Chapter 5: Open Space

A. INTRODUCTION

This chapter examines the Proposed Action's potential effects on open space resources. "Open space" is defined by the *City Environmental Quality Review (CEQR) Technical Manual* (January 2012 Edition) as, "publicly or privately owned land that is publicly accessible and operates, functions, or is available for leisure, play, or sport, or set aside for the protection and/or enhancement of the natural environment." An open space analysis focuses on officially designated existing or planned public open spaces, and is conducted to determine whether or not a proposed project would have a direct impact resulting from the elimination or alteration of open space, or an indirect impact resulting from overtaxing available open space.

The *CEQR Technical Manual* guidelines indicate the need for an open space analysis if a proposed project would result in the physical loss or alteration of a public open space, or the introduction of 50 or more residents or 125 or more workers to the area.[1] The proposed project would result in a net increase of approximately 3.28 acres of publicly accessible open space, and would enhance several existing public and private open spaces within the Proposed Development Area. However, the proposed project would directly displace or alter some existing open spaces within the Proposed Development Area, and would introduce more than 50 residents and 125 workers who would use the new open spaces, as well as local parks and other existing open spaces. Therefore, an open space assessment was conducted to determine whether the proposed project would result in any direct or indirect significant adverse open space impacts.

The analysis in this chapter considers the potential for significant adverse open space impacts for the 2021 (Phase 1) analysis year, and for full operations of the proposed project in 2031 (Phase 2). Chapter 20, "Construction," assesses the availability and adequacy of open space resources during the construction periods for the Proposed Actions, including consideration of the potential direct and indirect effects of construction activities on the study areas' open space resources.

B. PRINCIPAL CONCLUSIONS

This detailed open space analysis finds that when considering both quantified and qualitative criteria, the Proposed Actions would not result in significant adverse impacts to publicly accessible open space in the 2021 and 2031 analysis years. The following summarizes the analyses leading to this conclusion.

[1] The thresholds for potential indirect effects on open spaces vary by location, depending upon whether the location is defined as well-served by open space, underserved, or neither. Based on *CEQR Technical Manual* guidelines the project site and portions of the open space study areas are located within an area that is considered underserved by open space.

DETAILED QUANTIFIED ANALYSIS FINDINGS

With or without the Proposed Actions, all open space ratios in the study areas would be below, and in many cases severely below, the levels recommended by the City's open space planning guidelines. However, it is generally recognized that these goals are not feasible for many areas of the City, and they are not considered impact thresholds for the determination of impacts under CEQR. Rather, quantified impact thresholds are based on percentage changes in the open space ratios. According to the *CEQR Technical Manual*, a project would result in a significant adverse impact if it reduced open space ratios 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. In areas that are extremely lacking in open space, a reduction as small as 1 percent may be considered significant, as they may result in overburdening existing facilities or further exacerbating a deficiency in open space.

By 2021, even when accounting for the increased demands associated with the proposed project, all open space ratios would improve as compared to future conditions without the Proposed Actions, with the exception of the active open space ratio within the ½-mile residential study area, which would decline slightly (by 0.1 percent). Therefore there would be no potential significant adverse quantified impacts with the Proposed Actions by 2021.

By 2031, all of the open space ratios would improve as compared to future conditions without the proposed project. Some of the improvements would be substantial; most notable are the approximately 22 to 23 percent increases in the open space ratios within the ¼-mile non-residential study area. These ratios are particularly important for an area with a large working and/or student population. Therefore, by 2031 the Proposed Actions would not result in any quantified significant adverse open space impacts.

DETAILED QUALITATIVE ANALYSIS FINDINGS

From a qualitative perspective, the 2021 and 2031 open space conditions would be improved with the proposed project, and no significant adverse qualitative impacts would result from the Proposed Actions. The quality and types of proposed open spaces would better satisfy the demands of the users of open spaces that would be displaced by the proposed project, and would be targeted to better accommodate the demands of the study area residents and non-resident users. The open spaces within the Proposed Development Area would be more visible and publicly accessible, and the above-grade portions of the City-owned strips under the jurisdiction of the New York City Department of Transportation (NYCDOT) on the North Block (the "LaGuardia Place Strip" along LaGuardia Place and the "Mercer Street Strip" along Mercer Street) would be mapped as parkland and managed by the New York City Department of Park and Recreation (NYCDPR).

C. METHODOLOGY

The *CEQR Technical Manual* suggests that a detailed open space analysis is necessary if a project displaces a highly utilized open space, or introduces a large population in an area underserved by open space. The proposed project would directly displace or alter public and private open spaces located within the Proposed Development Area, and would introduce a large population to an area that is considered underserved based on the City's open space guidelines. Therefore, a detailed open space analysis was conducted, as described below.

STUDY AREAS

The first step in assessing potential open space impacts from a proposed project is to establish study areas, which are defined to allow analysis of both the nearby open spaces and the population using those open spaces. Study areas are based on the distance a person is assumed to walk to reach a neighborhood open space. Following *CEQR Technical Manual* guidelines, workers and other daytime users typically use passive open spaces, and are assumed to walk approximately 10 minutes (about a ¼-mile distance) from their places of work. Residents are more likely to travel farther to reach parks and recreational facilities. They are assumed to walk about 20 minutes (about a ½-mile distance) to reach both passive and active neighborhood open spaces.

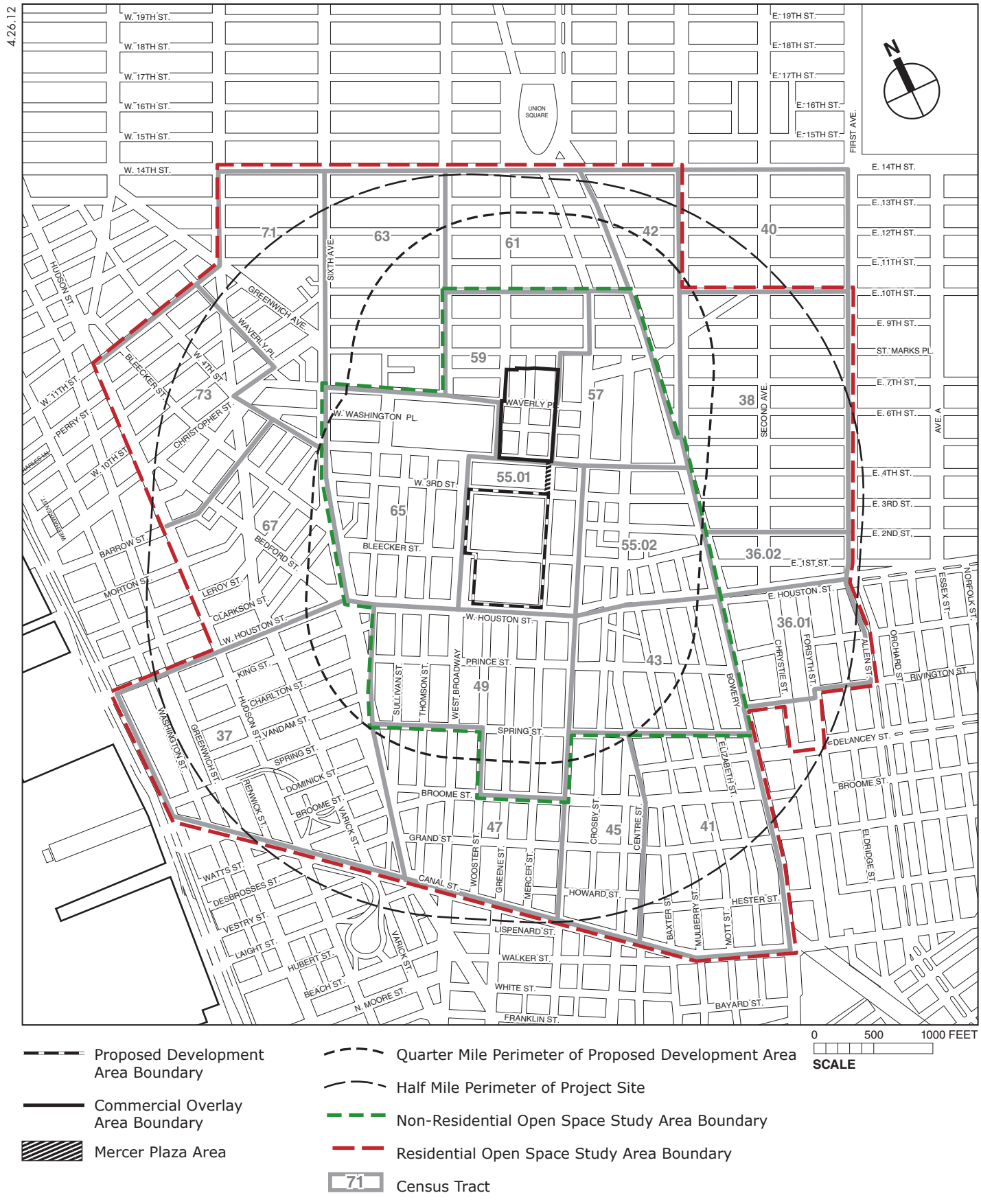
Because the proposed project would introduce both non-residential and residential populations, two study areas were evaluated—a non-residential study area based on a ¼-mile distance from the project site, and a residential study area based on a ½-mile distance (see **Figure 5-1**). As recommended in the *CEQR Technical Manual*, the "non-residential" open space study area comprises all census tracts that have at least 50 percent of their area located within a ¼-mile of the project site. For purposes of the non-residential open space analysis, the "project site" is defined to include both the Proposed Development Area[1] and the Commercial Overlay Area[2], because the Proposed Actions would introduce worker populations to both of these areas. All open spaces, as well as all residents and employees within census tracts that fall at least 50 percent within a ¼-mile radius of the project site, were included in the non-residential study area. In addition to these residents and employees, the analysis of future conditions with the proposed project accounts for NYU faculty and students using the proposed buildings as day-time visitor/workers (i.e., likely to frequent open spaces within a ¼-mile distance from the project site). As illustrated in **Figure 5-1**, the ¼-mile non-residential study area includes Census Tracts 43, 49, 55.01, 55.02, 57, 59, and 65.

The residential open space study area includes all open spaces, as well as all residents and employees, within census tracts that have at least 50 percent of their area located within ½-mile of the project site. For purposes of the residential open space analysis, the "project site" is defined as the Proposed Development Area, which is the only project area in which the proposed project would introduce a residential population.[3] As shown in **Figure 5-1**, the ½-mile

[1] The Proposed Development Area is comprised of the two superblocks (South Block and North Block) bounded by West 3rd Street to the north, Houston Street to the south, Mercer Street to the east, and LaGuardia Place to the west, and also includes four strips that are portions of mapped streets, which are owned by the City of New York and are under the jurisdiction of NYCDOT and NYCDPR. One NYCDOT strip is on the east side of LaGuardia Place from Bleecker Street to West 3rd Street (referred to in the FEIS as the LaGuardia Place Strip); two NYCDOT strips are located on the west side of Mercer Street, one of which is between West Houston Street and Bleecker Street and the other is between Bleecker Street and West 3rd Street (collectively referred to as the Mercer Street Strip in the FEIS); the fourth strip in the Proposed Development Area is along Bleecker Street on the South Block and is under the jurisdiction of NYCDPR (referred to in the FEIS as the Bleecker Street Strip).

[2] The Commercial Overlay Area is bounded by the northern boundary of the existing R7-2 zoning district near East 8th Street to the north, West 4th Street to the south, Mercer Street to the east, and University Place and Washington Square East to the west.

[3] The proposed project would not displace or introduce any open space users or resources within the Mercer Plaza Area, and would introduce only a worker population in the Commercial Overlay Area. The analysis conservatively excludes the Commercial Overlay Area within the project site boundary because



NYU Core

Open Space Study Areas

Figure 5-1

residential study area includes the Census Tracts identified above within the non-residential (¼-mile) study area, as well as Census Tracts 36.01, 36.02, 37, 38, 41, 42, 45, 47, 61, 63, 67, 71, and 73.

STUDY AREA POPULATIONS

The study areas' open spaces serve numerous populations, including residents, workers, students, and visitors. Consistent with CEQR practice, students who live within the study area are assessed as part of the overall residential population within the residential study area. The number of existing residents (including students) living within the ½-mile study area, and the age distribution of this population, are estimated based on U.S. Census 2010 data, which account for students living in the study area as residents. Workers within the ¼-mile non-residential study area, including NYU faculty and staff, are part of a total worker population estimate based on 2000 Census Reverse Journey to Work data, updated to a 2010 worker estimate using employment projections for New York County from the New York Metropolitan Traffic Council (NYMTC).

There are a substantial number of NYU students who frequent the study area to attend classes, study, meet with professors, and engage in other activities related to their tenure at NYU. Many of these students utilize publicly accessible open spaces within the study area. For purposes of analysis, a daytime student population is utilized in the quantified open space analysis, and is calculated based on the estimated student population associated with the Washington Square campus. Consistent with NYU student growth projections, the existing student population estimate is grown by 0.5 percent per year to estimate a daytime student population for the 2021 and 2031 analysis years.

The future project-generated populations are based on the following reasonable-worst case development scenarios (RWCDS):

- **Non-Residential (1/4-mile) study area assessment** uses the Maximum Academic scenario (RWCDS 1), which maximizes the numbers of workers introduced to the project site in the future with the Proposed Actions. The program for RWCDS 1 is shown in **Table 1-7** of Chapter 1, "Project Description."
- **Residential (1/2-mile) study area assessment** uses the Maximum Dormitory scenario (RWCDS 2), which maximizes the numbers of residents introduced to the project site in the future with the Proposed Actions. The program for RWCDS 2 is shown in **Table 1-7** of Chapter 1, "Project Description."

All RWCDS have the same direct effects on open space resources, and present the same amounts and types of proposed open space resources in the future with the Proposed Actions.

INVENTORY OF OPEN SPACE RESOURCES

Publicly accessible open spaces and recreational facilities within the non-residential (¼-mile) and residential (½-mile) study areas were inventoried to determine their size, character, and condition. The information used for this inventory was gathered through field studies conducted

inclusion of the Commercial Overlay Area would extend the ½-mile residential study area boundary well beyond the ½-mile distance that the project's residential population would typically travel for open space recreation, and in doing so would capture within the ½-mile residential study area Union Square, a major open space resource.

in November 2010, May 2011, and June 2011; from the New York City Department of Parks and Recreation (DPR); and the Municipal Art Society's publication (*Privately Owned Public Spaces: The New York City Experience*). Published environmental impact statements for projects in or near the study area were also consulted.

At each open space, active and passive recreational spaces were noted. Active open space facilities are characterized by activities such as jogging, field sports, and children's active play. Such open space features might include basketball courts, baseball fields, or play equipment. Passive open space facilities are characterized by activities such as strolling, reading, sunbathing, and people-watching. Some spaces, such as lawns and public esplanades, can be both active and passive recreation areas.

Consistent with *CEQR Technical Manual* guidelines, public spaces that do not offer useable recreational areas and areas that are not accessible to the general public are noted, but are excluded from the quantified inventory and assessment because they do not meet the CEQR definition of open space. As detailed in Section D, "Existing Conditions," there are several resources on the project site that have been excluded from the quantified analysis because they do not offer usable recreational amenities, or because they are not accessible to the general public.

There are also resources—such as the LaGuardia Landscape (along LaGuardia Place between Bleecker and West 3rd Streets)—that do not present "usable recreational areas" as defined by CEQR. Resources such as these are considered qualitatively in the baseline assessment, and are added to the quantified inventory of public open spaces as part of an "Alternative Quantified Assessment" provided in **Appendix A: Alternative Quantified Open Space Assessment**.

The Proposed Development Area's private open spaces and recreational facilities—whose use is limited primarily to residents of the Proposed Development Area and NYU students, faculty, and staff—are considered qualitatively in CEQR analyses because they decrease the burden on publicly accessible open spaces.

In addition to open spaces located within the residential and non-residential study areas, publicly accessible open spaces falling outside the study areas were considered qualitatively. These spaces provide additional open space resources for residents living close to the ½-mile study area boundary, as well as for residents living closer to the project site who may be willing to travel slightly farther for open space recreation.

