2.D OPEN SPACE

INTRODUCTION

This section assesses the Proposed Action's potential to affect the ability of open space resources to serve the residential and workday populations in the vicinity of the Proposed Action area. The Proposed Action would not have a direct impact on public open spaces resulting from the elimination or alteration of open spaces in the study area. This section therefore primarily focuses on the Proposed Action's potential to have an indirect open space impact resulting from overtaxing available public open space resources.

According to the 2010 *CEQR Technical Manual*, a public open space is accessible to the public on a constant and regular basis, including for designated daily periods. Public open spaces may be under public (government) or private ownership, and includes resources such as parks managed by the City, State, or Federal governments; public plazas; outdoor schoolyards that are accessible to the public outside of school hours; landscaped medians with seating; public housing grounds; and gardens and nature preserves, if publicly accessible. Private open spaces are not considered in the quantitative analysis of open space but may be considered in the qualitative assessment. Private open spaces include private-access fee-charging spaces; recreational facilities used by community facilities, where the open space is accessible only to the institution-related population; natural areas or wetlands without public access; stoops; vacant lots; and front and rear yards.

According to the *CEQR Technical Manual*, a Proposed Action would have a direct effect on an open space if it causes the physical loss of public open space because of an encroachment onto the space or displacement of the 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 causes 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 2E, "Shadows", Chapter 2N, "Air Quality", and Chapter 2P, "Noise" to determine whether the Proposed Action would directly affect any open spaces near the Development Sites. Indirect effects may occur when the population generated by the Proposed Project overtaxes the capacity of existing open spaces so that their service to the future population of the affected area would be substantially or noticeably diminished.

PRINCIPAL CONCLUSIONS

The Proposed Action will not have a direct impact on any open space resource in the study area. No open space would be displaced, and no significant shadows would be cast on any publically accessible open spaces. However, the Proposed Action would have a significant adverse indirect open space impact as the open space ratio would substantially decrease from that seen under the future no-action condition.

In the future with the Proposed Action, the total open space ratio is projected to be 0.69 acres per 1,000 residents, a 6.6 percent decrease from the future no-action condition ratio of 0.74. The active open space ratio in the residential study area would decrease from 0.25 acres per thousand users in the future no-action condition to 0.24 acres per thousand users in the future action condition, a 7.0 percent decrease. The passive open space ratio would decrease from 0.49 acres per thousand users in the future no-action condition to 0.45 acres per thousand users in the future action condition, a 6.4 percent decrease.

The qualitative assessment indicates that the quality and low utilization of study area open spaces combined with the availability of open spaces outside of the study area would be somewhat alleviate the burden on open spaces in the future action conditions. However, the decrease in the residential study area open space ratio is sizeable, and because of this, the Proposed Action would result in a significant adverse open space impact. Mitigation measures to address this significant impact are discussed in Chapter 3: Mitigation.

At 0.49 acres of passive open space per 1,000 daytime users, the non-residential study area open space ratio is projected to be more than three times the City's open space ratio guideline of 0.15acres per 1,000 workers. Daytime users of passive open space will be well-served by the resources available, and there would be no significant adverse open space impacts in the non-residential study area as a result of the Proposed Action.

METHODOLOGY

Open spaces may be used for "active" or "passive" uses. Active open space is used for sports, exercise, or active play, and can consist of facilities such as playgrounds with play equipment, playing fields, beach areas (swimming, running), greenways and esplanades, and multi-purpose play areas. Passive open space is used for relaxation, such as sitting or strolling, and can consist of facilities such as plazas or medians with seating, a percentage of beach areas (sunbathing), picnicking areas, greenways and esplanades (sitting, strolling), restricted-use lawns, and gardens. Often, an open space can be used for both active and passive uses. The residential population of an area uses active and passive open spaces, while the worker population tends to place demands on passive open space.

According to the 2010 CEQR Technical Manual, an open space analysis is generally conducted if a Proposed Project would generate more than 200 residents or 500 employees. However, the need for an analysis varies in certain areas of the city that have been identified as either underserved or well-served by open space. Underserved areas have a high population density, are generally the greatest distance from parkland, and have less than 2.5 acres of open space per 1,000 residents. If a project is located in an underserved area, the threshold for an open space analysis is 50 residents or 125 workers. Well-served areas have greater than 2.5 acres of open space per 1,000 residents or are located within a quarter of a mile (approximately a 10-minute walk) from developed and publicly accessible portions of regional parks. Regional parks in the vicinity of the proposed rezoning area include Bronx Park and Sound View Park (neither park is in the study area analyzed in this chapter). If a project is located in a well-served area, the threshold for an open space analysis is 350 residents or 750 workers.

Maps in the Open Space appendix of the 2010 CEQR Technical Manual identify much of the proposed rezoning area as underserved, though the northernmost block of the proposed rezoning area is well-served. Thus, the analysis threshold used in this analysis is for an underserved area. The Proposed Action would result in a net increase of 7,958 residents and 142 employees over future no-action conditions, which exceeds the thresholds for a residential and a worker open space analysis. The following analysis assesses the potential for either a direct impact from the Proposed Action or an indirect impact as a result of the additional residential and worker population.

Open spaces were surveyed in the spring and summer of 2009 and the fall of 2010. The open spaces' utilization (low, moderate, or heavy) and condition (acceptable or unacceptable) was noted. The DPR website was consulted for the acreages of the open spaces and to verify their condition. This data was aggregated and is presented below under the Existing Open Space Inventory.

As stated in the CEQR Technical Manual, 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 plans and proposals. Ideally, this would comprise 0.50 acres of passive open space and 2.0 acres of active open space per 1,000 residents. As noted below, an open space analysis also considers the City's median community district open space ratio of 1.5 acres per 1,000 residents when determining impact significance. The City also seeks to attain a planning goal of a balance of 20 percent passive open space and 80 percent active open space.

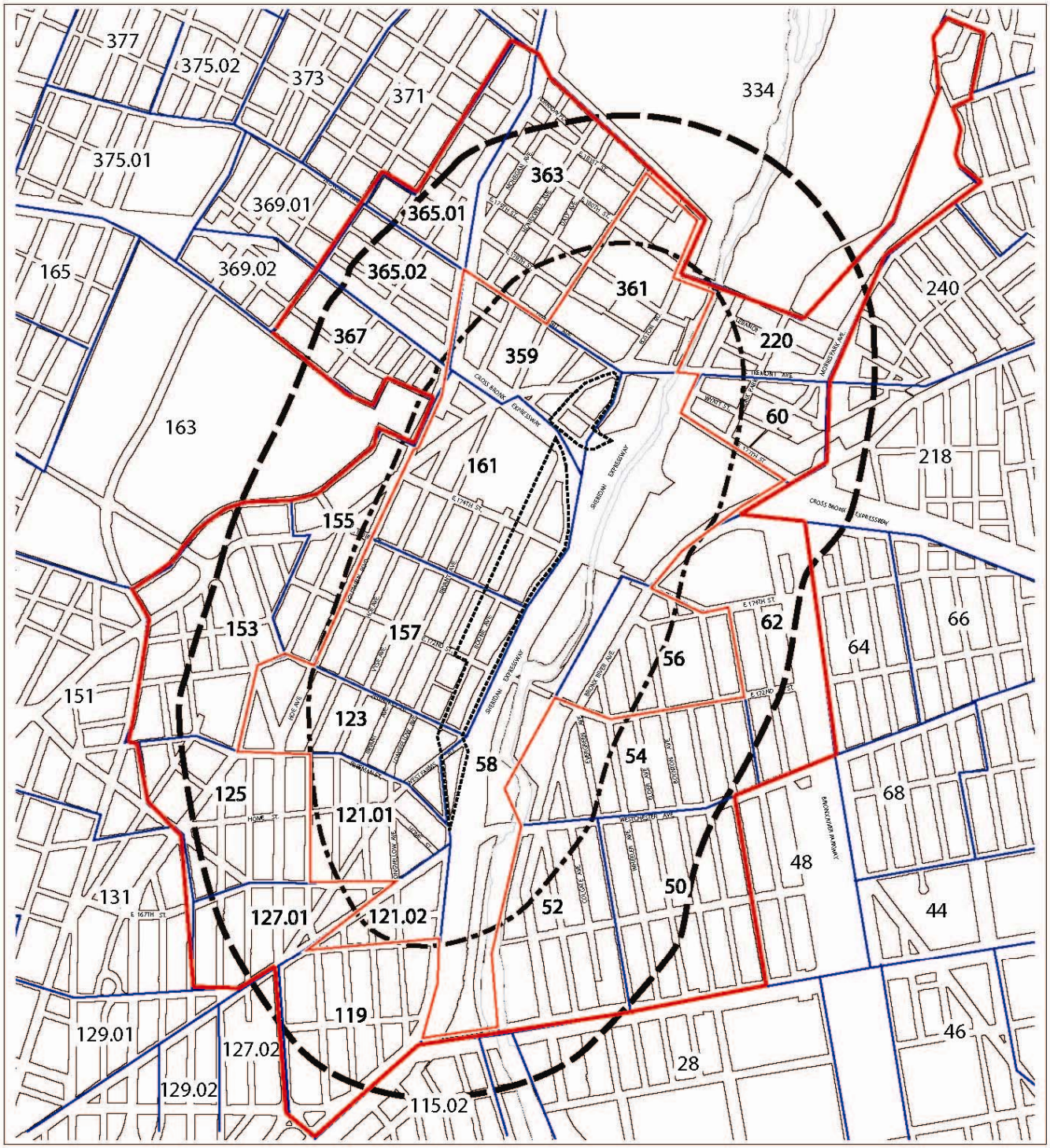
A significant adverse open space impact may occur if a Proposed Action would result in a direct displacement or alteration of an existing open space, unless the Proposed Action would provide a comparable replacement within the study area and there is no net loss of publicly accessible open space. A significant adverse impact may also occur if a Proposed Action would reduce the 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.

