Chapter 5: Open Space

A. INTRODUCTION

The proposed actions would not result in any significant adverse impacts to open space. The proposed actions would not result in a decrease in open space ratios in the study area. In accordance with guidelines established in the *City Environmental Quality Review (CEQR) Technical Manual*, this chapter assesses the adequacy of those resources in the residential open space study area and the proposed actions' potential effect on their use. An open space assessment is necessary when a proposed action could potentially have a direct or indirect effect on open space resources. A direct impact physically changes, diminishes, or eliminates an open space or reduces its utilization or aesthetic value. An indirect effect occurs when the population generated by a proposed project or action could noticeably diminish the capacity of an area's open space to serve the future populations. According to the *CEQR Technical Manual*, a project that would add fewer than 200 residents or 500 employees, or a similar number of other users to an area, is typically not considered to have indirect effects on open space.

As described in Chapter 1, "Project Description," in order to assess the possible short- and long-term effects of the proposed actions, a reasonable worst-case development scenario (RWCDS) was developed. The new development as a result of the proposed actions would result in a net increase of 1,383 residential units and 2,723 new residents on the projected development sites, coupled with a net decrease of 74,439 square feet of commercial space and its associated 186 workers.

As the proposed actions would add a substantial new residential population, a detailed quantitative open space assessment is necessary to examine the change in residential and total user population in the residential study area relative to total, active, and passive publicly-accessible open space in the area and to determine whether the increase in population would significantly impact open space use. This analysis entails the calculation of an existing open space ratio and the ratio in the future without and with the proposed actions. The open space ratio is expressed as the amount of public open space acreage per 1,000 user population. Since the proposed actions would result in a decrease of commercial space, an assessment of the adequacy of open space in the non-residential study area was not required.

The adequacy of open space is assessed both quantitatively and qualitatively. The quantitative approach computes the study area's ratio of open space to the population and compares this ratio with guidelines of adequacy as stated in the *CEQR Technical Manual*. The qualitative assessment considers other factors that can affect conclusions about adequacy, including proximity to additional resources beyond the study area, the availability of private recreational facilities, the quality and location of the open space, and the demographic characteristics of the study area's population.

This analysis concludes that the proposed actions would not result in any significant direct or indirect significant adverse impacts on open space resources in the residential study area. Open

space ratios for residents and non-residents within the study area currently fall short of New York City Department of City Planning (DCP) guidelines and would continue to do so in the future with and without the proposed actions.

In the residential study area, the total active and passive open space ratios for residents; the passive open space ratio for non-residents; and the combined passive open space ratio for both residents and non-residents would remain the same in the future with the proposed actions and the future without the proposed actions. All of the open space ratios in the study area would remain below DCP guidelines in the future with the proposed actions.

B. METHODOLOGY

DIRECT EFFECTS ANALYSIS

As stated above, a direct effect on an open space would occur if the proposed actions would cause the physical loss of public open space; change the use of an open space so that it no longer serves the same user population; limit public access to an open space; or cause increased noise or air pollutant emissions, odors, or shadows that would affect its usefulness, whether on a permanent or temporary basis. This chapter uses information from Chapter 6, "Shadows," Chapter 18, "Air Quality," and Chapter 19, "Noise," to determine whether the proposed actions would directly affect any of the area open spaces. The direct effects analysis is included in the "Probable Impacts of the Proposed Actions" section of this chapter.

The potential for the proposed actions to result in direct impacts on open space during the construction period is assessed in Chapter 20, "Construction."

INDIRECT EFFECTS ANALYSIS

According to the *CEQR Technical Manual*, indirect effects may occur when the population generated by a proposed action would be sufficient to noticeably diminish the ability of an area's open space to serve the existing or future population. Because the proposed actions would result in the introduction of more than 200 residents to the primary study area, an assessment of the potential indirect effects on open spaces in the study area is warranted.

STUDY AREA

According to *CEQR Technical Manual* guidelines, the first step in assessing potential open space impacts is to establish study areas to be examined. Study areas are based on the distance the average person is assumed to walk to reach a neighborhood open space. Workers (or populations not living in an area, e.g., commuting students) typically use passive open spaces and are assumed to walk approximately 10 minutes (about a ¼-mile distance) from their places of work. Residents are more likely to travel farther to reach parks and recreational facilities. They are assumed to walk about 20 minutes (about a ½ mile) to reach both passive and active neighborhood open spaces. Because the proposed actions are expected to bring a substantial number of new residents to the area, a residential study area was evaluated based on a ½-mile distance from the primary study area boundary. Because the proposed actions would result in a decrease of commercial space and therefore a reduction in the number of workers in the primary study area, an assessment of the non-residential study area was not necessary.

As recommended in the *CEQR Technical Manual,* the residential study area comprises all census tracts that have at least 50 percent of their area located within a ½-mile radius of the

primary study area. All open spaces, as well as the relevant populations in the census tracts that fall at least 50 percent within the ½-mile radius, are included in the study area (see Figure 5-1). In addition to Manhattan Community District 3, the open space study area is mapped over portions of Community Districts 1, 2, 5, and 6.

OPEN SPACE USER POPULATIONS

Demographic data were used to identify potential open space users (residents, worker, and college students) within the residential study area. To determine the number of residents currently located within the study area, data were compiled from the 2000 Census for the tracts in the study area. The age distribution of the residential population was noted to assess the age-appropriateness of the facilities relative to the age distribution in the study area; for example, children and elderly residents are typically more dependent on local open space resources. Employment data were also compiled for the study area's census tracts based on 2000 Census Journey to Work data compiled by DCP. A background growth rate of 0.5 percent per year between 2000 and 2007 was applied to both the residential and worker populations. In addition, the current commuter population at colleges within the study area (New York University [NYU] and Baruch College) was added to the non-residential population.

In addition, population and employment projections have been made for the 2017 analysis year in the future without the proposed actions. These estimates were based on known developments expected to be completed by 2017.

INVENTORY OF OPEN SPACE RESOURCES

Publicly-accessible open spaces and recreational facilities within the study area were inventoried to determine their size, character, utilization, amenities, and condition. Open spaces that are not accessible to the general public or that do not offer usable recreational areas, such as spaces where seating is unavailable, were generally excluded from the survey. The information used for this analysis was gathered through field studies conducted in December 2007 on weekdays and from the New York City Department of Parks and Recreation (DPR) website.

At each open space, active and passive recreational spaces were noted. Active open space acreage is used for activities such as jogging, field sports, and children's active play. Such open space features include basketball courts, baseball fields, or play equipment. Passive open space acreage is characterized by activities such as strolling, reading, sunbathing, and people-watching. Some spaces, such as lawns and public esplanades, can be considered both active and passive recreation areas since they can be used for passive activities such as sitting or strolling as well as active recreational uses like jogging or Frisbee. The use level at each facility was determined based on observations of the amount of space or equipment determined to be in use as described in the *CEQR Technical Manual*. Open spaces with less than 25 percent of space or equipment in use were categorized as low usage; those with 25 to 75 percent utilization were classified as having moderate usage; and those with over 75 percent utilization were considered heavily used.

ADEQUACY OF OPEN SPACE RESOURCES

Criteria for Quantified Analysis

The determination of the need for a quantified open space analysis is based on both the adequacy of the quantity of open space and how the proposed actions would change open space ratios in

