walkways, and picnicking areas. However, some passive spaces can be used for both passive and active recreation; a green lawn or riverfront walkway, for example, can also be used for ball playing, jogging, or rollerblading.

All publicly accessible open space and recreational resources within the two open space study areas are shown in **Table 5-4**. As presented in **Table 5-4**, there are 17 publicly accessible open spaces within the non-residential study area, providing just over 15 acres of public open space. The residential study area contains a total of 46 publicly accessible open spaces (inclusive of the 17 open spaces within the non-residential study area), providing approximately 50 acres of publicly accessible open space.

In order to ensure a conservative analysis, open spaces on New York City Housing Authority (NYCHA) developments are considered only in the qualitative assessment. These open space resources are intended for use by NYCHA residents and not the general public. Similarly, community gardens located on NYC Parks-controlled property, gardens operating under the City's GreenThumb program, or gardens on private property operated by a non-governmental organization—such as a foundation or local community development organization—are considered in the qualitative assessment. These resources are shown in **Table 5-5**.

Table 5-4
Study Area Quantified Open Space Resources

Map No.[1]	Name	Location	Owner/ Agency	Acreage	Active		Passive		Condition	Utilization	Amenities
					Acres	%	Acres	%			
Non-Residential Study Area											
1	Whole Foods PAA	1551 3rd Ave, New York	Whole Foods Market	1.06	0.00	0%	1.06	100%	Requires repairs	Low	Planted areas, seating
2	Admiral Triangle	558 Clinton Street	NYC PARKS	0.43	0.37	85%	0.06	15%	Fair	Low	Seating, play equipment
3	Carroll Park	375 Court Street	NYC PARKS	1.87	1.50	80%	0.37	20%	Good	High	Seating, playgrounds, spray showers, bathrooms, basketball courts, blacktop, bocce ball court
4	Cough Triangle	566 Court Street	NYC PARKS	0.12	0.00	0%	0.12	100%	Fair	Low	Seating, planted areas, play structure
5	Ennis Playground	124 11th Street	NYC PARKS	0.55	0.33	60%	0.22	40%	Excellent	Fair	Basketball court, playground, spray showers, seating area, lawn, planted areas
6	Fowler Square Greenstreet	Lafayette Avenue & Fulton Street	DOT	0.06	0.00	0%	0.06	100%	Excellent	Moderate	Seating, Landscaping
7	Gowanus Canal Sponge Park	166 2nd Street	DEP	0.037	0.00	0%	0.07	100%	Excellent	Low	Planted areas, seating, boat launch
8	J.J. Byrne Playground	298 3rd Street	NYC PARKS	3.03	2.27	75%	0.76	25%	Good	High	Seating, playground, spay showers, ballfield, baseball field, restrooms, landscaping, historic structures
9	Nicholas Naquan Heyward Jr. Park	160 Wyckoff Street	NYC PARKS	0.95	0.71	75%	0.24	25%	Excellent	Moderate	Basketball courts, Handball courts, spray showers, bathrooms, playgrounds

Table 5-4 (cont'd)
Study Area Quantified Open Space Resources

Map No.[1]	Name	Location	Owner/ Agency	Acreage	Active		Passive		Condition	Utilization	Amenities
					Acres	%	Acres	%			
Non-Residential Study Area (cont'd)											
10	North Pacific Playground	473 Pacific Street	NYC PARKS	0.16	0.05	30%	0.11	70%	Good	Low	Seating, planted areas, play structure
11	Park Slope Playground	180 6th Avenue	DOE NYC PARKS	1.04	0.93	90%	0.10	10%	Good	High	Playground, spray showers, restrooms, basketball court, ballfield, seating areas
12	Purple Playground	Prospect Expressway & 6th Avenue	NYC PARKS	0.71	0.57	80%	0.14	20%	Good	Moderate	Playground, seating, planters, basketball hoop
13	Sixteen Sycamores Playground	358 Schermerhorn Street	NYC PARKS	0.57	0.43	75%	0.14	25%	Good	High	Basketball courts, playgrounds, handball courts, spray showers
14	St. Mary's Park (North)[1]	422 Smith Street	NYC PARKS	0.32	0.29	90%	0.03	10%	Excellent	N/A	Turf field, skate park, running track, basketball court, seating area
15	St. Mary's Park (South)	440 Smith Street	NYC PARKS	0.36	0.32	90%	0.04	10%	Excellent	Moderate	Playground, spray showers, seating areas
16	Thomas Greene Playground	225 Nevins Street	NYC PARKS	2.54	2.16	85%	0.38	15%	Good	Moderate	Playground, seating area, blacktop, basketball court, handball court, spray showers, swimming pools, seating area, planters
17	Washington Park	364 5th Avenue	DOE NYC PARKS	1.55	1.55	100%	0.00	0%	Fair	High	Handball courts, basketball courts, dog run, skate park
Non-Residential Study Area Totals				**15.34**	**11.48**	**75%**	**3.87**	**57%**			
Residential Study Area											
18	130 Livingston Street P.O.P.S.	130 Livingston Street	DCAS	0.25	0.00	0%	0.25	100%	Good	High	Seating
19	230 Ashland Place POPS	230 Ashland Place	230 Ashland Place	0.13	0.00	0%	0.13	100%	Excellent	High	Seating
20	Albee Square	Albee Square West	Downtown Brooklyn Partnership	0.49	0.00	0%	0.49	100%	Excellent	High	Seating
21	Atlantic Terminal Mall Plaza	139 Flatbush Ave	Barclays Center	0.48	0.00	0%	0.48	100%	Excellent	High	Seating
22	BAM Park	38 Lafayette Ave	NYC PARKS	0.23	0.00	0%	0.23	100%	Excellent	Moderate	Seating, Planted Areas
23	BAM South Public Plaza	300 Ashland Place	20 Lafayette LLC	0.36	0.00	0%	0.36	100%	Excellent	Under rehabilitation	Stepped topography of the plaza can be used for outdoor programming, such as film screenings and dance performances or farmer's markets.
24	Barclays Center Plaza	620 Atlantic Ave	Barclays Center	0.81	0.00	0%	0.81	100%	Excellent	High	Seating
25	Boerum Park	364 Warren Street	DOE NYC PARKS	0.92	0.83	90%	0.09	10%	Good	High	Spray showers, tennis court, playground, seating areas, basketball court
26	Butterfly Gardens	7th Avenue & Prospect Expressway	NYC PARKS	0.44	0.00	0%	0.44	100%	Good	Moderate	Seating, landscaping, planters, walking path

Table 5-4 (cont'd)
Study Area Quantified Open Space Resources

Map No.[1]	Name	Location	Owner/ Agency	Acreage	Active		Passive		Condition	Utilization	Amenities
					Acres	%	Acres	%			
Residential Study Area (cont'd)											
27	Coffey Park	85 Richards Street	NYC PARKS	8.27	3.72	45%	4.55	55%	Fair	High	Blacktop, handball courts, basketball court, playground, spray showers, restrooms, seating area, paths, lawns
28	Cuyler Gore Park	797 Fulton Street	NYC PARKS	1.16	0.29	25%	0.87	75%	Fair	Moderate	Playgrounds and spray showers
29	Dean Playground	500 Dean Street	NYC PARKS	1.30	0.65	50%	0.65	50%	Good	Moderate	Basketball courts, Handball courts, playgrounds, spray showers
30	Detective Joseph Mayrose Park	17th Street & 6th Avenue	NYC PARKS	1.35	0.00	0%	1.35	100%	Good	Moderate	Planers, seating areas, community plots
31	DiMattina Playground (Ballfield)	100 Rapelye Street	NYC PARKS	1.38	1.24	90%	0.14	10%	Fair	Moderate	Baseball field, dog run
32	DiMattina Playground (Playground)	70 Woodhull Street	NYC PARKS	0.53	0.45	85%	0.08	15%	Excellent	High	Spray showers, playground, seating
33	Edmonds Playground	319 Carlton Avenue	DOE NYC PARKS	0.92	0.69	75%	0.23	25%	Good	High	Basketball courts, playgrounds, bathrooms, spray showers
34	Fox Square Plaza	Fulton Street & Flatbush Avenue	Downtown Brooklyn Partnership	0.10	0.00	0%	0.10	100%	Excellent	Moderate	Seating, Planting, and Landscaping
35	Fulton Street & Hanson Place Open Space	Fulton Street & Hanson Place	DOT	0.05	0.00	0%	0.05	100%	Excellent	Under rehabilitation	Seating, Planters and Landscaping
36	Grand Army Plaza	Grand Army Plaza	NYC PARKS	7.60	6.46	85%	1.14	15%	Good	Moderate	Seating areas, planters, fountain, historic structure
37	Harold Ickes Playground	100 Hamilton Avenue	NYC PARKS	1.23	1.23	100%	0.00	0%	Poor	Low	Blacktop, handball courts, basketball court, baseball field
38	Park Place Triangle Greenstreet	Park Place & Flatbush Avenue	DOT	0.05	0.00	0%	0.05	100%	Good	Low	Seating, Planters and Landscaping
390	Prospect Expressway Park	Prospect Expressway between 6th and 7th Avenues	NYC PARKS	0.73	0.00	0%	0.73	100%	Fair	Low	Seating, planted areas, dog run
40	PS 321 Playground& Plaza	180 7th Avenue	DOE NYC PARKS	0.99	0.84	85%	0.15	15%	Fair	Moderate	Blacktop, basketball courts, playground
41	363-365 Bond St Public Access Area	1st Street and Gowanus Canal	363 Bond Street	0.67	0.00	0%	0.67	100%	Excellent	Moderate	Planted areas, seating, walking path
42	Saint Johns Place Greenstreet	St Johns Place & Flatbush Ave	DOT	0.01	0.00	0%	0.01	100%	Fair	Low	Seating
43	Saint Marks Triangle Greenstreet	Saint Marks Avenue & Flatbush Avenue	DOT	0.07	0.00	0%	0.07	100%	Good	Low	Seating, Planters and Landscaping
44	Slope Park Playground	544 7th Avenue	DOE NYC PARKS	0.69	0.55	80%	0.14	20%	Good	High	Playground, spray shower, restroom, seating, planted beds
45	South Oxford Park	187 South Oxford Street	NYC PARKS	1.18	0.89	75%	0.30	25%	Excellent	Moderate	Playgrounds, Tennis courts, lawn, seating
46	Schermerhorn Triangle Greenstreet	3rd Ave and Schermerhorn Street	DOT	0.07	0.07	100%	0.00	0%	Excellent	Low	Seating area
Residential Study Area Totals[1]				**47.82**	**29.39**	**61%**	**18.43**	**39%**			