Residential Study Area Definition

For a residential or predominantly residential neighborhood, the *CEQR Technical Manual* suggests a study area with a radius of a half mile, which is considered to be the maximum distance that an average person will walk to reach a park or playground. The study area is then adjusted to conform to census tract boundaries. In general, if at least half a census tract is located within the half mile radius, the entire tract is included in the study area, and if less than half the tract is within a half mile of the site, the entire tract is excluded. As shown in Figure D-1, a half-mile radius drawn around the proposed rezoning area extends north into Bronx Park, east to the Bronx River Parkway, south to the Garrison Avenue, and west to Prospect Avenue. The study area has been adjusted to align with census tract boundaries, including all census tracts that have 50 percent or more of their area within the half-mile radius. The adjusted study area therefore includes Bronx County census tracts 50, 52, 54, 56, 58, 60, 62, 119, 121.01, 121.02, 123, 125, 127.01, 153, 155, 157, 161, 220, 359, 361, 363, 365.01, 365.02, and 367. The study area extends north into Bronx Park South and East 180th Street, with a narrow branch reaching along the train tracks bordering Bronx Park East up to Sagamore Street. The study area extends east to a jagged boundary that includes portions of Morris Park, Metcalf, Westchester, and Manor Avenues; south to the Bruckner Expressway; and west to Prospect Avenue and parts of Crotona Park.

Non-Residential Study Area Definition

For a non-residential open space analysis, the *CEQR Technical Manual* suggests a study area with a radius of a quarter mile, adjusted to conform to census tract boundaries. As shown in Figure D-1, a quarter-mile radius drawn around the proposed rezoning area extends north to East 180th Street, east to the area one block east of Bronx River Avenue, south to East 165th Street, and west to Hoe Avenue. The adjusted study area includes nine census tracts: 56, 58, 121.01, 121.02, 123, 157, 161, 359, and 361. The study area extends north to Bronx Park South and East 180th Street, east to Bronx River Avenue, Stratford Avenue, and the Bronx River, south to the Bruckner Expressway, and west to Hoe Avenue. Only passive open spaces are analyzed in the non-residential analysis, since workers tend to place demand only on passive open spaces.



CROTONA PARK EAST / WEST FARMS ZONING MAP AMENDMENT

Bronx, New York

EXISTING CONDITIONS

Residential Study Area Demographics

As shown in this section, the 24 census tracts within the half-mile open space study area have an estimated current population of 92,179 residents and 12,622 workers, for a total combined population of 104,801 persons. This analysis assumes that residents and workers are distinct populations and that no one both lives and works in the study area. Though this could double-count the daily user population, it also provides a more conservative analysis.

Visitors can increase the demand for open space during the time they spend in the area, and in some parts of the city their numbers are substantial enough to be taken into consideration with regard to daytime demand for passive open space. There is one significant visitor destination within a half mile of the proposed rezoning area, the Bronx Zoo. However, because the Zoo itself is a passive open space (though not publicly accessible for the purposes of this analysis, because it requires a fee for entry on all days but Wednesday), and because these visitors tend to spend time only at the Zoo, they do not increase demand for public open space in the study area.

Residential Population

At the time of the 2000 census, the study area was home to 82,609 residents (see Table D-1). Since the 2000 census, there has been a significant amount of residential and commercial development in the study area. The increase in study area population between 2000 and 2010 was estimated through use of the Department of City Planning's PLUTO database. The database, which can be sorted by block number, provides information about every tax lot in the city, including location, number of residential units, floor area by use, and the "year built," which is the year in which the building permit was issued. Projects with permits issued from 1999 onwards were counted, and they represent projects completed through early 2010. Table D-2 shows the development that has occurred in the study area, by census tract and by land use, since 2000. Most of the new development occurred in three clusters: in contiguous Tracts 359, 363,365.01, and 365.02 in the northwest corner of the study area, north of the Cross Bronx Expressway; in contiguous Tracts 123, 125, and 153 southeast of Crotona Park; and in a single large development in Tract 119 at the southern end of the study area. Almost no new development has occurred east of the Sheridan Expressway.

The information shows that 2,636 new housing units have been completed since 2000. Assuming that all of the new units are occupied, that older residential units have not been lost, and using the 2000 study area average household size of 3.00 persons, it is estimated that the study area population has increased by 9,570 residents to 92,179 persons (see Table D-3).

Table D-1: Residential Study Area 2000 Census Population

Census Tract	Residential Population	Worker Population
50	10,740	675
52	2,186	555
54	5,550	545
56	2,710	225
58	5	390
60	1,081	175
62	6,399	165
119	4,793	830
121.01	2,878	175
121.02	1,619	280
123	2,919	635
125	2,271	290
127.01	2,309	535
153	2,962	485
155	2,779	975
157	3,571	620
161	4,755	785
220	1,445	1,205
359	1,346	350
361	6,283	460
363	6,571	435
365.01	3,421	210
365.02	1,793	120
367	2,223	310
Total	**82,609**	**11,430**

Sources: *2000 Census; 2000 Census Journey to Work Data*

Table D-2: Residential Study Area Development Since 2000

	Residential		Office		Retail	
Census Tract	DU's	Residents	FA (sf)	Workers	FA (sf)	Workers
50	96	288	0	0	4,934	15
52	0	0	0	0	0	0
54	0	0	0	0	0	0
56	0	0	0	0	0	0
58	0	0	0	0	0	0
60	0	0	0	0	5,780	17
62	27	81	0	0	0	0
119	303	909	4,355	17	13,560	41
121.01	72	216	1,540	6	0	0
121.02	0	0	0	0	0	0
123	455	1,365	0	0	27,180	82
125	448	1,344	8,092	32	10,384	31
127.01	54	162	32,520	130	0	0
153	366	1,098	1,500	6	7,500	23
155	16	48	19,500	78	13,500	41
157	45	135	0	0	0	0
161	0	0	0	0	134,000	402
220	180	540	0	0	0	0
359	199	597	6,000	24	4,277	13
361	9	27	0	0	0	0
363	388	1,164	16,443	66	16,613	50
365.01	188	564	0	0	12,516	38
365.02	245	735	0	0	0	0
367	99	297	20,200	81	0	0
Total	**3,190**	**9,570**	**110,150**	**441**	**250,244**	**751**

Note: Based on the study area's average HH size of 3.00 and 4 office workers/1000 sf and 3 retail employees/1000 sf

***Source**: NYC DCP PLUTO Database*

Table D-3: Residential Study Area Current Population

	Residents	Workers
2000 Census Population	82,609	11,430
New Population Since 2000	9,570	1,192
Total Population	92,179	12,622

***Source**: 2000 Census, NYC DCP PLUTO Database 10v2*

Residential Age Distribution

The age distribution of a population determines the way an area's open spaces are used and exhibits the need for a variety of recreational facilities. As described in the *CEQR Technical Manual*, children 4 years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Children ages 5 through 9 use traditional playgrounds with play equipment suitable for school-age children, as well as grassy and hard-surfaced open spaces, which are important for ball playing, running, and skipping rope. Children ages 10 through 14 use playground equipment, court spaces, and ball fields. Teenagers and young adults (ages 15 to 19) tend to use court facilities such as basketball and field sports such as football or soccer. Adults (ages 20 to 64) continue to use court facilities and fields for sports, as well as more individualized recreation, such as rollerblading, biking, and jogging, which require bike paths, esplanades, 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 may participate. Senior citizens, age 65 and over, engage in active recreation such as handball, tennis, gardening, and swimming, as well as recreational facilities that require passive facilities.

According to 2000 census data, of the study area's 82,609 residents, 30 percent were under the age of 15 (divided pretty much equally among the age groups four and younger, 5 to 9, and 10 to 14), 8 percent were adolescents aged 15 to 19, 55 percent were adults from 20 to 64 years old, and 7 percent were 65 or older. It is assumed that the study area age distribution has not changed since the 2000 census, and the same percentage breakdown was applied to the estimated current population. The results are presented in table D-4.

Table D-4: Residential Study Area Age Distribution

	Residential Study Area		Bronx	New York City
Age Category	Persons	Percent	Percent	Percent
4 and Younger	8,909	9.7%	8.2%	6.8%
5 to 9	9,885	10.7%	9.0%	7.0%
10 to 14	8,607	9.3%	8.1%	6.6%
15 to 19	7,728	8.4%	7.6%	6.5%
20 to 64	50,691	55.0%	57.0%	61.4%
65 and Older	6,359	6.9%	10.1%	11.7%
Total	92,179	100.0%	100.0%	100.0%

Notes: Current age distribution is based on percentage age distribution for the same area from the 2000 census.
Sources: U.S. Census and NYC PLUTO Database 10v2

As compared to the Bronx and New York City, the study area has a higher ratio of young people to adults. For example, approximately 20 percent of the study area population is under 10 years old, whereas approximately 17 percent of the Bronx population falls into this category, and only approximately 14 percent of the New York City population. The population of senior citizens is lower – 6.9 percent in the study area, as compared to 10.1 percent in the Bronx and 11.7 percent in New York City.

Worker Population

In addition to the residential population, workers who are employed in the study area are potential daytime users of public open spaces. According to the 2000 Census Journey to Work data, 11,430 workers were employed in the half-mile residential study area (including persons working from home) at the time of the 2000 census.