ADEQUACY OF OPEN SPACE RESOURCES

Overall, the goal of this assessment is to determine the nature and significance of the change in the availability of open space relative to the demand from the new population, and the usability of the open space affected by the proposed project. This is done using both quantified and qualitative analyses. The adequacy of open space in the study area was quantitatively assessed using ratios of usable open space acreage to the study area population—referred to as "open space ratios." Open space ratios are compared against guidelines set by the New York City Department of City Planning (DCP). Although these open space ratios are not meant to determine whether a proposed action might have a significant adverse impact on open space resources, they are helpful guidelines in understanding the extent to which user populations are served by open space resources. The following *CEQR Technical Manual* guidelines have been used in this analysis:

- For non-residential populations, 0.15 acres of passive open space per 1,000 non-residents is typically considered adequate.
- For residential populations, the City attempts to achieve a ratio of 2.5 acres per 1,000 residents. Ideally, this would be comprised of 0.50 acres of passive space and 2.0 acres of active open space per 1,000 residents. However, as noted below, these goals are often not feasible for many areas of the City, and they do not constitute an impact threshold.
- 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 is considered in this analysis.

While these measures can be regarded as benchmarks as to how well an area is served by open space, it should be understood that the NYU Core study areas, like most of Manhattan, are densely populated with limited open space, and fall well short of these measures. For most study areas that are not contiguous to a large open space, meeting these quantitative standards is not considered a realistic goal. Therefore, the City does not consider these ratios as its open space policy for every neighborhood, and consequently, these ratios do not constitute an impact threshold.

IMPACT ASSESSMENT

The significance of a project's effects on an area's open spaces is determined using both qualitative and quantitative factors, as compared to conditions in the future without the project (the No-Action condition). With respect to quantified impact thresholds, the *CEQR Technical Manual* suggests that a project may result in a significant adverse open space impact if:

- There would be a direct displacement/alteration of existing open space within the study area that has a significant adverse effect on existing users, unless the proposed project would provide a comparable replacement (size, usability, and quality) within the study area; or
- The project would reduce open space ratios 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. In areas that are extremely lacking in open space, a reduction as small as 1 percent may be considered significant.

Qualitative factors—including the type of open space (active or passive) as compared to the age groups served, its capacity and conditions, the distribution of open space, the distance to regional parks, the connectivity of open space, and the beneficial effects of additional open space provided by the project—are considered in relation to the quantitative changes identified above.

D. EXISTING CONDITIONS

STUDY AREA POPULATION

NON-RESIDENTIAL (¼-MILE) STUDY AREA

The non-residential study area generally extends to 10th Street to the north, the Bowery to the east, Spring and Broome Streets to the south, and Avenue of the Americas to the west and includes seven Census Tracts: 43, 49, 55.01, 55.02, 57, 59, and 65 (see **Figure 5-1**).

Based on Census 2000 reverse journey-to-work data and NYMTC employment projections for New York County between 2000 and 2010, there are an estimated 48,735 people working within the non-residential (1/4-mile) study area. This population, combined with the study area's

30,057 residents (based on 2010 Census), results in a total residential and worker population of 78,792 persons (see **Table 5-1**). Students living within the study area census tracts were counted as residents by the 2010 Census, and are thus included in this number. Although this analysis conservatively assumes that residents and employees are separate populations, it is possible that some of the residents live near their workplace. As a result, there is likely to be some double-counting of the daily user population in which residential and non-residential populations overlap, resulting in a more conservative analysis. For instance, an NYU faculty member that lives in the study area and also works within the study area would be double-counted.

Table 5-1
Residential and Worker Populations in the Open Space Study Areas

Census Tracts	Residential Population	Worker Population	Total Residential and Worker Population
36.01	3,393	770	4,163
36.02	3,151	1,300	4,451
37	2,447	NA	2,447
38	9,237	4,200	13,437
41	7,817	6,850	14,667
42	5,145	2,445	7,590
43*	4,270	8,915	13,185
45	1,136	7,835	8,971
47	2,524	5,905	8,429
49*	4,942	9,650	14,592
51	NA	15,930	15,930
53	NA	7,925	7,925
55.01*	4,204	5,780	9,984
55.02*	2,257	4,950	7,207
57*	2,781	8,635	11,416
59*	5,401	5,995	11,396
61	5,224	10,140	15,364
63	6,380	7,260	13,640
65*	6,202	4,235	10,437
67	5,461	3,185	8,646
71	5,429	6,220	11,646
73	6,215	2,635	8,850
Non-Residential (¼-Mile) Study Area in 2010	**30,057**	**48,735****	**78,792**
Residential (½-Mile) Study Area in 2010	**93,616**	**132,320****	**225,936**

Notes: * Denotes Census Tracts that are part of the non-residential (1/4-mile) study area.
** 2010 Worker Population totals apply an approximately 1.2 percent growth factor to Central Transportation Planning Package (CTPP) 2000 data, as per the source note below.
Sources: Residential populations from U.S. Census 2010; Worker populations from CTPP 2000 – Part 2, grown by an approximately 1.2 percent growth factor based on employment growth rate for New York County between 2000 and 2010 as estimated by the New York Metropolitan Transportation Council (NYMTC).

In addition to the worker population estimated in **Table 5-1**, NYU students utilize open space resources in the study area and therefore are accounted for in the non-residential study area assessment. According to NYU, in 2010 there were 41,182 students associated with the Washington Square campus, including: 21,895 undergraduate students; 17,856 graduate students; and 1,431 professional students. These 41,182 students are included in the quantified analysis as part of the daytime user population for the non-residential (¼-mile) study area. In addition, there are 11,054 non-credit students who do not regularly frequent the Washington

Square study area. They are assumed to visit the study area one out of every eight days, equating to an average of 1,382 daily visits from this population. These visits are also included in the quantified analysis. Combined with the estimated 48,735 workers within the ¼-mile study area, the total daytime user population for the non-residential study area is estimated to be 91,299 persons.

RESIDENTIAL (½-MILE) STUDY AREA

The residential study area includes the seven census tracts located in the non-residential study area, plus 13 additional census tracts, delineating a study area that extends generally northward to 14th Street, eastward to First Avenue, southward to Canal Street, and westward to Hudson Street (see **Figure 5-1**).

As shown in **Table 5-1**, there are an estimated 93,616 residents living within the residential (1/2-mile study area (which includes the ¼-mile non-residential study area).

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 total population within the residential study area, which includes the non-residential as well as the residential population. Based on 2000 Census reverse journey-to-work data and NYMTC employment projections for New York County between 2000 and 2010, there are an estimated 132,320 people working within the residential study area (including the workers in the ¼-mile study area). Including the 42,564 students who regularly frequent the Washington Square campus, the ½-mile study area's total residential and non-residential population is an estimated 268,500 persons. Again, this estimate conservatively assumes that the residential and non-residential populations are entirely distinct from each other.

Age Distribution

The age distribution of a residential population affects the way open spaces are used, and the need for a variety of recreational facilities. As described in the *CEQR Technical Manual*, 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 recreational activities such as rollerblading, biking, and jogging, which require bike paths, promenades, and vehicle-free roadways. For these types of activities, adults have greater mobility to seek active resources outside a ½-mile study area. Adults also gather with families for picnicking, ad hoc active sports such as Frisbee, as well as 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.

Table 5-2 summarizes the distribution of the study areas' residential populations by age group, and compares their age distribution to Manhattan and New York City as a whole. The percentage breakdown by age cohort assumes the same percentages as experienced by the study area at the time of the 2010 Census.

As shown in **Table 5-2**, both the non-residential and residential study areas have smaller proportions of children (ages 4 and younger, 5 to 9, and 10 to 14) as compared to Manhattan and New York City as a whole. Conversely, the percentages of working-age population (ages 20 to 64) are higher within the non-residential and residential study areas as compared to Manhattan and New York City. The residential study area has a lower percentage of senior residents (ages 65 and over) than Manhattan, but the same percentage as New York City.

Table 5-2
Residential Population Age Distribution

Age Category	Non-Residential (1/4-Mile) Study Area		Residential (1/2-Mile) Study Area		Manhattan		New York City	
	Persons	Percent	Persons	Percent	Persons	Percent	Persons	Percent
4 and younger	1,041	3.5	2,790	3.0	76,579	4.8	517,724	6.3
5 to 9	691	2.3	2,011	2.1	61,323	3.9	473,159	5.8
10 to 14	530	1.8	1,657	1.8	58,229	3.7	468,154	5.7
15 to 19	1,823	6.1	6,050	6.5	77,462	4.9	535,833	6.6
20 to 64	22,065	73.4	69,778	74.5	1,098,127	69.2	5,187,105	63.4
65 and over	3,907	13.0	11,330	12.1	214,153	13.5	993,158	12.1
Total	30,057	100.0	93,616	100.0	1,585,863	100	8,175,133	100

Sources: U.S. Census 2010.

STUDY AREA OPEN SPACES

PROJECT SITE

Proposed Development Area

The Proposed Development Area contains a number of private and public open spaces, as well as private and public spaces that do not offer useable recreational areas and therefore are not defined as open spaces under CEQR. **Table 5-3** provides an inventory of all resources within and immediately adjacent to the Proposed Development Area, and describes whether and how they are accounted for in this CEQR assessment. **Figure 5-2** is an aerial map of the Proposed Development Area locating each potential resource identified in **Table 5-3**.

Table 5-3
Public and Private Resources Located in Proposed Development Area

Fig 5-2 Map Letter	Name	Estimated SF/Acres	Owner or Agency	Condition	Features/Comments	Treatment for Analysis
A	LaGuardia Landscape	19,955/0.46*	NYCDOT	Good	Landscaping, paths, statue of LaGuardia. No formal or informal seating areas.	Not a publicly accessible open space because it does not provide usable recreational areas. However, this resource will be considered qualitatively, and will also be considered quantitatively as part of an Alternative Quantified Assessment.
B		11,600/0.27	NYU	Good	Fenced-in grass area with "keep off grass" signs.	Not a publicly accessible open space; does not provide usable recreational areas. This area will not be considered in the analysis.

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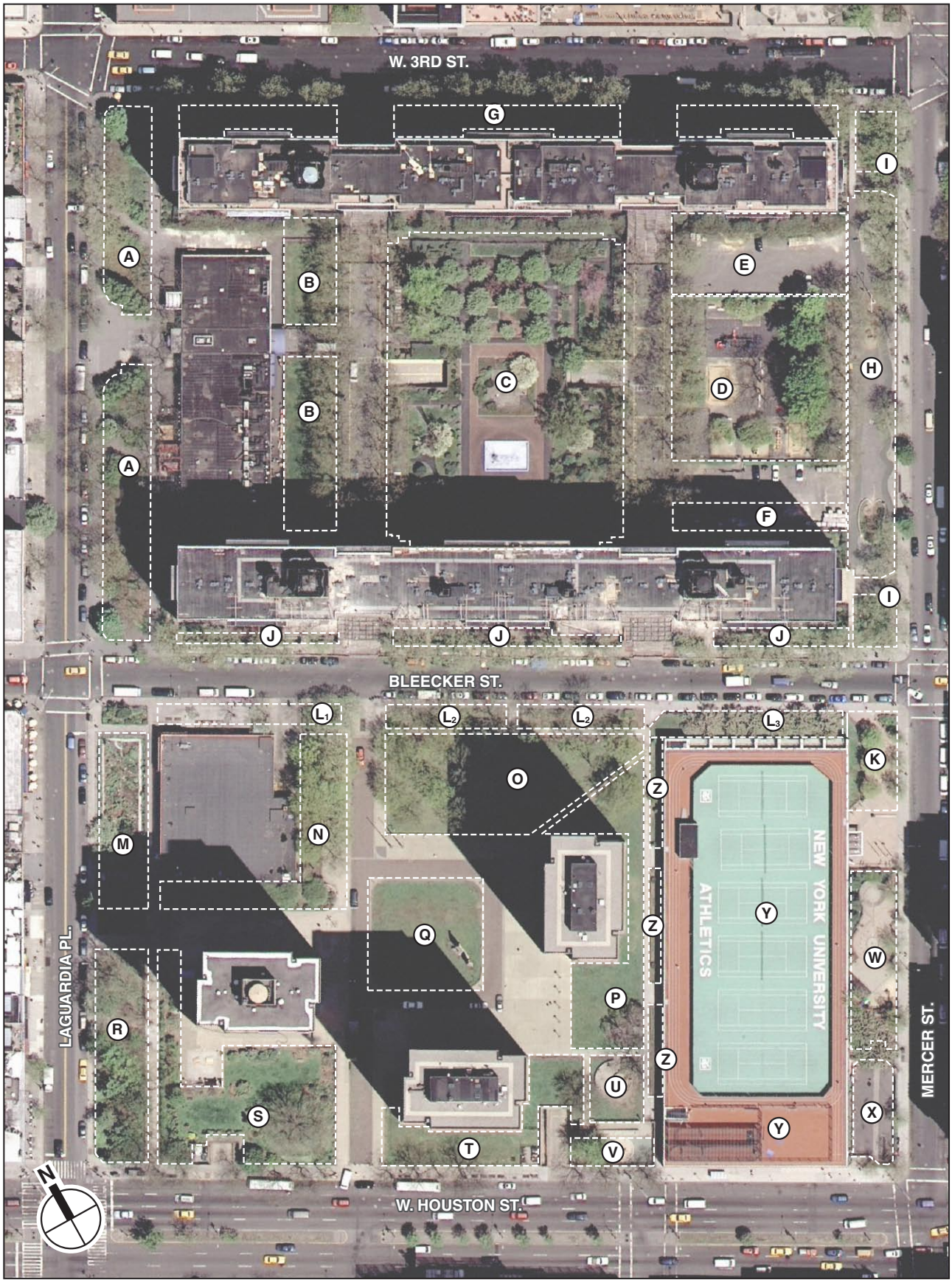


Ⓐ Public or Private Resource

Public and Private Resources in the Proposed Development Area

Figure 5-2

Table 5-3 (cont'd)
Public and Private Resources Located in Proposed Development Area

Fig 5-2 Map Letter	Name	Estimated SF/Acres	Owner/ Agency	Condition	Features/Comments	Treatment for Analysis
C	Washington Square Village Elevated Garden	58,164/1.34*	NYU	Good	Seating areas located primarily in the northern portion of the garden. Extensive landscaping and trees throughout. Fenced fountain in the southern portion (not currently in operation). The southern portion offers fewer opportunities for seating, mostly for passing through. While there are no signs indicating that it is private property, the garden is not easily visible or accessible from the surrounding streets (one has to enter through one of the Washington Square Village driveways, all other possible points of entrance are fenced off). There are fences surrounding the garden itself (or in some areas a wall with garden at higher elevation), with entrance gates. Utilized primarily by Washington Square Village residents.	Private open space; and as such, will be considered in qualitative assessment.
D	Washington Square Village Playground	23,190/0.53	NYU	Good	Children's playground equipment for toddlers and young children. Gated, with signs indicating private property for residents of Washington Square Village only; security guard posted at the entrance	Private open space; considered in qualitative assessment.
E		11,194/0.26	NYU	Poor	Paved, gated area used for parking.	Not an open space; does not provide usable recreational areas. This area will not be considered in the assessment.
F		2,770/0.06	NYU	Poor	Paved area with two benches. Separated from Mercer Street sidewalk by tall fencing.	Not an open space; does not provide usable recreational areas. This area will not be considered in the assessment.
G		12,925/0.30	NYU	Good	Gated landscaping	Not an open space; does not provide usable recreational areas. This area will not be considered in the assessment.
H	Mercer Street Playground	14,456/0.33*	NYCDOT	Poor	Benches, fountain, playground. The playground is mostly concrete, intended as a play space for pre-teens.	Publicly accessible open space considered in quantified and qualitative analyses.
I		3,582/0.08*	NYCDOT		Landscaping that is separated from the sidewalk and adjacent Mercer Street Playground by tall fencing.	Not a public open space because it is not accessible and does not provide usable recreational areas. However, this resource will be considered qualitatively, and will also be considered quantitatively as part of an Alternative Quantified Assessment.
J		7,800/0.18	NYU	Good	Landscaping separated from the sidewalk by approximately 3-foot fencing.	Not an open space; does not provide usable recreational areas. This area will not be considered in the assessment.
K	Coles Plaza	3,778/0.09*	NYCDOT	Good	Two benches and landscaping.	Public open space considered in quantified and qualitative analyses.
L_1, L_2, L_3	Bleecker Street Strip	8,320/0.19*	NYCDPR	Excellent	Landscaping, flowers, trees. Segments L1 and L2 include trees and landscaping within fenced-in areas (not publicly accessible); segment L3 (north of Coles Gym) includes flowers and trees and is not fenced.	Not an open space; it does not provide usable recreational areas. However, this resource will be considered qualitatively, and will also be considered quantitatively as part of an Alternative Quantified Assessment.