Sources: AKRF fieldwork May 2019; NYC Parks Open Space Database.

Table 5-5
Qualitative Open Space Resources

Map ID No.	Name	Location	Owner / Program	Type
A	6/15 Green Community Garden	554 6th Avenue	Brooklyn Alliance of Neighborhood Gardens	Community Garden
B	Brooklyn Bear's Carlton Ave Garden	401 Carlton Avenue	NYC PARKS	Community Garden
C	Brooklyn Bear's Pacific Street Community Garden	150 Flatbush Avenue	Brooklyn Alliance of Neighborhood Gardens	Community Garden
D	Brooklyn Bear's Rockwell Pl Garden	Flatbush Avenue	NYC PARKS	Community Garden
E	Brooklyn Technical Athletic Field	510 Claremont Avenue	DOE	School Athletic Field
F	David Foulke Memorial Garden	250 Bergen Street	Brooklyn Queens Land Trust	Community Garden
G	First Atlantic Terminal Open Space	170 South Portland Ave	NYCHA	Seating areas, children's playground
H	Garden's Of Union	636 Union Street	NYC PARKS	Community Garden
I	Gowanus Houses Open Space	211 Hoyt Street	NYCHA	Landscaped grounds, seating, play equipment, handball court
J	Lincoln-Berkeley Community Garden	22 Lincoln Place	Brooklyn Queens Land Trust	Community Garden
K	President Street Block Association Garden (Dolly's Garden)	503 President Street	NYC PARKS	Community Garden
L	Schaef Earth Garden	410 6th Avenue		Community Garden
M	Second Atlantic Terminal Open Space	483 Carlton Avenue	NYCHA	Landscaped grounds, seating, children's playground
N	The Transit Garden	134 2nd Place		Community Garden
O	Warren Saint Marks Community Garden	98 St. Marks Place	Brooklyn Alliance of Neighborhood Gardens	Community Garden
P	Wyckoff Bond Garden	195 Wyckoff Street	Wyckoff Bond Garden Trust	Community Garden
Q	Wyckoff Gardens	272 Wyckoff Street	NYCHA	Landscaped grounds, play equipment, basketball court
R	Greenspace on 4th	207 4th Avenue	DEP	Community Garden
S	Gil Hodges Community Garden	534 Carroll Street	NYRP	Community Garden
T	Greenspace at President Street	225 5th Avenue		Community Garden
U	Warren Street Houses Playground	567 Baltic Street	NYCHA	Landscaped grounds, playground, spray showers
V	Brooklyn Conservatory of Music Garden	168 Lincoln Place	Brooklyn Conservatory of Music	Private Publicly Accessible Garden
W	Prospect Park	N/A	NYC Parks	Park
X	Fort Greene Park	100 Washington Park	NYC Parks	Park
Y	Red Hook Recreation Area	155 Bay Street	NYC Parks	Ball fields, pool, running track, seating, playground

Sources: AKRF fieldwork conducted in May 2019; NYC Parks Open Space Database; and GreenThumb Database.

NON-RESIDENTIAL STUDY AREA

As shown in **Table 5-4**, the non-residential study area contains a total of 15.34 acres of public open space, of which approximately 3.87 acres (25 percent) are used for passive recreation and approximately 11.48 acres (75 percent) are used for active recreation.

There are 17 publicly accessible open spaces and recreational resources located within the non-residential study area. Two open spaces provide more than two acres of open space: J.J. Byrne Park, located at 5th Avenue between 3rd and 4th Streets; and Thomas Greene Playground, located on the block bounded by Douglass Street, Degraw Street, 3rd Avenue, and Nevins Street. Both open spaces are located east of the Gowanus Canal and shown in **Figure 5-2**.

J.J. Byrne Park provides approximately 3.33 acres of open space, of which approximately 2.5 acres are used for active recreation (75 percent) and 0.83 acres are used for passive recreation (25 percent). Passive recreational amenities located at J.J. Byrne Park include seating areas, planted landscaping, benches, and the historic Old Stone House, a reconstructed 17th century farmhouse. Active open space amenities at J.J. Byrne Park include a children's playground, spray showers, and a multi-use synthetic turf field.

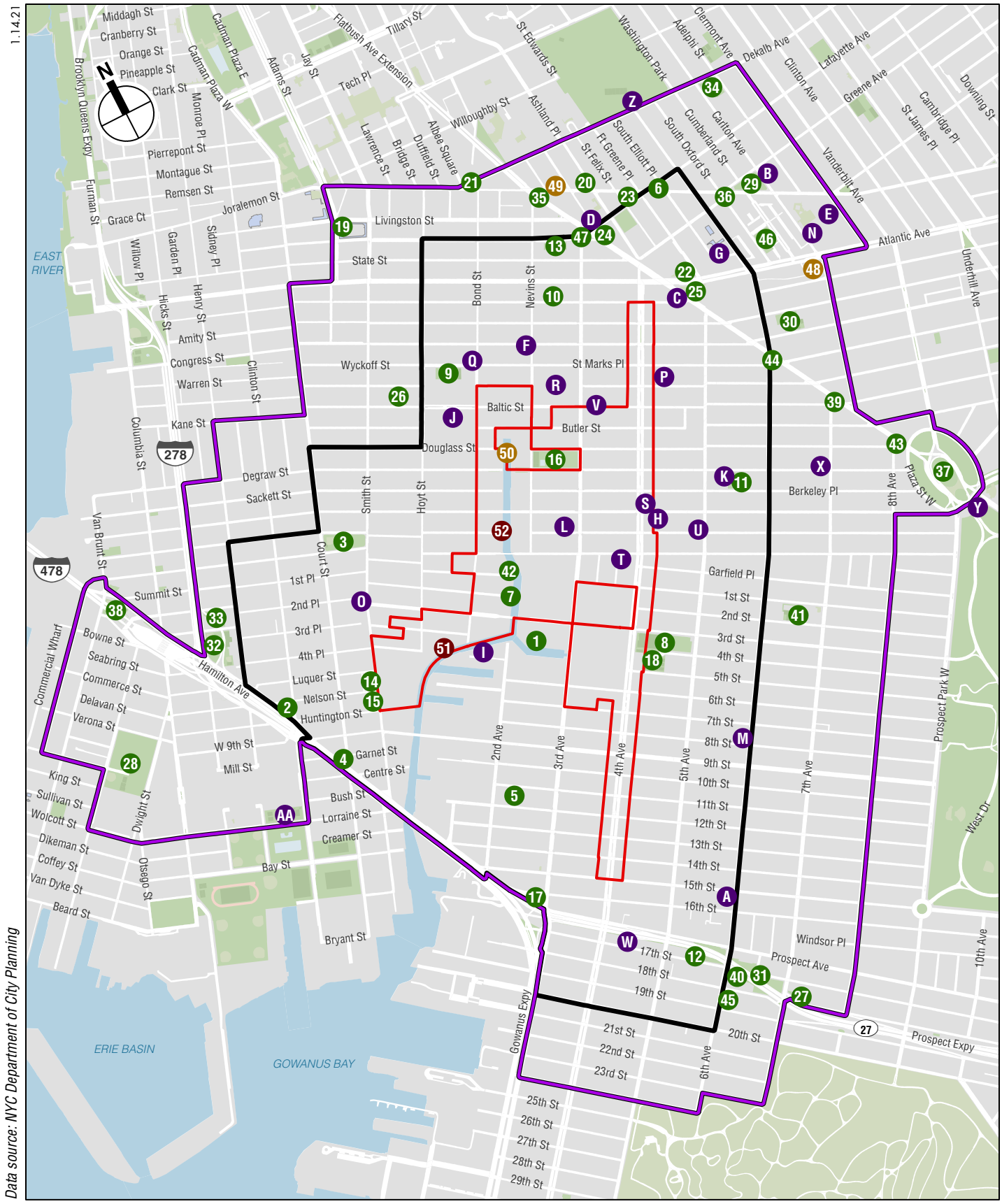
Washington Park (located at the end of 4th Street between 4th and 5th Avenues) provides approximately 1.6 acres of open space recreation within the non-residential study area. Washington Park is adjacent to J.J. Byrne Park and the two resources function as one open space. Almost all of the park is utilized for active recreation, which includes handball courts, basketball courts, a skate park, and a dog run.