Since the 2000 census, there has been additional commercial development in the study area. The increase in study area population between 2000 and 2010 was estimated through use of the Department of City Planning's PLUTO database. The database, which can be sorted by block number, provides information about every tax lot in the city, including location, number of residential units, floor area by use, and the "year built," which is the year in which the building permit was issued. Projects with permits issued from 1999 onwards were counted, and they represent projects completed through early 2010. Table D-2 shows the development that has occurred in the study area, by census tract and by land use, since 2000.

The data show that 110,150 square feet of office floor area and 250,244 square feet of retail floor area have been developed in the study area since 2000. Assuming four office workers per 1,000 square feet of office floor area and three retail workers per 1,000 square feet of retail floor area, in the study area there has been an increase of 441 office workers and 751 retail workers since 2000, for a total of 12,622 study area workers.

Non-Residential Study Area Demographics

Residential Population

The 9 census tracts within the quarter-mile open space study area were home to 26,086 residents as of the 2000 census (see Table D-5).

Table D-5: Non- Residential Study Area 2000 Census Population

Census Tract	Residential Population	Worker Population
56	2,710	225
58	5	390
121.01	2,878	175
121.02	1,619	280
123	2,919	635
157	3,571	620
161	4,755	785
359	1,346	350
361	6,283	460
Total	**26,086**	**3,920**

Sources: *2000 Census; 2000 Census Journey to Work Data*

As is discussed above under Residential Study Area Demographics, there has been a considerable amount of development in the area since the 2000 census. Table D-6 shows the breakdown of new development by use and by census tract. Assuming that all of the new residential units are occupied, that older residential units have not been lost, and using the 2000 average household size of 3.00 persons, it is estimated that the study area population has increased by 2,340 residents. The current residential population is therefore estimated to be 28,426 (see Table D-7).

The age distribution of the study area residents is shown in Table D-8, and is nearly identical to the age distribution of the residential study area population, with 30 percent under the age of 15 (divided pretty much equally among the age groups four and younger, 5 to 9, and 10 to 14), 9 percent were adolescents aged 15 to 19, 54 percent were adults from 20 to 64 years old, and 7 percent were 65 or older.

Table D-6: Non-Residential Study Area Development Since 2000

	Residential		Office		Retail	
Census Tract	DU's	Residents	FA (sf)	Workers	FA (sf)	Workers
56	0	0	0	0	0	0
58	0	0	0	0	0	0
121.01	72	216	1,540	6	0	0
121.02	0	0	0	0	0	0
123	455	1,365	0	0	27,180	82
157	45	135	0	0	0	0
161	0	0	0	0	134,000	402
359	199	597	6,000	24	4,277	13
361	9	27	0	0	0	0
Total	**780**	**2,340**	**7,540**	**30**	**165,457**	**497**

***Source**: NYC DCP PLUTO Database*

Worker Population

According to the 2000 Census Journey to Work data, 3,920 workers are employed in the quarter-mile study area. As shown in Table D-6, the PLUTO data show that 7,540 square feet of office floor area and 165,457 square feet of retail floor area have been developed in the study area since 2000. Assuming four office workers per 1,000 square feet of office floor area and three retail workers per 1,000 square feet of retail floor area, in the study area there has been an increase of 30 office workers and 497 retail workers since 2000, for a total of 4,447 study area workers.

Table D-7: Non- Residential Study Area Current Population

	Residents	Workers
2000 Census Population	26,086	3,920
New Population Since 2000	2,340	527
Total Population	28,426	4,447

Table D-8: Non-Residential Study Area Age Distribution

	Non-Residential Study Area		Bronx	New York City
Age Category	Persons	Percent	Percent	Percent
4 and Younger	2,601	9.2%	8.2%	6.8%
5 to 9	3,085	10.9%	9.0%	7.0%
10 to 14	2,782	9.8%	8.1%	6.6%
15 to 19	2,492	8.8%	7.6%	6.5%
20 to 64	15,371	54.1%	57.0%	61.4%
65 and Older	2,094	7.4%	10.1%	11.7%
Total	28,426	100.0%	100.0%	100.0%

Notes: Current age distribution is based on percentage age distribution for the same area from the 2000 census.

Sources: U.S. Census and NYC PLUTO Database 10v2

It is conservatively assumed that there is no overlap between the residential and worker population, though it is likely that some study area residents work near their homes. There are no significant visitor destinations within the quarter-mile study area.

Existing Open Space Inventory

Open space resources with the study area were surveyed in April, 2009, in June and July, 2009, and again in September, 2010. The open space resources within the half-mile residential study area and the quarter-mile non-residential study area are shown in Figure D-2 and identified in Tables D-9 and D-10. The residential study area contains an estimated 54.47 acres of publicly accessible open space, of which approximately 35.28 acres are devoted primarily or entirely to passive uses and 19.18 acres are devoted to active uses. The non-residential study area contains an estimated 9.22 acres of publicly accessible passive open space.

There is one publicly accessible open space located within the proposed rezoning area. Boone Playground (map number 1) occupies the triangular block bounded by Boone Avenue, West Farms Road, and a Sheridan Expressway exit ramp (block 3012). Amenities at the 1.2 acre park include playground equipment, paved play areas, grassy areas, benches, and trees. There is one other piece of mapped parkland within the proposed rezoning area, a 0.03 acre, 5 foot wide strip of land between West Farms Road and Boone Avenue (at the northern end of block 3015) that is known as Boone Slope. Boone Slope is a fenced-in, unimproved lot, overgrown with trees and other vegetation. It is not publicly accessible and is not considered a public open space resource.

Crotona Park (map number 18) covers an area of 127.5 acres and is located on the western edge of the half-mile radius. Roughly one-sixth of the park is located within a half mile of the proposed rezoning area; this is therefore the only portion of the park that is accounted for in the quantitative analysis. In the part of the park that is closest and most accessible to study area residents, there are four handball courts, four and a half basketball courts, playground equipment, paved play areas, and grassy areas with landscaping and walkways. Elsewhere in the park, there are 20 tennis courts, 12 handball courts, playground equipment, five ballfields, playground equipment, paved play areas, and six basketball backboards. There is also a 3.3 acre lake, a 300-foot-long pool, and a nature center. There are grassy lawns, landscaping, and walkways throughout the park. An ecological restoration of the Park's Indian Lake was completed in summer 2009. Along with the restoration, new walkways, shade trees, benches, picnic tables, barbecue areas, drinking fountains, and bicycle racks were placed near the lake. At this time, the Park's nature center also underwent a renovation. As a whole, Crotona Park is in good condition and is highly utilized but not overcrowded.

Concrete Plant Park (map number 26), which was completed in 2009, is a new open space just south of the proposed rezoning area. The approximately 2.7 acre park is bounded by Westchester Avenue, Bruckner Boulevard, the Amtrak railroad, and the Bronx River. It lies on the west bank of the river and includes a canoe/kayak launch, a waterfront promenade, a reading circle, and benches. The linear park has entrances at both Westchester Avenue and Bruckner Boulevard. As part of the Bronx River Greenway, the park supports and links other riverside open spaces throughout the borough.



Proposed Rezoning Area
Existing Open Space Resource
Future Open Space Resource
Residential Study Area
Half-Mile Radius
Non-Residential Study Area

CROTONA PARK EAST / WEST FARMS ZONING MAP AMENDMENT

Bronx, New York

Table D-9: Existing Open Space Resources, Residential Study Area

Map No.	Name	Location	Amenities	Acreage			Condi-tion*	Utiliza-tion**
				Passive	Active	Total		
1	Boone Playground	Block bounded by Boone Ave., West Farms Rd., & Sheridan Expwy exit ramp	Playground, seating, paved play area, lawn	0.66	0.54	1.20	A	1
2	Freeman Triangle	Intersection of West Farms Rd., Freeman St., & Longfellow Ave.	Seating, landscaping	0.02	0.00	0.02	A	1
3	Rock Garden Park	West side of Longfellow Ave. bet. E 173rd & 174th Sts.	Playground, seating, walkways	0.74	0.18	0.92	A	1
4	Angie Lee Gonzales Garden	North side of E. 174th St. at Bryant Ave.	Seating, lawn, gardens	0.13	0.00	0.13	U †	1
5	Eae J Mitchell Park	North of E. 174th St. at Longfellow Ave.	Seating, game tables, paved play area	0.18	0.00	0.18	A	2
6	Seabury Park	East side of Southern Blvd. bet. E. 173rd & 174th Sts.	Seating, gardens, barbecues, basketball court	0.13	0.06	0.19	A	1
7	Schoolyard to Playground Site: PS 195	E 172 St. bet. Manor Ave. & Ward Ave.	Paved play area	0.00	0.43	0.43	A †	2
8	West Farms Square	Boston Rd @ E Tremont Ave.	Seating	0.09	0.00	0.09	A †	3
9	E 174th St Playground	North side of E. 174th St. at Manor Ave.	Seating, play equipment, pool	0.00	1.00	1.00	A	3
10	Community Garden (Non-DPR)	Harrod Ave bet. E 174 St. & Cross Bronx Expwy.	Landscaping, seating area	0.17	0.00	0.17	A †	1
11	Vidalia Park	South side of E. 180th St between Daly & Vyse Aves.	Playground, seating, water feature, lawn, handball, basketball, walkways	1.64	0.50	2.14	U	2
12	Daly Avenue Hispanos Unidos	NW corner of Honeywell & E 179th	Seating, gardens, barbecues, picnic tables	0.17	0.00	0.17	A †	3
13	Mohegan Triangle	SW corner of Mohegan & E 179th	Playground	0.05	0.05	0.10	A †	1

Continued on next page

Table D-9: Existing Open Space Resources, Residential Study Area (continued)