Table 5-3 (cont'd)
Public and Private Resources Located in Proposed Development Area

Fig 5-2 Map Letter	Name	Estimated SF/Acres	Owner or Agency	Condition	Features/Comments	Treatment for Analysis
M	LaGuardia Corner Gardens	6,530/0.15*	NYCDOT	Excellent	A GreenThumb community garden with benches, trees, shrubs, and perennials including daffodils, tulips, peonies, and roses. Padlocked gate, with phone number to call to join.	Private open space (not a publicly accessible open space due to limited hours of public accessibility). Will be considered in qualitative analysis.
N		6,350/0.15	NYU	Excellent	The area contains landscaping, low cement wall for seating. There are signs indicating private property and trespassing is prohibited.	Not an open space; does not provide usable recreational areas. This area will not be considered in the assessment.
O	Silver Towers Oak Grove	15,636/0.36*	NYU	Good	Grass, trees, and outside of the grove is a low cement wall that is conducive to sitting. This seating faces the interior drive and resource P.	Not an open space; does not provide usable recreational areas. This area will not be considered in the assessment.
P		10,150/0.23	NYU	Poor	Grassed area with signs to keep dogs off of it.	Not an open space due to limited access and lack of recreational amenities. This area will not be considered in the assessment.
Q		9,236/0.21*	NYU	Fair	Area consists of grass and a statue. There are "Keep off grass" signs.	Not an open space; does not provide usable recreational areas and access is restricted. This area will not be considered in the assessment.
R	Time Landscape	8,286/0.19*	NYCDOT	Excellent	Fenced landscaping identified as NYCDPR Greenstreet	As per *CEQR Technical Manual* guidelines, Greenstreets are not considered publicly accessible open spaces. Area does not provide usable recreational areas and access is restricted. This area will not be considered in the assessment.
S	505 LaGuardia Garden	14,515/0.33	NYU	Excellent	Flowers, vegetables. Garden for residents of University Village only.	Private open space; considered in qualitative assessment.
T		7,440/0.17	NYU	Good	Grass behind gates that prohibit all access.	Not an open space; does not provide usable recreational areas and access is restricted. This area will not be considered in the assessment.
U	Silver Tower Seating	2,665/0.06	NYU	Fair	Seating area. While there are no signs indicating that it is private open space, the space is not readily apparent from West Houston Street, and there is no signage along the street indicating its presence.	Private open space; considered in qualitative assessment.
V	Silver Tower Playground	2,721/0.06	NYU	Poor	Playground equipment. Signs and gates indicating private property for residents of Silver Towers only.	Private open space; considered in qualitative assessment.
W	Coles Playground	6,856/0.16*	NYCDOT	Poor	Playground contains seating, a fountain (currently not operating), and play space for pre-teens. Area is temporarily inaccessible due to sinkhole.	Public open space considered in quantified and qualitative analyses, but not part of existing conditions inventory due to present closure. Assumed to be re-opened in the future without the Proposed Actions.
X	Mercer-Houston Dog Run	3,175/0.07*	NYCDOT	Fair	Dog run. Gated, with a phone number to call to join	Private open space due to limited public access. Considered in qualitative assessment.

Table 5-3 (cont'd)
Public and Private Resources Located in Proposed Development Area

Fig 5-2 Map Letter	Name	Estimated SF/Acres	Owner or Agency	Condition	Features/Comments	Treatment for Analysis
Y	Coles Gymnasium (interior and rooftop area)	210,000/4.82	NYU	Good	Interior facility includes swimming pool, weight room, fitness studios, basketball and racquetball courts, and other athletic facilities for use by the NYU population. Rooftop includes outdoor track, tennis courts, batting cage and unprogrammed space. Hours of public accessibility limited to 10 hours per week.	Private open space due to limited public accessibility; considered in qualitative assessment.
Z		2,118/0.05	NYU	Fair	Narrow landscaped area along a narrow walking path internal to the project site.	Not a publicly accessible open space; does not provide usable recreational areas. This area will not be considered in the assessment.
	TOTAL	**481,128/11.05**				
	TOTAL PUBLIC OPEN SPACE	**25,090/0.58**				
	TOTAL PRIVATE OPEN SPACE	**330,080/7.58**				

Notes: * Denotes open space acreage estimates based on survey data from Langan Engineering. All other estimates based on New York City Department of Parks and Recreation website or AKRF survey.
Sources: AKRF field visits conducted in November 2010 and May and June 2011; New York City Department of Parks and Recreation; Langan Engineering.

Based on *CEQR Technical Manual* guidelines relating to the definitions of public and private open spaces, the Proposed Development Area currently contains 10 private open spaces and recreational facilities totaling approximately 7.58 acres, and three publicly accessible open spaces totaling approximately 0.58 acres. Of the 0.58 acres of public open space, an estimated 0.09 acres are passive, and 0.49 acres are active. The two operating publicly accessible open spaces—Mercer Street Playground and Coles Plaza—are included in the inventory of existing public open spaces in **Table 5-5**, below. The third publicly accessible open space—Coles Playground—is currently closed, but is assumed to be reopened in the future without the Proposed Actions.

Mercer Plaza Area

The Mercer Plaza Area contains one publicly accessible open space—Mercer Plaza. The recently-opened plaza is an approximately 0.18-acre passive area with tables, benches, planting beds, and trees. The property is owned by the City under the jurisdiction of NYCDOT. It was designed and constructed by NYU in collaboration with the local community.

Commercial Overlay Area

The Commercial Overlay Area does not contain any publicly accessible open spaces.

NON-RESIDENTIAL (¼-MILE) STUDY AREA

There are 16 publicly accessible open spaces and recreational resources currently operating within the non-residential study area (including the three publicly accessible open spaces on the project site, described above). **Table 5-4** identifies these 16 resources, and **Figure 5-3** illustrates their locations in the study area. These open spaces include publicly and privately owned spaces that are open to the public. Altogether, the operating publicly accessible open space resources in the non-residential study area total approximately 13.48 acres, of which approximately 9.25 acres are for passive recreation and 4.23 acres are for active recreational activities.

Existing Publicly Accessible Open Space Resources

NYU Core

Figure 5-3

Table 5-4
Existing Publicly Accessible Open Space Inventory

Fig 5-3 Ref.*	Name/Address	Owner or Agency	Features	Acres of Active Open Space	Acres of Passive Open Space	Condition/ Utilization
Non-Residential (1/4-Mile) Study Area						
1	Washington Square Park 5th Av, Waverly Pl, W 4th St and MacDougal St	DPR	Fountain, dog parks, playground, paved area, picnic, landscaping	2.44	7.31	Excellent/ Heavy
2	W 4th St Courts Ave Of Americas, W 3rd St and W 4th St	DPR	Basketball courts, handball courts, playground and Golden Swan Garden	0.27	0.15	Excellent/ Heavy
3	Minetta Playground Minetta Ln, W 3rd St and Avenue of the Americas	DPR	Playground, benches, sitting area, play houses	0.14	0.06	Excellent/ Moderate (Closed for Construction until December 2011)
4	Minetta Green SE corner Minetta Ln and Ave of Americas	DPR	Landscaping, path, garden	0.00	0.06	Excellent/ Low
5	Minetta Triangle NE corner Ave of Americas and Minetta St	DPR	Landscaping, benches	0.00	0.08	Excellent/ Low
6	Little Red Square NE corner Ave of Americas and Bleecker St	DPR	Benches, trees	0.00	0.04	Good/ Moderate
7	Passannante Ballfield W Houston St, Ave of Americas, MacDougal St	DPR	Athletic fields (baseball, softball), athletic courts (basketball), drinking fountain	0.61	0.00	Excellent/ Moderate
8	Father Fagan Park East side Ave of Americas, Prince and Spring Sts	DPR	Benches, trees	0.00	0.15	Fair/ Moderate
9	Vesuvio Playground Spring St and Thompson St	DPR	Spray shower, playground equipment, athletic courts (basketball, handball, Bocci) pool, benches, tables, chess, plantings, landscaping)	0.44	0.19	Excellent/ Heavy
10	Coles Plaza Mercer St between Bleecker St and Houston St	NYCDOT	Benches and landscaping	0.00	0.09	Good/ Moderate
11	Mercer Street Playground Mercer St between Bleecker St and W 3rd St	NYCDOT	Benches, fountain, playground, active paths	0.33	0.00	Poor/ Low

Table 5-4 (cont'd)
Existing Publicly Accessible Open Space Inventory

Fig 5-3 Ref.*	Name/Address	Owner or Agency	Features	Acres of Active Open Space	Acres of Passive Open Space	Condition/ Utilization
Non-Residential (1/4-Mile) Study Area (continued)						
12	Schwartz Plaza	NYU	Benches, sculpture, landscaping.	0.00	0.32	Excellent/ Moderate
13	Mercer Plaza	NYCDOT	Tables, benches, planters, trees	0.00	0.18	Excellent/ Moderate
14	300 Mercer St	Hilary Gardens Company LLC	Seating, planters, fountain	0.00	0.31	Poor/Low
15	Georgetown Plaza 60 East 8th Street	Aspenly Co. LLC/George town Plaza Owners Corp.	Planters, fountain	0.00	0.25	Excellent/ Heavy
16	445 Lafayette St	Astor Place Associates	Chess tables, seating, trees	0.00	0.06	Excellent/ Heavy
Non-Residential (1/4-Mile) Study Area Total				**4.23**	**9.25**	
Residential (1/2-Mile) Study Area						
17	Cooper Park/Triangle 3rd Ave to 4th Ave, E 6th St to E 7th St	DPR	Benches, trees, statue	0.00	0.23	Good/ Moderate
18	Liz Christy Community Garden	DPR	Garden, benches with walkway, trees, pond	0.00	0.27	Excellent/ Moderate
19	First Park Houston St, E 1st St, 1st Ave	DPR	Center, trees, playground, benches, courts, artwork, fountain, recreation center, food concession	0.53	0.23	Excellent/ Moderate
20	Sara D. Roosevelt Park E Houston St to Canal St	DPR	Courts, benches, playground, garden, center, restrooms	2.6	1.3	Excellent/ Heavy
21	De Salvio Playground Spring St and Mulberry St	DPR	Swings, slides, seesaws, play equipment, shower basin, game tables, benches, Bocci	0.27	0.00	Excellent/ Heavy
22	Lt. Joseph Petrosino Square Spring St., Cleveland Pl., and Lafayette St.	DPR	Seating, drinking fountain, and landscaping	0.00	0.03	Excellent/ Heavy
23	Grand Canal Court Thompson & Canal Sts, Sixth Avenue	DPR	Basketball courts	0.13	0.00	Fair/ Low
24	Duarte Square Sixth Avenue, Canal and Grand Sts	DPR	Statue of Juan Pablo Duarte, benches	0.00	0.24	Fair/ Moderate
25	Soho Square Sixth Avenue and Spring St	DPR	Gen. Jose Artigas Monument, benches, trees	0.00	0.58	Fair/ Moderate
26	Playground of the Americas Sixth Avenue and W Houston St	DPR	Playground, trees, bench, landscaping	0.08	0.00	Excellent/ Low
27	Un-named Passive Open Space at West Houston, Bedford, and Sixth Avenue	DPR	Benches and landscaping	0.00	0.02	Excellent/ Low

Table 5-4 (cont'd)
Existing Publicly Accessible Open Space Inventory

Fig 5-3 Ref.*	Name/Address	Owner or Agency	Features	Acres of Active Open Space	Acres of Passive Open Space	Condition/ Utilization
Residential (1/2-Mile) Study Area (continued)						
28	Winston Churchill Square Downing St and the west side of Sixth Avenue	DPR	Benches, landscaping, sculpture	0.00	0.05	Excellent/ Moderate
29	James J. Walker Park Hudson, Leroy, Clarkson Sts, 7th Ave	DPR	Soccer field, playground, bocce court, baseball field, 5 handball courts	1.67	0.00	Excellent/ Heavy
30	Tony Dapolito Recreation Center (formerly the Carmine Recreational Center) Carmine and Leroy Sts, 7th Ave	DPR	Gymnasium and swimming pool	0.21	0.00	Excellent/ Heavy
31	Father Demo Square Sixth Avenue, Bleecker & Carmine Sts	DPR	Fountain, landscaping, benches	0.00	0.25	Excellent/ Heavy
32	Christopher Park Christopher, Grove, W 4th Sts	DPR	Landscaping, benches, sculpture	0.00	0.15	Excellent/ Heavy
33	McCarthy Square 7th Ave, Charles St & Waverly Pl	DPR	Flagpole, landscaping, benches	0.00	0.04	Excellent/ Low
34	Trump SoHo Plaza Spring St. between Varick St. and Sixth Avenue	Trump Organization	Seating, trees	0.00	0.16	Excellent/ Moderate
35	Downing Street Playground Downing St and the west side of Sixth Avenue	DPR	Playground, spray shower, bathrooms	0.22	0.00	Excellent/ Heavy
36	Un-named passive open space at Broome and Thompson Streets	DPR	Benches and Landscaping	0.00	0.04	Excellent/ Low
37	Charlton Plaza Sixth Avenue at Charlton Street	DPR	Benches, game tables, landscaping and mural artwork	0.00	0.04	Excellent/ Low
			Residential Study Area Total**	**9.90**	**12.88**	

Note: * See Figure 5-3 for location of open spaces.
** The Residential (1/2-Mile) Study Area includes all publicly accessible open spaces inventoried within the Non-Residential (1/4-Mile) Study Area.
Sources: New York City Department of Parks and Recreation (DPR) open space data base; AKRF, Inc. field surveys, November 2010, May and June 2011.

The largest open space in the non-residential study area is Washington Square Park. The park has a variety of amenities for active and passive users including benches, a children's playground, grassy areas, chess tables, trees, and dog runs. The most notable features of the park include the Washington Arch and a large fountain located in the center. Of this park's 9.75 acres, an estimated 7.31 acres are for primarily passive recreational uses and 2.44 acres are for active recreational uses.

In December 2007 DPR initiated a major reconstruction effort for Washington Square Park. The first phase of reconstruction, completed in May 2009, covered the northwest quadrant of the park and the central plaza. The improvements included new and expanded lawns and planting beds, the relocation and conservation of the fountain, conservation of the Alexander Holley Monument, repaved paths, and new benches and lighting. The fountain was completely rebuilt and restored in its previous dimensions, and is now the focal point of a large central plaza, rebuilt on one level to make it accessible. The shifting of the fountain helped make possible an

approximately 20 percent increase in unpaved green space in the park. The new lawns abutting the plaza are for passive recreation. The second phase of the reconstruction project featured restored landscaping, plantings, and flower beds replacing excess asphalt in the remaining northeast, southeast, and southwest quadrants. The northeast playground was upgraded, and a new play area in the southwest section that incorporates the "mounds" was rebuilt slightly below grade to improve sightlines and minimize their impact on the park landscape, and covered with carpet-style synthetic turf for safety. A new performance stage was built, the dog runs were relocated and expanded, the Giuseppe Garibaldi Monument was conserved and relocated, the petanque courts were reconstructed, paths were repaved, and new lighting and fences were added. The final phase, to be completed by the second quarter of 2013, will include a new Parkhouse with a new comfort station for the public and space for DPR maintenance staff.

As noted in the Proposed Development Area discussion above, there are currently two operating publicly accessible open spaces located within the Proposed Development Area: Mercer Street Playground, and Coles Plaza. Mercer Street Playground is a 0.33-acre DPR-managed playground located along the eastern length of the Proposed Development Area's North Block, between Bleecker and West 3rd Streets. The playground is mostly concrete, intended as a play space for pre-teens and is designed for skateboarding, cycling, and rollerblading. Also on Mercer Street just south of Bleecker Street is Coles Plaza, which offers benches and landscaping for passive recreation.

Further north on Mercer Street (north of Waverly Place) are two publicly accessible open space areas that feature passive uses at 300 Mercer Street, and 60 East 8th Street (Georgetown Plaza). The 300 Mercer Street plaza contains 0.31 acres of space, including seating, planters, and a fountain. It is in poor condition and is not heavily utilized. The 0.25-acre Georgetown Plaza also contains planters and a fountain, and is in excellent condition with heavy utilization. Just east of these resources is an additional private open space, at 445 Lafayette Street. This small, 0.06-acre site contains chess tables, seating, and trees, and is heavily utilized.