Thomas Greene Playground provides approximately 2.54 acres of public open space, including approximately 0.38 acres of passive open space and 2.16 acres of active open space. Passive recreation amenities at Thomas Greene Playground include seating areas, and planted landscaping. Additional deck seating is located within the Douglass & Degraw (D&D) Pool, which is open during summer months within the park. Active recreational amenities include a playground and jungle gym, multi-use blacktop, handball courts, a skate park, and two swimming pools, open during the summer months.

Beyond these three large open spaces, the remaining open space resources within the non-residential study area are less than two acres in size. These resources are primarily programmed with active open space uses, including basketball and handball courts, playgrounds, spray showers, and multi-use blacktops.

Open spaces within this study area are concentrated in the residential neighborhoods of Park Slope, Boerum Hill, and—to a lesser extent—Carroll Gardens. Carroll Park, the largest open space within the western portion of the non-residential study area, is approximately 1.92 acres in size; approximately 20 percent of it is utilized for passive open space and 80 percent for active recreation, including two children's playgrounds, a multi-use blacktop, and bocce ball courts. To the south of the non-residential study area, there are a number of open spaces that follow the route of the Prospect Expressway. These open spaces include the Purple Playground and Prospect Expressway Park, often simply labeled as "Park" on NYC Parks signage. These open spaces are primarily passive and include seating areas and planted landscaping.

Ennis Playground, located on 11th and 12th Streets between 2nd and 3rd Avenues, and St. Mary's Playground (North), located along Smith Street between Nelson and Luquer Streets, recently reopened after extensive renovations.



GOWANUS NEIGHBORHOOD REZONING AND RELATED ACTIONS

Figure 5-2

In addition to the open spaces described above, the non-residential study area includes other open space resources that are not included in the quantitative assessment, including community gardens—such as the New York Restoration Project (NYRP) Gil Hodges Garden located on Carroll Street and Denton Place, which has landscaped areas and seating. Other such open spaces include those within the NYCHA Gowanus and Wyckoff campuses, which include landscaped grounds, children's' play equipment, basketball and handball courts, planted walkways, gardens, and seating areas located between residential buildings.[2]

RESIDENTIAL STUDY AREA

The residential study area includes all open spaces identified in the non-residential study area, as well as an additional 29 open space resources (see **Table 5-4** and **Figure 5-2**). As shown in **Table 5-4**, in the Existing condition the residential study area includes approximately 47.82 acres of public open space (including the 15.34 acres within the non-residential study area). Of this total, approximately 18.43 acres (39 percent) is utilized for passive recreation and 29.39 acres (61 percent) is utilized for active recreation.

The largest open space resource within the residential study area is Grand Army Plaza, located in the northeast of the study area. Grand Army Plaza is an approximately 10-acre open space which is primarily used for passive recreation and includes large statues and monuments, including the Soldiers and Sailors Arch, the Bailey Fountain, the John F. Kennedy Monument, and a bust of Alexander J.C. Skene. In addition to these large monuments, Grand Army Plaza has seating areas, planted areas, and is intersected by bikeways providing access to and from the adjacent Prospect Park and surrounding residential neighborhoods.

Coffey Park, located in the southwest portion of the study area, is the other large (i.e., greater than two acres) public open space found within the residential study area. Coffey Park is approximately eight acres in size and utilized for both active and passive recreation (45 and 55 percent respectively). Active recreation amenities include a playground, spray showers, and basketball and handball courts. Passive amenities include large grassy areas, seating, and other landscaped features.

Beyond these two parks, open spaces within the residential study area are all under two acres and primarily utilized for active recreation or as public gathering spaces. In the northern portion of the study area, there are numerous privately owned public spaces (POPS), including the 130 Livingston and 230 Ashland Place POPS, as well as other small plazas—such as the Fulton Street and Hanson Place Open Space and triangle parks along Flatbush Avenue at various cross streets. These open spaces are passive in nature and include landscaped areas and seating. These open spaces also include the Barclays Center Plaza, a 0.32-acre open public plaza, the 0.54-acre Atlantic Terminal Mall Plaza, and the 0.34-acre Brooklyn Academy of Music (BAM) South Public Plaza.

Along the Prospect Expressway, in the southeast portion of the residential study area, there are a number of small parks that provide passive open space to study area residents. These include Butterfly Gardens, a 0.47-acre park with planted landscaping and seating, and the Prospect Expressway Park, which is a 0.7-acre public open space that includes seating, planted areas, and a dog run.

[2] Due to ongoing repairs at the NYCHA Gowanus Houses, some open spaces and recreational facilities are currently closed and being utilized as staging areas for construction.

Betty Carter Park, located between Fulton, Lafayette, and St. Felix Streets, recently underwent substantial renovations and engineering improvements and reopened in August 2019 with newly planted flower beds, footpaths, and seating areas.

ASSESSMENT OF OPEN SPACE ADEQUACY

NON-RESIDENTIAL STUDY AREA

As described above, the analysis of the non-residential study area focuses on passive open spaces that may be used by workers within the study area. To assess the adequacy of open spaces in the area, the ratio of workers to acres of passive open space is compared with the City's planning guideline of 0.15 acres of passive space per 1,000 workers.

Quantitative Assessment

The non-residential study area includes a total of 15.34 acres of open space, of which approximately 3.87 acres (25 percent) are utilized for passive recreation. A total of 31,599 people work and 70,551 residents live within the non-residential study area. The combined residential and non-residential population is estimated to be 102,150 persons.

The non-residential study area has a passive open space ratio of 0.122 acres per 1,000 workers, which is slightly below the City's guideline of 0.15 acres per 1,000 workers (see **Table 5-6**). For informational purposes, the combined worker and resident passive open space ratio is 0.038 acres per 1,000 residents.[3] As noted in the *CEQR Technical Manual*, residents are more likely to travel farther to reach parks and recreational facilities and they use both passive and active open spaces.

Table 5-6
Adequacy of Open Space Resources in the Non-Residential Study Area: Existing Conditions

		Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Guidelines		
	Population	Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Non-Residential (¼-Mile) Study Area										
Workers	31,599	15.34	3.87	11.48	N/A	0.122	N/A	N/A	0.15	N/A
Combined Workers and Residents	102,150					0.038				

Note: There may be a small discrepancy within the number values above due to rounding.
Sources: ACS 2014–2018 5-Year Estimates; Center for Economic Studies, LEHD Origin-Destination Employment Statistics (2002–2015); NYC Parks; AKRF Field Survey, May 2019.

Qualitative Assessment

As shown in **Table 5-4**, of the 17 open spaces located within the non-residential study area, 16 are in excellent to fair condition. Ten of the 18 parks have moderate to high utilization, and this includes all of the major recreational open spaces found within the study area. The remaining open areas are smaller triangle parks and other open spaces in proximity to major thoroughfares, such

[3] This quantitative analysis is conservative as it assumes that residents and daytime users are separate populations, whereas it is possible (especially considering the size of the study area) that some of the residents live near their workplace, resulting in some double-counting of the daily user population in the non-residential study area.

as the BQE and Fort Hamilton Avenue. These open spaces were observed to have low utilization during both weekday and weekend field visits.

In addition to the quantified open spaces described in **Table 5-5,** the non-residential open space study area includes several passive open spaces, such as community gardens and other small areas that are open to the public during daytime hours. These spaces may be suitable for use by the non-residential population in the area, but because public access may be restricted they are not included in the quantitative assessment. Furthermore, additional public open spaces—such as Boerum Park, located just outside of the non-residential study area (discussed below)—could be utilized by the non-residential population. While these facilities are conservatively excluded from the quantitative analysis, it is likely that they are used by a portion of the population who live and work in the non-residential study area.

RESIDENTIAL STUDY AREA

The assessment of the adequacy of open space resources within the residential study area takes into consideration the ratios of active, passive, and total open space resources per 1,000 residents. According to the 2014–2018 ACS 5-Year Estimates, the residential study area is estimated to have a total population of 141,527 residents.

Quantitative Assessment

As shown in **Table 5-4**, in the Existing condition, the residential study area includes a total of 47.82 acres of open space, of which approximately 18.43 acres (39 percent) is utilized for passive recreation, and 29.39 acres (61 percent) are utilized for active recreation.