Map No.	Name	Location	Amenities	Acreage			Condi-tion*	Utiliza-tion**
				Passive	Active	Total		
14	Volky Garden	Hornaday Pl. bet. Mohegan Ave. & Crotona Pkwy	Garden, seating	0.11	0.00	0.11	A †	2
15	Mapes Avenue Garden	South side 181st between Mapes & Crotona Pkwy	Seating, gardens, barbecues	0.15	0.00	0.15	A †	2
16	Miracle Garden	Marmion Ave bet. Elsemere Pl. & Fairmount Pl.	Seating, barbecues	0.11	0.00	0.11	A †	1
17	Fairmount Playground	SE corner of Prospect Ave. & Fairmount Pl.	Seating, game tables	0.47	0.00	0.47	A	1
18	Crotona Park	Bounded by Crotona Park N, Crotona Park E, Crotona Park S, Fulton Ave	Seating, lawn, Walkways, bike paths	16.25	5.00	21.25	A	2
19	Model T Senior Citizen's Garden (Non-DPR)	East side of Bristow St. bet. Jennings and Freeman Sts.	Seating, garden	0.26	0.00	0.26	A †	2
20	CS 134 Community Improvement Garden	West side of Bristow St. bet. Jennings and Freeman Sts.	Community garden	0.11	0.00	0.11	A †	1
21	Field of Dreams Park	SW corner of East 167th St. & Southern Blvd.	Basketball	0.00	0.17	0.17	A	2
22	Paradise on Earth Garden	NW corner of Fox & E 167th Sts.	Seating, gardens	0.30	0.00	0.30	A †	1
23	Tiffany Playground	East side of Tiffany St. bet. E 165th and 167th Sts.	Playground, handball, basketball	0.00	1.21	1.21	A	2
24	Colgate Close	Bruckner Blvd. bet Close & Colgave Aves.	Seating, playground, water feature, basketball, ballfields	0.19	1.68	1.87	A	2
25	Crotona Malls	Crotona Parkway from E. 176th St to Bronx Park South	Seating, walkway, game tables	8.75	0.00	8.75	A †	1
26	Concrete Plant Park	West side of Bronx River between Westchester Ave. and Bruckner Blvd.	Canoe/kayak launch, waterfront promenade, seating	2.32	0.41	2.73	A †	2

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Table D-9: Existing Open Space Resources, Residential Study Area (continued)

Map No.	Name	Location	Amenities	Acreage			Condi-tion*	Utiliza-tion**
				Passive	Active	Total		
27	River Park (Bronx Park)	Northeast corner of E. 180th St and Boston Rd	Playground equipment, seating, picnic tables, walkways	1.68	0.42	2.10	A †	3
28	Benjamin Gladstone Square	Bounded by Hoe Ave., Westchester Ave., & W. Farms Rd.	Seating, landscaping	0.20	0.00	0.20	A	1
29	Bryant Triangle	Bounded by E 167 Sy., Bryant Ave., & Westchester Ave.	Seating, landscaping	0.17	0.00	0.17	A	2
30	Longfellow Gardens	Longfellow Ave., Lowell St., E 165 St.	Seating, landscaping	0.37	0.00	0.37	A †	2
31	Printer's Park	Hoe Ave. bet Aldus St. & Westchester Ave.	Playground equipment, water feature, seating	0.27	1.07	1.34	A †	2
32	Hoe Garden	Hoe Ave. bet Aldus	Garden	0.23	0.00	0.23	A †	2
33	Lyons Square Playground	Aldus St. to Bruckner Blvd. bet Bryant Ave. & Longfellow Ave.	Playground equipment, water feature, basketball	0.00	1.32	1.32	A	3
34	Schoolyard to Playground Site: HS 690/692	Manor Ave bet. E 172 St. & E. 173 St.	Ballfield	0.00	5.30	5.30	A †	2
			Total Acres	**35.28**	**19.18**	**54.47**		

Source: Stantec field surveys, NYC Department of Parks & Recreation

** A=Acceptable; U=Unacceptable. Based on most recent DCP inspections and site visits.*

† Denotes parks that were not inspected by DPR, and evaluated independently via field surveys

***Utilization: 1=Low; 2=Moderate; 3=Heavy, as defined in the 2010* CEQR Technical Manual

Note: The open spaces numbered 10, 15, 20, 21, and 22 are community gardens with limited public access, and are included for informational purposes only. They are considered only in the qualitative analysis.

Table D-10: Existing Open Space Resources, Non-Residential Study Area

Map No.	Name	Location	Features	Acreage			Condi-tion*	Utiliza-tion**
				Passive	Active	Total		
1	Boone Playground	Block bounded by Boone Ave., West Farms Rd., & Sheridan Expwy exit ramp	Playground, seating, paved play area, lawn	0.66	0.54	1.20	A	1
2	Freeman Triangle	Intersection of West Farms Rd., Freeman St., & Longfellow Ave.	Seating, landscaping	0.02	0.00	0.02	A	1
3	Rock Garden Park	West side of Longfellow Ave. bet. E 173rd & 174th Sts.	Playground, seating, walkways	0.74	0.18	0.92	A	1
4	Angie Lee Gonzales Garden	North side of E. 174th St. at Bryant Ave.	Seating, lawn, gardens	0.13	0.00	0.13	U †	1
5	Eae J Mitchell Park	North of E. 174th St. at Longfellow Ave.	Seating, game tables, paved play area	0.18	0.00	0.18	A	2
6	Seabury Park	East side of Southern Blvd. bet. E. 173rd & 174th Sts.	Seating, gardens, barbecues, basketball court	0.13	0.06	0.19	A	1
8	Triangle (Non-DPR)	Boston Rd @ E Tremont Ave.	Seating	0.09	0.00	0.09	A †	3
25	Crotona Malls***	Crotona Parkway from E. 176th St to Bronx Park South	Seating, walkway, game tables	2.92	0.00	2.92	A †	1
26	Concrete Plant Park	West side of Bronx River between Westchester Ave. and Bruckner Blvd.	Canoe/kayak launch, waterfront promenade, seating	2.32	0.41	2.73	A †	2
27	River Park (Bronx Park)	Northeast corner of E. 180th St and Boston Rd	Playground equipment, seating, picnic tables, walkways	1.68	0.42	2.10	A †	3
28	Benjamin Gladstone Square	Bounded by Hoe Ave., Westchester Ave., & W. Farms Rd.	Seating, landscaping	0.20	0.00	0.20	A	1

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Table D-10: Existing Open Space Resources, Non-Residential Study Area (continued)

Map No.	Name	Location	Features	Acreage			Condi-tion*	Utiliza-tion**
				Passive	Active	Total		
29	Bryant Triangle	Bounded by E 167 Sy., Bryant Ave., & Westchester Ave.	Seating, landscaping	0.17	0.00	0.17	A	2
			Totals	**9.22**	**1.61**	**10.84**		

Source: Stantec field surveys, NYC Department of Parks & Recreation

** A=Acceptable; U=Unacceptable. Based on most recent DCP inspections and site visits*

† Denotes parks that were not inspected by DPR, and evaluated independently via field surveys

***Utilization: 1=Low; 2=Moderate; 3=Heavy, as defined in the 2010* CEQR Technical Manual

**** Approximately one-third of the area of Crotona Malls is located within the quarter-mile, non-residential study area.*

Two school playgrounds within the study area are part of DPR's Schoolyards to Playgrounds program, which places school playgrounds under the joint jurisdiction of DPR and the Department of Education and opens schoolyards to the public after school, on weekends, and during school breaks. HS 690/692 (map number 34), on Manor Avenue between East 172nd and East 174th Streets, has a large ballfield. PS 195 (map number 7), on Manor Avenue between Westchester Avenue and 172nd Street, has a play area with basketball hoops.

Other open spaces within the study area include Vidalia Park (map number 11), which occupies much of the block bounded by Vyse Avenue, East 179th Street, Daly Avenue, and East 180th Street. The 2.14 acre park contains two basketball courts, two handball courts, playground equipment, and a large grassy play area. Rock Garden Park (map number3) is a 0.92 acre open space located on the west side of Longfellow Avenue between East 173rd and 174th Streets. The park occupies a lot containing large rock formations, on and around which are found seating areas, playground equipment, a basketball court, walkways, and creative landscaping, including a small waterfall. The East 174th Street Playground (map number 9), a 1.0-acre playground in the eastern portion of the study area, has playground equipment, paved play areas, and a swimming pool. Colgate Close (map number 24) is a 1.87-acre park in the southern portion of the study area, occupying a large part of the block bounded by Watson Avenue, Colgate Avenue, Bruckner Boulevard, and Close Avenue. Amenities include playground equipment, basketball backboards, ballfields, and a water feature. Tiffany Playground (map number 23), on Tiffany Street between East 165th and 167th Streets, is a 1.21 acre park with playground equipment, handball courts, and basketball backboards. Printer's Park (map number31) is a 1.34 acre open space on Hoe Avenue between Aldus Street and Westchester Avenue, and provides playground equipment, a water feature, and seating areas. The nearby Lyons Square Playground (map number 33), 1.32 acres in size, provides similar amenities as well as a basketball court.

The smallest parks in the study area are generally used primarily for passive recreation. Two small parks are located on the block bounded by Vyse Avenue, East 174th Street, Boone Avenue, and the Cross Bronx Expressway, which is occupied primarily by a large shopping center, Eae J Mitchell Park and Seabury Park. Eae J Mitchell Park (map number 5) is located on the north side

of East 174th Street at Longfellow Avenue. The 0.18 acre park contains seating areas, game tables, and landscaping. Seabury Park (map number 6), a 0.2 acre park on Southern Boulevard, provides seating, gardens, and barbecues. Fairmount Playground (map number 17), at the southeast corner of Prospect Avenue and Fairmount Place, provides game tables, a paved play area, and benches. Field of Dreams Park (map number 21), at the southwest corner of East 167th Street and Southern Boulevard, consists of a basketball court with benches and plantings. Benjamin Gladstone Square (map number 28), bounded by Hoe Avenue, Westchester Avenue, and West Farms Road, provides a landscaped seating area, and so does Bryant Triangle (map number 29), which is bounded by East 167th Street, Bryant Avenue, and Westchester Avenue. Longfellow Gardens (map number 30) is a passive open space on Longfellow Avenue between Lowell and East 165th Streets and also provides a landscaped seating area. Hoe Garden (map number 3) is a small active open space, providing a paved play area with handball.

