

A. INTRODUCTION

This chapter assesses the potential impacts of the proposed project on the socioeconomic character of the area surrounding the project areas in accordance with the National Environmental Policy Act (NEPA), the New York State Environmental Quality Review Act (SEQRA), and New York City Environmental Quality Review (CEQR). As described in the 2014 *City Environmental Quality Review Technical Manual*, the socioeconomic character of an area includes its population, housing, and economic activities. Socioeconomic changes may occur when a project directly or indirectly affects any of these elements.

In accordance with *CEQR Technical Manual* guidelines, this analysis considers whether the proposed project could result in significant adverse socioeconomic impacts due to: (1) direct displacement of residential population; (2) indirect displacement of residential population; (3) direct displacement of existing businesses; (4) indirect displacement of businesses; and (5) adverse effects on a specific industry. This analysis also assesses the proposed project's potential impacts in accordance with the methodologies outlined in *The SEQRA Handbook, Fourth Edition 2019* and applicable federal guidelines for assessing socioeconomic impacts.

STUDY AREA

According to the *CEQR Technical Manual*, the socioeconomic study area typically mirrors the land use study area, and should reflect the scale of the project relative to the area's population. The socioeconomic study area, shown on **Figure 5.2-1**, is based largely on the furthest extent of either the ¼-mile radius from the project areas—the dashed line in **Figure 5.2-1**—or as shown by the dotted line, the ¼-mile radius from the protected area.¹ As per CEQR methodology, the above-described outer boundary is adjusted to align with census tracts to form the socioeconomic study area. The northern boundary of the socioeconomic study area is East 34th Street between First Avenue and the East River, and East 29th Street between First and Third Avenues. The western boundary of the socioeconomic study area is First Avenue between East 29th and East 34th Streets; Third Avenue between East 3rd and East 29th Streets; and Allen, Clinton, Norfolk, Essex, and Pike Streets between East 3rd Street and South Street (see **Figure 5.2-1**). The East River is the eastern and southern boundary of the socioeconomic study area.

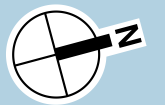
The analysis of indirect business displacement includes data on the socioeconomic study area, and provides more detail on a ¼-mile local study area—the area where the proposed project would have the greatest potential effect on local business conditions (see **Figure 5.2-1**).

¹ The protected area is the area that would be protected under the proposed project (the protected area) and includes lands within the Federal Emergency Management Agency (FEMA) 100-year special flood hazard area (SFHA). In addition, the protected area takes into consideration the 90th percentile projection of sea level rise to the 2050s.



- Project Area One
- Project Area Two
- Socioeconomic Study Area
- 10 Census Tracts
- 1/4-Mile Radius of Project Area (1/4-Mile Local Study Area)
- 1/4-Mile Radius of Flood Protection Area

0 1,000 FEET



B. PRINCIPAL CONCLUSIONS

NO ACTION ALTERNATIVE (ALTERNATIVE 1)

Under the No Action Alternative, in the absence of the flood protection system, the existing neighborhoods would remain at risk to coastal flooding during design storm events. Thus, for the No Action Alternative, there is the potential for adverse socioeconomic effects within the study area due to potential flood damage created by design storm events. Socioeconomic effects would include the direct physical damages associated with a design storm event, displacement, human impacts, and loss of services. In addition, the open space amenities associated with other alternatives would not be added to the project area.

Under the No Action Alternative, area business conditions would not be affected by substantial increases in pedestrian traffic and associated consumer spending. Rent levels also would not be affected by the proposed project under the No Action Alternative. In the future without the proposed project, market housing costs would continue to be well above rents affordable to low- and moderate-income households (based on 2012–2016 ACS data, the median household income in the study area was \$59,272; median monthly rents were around \$3,850). However, unlike with the other alternatives outlined below, none of the economic benefits associated with the construction of comprehensive flood protection systems would be realized under the No Action Alternative.