Based on *CEQR Technical Manual* methodology, the residential study area has a total open space ratio of 0.338 acres per 1,000 residents, a passive open space ratio of 0.130 acres per 1,000 residents, and an active open space ratio of 0.208 acres per 1,000 residents (see **Table 5-7**). This is lower than the City's recommended guidelines of 2.5 acres of total open space per 1,000 residents, as well as the City recommended 2.0 acres of active open space per 1,000 residents and 0.5 acres of passive open space per 1,000 residents. As such, there is an existing shortfall of both passive and active open space in the residential study area.

Table 5-7
Adequacy of Open Space Resources in the Residential Study Area: Existing Conditions

		Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Guidelines		
	Population	Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Residential (1/2-mile) Study Area										
Residents	141,527	47.82	18.43	29.39	0.338	0.130	0.208	2.5	2.0	0.5

Note: There may be a small discrepancy within the number values above due to rounding.
Source: ACS 2014-2018 5-Year Estimates; NYC Parks; AKRF Field Survey, May 2019.

Qualitative Assessment

As discussed above under the quantitative assessment, approximately 61 percent of the open space in the residential study area is dedicated to active recreation and approximately 39 percent is dedicated to passive recreation. Although the residential study area contains a mix of recreational facilities, the open space ratios still fall below the CEQR goal of 2.5 acres per 1,000 residents and

the citywide median of 1.5 acres per 1,000 residents. Furthermore, both the active and passive open space ratios fall below the CEQR recommended 2.0 acres of active open space and 0.5 acres of passive open space per 1,000 residents, respectively.

As shown in **Table 5-5**, the residential study area open spaces include a wide variety of actively programmed spaces appropriate for all age groups, including children, teenagers, adults, and seniors. As noted in **Table 5-3**, the study area includes a higher percentage of working-age adults (ages 18 to 64), as compared with Brooklyn and New York City overall (70 percent in the study area compared with 64 percent in Brooklyn and 65 percent in New York City). As indicated in the *CEQR Technical Manual*, adults tend to utilize active recreational amenities (such as handball and basketball courts) as well as open lawns and other passive recreational amenities, and open spaces within the residential study area include such facilities (see **Table 5-4**). Thirty of the 47 open spaces shown in the table are in excellent or good condition, including eight open spaces that are newly opened or restored. A recent addition, the BAM South Public Plaza, provides open seating as well as an area for cultural programming, located adjacent to BAM. Other open spaces, such as DiMattina Playground and Slope Park Playground, include children's playgrounds, blacktop and turf fields, and spray showers. Thirteen open spaces were observed to have low utilization; the majority of these are small triangle parks along major roadways.

As shown in **Table 5-3**, approximately 18 percent of the residential study area population consists of children below the age of 18. As noted in the *CEQR Technical Manual*, children require a variety of active recreational amenities including playgrounds and sports facilities, such as basketball and handball courts, similar to the adult population. The residential study area's open spaces serving this population include 17 parks with playground/jungle gym equipment, 13 parks with basketball courts, and 15 parks with other age-appropriate recreational amenities, such as handball courts, baseball fields, and tennis courts.

In addition to the quantified open space resources within the residential study area, there are additional open spaces including community gardens, green streets, and other athletic fields, which are accessible to the public during specified hours (see **Table 5-5**).

Area residents also have access to destination open spaces not identified in the quantitative analysis and located outside of the study area. As shown in **Figure 5-2**, to the east, the 526-acre Prospect Park serves as a regional open space for many Brooklyn residents and includes a variety of active and passive recreational amenities, such as large open playfields, playgrounds, walking trails, an ice rink, a zoo, and a historic carousel. In addition, some study area residents are in proximity to the Red Hook Recreation Area, a grouping of large sports fields, open lawns, and a public pool, which provide opportunities for both passive and active recreation. To the north of the residential study area, residents are in proximity to Fort Greene Park, which also has a wide range of active and passive amenities, including tennis courts and a playground.

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

STUDY AREAS

In the No Action condition, it is expected that current land use trends and general development patterns in the Project Area will continue. These trends and patterns are characterized by the development of a mix of uses and primarily include commercial, industrial, and to a lesser extent residential development. As detailed in Chapter 1, "Project Description," it is anticipated that in

the No Action condition, projected development sites would be developed with 816 DUs, 871,781 sf of commercial space, 217,067 sf of community facility space, and 415,490 sf of industrial space. In total, the combined as-of-right development on the projected development sites will introduce approximately 1,788 residents and 3,176 workers.[4]

NON-RESIDENTIAL STUDY AREA

In addition to as-of-right development on the projected development sites within the Project Area, an additional 75 developments are anticipated to be constructed within the non-residential study area in the No Action condition. As a result of these additional developments, the non-residential study area population is expected to increase by 9,089 workers, and by 19,400 residents. As a result of both No Action development on the projected development sites and background growth on other sites within the non-residential study area, by 2035 the total non-residential study area population is anticipated to be 130,639, comprised of 40,688 workers and 89,951 residents.

RESIDENTIAL STUDY AREA

In addition to as-of-right development on projected development sites, 161 additional developments (including the 75 planned developments within the non-residential study area) are anticipated to be constructed within the residential study area in the No Action condition. As a result of these planned developments and the as-of-right development on the projected development sites, in the No Action condition the residential population within the residential study area is anticipated to increase by 26,029 residents. In total, in the No Action condition, the residential population of the study area is anticipated to total 167,556 persons by the 2035 Build Year.

OPEN SPACE RESOURCES

As shown in **Table 5-8**, the future with the Proposed Actions would result in 9.95 acres of new publicly accessible open spaces including a new, approximately 8-acre open space at the Pacific Park development, a 1.6-acre open space at the Head End CSO Facility, and an additional 0.35-acre open space at the 625 Fulton Street development that would benefit the residential study area. As a result, within the non-residential study area in the No Action condition, total public open space would increase from 15.66 acres in the Existing condition to 24.94 acres. In the residential study area, total publicly accessible open space would increase from 48.14 acres in the Existing condition to 58.09 acres in the No Action condition.

GRAND ARMY PLAZA

In coordination with NYC Parks, the Prospect Park Alliance has received funds to restore and renovate Grand Army Plaza and the Soldier and Sailors Monument Arch within Grand Army Plaza in the No Action condition. As part of this restoration effort, Mayor de Blasio has allocated $8.9 million to restore the arch and landscaped berms within the park. The City Council has provided an additional $1 million in support of the restoration. Restoration will include cleaning and repointing of the arch's roof,

[4] The total worker population of 3,176 was determined by multiplying the incremental Project Area development program square footage by standard CEQR worker generation rates.

replacing outdated lighting, new plantings and landscaping, and replacement of broken bluestone pavers.[5] It is anticipated that renovations to Grand Army Plaza will be completed by 2021.

Table 5-8
Public Open Space Introduced Regardless of the Proposed Actions

Name	Location	Program	Total Acreage	Passive Acreage	Active Acreage
Pacific Park	Pacific Park Site	Mix of Active & Passive Recreation	8.00	6.00	2.00
Head End Open Space	Head End CSO Facility	Mix of Active & Passive Recreation	1.60	1.44[1]	0.16
625 Fulton Street	625 Fulton Street	Passive Recreation	0.35	0.35	0.00
Total			9.95	7.79	2.16

Note:
1 While the open space at Head End CSO Facility is mainly passive in nature, for the purpose of a conservative analysis the linear path along the Canal is assumed to be active open space.

THOMAS GREENE PLAYGROUND

Thomas Greene Playground is anticipated to be substantially renovated in the No Action condition. Thomas Greene Playground, the site of the former Fulton Manufactured Gas Plant, will be temporarily closed and the pool will be relocated in connection to the Superfund remediation.[6,7] During the remediation process, the existing Thomas Greene Playground and D&D Pool will be closed and unusable by the study area population. As part of the remediation plan, National Grid will construct a temporary swimming pool while the park is closed. A site for the temporary pool has not yet been identified and a detailed timeline for the remediation is unknown at this time. Once remediation is complete, the open space will be reconstructed as a new park, including a pool, and the temporary park will close. It is assumed that remediation and reconstruction of Thomas Greene Playground and the D&D Pool would be completed by the 2035 Build Year, and the reconstructed Thomas Greene Playground would be open to the public and utilized by study area residents in the No Action condition.

PACIFIC PARK

The Pacific Park development located along Atlantic Avenue in the Prospect Heights neighborhood is anticipated to add an additional eight acres of public open space within the residential study area by 2035. Preliminary plans for the open space call for a linear park from Vanderbilt Avenue in the east to the Barclays Center and Flatbush Avenue in the west.[8] Open space within Pacific Park will be primarily passive, with small active open space features including

[5] https://www.prospectpark.org/news-events/news/alliance-receives-89m-restoration-grand-army-plaza/

[6] Record of Decision, K - Fulton Works Operable Unit Number 01: Plant Site and Near Off-Site Brooklyn, Kings County Site No. 224051 (NYS Department of Environmental Conservation, July 2015).