There are several community gardens in the study area that are open to the public during specified hours. The most highly utilized community gardens in the study area include Daly Avenue Hispanos Unidos (map number 12), Mapes Avenue Garden (map number 15), Miracle Garden (map number 16), Paradise on Earth Garden (map number 22), and Angie Lee Gonzales Garden map number 4), many of which offer amenities like barbecues and picnic tables in addition to gardens and seating. These gardens are frequently open all week long, longer than their specified hours. The other community gardens in the study area are less highly utilized and provide a quiet respite from the busy streets.

Bronx Park extends north from the northern portion of the half mile radius and covers an area of 718 acres. A 2.1-acre portion of the park known as River Park is (map number 27) located within the half mile radius and thus within the residential study area. River Park is located at the northeast corner of Boston Road and East 181st Street. This popular riverfront open space includes amenities such as playground equipment, seating, and scenic walkways along the river. Aside from the River Park section, the only area of the park that falls within the half-mile radius is the Bronx Zoo. The zoo requires a fee for admission and is thus not considered a publicly accessible open space. River Park is the only publicly-accessible part of Bronx Park that falls within a half-mile radius of the area to be rezoned. While the vast majority of Bronx Park is accessible to the public free of charge, it also contains the Bronx Zoo and the Bronx Botanical Gardens. Both the Zoo and the Gardens allow free admission on Wednesdays, an admission fee is required for entrance throughout the rest of the week. Though it is not included in the quantitative inventory, the Bronx Zoo and the rest of Bronx Park nonetheless supplement the other open spaces available to study area residents and visitors. The other publicly accessible portions of Bronx Park are a valuable resource for residents throughout the area, and include a wide range of amenities and countless opportunities for recreational activities.

School playgrounds that are not under the joint jurisdiction of the Department of Parks and Recreation and the Department of Education, and play areas associated with day care centers were not included in the inventory, since they are not available to the public at large. The West Farms Soldiers Cemetery, located in the northern portion of the study area, was not included in the inventory because it is not accessible to the general public on a regular basis. These resources nonetheless supplement the inventory and provide additional passive or active recreational activities for some members of the community.

Quantitative Analysis of Adequacy

The adequacy of an area's open space and recreational resources is assessed both quantitatively and qualitatively. The quantitative assessment addresses the ratio of open space acreage to user population. According to the *CEQR Technical Manual*, to be considered reasonably well served,

an area should have at least 1.5 acres of open space per thousand residents (which a citywide survey had indicated is the median of the ratios for the city's community districts). For planning purposes, the City's planning goal is a minimum of 2.5 acres, with a balance of 80 percent active open space and 20 percent passive open space (2.0 acres of active open space per 1,000 residents and 0.5 acres of open space per 1,000 residents). This is not an impact threshold, as it is recognized that an open space ratio of 2.5 acres per 1,000 residents may not be appropriate or feasible in all parts of the City. For worker populations, the *CEQR Technical Manual* states that the optimal open space ratio is 0.7.85 acres of passive open space per 1,000 users.

Residential Study Area

The residential study area contains a total of 54.47 acres of usable public open space, serving approximately 92,179 residents in the half-mile residential study area. This yields a ratio of 0.59 acres of improved open space per 1,000 residents, less than half of the 1.5 acres per 1,000 residents benchmark and well below the City's planning goal of 2.5 acres. Of the 54.47 acres, 19.18 acres (35 percent) are dedicated to passive uses and 35.28 acres (65 percent) are dedicated to active uses. The ratios for passive and active open space are 0.21 and 0.38 acres per 1,000 persons, respectively. (See Table D-11.)

Table D-11: Analysis of Adequacy – Existing Conditions, Residential Study Area

		Open Space Acreage			Open Space Ratios (Acres/1,000 persons)			DCP Open Space Guidelines (Acres/1,000 persons)		
	Population	Passive	Active	Total	Passive	Active	Total	Passive	Active	Total
Residents	92,179	35.28	19.18	54.47	0.38	0.21	0.59	0.50	2.00	2.50
Combined Residents and Non-Residents	104,801				0.34	N/A	N/A	0.50	N/A	N/A

Source: 2000 Census (SF-1 and Journey to Work Data)

According to the *CEQR Technical Manual*, workers tend to use passive open space during the workday. Taking the worker population into account, the total number of daytime open space users is 104,801, yielding a combined passive open space ratio of 0.34.

Non-Residential Study Area

The non-residential study area contains 12 of the 34 open spaces identified within the half-mile radius of the rezoning area, consisting of 9.22 acres of passive open space. These open spaces serve an estimated 4,447 workers, with a total daytime population of 32,873. As shown in Table D-12, this yields a ratio of 2.07 acres of passive open space per 1,000 nonresidents, or 0.28 acres of passive open space per 1,000 total daytime users. DCP's planning goal for passive open space is 0.15 acres of passive open space per 1,000 users, and under existing conditions, the open space ratio surpasses this goal.

Table D-12: Analysis of Adequacy – Existing Conditions, Non-Residential Study Area

	Population	Open Space Acreage			Open Space Ratios (Acres/1,000 persons)			DCP Open Space Guidelines (Acres/1,000 persons)		
		Passive	Active	Total	Passive	Active	Total	Passive	Active	Total
Workers	4,447	9.22	N/A	N/A	2.07	N/A	N/A	0.15	N/A	N/A
Combined Residents and Non-Residents	32,873				0.28	N/A	N/A	0.15	N/A	N/A

Qualitative Analysis of Adequacy

Residential Study Area

In addition to the quantitative analysis, the *CEQR Technical Manual* also recommends a consideration of qualitative factors in an analysis of potential open space impacts. The *Manual* also states that the city guidelines for open space ratios are not feasible for many areas of the city and are not considered impact thresholds. Qualitative factors include the availability of nearby destination resources, the beneficial effects of new open space resources provided by a project, the comparison of projected open space ratios with established city guidelines, and the characteristics of the user population.

Though the existing open space ratio is below what is recommended by DCP, there are numerous outdoor recreational resources in the project area that supplement the public open spaces considered in the Quantitative Analysis of Adequacy. Much of the residential study area is within a ¼-mile distance of Crotona Park, and therefore is considered well-served by open space, according to *CEQR Technical Manual Guidelines*. (The Mayor's Office of Environmental Coordination maintains online maps outlining the areas identified as under- or well-served by open space for each community district in the city.)

As shown in Table D-4 (on page 2D-4), approximately 9.7 percent of the residential study area population consists of children 4 years old and younger. This percentage is much higher than the percentage of residents within this age cohort in New York City (6.8 percent) and higher than that of Bronx residents (8.2 percent). Typically, children 4 years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Numerous facilities in the study area offer amenities appropriate to this age group, including Printer's Park, Lyon's Square Playground, parts of Crotona Park, Mohegan Triangle, Boone Playground, Colgate Close, and Rock Garden Park.

Approximately 10.7 percent of the residential study area population consists of children aged 5 to 9. This percentage is much higher than the percentage of residents within this age cohort in New York City (7.0 percent) and higher than that of Bronx residents (10.7 percent). Children ages 5 through 9 use traditional playgrounds with play equipment suitable for school-age children, as well as grassy and hard-surfaced open spaces, which are important for ball playing, running, and skipping rope. Facilities in the study area offering amenities appropriate to this age group include Printer's Park, the East 174th St. Playground , Lyon's Square Playground, parts of Crotona Park, Mohegan Triangle, Boone Playground, Rock Garden Park, the PS 195 Schoolyard, Colgate Close, Tiffany Playground, Fairmount Playground, and Vidalia Park.

Approximately 17.7 percent of the residential study area population consists of children, teenagers, and young adults aged 10 to 19. This percentage is much higher than the percentage of residents within this age cohort in New York City (approximately 13.1 percent) and higher than that of Bronx residents (15.7 percent). Children ages 10 through 14 use playground equipment, court spaces, and ball fields. Teenagers and young adults (ages 15 to 19) tend to use court facilities such as basketball and field sports such as football or soccer. As with the younger age groups, there is a wide variety of open spaces that serve this age group. Facilities include Rock Garden Park, Eae J Mitchell Park, Seabury Park, the East 174th St. Playground, Vidalia Park, Fairmount Playground, Crotona Park, Field of Dreams Park, Tiffany Playground, Colgate Close, Concrete Plant Park, Printer's Park, Hoe Garden, Lyons Square Playground, and the HS 690/692 Schoolyard.

The senior population (ages 65 and above) makes up the remaining 6.9 percent of the residential study area population. This percentage is much lower than the percentage of residents within this cohort in New York City (11.7 percent) and lower than that of Bronx residents (10.1 percent). Senior citizens engage in active recreation such as handball, tennis, gardening, and swimming, as well as recreational facilities that require passive facilities. Facilities in the study area appropriate to this age group include Freeman Triangle, the triangle at Boston Road and East Tremont Avenue, Daly Avenue Hispanos Unidos, Volky Garden, Mapes Avenue Garden, Miracle Garden, parts of Crotona Park, the Model T Senior Citizen's Garden, the CS 134 Community Improvement Garden, Paradise on Earth Garden, the Crotona Malls, Benjamin Gladstone Square, Bryant Triangle, and the Harrod Avenue community garden.