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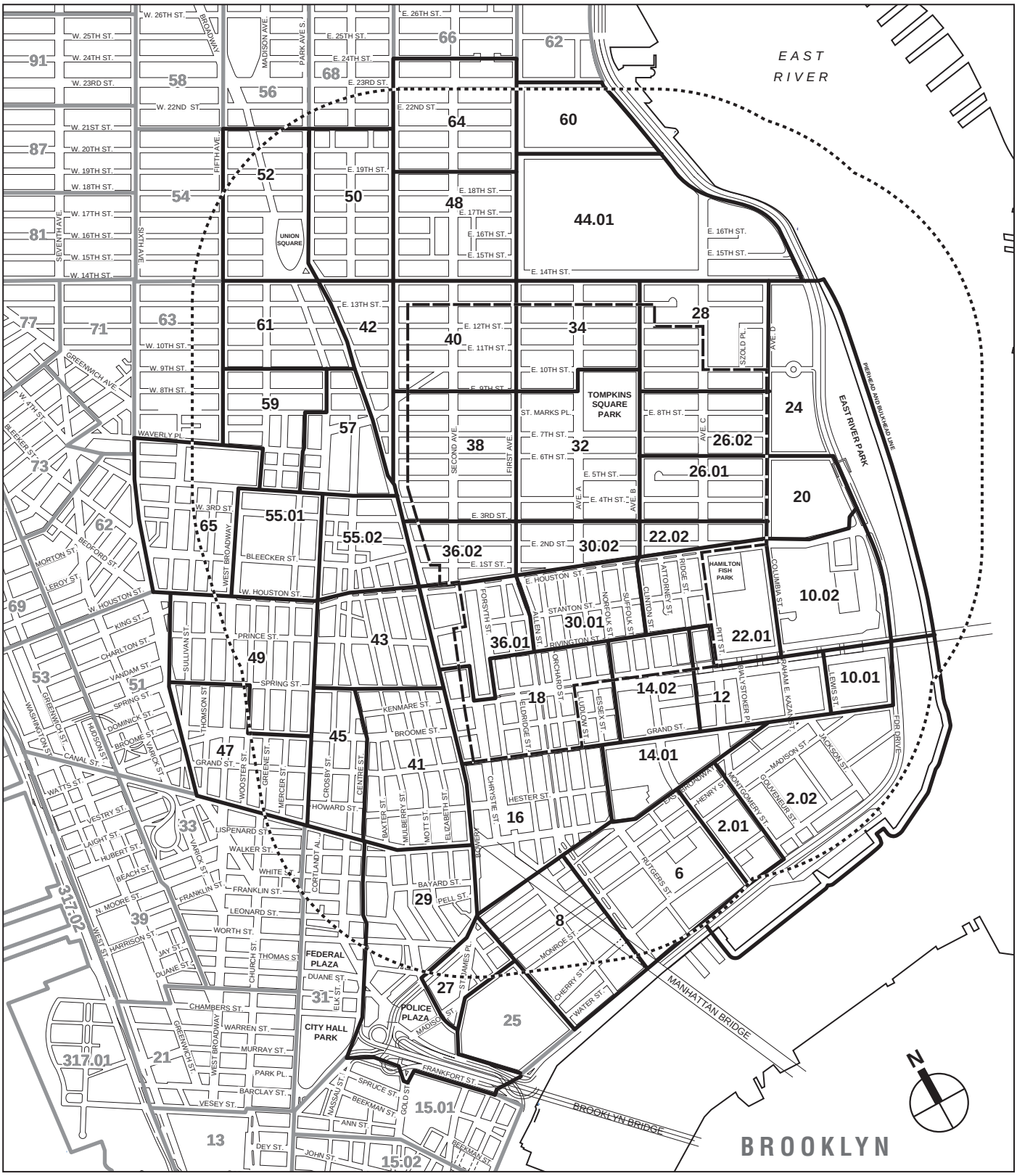


Proposed Rezoning Area

1/2-Mile Perimeter

43 *1/2-Mile Census Tract Study Area (Residential Study Area)*

25 *Census Tract Boundary*

0 2000 FEET

SCALE

Open Space Study Area

Figure 5-1

the future with the proposed actions. If a potential decrease in an adequate open space ratio exceeds 5 percent, it is generally considered to be a substantial change, warranting further analysis. However, if a study area already exhibits a low open space ratio (e.g., below the guidelines set forth in the *CEQR Technical Manual*, indicating a shortfall of open space), even a small decrease in that ratio as a result of a proposed project or action may be considered an adverse effect and would warrant detailed analysis.

Comparison to City Guidelines

To assess the adequacy of the quantity of open space resources, open space ratios are compared against guideline values set by DCP. Although these open space ratios are not meant to determine whether a proposed action would have a significant adverse impact on open space resources, they are helpful in understanding the adequacy of open space in an area relative to areas that are well served by open spaces. The following guidelines are used in this type of analysis:

- For non-residential populations, a guideline of 0.15 acres of passive open space per 1,000 non-residents is typically considered adequate.
- For residential populations, a guideline of 2.5 acres per 1,000 residents is considered adequate. Ideally, this is comprised of 0.5 acres of passive space and 2.0 acres of active open space. For large-scale actions such as that analyzed in this EIS, the City seeks to attain a planning goal of a balance of 80 percent active open space and 20 percent passive open space. However, these goals are often not feasible for many areas of the City, and they do not constitute an impact threshold. Rather, these are benchmarks that represent how well an area is served by its open space. Throughout New York City, local open space ratios vary widely, and the median ratio at the Community District level is 1.5 acres of open space per 1,000 residents.
- For the combined resident and non-resident population, a target open space ratio is established by creating a weighted average of the amount of open space necessary to meet the DCP guideline of 0.50 acres of passive open space per 1,000 residents and 0.15 acres of passive open space per 1,000 non-residents.

Impact Assessment

The assessment of potential significant adverse impacts on open space is both quantitative and qualitative. The proposed actions' potential quantitative impact on open space resources is calculated by assessing the change in the open space ratios in the future with the proposed actions compared with the ratios in the future without the proposed actions. The qualitative assessment considers nearby destination resources and project-created open spaces or private/quasi-private recreational facilities not available or not usually available to the general public. It is recognized that DCP open space planning goals are not feasible for many areas of the City, and they are not considered impact thresholds. Rather, they are benchmarks indicating how well an area is served by open space. In addition, the proposed project's direct effects on open space resources are considered, as well any project-generated changes in open space conditions and/or utilization. Consideration is also given to the adequacy of open space resources in the future with the proposed actions relative to specific user and/or age groups.

C. DETAILED ASSESSMENT

EXISTING CONDITIONS

STUDY AREA POPULATION

Residential Population

The residential study area includes 45 census tracts. As shown on Figure 5-1, this study area reaches approximately ½ mile from the primary study area boundary, which includes the limits of the projected and potential development sites. Based on 2000 Census data, the residential study area had a total of 256,180 residents in 2000. When a 0.5 percent annual background growth rate is applied, this brings the current (2007) population to 360,471 residents (see Table 5-1).

Table 5-1
Open Space User Groups within the Residential Study Area: 2000 and 2007

User Group	2000	2007[1]
Residents	256,180	360,471
Workers	192,140	270,360
NYU commuter students	N/A	29,870
Baruch College commuter students	N/A	15,500
Total non-residents[2]	N/A	315,730
Combined residents and non-residents	N/A	676,201

Notes:
1 2007 estimates for residents and workers assume a 0.5 percent annual growth rate over the 2000 condition.
2 Total non-residents include workers and NYU and Baruch College commuter students.
Sources: U.S. Census Bureau, Census 2000; 2000 Census Journey to Work data compiled by DCP; 2006-2007 NYU and Baruch College enrollment data.

As shown in Tables 5-2 and 5-3, in 2000, within the residential study area, adults between the ages of 20 and 64 represented the largest proportion of the study area's population (approximately 69 percent). The 65-and-over age group accounted for approximately 13 percent of the residential study area population, with children 19 and younger making up the remaining 18 percent.

Table 5-2
Distribution of Age Groups within the Residential Study Area

Tract	Population	Under 5 Years		5 to 9 Years		10 to 14 Years		15 to 19 Years		20 to 64 Years		65 Years and Older	
		No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
2.01	3,329	200	6.01	214	6.43	241	7.24	255	7.66	2048	61.52	371	11.14
2.02	6,837	374	5.47	350	5.12	387	5.66	401	5.87	3840	56.16	1485	21.72
6	12,276	644	5.25	667	5.43	757	6.17	831	6.77	7334	59.74	2043	16.64
8	10,917	527	4.83	476	4.36	642	5.88	650	5.95	6917	63.36	1705	15.62
10.01	1,361	81	5.95	58	4.26	55	4.04	46	3.38	654	48.05	467	34.31
10.02	6,733	463	6.88	569	8.45	656	9.74	633	9.40	3540	52.58	872	12.95
12	3,466	190	5.48	161	4.65	210	6.06	155	4.47	1874	54.07	876	25.27
14.01	2,962	112	3.78	102	3.44	98	3.31	109	3.68	1598	53.95	943	31.84
14.02	3,019	124	4.11	185	6.13	183	6.06	175	5.80	1874	62.07	478	15.83
16	9,598	349	3.64	391	4.07	496	5.17	584	6.08	6264	65.26	1514	15.77
18	10,157	483	4.76	449	4.42	557	5.48	686	6.75	6874	67.68	1108	10.91
20	5,174	349	6.75	419	8.10	524	10.13	543	10.49	2814	54.39	525	10.15
22.01	6,646	314	4.72	391	5.88	426	6.41	518	7.79	4174	62.80	823	12.38
22.02	1,556	50	3.21	32	2.06	49	3.15	46	2.96	1331	85.54	48	3.08
24	5,080	369	7.26	419	8.25	471	9.27	469	9.23	2787	54.86	565	11.12
26.01	3,400	195	5.74	248	7.29	282	8.29	251	7.38	2233	65.68	191	5.62
26.02	3,718	186	5.00	184	4.95	139	3.74	140	3.77	2834	76.22	235	6.32
27	1,517	51	3.36	47	3.10	68	4.48	46	3.03	875	57.68	430	28.35
28	6,701	296	4.42	390	5.82	378	5.64	417	6.22	4549	67.89	671	10.01
29	7,422	181	2.44	245	3.30	236	3.18	312	4.20	4998	67.34	1450	19.54
30.01	4,275	143	3.35	162	3.79	207	4.84	209	4.89	3347	78.29	207	4.84
30.02	3,281	93	2.83	102	3.11	94	2.86	86	2.62	2460	74.98	446	13.59
32	8,016	160	2.00	148	1.85	139	1.73	164	2.05	5949	74.21	1456	18.16
34	6,561	191	2.91	161	2.45	145	2.21	201	3.06	5473	83.42	390	5.94
36.01	3,280	144	4.39	180	5.49	248	7.56	223	6.80	2204	67.20	281	8.57
36.02	2,372	58	2.45	58	2.45	58	2.45	40	1.69	2022	85.24	136	5.73
38	9,162	172	1.88	146	1.59	135	1.47	417	4.55	7449	81.30	843	9.20
40	8,690	141	1.62	108	1.24	124	1.43	496	5.71	7336	84.42	485	5.58
41	8,957	354	3.95	392	4.38	356	3.97	477	5.33	5675	63.36	1703	19.01
42	3,664	88	2.40	76	2.07	68	1.86	518	14.14	2747	74.97	167	4.56
43	4,884	167	3.42	169	3.46	155	3.17	162	3.32	3685	75.45	546	11.18
44.01	15,112	664	4.39	482	3.19	417	2.76	364	2.41	10364	68.58	2821	18.67
45	1,066	58	5.44	42	3.94	42	3.94	21	1.97	839	78.71	64	6.00
48	6,402	176	2.75	159	2.48	143	2.23	129	2.01	5080	79.35	715	11.17
49	5,010	157	3.13	119	2.38	125	2.50	93	1.86	3984	79.52	532	10.62
50	5,695	163	2.86	95	1.67	66	1.16	122	2.14	4683	82.23	566	9.94
52	3,741	81	2.17	66	1.76	75	2.00	448	11.98	2877	76.90	194	5.19
55.01	4,907	141	2.87	150	3.06	117	2.38	93	1.90	3813	77.71	593	12.08
55.02	2,187	80	3.66	41	1.87	44	2.01	37	1.69	1904	87.06	81	3.70
57	2,535	88	3.47	50	1.97	60	2.37	34	1.34	1907	75.23	396	15.62
59	5,581	129	2.31	98	1.76	90	1.61	651	11.66	3762	67.41	851	15.25
60	3,989	95	2.38	75	1.88	99	2.48	65	1.63	1917	48.06	1738	43.57
61	5,101	123	2.41	66	1.29	71	1.39	1099	21.54	3434	67.32	308	6.04
64	7,334	198	2.70	147	2.00	99	1.35	122	1.66	5929	80.84	839	11.44
65	6,690	81	1.21	68	1.02	71	1.06	459	6.86	5397	80.67	614	9.18