[7] https://www.epa.gov/newsreleases/epa-and-national-grid-reach-major-agreement-gowanus-canal-superfund-site-cleanup

[8] "Pacific Park Open Space Design" Thomas Balsley Associates. https://cdn.esd.ny.gov/Subsidiaries_Projects/AYP/AtlanticYards/AtlanticYardsNews/06242015_AYPPublicMeetingPresentation.pdf

a children's playground, basketball court, and bocce courts. The public open space associated with Pacific Park is assumed to be approximately eight acres. Seventy-five percent of the open space is assumed to be passive and 25 percent is assumed to be active.

625 FULTON STREET

In the No Action condition, a new development at 625 Fulton Street will be developed and include an approximately 0.35-acre public plaza. As the public plaza would likely be designated as a POPS it is anticipated that 100 percent of the open space provided would be passive.

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION'S GOWANUS COMBINED SEWER OVERFLOW FACILITIES PROJECT

In the No Action condition, additional open spaces could be created as part of the New York City Department of Environmental Protection's (DEP) Gowanus Combined Sewer Overflow (CSO) Facilities project. This project includes the acquisition of property adjacent to the Gowanus Canal in order to construct large storm water retention facilities with the objective of preventing combined sewer overflow events from contaminating the Gowanus Canal. In total, two facilities will be constructed: one at the head end of the Canal at Butler and Nevins Streets, and another located at 4th Street and 2nd Avenue. It is possible that both sites could include publicly accessible open space.[9] DEP has committed to providing an open space at the Head End site. The Head End Open Space would be approximately 1.6 acres in size and programmed primarily with passive features. Although specific plans have not yet been developed, the Head End Open Space would include a 50-foot-wide esplanade along the Canal, which will allow for some active recreation on the planned open space. The existing greenstreets located along Douglass Street will be eliminated as part of the CSO Facilities project and incorporated into the Head End Open Space. As details regarding CSO facilities are not yet finalized, for the purpose of a conservative analysis, the potential open space at Owls Head facility is not included in the quantitative assessment.

ASSESSMENT OF OPEN SPACE ADEQUACY

NON-RESIDENTIAL STUDY AREA

Quantitative Assessment

As a result of additional public open space developed in the No Action condition (primarily the eight acres of public space anticipated to be developed as part of Pacific Park), as shown in **Table 5-9**, the total open space available to area workers would increase to 24.94 acres, compared with 15.34 acres in the Existing condition. Total passive recreational space would increase to 11.31 acres in the No Action condition, compared with 3.87 acres in the Existing condition. While the total open space available for study area workers would increase in the No Action condition, the total worker population is also anticipated to increase by approximately 9,124 workers. As a result, the passive open space ratio in the No Action condition would increase from 0.122 acres per 1,000 workers in the Existing condition to 0.278 acres per 1,000 workers in the No Action condition. In the No Action condition, study area passive open space resources adequately meet the *CEQR Technical Manual* goal of 0.15 acres of passive open space per 1,000 workers.

[9] Gowanus Canal Combined Sewer Overflow (CSO) Facilities Final Environmental Impact Statement, September 2017 (CEQR 17DEP040K).

Table 5-9
Adequacy of Open Space Resources in the Non-Residential Study Area: No Action Condition

	Population	Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Guidelines		
		Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Non-Residential (¼-Mile) Study Area										
Workers	40,723	24.94	11.31	13.64	N/A	0.278	N/A	N/A	0.15	N/A
Combined Workers and Residents	130,674					0.087				

Note: There may be a small discrepancy within the number values above due to rounding.
Sources: ACS 2014–2018 5-Year Estimates; Center for Economic Studies, LEHD Origin-Destination Employment Statistics (2002–2015); NYC Parks; AKRF Field Survey, May 2019.

Qualitative Assessment

As shown in **Table 5-4**, most of the non-residential study area open spaces are in good condition and use levels are moderate on weekdays, particularly outside of afternoon hours when workers are most likely to utilize passive open spaces. As noted in **Table 5-5**, the non-residential study area includes several additional passive open spaces, such as community gardens, which may be used by the non-residential population in the area. All open space resources are expected to remain under the No Action condition.

RESIDENTIAL STUDY AREA

Quantitative Assessment

In the No Action condition, the total open space available to study area residents would increase to 57.77 acres, compared with 47.82 acres in the Existing condition. Total passive recreational space would increase from 18.43 acres in the Existing condition to 26.22 acres in the No Action condition. Active open space would increase from 29.39 acres in the Existing condition to 31.55 acres in the No Action condition, as shown in **Table 5-10**. While the total passive and active open space available for study area residents would increase in the No Action condition, the total residential population of the residential study area is also anticipated to increase as a result of additional residential development. In total, the study area population is anticipated to increase from 141,527 residents in the Existing condition to 167,556 residents in the No Action condition by the 2035 Build Year.

Table 5-10
Adequacy of Open Space Resources in the Residential Study Area: No Action Condition

	Population	Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Guidelines		
		Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Residential (½-Mile) Study Area										
Residents	167,556	57.77	26.22	31.55	0.345	0.156	0.188	2.5	2.0	0.5

Note: There may be a small discrepancy within the number values above due to rounding.
Sources: ACS 2014-2018 5-Year Estimates, NYC Parks AKRF Field Survey, May 2019

As a result, the total open space ratio is anticipated to increase to 0.345 acres per 1,000 residents in the No Action condition, as compared to 0.338 acres per 1,000 residents in the Existing

condition. The passive open space ratio is anticipated to increase from 0.130 acres per 1,000 residents in the Existing condition to 0.157 acres per 1,000 residents in the No Action condition. The active open space ratio is anticipated to decrease from 0.208 acres per 1,000 residents to 0.188 acres per 1,000 residents in the No Action condition. As in the Existing condition, residents will be underserved by open space in the No Action condition (including both active and passive open space) according to *CEQR Technical Manual* open space guidelines of 2.5 acres of total open space per 1,000 residents, 0.5 acres of passive open space per 1,000 residents, and 2.0 acres of active open space per 1,000 residents.

Qualitative Assessment

As discussed above, in the No Action condition approximately 54 percent of the open space in the residential study area is dedicated to active recreation and approximately 46 percent is dedicated to passive recreation. Although the residential study area contains a mix of recreational facilities, in the No Action condition the quantitative open space ratios still fall well below the guideline goal of 2.5 acres per 1,000 residents and the citywide median of 1.5 acres per 1,000 residents. Further, both the active and passive open space ratios fall below recommended ratios per 1,000 residents.

As in the Existing condition, residential study area open spaces include a wide variety of actively programmed spaces appropriate for all age groups within the study area, including children, teenagers, adults, and seniors. In the No Action condition, the residential study area is anticipated to include 13 parks with basketball courts and 15 parks with other age-appropriate recreational amenities, such as handball courts, baseball fields, and tennis courts, which would serve the needs of the study area's adult population. Furthermore, in the No Action condition, some open spaces will reopen with improved facilities, thereby improving the overall condition and quality of study area open spaces. In addition, the newly renovated Thomas Greene Playground and associated D&D Pool, the Head End Open Space, and new open space at Pacific Park will increase publicly available and accessible open spaces within the Project Area.

As shown in **Table 5-5,** additional open spaces not considered in the quantitative assessment that are available to study area residents include community gardens and other open spaces that are accessible to some residents during specified hours. NYCHA recreational services, while serving the NYCHA population, will not serve the entire study area population and as such are not included in the quantitative assessment. As in the Existing condition, beyond open spaces identified within the residential study area, area residents—particularly those at the periphery of the study area—have access to destination open spaces, including Prospect Park, the Red Hook Recreational Area, and Fort Greene Park.

Prospect Park, located east of the study area, is one of the City's premier regional parks. It contains a manmade watercourse (wetlands) and the bulk of Brooklyn's remaining indigenous forest. At 526 acres, Prospect Park includes a zoo, ice rink, band shell, carousel, and dozens of athletic and recreational facilities. Of these facilities, the Prospect Park Bandshell, several playgrounds, and running and biking paths are located on the west side of the park closest to the study area. These resources are an approximately 10- to 15-minute walk from the eastern portion of the study area, and an approximately 20-minute walk from the Project Area. Prospect Park draws visitors from surrounding neighborhoods and other parts of the City, and it is expected that residents of the study area would continue to use this resource in the future as it is a resource that is in good condition and has a high capacity for visitors throughout the year.

The Red Hook Recreation Area is an approximately 10-minute walk from the southwestern portion of the study area and a 25-minute walk from the approximate center of the study area. Depending on the location of resources, the walk time varies from the southwestern part of the study area, which is adjacent the F/G station at Smith/9th Street (the primary subway station used by Red Hook residents, workers, and open space users). Walk times vary from 10 minutes to the nearest part of the Red Hook Recreation Area, which contains an Olympic-sized pool, to 20 minutes in the southwestern part of the Red Hook Recreation Area, which contains baseball/softball fields, handball courts, basketball courts, soccer facilities, and a children's playground. This open space also includes the Red Hook Recreation Center, which offers cardio equipment, weight lifting, and exercise classes. The facilities are in good condition and support a high volume of visitors from surrounding areas. The Red Hook Ball Fields are an approximately 20-minute walk from the center of the Project Area, and it is reasonable to assume that the resource will continue to be heavily utilized by the study area population in the future.