As noted in Table D-9, open spaces in the study area are not currently overburdened and appear to serve the population well. All but two of the open spaces in the residential study area are in good (acceptable) condition, according to DPR and verified by field surveys. Although some of the of the open spaces experience high levels of utilization, a sizable number have a low level of utilization , indicating that they have the ability to accommodate other users.

Additionally, as noted under Existing Open Space Inventory, there are several open spaces that are available to study area residents but that are not included in the quantitative analysis because they are accessible during limited hours or on certain days, accessible only to some users, or require a fee for entry. Recreational activities are provided on NYCHA properties and in private back yards, of which there are many in the study area.

There are two large parks that fall partly within the study area radius. Only a portion of these parks' areas were included in the quantitative analysis. Approximately one-sixth of Crotona Park falls within a half-mile radius drawn around the proposed rezoning area. The portion of the park outside the study area is easily accessible to the study area population, and it is highly unlikely that users stay only within the portion of the park that falls within the radius. The park is generally in good condition, and, though a popular destination is not overcrowded and has the capacity to accommodate a larger population. Bronx Park is located directly north of the open space study area. This park attracts visitors from all over the metropolitan area, mainly due to the Bronx Zoo and the Botanical Gardens, both of which require a fee to enter. However, Bronx Park also has abundant open space that is freely accessible to the public. Though outside of the study area, it is not at all unreasonable for study area residents to travel further than the usual half-mile to enjoy the 718 acre park.

Non-Residential Study Area

Of the open spaces identified within the residential study area, 12 of them fall within the non-residential study area, containing approximately 6.3 acres of passive open space. These open spaces include shaded public plazas, walkways in a variety of environments, waterfront access, offering a variety of different recreational opportunities. They are spread throughout the study area, ensuring fair and easy access by all users.

THE FUTURE WITHOUT THE PROPOSED ACTION

Table 1-3 in Chapter 1, Project Description, indicates anticipated land use changes in the proposed rezoning area under the future no-action condition. As shown, it is anticipated that only one of the projected Development Sites within the proposed rezoning area would experience a change in land use. On Development Site 9C at the far north end of the proposed rezoning area, a new mixed-use building containing approximately 134 residential units and 39,000 square feet of ground floor retail space would replace the existing hotel, vacant industrial building, and surface parking lot accessory to the hotel. In addition to this development, 24 projects have been identified within the study area that are anticipated to be complete by the project's analysis year of 2022 (see Table D-13). There is one new public open space in the study area, Starlight Park, which is scheduled for completion in 2012.

Future No-Action User Population

Table D-13 lists anticipated land use changes that are expected to occur in the future without the Proposed Action, and provides an estimate of residents and employees that would be introduced to the residential and non-residential study areas as a result of these projects. Table D-14 shows the estimated future no-action study area population increases.

Residential Study Area

As shown in Table D-14, it is projected that the residential study area's residential population will increase to 97,885. The number of workers in the study area is projected to increase to 13,694. Thus, the total number of daytime users in the future no-action condition is 111,579. No substantial changes in the age group structure of the residential population are expected by 2022.

Non-Residential Study Area

As shown in Table D-14, it is projected that the non-residential study area's residential population will increase to 31,156. The number of workers in the study area is projected to increase to 5,335, for a total number of daytime users of 36,491 in the future no-action condition.

Table D-13: Anticipated Development in the Study Areas -- 2022 Future No-Action Condition

Address	# of DU's	Commercial Floor Area (sf)	Community Facility Floor Area (sf)
Proposed Rezoning Area			
1900 Boston Road	134	38,928	
Non-Residential Study Area			
1817 West Farms Rd.		4,960	
Vyse Ave. (Block 2998)	150		
1710 Vyse Ave.	5		
1704 Bryant Ave.	40	1,547	1,555
1872-1880 Boston Rd.	120	70,048	168,116
1825 Boston Rd.	175		
1778 Southern Blvd.	68	9,903	724
1776 Boston Rd. Rezoning	65		
1411, 1413, 1415 Longfellow Ave.	9		
1510 Southern Blvd.	60		
1468 Hoe Ave.	84		
Non-Residential Study Area Total	**910**	**125,386**	**170,395**
New Residents / Employees	**2,730**	**377**	**512**
Residential Study Area			
1693 Southern Blvd.		4,248	
1779 Southern Blvd.	18		
1767 Southern Blvd.	23		
1810 Crotona Park East	55		
906 E 178th St.	35		
1172 East Tremont Ave.	36		
1175 East Tremont Ave.	54		
1160 Lebanon St.	51		
1140 Tiffany St. & 922 East 169th St	84		
870 Jennings Street	84	5,118	6,711
850 Jennings St.	103		6,080
1340 Louis Nine Blvd	207		
861 East Tremont Ave.	36		
870 East Tremont Ave.	21		
913 East Tremont Ave.	51		
Residential Study Area Total	**1,902**	**173,680**	**183,186**
New Residents / Employees	**5,706**	**522**	**550**

Notes: Number of residents is calculated based on an average household side of 3.00. Employment estimates based on 3 employees per 1,000 square feet for commercial (retail) and community facility uses.

Table D-14: Study Area Populations – 2022 Future No-Action Condition

	Residential Population	Worker Population	Total Residential and Non-Residential Population
Residential Study Area			
Existing Population	92,179	12,622	104,801
New Population	5,706	1,072	6,778
Total	**97,885**	**13,694**	**111,579**
Non-Residential Study Area			
Existing Population	28,426	4,447	32,873
New Population	2,730	888	3,618
Total	**31,156**	**5,335**	**36,491**

Sources: *2000 Census; 2000 Census Journey to Work Data; NYC DCP PLUTO 10v2*

Open Space Inventory

Under the future no-action condition, it is anticipated that three new open spaces will be added to the open space inventory, totaling 17.92 acres. (See Table D-15.)

Starlight Park (map number 35), which upon completion in 2012 will be located within both the residential and non-residential study areas, is part of Bronx River Park and the Bronx River Greenway system. The 7.85 acre park is located along the Bronx River between East Tremont Avenue and Westchester Avenue. The park project includes a reconstruction of the once-improved Starlight Park, which has been unused for several years. It also includes wetland restoration and recreation areas along both shores of the river. The park reconstruction will include waterfront access, a floating dock, a boathouse, a comfort station, playgrounds, ballfields, benches, and a building operated by the Bronx River Alliance that will serve as the base of operations for the Bronx River Greenway. Starlight Park will form an important connection on the Bronx River Greenway, extending to 177th Street, with an interim link to West Farms Rapids. Starlight Park is within both the residential and non-residential study areas.

West Farms Rapids (map number 37) is located along the Bronx River between East 180th Street and East Tremont Avenue. Upon completion in Spring 2011, the 2 acre park will provide game tables, a butterfly garden, an amphitheater, a canoe launch, seating, and walkways, with entrance plazas at East 180th Street and East Tremont Avenue. West Farms Rapids will continue a vital greenway connection from Concrete Plant Park to River Park, and will also provide an oasis by the river as users enjoy the greenway and views of the Bronx River. West Farms Rapids is within both the residential and non-residential study areas.

Improvements will also be made to the Bronx River Greenway (map number 36), to be completed by 2012. This 8.07-acre riverside stretch of the Greenway includes walkways, grassy areas, trees, and landscaping.

It should be noted that the above acreages for the Bronx River Greenway and Starlight Park do not include the second phases of construction for these two facilities because of funding and issues with Amtrak. This includes the area east of the Bronx River and north East 177th Street (Sector E4 in Figure E-1), the area east of the Bronx River between East 172nd and 177th Streets (Sectors A4, A5, A6, and A7 in Figure E-1), and the area between Westchester Avenue and East 172nd Street east of the Amtrak right-of-way. Although the funds and/or the AMTRAK issues do

not allow for the completion of the Starlight Park and Bronx River Greenway at the present – it is the intention of DPR that these two resources will at some point in the future be completed in accordance with DPR conceptual plans when funds are available and/or the AMTRAK issue is resolved.

Table D-15: 2022 Open Space Inventory - New Open Spaces in the Future No-Action Condition

Map No.	Name	Location	Amenities	Acreage		
				Passive	Active	Total
35	Starlight Park	Bronx River between E. 174th St. and E. 172nd St.	Dock, boathouse, soccer field, seating, walkways	3.80	4.05	*7.85*
36	Bronx River Greenway	Bronx River between East 174th St. and E. 177th St.	Walkways, landscaping	8.07	0.00	*8.07*
37	West Farms Rapids	Bronx River between East 180th St. and East Tremont Ave.	Game tables, garden, amphitheater,	0.40	1.60	*2.00*
Residential Study Area						
			Existing Open Space Acreage	35.28	19.18	54.47
			Total Future No-Action Acreage	47.55	24.83	72.39
Non-Residential Study Area						
			Existing Open Space Acreage	9.22	1.61	10.84
			Total Future No-Action Acreage	21.49	7.26	28.76

Quantitative Analysis of Adequacy

Residential Study Area

As shown in Table D-16, the additional 17.92 acres of public open space introduced to the residential study area by Starlight Park and West Farms Rapids result in increased open space ratios, even considering the increased population. For the projected population of 97,885, the total open space ratio would be 0.74 acres per 1,000 residents, which does not meet the City's planning goal of 2.50 acres per 1,000 residents. The passive and active ratios would be 0.49 and 0.25, respectively. Taking into account workers as well as residents in the study area, the passive open space ratio for all daytime users would be 0.43 acres per 1,000 persons.

The balance of passive and active open spaces is projected to be 66 percent passive open space and 34 percent active open space, as compared to the City's planning goal of 20 percent passive open space and 80 percent active open space.