A majority of the public open spaces in the non-residential study area are located along Sixth Avenue, from East 4th Street to the study area's southern boundary at Spring Street. These open spaces feature active and passive uses. The 0.61-acre Passannante Ballfield, located on the corner of Sixth Avenue and West Houston and MacDougal Streets, is the largest of this cluster, and contains basketball courts as well as a baseball field. The West 4th Street Courts contains basketball and handball courts and a playground for active recreation, and the Golden Swan Garden for passive recreation. Minetta Green, Minetta Triangle, Little Red Square, and Father Fagan Park, also located along Sixth Avenue in this area, all provide passive open space opportunities, such as benches, landscaping, and fountains.

To the east of Sixth Avenue in the southern portion of the non-residential study area is the 0.44-acre Vesuvio Playground, which is located at Spring Street and Thompson Street. This park contains active uses such as a playground, athletic courts, outdoor pool, and spray shower, as well as passive features, such as benches, tables, chess boards, plantings and landscaping.

RESIDENTIAL (½-MILE) STUDY AREA

A total of 37 publicly accessible open spaces and recreational facilities serve the surrounding residential and commercial populations of the residential study area. Public open spaces with no useable public amenities (e.g., the Sheridan Square Viewing Garden) were not included in the study area inventory. Including all of the public parks and other publicly accessible open spaces listed in the non-residential study area, the residential study area contains a total of

approximately 22.78 acres of publicly accessible open space, of which an estimated 12.88 acres are for passive recreational and 9.90 acres are for active recreational activities.

The majority of the parks in the residential study area are managed by DPR. The largest of these parks are: Sara D. Roosevelt Park (3.9 acres); James J. Walker Park (1.67 acres); and First Park (0.76 acres). Sara D. Roosevelt Park features approximately 2.6 acres of active uses, which include a synthetic turf soccer field, basketball, handball, and volleyball courts, several playgrounds, and a roller-skating rink. The park also contains passive uses, such as a vendor's market, gardens, and a picnic area. The park extends beyond the residential study area, but, for the purposes of this analysis, the section of the park located along Chrystie Street and Forsyth Street, from East Houston Street to Delancey Street, is included. James J. Walker Park is comprised entirely of active open space and contains a baseball field, bocce and handball courts, and a playground. The park is located on Hudson Street, between Leroy Street and Clarkson Street. Adjacent to the park, along Seventh Avenue, is the Tony Dapolito Recreation Center, which contains an indoor pool, basketball courts, and a fitness center. First Park contains predominantly active open space, which makes up 0.53 acres of the 0.76-acre park. The park contains courts, playgrounds, and a spray shower play area, in addition to passive uses such as seating areas and an eatery. The park is located on the corner of First Avenue and East 1st Street, at East Houston Street.

Other active open spaces in the residential study area include Playground of the Americas, at Sixth Avenue and West Houston Street; De Salvio Playground, at Spring Street and Mulberry Street; and Grand Canal Court, located at Thompson and Canal Streets and Sixth Avenue. These sites provide active uses such as athletic courts, playgrounds, and game tables and range in size from 0.08 to 0.40 acres.

There are also several passive open spaces in the residential study area. Parks that provide seating and greenery include: Cooper Park, located at Third and Fourth Avenues and East 6th and 7th Streets; Winston Churchill Square, located at Downing Street and Sixth Avenue; and Christopher Park, located at Grove, West 4th, and Christopher Streets. Passive parks with monuments or fountains include: Lt. Joseph Petrosino Square, located at Cleveland Place and Spring and Lafayette Streets; Duarte Square, located at Sixth Avenue and Canal and Grand Streets; and Soho Square, located at Sixth Avenue and Spring Streets. There is also a Greenstreet at Watts Street and West Broadway, as well as the Liz Christy Community Garden on East Houston Street between the Bowery and Second Avenue. These spaces range in size from 0.01 acres to 0.58 acres.

ADEQUACY OF OPEN SPACES

QUANTIFIED ASSESSMENT

Non-residential Study Area

As described above, the analysis of the non-residential (1/4-mile) study area focuses on passive open spaces that may be used by workers and students in the area; the adequacy of active open spaces within the non-residential study area is not analyzed because workers and students tend to use passive open space resources during their work day. To assess the adequacy of the open spaces in the area, the ratio of workers to acres of open space is compared to DCP's planning guideline of 0.15 acres of passive space per 1,000 workers. In addition, the passive open space ratio for both workers and residents in the area is compared to the recommended weighted average ratio.

The non-residential study area includes approximately 9.25 acres of passive open space and 4.23 acres of active open space. A total of 91,299 people work or study within the non-residential study area boundary, and 30,057 residents live within the study area, resulting in a combined population of 121,356 workers, students and residents.

Based on DCP guidelines, the area has a passive open space ratio of approximately 0.101 acres of passive open space per 1,000 workers, which is below the City's guideline of 0.15 acres (see **Table 5-5**). The combined passive open space ratio is 0.076 acres per 1,000 residents and workers, which is much lower than the recommended weighted average ratio of 0.24 acres per 1,000 residents and workers.

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

		Open Space Acreage			Open Space Ratios per 1,000 People			DCP Open Space Guidelines		
Total Population		**Total**	**Active**	**Passive**	**Total**	**Active**	**Passive**	**Total**	**Active**	**Passive**
Non-Residential Study Area										
Non-residents	91,299	13.48	4.23	9.25	N/A	N/A	0.101	N/A	N/A	0.15
Combined non-residents and residents	121,356				N/A	N/A	0.076	N/A	N/A	0.24*
Residential Study Area										
Residents	93,616	22.78	9.90	12.88	0.243	0.106	0.138	2.5	2.0	0.50
Combined non-residents and residents	268,500				N/A	N/A	0.048	N/A	N/A	0.27*

Note:
* 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.

Residential Study Area

The quantified analysis of the adequacy of open space resources within the residential study area takes into consideration the ratios of active, passive, and total open space resources per 1,000 residents, as well as the ratio of passive open space per 1,000 combined residents and non-residents.

The residential study area has a total of 22.78 acres of publicly accessible open space, of which 9.90 acres are for active uses and 12.88 acres are for passive uses. With an estimated total residential population of 93,616, the residential study area has an overall open space ratio of 0.243 acres per 1,000 residents. This is substantially below the City's planning guideline of 2.5 acres of combined active and passive open space per 1,000 residents.

The residential study area's residential passive open space ratio is approximately 0.138 acres of passive open space per 1,000 residents, which is also well below the City's planning goal of 0.5 acres per 1,000 residents. The area's residential active open space ratio is 0.106 acres per 1,000 residents, which again is notably below the City's planning guideline of 2.0 acres per 1,000 residents.

When the employees who work and the daytime student population within the residential study area are added to the population, the passive open space ratio is lower. As described earlier, workers typically use passive open spaces during the workday, so the passive open space ratio is the relevant ratio for consideration. With a worker, student and residential population of

268,500, the combined passive open space ratio in the residential study area is approximately 0.048, much lower than the recommended weighted average guideline ratio of 0.27 acres per 1,000 residents and workers.

QUALITATIVE DISCUSSION

The quantified nature of the inventory and analysis above does not capture every resource and consideration that plays into the overall quality of an area's open space resources. The following qualitatively describes the manner in which the study areas' private and public open spaces serve the study area populations and its visitors.

As identified in **Table 5-1** and **Figure 5-2**, there are substantial private open space resources located on the interior of the Proposed Development Area that primarily serve the residents and workers of the two superblocks (the North and South Blocks). Most notable on the North Block are the Washington Square Village Elevated Garden (area "C" in **Figure 5-2**) and the adjacent Washington Square Village Playground (area "D" in **Figure 5-**2). The approximately 1.34-acre Washington Square Village Elevated Garden consists of a central plaza with an I-shaped plan oriented north-south and organized by an asphalt grid with concrete-curbed planting beds that frame the plaza. The plaza contains—from north to south—a grove of crabapple trees with planters that have cantilevered concrete benches; a large square planting bed with overlapping terraces and walkways; and large rectangular fountain. The plaza's two mirrored side sections contain seating areas below pergolas, chess tables, meandering pathways, and plantings. The garden generally is not heavily utilized, and provides opportunity for tranquil respite. While there are no signs indicating that it is a private open space, the garden is not easily viewed and not easily accessible from the surrounding streets; users need to enter through one of the Washington Square Village private driveways, as all other possible points of entrance are fenced off. The Washington Square Village building forms, in combination with fencing along LaGuardia Place and Mercer Street as well as differences in elevation along West Houston Street, create a hidden enclave in that relatively few pedestrians recognize the interior recreational opportunities of the superblocks. Therefore, the open space in the interior of the site, which is on private (NYU) property, is utilized primarily by the superblock residents.

Adjacent to the Washington Square Village Elevated Garden is the Washington Square Village playground, an approximately 0.53-acre private play area that is made available for building residents and neighbors within a limited area. The playground contains brightly colored metal and plastic playground equipment, sandboxes, swing sets, tire swings, benches, and trees, and is enclosed with a chainlink fence. The playground has limited visibility from Mercer Street due to fencing on the Mercer Street Strip, but it contains numerous tall trees that add greenery to the Mercer Street streetscape. During field visits, the playground was noted to be highly utilized even when there were very few users within the adjacent Washington Square Village Elevated Garden. Collectively, the garden and playground lessen the superblock residents' demand for passive resources off-site, as well as for active (playground) resources off-site.

The South Block also provides open space areas for residents residing in Washington Square Village and University Village. These open spaces are not publicly accessible, but similar to the Washington Square Village Elevated Garden and Playground, they decrease the local burden on publicly accessible open spaces by providing over two acres of private open space to the North and South Block populations. The private South Block open spaces include the Silver Tower Playground (area "V" in **Figure 5-2**) and Silver Tower Seating Area (area "U" in **Figure 5-2**), located close to Houston Street mid-block, and the 505 LaGuardia Garden (area "S" in **Figure 5-2**), a flower and vegetable garden for University Village residents. In addition to these spaces,

there are numerous areas with gated landscaping on the project site (described in **Table 5-3** and shown in **Figure 5-2**) that are visually pleasing and that provide a respite from the denser urban build-out of the neighborhood. However, most cannot be entered and used for active or passive recreation.

The Jerome S. Coles Sports Center (Coles Gym), located on the South Block along Mercer Street, is an approximately 130,000-square-foot building that serves as the primary recreational facility for the NYU population, with some limited accessibility to area residents. Coles Gym includes a swimming pool, weight room, fitness studios, basketball and racquetball courts, and other athletic facilities. There is an outdoor track and tennis courts on the roof of Coles Gym, although the tennis courts are currently closed. Coles Gym, along with other NYU athletic facilities such as the Palladium Athletic Facility (outside of the study area), help satisfy NYU students' and faculty's demands for active recreational opportunities, and in doing so lessen the burden on publicly accessible active open spaces (the ratios estimated in the quantified analysis above are conservative in that they do not include the private open space resources that are available to NYU-affiliated residents and workers). However, Coles Gym was built in 1981, and lacks basic amenities such as air conditioning and adequate facilities for modern-day athletic requirements. Part of the purpose and need of the proposed project is to provide a state-of-the-art athletic facility that better serves the recreational demands of the NYU population.

The LaGuardia Place Strip, Mercer Street Strip, and Bleecker Street Strip contain public and private open spaces that serve a broader community population in a variety of ways:

- **LaGuardia Landscape (area "A" in Figure 5-2)** – Located along LaGuardia Place on the North Block (between Bleecker and West 3rd Streets), the LaGuardia Landscape consists of large, irregularly-shaped plots planted with vines, bushes, and tall, mature trees. Low, arched metal railings surround the landscaping, and paved paths pass through the space between the sidewalk along LaGuardia Place and the Washington Square retail building. A bronze statue of Mayor Fiorello LaGuardia is located midway between West 3rd and Bleecker Streets. The space does not provide any seating, but its pathways enable one to meander through the landscape.
- **LaGuardia Corner Gardens (area "M" in Figure 5-2)** – Located along LaGuardia Place on the South Block (between West Houston and Bleecker Streets), the LaGuardia Corner Gardens is a community garden registered with GreenThumb and is a designated Backyard Wildlife Habitat and Monarch Waystation. The garden was created on City-owned land in 1981 by volunteers and is a community asset, providing gardening opportunities for members. Although the garden is open to the public for only limited hours throughout the year (generally for several hours Saturday and Sundays April through October, and two hours on Tuesdays, Wednesdays and Thursdays mid-May through mid September), it is clearly visible at all times to pedestrians along LaGuardia Place. In addition, according to the garden's website[1] in the spring members conduct programs for local school children; garden events include seasonal celebrations, events for children, and a variety of musical offerings.
- **Mercer-Houston Dog Run (area "X" in Figure 5-2)** – Located along Mercer Street on the South Block (between Bleecker and West Houston Streets), the Mercer-Houston dog run is a membership-only dog run with approximately 300 family members. The dog run provides a

[1] http://laguardiacornergardens.org/

passive recreational opportunity for its members, and its location near the corner of West Houston and Mercer Streets makes it a neighborhood gathering place for dog owners and dog lovers alike.

- **Time Landscape (area "R" in Figure 5-2)** – Located along LaGuardia Place on the South Block (between West Houston and Bleecker Street), the Time Landscape is a fenced, landscaped area that is designated as an NYCDPR GreenStreet. It consists of plants that were native to this area in pre-colonial times, and when first planted in 1965, Time Landscape portrayed the three stages of forest growth from grasses to saplings to grown trees. The fencing does not permit public entry, although there is sidewalk encircling the plot.
- **Mercer Street Playground and adjacent landscaping (areas "H" and "I," respectively in Figure 5-2)** – Located along Mercer Street on the North Block (between Bleecker and West 3rd Streets), Mercer Street Playground is an approximately 0.33-acre public playground consisting of benches, fountains, and a concrete play surface intended as space for pre-teens designed for skateboarding, cycling, climbing, and rollerblading. This active resource is underutilized; there were few or no users observed during numerous field visits. Adjacent landscaping is fenced in inaccessible to the public.
- **Coles Plaza (area "K" in Figure 5-2) –** Located along Mercer Street on the South Block (at the corner of West 3rd Street), Coles Plaza offers benches for passive recreation, and is fairly well utilized by the public, including most notably students entering and exiting Coles Gym.
- **Coles Playground (area "W" in Figure 5-2, currently closed) –** Located along Mercer Street on the South Block (south of Coles Plaza), Coles Playground contains seating, a fountain, and play space for pre-teens. The area is temporarily inaccessible due to a sinkhole.
- **Bleecker Street Strip (areas "L_1, L_2, and L_3" in Figure 5-2)** – Located along Bleecker Street on the South Block (running adjacent to the sidewalk between LaGuardia Place and Mercer Street), these mostly fenced landscaping areas (sections L1 and L2) are not accessible and do not provide amenities for seating, but they do add value in beautifying the pedestrian experience.

In addition to providing some recreational opportunities, these resources frame the pedestrian's visual experience and enjoyment of the neighborhood while traversing the streets surrounding the superblocks. However, some of these resources are not well utilized—most notably Mercer Playground and Coles Playground, which is currently closed. Given the underutilization of active open space offerings, the uses on the strips are primarily contributing to the passive enjoyment of the community.

The study areas surrounding the project site provides only a few substantial passive and active open space offerings; most open spaces are located within smaller parks and plazas. One of the few prominent open spaces is the nearly 10-acre Washington Square Park, a community resource and City destination that is heavily utilized by NYU students, residents, and visitors. For areas in which there is a substantial worker, student, and visitor population, there is typically a need for more passive open space resources. Within the residential study area the only other substantial passive open space resource offering is at Sara D. Roosevelt Park, which offers approximately 1.3 acres of passive open space in addition to its active amenities. Residents may travel slightly beyond a ½-mile boundary for a prominent resource—Union Square Park is located just north of the study area boundary, between 14th Street and 17th Street and Broadway and 4th Avenue. Union Square Park is approximately 3.6-acres in size, is heavily used and contains a playground, sculptures, lawns, seating areas, a dog park, and food stands.

The active open space offerings within the residential study area also relatively limited, particularly open spaces containing amenities for older children and adults (e.g., play courts and ballfields). The most prominent open spaces providing such amenities include Passannante Ballfield, Vesuvio Playground, and James J. Walker Park. Washington Square Park also contains open areas for active play that are heavily utilized by NYU students and residents. The study area shortfall is exacerbated by the fact that the residential study area has a relatively high proportion of working-age population (ages 20-64) who tend to demand such resources. While still falling short of the City's quantified guidelines, the residential study area is somewhat better served by playgrounds and other play areas designed for children (ages 4 and younger, 5 to 9, and 10 to 14). The study area has smaller proportions of children in these age groupings as compared to Manhattan and New York City.