PREFERRED ALTERNATIVE (ALTERNATIVE 4): FLOOD PROTECTION SYSTEM WITH A RAISED EAST RIVER PARK

Although the Preferred Alternative would result in additional park and neighborhood connection improvements, as with the other alternatives, it does not present new uses or activities to the project area that could markedly influence the study area’s residential or commercial market.

The Preferred Alternative does not introduce a new use to the project area that would have the potential to fundamentally alter real estate values. The project area currently includes large public open spaces—including East River Park—that offer active and passive recreation options to study area residents and visitors, and are highly utilized. The proposed project would not create new public parkland that could affect property values, but would elevate, protect, and reconstruct the existing parks (e.g., East River Park, Murphy Brothers Playground, and Asser Levy Playground) in the study area that already influence property values.

Recent trends already show study area market housing costs to be well above rents affordable to low- and moderate-income households (based on 2012–2016 ACS data, the median household income in the study area was \$59,272; median monthly rents were around \$3,850). These trends are expected to continue with or without this alternative’s park and neighborhood connection improvements in place. There is also little existing, and limited opportunity to develop additional, market housing abutting the project area, where values and rents would have the greatest potential to increase as a result of proximity to the park improvements. Moreover, the majority of existing housing abutting the project area and much of the study area’s housing overall is in rent-regulated housing developments. Thus, even with the Preferred Alternative’s flood protection, open space, and connectivity improvements in place, rents in these developments are protected from local market forces.

The Preferred Alternative is also not expected to result in increases in commercial rents that could lead to significant indirect business displacement pressures within the study area. First, to the extent that commercial rents are influenced by consumer spending, should there be some increase

in visitation attributable to the proposed project, there are few businesses directly abutting the project area that would be affected by any increases in expenditure potential. Second, most of the businesses in the study area are located several blocks away from the project area, and not located on streets leading to the improved park connections across the FDR Drive, where businesses could be affected by any increased pedestrian traffic. Moreover, while the reduced business risk would enhance the value of properties, potentially leading to increased rents, such an influence is not expected to result in significant indirect commercial displacement, as many commercial uses within the study area are located outside of or on the outskirts of the protected area. Therefore, any potential for indirect business displacement from storm-related influences on rent would be limited to businesses within the protected area and would not have the potential for significant effects throughout the overall study area. Third, with multiple residential projects expected to be completed by 2025 and the associated increases in population and spending potential, any effects on commercial rent increases would be expected in the future without the proposed project. Finally, although this alternative would provide park and neighborhood connection improvements, it does not present new uses or activities to the project area that could markedly influence the study area's commercial market.

Under the Preferred Alternative, residents and businesses within the 100-year floodplain in the socioeconomic study area would be less vulnerable to flooding during storm events. Thus, the key objective of the proposed project—to respond quickly to the need for reliable coastal flood protection and resiliency for the design storm—would be met. Under the Preferred Alternative, there would be positive socioeconomic benefits due to the avoided costs associated with flood damage that would otherwise be incurred during storm events.

OTHER ALTERNATIVE (ALTERNATIVE 2): FLOOD PROTECTION SYSTEM ON THE WEST SIDE OF EAST RIVER PARK – BASELINE

As with the Preferred Alternative, Alternative 2 would not result in the direct displacement of any residents or businesses. Alternative 2 would not result in significant indirect residential or business displacement pressures within the study area for the same reasons as the Preferred Alternative as described above. However, since Alternative 2 would not provide for the extensive park improvements and integrated access identified for the Preferred Alternative, the potential indirect displacement due to increases in residential and commercial property values over time from park improvements would be less.

OTHER ALTERNATIVE (ALTERNATIVE 3): FLOOD PROTECTION SYSTEM ON THE WEST SIDE OF EAST RIVER PARK – ENHANCED PARK AND ACCESS

As with the Preferred Alternative, Alternative 3 would not result in direct displacement of any residents or businesses. In addition, Alternative 3 would not result in significant indirect residential or business displacement pressures within the study area for the same reasons as the Preferred Alternative (see above).