Source: U.S. Census Bureau, Census 2000.

Table 5-3
Distribution of Age Groups within the Residential Study Area

Age Category	Persons (Actual)	Percent of Total Population
Under 5 years	9,728	4
5 to 9 years	9,587	4
10-14 years	10,351	4
15 to 19 years	14,291	6
20 to 64 years	177,745	69
65 years and over	34,478	13
Total in 2000	256,180	100

Source: U.S. Census Bureau, Census 2000.

Given the range of age groups present in the study area population, the residential study area has need for various kinds of active and passive recreation facilities, including those with amenities that can be used by children and adults. 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 4 years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Children ages 5 through 9 typically use traditional playgrounds, as well as grassy and hard-surfaced open spaces, which are important for such activities as ball playing, running, and skipping rope. Children ages 10 through 14 use playground equipment, court spaces, little league fields, and ball fields. Teenagers' and young adults' needs tend toward court game facilities such as basketball and field sports. Adults between the ages of 20 and 64 continue to use court game facilities and fields for sports, as well as more individualized recreation such as rollerblading, biking, and jogging, requiring bike paths, promenades, and vehicle-free roadways. Adults also gather with families for picnicking, ad hoc active sports such as Frisbee, and recreational activities in which all ages can participate. Senior citizens engage in active recreation such as handball, tennis, gardening, and swimming, as well as recreational activities that require passive facilities.

Non-Residential Population

Although there is no quantitative analysis dedicated exclusively to the non-residential population within the residential study area, the *CEQR Technical Manual* calls for a quantitative analysis of the passive open space ratio for the non-residential population within the residential study area. In addition, a combined passive open space ratio for the entire study area population (including both residents and non-residents) is calculated to assess the adequacy of the passive open space resources during the day when both of these user groups could be utilizing the spaces.

Based on 2000 Census *Journey to Work* data compiled by DCP, the worker population within the residential study area was 192,140 in 2000. Using a 0.5 percent annual background growth rate, the current (2007) worker population in the study area is estimated at 270,360 employees. Adding the 29,870 NYU students and the 15,500 Baruch College students who commuted to the study area during the 2006-2007 academic year, the total non-residential population in the study area is approximately 315,730. College students who reside in the area were accounted for in the calculation of residents within the study area and therefore were not accounted for here to avoid double-counting. Nevertheless, this analysis is conservative in that the student population does not exist year-round, and only a portion of the entire student population visits the campus on any given day. Moreover, it is possible that some residents and/or college students also work within

the study area. As a result, there is likely to be some double-counting of the daily user population in the study area, resulting in a more conservative analysis.

Total User Population

Within the residential study area, the total residential and non-residential population is 676,201. Again, this count conservatively assumes that the residential and non-residential populations are entirely distinct from each other.

STUDY AREA OPEN SPACES

As shown in Table 5-4 and Figure 5-2, the study area contains a total of 113 publicly-accessible open spaces, including 216.34 acres of total open space; the total amount of open space includes 77.06 acres for passive recreation and 139.28 acres for active recreation. These mainly include properties maintained by DPR, the New York City Department of Education (DOE), the Trust for Public Land, and the New York City Housing Authority (NYCHA). In addition, the New York City Department of Citywide Administration Services (DCAS) owns one property and an additional property is owned by the New York City Department of Cultural Affairs (DCA).

Table 5-4
Inventory of Open Space Resources

Map ID No.[1]	Name	Location	Owner	Total Acres	Passive	Active	Amenities	Condition	Use Level
1	Peter's Field/JHS 104 Recreation Area	E 20th St to E 21st St, 1 Av to 2 Av	DCP/ DOE	1.59	0.00	1.59	Playground, basketball courts, pavement, benches	Excellent	Moderate
2	Augustus Saint Guadins/P.S. 40 Playground	2nd Av, E 19th St to E 20th St	DCP/ DOE	0.64	0.00	0.64	Playground	Excellent	Low
3	Stuyvesant Square	Rutherford Pl to Livingston Pl, E 15th St to E 17th St	DPR	3.93	3.93	0.00	Statue, landscaping, benches	Poor/Good[2]	Low/Moderate[2]
4	John J. Murphy Park	Avenue C, FDR Dr, E 17th St	DPR	1.28	0.00	1.28	Courts, playground, athletic fields, benches, bleachers, pavement	Excellent	Low
5	Open Road Park/ Joseph C. Sauer Playground	E 12th St, Avenue A, and Avenue B	DPR/ DOE	0.81	0.00	0.81	Playground, courts, pavement	Excellent	Moderate
6	Dry Dock Playground	Szold Pl, E 10th St	DPR	1.49	0.00	1.49	Pool, playground, courts, bathrooms, trees, benches	Excellent	Moderate
7	Tompkins Square Park	Avenue A to Avenue B, E 7th St to E 10th St	DPR	10.50	0.00	10.50	Playground, courts, pavement, dog park, benches, landscape, trees, picnic, library	Excellent	High
8	Wald Houses	10 Avenue D	NYCHA	10.29	3.09	7.20	Playground, courts, showers, benches	Good	Moderate
9	East River Park	Montgomery St to E 12 St, FDR Dr	DPR	57.46	28.73	28.73	Athletic fields, track, courts, playground, picnic, center, trees, landscaping, pool	Excellent	High
10	Gustave Hartman Triangle	E Houston St, Avenue C, and E 2nd St	DPR	0.10	0.10	0.00	Landscaping	Excellent	Low
11	Hamilton Fish Park	E Houston St, Stanton St, Sheriff St, Pitts St	DPR	4.30	1.29	3.01	Center, pool, playground, courts, fields, park supervisor's office, library	Excellent	Moderate