E. FUTURE WITHOUT THE PROPOSED ACTIONS

This section projects conditions in the study areas for the 2021 and 2031 analysis years without the proposed project, providing a baseline condition against which the impact of the project may be measured. The analysis includes data on projected population, as well as on open space facilities that are approved to be constructed by the analysis years.

2021 PHASE 1

STUDY AREA POPULATION

Several new residential and commercial developments are planned and scheduled for completion within the study areas by 2021. These new developments will increase both the residential and non-residential populations within the study areas.

Proposed Development Area

In the future without the Proposed Actions by 2021, no new development is planned for the Proposed Development Area, and therefore the residential and worker populations will remain similar to existing conditions.

Mercer Plaza Area

By 2021 the uses associated with the Mercer Plaza Area's at-grade plaza and below-grade cogeneration facility will remain similar to existing conditions, and the employment associated with those uses is not expected to change.

Commercial Overlay Area

In the future without the Proposed Actions two changes are expected in the Commercial Overlay Area. By 2021 NYU will develop an additional 20,000 gsf of academic uses at an existing academic building at 25 West 4th Street. NYU may also redevelop the existing 74,000-gsf residential building at 15 Washington Place as a 129,000-gsf academic building.

Non-residential Study Area

Absent the proposed project, the non-residential (1/4-mile) study area will continue to see residential, commercial, and institutional development. As detailed in Chapter 2, "Land Use, Zoning, and Public Policy," there are over 20 development projects within or adjacent to a 1/4-mile perimeter of the project site that are anticipated to be built by 2021 (including projects in the project site, noted above). These projects are identified in **Table 2-2** and **Figure 2-6**; 23 of these projects fall within the boundary of the non-residential open space study area.

In total, these known development projects in the non-residential study area are estimated to increase the worker population by 2,142 persons, and increase the residential population by 61 persons. Based on these projects and existing populations, in the future without the Proposed Actions by 2021 there would be an estimated 50,876 workers and 30,118 residents in the non-residential study area.

By 2021, the NYU student population associated with the Washington Square campus is also expected to increase as compared to existing conditions. Based on NYU projections, the student population will increase by approximately 0.5 percent per year, resulting in a total daytime student population of 44,964 persons. Added to the worker population, the total non-residential population will be an estimated 95,841, and combined residential and non-residential population will be an estimated 125,958.

Residential Study Area

In the future without the Proposed Actions the residential study area will continue to see residential, commercial, and institutional development. In addition to the 23 development projects located within the non-residential study area, there are 32 other known projects planned for the residential study area by 2021, as well as the proposed Hudson Square Rezoning, for which projected development is anticipated to be complete by 2022 (for purposes of analysis all of the population growth resulting from the Hudson Square rezoning is assumed to occur by 2021). Separate from the Hudson Square rezoning project, planned projects include most notably the redevelopment of the St. Vincent's Hospital site at 7th Avenue and West 12th Street, which will result in a new approximately 152,000-sf medical center, 25,000 sf of medical offices, 450 residential units, and 11,200 sf of commercial uses; and the New School's University Center, which is currently under construction at 65 Fifth Avenue and will provide 270,000 sf of new academic space, 608 dormitory units, 8,000 sf of commercial uses, and serve as the focal point for the New School campus.

With the development projects and the additional residential growth expected to occur, the residential population in the residential study area for 2021 absent the proposed project is estimated to be 101,553. **Table 5-6** estimates the age distribution of the residential study area population in the future without the Proposed Actions by 2021. With the introduction of the New School's 608 dormitory units, the study area population will be slightly more heavily weighted toward the young adult (15- to 19-year-old) and adult (20- to 64-year-old) age brackets as compared to existing conditions.

The number of new workers would also increase, due to commercial developments expected to be constructed within the residential study area. By 2021, the total residential and non-residential populations within this area are estimated to be 284,996.

STUDY AREA OPEN SPACES

Non-residential Study Area

In the future without the Proposed Actions, by 2021 there would be two open space improvements in the ¼-mile non-residential study area, both occurring within the Proposed Development Area. It is anticipated that by 2012, an approximately 4,500-sf playground called Adrienne's Garden will be built on the LaGuardia Landscape (part of the LaGuardia Place Strip on the western edge of the North Block). The playground would displace a portion of the LaGuardia Landscape, activating what is currently a passive "walk-through" experience that offers no seating. The playground will contain a fanciful dragon for young children to play upon and benches for parents and caregivers.

Additionally, it is expected that the currently-closed, approximately 0.16-acre Coles Playground will be reopened. Together, these open spaces will provide approximately 0.27 acres of active open space to the study areas by 2021.

Table 5-6
Residential Study Area Population Age Distribution
Future Without the Proposed Actions 2021

Age Category	Residential (1/2-Mile) Study Area in 2021		Manhattan in 2010		New York City in 2010	
	Persons	Percent	Persons	Percent	Persons	Percent
4 and younger	3,008	3.0	76,579	4.8	517,724	6.3
5 to 9	2,168	2.1	61,323	3.9	473,159	5.8
10 to 14	1,786	1.8	58,229	3.7	468,154	5.7
15 to 19	6,687	6.6	77,462	4.9	535,833	6.6
20 to 64	75,691	74.5	1,098,127	69.2	5,187,105	63.4
65 and over	12,212	12.0	214,153	13.5	993,158	12.1
Total	101,553	100.0	1,585,863	100	8,175,133	100

Sources: Based on U.S. Census 2010, grown to reflect planned projects and the expected age distribution for those project populations.

Residential Study Area

By 2021 there is a planned improvement to Duarte Square, located at Sixth Avenue and Canal and Grand Streets within the ½-mile residential study area. Duarte Square would be expanded by utilizing the above-grade portion of existing easements, adding 0.20 acres of passive open space for a total acreage of approximately 0.44 acres.

ADEQUACY OF OPEN SPACES: QUANTIFIED ASSESSMENT

Non-residential Study Area

By 2021 without the proposed project, the number of workers and students in the non-residential study area is expected to increase to 95,841 persons and the total amount open space is expected to increase slightly, to 13.75 acres. Given the projected growth in population relative to the lack of new passive open space offerings, the area's non-residential open space ratios would worsen slightly in the future without the Proposed Actions. As shown in **Table 5-7**, the passive open space ratio would decrease to 0.097 acres per 1,000 non-residents, and would continue to fall below the City's guideline of 0.15 acres per 1,000 workers. The combined ratio for residents and non-residents would continue to fall well below the recommended weighted average ratio of 0.23 acres per 1,000 residents and workers.

Residential Study Area

In the future without the Proposed Actions by 2021 residential (1/2-mile) study area will continue to fall well below City guidelines for open space ratios. The active open space ratio would be 0.100 acres per 1,000 residents, which is much less than the City's planning guideline of 2.0 acres per 1,000 residents. The total residential open space ratio would be 0.229 acres per 1,000 residents, which is also much lower than the City's guideline of 2.5 acres per 1,000 residents. The combined residential and non-residential passive open space ratio within the residential study area would be approximately 0.046 acres per 1,000 residents and non-residents, which is much lower than the recommended weighted average ratio of 0.27 acres per 1,000 residents and workers.

Table 5-7
2021 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
Non-Residential Study Area										
Non-residents	95,841	13.75	4.50	9.25	N/A	N/A	0.097	N/A	N/A	0.15
Combined non-residents and residents	125,958				N/A	N/A	0.073	N/A	N/A	0.23*
Residential Study Area										
Residents	101,553	23.24	10.16	13.08	0.229	0.100	0.129	2.5	2.0	0.50
Combined non-residents and residents	284,996				N/A	N/A	0.046	N/A	N/A	0.27*

Note:
* 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.

ADEQUACY OF OPEN SPACES: QUALITATIVE ASSESSMENT

The new playground (Adrienne's Garden) and rehabilitated playground (Coles Playground) would help to satisfy the active demands of study area children; both planned open space would be publicly accessible. Adrienne's Garden will be geared toward toddlers, and would help to activate an area that is currently underutilized as a recreational opportunity. The Coles Playground is expected to provide a safe, improved play area for pre-teens. These two resources will further establish the perimeter of the superblocks as a place for quality active and passive recreation within the study areas. However, as a whole the study area populations are not well-served by open space offerings, and prominent resources such as Washington Square Park will continue to be shared by residents, workers, students, and visitors.

2031 PHASE 2

STUDY AREA POPULATION

The assessment of study area conditions in 2031 presented below include the above-described projects that are expected to be developed by 2021.

Proposed Development Area

By 2031 in the future without the Proposed Actions, the existing Morton Williams grocery store site would be redeveloped as-of-right. The as-of-right development analyzed for purposes of this EIS is an approximately 175,000-gsf, nine-story building, containing an NYU academic space and an approximately 25,000-gsf supermarket.

The Morton Williams site, along with the development of Adrienne's Garden and the reopening of Coles Playground by 2021 (described above), are the only substantial changes anticipated to occur within the Proposed Development Area under the No Action scenario by 2031.

Mercer Plaza Area

By 2031 the uses associated with the Mercer Plaza Area's at-grade plaza and below-grade cogeneration facility will remain similar to existing conditions, and the employment associated with those uses is not expected to change.

Commercial Overlay Area

In the future without the Proposed Actions there are no known planned development projects in the Commercial Overlay Area beyond those identified as being developed by 2021 (above).

Non-residential Study Area

Including the projects built by 2021, by 2031 planned development in the non-residential study area is estimated to increase the worker population by 2,642 persons, and increase the residential population by 61 persons. Based on these projects and existing populations, in the future without the Proposed Actions by 2031 there would be an estimated 51,377 workers and 30,118 residents in the non-residential study area. In addition to these workers, the NYU student population is projected to grow by 0.5 percent for year, for a total daytime student user population of 47,263 persons in 2031. The year 2031 combined residential and non-residential population in the ¼-mile study area is projected to be 128,759 persons.

Residential Study Area

With the development projects and the additional residential growth expected to occur, the residential population in the residential study area for 2031 absent the proposed project is estimated to be 101,553. **Table 5-8** estimates the age distribution of the residential study area population in the future without the Proposed Actions by 2031. With the introduction of the New School's 608 dormitory units by 2021, the study area population will be slightly more heavily weighted toward the young adult (15- to 19-year-old) and adult (20- to 64-year-old) age brackets as compared to existing conditions.

The number of new workers would also increase, due to commercial developments expected to be constructed within the residential study area, as would the daytime NYU student population who may utilize open space resources in the residential study area. By 2031, the total residential and non-residential populations within this area are estimated to be 287,635.

Table 5-8
Residential Study Area Population Age Distribution
Future Without the Proposed Actions 2031

Age Category	Residential (1/2-Mile) Study Area		Manhattan in 2010		New York City in 2010	
	Persons	Percent	Persons	Percent	Persons	Percent
4 and younger	3,008	3.0	76,579	4.8	517,724	6.3
5 to 9	2,168	2.1	61,323	3.9	473,159	5.8
10 to 14	1,786	1.8	58,229	3.7	468,154	5.7
15 to 19	6,687	6.6	77,462	4.9	535,833	6.6
20 to 64	75,691	74.5	1,098,127	69.2	5,187,105	63.4
65 and over	12,212	12.0	214,153	13.5	993,158	12.1
Total	101,553	100.0	1,585,863	100	8,175,133	100

Sources: Based on U.S. Census 2010, grown to reflect planned projects and the expected age distribution for those project populations.

STUDY AREA OPEN SPACES

Apart from the three open space improvements anticipated by 2021 (described above), there are no known plans to develop additional open spaces in the study areas by 2031.

ADEQUACY OF OPEN SPACES: QUANTIFIED ASSESSMENT

Non-residential Study Area

By 2031 without the proposed project, the number of non-residents in the non-residential study area is expected to increase to 98,641 and the total amount open space is expected to increase slightly, to 13.75 acres. Overall, however, given the assumed growth in population relative to new open space offerings, the area's open space ratios would not improve over existing conditions. In 2031, the ratio of passive open space per 1,000 non-residents would be 0.094, and would continue to fall below the City's guideline of 0.15 acres (see **Table 5-9**). The combined residential and non-residential population passive open space ratio would be 0.072 acres per 1,000 people, which is much lower than the recommended weighted average ratio of 0.23 acres per 1,000 residents and workers.

Table 5-9

2031 Future Without the Proposed Project: 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
Non-Residential Study Area										
Non-residents	98,641	13.75	4.50	9.25	N/A	N/A	0.094	N/A	N/A	0.15
Combined non-residents and residents	128,759				N/A	N/A	0.072	N/A	N/A	0.23*
Residential Study Area										
Residents	101,553	23.24	10.16	13.08	0.229	0.100	0.129	2.5	2.0	0.50
Combined non-residents and residents	287,635				N/A	N/A	0.046	N/A	N/A	0.27*

Note:
* 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.

Residential Study Area

The combined residential and non-residential passive open space ratio within the residential study area would be 0.046 acres per 1,000 residents and non-residents, which is much lower than the recommended weighted average ratio of 0.27 acres per 1,000 residents and workers. The active open space ratio would be 0.100 acres per 1,000 residents, which is also much less than the City's planning guideline of 2.0 acres per 1,000 residents. The total residential open space ratio would be 0.229 acres per 1,000 residents.

ADEQUACY OF OPEN SPACES: QUALITATIVE ASSESSMENT

Similar to the conditions described for the future without the Proposed Actions in 2021, by 2031 the study areas would continue to be underserved in terms of both active and passive recreational opportunities. The two playgrounds that will be built and rehabilitated by 2021 and the expansion at Duarte Square Park are the only known public open space changes planned for the study areas in the future without the proposed project. However, based on utilization levels and normal wear-and-tear over the 20-year time horizon it is possible that other capital improvements would occur in some study open spaces by 2031.

F. FUTURE WITH THE PROPOSED ACTIONS

The future With-Action assessment analyzes conditions in the study areas for the build years with the proposed project, i.e., 2021 (Phase 1) and 2031 (Phase 2). Both the quantitative and qualitative factors are considered in the assessment of the extent to which the project may affect the existing open space resources and their capacity to serve the study area populations. Chapter 20, "Construction," describes and quantifies the availability and adequacy of open space resources during the construction periods for the Proposed Actions, including consideration of the potential direct and indirect effects of construction activities on the study areas' open space resources.

2021 PHASE 1

STUDY AREA POPULATION

Non-residential Study Area

The future project-generated populations for the non-residential study area analysis are based on RWCDS 1 (the Maximum Academic Scenario), which maximizes the number of workers that would be introduced by the Proposed Actions.

By 2021 RWCDS 1 would introduce approximately 1.3 million gsf of new uses to the Proposed Development Area, including NYU academic space, student dormitories, a new athletic facility, a hotel, and retail space (see **Table 1-9**). In addition, by 2021 the Proposed Actions would result in the development of up to 23,326 gsf of new ground-floor retail uses in the Commercial Overlay Area. There would be no population increases in the Mercer Plaza Area. Collectively, the new uses in the Proposed Development Area and Commercial Overlay Area would introduce to the non-residential study area an estimated total of 2,314 workers and up to approximately 600 residents, who would include NYU students living in new dormitories. The 2021 combined residential and non-residential population in the ¼-mile study area is projected to be 128,872 people.

Residential Study Area

The future project-generated populations for the residential study area analysis are based on RWCDS 2 (the Maximum Dormitory Scenario), which maximizes the number of residents that would be introduced by the Proposed Actions.

By 2021 RWCDS 2 would introduce approximately 1.3 million gsf of new uses to the Proposed Development Area, including NYU academic space, student dormitories, an athletic facility, a public school, and retail space (see **Table 1-9**). In addition, by 2021 the Proposed Actions would result in the development of up to 23,326 gsf of new ground-floor retail uses in the Commercial Overlay Area. There would be no population increases in the Mercer Plaza Area. Collectively, these new uses in the Proposed Development Area and Commercial Overlay Area would introduce to the Residential Study Area an estimated total of up to 1,750 residents, who would include NYU students living in the proposed dormitories, and possibly NYU faculty and their families in faculty housing. With the proposed project, the residential study area would contain an estimated 103,303 residents by 2021. **Table 5-10** estimates the age distribution of the residential study area population. As compared to the future without the Proposed Actions, the study area population would be even more heavily weighted toward the young adult (15- to 19-year-old) and adult (20- to 64-year-old) age brackets, given the project's introduction of student residents.