OTHER ALTERNATIVE (ALTERNATIVE 5): FLOOD PROTECTION SYSTEM EAST OF FDR DRIVE

Alternative 5 includes the same flood protection objectives and the same general open space improvements as described in the Preferred Alternative, except for the approach in Project Area Two between East 13th Street and Avenue C. This alternative would raise the northbound lanes of the FDR Drive in this area by approximately six feet to meet the design flood elevation then connect to closure structures at the south end of Stuyvesant Cove Park. Maintaining the flood protection alignment along the east side of the FDR Drive would eliminate the need to cross the

FDR Drive near East 13th Street as well as the need to install floodwalls adjacent to NYCHA Jacob Riis Houses, Con Edison property, and Murphy Brothers Playground. The change in flood protection system approach in this area would not result in increased residential property values and rent increases that could lead to significant indirect residential or business displacement within the study area. This alternative would not add a new use to the project area.

Under Alternative 5, residents and businesses within the 100-year floodplain area would be less vulnerable to flooding during storm events. Therefore, as with the other alternatives described above, there would be positive socioeconomic benefits due to the avoided costs associated with flood damage that would otherwise occur during storm events.

C. REGULATORY CONTEXT

The regulatory context for the proposed project includes the following federal, state, and local laws, programs, rules, legal requirements, and policies for which each of the alternatives have been analyzed to result in a determination of environmental effects with project implementation.

FEDERAL

In 1978, the Council on Environmental Quality (CEQ) issued regulations (40 CFR Parts 1500-1508) to implement NEPA. These regulations are binding on all federal agencies. CEQ includes economic and social impacts in its definition of effects. Many federal agencies have also developed their own NEPA procedures that supplement the CEQ NEPA regulations, as the U.S. Department of Housing and Urban Development (HUD) has done. According to HUD's regulations for implementing NEPA (24 CFR Part 50), environmental impact statements (EIS) will be prepared and considered in program determinations pursuant to the general environmental policy stated in § 50.3 and 40 CFR 1505.2 (b) and (c). According to 40 CFR 1505.2 (b) and (c), in making a decision in cases requiring an EIS, an agency may discuss preferences among alternatives based on relevant factors including economic and technical considerations and agency statutory missions.

NEW YORK STATE

SEQRA considerations include social and economic factors as they relate to community character, such as changes in demographics or access to businesses. Moreover, according to the *SEQRA Handbook*, social and economic benefits of, and need for, an action must be included in an EIS.

NEW YORK CITY

The assessment of potential significant adverse socioeconomic effects follows the methodology in the *CEQR Technical Manual*. As described above, under CEQR, the socioeconomic character of an area includes its population, housing, and economic activity. Although socioeconomic changes may not result in significant adverse effects under CEQR, they are disclosed if they would affect land use patterns, low-income populations, the availability of goods and services, or economic investment in a way that changes the socioeconomic character of the area. In some cases, these changes may be substantial but not adverse. In other cases, these changes may be good for some groups but bad for others. The objective of the CEQR analysis is to disclose whether any changes created by the project would have a significant adverse effect compared with what would happen in the future without the proposed project.

An assessment of socioeconomic conditions distinguishes between effects on the residents and businesses in an area and separates these effects into direct and indirect displacement for both of those segments. Direct displacement occurs when residents or businesses are involuntarily

displaced from the actual site of the proposed project or sites directly affected by it. For example, direct displacement would occur if a currently occupied site were redeveloped for new uses or structures or if a proposed easement or right-of-way encroached on a portion of a parcel and rendered it unfit for its current use. In these cases, the occupants of a particular structure to be displaced can usually be identified and, therefore, the disclosure of direct displacement focuses on specific businesses and a known number of residents and workers.