Table 5-4 (cont'd)
Inventory of Open Space Resources

Map ID No.[1]	Name	Location	Owner	Total Acres	Passive	Active	Amenities	Condition	Use Level
12	Martin F. Tanahey Playground	Cherry St to Water St, W Catherine St to Market St	DPR	1.25	0.38	0.88	Bocci, courts, rollerblading, benches, playground, chess, picnic	Excellent	Low
13	Action for Progress, Inc.	Suffolk St, Stanton St and E Houston St	DCA	0.11	0.00	0.11	Playground, pavement	Excellent	Low
14	ABC Playground (near P.S. 20)	Essex St, Norfolk St, Houston St	DPR	0.45	0.14	0.32	Courts, playground, benches, pavement, sculptures	Excellent	Moderate
15	McKinley Playground/P.S. 63 Playground	Avenue A, E 3rd St and E 4th St	DOE/ DPR	0.27	0.00	0.27	Playground, drinking and playing fountain, chess, checkers, picnic	Excellent	Moderate
16	Baruch Houses and Baruch Houses Playground/P.S. 97	288 Delancey St	NYCHA/ DPR	18.09	5.43	12.66	Athletic fields, courts, playground, benches, picnic, bath	Excellent	Low
17	P.S. 110 Playground/ Sidney Hillman Playground	Lewis St and Delancey St	DOE/ DPR	0.19	0.00	0.19	Playground, courts, pavement	Excellent	Low
18	Bernard Downing/ Luther Gulick Playground	Columbia St, Delancey St, and Willet St	DPR	1.45	0.00	1.45	Courts, rollerblading, benches, playground	Excellent	Moderate
19	Vladeck 1 Houses and Vladeck Park	Water St	NYCHA/ DPR	7.96	2.39	5.57	Playground, benches, tables	Good	Low
20	Corlears Hook Park	Jackson St, Cherry St, FDR Dr	DPR	4.36	0.00	4.36	Playground	Excellent	Low
22	Sol Lain Playground/ P.S. 134 Playground	Broadway, Henry St, Gouverneur St	DOE/ DPR	0.89	0.27	0.62	Playground, benches, garden	Fair	Low
23	Martin Luther King, Jr. Community Park	Broadway and Henry St, Gouverneur St and Montgomery St	DCAS	0.15	0.15	0.00	Gazebo, sculptures, picnic tables, landscaping, trees, benches	Excellent	Low
24	Landscaped sitting area/plaza	Montgomery St, Samuel Dickenson Plaza, Broadway	DPR	0.26	0.26	0.00	Benches, trees	Poor	Low
25	Clinton Cherry Playground	Cherry St	DPR	0.48	0.00	0.48	Courts, trees	Excellent	Moderate
26	LaGuardia Houses/ Little Flower Playground/ Rutgers Pool	Cherry St	NYCHA/ DPR	2.54	0.76	1.78	Picnic, courts, statue, restrooms, benches, trees, spray showers, center	Good	Moderate
27	Captain Jacob Joseph Playground	Rutgers St and Henry St	DPR	0.14	0.00	0.14	Play equipment	Excellent	Low
28	Straus Square	Canal St, Rutgers St and E Broadway	DPR	0.02	0.02	0.00	Sculpture, benches, trees	Excellent	Low
29	William H. Seward Park	E Broadway and Rutgers St	DPR	3.05	0.92	2.14	Playground , benches, bathrooms, park offices, recreation center, landscaping, trees, library, water fountain	Excellent	Heavy
30	William H. Seward Park Athletic Field	E Broadway and Essex St	DOE	1.02	0.00	1.02	Courts, fields	Excellent	Moderate
31	William H. Seward HS Park	Essex St and Grand Av	DOE	1.02	0.00	1.02	Athletic courts and fields	Excellent	Low
32	Allen Malls	Between Broome St and FDR Dr along Allen St and Pike St	City of New York	2.58	2.58	0.00	Landscaping	Excellent	Low
33	Verizon Field	Cherry St, Pike St, and Monroe St	DPR	2.61	0.00	2.61	Playfield, running track	Excellent	Low

Table 5-4 (cont'd)
Inventory of Open Space Resources

Map ID No.[1]	Name	Location	Owner	Total Acres	Passive	Active	Amenities	Condition	Use Level
34	Sophie Irene Loeb Playground	Henry St, Market St, E Broadway	DPR	1.22	0.00	1.22	Playground, trees	Excellent	Low
35	Alfred E Smith Houses Playground/ P.S. 1	Madison St, Catherine St to Oliver St	DPR/ DOE	0.44	0.00	0.44	Courts, playground, pavement, trees, benches, center	Excellent	Low
36	St. James Square	St James Pl and Oliver St	DPR	0.04	0.04	0.00	Sitting area, landscaping	Fair	Moderate
37	Columbus Park	Baxter St, Mulberry St, Bayard St, and Park St	DPR	3.14	0.00	3.14	Courts, fields, playground	Fair	Moderate
38	Thomas Paine Park/ Foley Square	Worth St, Pearl St and Center St	DPR	2.50	2.50	0.00	Sitting area, landscaping	Excellent	Low
39	De Salvio Playground	Spring St and Mulberry St	DPR	0.40	0.00	0.40	Swings, slides, seesaws, play equipment, shower basin, game tables, benches, Bocci	Excellent	Low
40	Sara D. Roosevelt Park	E Houston St to Canal St	DPR	7.85	0.00	7.85	Courts, benches, playground, garden, center, restrooms	Excellent	Heavy
41	First Park	Houston St, E 1st St, 1st Av	DPR	1.39	0.42	0.97	Center, trees, playground, benches, courts, artwork, fountain, recreation center	Excellent	Moderate
42	Cooper Park/Triangle	3rd Av to 4th Av, E 6th St to E 7th St	DPR	0.23	0.23	0.00	Benches, trees	Excellent	Low
43	Public Theater	Lafayette St, E 4th St, Astor Pl	DCA	0.91	0.91	0.00	Landscaping, trees, benches, canopy	Excellent	Low
44	Washington Square Park	5th Av, Waverly Pl, W 4th St and MacDougal St	DPR	9.75	2.92	6.82	Fountain, dog parks, playground, paved area, picnic, landscaping	Excellent	Heavy
45	Union Square	Broadway to 4th Av, E 14th St to E 17th St	DPR	3.59	1.795	1.795	Playground, sculptures, food stands, landscaping, dog park, lawn	Excellent	Heavy
46	W 4th St. Courts	Avenue Of Americas, W 3rd St and W 4th St	DPR	0.42	0.13	0.29	Garden and courts	Excellent	Moderate
47	Vesuvio Playground	Spring St and Thompson St	DPR	0.64	0.19	0.44	Spray shower, playground equipment, athletic courts (basketball, handball, Bocci) pool, benches, tables, chess, plantings, landscaping)	Excellent	Heavy
48	Passannante Square	W Houston St, Avenue of the Americas, MacDougal St	DPR	0.61	0.00	0.61	Playground equipment, athletic fields (baseball, softball), athletic courts (basketball), drinking fountain	Excellent	Moderate
49	Minetta Green	S/E corner Minetta Ln and Avenue of the Americas	DPR	0.06	0.06	0.00	Landscaping, path, garden	Excellent	Low
50	Minetta Triangle	N/E corner Avenue of the Americas and Minetta St	DPR	0.08	0.08	0.00	Landscaping	Excellent	Low
51	Minetta Playground	Minetta Ln, W 3rd St and Avenue of the Americas	DPR	0.21	0.06	0.14	Playground, benches, sitting area, play houses	Excellent	Moderate
52	James Madison Plaza	Pearl St, Madison St and St. James Pl	DPR	0.36	0.36	0.00	Trees, landscaping, benches	Excellent	Low

Table 5-4 (cont'd)
Inventory of Open Space Resources

Map ID No.[1]	Name	Location	Owner	Total Acres	Passive	Active	Amenities	Condition	Use Level
53	Ahearn Park	Grand St, E Broadway, and Willet St	DPR	0.09	0.09	0.00	Benches, trees, landscaping	Excellent	Low
54	Playground of the Americas	Avenue of the Americas and W Houston St	DPR	0.08	0.00	0.08	Playground, fountain, trees, bench, landscaping	Fair	Low
55	Peretz Square	E 1st St, E Houston St, 1st Av and Allen St	DPR	0.19	0.19	0.00	Benches, landscaping	Fair	Low
56	Kimlau Square	Chatham Sq, Oliver St and E Broadway	DPR	0.09	0.00	0.09	Fields, benches, paved	Excellent	Low
57	Henry M. Jackson Playground/JHS 82 Playground	Jackson St, Madison St, and Henry St	DPR	0.61	0.00	0.61	Benches, playground equipment, handball courts	Fair	Moderate
58	Mercer St.	Mercer St between Bleecker St and W 3rd St	DPR	0.43	0.00	0.43	Benches, fountain, playground, active paths	Excellent	Low
59	Park Strips	LaGuardia St, Bleecker St, Mercer St	DPR	0.32	0.32	0.00	Landscaping	Excellent	Low
60	Abe Lebewohl Park	E 10th St, 2nd Av	DPR	0.16	0.16	0.00	Landscaping	Excellent	Low
61	45 Allen St.	45 Allen St	NYCHA	0.38	0.38	0.00	Landscaping	Excellent	Low
62	Fabria Rehab	E 11th St	NYCHA	0.04	0.04	0.00	Benches, landscaping	Construct	Low
63	First Houses	112 E 3rd St	NYCHA	0.76	0.23	0.53	Benches, playground	Excellent	Low
64	Gompers Houses	60 Pitt St	NYCHA	2.28	0.68	1.59	Benches, courts, landscape	Excellent	Moderate
65	Henry Rutgers	300 Cherry St	NYCHA	4.48	0.00	4.48	Playground, courts	Excellent	Low
66	Jacob Riis (I and II)	134 Avenue D	NYCHA	10.98	3.29	7.69	Sprinklers, courts playground, pavement, landscape	Excellent	Moderate
67	Lower East Side Group 5	99 Avenue C and E 6th St	NYCHA	0.07	0.00	0.07	Courts, playground, game tables	Excellent	Low
68	Lower East Side I	169 Eldridge St	NYCHA	0.13	0.00	0.13	Playground, benches	Excellent	Moderate
69	Lower East Side II	72 Avenue C	NYCHA	0.93	0.00	0.93	Courts, benches, pavement	Excellent	Moderate
70	Lower East Side III	722 E 9th St	NYCHA	1.12	0.56	0.56	Pavement, benches	Excellent	Low
71	Mariana Brucetti	274 E 4th St	NYCHA	0.45	0.13	0.31	Courts, playground, benches, landscaping	Excellent	Moderate
72	Metzer Tower	117 E 2nd St	NYCHA	0.64	0.64	0.00	Landscaping, pavement, bench	Excellent	Low
73	Pedro Alibizu Campos	606 E 13th St	NYCHA	1.35	0.41	0.95	Playground, sprinklers, pavement, courts	Excellent	Low
74	Rafeal Hernandez	224 Eldridge St	NYCHA	0.67	0.00	0.67	Playground, paved area, some benches	Excellent	Low
75	Seward Park Extension	62 Essex St	NYCHA	1.04	0.00	1.04	Playground, pavement	Excellent	Moderate
76	Two Houses	286 South St	NYCHA	0.09	0.09	0.00	Benches	Good	Low
77	Vladeck II	14 Jackson St	NYCHA	1.33	1.33	0.00	Benches	Good	Low
78	El Sol Brillante Garden	526 E 12th St	DPR	0.20	0,20	0.00	Community Garden	Good	Low
79	Dias y Flores Garden	522 E 13th St	DPR	0.11	0.11	0.00	Community Garden	Good	Low
80	El Sol Brillante Junior Garden	537 E 12th St	DPR	0.06	0.06	0.00	Community Garden	Good	Low