The proposed uses also would introduce an estimated 1,223 workers to the residential study area. The 2021 combined residential and non-residential population in the residential study area is projected to be 287,969 people.

Table 5-10
Residential Study Area Population Age Distribution
Future With the Proposed Actions 2021

Age Category	Residential (1/2-Mile) Study Area		Manhattan in 2010		New York City in 2010	
	Persons	Percent	Persons	Percent	Persons	Percent
4 and younger	3,008	2.9	76,579	4.8	517,724	6.3
5 to 9	2,168	2.1	61,323	3.9	473,159	5.8
10 to 14	1,787	1.7	58,229	3.7	468,154	5.7
15 to 19	7,125	6.9	77,462	4.9	535,833	6.6
20 to 64	77,004	74.5	1,098,127	69.2	5,187,105	63.4
65 and over	12,212	11.8	214,153	13.5	993,158	12.1
Total	103,303	100.0	1,585,863	100	8,175,133	100

Sources: Based on U.S. Census 2010, grown to reflect planned projects and the proposed project, and the expected age distribution for those projects.

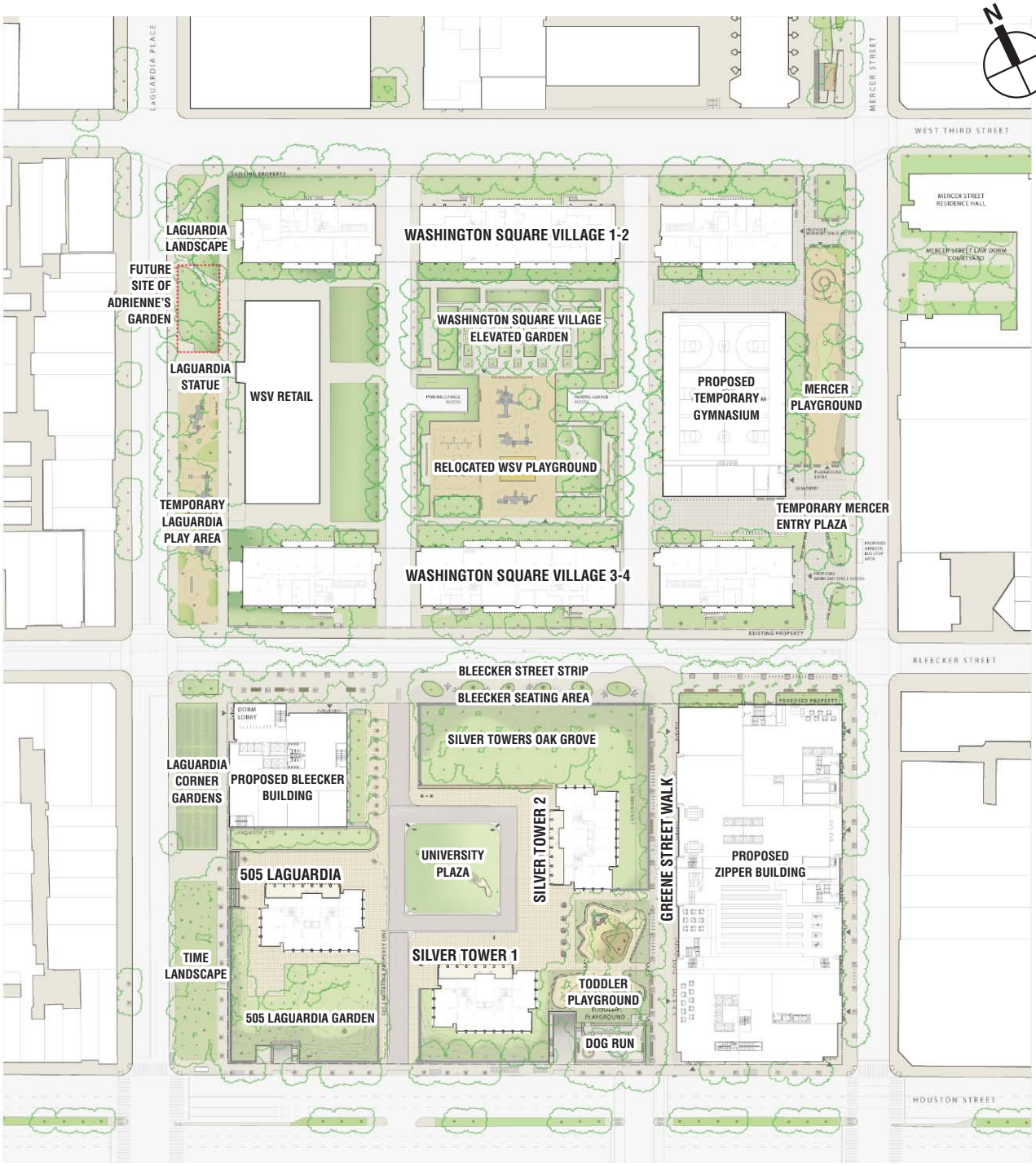
STUDY AREA OPEN SPACES

By 2021 there would be several open space changes resulting from the Proposed Actions, all occurring within the Proposed Development Area. These proposed changes are illustrated in **Figure 5-4**, and are described below.

On the North Block, the southern portion of Mercer Playground and the enclosed, landscaped area south of Mercer Playground would be displaced to accommodate a new 17,550-square-foot publicly accessible passive open space, and to enable pedestrian access from Mercer Street to the proposed temporary gym. This "Temporary Mercer Entry Plaza" would contain seating, and would be surrounded by approximately 6,350 square feet of planting beds. (The planting beds are separate from the 17,550-square-foot open space and are not accounted for in the quantified analysis because they would not provide seating, nor would they be accessible.)

The temporary gym itself would contain a field house with basketball courts, locker rooms, and a small weight room and would be available only to NYU affiliates, although the public could view competitive sporting events held in the facility. Construction of the temporary gym would require the displacement of the Washington Square Village playground (a private open space), whose uses would be relocated to the interior of the Washington Square Village Elevated Garden (also a private open space). This relocation would result in a loss of much of the passive programming in the southern portion of the garden. Also on the North Block, by 2021 NYU would develop an approximately 10,300-square-foot (0.24-acre) temporary publicly accessible play area along LaGuardia Place, displacing the southern half of the existing LaGuardia Landscape. This Temporary LaGuardia Play Area would extend north-south from the center of the block (south of the statue of Mayor Fiorello LaGuardia) to Bleecker Street. The Temporary LaGuardia Play Area would later be displaced at the start of construction of the proposed LaGuardia Building. Upon completion of the LaGuardia Building, NYU would construct a new, permanent play area at the same location by 2031.

On the South Block, Coles Gymnasium would be demolished, to be replaced by a new athletic facility of comparable size within the proposed Zipper Building (once the new athletic facility is



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SCALE

2021 Proposed Open Space Programming

Figure 5-4

operational, the temporary gym on the North Block would be demolished). The development of the Zipper building would require the displacement of three open space resources: Coles Plaza and Coles Playground (both publicly accessible open spaces); and the Mercer-Houston Dog Run (a private open space). The dog run would be relocated to a comparably-sized site along West Houston Street on the South Block—the current location of Silver Tower Playground, a private open space that would be displaced as a result. The new dog run would be accessed from the publicly accessible Greene Street Walk (discussed below). The existing concrete wall along West Houston Street would remain, but the widened and landscaped walkway would open the site at this location and some fencing would be removed to improve visibility to the site (see **Figure 5-5**). The analysis assumes that the relocated dog run would be operated and maintained in a similar manner as it is today. It is conservatively assumed that access to the dog run would be limited to members who pay an annual fee, as is the case today, and the dog run is therefore not characterized as a publicly accessible open space in the quantified assessment.

To create a more pedestrian-friendly streetscape and to better integrate the South Block into the adjacent streets and public realm, the proposed project would modify some landscaping elements of the University Village complex, including the existing approximately six-foot-tall fences along Bleecker Street and part of West Houston Street that would be replaced with new low fences and low perimeter plantings, allowing for improved views into the site and a more pedestrian friendly perimeter. The six-foot-tall fence for 505 LaGuardia Place, along LaGuardia Place and part of West Houston Street, would remain. The Silver Towers Oak Grove, located along Bleecker Street, would receive new low plantings and would be extended eastward to align with the western boundary of the north-south pedestrian walkway, which would be improved. That passageway would be publicly accessible, and would be substantially widened from approximately six feet to approximately 30 feet. This modification would improve the visibility of the walkway and its openness to West Houston and Bleecker Streets and would be a significant improvement to the streetscape. The widened walkway—referred to as the Greene Street Walk—would be landscaped with trees and low shrubs, and there would be seating to create an enhanced open space and passage through the block (see **Figure 5-6**).

Also on the South Block, the approximately 0.6-acre Silver Tower Seating Area would be renovated and expanded to create an approximately 0.25-acre publicly accessible toddler playground. The Toddler Playground would be located immediately north of the relocated dog run at West Houston Street, and would be adjacent to the proposed Greene Street Walk on the University Village site (between the relocated dog run and Silver Tower II). The new playground would incorporate the existing sculptural concrete components in this area of the University Village site (see **Figure 5-7**). Other proposed open space changes to the South Block would be along the Bleecker Street Strip, where there would be new trees, low plantings, and benches as part of the proposed Bleecker Seating Area, a passive open space that would be created by the Proposed Actions immediately north of the Oak Grove along Bleecker Street (final design changes to the Bleecker Street Strip would require DPR and Public Design Commission approval). No landscaping changes are proposed as part of the project to the site around 505 LaGuardia Place, the Time Landscape, or the LaGuardia Corner Gardens.

All of the privately-owned, publicly accessible open spaces described above would be maintained by NYU.

Illustrative View Relocated Dog Run Looking from West Houston Street

Figure 5-5

Illustrative View South on the Greene Street Walk

Figure 5-6

Illustrative View of Toddler Playground
Figure 5-7

The proposed Bleecker Building would contain an approximately 7,680-square-foot play area on the rooftop above the seven-story public school.[1] This play area would include an approximately 3,000-square-foot early childhood playground (for pre-K and kindergarten students), with the remaining approximately 4,680-square-foot area for other students of the public school. Both areas would be utilized exclusively by the students of the public school. The New York City School Construction Authority (SCA) would operate and maintain the rooftop play area.

Overall, by 2021 the proposed project would displace approximately 0.35 acres of publicly accessible open space (0.09 acres passive, 0.26 acres active), and would introduce approximately 1.22 acres of publicly accessible open space (0.79 acres passive, 0.43 acres active), for a net gain of approximately 0.87 acres of publicly accessible open space (a 0.70-acre increase in passive open space, and a 0.17-acre increase in active space). **Table 5-11** identifies the changes to publicly accessible open spaces resulting from the Proposed Actions by 2021. The overall increase in publicly accessible open space would be partially due to a reduction in the amount of private open space in the Proposed Development Area. Although the Washington Square Village Playground and Mercer-Houston Dog Run would be relocated to comparably-sized sites, the areas identified for their relocation contain other private open space resources that would be displaced.

Table 5-11
Publicly Accessible Open Space Changes in the Proposed Development Area
Future With the Proposed Actions 2021

Displaced Publicly Accessible Open Space	Estimated Acreage
Coles Plaza (South Block)	0.09
Coles Playground (South Block)	0.16
Portion of Mercer Playground (North Block)	0.10
TOTAL DISPLACED:	**0.35**
Project-Generated Publicly Accessible Open Space	
Temporary Mercer Entry Plaza (North Block)	0.40
Temporary LaGuardia Play Area (North Block)	0.24
Toddler Playground (South Block)	0.25
Greene Street Walk (South Block)	0.19
Bleecker Seating Area (South Block)	0.14
TOTAL CREATED:	**1.22**

Notes: Calculations do not include changes to non-publicly-accessible open spaces.
Source: New York University AKRF, Inc. field surveys, November 2010, May and June 2011.

ADEQUACY OF OPEN SPACES – DIRECT EFFECTS ANALYSIS

As described in the *CEQR Technical Manual*, direct effects may occur when the proposed project would encroach on, or cause a loss of, open space. Direct effects may also occur if the facilities within an open space would be so changed that the open space no longer serves the same user population. Other direct effects include the imposition of noise, air pollutant

[1] If by 2025 SCA does not exercise its option to build the public school, NYU would build and utilize the 100,000-square-foot space for its own academic purposes.

emissions, odors, or shadows on public open space that may alter its usability. Direct effects may not always result in adverse effects to open space. Alterations and reprogramming of parks may be beneficial or may result in beneficial changes to some resources and may or may not have an adverse effect on others.

The following identifies each open space resource—public and private—that would be directly affected by the Proposed Actions by 2021 (as discussed above), describes the nature of the direct effects, and compares the future conditions with respect to the quantity and quality of the replacement resource and its intended user base. The determination of the potential for significant adverse impacts resulting from these direct effects is provided under "Qualitative Impact Determination," below.

Publicly Accessible Open Spaces Directly Affected by Proposed Actions

- **Mercer Playground and adjacent landscaping** – Approximately 4,400 square feet from the southern portion of the Mercer Playground, as well as the landscaping area to the south of the playground, would be displaced by the proposed project by 2021. The new publicly accessible passive open space that would be created in its place would be passive in nature, and therefore would not provide the same active resources as the displaced portion of Mercer Playground. However, the playground is underutilized, and the proposed project would create a new approximately 10,300-square-foot temporary playground along LaGuardia Place on the North Block.
- **Coles Plaza –** Coles Plaza would be displaced by the proposed Zipper Building. The proposed project would provide a larger passive open space on the North Block (across Bleecker Street from Coles Plaza), and similar to Coles Plaza, this new space would contain seating and landscaping adjacent to NYU's temporary gym facility, thereby serving a similar function. The proposed project also would provide new amenities—including benches and new plantings—mid-block along Bleecker Street between Mercer Street and LaGuardia Place as part of the Bleecker Seating Area, thereby offering a similar space as Coles Plaza.
- **Coles Playground** – Coles Playground also would be displaced by the proposed Zipper Building. The proposed project would provide replacement space for this resource west of the proposed Zipper Building, adjacent to the proposed Greene Street Walk.

Private Open Spaces Directly Affected by Proposed Actions

- **Washington Square Village Playground** – This 23,190-square-foot private playground would be displaced by the proposed temporary gym. The playground would be relocated to a similarly-sized space (approximately 23,700 square feet) within the southern portion of the Washington Square Village Elevated Garden, which is also a private open space. Much of the existing play equipment would be relocated to the new space, and it would serve the same user base.
- **Washington Square Village Elevated Garden** – As described above, the southern portion of this private elevated garden would be re-programmed to accommodate the relocated Washington Square Village Playground. This would result in a loss of existing private passive open spaces in this portion of the garden, although some of existing planting beds would remain.
- **LaGuardia Corner Gardens** – As detailed in Chapter 6, "Shadows," the proposed Bleecker Building would cast between four and five-and-a-half hours of new shadow on the garden during morning hours throughout the growing season, jeopardizing the viability of shade-intolerant species.

- **Mercer-Houston Dog Run** – The 3,175-square-foot Mercer-Houston Dog Run would be displaced by the proposed Zipper Building. The proposed project would provide a similarly-sized replacement space (3,195 square feet) with similar amenities, and would be located along West Houston Street, adjacent to the Greene Street Walk. While its existing location (near the corner of West Houston and Mercer Streets) makes it a neighborhood gathering place for dog owners and dog lovers alike, its new location is expected to provide similar visibility and pedestrian traffic.
- **Silver Tower Seating (and grassed area to the north)** – The approximately 0.6-acre Silver Tower Seating area and the grassed area to the north of the seating area would be displaced to create an approximately 0.25-acre publicly accessible toddler playground that would be operational by 2021.
- **Silver Tower Playground** – This playground is a private open space that would be displaced due to the project's relocation of the dog run (described above).
- **Coles Gymnasium** – This NYU-owned and operated athletic facility would be displaced to accommodate construction of the proposed Zipper Building.