Fort Greene Park, located north of the study area, is an approximately 10-minute walk from the upper portions of the study area and a 25-minute walk from the approximate center of the study area. The park contains sloping hills and open lawns and includes a basketball court, playgrounds, and tennis courts. The facilities are in good condition.

Prospect Park and Fort Greene Park were both designed by Frederick Law Olmsted and Calvert Vaux. These premier park spaces offer exceptional amenities to neighborhood residents and New York City. Along with the Red Hook Recreation Area, the three open spaces are geographically distributed to the west, north, and east of the residential study area, and provide residents access to additional open space resources. All three resources are also easily accessible by bicycle.

In addition, the open space and recreational facilities located at NYCHA's Wyckoff Gardens and Gowanus and Warren Street Houses are within the residential study area. While these areas were not included in the open space inventory and quantitative analysis because they are primarily meant for use by residents of the housing developments, they would help serve the recreational needs of the study area population and provide additional playgrounds and passive seating areas for younger and older age cohorts.

The 1.6 acres of open space to be introduced at the Head End Facility will be conveniently accessible to residents of the Project Area, and will include a waterfront esplanade. Furthermore, the Gowanus Canal is currently used as an active open space resource for kayaking and other water-dependent activities. Use of the 1.8-mile Canal for active recreation is expected to increase as accessibility and water quality improves over the analysis period, further enhancing the quality and availability of open space resources in the study area.

Despite the availability of additional open spaces, analysis of the utilization of study area open spaces on both weekdays and weekends indicates that study area open spaces are already heavily utilized by the study area population and will likely remain heavily utilized in the No Action condition. However, the additional resources discussed in this qualitative assessment are expected to continue to provide high-quality open spaces for the study area population.

E. THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITION)

DIRECT EFFECTS

According to the *CEQR Technical Manual*, a proposed action may result in a significant direct impact on open space resources if there would be direct displacement/alteration of existing open space within the study area that would have a significant adverse effect on existing users, or an imposition of noise, air pollutant emissions, odors, or shadows on public open space that may alter its usability. The Proposed Actions would result in a direct significant adverse impact to open space as a result of incremental shadow cast on the Douglass and Degraw Pool in Thomas Greene Playground. As discussed in more detail in Chapter 6, "Shadows," incremental shadows would cover most of the large main pool and the small kiddie pool for approximately two hours in the late afternoon of the May 6/August 6 analysis day, significantly impacting the user experience of the pool on this analysis day. The shadow impact constitutes a significant adverse direct impact on open space. The analysis found that although the significant adverse shadow impact would reduce the utility of the pool, active open spaces within Thomas Greene Playground would continue to be available and provide for other passive or active open space uses. Mitigation measures for the direct open space impact to the Douglass and Degraw Pool in Thomas Greene Playground are discussed in Chapter 21, "Mitigation."

No other direct impacts to open space are expected with the Proposed Actions. The Proposed Actions would not result in the direct displacement of any existing open space resources nor are there anticipated to be any significant adverse impacts related to construction, air quality, or noise on open space resources.

INDIRECT EFFECTS

By the 2035 Build Year, the Proposed Actions are expected to introduce an estimated total of 20,391 new residents and 6,669 workers to the Project Area, as discussed in Chapter 1, "Project Description." The Proposed Actions would introduce an increment of 18,603 new residents and 3,494 new workers to the Project Area compared with the No Action condition. As indicated in **Table 5-11**, the additional population is expected to increase the non-residential study area's worker population to 44,216 and the combined worker and residential population to 152,770. The study area's residential population is expected to increase to 186,159 in the With Action condition by the 2035 Build Year.

Table 5-11
With Action Open Space Study Area Population

	No Action Population	With Action Population
Non-Residential (¼-Mile) Study Area		
Workers	40,723	44,216
Combined Workers and Residents	130,674	152,770
Residential (½-Mile) Study Area		
Residents	167,556	186,159
Note: There may be a small discrepancy within the number values above due to rounding.		

OPEN SPACE RESOURCES

As shown in **Table 5-12**, the Proposed Actions would result in 5.46 acres of new publicly accessible open spaces including a new approximately 1.48-acre park at the Gowanus Green Site and approximately 3.98 acres of new publicly accessible waterfront open space. The Gowanus WAP would require all future waterfront development within the Project Area to provide publicly accessible open space in the form of a 40-foot-wide esplanade and supplemental public access areas. As a result, within the non-residential study area in the With Action condition, total public open space would increase from 24.94 acres in the No Action condition to 30.40 acres in the With Action condition. In the residential study area, total publicly accessible open space would increase from 57.77 acres in the No Action condition to 63.23 acres in the With Action condition.

Table 5-12
Open Space Introduced as Part of the Proposed Actions

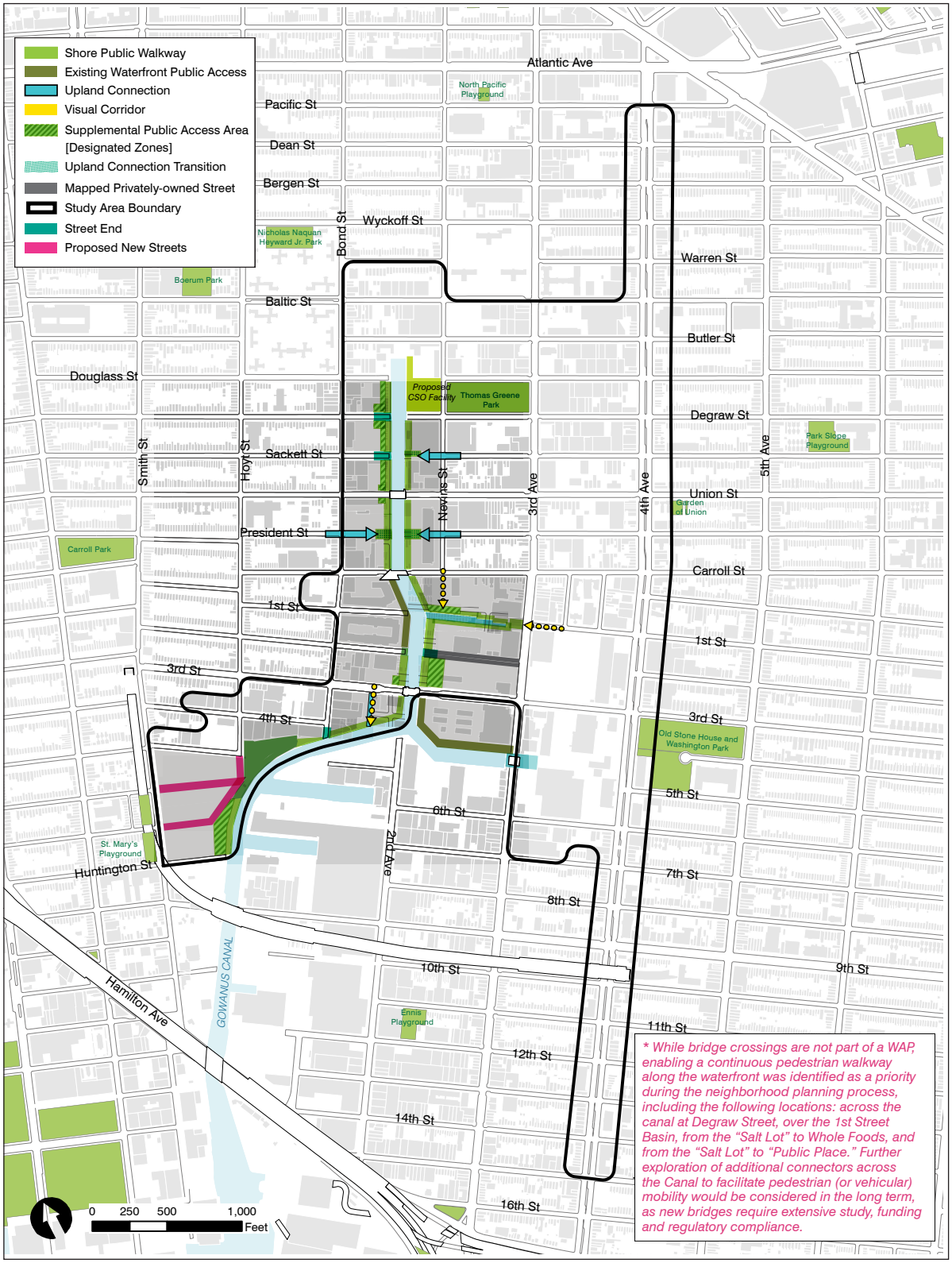
Name	Location	Program	Total Acreage	Passive Acreage	Active Acreage
New Waterfront Park	Gowanus Canal & Smith Streets	Mix of Active & Passive Recreation	1.48	0.94	0.54
Gowanus Canal Esplanade (WAP)	Along Gowanus Canal	Passive Recreation	3.98	1.99	1.99
Total			5.46	2.93	2.53

NEW WATERFRONT PARK

As discussed in Chapter 1, "Project Description," the Proposed Actions include amendments to the City Map to map portions of Block 471, Lots 1 and 100, as parkland and streets, and removing the "Public Place" designation on Block 471. As shown in **Figure 5-3**, the proposed mapped park would add an additional 1.48 acres of publicly accessible open space within the Project Area. Based on previous plans for a public open space at the site, the park could include a variety of passive and active open space amenities, potentially including rain gardens, a children's play area, a dog park, and a passive lawn. In order to provide site plan flexibility to accommodate an at-grade play space connected to the potential new school that is currently planned, a portion of Lot 100 could include an approximately 15,000-sf schoolyard, resulting in a mapped parkland area of approximately 52,048 sf (1.19 acres). The schoolyard would be available for community use after school hours and on weekends. To ensure a conservative analysis, the park is assumed to be programmed with 65 percent passive and 35 percent active open space.