Table 5-4 (cont'd)
Inventory of Open Space Resources

Map ID No.[1]	Name	Location	Owner	Total Acres	Passive	Active	Amenities	Condition	Use Level
81	Marble Cemetery	60 E 2nd St	NYC Marble Cemetery	0.88	0.88	0.00	Cemetery	Excellent	Low
82	Marble Cemetery	41 Second Ave	City of New York	0.49	0.49	0.00	Cemetery	Excellent	Low
83	P.S. 751 Playground	310 E 5th St	DOE	0.48	0.48	0.00	Playground	Excellent	Low
84	Gramercy Park		Abbey Arthur	1.50	1.50	0.00	Landscaping, benches, open areas	Excellent	Low
85	Grace Church School Playground	7678 Park Avenue South	Rector Church	0.08	0.08	0.00	Playground	Good	Low
86	Ninth Street Community Garden Park	144 Avenue C/ 703 E 9th St	DPR	0.46	0.46	0.00	Community Garden	Good	Low
87	La Plaza Cultural	632-650 E 9th St	DPR	0.73	0.73	0.00	Community Garden	Good	Low
88	Green Oasis and Gilbert's Garden	374-388 E 8th St	DPR	0.38	0.38	0.00	Community Garden	Good	Low
89	P.S. 71	611 E 6th St	PS 71 Associates	0.10	0.10	0.00	Play area	Good	Low
90	Playground	639 East 6th St	NYCHA	0.10	0.10	0.00	Playground	Good	Low
91	6th Street and Avenue B Garden	84 Avenue B	DPR	0.38	0.38	0.00	Community Garden	Good	Low
92	Creative Little Garden	530 E 6th St	DPR	0.05	0.05	0.00	Community Garden	Good	Low
93	Secret Garden	53 Avenue C	DPR	0.05	0.05	0.00	Community Garden	Good	Low
94	El Jardin Del Paradiso	706 E 5th St	DPR	0.70	0.70	0.00	Community Garden	Good	Low
95	Orchard Alley Garden	346 E 4th St	DPR	0.31	0.31	0.00	Community Garden	Good	Low
96	Parque de Tranqulidad	316 E 4th St	TPL	0.12	0.12	0.00	Community Garden	Good	Low
97	All People's Garden	295 E 3rd St	TPL	0.10	0.10	0.00	Community Garden	Good	Low
98	Kenkeleba House Garden	212 E 3rd St	DPR	0.16	0.16	0.00	Community Garden	Good	Low
99	Suffolk Street Community Garden	170 Suffolk St	DPR	0.11	0.11	0.00	Community Garden	Good	Low
100	Miracle Garden	196 E 3rd St	DPR	0.11	0.11	0.00	Community Garden	Good	Low
101	Our Lady of Sorrows Garden	213 Stanton St	Our Lady of Sorrows Roman Catholic Church	0.06	0.06	0.00	Community Garden	Good	Low
102	Lower East Side People Care Garden	25 Rutgers St	TPL	0.05	0.05	0.00	Community Garden	Good	Low
103	Coleman Square Playground	72 Market St	DPR	2.61	0.00	2.61	Playground, benches, athletic fields, courts	Excellent	Low
104	De Collers Community Garden	58 Market St	DPR	0.06	0.06	0.00	Community Garden	Good	Low
105	P.S. 20 Playground (Stanton Street)	126 Stanton St	TPL	0.08	0.00	0.08	Playground	Good	Low
106	P.S. 142 (Delancey Street)	80 Attorney St	DOE	0.47	0.00	0.47	Playground	Good	Low

Table 5-4 (cont'd)
Inventory of Open Space Resources

Map ID No.[1]	Name	Location	Owner	Total Acres	Passive	Active	Amenities	Condition	Use Level
107	Le Petit Versailles	247 E 2nd St	DPR	0.03	0.03	0.00	Community Garden	Good	Low
108	2nd Street Community Garden	236 E 2nd	DPR	0.12	0.12	0.00	Community Garden	Good	Low
109	Peach Tree Community Garden	218 E 2nd	DPR	0.15	0.15	0.00	Community Garden	Good	Low
110	P.S. 15 Playground	724 E 5th St	DOE	0.29	0.00	0.29	Playground	Good	Low
111	Serenity Gardens	626 E 11th St	DPR	0.06	0.06	0.00	Community Garden	Good	Low
112	Lt. Joseph Petrosino Square	Kenmare Street between Cleveland Place and Lafayette Street	DPR	0.15	0.15	0.00	Seating	Good	Low
113	Toyota Children's Learning Garden[3]	603 E 11th St	NYRP	0.04	0.04	0.00	Community Garden	Excellent	Low
Totals				**216.34**	**77.06**	**139.28**			

Notes:
1 See Figure 5-2 for open space resources.
2 The use and condition of Stuyvesant Square is mixed. The east side is in poor condition and has a lower utilization rate. The west side of the park is in good condition and receives greater use.
3 The Toyota Children's Learning Garden opened to the public subsequent to the publication of the DEIS.
DPR= New York City Department of Parks and Recreation
DOE= New York City Department of Education
NYCHA= New York City Housing Authority
TPL= Trust for Public Land
DCA= New York City Department of Cultural Affairs
DCAS= New York City Department of Citywide Administration Services
NYRP=New York Restoration Project
Sources: AKRF Field Surveys, December 2007 and June 2008; DPR, December 2007.

The majority of the parks in the study area are owned by DPR. The largest of these parks are East River Park (57.46 acres), Tompkins Square Park (10.5 acres), Washington Square Park (9.75 acres), and Sara D. Roosevelt Park (7.85 acres).

East River Park stretches along the East River from Montgomery Street on the south to East 12th Street on the north. The southern entrance includes views of the Manhattan Bridge and Brooklyn Bridge. The park includes an amphitheater, just south of Grand Street, which has been reconstructed and is often used for public performances. The park includes football, baseball, and soccer fields; tennis, basketball, and handball courts; a running track and bike paths including the East River Greenway; and fishing, as well as other amenities. The park is bisected by the Williamsburg Bridge.

Tompkins Square Park, bounded on the north by East 10th Street, on the east by Avenue B, on the south by East 7th Street, and on the west by Avenue A, is devoted to both active and passive uses. Amenities include swings, slides, basketball courts, and handball courts. In addition, paved walkways, monuments, benches, trees, and planters are part of the passive open space.

Washington Square Park is located on 5th Avenue, Waverly Place, West 4th, and MacDougal Streets. The park has several monuments, including a historical arch, dog parks, playgrounds, and walking pathways. A portion of Washington Square Park is currently under construction. The work underway consists of rehabilitation of the central fountain area, new perimeter fencing, improvements to pathways and circulation, Americans with Disabilities Act (ADA) improvements, landscaping, and other park improvements.

Open Space

Primary Study Area Boundary

1/2-Mile Perimeter

1/2-Mile Census Study Area (Residential Study Area)

Open Space Resources
Figure 5-2

Sara D. Roosevelt Park includes courts, playgrounds, gardens, and a picnic area. The park is located along Chrystie Street and Forsyth Street, from East Houston Street to Canal Street.

Several of the other DPR parks are entirely active and characterized as neighborhood parks. These parks include Clinton Cherry Playground, Martin F. Tanahey Playground, and Coleman Square Playground. These parks may include playground equipment, courts, benches, and play areas.

Several NYCHA housing developments are also located in the study area. While open space within a public housing development is primarily meant for use by residents of that housing development, the space is generally accessible to the public. Several of the housing developments include amenities such as benches, trees, walkways, playgrounds, jungle gyms, and basketball courts. In certain developments, such as the Baruch Houses, there are parks owned and operated by DPR or jointly owned and operated by DPR and NYCHA. These spaces encompass some of the largest open space areas in the study area.