ADEQUACY OF OPEN SPACES – QUANTIFIED INDIRECT EFFECTS ANALYSIS

Non-residential Study Area

Under RWCDS 1, the number of non-residents in the non-residential study area is forecast to increase to 98,154 and the total amount of publicly accessible open space is expected to increase to 14.62 acres. As shown in **Table 5-12**, by 2021 the ratio of passive open space per 1,000 non-residents would be 0.101, which is below the City's guideline of 0.15 acres, but would be an improvement as compared to the 0.097 ratio in the future without the Proposed Actions by 2021. For the combined residential and non-residential population, the passive open space ratio would be 0.077 acres per 1,000 people, which is much lower than the recommended weighted average ratio of 0.23 acres per 1,000 residents and workers, but would be an improvement as compared to the 0.073 ratio for the future without the Proposed Actions by 2021.

Table 5-12
2021 Future With 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
Non-Residential Study Area										
Non-residents	98,154	14.62	4.67	9.95	N/A	N/A	0.101	N/A	N/A	0.15
Combined non-residents and residents	128,872				N/A	N/A	0.077	N/A	N/A	0.23*
Residential Study Area										
Residents	103,303	24.11	10.33	13.78	0.233	0.100	0.133	2.5	2.0	0.50
Combined non-residents and residents	287,969				N/A	N/A	0.048	N/A	N/A	0.28*

Note:
* 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.

Residential Study Area

The combined residential and non-residential passive open space ratio within the residential study area would be 0.048 acres per 1,000 residents and non-residents, which is much lower than the recommended weighted average ratio of 0.28 acres per 1,000 residents and workers, but would be an improvement as compared to the 0.046 ratio in the future without the Proposed Actions. The active open space ratio would be 0.100 acres per 1,000 residents, which is notably less than the City's planning guideline of 2.0 acres per 1,000 residents, but is virtually the same as the 0.100 ratio in the future without the Proposed Actions. The total open space ratio would be 0.233 acres per 1,000 residents, which is well below the City's planning guideline of 2.5 acres per 1,000 residents, but would be an improvement as compared to the total open space ratio in the future without the Proposed Actions by 2021.

QUANTIFIED IMPACT DETERMINATION

With or without the proposed project, all open space ratios in the study areas would be below, and in many cases severely below, the levels recommended by DCP. However, it is generally recognized that these goals are not feasible for many areas of the City, and they are not considered impact thresholds for the determination of impacts under CEQR. Rather, quantified impact thresholds are based on percentage changes in the open space ratios. According to the *CEQR Technical Manual*, a project would result in a significant adverse impact if it reduced open space ratios 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. In areas that are extremely lacking in open space, a reduction as small as 1 percent may be considered significant, as they may result in overburdening existing facilities or further exacerbating a deficiency in open space.

As shown in **Table 5-13**, even when accounting for the increased demands associated with the proposed project, all open space ratios would improve as compared to future conditions without the Proposed Actions (between 2.0 and 5.1 percent increases), with the exception of the active open space ratio within the ½-mile residential study area, which would decline slightly (by 0.1 percent). Therefore, by 2021 the Proposed Actions would not result in any quantified significant adverse open space impacts.

Table 5-13
2021 Open Space Ratios Summary

Ratio	DCP Guideline	Existing Ratio	Future Without the Proposed Project Ratio	Future With the Proposed Project Ratio	Percent Change (Future With vs. Future Without)
Non-Residential Study Area					
Passive/non-residents	0.15	0.101	0.097	0.101	5.0%
Passive/total population	0.24*	0.076	0.073	0.077	5.1%
Residential Study Area					
Total/residents	2.5	0.243	0.229	0.233	2.0%
Passive/residents	0.5	0.138	0.129	0.133	3.6%
Active/residents	2.0	0.106	0.100	0.100	-0.1%
Passive/total population	0.27*	0.048	0.046	0.048	4.3%

Note:
* 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.

ADEQUACY OF OPEN SPACES – QUALITATIVE INDIRECT EFFECTS ANALYSIS

The publicly accessible open spaces that would be displaced by the proposed project by 2021—the Coles Playground and Mercer Playground—are in poor physical condition (Coles Playground is currently closed), and Mercer Playground is underutilized. The project-generated playgrounds, including the Temporary LaGuardia Play Area and the Toddler Playground—are expected to be more heavily utilized as compared to the resources they displace. Even when accounting for the displacement of private playground areas within the Proposed Development Area, by 2021 the proposed project would result in a 0.18-acre net increase in the total amount of playground space within the Proposed Development Area.

In addition, a noteworthy benefit of the proposed project that is not captured in the quantified analysis is the provision of a new gymnasium for NYU affiliates. Coles Gym was built in 1981, and lacks basic amenities such as air conditioning and adequate facilities for modern-day athletic requirements. Because of its sub-standard conditions, many NYU students seek alternative active resources within the study area. While students would continue to utilize publicly-accessible open spaces, the proposed gymnasium would have greater appeal, and would help to offset student demand for active open spaces in the surrounding area (the proposed gymnasium is expected to have similarly-limited public access as Coles). In addition, the proposed Zipper Building would contain numerous indoor common areas that would help offset student demand for passive open spaces in the surrounding area.

One of the central goals of the landscape plan for the South Block is to make a more visually transparent delineation between public and private spaces. The design concentrates access along clearly defined channels and in doing so, more clearly defines the rest of the space as limited to resident use. In particular, the existing approximately five-foot-wide pedestrian walkway along the western edge of Coles Gym would be widened to 28 feet, becoming not only a public passageway, but a major passive resource for gathering and people-watching. This Greene Street Walk would have more prominent entrances along Bleecker and West Houston Streets, and would provide greater visual identification of, and pedestrian access to, the newly created Toddler Playground, as well as the relocated dog run.

As detailed in Chapter 6, "Shadows," by 2021 there would be a significant adverse shadows impact on LaGuardia Corner Gardens due to project-generated shadows cast on the garden during growing seasons. Although the garden is a private resource, it is clearly visible to pedestrians along LaGuardia Place, and this significant adverse shadows impact would reduce the overall quality of the resource.

QUALITATIVE IMPACT DETERMINATION

There would be no significant adverse qualitative impacts associated with the Proposed Actions by 2021. The replacement playground areas for the displaced Coles Playground and the displaced portion of the Mercer Playground are expected to be of a higher quality, and are expected to be more heavily utilized by the public. The proposed Toddler Playground and LaGuardia Temporary Play Area would receive more sunlight than both the existing Coles and Mercer Street Playgrounds during the spring, fall, and winter, and would receive a comparable amount of sun in the summer. The proposed Temporary LaGuardia Entry Plaza would receive a comparable amount of sunlight to the existing Coles Plaza throughout the year. Although the Greene Street Walk would receive less sunlight than Coles Playground and Coles Plaza throughout the year, it would receive full or partial sun during the afternoon throughout the year. The Bleecker Seating Area would be mostly in shadow in the winter, partially in sun throughout

the early spring and fall, and mostly or completely in sun from mid-morning to late afternoon in the late spring and summer months. The shadow impact to the LaGuardia Corner Gardens is an impact on an open space with limited public accessibility, and therefore is not a significant adverse impact to public open space resources. Chapter 6, "Shadows" provides additional description of the effects of sun and shadow on the proposed project's open spaces, and **Appendix G: Shadows** compares the sun and shadows on existing and proposed open spaces within the Proposed Development Area.

2031 PHASE 2

STUDY AREA POPULATION

Non-residential Study Area

By 2031 RWCDS 1 would introduce approximately 2.5 million gsf of new uses to the Proposed Development Area, including NYU academic space, student dormitories, a new athletic facility, a hotel, and retail space (see **Table 1-7**). The 2031 Build condition also includes the development by 2021 of up to 23,326 gsf of new ground-floor retail uses in the Commercial Overlay Area. There would be no population increases in the Mercer Plaza Area. Collectively, the new uses in the Proposed Development Area and Commercial Overlay Area would introduce to the non-residential study area an estimated total of 4,836 workers and up to approximately 600 residents. With the proposed project, the 2031 combined residential and worker population in the non-residential study area is projected to be 134,195 people.

Residential Study Area

By 2031 RWCDS 2 would introduce approximately 2.5 million gsf of new uses to the Proposed Development Area, including NYU academic space, student dormitories, an athletic facility, a public school, and retail space (see **Table 1-7**). The 2031 Build condition also includes the development by 2021 of up to 23,326 gsf of new ground-floor retail uses in the Commercial Overlay Area. There would be no population increases in the Mercer Plaza Area. Collectively, these new uses in the Proposed Development Area and Commercial Overlay Area would introduce to the Residential Study Area an estimated total of up to 1,750 residents, who would include under this scenario NYU students living in the proposed dormitories. With the proposed project, the residential study area would contain an estimated 103,303 residents by 2031. **Table 5-14** estimates the age distribution of the residential study area population. As compared to the future without the Proposed Actions, the study area population would be even more heavily weighted toward the young adult (15- to 19-year-old) and adult (20- to 64-year-old) age brackets, given the project's introduction of student residents.

Table 5-14
Residential Study Area Population Age Distribution
Future With the Proposed Actions 2031

	Residential (1/2-Mile) Study Area		Manhattan in 2010		New York City in 2010	
Age Category	**Persons**	**Percent**	**Persons**	**Percent**	**Persons**	**Percent**
4 and younger	3,008	2.9	76,579	4.8	517,724	6.3
5 to 9	2,168	2.1	61,323	3.9	473,159	5.8
10 to 14	1,787	1.7	58,229	3.7	468,154	5.7
15 to 19	7,125	6.9	77,462	4.9	535,833	6.6
20 to 64	77,004	74.5	1,098,127	69.2	5,187,105	63.4
65 and over	12,212	11.8	214,153	13.5	993,158	12.1
Total	103,303	100.0	1,585,863	100	8,175,133	100

Sources: Based on U.S. Census 2010, grown to reflect planned projects and the proposed project, and the expected age distribution for those projects.

The proposed uses also would introduce an estimated 3,800 workers to the residential study area. The 2031 combined residential and worker population in the residential study area is projected to be 293,185 people.

STUDY AREA OPEN SPACES

By 2031 there would be no additional open space changes to the South Block separate from those described for the 2021 future condition with the Proposed Action (detailed above). However, there would be substantial open space changes on the North Block, including the mapping as parkland of the above-ground portions of both the LaGuardia Place and Mercer Street Strips. The proposed changes are illustrated in **Figure 5-8**, and are described below.

By 2031, the temporary gym on the North Block would be demolished to accommodate the proposed Mercer Building. Adjacent to the Mercer Building, the proposed project would create two publicly accessible active play areas: the 15,200-square-foot Tricycle Garden located to the north and east of the Mercer Building; and the 15,000-square-foot Washington Square Village Play Garden, to be located southwest of the Mercer Building. These play zones currently remain flexible in their programming and age targets, and the final design of the portions of the Tricycle Garden located on City-owned property are subject to review and approval by NYCDPR and the New York City Public Design Commission.

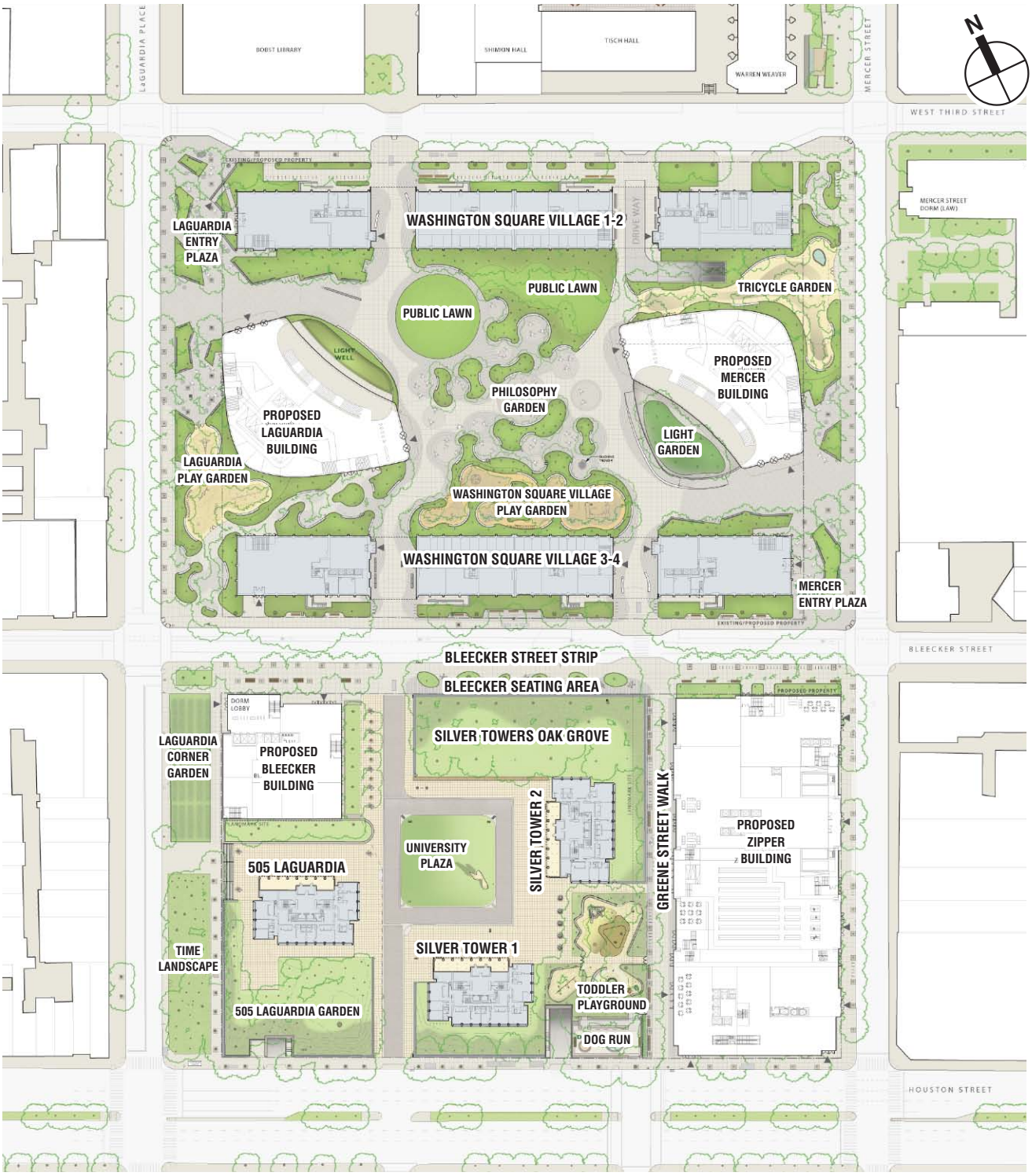
The central area of the North Block would be transformed from a space designed primarily for private use and passage into a destination for both visitors and everyday users, with pockets of space defined for particular uses within larger, more flexibly programmed spaces. The proposed public lawn in the central area (which would displace the private Washington Square Village Elevated Garden) is intended to serve as a counterpoint to the intensity and diversity of uses in the surrounding play gardens, and would provide flexibility for both passive enjoyment as well as more active recreation such as Frisbee. The proposed Philosophy Garden, also within the central area, would have built-in seating and low-canopy trees aimed at creating a human-scale space, with the plantings and concave seating chosen to encourage passive recreation (see **Figure 5-9**).

All of the privately-owned, publicly accessible open spaces described above would be maintained by NYU.

While not accounted for as part of the quantified open space analysis, the proposed light wells on the North Block serve as practical solutions to bringing light to the lower levels of the buildings. The eastern well would have a mounded landscape and trees to contribute to the ambience of the upper level, and the western well would be filled with low ground cover.

On the western portion of the North Block, the planned Adrienne's Garden—which will be built by 2021 in the future without the proposed project and located on the LaGuardia Place Strip on the North Block—would be relocated to the southern portion of the strip, displacing the LaGuardia Temporary Play Area and replacing it with an approximately 13,100-square-foot LaGuardia Play Garden (see **Figure 5-10**). The northern portion of the strip (the former location for Adrienne's Garden) would be redesigned to introduce a clearer network of pathways and seating.

There would also be streetscape improvements along West 3rd and Bleecker Streets, which would aim to keep most or all existing street trees while clarifying the edge with perimeter gardens. Along West 3rd Street the project would introduce bicycle parking. The Bleecker streetscape would be made more pedestrian-friendly, with greater accessibility and the addition



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SCALE

2031 Proposed Open Space Programming

Figure 5-8

Illustrative View of Philosophy Garden
Figure 5-9

Illustrative View of Washington Square Village
Play Garden Looking Northwest
Figure 5-10

of benches along the landscaped areas, subject to review and approval by NYCDPR and the New York City Public Design Commission.