GOWANUS CANAL ESPLANADE

The Proposed Actions include the establishment of the WAP in order to institutionalize a framework by which a continuous public walkway would be constructed over time through a mix of public and private investment. The WAP would cover the waterfront projected development sites within the Project Area. Developments, enlargements, and/or changes of use on the waterfront would be required to comply with waterfront zoning regulations. As discussed in Chapter 1, "Project Description," the WAP guidelines generally require a minimum 40-foot shore public walkway on typical sites and a minimum of 30-foot shore public walkway on certain constrained sites, and on larger sites supplemental public access areas that ensure that 20 percent of the zoning lot is devoted to waterfront public access.



Source: NYC Department of City Planning

NOTE: FOR ILLUSTRATIVE PURPOSES ONLY

Proposed Waterfront Public Access

As shown in **Figure 5-3**, the WAP, in conjunction with the proposed zoning districts and the Gowanus Special Mixed-Use District (GSD), would establish the location of required shore public walkways, upland connections, supplemental public access areas, and visual corridors to ensure access to the Canal from surrounding neighborhoods and to address the varied lot configurations and conditions along the Canal's edge. Shore public walkways are linear public access areas running alongside the Canal. Upland connections are pedestrian walkways that provide access to the shore public walkway. Supplemental public access areas are additional public space provided to fulfill waterfront requirements on large sites. Visual corridors are open areas that provide an unobstructed view from upland streets to the Canal. The WAP would incentivize incorporation of community amenities like comfort stations, boat launches, and historic interpretation elements, as well as include incentives that encourage programming and activation of the waterfront with design features such as tot lots and dog runs. The WAP would eliminate the lawn requirement for sites smaller than 15,000 sf and expand the size of permitted kiosks on the largest sites along the Canal, further supporting the incorporation of active open space programming. The WAP would ensure long-term continuity of public access across all sites along the Canal. These and other modifications in the WAP would help ensure the future shoreline is appropriately elevated while allowing for a shore public walkway with sufficient design flexibility to accommodate a variety of uses, activities, and experiences. Per *CEQR Technical Manual* guidance, while the specific breakdown of passive and active open space uses to be provided is not currently known, for analysis purposes, it is assumed that 50 percent would consist of passive open space uses, and 50 percent would consist of active open space uses.

ASSESSMENT OF OPEN SPACE ADEQUACY

NON-RESIDENTIAL STUDY AREA

Quantitative Assessment

As shown in **Table 5-13**, in the With Action condition, the total open space available to area workers would increase to 30.40 acres, compared with 24.94 acres in the No Action condition. Total passive recreational space would increase from 11.31 acres in the No Action condition to 14.24 acres in the With Action condition. Approximately 2.53 acres of active open space would be added in the With Action condition, increasing the total active open space to 16.17 acres. While the total open space available for study area workers would increase in the With Action condition, the total worker population is also anticipated to increase and add approximately 3,494 workers over the No Action condition. With the additional open space created as a result of the Proposed Actions, the passive open space ratio would increase to 0.322 acres per 1,000 workers. In the With Action condition, study area open spaces would exceed the *CEQR Technical Manual* goal of 0.15 acres of passive open space per 1,000 workers, indicating that in the With Action condition, study area workers within the non-residential study area would be well-served by open space resources.

Table 5-13
Adequacy of Open Space Resources in the Non-Residential Study Area: With Action condition

	Population	Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Guidelines		
		Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Non-Residential (¼-Mile) Study Area										
Workers	44,216	30.40	14.24	16.17	N/A	0.322	N/A	N/A	0.15	N/A
Combined Workers and Residents	152,770					0.093				

Note: There may be a small discrepancy within the number values above due to rounding.
Source: ACS 2014–2018 5-Year Estimates; Center for Economic Studies, LEHD Origin-Destination Employment Statistics (2002–2015); NYC Parks; AKRF Field Survey, May 2019.

Qualitative Assessment

As shown in **Table 5-4**, most of the non-residential study area open spaces are in good condition and utilization levels are moderate on weekdays, particularly outside of afternoon hours when workers are most likely to utilize passive open spaces. As noted, the Proposed Actions would result in the development of additional publicly accessible passive open space along the Canal, suitable for use by the non-residential population in the area.

RESIDENTIAL STUDY AREA

Quantitative Assessment

In the With Action condition, the total open space available to study area residents would increase from 57.77 acres in the No Action condition to 63.23 acres in the With Action condition. Total passive open space would increase from 26.22 acres in the No Action condition to 29.15 acres in the With Action condition. The amount of active open space would increase from 31.55 acres in the No Action condition to 34.08 acres in the With Action condition. The open space ratios are presented in **Table 5-14**. Although the total passive and active open space available for study area residents would increase in the With Action condition, the total residential population of the residential study area is also anticipated to increase as a result of the Proposed Actions. In total, the study area population is anticipated to increase from 167,556 residents in the No Action condition to 186,159 residents in the With Action condition.

Table 5-14
Adequacy of Open Space Resources in the Residential Study Area: With Action Condition

	Population	Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Guidelines		
		Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Residential (½-Mile) Study Area										
Residents	186,159	63.23	29.15	34.08	0.340	0.157	0.183	2.5	2.0	0.5

Note: There may be a small discrepancy within the number values above due to rounding.
Source: ACS 2014–2018 5-Year Estimates; NYC Parks; AKRF Field Survey, May 2019.

As a result, the total open space ratio is anticipated to decrease in the With Action condition, from 0.345 acres per 1,000 residents in the No Action condition to 0.340 acres per 1,000 residents in the With Action condition. The passive open space ratio is anticipated to remain about the same as the No Action condition, increasing from 0.156 to 0.157 acres per 1,000 residents in the With Action condition. The active open space ratio is anticipated to decrease from 0.188 acres per 1,000 residents in the No Action condition to 0.183 acres per 1,000 residents in the With Action condition. As in the Existing and No Action conditions, in the With Action condition residents would be underserved by open space (including both active and passive open space) based on the *CEQR Technical Manual* open space guidelines of 2.5 acres of total open space per 1,000 residents, 0.5 acres of passive open space per 1,000 residents, and 2.0 acres of active open space per 1,000 residents.

Qualitative Assessment

As noted above, under existing conditions, the open space study area does not meet the *CEQR Technical Manual* planning goal of 2.5 acres per 1,000 residents, and this is expected to remain irrespective of the Proposed Actions. The profile of the population generated by the Proposed Actions would be similar to the existing population and is not expected to have any special characteristics, such as a disproportionately younger or older population, that would place heavy demand on facilities that cater to a specific user group. Field surveys of area open spaces on both weekdays and weekends indicates that study area open spaces are already heavily utilized by the study area population, and would likely remain heavily utilized by the population generated by the Proposed Actions.

In the With Action condition, residential study area open spaces would include a wide variety of actively programmed spaces appropriate for all ages. With the addition of the project-generated open spaces such as the new waterfront park on the Gowanus Green Site and the Gowanus Canal esplanade, the study area would be provided with approximately six acres of new, high-quality publicly accessible open space. The development of additional open space in the With Action condition would provide more passive and active open space. While adults aged 18 to 64 would be underserved in terms of active open space, several qualifying factors not considered in the quantitative assessment would ameliorate the shortage of active open space. Once completed, the proposed waterfront esplanade and new parks on the Canal would provide a continuous pathway or shore public walkway whose linear nature lends itself to walking and running activities. With the exception of Union, Carroll, and 3rd Streets (which cross the Canal), the esplanade would offer an uninterrupted pathway on both sides of the Canal for runners. Although detailed plans for the proposed open spaces have not yet been prepared, active features can be part of the design of the proposed open spaces. For example, the new waterfront park, which would be over an acre, could be programmed with adult fitness equipment and/or court facilities. The linear nature of the esplanade lends it to the installation of adult fitness equipment to supplement cardio exercises such as walking or running. Fitness equipment can be clustered or installed as part of a circuit workout in specific locations along the proposed esplanade, and would provide flexibility in terms of locational requirements. The WAP would facilitate improved access to the waterfront for recreational boating, and could provide opportunities for kayaking and canoeing that are similar to the existing facility operated by the non-profit Gowanus Dredgers Canoe Club at 2nd Street and the Canal.