Table D-16: Analysis of Adequacy – 2022 Future No-Action Condition, Residential Study Area

	Population	Open Space Acreage			Open Space Ratios (Acres/1,000 People)			DCP Open Space Guidelines (Acres/1,000 persons)		
		Passive	Active	Total	Passive	Active	Total	Passive	Active	Total
Residents	97,885	47.55	24.83	72.39	0.49	0.25	0.74	0.50	2.00	2.50
Combined Residents and Non-Residents	111,579				0.43	N/A	N/A	0.50	N/A	N/A

Non-Residential Study Area

Under the future no-action condition, the non-residential study area will contain approximately 21.49 acres of passive open space. As shown in Table D-15, this yields a ratio of 0.59 acres of passive open space per 1,000 nonresidents, more than double the optimal ratio for worker populations of 0.15 acres per 1,000 users that is given in the *CEQR Technical Manual*.

Table D-17: Analysis of Adequacy – Future No-Action Condition, Non-Residential Study Area

		Open Space Acreage			Open Space Ratios (Acres/1,000 persons)			DCP Open Space Guidelines (Acres/1,000 persons)		
	Population	Passive	Active	Total	Passive	Active	Total	Passive	Active	Total
Workers	5,335	21.49	N/A	N/A	4.03	N/A	N/A	0.15	N/A	N/A
Combined Residents and Non-Residents	36,491				0.59	N/A	N/A	0.15	N/A	N/A

Qualitative Analysis of Adequacy

Residential Study Area

The new Starlight Park, located near the center of the open space study area, will be a valuable open space resource for all area residents. It will provide a wide range of recreational activities for users of all age groups, from conventional play areas and seating areas to boat launches, which are not common in City parks. The park will connect to the Bronx River Greenway, a developing network of public open spaces along the Bronx River that will include the other new park in the study area, West Farms Rapids. West Farms Rapids will provide game tables, a butterfly garden, an amphitheater, a canoe launch, seating, and walkways, with entrance plazas at East 180th Street and East Tremont Avenue. The linear aspect of the Greenway provides open space users an opportunity to travel easily between different parks in the area, even those that are beyond the half-mile radius to which they might otherwise be restricted. Crotona and Bronx Parks will continue to serve a large population of users, including residents and employees of the projects listed above.

Non-Residential Study Area

While existing open spaces continue to serve the daytime study area population, Starlight Park, the Bronx River Greenway, and West Farms Rapids will more than double the amount of passive open space within the non-residential study area. The walkways, benches, and quiet riverfront grassy areas in the park will be a high-quality open space resource in the study area. In addition, because of the large size and linear shape of Starlight Park, it will be easily accessible and very local to study area open space users.

THE FUTURE WITH THE PROPOSED ACTION

In the future with the Proposed Action, the proposed rezoning area's projected Development Sites are expected to be redeveloped with residential, ground floor retail, and community facility (day care) uses, replacing many of the existing industrial and automotive uses. Table 1-3 in Chapter 1, Project Description, details the land use changes that are anticipated within the proposed rezoning area. As shown in Table 1-3, the reasonable worst case development scenario (RWCDS), as compared to the future no action condition, results in a net of 396,644 square feet decrease of industrial and automotive floor area, a net increase of 92,941 square feet of retail floor area, a net increase of 2,635 residential dwelling units, and a net increase of 11,888 square feet of community facility floor area.

With one exception, all "no build" projects identified in Table D-13 are anticipated to occur in the future with the Proposed Action. The exception is the first development listed in the table, located at 1900 Boston Post Road within the proposed rezoning area, which is identified in the RWCDS as a projected development site. This property, identified in Table 1-3 in Chapter 1: Project Description as Development Site 9C, is anticipated to be developed as-of-right under the proposed zoning district. Therefore, the population of the no build development is not included in the future action base population, but rather it is accounted for as a Proposed Action-generated development.

The Proposed Action would not have a direct effect on any existing study area open spaces. Construction and operation of the projects identified in the reasonable worst case development scenario would not result in the physical loss of public open space because of encroachment or displacement of space; it would not change the use of any open space so that it no longer serves the same user population; it would not limit public access to an open space; and as discussed in Chapter 2E, "Shadows", Chapter 2N, "Air Quality", and Chapter 2P, "Noise", it would not cause increased noise or air pollutant emissions, odors, or shadows that would affect the quality or usefulness of any open space, whether on a permanent or temporary basis.

The Proposed Action would have a direct impact on open space resources by creating three new publicly accessible open spaces. As part of the Proposed Project, the applicant plans to build a playground and two public landscaped mid-block open areas with a combined area of 0.46 acres. The playground would be located on the east side of Boone Avenue between East 172nd and 173rd Streets. One of the mid-block open areas would be located on the same block as playground, approximately 138 feet to the north. The other mid-block open area would be located on the block to the south, between East 172nd Street and Jennings Street. Both mid-block open areas would be 60-feet wide (the width of a typical city street) and provide seating as well as pedestrian access between Boone Avenue and West Farms Road.

The Quality Housing Program is mandatory in all proposed zoning districts. Pursuant to section 28-30 of the Zoning Resolution, the Quality Housing Program mandates on-site recreation space to meet the needs of its occupants. The proposed R6A, R7A, and R7X districts require recreation space equaling a minimum of 3.3 percent of the residential floor area. The proposed R8X district requires recreation space equaling a minimum of 2.8 percent of residential floor area. The recreation space may be indoors or outdoors and must be accessible to all residents of a building.

User Population

Table D-18 summarizes the development that would result from the Proposed Action and the anticipated study area development that is detailed in Table D-13, presenting the estimated study area population in the future with the Proposed Actions. The development project located at 1500 Boston Road is not included in the future action condition, because the site, which is within the

proposed rezoning area, would be redeveloped differently under the future action scenario. The redevelopment of this property is accounted for in the project-generated population projection.

Table D-18: Projected Population -- 2022 Future Action Condition

	Residential Population	Worker Population	Total Residential and Non-Residential Population
Residential Study Area			
Existing Population	92,179	12,622	104,801
Half-Mile Study Area New Population	5,304	955	6,259
Project-Generated Population (Net Increase)	7,958	142	8,100
Total	**105,441**	**13,719**	**119,160**
Non-Residential Study Area			
Existing Population	28,426	4,447	32,873
Half-Mile Study Area New Population	2,730	771	3,501
Project-Generated Population (Net Increase)	7,958	142	8,100
Total	**39,114**	**5,360**	**44,474**

Note: As discussed above, the "Half-Mile Study Area New Population" includes all development identified in Table D-13, except the 1900 Boston Road project.

Residential Study Area

As shown in Table D-18, it is projected that the study area residential population will increase over future no-action conditions to 105,441. The number of workers in the study area will increase to 13,719 persons. The total number of daytime users in the future action condition is 119,160.

Non-Residential Study Area

As shown in Table D-18, it is projected that the study area residential population will increase over future no-action conditions to 39,114. The number of workers in the study area will increase to 4,886 persons. The total number of daytime users in the future action condition is 44,474.

Open Space Inventory

Development activities associated with the Proposed Action would introduce two new public landscaped open areas and one children's playground to the study areas. (See Table D-19.) The two landscaped mid-block open areas, with a combined acreage of 0.42 acres, will be developed on blocks 3013 and 3014. Both mid-block open areas would be 60-feet wide (the width of a typical city street) and provide seating as well as pedestrian access between Boone Avenue and West Farms Road. They will provide passive recreational opportunities for area residents and workers. One children's playground, with an area of 0.04 acres would be developed on block 3014, near the southeast corner of Boone Avenue and 172nd Street. The playground, surrounded by a decorative fence, would include play equipment and benches. The playground would serve children of the three younger age cohorts identified above in Table D-8, and the mid-block open

areas would be a passive recreational amenity that would serve people of all ages, but particularly the adult and senior populations.

Table D-19: 2022 Open Space Inventory -- New Open Spaces under the Future Action Condition

Map No.	Name	Location	Description	Acreage		
				Passive	Active	Total
38	Block 3013 open space	Block 3013 midblock	Landscaped mid-block open area	0.18	0.00	0.18
39	Block 3014 open space	Block 3014 midblock	Landscaped mid-block open area	0.24	0.00	0.24
39	Block 3014 Playground	Block 3014, east side of Boone Ave.	Children's playground with play equipment, seating	0.00	0.04	0.04
Residential Study Area						
			Future No-Action Acreage	47.55	24.83	72.39
			Total Future Action Acreage	47.97	24.87	72.84
Non-Residential Study Area						
			Future No-Action Acreage	21.49	7.26	28.76
			Total Future Action Acreage	21.91	7.30	29.21

Residential Study Area

As shown in Table D-19, in the future action condition the study area will contain approximately 72.84 acres of publicly accessible open space, with 47.97 acres of passive recreation space and 24.87 acres of active recreation space.

Non-Residential Study Area

As shown in Table D-19, in the future action condition the study area will contain approximately 21.91 acres of passive open space.

Quantitative Analysis of Adequacy

Residential Study Area

Table D-20 shows the quantitative open space analysis for the residential study area in the future with the Proposed Action. As shown, it is projected that the total open space ratio for the residential population will be 0.69 acres per 1,000 persons, which falls well below the City's planning goal of 2.5 acres per 1,000 persons and the City's median community district open space ratio of 1.5 acres per 1,000 persons. The passive open space ratio is projected to be 0.45 acres per 1,000 residents and 0.40 acres per 1,000 total daytime users (residents and workers), neither of which reaches the City's planning goal of 0.5 acres per 1,000 residents. The active open space ratio is projected to be 0.24 acres per 1,000 persons, which falls well below the City's planning goal of 2.00 acres per 1,000 persons.