The residential study area also contains seven playgrounds that are jointly owned and operated by DPR and DOE. These parks serve City public schools as well as the public. Often, public use during school hours or use is prohibited in these parks.

Finally, a number of community gardens are located throughout the study area. Use of the community gardens is often restricted to certain days, typically weekends, and certain times of the day.

ADEQUACY OF OPEN SPACES

QUANTITATIVE ASSESSMENT

Within the residential study area, all passive and active open space ratios currently fall short of DCP's planning guidelines, as shown in Table 5-5. With a total of 216.34 acres of open space, of which 139.28 are estimated to be for active use and 77.06 for passive use, and a total residential population of 360,471, the residential study area has a total open space ratio of 0.60 acres per 1,000 residents. This is substantially less than DCP's planning guideline of 2.5 acres of combined active and passive open space per 1,000 residents.

The residential study area's passive open space ratio is 0.21 acres per 1,000 residents, which is below the City's guideline of 0.5 acres per 1,000 residents. The area's residential active open space ratio is 0.39 acres per 1,000 residents, which is substantially below DCP's planning guideline of 2.0 acres per 1,000 residents.

When the employees who work within the residential study area and the students who attend colleges in the study area are added to the population, the passive open space ratio further diminishes. With a combined residential and non-residential population of 676,201, the combined passive open space ratio in the residential study area is 0.11, lower than the recommended weighted average guideline ratio of 0.34 acres per 1,000 residents and workers.

In terms of the criteria for assessing the adequacy of existing open space as described in Chapter 3-D, Section 322.3 of the *CEQR Technical Manual*, the residential study area falls short of the City's desired quantitative planning goals for passive and active open space, as described above.

QUALITATIVE ASSESSMENT

With respect to qualitative factors, based on field surveys, the usability of the open spaces in the residential study area is not impaired by factors such as noise, air quality, shadows, design, or accessibility. Open spaces did not display signs of overcrowding and several parks accommodated a variety of age groups.

Table 5-5
Existing Conditions: Adequacy of Open Space Resources

	2007 Total Population	Open Space Acreage			Open Space Ratios per 1,000 People			DCP Open Space Guidelines		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential Study Area										
Residents	360,471				0.60	0.39	0.21	2.5	2.0	0.50
Non-Residents	315,730				N/A	N/A	0.24[1]	N/A	N/A	0.15
Combined residents and non-residents	676,201	216.34	139.28	77.06	N/A	N/A	0.11	N/A	N/A	0.342

Notes:
1 Non-residents typically use passive spaces; therefore, for the non-residents, only the passive open space ratio is calculated.
2 Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents.

As discussed above, different age groups represent various types of open space needs. Non-residential populations, which include students and workers, also represent different types of open space needs within an area.

Only 4 percent of the population requires toddler facilities (less than 5 years of age). These facilities include simple play spaces with features such as sand boxes, climbing equipment, and seating for caregivers. This type of open space is sufficient in the study area. Examples of open spaces or parks that include amenities intended for children younger than 5 years of age include Washington Square Park, Coleman Square Playground, and Little Flower Playground. Young children and teens (ages 5 to 19) comprise approximately 14 percent of the total population. The study area includes many playgrounds and parks with amenities such as play equipment, athletic courts (basketball, handball, and volleyball), fields, and even bathing areas that would serve this population, including East River Park, Hamilton Fish Park, and Tompkins Square Park. The remaining 82 percent of the population includes adults and senior citizens. This population utilizes paths, lawn areas, picnic areas, chess tables, and benches (often described as passive open space), in addition to active open space. Many of the study area's open spaces include passive recreation types of amenities designed for adults and senior citizens. Parks that are exclusively passive include Stuyvesant Square and Ahearn Park. Although, it is noted that adults and senior citizens also engage in active recreation. With 112 open spaces of various types, the study area serves the various age groups that it comprises.

Non-residents utilize daytime passive-type facilities including paths, benches, and picnic tables. The study area includes several parks that feature these types of facilities either exclusively or in addition to other types of amenities. For example, most of the parks include benches which may be utilized by the non-residential populations.

There are several publicly-accessible open spaces within the non-residential and residential study areas that were not included in the quantitative open space analysis. These include

privately owned facilities that are primarily utilized by a certain group of people such as specific residential communities (Stuyvesant Town and Gramercy Park) and students (NYU students). For example, Stuyvesant Town, located between East 14th and East 20th Streets and between First Avenue and FDR Drive, is a residential complex with open space features including an 80-acre park encompassing seven playgrounds, eight recreation areas, a putting area, and bike/jogging paths. This private open space is used by the local residents.

Gramercy Park is held in common as one of the City's two privately owned parks by the owners of the surrounding structures, and this joint ownership has been in place since December 31, 1831. Residents living in buildings that face the park may purchase a key to access the park, which is changed annually.

NYU includes several parks and recreation facilities that are accessible only to students, faculty, and staff members. Some of these spaces are located within Washington Square Village—an area of NYU that includes residential towers—such as Washington Square Village Park and Washington Square Village Playground. A large portion of the open space resources are located between LaGuardia Place and Mercer Street and West Houston and 4th Streets, including, among others, LaGuardia Gardens, LaGuardia Corner Garden, Time Landscape, and the Coles Gymnasium. These spaces include amenities for all ages and are open during various hours throughout the day.

In addition, the study area includes several GreenThumb community gardens. GreenThumb is a DPR program that primarily serves communities through its technical support, general warehouse distribution, seasonal workshops, and small grants. The program is available only to registered GreenThumb gardens that have posted open hours and membership procedures. The program supports approximately 600 gardens throughout New York City. These gardens tend to be passive in nature. In addition to these resources, residents in the study area may also visit certain regional parks, including Central Park.

THE FUTURE WITHOUT THE PROPOSED ACTIONS

STUDY AREA POPULATION

In the future without the proposed actions, it is anticipated that approximately 5,169 new dwelling units would be added within the ½-mile study area.[1] These new dwelling units are expected to add approximately 11,402 new residents in the entire study area. Thus, the 2017 residential population in the study area without the proposed actions would be 371,873 residents.[2] Additionally, non-residential development would add an increment of approximately 6,116 employees to the residential study area. It is anticipated that the college student population

[1] The 5,169 new dwelling units is a combination of development that would occur within the primary study area under the RWCDS No Build assumptions described in Chapter 1, "Project Description" and known development that would occur outside of the primary study area boundary but within the ½-mile perimeter.

[2] The number of new residents generated by the development in the future without the proposed actions was calculated based on the location of the planned development site and the average household size for that study area. Sites within the primary study area have a weighted average household size of 1.97, sites within ¼ mile of the primary study area boundary have a weighted average household size of 2.07, and sites outside the ¼-mile study area but within ½ mile of the primary study area boundary have a weighted average household size of 2.04.

would remain the same as in the existing condition. Therefore, the non-residential study area population would be approximately 321,846 persons, and the combined residential and non-residential population would be approximately 693,719.

STUDY AREA OPEN SPACES

In the future without the proposed actions, six pending and proposed park improvement projects are expected within the residential study area (Table 5-6 and Figure 5-3). According to DPR, the planned park projects in the study area are: the Allen and Pike Street Center Plot Reconstruction project, East River Esplanade Waterfront and Piers project, East River Waterfront Access project, East River Park improvement project, and the planned reconstruction of Washington Square Park. Overall, the total amount of open space is expected to increase by approximately 7.75 acres, of which 6.45 acres would be active open space and 1.30 would be passive open space. With the additional open spaces, the study area would be expected to have a total of 224.09 acres of open space divided between 145.73 acres of active space and 78.36 acres of passive space. The East River Esplanade Waterfront and Piers project and East River Waterfront Access project are described in detail below. The East River Park improvement project, the Allen and Pike Street Center Plot Reconstruction project, the Union Square reconstruction, and the planned reconstruction of Washington Square Park are described qualitatively in the following section.

East River Esplanade Waterfront and Piers

The City has proposed a plan for the revitalization of the East River waterfront by improving a two-mile-long, City-owned public open space connecting the Whitehall Ferry Terminal and Peter Minuit Plaza to the south to East River Park to the north. The plan seeks to improve access to the waterfront, enhance pedestrian connectivity, and create waterfront amenities for public use and enjoyment. The existing esplanade would be enhanced, some new sections of esplanade would be created, and several piers would be renovated and redeveloped.

It is expected that this project would add 2.24 acres of active open space to the study area. Overall, the East River Esplanade Waterfront and Piers project would improve existing open space and create new public open space along a two-mile stretch of the East River and thus help to alleviate the shortage of open space experienced by the dense residential and worker populations of Lower Manhattan.