Additional qualitative considerations relate to private recreational facilities. The contextual zoning proposed throughout the Project Area would require indoor recreational space as well as exterior open space for tenants in accordance with Quality Housing regulations, and some adults could

reasonably be expected to use such facilities in the new buildings. Furthermore, the expanded types of uses permitted under the Proposed Actions would allow for recreational facilities in the Project Area, such as private health clubs and other types of private recreational venues, similar to some existing establishments in Gowanus that offer rock climbing and fencing.

As discussed above in Section D, "The Future Without the Proposed Actions (No Action Condition)," future residents would have access to nearby destination open spaces, such as Prospect Park, the Red Hook Recreation Area, and Fort Greene Park, which total approximately 615 acres.

Prospect Park, located east of the study area, is one of the City's premier regional parks. It contains a manmade watercourse (wetlands) and the bulk of Brooklyn's remaining indigenous forest. At 526 acres, Prospect Park includes a zoo, ice rink, band shell, carousel, and dozens of athletic and recreational facilities. Of these facilities, the Prospect Park Bandshell, several playgrounds, and running and biking paths are located on the west side of the park closest to the study area. These resources are an approximately 10- to 15-minute walk from the eastern portion of the study area, and an approximately 20-minute walk from the Project Area. Prospect Park draws visitors from surrounding areas, and it is expected that residents of the study area would continue to use this resource in the future as it is a resource that is in good condition and has a high capacity for visitors throughout the year.

The Red Hook Recreation Area is an approximately 10-minute walk from the southwestern part of the study area and a 25-minute walk from the approximate center of the study area. Depending on the location of open space resources, the walk time varies from the southwestern part of the study area, which is adjacent the F/G station at Smith/9th Street (the primary subway station used by Red Hook residents, workers, and open space users). The Red Hook Recreation Area features an Olympic-sized pool in its northwest portion, and baseball/softball fields, handball courts, basketball courts, soccer facilities, and a children's playground in its southwestern portion. This open space also includes the Red Hook Recreation Center, which offers cardio equipment, weight lifting, and exercise classes. The facilities are in good condition and support a high volume of visitors from surrounding areas. The Red Hook Ball Fields are an approximately a 20-minute walk from the center of the Project Area, and it is reasonable to assume that the resource will continue to be heavily utilized by the study area population. Over 20 percent of the projected units in the study area are within a 15-minute walk of the Red Hook Ball Fields, and about a third of the projected units in the study area are within a 20-minute walk. For these reasons, the projected population is expected to utilize these existing active open space resources.

Fort Greene Park, located north of the study area, is an approximately 10-minute walk from the northern portion of the study area and a 25-minute walk from the approximate center of the study area. The park contains sloping hills and open lawns and includes a basketball court, playgrounds, and tennis courts. The facilities are in good condition.

Prospect Park and Fort Greene Park were both designed by Frederick Law Olmsted and Calvert Vaux. These premier parks spaces offer exceptional amenities to neighborhood residents and New York City. Along with the Red Hook Recreation Area, the three open spaces are geographically distributed to the west, north, and east of the residential study area, providing residents access to additional open space resources. Over half of the projected DUs are within a 20-minute walk of Prospect Park, and over 17 percent are within a 20-minute walk of Fort Greene Park. In addition, all three resources are easily accessible by bicycle.

In addition, the open space and recreational facilities located at NYCHA's Wyckoff Gardens and Gowanus and Warren Street Houses are within the residential study area. While these areas were not included in the open space inventory and quantitative analysis because they are primarily meant for use by residents of the housing developments, they would help serve the recreational needs of the study area population and provide additional playgrounds and passive seating areas for younger and older age cohorts.

The 1.6 acres of open space to be introduced at the Head End Facility will be conveniently accessible to residents of the Project Area, and will include a waterfront esplanade. Furthermore, the Gowanus Canal is currently used as an active open space resource for kayaking and other water-dependent activities. Use of the 1.8-mile Canal for active recreation is expected to increase as accessibility and water quality improves by 2035, further enhancing the quality and availability of open space resources in the study area.

DETERMINING IMPACT SIGNIFICANCE

According to the *CEQR Technical Manual*, the significance of a project's effects on open space is assessed taking into consideration qualitative and quantitative factors. A significant adverse open space impact may occur if a proposed action would reduce the total open space ratio by more than 5 percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents. These reductions may result in overburdening existing facilities or further exacerbating a deficiency in open space. **Table 5-15** expresses the percentage change from the No Action condition to the With Action condition for both the non-residential and residential study areas.

Table 5-15
Open Space Ratio Summary

Ratio	*CEQR Technical Manual* Open Space Guideline	Open Space Ratios per 1,000			Percent Change (No Action to With Action)
		Existing	No Action	With Action	
Non-Residential Study Area					
Passive	0.15	0.122	0.278	0.322	15.83%
Residential Study Area					
Total	2.5	0.338	0.345	0.340	-1.45%
Passive	0.5	0.130	0.156	0.157	0.64%
Active	2.0	0.208	0.188	0.183	-2.66%

NON-RESIDENTIAL STUDY AREA

As shown in **Table 5-15**, in the With Action condition the non-residential study area's passive open space ratio would increase by approximately 16 percent between the No Action condition and the With Action condition (from 0.2782 acres per 1,000 resident to 0.322 acres per 1,000 residents, respectively), and the passive open space utilization rate in the With Action condition would remain above the City's guideline ratio of 0.15 acres per 1,000 workers.

RESIDENTIAL STUDY AREA

In the With Action condition the total, active, and passive open space ratios would remain below the City's guideline ratios of 2.5 acres, 2.0 acres, and 0.5 acres per 1,000 residents, respectively. As shown in **Table 5-15**, in the With Action condition total open space ratio would decrease by

1.45 percent as compared with the No Action condition. The passive open space ratio would increase by 0.64 percent as compared with the No Action condition. The active open space ratio would decrease by approximately 2.66 percent over the No Action condition. Therefore, the Proposed Actions would result in a significant adverse impact to open space primarily due to the low active open space ratio and decreases between the No Action and With Action conditions. Potential mitigation measures to address the significant adverse impact are discussed in Chapter 21, "Mitigation."

The reduction in active open space in the With Action condition would most likely affect the study area's adult and teenager population, which is expected to make up approximately 70 percent of the total study area population. Both groups use court facilities (e.g., basketball courts) and sports fields, such as football or soccer fields. They may also use facilities that provide more individualized recreation, such as cycle paths and other grade-separated jogging paths. The quantitative assessment indicates that the residential study area population is currently underserved in active open space—a trend expected to continue in the future with or without the Proposed Actions.

According to the *CEQR Technical Manual*, open space ratios are often not feasible for many areas of the City and do not constitute an absolute impact threshold. Rather, they are benchmarks that represent how well an area is served by its open space. For large-scale land use proposals, such as area-wide rezonings that could introduce a large population and increased demand on open space, qualitative considerations should be taken into account when assessing the effects of a change in the open space ratio, and a determination of impact significance should consider the balance of passive and active open space resources appropriate to support the affected population.

As described above, the Proposed Actions would increase the passive open space ratio and decrease the active open space ratio in the study area. Users of passive and active open spaces have different needs, and active open space users are typically willing to travel farther than users of passive space resources. Existing and future residents will have access to nearby destination open spaces, such as Prospect Park, the Red Hook Recreation Area, and Fort Greene Park, which together total approximately 615 acres. Walk times to these open spaces range between 10 and 25 minutes.

Prospect Park is approximately one block from the eastern boundary of the residential study area, and approximately five blocks from 4th Avenue corridor, which would be the highest-density district in the Project Area with the proposed zoning changes. Red Hook Recreation Area is located closest to the southwestern portion of the study area and the F/G subway station. This portion of the study area contains the largest development sites. Approximately 1,800 new DUs are anticipated in this area (roughly 21 percent of the overall projected DUs). Fort Greene Park is located closest to the northern portion of the study area, which includes the area around Thomas Greene Playground and the planned open space at the Head End Facility, where a substantial portion of new DUs are projected to be developed. While the three large, destination open spaces are just beyond the boundaries of the residential study area, they are within a 10- to 25-minute walk from portions of the Project Area that are projected to contain the most residential development. The three open spaces would provide amenities for the area's residential population. Considered in relation to the quantitative changes identified above, the open space resources described in the qualitative assessment would contribute to alleviating the increased utilization of active open space in the residential study area, and would provide a variety of high quality open space and recreational amenities accessible to the study area population.

The Proposed Actions would facilitate the creation of approximately six acres of new, high quality open space through the mapping of parks and implementation of the Gowanus WAP. The waterfront esplanade and new parks would provide new active recreational space in addition to passive open space for current and future residents, and reconnect the community to the Gowanus Canal. The Proposed Actions would facilitate the creation of new active open space features, which can be used by teens and adults, including paths for running and cycling, open lawn areas, and future programming that could include active features such as court facilities and fitness equipment. In addition, large destination parks (such as Prospect Park) are located just outside the residential study area, and would provide a range of athletic and recreational facilities for users ages 18 to 64. Improvements to existing open spaces with active features expected in the No Action condition, including open spaces and recreational facilities at NYCHA developments and private recreational venues which may open and operate in new mixed-use developments, could address some of the demand placed on active open spaces in the residential study area. ✷