Phase 1 and Phase 2 construction activities associated with the proposed project would require the removal of street trees, which are under the jurisdiction of NYCDPR. Under Chapter 5 of Title 56 of the Rules of the City of New York and under Title 18 of the Administrative Code of the City of New York, NYU would be required to obtain a permit to remove existing street trees. If such approvals were obtained, NYU would be required to post a bond with NYCDPR to insure that within thirty days after completion of construction all trees removed, destroyed or severely damaged would be replaced at the expense of NYU.

All of the open spaces proposed for the North Block would be publicly accessible. In addition, with the Proposed Actions, by 2031 the above-ground portions of both the LaGuardia Place and Mercer Street Strips would be mapped as parkland.

Table 5-15 identifies the changes in publicly accessible open spaces resulting from the Proposed Actions by 2031.

Table 5-15
Publicly Accessible Open Space Changes in the Proposed Development Area
Future With the Proposed Actions 2031

Displaced Publicly Accessible Open Space	Estimated Acreage
Coles Plaza (South Block)	0.09
Coles Playground (South Block)	0.16
Mercer Playground (North Block)	0.33
Adrienne's Garden (North Block)	0.10
TOTAL DISPLACED:	**0.68**
Project-Generated Publicly Accessible Open Space	
Toddler Playground (South Block)	0.25
Greene Street Walk (South Block)	0.19
Mercer Entry Plaza (North Block)	0.40
Tricycle Garden (North Block)	0.35
LaGuardia Play Garden (North Block)	0.30
LaGuardia Entry Plaza (North Block)	0.40
Washington Square Village Play Garden (North Block)	0.34
Philosophy Garden/Lawn Areas (North Block)	1.58
Bleecker Seating Area (South Block)	0.14
TOTAL CREATED:	**3.96**

Notes: Calculations do not include changes to non-publicly-accessible open spaces.
Source: New York University AKRF, Inc. field surveys, November 2010, May and June 2011.

ADEQUACY OF OPEN SPACES – DIRECT EFFECTS ANALYSIS

As described in the *CEQR Technical Manual*, direct effects may occur when the proposed project would encroach on, or cause a loss of, open space. Direct effects may also occur if the facilities within an open space would be so changed that the open space no longer serves the

same user population. Other direct effects include the imposition of noise, air pollutant emissions, odors, or shadows on public open space that may alter its usability. Direct effects may not always result in adverse effects to open space. Alterations and reprogramming of parks may be beneficial or may result in beneficial changes to some resources and may or may not have an adverse effect on others.

The following identifies each open space resource—public and private—that would be directly affected by the Proposed Actions by 2031, describes the nature of the direct effects, and compares the future conditions with respect to the quantity and quality of the replacement resource and its intended user base. The determination of the potential for significant adverse impacts resulting from these direct effects is provided under "Qualitative Impact Determination," below.

Publicly Accessible Open Spaces Directly Affected by Proposed Actions

- **Mercer Playground and adjacent landscaping** – In the future with the Proposed Actions by 2031, the approximately 14,375-square-foot Mercer Playground, as well as the landscaped areas to the north and south of the playground, would be replaced by the proposed 15,200-square-foot Tricycle Garden and adjacent passive areas. The proposed project also would provide an approximately 15,000-square-foot play area—the Washington Square Village Play Garden—near the center of the North Block. The programming of the Tricycle Garden and Washington Square Village Play Garden would likely appeal to a younger age cohort than the existing Mercer Playground, which is programmed for pre-teens. However, the existing Mercer Playground is underutilized and is in poor condition. The proposed play areas are expected to be of a higher quality, and will likely be more heavily utilized, albeit for a younger age cohort.
- **Coles Plaza –** Coles Plaza would be displaced by the proposed Zipper Building by 2021. As described above, by 2021, the proposed project would provide a larger passive open space on the North Block (the Temporary Mercer Entry Plaza, across Bleecker Street from Coles Plaza), and similar to Coles Plaza, the Temporary Mercer Entry Plaza would contain seating and landscaping adjacent to NYU's temporary gym facility, thereby serving a similar function. By 2031, the southernmost portion of the Temporary Mercer Entry Plaza on the North Block would remain as part of a permanent Mercer Entry Plaza.
- **Coles Playground** – Coles Playground also would be displaced by the proposed Zipper Building by 2021. By 2021, the proposed project would provide replacement space for this resource west of the proposed Zipper Building, adjacent to the proposed Greene Street Walk. This replacement space would be supplemented by numerous play areas associated with the 2031 build condition, including the proposed Washington Square Village Play Garden and proposed Tricycle Garden.
- **Adrienne's Garden** – By 2031, this approximately 4,500-square-foot playground, which is planned to be built in Phase 1 as described above, would be relocated to the southern portion of the LaGuardia Place Strip on the North Block, displacing the LaGuardia Temporary Play Area and replacing it with an expanded, approximately 13,100-square-foot play area (the LaGuardia Play Garden).
- **LaGuardia Temporary Play Area** – By 2031, this approximately 10,300-square-foot temporary play area (built in Phase 1 of the proposed project) would be displaced, to be replaced by the 13,100-square-foot LaGuardia Play Garden.

Private Open Spaces Directly Affected by Proposed Actions

- **Washington Square Village Playground** – By 2031, the 23,190-square-foot private playground—which would have been temporarily relocated by 2021—would be displaced by the proposed project. Although private replacement playground area would not be provided by the proposed project by 2031, there would be three project-generated publicly accessible playgrounds on the North Block.
- **Washington Square Village Elevated Garden** – By 2031, this 60,445-square-foot private open space would be replaced by the proposed approximately 104,000-square-foot Philosophy Garden. The Philosophy Garden would be an at-grade publicly accessible resource offering opportunities for both passive and active recreation, and therefore would differ substantially from the elevated garden, which is an entirely passive resource utilized primarily by the superblock residents.
- **LaGuardia Corner Gardens** – As detailed in Chapter 6, "Shadows," the proposed Bleecker Building would cast between four and five-and-a-half hours of new shadow on the garden during morning hours throughout the growing season, jeopardizing the viability of shade-intolerant species. The project-generated shadows would reduce the overall quality of this resource.
- **Mercer-Houston Dog Run** – As discussed above, by 2021 the 3,175-square-foot Mercer-Houston Dog Run would be displaced by the proposed Zipper Building. The proposed project would provide a similarly-sized replacement space (3,195 square feet) with similar amenities, and would be located along West Houston Street, adjacent to the Greene Street Walk. While its existing location (near the corner of West Houston and Mercer Streets) makes it a neighborhood gathering place for dog owners and dog lovers alike, its new location is expected to provide similar visibility and pedestrian traffic.
- **Silver Tower Seating (and grassed area to the north)** – As discussed above, by 2021 the approximately 0.6-acre Silver Tower Seating area and the grassed area to the north of the seating area would be displaced to create an approximately 0.25-acre publicly accessible toddler playground that would be operational by 2021.
- **Silver Tower Playground** – As discussed above, by 2021 this private playground space would be displaced due to the project's relocation of the dog run (described above).
- **Coles Gymnasium** – As discussed above, by 2021 this NYU-owned and operated athletic facility would be displaced to accommodate construction of the proposed Zipper Building.

ADEQUACY OF OPEN SPACES – QUANTIFIED INDIRECT EFFECTS ANALYSIS

Non-residential Study Area

Under RWCDS 1, by 2031 the number of non-residents in the non-residential study area is forecast to increase to 103,477 persons, and the total amount of publicly accessible open space is expected to increase to 17.03 acres, of which approximately 5.15 acres would be active and 11.88 acres would be passive. In 2031, the ratio of passive open space per 1,000 non-residents would be approximately 0.115, substantially improving on conditions as compared to the future without the Proposed Actions, but still falling below the City's guideline of 0.15 acres (see **Table 5-16**). For the combined residential and non-residential population, the passive open space ratio would be 0.089 acres per 1,000 people, which is also a substantial improvement as compared to future conditions without the Proposed Actions, but would still fall below the recommended weighted average ratio of 0.23 acres per 1,000 residents and workers.

Table 5-16
2031 Future With 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
Non-Residential Study Area										
Non-residents	103,477	17.03	5.15	11.88	N/A	N/A	0.115	N/A	N/A	0.15
Combined non-residents and residents	134,195				N/A	N/A	0.089	N/A	N/A	0.23*
Residential Study Area										
Residents	103,303	26.52	10.81	15.71	0.257	0.105	0.152	2.5	2.0	0.50
Combined non-residents and residents	293,185				N/A	N/A	0.054	N/A	N/A	0.27*

Note:
* 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.

Residential Study Area

The combined residential and non-residential passive open space ratio within the residential study area would be 0.054 acres per 1,000 residents and non-residents, which is a substantial improvement as compared to conditions in the future without the Proposed Actions, but would still fall below the recommended weighted average ratio of 0.27 acres per 1,000 residents and workers. The active open space ratio would be 0.105 acres per 1,000 residents, which is notably less than the City's planning guideline of 2.0 acres per 1,000 residents, but an improvement for the study area as compared to conditions in 2031 without the proposed project.

QUANTIFIED IMPACT DETERMINATION

With or without the proposed project, all open space ratios in the study areas would be below, and in many cases severely below, the levels recommended by DCP. However, it is generally recognized that these goals are not feasible for many areas of the City, and they are not considered impact thresholds for the determination of impacts under CEQR. Rather, quantified impact thresholds are based on percentage changes in the open space ratios. According to the *CEQR Technical Manual*, a project would result in a significant adverse impact if it reduced open space ratios 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. In areas that are extremely lacking in open space, a reduction as small as 1 percent may be considered significant, as they may result in overburdening existing facilities or further exacerbating a deficiency in open space.

As shown in **Table 5-17**, even when accounting for the increased open space demands of the project-generated population, all of the open space ratios would improve as compared to future conditions without the proposed project. Some of the improvements would be substantial; most notably the approximately 22 to 23 percent increases in the open space ratios within the ¼-mile non-residential study area. These ratios are particularly important for an area with a large working and/or student population. Therefore, by 2031 the Proposed Actions would not result in any quantified significant adverse open space impacts.

Table 5-17
2031 Open Space Ratios Summary

Ratio	DCP Guideline	Existing Ratio	Future Without the Proposed Project Ratio	Future With the Proposed Project Ratio	Percent Change (Future With vs. Future Without)
Non-Residential Study Area					
Passive/non-residents	0.15	0.101	0.094	0.115	22.4%
Passive/total population	0.24*	0.076	0.072	0.089	23.2%
Residential Study Area					
Total/residents	2.5	0.243	0.229	0.257	12.2%
Passive/residents	0.5	0.138	0.129	0.152	18.0%
Active/residents	2.0	0.106	0.100	0.105	4.6%
Passive/total population	0.27*	0.048	0.045	0.054	17.8%

Note: * 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.

ADEQUACY OF OPEN SPACES – QUALITATIVE INDIRECT EFFECTS ANALYSIS

Separate from the substantial improvements to the quantified open space ratios (described above), one of the most beneficial elements of the proposed landscape design is the improved visibility and public accessibility of the open spaces, particularly on the North Block. In the future without the Proposed Actions, the resources on the interior of the North Block will contain private resources utilized primarily by superblock residents. Access to the interior of the North Block is available only by entering the Washington Square Village site from the demapped Greene and Wooster Street driveways through above-ground passageways beneath the Washington Square Village apartment buildings. The Washington Square Village Elevated Garden in the interior of the North Block is approximately five feet above street level, is bounded by a concrete wall, and has gates providing access to steps leading up to the open space. The proposed landscape plan has been designed to substantially enhance visible and physical access from the surrounding streets. The open space would be at street level and would function as a public garden. It would incorporate the same types of uses that currently exist on the site but would reconfigure the open space to improve circulation and access to and through the site. Unlike the existing raised elevated garden, the proposed open space would be accessible from clearly defined pedestrian entrances at the northwest, northeast, southwest and southeast corners of the North Block. The preliminary designs for the mapped parkland on the eastern and western borders of the block is intended to create a welcoming entry landscape by carrying the design materials into the inner areas of the block, and its proposed programming is intended to relate to the proposed interior open spaces; in the future without the proposed project, these areas would continue to be fenced and/or walled off, prohibiting public access. Overall, the proposed landscape design, coupled with the proposed re-cladding of the ground floors of Washington Square Village, would open up the views and the flow into the North Block, while continuing to encourage small-scale activities in areas such as the proposed Tricycle Garden. The design also shifts the balance of the flow from vehicular to pedestrian, depriortizing cars and creating multiple pedestrian thoroughfares through the block with visible entrances.

Although superblock residents would lose notable private resources in the displacement of the Washington Square Village Playground and Elevated Garden, there would be greater, more varied public open space opportunities for residents as well as the broader public. Even when accounting for the displacement of private playground areas within the Proposed Development Area, by 2031 the proposed project would result in a 0.06-acre net increase in the total amount of

playground space within the Proposed Development Area. Study area residents with children would have access to three new playground spaces on the North Block in addition to an expanded playground on the South Block; all of these spaces remain flexible in their programming and age targets, and the proposed project would not introduce a disproportionate number of children who are of a specific age cohort.

The central open space area proposed for the North Block would be a major new open space resource for study area residents and daytime users, and would serve to offset the heavy utilization of Washington Square Park. Student demand for publicly accessible passive open space also would be offset by the provision of large common areas within the proposed North Block buildings, as well as the proposed below-grade space between buildings.

As detailed in Chapter 6, "Shadows," by 2031 there would be a significant adverse shadows impact on LaGuardia Corner Garden due to project-generated shadows cast on the garden during growing seasons. Although this is not considered an open space impact because the garden is considered a private resource due to its limited public accessibility, it is clearly visible to pedestrians along LaGuardia Place, and this significant adverse shadows impact would reduce the overall quality of the resource. Potential mitigation measures for this significant adverse shadows impact are described in Chapter 21, "Mitigation."

QUALITATIVE IMPACT DETERMINATION

By 2031, the proposed changes in open spaces would not result in significant adverse qualitative impacts to publicly accessible open spaces in the study areas. There would be no specific publicly accessible open space users who would be adversely affected by the proposed project; the project would introduce a variety of new open spaces programmed to satisfy the demands of users of displaced open spaces, as well as the project-generated population. As detailed in Chapter 6, "Shadows," as with many open spaces in a dense urban area, the proposed project's open spaces would experience a combination of time periods during which they are largely or entirely in shadow, as well as periods during which they are largely or fully in sun. The proposed Washington Square Village Play Garden would receive less direct sunlight than other North Block spaces (existing and proposed), primarily due to its location in the southern part of the central area, with the 17-story Washington Square Village 3 & 4 abutting its southern edge. Much of the Washington Square Village Play Garden would be in shadow for most of the day in all seasons. However, given that the proposed Mercer and LaGuardia Buildings would have a largely glass exterior, there would be indirect (reflected) light within this open space throughout the year. In addition, the Toddler Playground on the South Block and the LaGuardia Play Garden on the North Block generally would be in full or partial sun during most of the periods when the Washington Square Village Play Garden is shaded.

The Public Lawn/Philosophy Garden would be largely or entirely in direct sun for most of the analysis period in the spring, summer and fall. When the sun is lower in the sky (i.e., earlier and later in the day), the proposed Mercer and LaGuardia buildings—as well as the existing Washington Square Village buildings—would cast shadows on the central space, but given the size of the proposed central open space there would almost always be portions receiving direct sunlight.

The proposed Mercer Entry Plaza and Tricycle Garden, located on the eastern side of the North Block, would be partially in sun throughout the morning, mostly in sun around noon, and then mostly in shadow during the afternoon. Users seeking sunlit open spaces in the afternoons could utilize the proposed open spaces on the western side of the North Block; in the afternoons

throughout the year, when shadows are cast to the north and east, the LaGuardia Entry Plaza and LaGuardia Play Garden would be mostly in sun. Chapter 6, "Shadows" provides additional description of the effects of sun and shadow on the proposed project's open spaces, and **Appendix G: Shadows** compares the sun and shadows on existing and proposed open spaces within the Proposed Development Area.

Overall, the proposed publicly accessible open spaces within the Proposed Development Area would offer a variety of active and passive resources that would serve the needs of the diverse study area populations. While existing and proposed buildings would cast shadows on the proposed open spaces, there would continue to be opportunities for the public to enjoy sunlit open space resources within the Proposed Development Area at varied times of day throughout the year. ✷