East River Waterfront Access

The DPR-sponsored East River Waterfront Access Project would provide community amenities and significantly improve the pedestrian connections between the East River Waterfront and its neighboring Lower Manhattan areas—the South Street Seaport District, Chinatown, the Lower East Side, and East River Park. The new East River Park Connector, located in the upland portion of Pier 42, would add 5.51 acres of open space to the study area. The East River Park Connector would create a wider, safer pedestrian and bike path connection between the existing East River Waterfront esplanade and East River Park. The Access Project would remove existing fencing and install planted berms to separate the path from the FDR Drive. The pedestrian path and bikeway would be paved with a modular, reinforced concrete system.

9.4.08

Primary Study Area Boundary

1/2-Mile Perimeter

Open Space Resource (Existing)

1/2-Mile Census Study Area (Residential Study Area)

No Build Open Space Resource

Changes to Existing Resources in No Build Condition

No Build Scenario Open Space Resources

Figure 5-3

Table 5-6
No Build Condition: Changes to Open Space Resources

Map ID No.[1]	Name	Location	Owner	Total Acres	Passive	Active	Amenities
9	East River Park[2]	Montgomery St to E 12 St, FDR Dr	DPR	0.00	0.00	0.00	Athletic fields, track, courts, playground, picnic center, trees, landscaping, pool
32	Allen Malls[2]	Between Broome St and FDR Drive along Allen St and Pike St	DPR	0.00	0.00	0.00	Landscaping
44	Washington Square Park[2]	5th Av, Waverly Pl, W 4th St and MacDougal St	DPR	0.00	0.00	0.00	Fountain, dog parks, playground, paved area, picnic, landscaping
45	Union Square[2]	Broadway to 4th Av, E 14th St to E 17th St	DPR	0.00	0.00	0.00	Playground, sculptures, food stands, landscaping, dog park, lawn
114	East River Esplanade Waterfront and Piers	East River waterfront between Montgomery and Whitehall Streets	DPR	2.24	0.65	1.59	Seating, paths, landscaping
115a through 115d	East River Waterfront Access	Catherine, Rutgers, and Montgomery Slips; East River Park Connector	DPR	5.51	0.65	4.86	Seating, paths, landscaping, and bike path extension
			Totals	**7.75**	**1.30**	**6.45**	

Notes:
1 See Figure 5-3 for open space locations.
2 East River Park, Allen Malls, Union Square, and Washington Square Park are each receiving improvements to existing facilities. No new open space is being added to these existing resources.
DPR= New York City Department of Parks and Recreation
Sources: AKRF Field Survey, December 2007; New York City Department of Parks and Recreation (DPR), December 2007.

ADEQUACY OF OPEN SPACE RESOURCES

QUANTITATIVE ASSESSMENT

In the future without the proposed actions, the residential study area's residential population would increase by 11,402 for a total residential population of 371,873 by 2017. The six parks projects described above would add a total of 7.75 acres of open space, which would increase the total amount of open space to 224.09 acres. As such, the total open space ratio would be 0.60 acres per 1,000 residents, substantially less than DCP's planning guideline of 2.5 acres per 1,000 residents as well as the City-wide median of 1.5 acres (see Table 5-7).

In the future without the proposed actions, 6.45 acres of active open space would be added to the study area, which would increase the amount of active open space to 145.73 acres. Therefore, the active open space ratio would be 0.39 acres per 1,000 residents, which is substantially below DPR's planning guideline of 2.0 acres per 1,000 residents. The residential study area's residential passive open space ratio is expected to be 0.21 acres of passive open space per 1,000 residents, which is below the City guideline of 0.5 acres per 1,000 residents.

Table 5-7
Future Without the Proposed Actions: Adequacy of Open Space Resources

	Total Population	Open Space Acreage			Open Space Ratios per 1,000 People			DCP Open Space Guidelines		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential Study Area										
Residents	371,873				0.60	0.39	0.21	2.5	2.0	0.50
Non-residents	321,846				N/A	N/A	0.24[1]	N/A	N/A	0.15
Combined residents and non-residents	693,719	224.09	145.73	78.36	N/A	N/A	0.11	N/A	N/A	0.34[2]

Notes:
1 Non-residents typically use passive spaces; therefore, for the non-residents, only the passive open space ratio is calculated.
2 Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents.

Adding the worker population and college students to the study area population further diminishes the passive open space ratio. With a combined residential and non-residential population of 693,719, the combined passive open space ratio is expected to be 0.11 acres per 1,000 residents and workers, lower than the recommended weighted average guideline ratio of 0.34 acres per 1,000 residents and non-residents.

The study area would continue to be substantially underserved in terms of both passive and active open space. Table 5-8 shows the percent changes in open space ratios expected to occur in the future without the proposed actions over the existing condition.

Table 5-8
Future Without the Proposed Actions: Open Space Ratios Summary (No Build)

Ratio	DCP Guideline	Existing Ratio	No Build Ratio	Percent Change
Residential Study Area				
Total/residents	2.50	0.60	0.60	0.00
Passive/residents	0.50	0.21	0.21	0.00
Active/residents	2.00	0.39	0.39	0.00
Passive/non-residents	0.15	0.24	0.24	0.00
Passive/total population	0.34*	0.11	0.11	0.00

Note: * Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents.

QUALITATIVE ASSESSMENT

The improvement made to open space resources within and just outside of the study area will increase their usability and accessibility. The East River Park will be completed by 2008 and there are three planned park projects which will be improved within the study area. The East River Park, the Allen and Pike Street Center Plot reconstruction project, the Washington Square Park reconstruction, and the Union Square reconstruction are described in greater detail below.

East River Park

Originally constructed in 1939, this 57-acre park is the largest park south of 59th Street. Much of this park is located within the ½-mile perimeter and provides a valuable open space resource for residents. This project is expected to be completed in summer 2008, at a cost of nearly $80

million. The construction includes the replacement of deteriorating bulkheads, the existing promenade, and relieving platforms.

Allen and Pike Street Center Plot Reconstruction Project

Allen Malls encompass ten center plots located along Allen and Pike Streets, from Broome Street to FDR Drive. The proposed project would reconstruct the center plots by adding plantings, new pavements and curbs, fencing and gates, bollards, benches, lighting, trees, ground cover, and water supply. Although this project would not increase the total amount of open space it is expected that the proposed improvements to this park would enhance the quality of life for communities in Lower Manhattan and draw residents and visitors to the area, contributing toward the restoration, stabilization, and enhancement of Lower Manhattan.

Washington Square Park

Additionally, the City began reconstruction of Washington Square Park in the spring of 2008. According to DPR's website,[1] the reconstruction of Washington Square Park would include the relocation and conservation of the fountain, conservation of sculptures, new and expanded lawns and planting beds, new paths, benches, lighting, and additional amenities. The fountain would be rebuilt and restored and made part of a large central plaza at one level, allowing Americans with Disabilities Act (ADA)-compliant access to the plaza. The movement of the fountain would also help make possible an approximately 20 percent increase in unpaved green space in the park.

Union Square

The City has begun reconstruction of portions of Union Square. The project will focus on the northern portion of the park and includes a redesigned playground and reconstructing the Green Market area and restrooms and restoring the pavilion and plaza. Construction will be complete by the end of 2009.

As discussed above, privately-owned open spaces that are primarily utilized by a certain group of people such as specific residential communities (Stuyvesant Town and Gramercy Park) and students (NYU students) would continue to be present in the study area to accommodate these user groups. In addition, the study area's several GreenThumb community gardens would continue to be operated by members and would be open to the public during designated times of the week. Furthermore, residents in the study area would continue to visit certain regional parks (like Central Park).

In the future without the proposed actions, the usability of the open spaces in the residential study area is not expected to be impaired by factors such as noise, air quality, shadows, design, or accessibility. In addition, with 112 open spaces of various types, the study area would continue to be balanced in terms of active and passive open space to serve the various age groups that it comprises.

As discussed above, privately owned open spaces that are primarily utilized by a certain group of people such as specific residential communities (Stuyvesant Town and Gramercy Park) and students (NYU students) would continue to be present in the study area to accommodate these user groups. In addition, the study area's several GreenThumb community gardens would continue to be operated by members and would be open to the public during designated times of

[1] http://www.nycgovparks.org/sub_your_park/washington_sq_park/reconstruction.php, accessed January 17, 2008.

the week. Furthermore, residents in the study area would continue to visit certain regional parks (like Central Park).

PROBABLE IMPACTS OF THE PROPOSED ACTIONS

DIRECT EFFECTS

The proposed actions would not directly displace any public open spaces. The only potential direct effect on open space concerns shadows. Anticipated development along Avenue D would cast incremental shadows on the Orchard Alley Garden, identified as open space resource 95 in Table 5-4, resulting in a significant adverse shadow impact. The incremental shadows would affect the garden in the mornings and midday hours throughout the year (see Chapter 6, "Shadows"). Orchard Alley Garden contains a number of trees, planted areas, winding pathways, benches, and picnic tables; entrances are located along both East 3rd and East 4th Streets (see Figure 5-4). The duration and extent of the shadow coverage would adversely affect users as these shadows might diminish the attraction to use this open space resource. Potential mitigation for this shadow impact is discussed in Chapter 22, "Mitigation." The remaining study area open spaces would not be affected by shadows, air quality, or noise as a result of the proposed actions.