The balance of passive and active open spaces is projected to be 65.9 percent passive open space and 34.1 percent passive open space, as compared to the City's planning goal of 20 percent passive open space and 80 percent active open space.

Table D-20: Analysis of Adequacy – 2022 Future Action Condition, Residential Study Area

	Population	Open Space Acreage			Open Space Ratios (Acres/1,000 People)			DCP Open Space Guidelines (Acres/1,000 persons)		
		Passive	Active	Total	Passive	Active	Total	Passive	Active	Total
Residents	105,441	47.97	24.87	72.84	0.45	0.24	0.69	0.50	2.00	2.50
Combined Residents and Non-Residents	119,160				0.40	N/A	N/A	0.50	N/A	N/A

Non-Residential Study Area

As shown in Table D-21, in the future with the Proposed Action, the passive open space ratio for the combined residential and non-residential population is projected to be 0.49 acres per 1,000 persons. This ratio is more than twice the City's optimal ratio for worker populations of 0.15acres of passive open space per 1,000 nonresidents.

Table D-21: 2022 Future Action Condition Analysis of Adequacy – Non-Residential Study Area

	Population	Open Space Acreage			Open Space Ratios (Acres/1,000 persons)			DCP Open Space Guidelines (Acres/1,000 persons)		
		Passive	Active	Total	Passive	Active	Total	Passive	Active	Total
Workers	5,360	21.91	N/A	N/A	4.09	N/A	N/A	0.15	N/A	N/A
Combined Residents and Non-Residents	44,474				0.49	N/A	N/A	0.15	N/A	N/A

Qualitative Analysis of Adequacy

Residential Study Area

The open space deficiency suggested by the quantitative analysis is somewhat alleviated by a number of factors, including new public and private open spaces to be introduced by the applicant, the high quality and generally low usage of a number of the study area open spaces, and the extensive open space resources not far beyond the study area's boundary.

A new children's playground that will be constructed by the applicant on Development Site 2S will provide new active open space resource for children in the study area in very close proximity to project-generated residential development. Two new mid-block open areas that will be provided as part of the applicant's development of Development Sites 1 and 2 would provide new passive open space resources with landscaping and seating and through which users could stroll down to the level of West Farms Road. The playground and public landscaped open areas introduced as part of the Proposed Project would be especially valuable to the youngest and oldest residents of the new residential buildings, who are more likely to use playgrounds and passive open spaces, respectively.

The Quality Housing Program, which mandates on-site recreation space to meet the needs of its occupants, is mandatory in all proposed zoning districts. Pursuant to section 28-30 of the Zoning Resolution, the proposed R6A, R7A, and R7X districts require recreation space equaling a minimum of 3.3 percent of the residential floor area. The proposed R8X district requires recreation space equaling a minimum of 2.8 percent of residential floor area. The recreation space may be indoors or outdoors and must be accessible to all residents of a building. It is proposed that each of the applicant's Development Sites will include a private landscaped courtyard and/or roof terrace. Although not open to the public, these passive open spaces will reduce pressure on public open spaces in the study area.

A number of the open spaces in the study area were observed under existing conditions to experience low utilization rates with the capacity to accommodate numerous other users. There is a wide variety of open spaces and recreational facilities and resources available to area residents, providing waterfront access, expansive open lawns, ballfields, handball courts, playgrounds, and many other recreational opportunities throughout the study area. All but two of the open spaces in the residential study area are in good (acceptable) condition, according to DPR and verified by field surveys (see Table D-9). The addition of 17 acres of publicly-accessibly open space within Starlight Park and West Farms Rapids will further supplement the existing open space inventory as well as form a connection to the extensive Bronx River Greenway network of parks and open spaces.

In addition, Crotona Park and two large regional parks (Bronx and Soundview Parks) are located in the area and the study area includes portions of the Bronx River Greenway. These open spaces are valuable resources for recreation-seekers throughout the Bronx. In total, these parks offer 1,080 acres of public open space. These large open space resources would somewhat offset the deficiency in open within the residential study area.

Non-Residential Study Area

In the future with the Proposed Action, the non-residential study area population will continue to be well-served by the passive open spaces in the study area. The public open spaces that will be developed in conjunction with the Proposed Project will be centrally-located additions to the existing and future open space inventory. The proposed rezoning area is also in close proximity to the recently-completed Concrete Plant Park and the future Starlight Park and West Farms Rapids, which will be complete in 2011 and 2012, respectively, well before the project is built out.

Determining Impact Significance

Residential Study Area

As stated above and in the *CEQR Technical Manual*, 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 plans and proposals. Ideally, this would comprise 0.50 acres of passive open space and 2.0 acres of active open space per 1,000 residents. The *CEQR Technical Manual* also states that to be considered reasonably well served, an area should have at least 1.5 acres of open space per thousand residents (which a citywide survey had indicated is the median of the ratios for the city's community districts). The City seeks to attain a planning goal of a balance of 20 percent passive open space and 80 percent active open space.

A significant adverse open space impact may occur if a Proposed Action would reduce the 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. This reduction may result in overburdening existing facilities or further exacerbating a deficiency in open space. Under

existing conditions, future no-action conditions, and the future action conditions, the open space ratio in the residential study area never reached 1.5 acres per 1,000 residents.

Table D-22 below expresses the percentage change from No Action to Action conditions for the residential study area.

Table D-22: Comparison, 2022 Action and No Action Conditions, Residential Study Area

	No Action			Action			Percent Change From No Action		
	Passive	Active	Total	Passive	Active	Total	Passive	Active	Total
Residents	0.49	0.25	0.74	0.45	0.24	0.69	-6.4%	-7.0%	-6.6%
Combined Residents and Non-Residents	0.43	N/A	N/A	0.40	N/A	N/A	-5.5%	N/A	N/A

As may be seen from Table D-22, in the future action condition, the total open space ratio is 0.69 acres per 1,000 residents, a 6.6 percent decrease from the future no-action condition.

The active open space ratio in the residential study area would decrease from 0.25 acres per thousand users in the future no-action condition to 0.24 acres per thousand users in the future action condition, a 7.0 percent decrease. The passive open space ratio would decrease from 0.49 acres per thousand users in the future no-action condition to 0.45 acres per thousand users in the future action condition, a 6.4 percent decrease.

The qualitative assessment indicates that the quality and low utilization of a number of the study area open spaces combined with the availability of open spaces outside of the study area would somewhat alleviate the burden on open spaces in the future action conditions.

However, the decrease in the residential study area open space ratio is sizeable and very low to begin with, and because of this, the Proposed Action would result in a significant adverse open space impact. Possible mitigation measures will be examined between the Draft and Final EIS, as is discussed in Chapter 3, Mitigation.

Non-Residential Study Area

In the future with the Proposed Action, the quarter-mile non-residential study area would remain well-served by passive open spaces, with a ratio of 4.09 acres of passive open space per 1,000 workers and 0.49 acres of passive open space per 1,000 total daytime users. Although the open space ratio would decrease by 16.4 percent over no-action conditions for the total daytime population (see Table D-23), the ratio remains well above the city's guideline ratio of 0.15 acres per 1,000 persons. Therefore, there would be no significant adverse open space impacts in the non-residential study area as a result of the Proposed Action.

Table D-23: Comparison of 2022 Action and No Action Conditions, Non-Residential Study Area

	No Action			Action			Percent Change From No Action		
	Passive	Active	Total	Passive	Active	Total	Passive	Active	Total
Workers	4.03	N/A	N/A	4.09	N/A	N/A	1.5%	N/A	N/A
Combined Residents and Non-Residents	0.59	N/A	N/A	0.49	N/A	N/A	-16.4%	N/A	N/A

CONCLUSION

Residential Study Area

In the future with the Proposed Action, the total open space ratio is projected to be 0.69 acres per 1,000 residents, a 6.6 percent decrease from the future no-action condition. (See Table D-22.) The active open space ratio in the residential study area would decrease from 0.25 acres per thousand users in the future no-action condition to 0.24 acres per thousand users in the future action condition, a 7.0 percent decrease. The passive open space ratio would decrease from 0.49 acres per thousand users in the future no-action condition to 0.45 acres per thousand users in the future action condition, a 6.4 percent decrease. The balance of passive and active open spaces is projected to be 65.9 percent passive open space and 34.1 percent passive open space.

The Proposed Action will not have a direct impact on any open space resource in the study area. No open space would be displaced, and no significant shadows would be cast on any publically accessible open spaces. The Proposed Action would not affect any particular user group, nor would it introduce a population with any unusual characteristics. The project applicant intends to construct a playground and two mid-block open areas on the applicant-controlled development sites. In accordance with the Quality Housing Program, all residential buildings constructed within the proposed rezoning area will provide recreation space to meet the needs of its residents.

The qualitative assessment indicates that the quality and low utilization of study area open spaces combined with the availability of open spaces outside of the study area would somewhat alleviate the burden on open spaces in the future action conditions.

However, the future action condition total open space ratio will decrease 6.6 percent (to 0.69 acres per 1,000 users) as compared to the future no-action condition (which has a projected total open space ratio of 0.74 acres per 1,000 persons). The decrease in the residential study area open space ratio is sizeable, and because of this, the Proposed Action would result in a significant adverse open space impact. Possible mitigation measures will be explored between the Draft and Final EIS, as discussed in Chapter 3, Mitigation.

Non-Residential Study Area

At 0.49 acres of passive open space per 1,000 daytime users, the non-residential study area open space ratio is projected to be more than three times the City's open space ratio guideline. Daytime users of passive open space will be well-served by the resources available, and there would be no significant adverse open space impacts in the non-residential study area as a result of the Proposed Action.