INDIRECT EFFECTS

As described in Chapter 1, "Project Description," the RWCDS anticipates that the proposed actions would result in a net increase of 1,383 residential units on the projected development sites, 348 of which would be affordable, and a net decrease of 74,439 square feet of commercial space. Based on a weighted average household size of 1.97 persons for the primary study area, the additional 1,383 dwelling units would add an estimated 2,723 residents to the study area. The proposed actions are also expected to result in a reduction of approximately 186 employees.

STUDY AREA POPULATION

All of the development described above under the RWCDS would also occur in the residential study area. With the proposed actions, the population of the residential study area is expected to include 374,596 residents and 322,032 non-residents in the future with the proposed actions.[1]

STUDY AREA OPEN SPACES

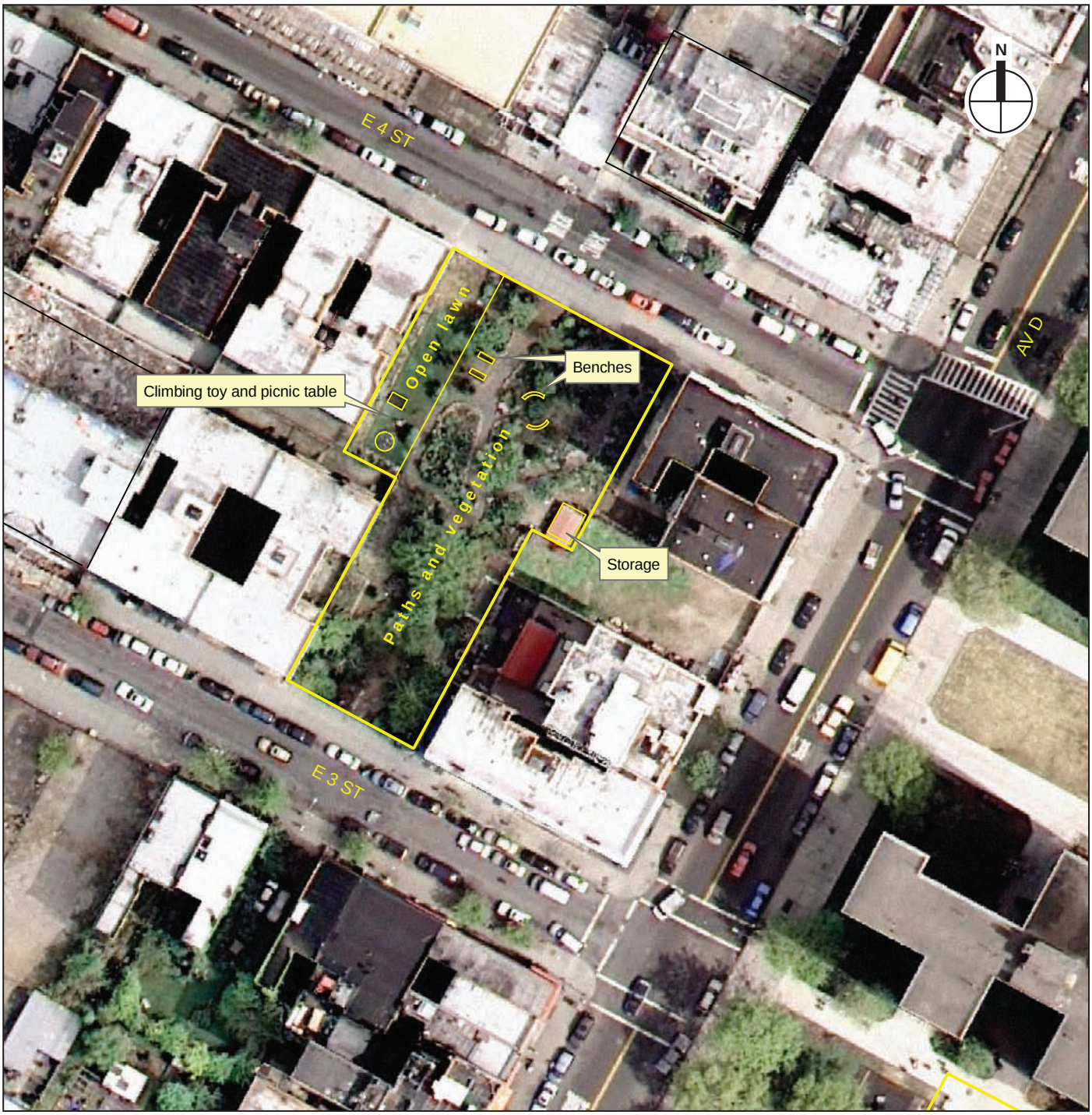
In the future with the proposed actions, the total amount of open space in the study area would remain the same as in the No Build condition with a total of 224.09 acres, with 78.36 acres of passive open space and 145.73 acres of active open space.

ADEQUACY OF OPEN SPACES

Quantitative Assessment

Despite additional population resulting from the proposed action, the open space ratios would not decrease. In the future with the proposed actions, the total open space ratio per 1,000

[1] The residential population in the future with the proposed actions is derived by adding the existing population plus the population generated by known developments plus the projected population that would result from the development associated with the proposed actions.



Orchard Alley Garden Site Plan

Figure 5-4

residents within the residential study area would remain at 0.60 acres per 1,000 residents and continue to be substantially below the CEQR guideline of 2.5 acres per 1,000 residents. In addition, the passive open space ratio for residents would also remain the same as in the future without the proposed actions (see Tables 5-9 and 5-10). The active open space ratio for residents would remain the same as in the future without the proposed actions. As in the future without the proposed actions, the passive and active open space ratios would also continue to be substantially below DCP guidelines.

Table 5-9
Future With the Proposed Actions: Adequacy of Open Space Resources

	Total Population	Open Space Acreage			Open Space Ratios per 1,000 Residents			DCP Open Space Guidelines		
		Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
Residential Study Area										
Residents	374,596	224.09	145.73	78.36	0.60	0.39	0.21	2.5	2.0	0.50
Non-Residents	321,660				N/A	N/A	0.24	N/A	N/A	0.15
Combined residents and non-residents	696,628				N/A	N/A	0.11	N/A	N/A	0.34[1]

Note: [1] Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents. Non-residents typically use passive spaces; therefore, for the non-residential study area, only passive open space ratios are calculated. For the residential study area, active, passive, and total park space ratios are calculated.

Table 5-10
Future With the Proposed Actions: Open Space Ratios Summary (Build)

Ratio	DCP Guideline	No Build Ratio	Build Ratio	Percent Change
Residential Study Area				
Total/residents	2.50	0.60	0.60	0.00
Passive/residents	0.50	0.21	0.21	0.00
Active/residents	2.00	0.39	0.39	0.00
Passive/non-residents	0.15	0.24	0.24	0.00
Passive/total population	0.34[1]	0.11	0.11	0.00

Note: [1] Weighted average combining 0.15 acres per 1,000 non-residents and 0.50 acres per 1,000 residents.

The passive open space ratio for the non-residents would also remain the same (0.21 acres per 1,000 non-residents) as in the future without the proposed actions. However, it should be noted that there would be an expected decline of approximately 186 commercial workers in the area as a result of the proposed actions. The passive open space ratio for the combined (total) population would remain at 0.11 acres per 1,000 residents and non-residents, compared with a target combined passive open space ratio of 0.34.

QUALITATIVE ASSESSMENT

As discussed in the Future Without the Proposed Actions section above, several improvements to existing facilities are expected to be East River Park, Allen Malls, and Washington Square Park, increasing the accessibility and usability of these existing open space resources.

It should be noted that the proposed actions would map contextual zoning districts in much of the rezoning area and consequently much of the new residential development expected as a

result of the proposed actions, with the exception of enlargement sites, must adhere to Quality Housing Program regulations. These regulations require the residential developments to include amenities such as tree plantings, landscaping, and recreational space. These added amenities would not be provided by development in the No Build condition because the Quality Housing regulations would not be required. These open space amenities would improve open space conditions on the sites of future development and help alleviate future open space shortfalls. However, as this recreational space would not be public space, it would not improve the study area's open space ratios and the shortfalls in the open space ratios in the quantitative analysis described above would remain.

Moreover, privately owned open spaces that are primarily utilized by a certain group of people such as specific residential communities (Stuyvesant Town and Gramercy Park) and students (NYU students) would continue to be present in the study area to accommodate these user groups. In addition, the study area's several GreenThumb community gardens would continue to be operated by members and would be open to the public during designated times of the week. Furthermore, residents in the study area would continue to visit certain regional parks, including Central Park.

As in the future without the proposed actions, with the exception of increased shadows on Orchard Alley Garden, the usability of the open spaces in the residential study area is not expected to be impaired by factors such as noise, air quality, shadows, design, or accessibility in the future with the proposed actions. While increased shadows on Orchard Alley Garden could adversely affect the usability of the open space, overall, the new shadows would not affect open space usability in the study area substantially and would not result in significant adverse open space impact.

D. CONCLUSION

Based on the quantitative and qualitative factors discussed above, the proposed actions would not result in any direct or indirect significant adverse impacts on open space resources. ✷