Indirect or secondary displacement occurs when residents, businesses, or employees are involuntarily displaced due to a change in socioeconomic conditions in the area caused by the proposed project. Examples include the displacement of lower-income residents who are forced to move due to rising rents caused by higher-income housing introduced by a proposed project. Examples of indirect business displacement include higher-paying commercial tenants replacing industrial uses when new uses introduced by a proposed project lead to an increase in commercial rents. Unlike direct displacement, the specific occupants to be indirectly displaced are not known. Therefore, an assessment of indirect displacement usually identifies the size and type of groups of residents, businesses, or employees potentially affected.

Some projects may affect the operation and viability of a specific industry not necessarily tied to a specific location. An example would be new regulations that prohibit or restrict the use of certain processes that are critical to certain industries. In these cases, the CEQR review process may involve an assessment of the economic effects of the project on that specific industry.

D. METHODOLOGY

According to the *CEQR Technical Manual*, a socioeconomic assessment should be conducted if a project may be reasonably expected to create socioeconomic changes in the area affected by the project that would not be expected to occur in the absence of the project. The following screening assessment considers threshold circumstances identified in the *CEQR Technical Manual* and enumerated below that can lead to socioeconomic changes warranting further assessment.

- 1. Direct Residential Displacement: Would the project directly displace residential population to the extent that the socioeconomic character of the neighborhood would be substantially altered? Displacement of fewer than 500 residents would not typically be expected to alter the socioeconomic character of a neighborhood.***

The project areas do not contain any residential uses. Therefore, the proposed project would not directly displace any residents, and an assessment of direct residential displacement is not warranted.

- 2. Direct Business Displacement: Would the project directly displace more than 100 employees, or would the project directly displace a business whose products or services are uniquely dependent on its location, are the subject of policies or plans aimed at its preservation, or serve a population uniquely dependent on its services in its present location? If any of these conditions is considered likely, assessments of direct business displacement and indirect business displacement are appropriate.***

There are a limited number of businesses within and immediately adjacent to the project areas. The businesses include: a BP Gas Station (along the waterfront at East 23rd Street and FDR Drive); a 395,800-sf Skyport Marina Parking Garage (just north of the project area along the waterfront north of East 23rd Street); and a Propark America outdoor parking lot (along the waterfront at East 20th Street and FDR Drive). None of these businesses would be directly displaced by the proposed project. New York City Department of Parks and Recreation (NYC

Parks) is currently developing Pier 42 into a public waterfront open space, which is expected to be open to the public in 2020. The uses that are currently on Pier 42 will be displaced irrespective of the proposed project. Since no businesses would be directly displaced by the proposed project, an assessment of direct business displacement is not warranted.

- 3. Indirect Displacement due to Increased Rents: Would the project result in substantial new development that is markedly different from existing uses, development, and activities within the neighborhood? Residential development of 200 units or less or commercial development of 200,000 square feet or less would typically not result in significant socioeconomic impacts. For projects exceeding these thresholds, assessments of indirect residential displacement and indirect business displacement are appropriate.***

Although the proposed project would not introduce any residential or commercial space, the proposed project would introduce a substantial new use (a vertical flood protection system) that does not currently exist in the neighborhood; therefore, assessments of indirect residential displacement and indirect business displacement are warranted in order to determine whether and under what conditions the proposed project could stimulate changes that would raise rents, and if so, whether this would make existing categories of tenants vulnerable to displacement. Factors that could potentially influence rents include the following: the addition of new open space amenities as part of the flood protection system that would make the area a more attractive place to live and work; the reduction of risk of property damage from flooding; and the reduction of costs associated with investing in resiliency measures for individual properties.

- 4. Indirect Business Displacement due to Retail Market Saturation: Would the project result in a total of 200,000 square feet or more of retail on a single development site or 200,000 square feet or more of region-serving retail across multiple sites? This type of development may have the potential to draw a substantial amount of sales from existing businesses within the study area, resulting in indirect business displacement due to market saturation.***

The proposed project would not introduce retail uses in excess of 200,000 square feet; therefore, an assessment of potential indirect business displacement due to retail market saturation is not warranted.

- 5. Adverse Effects on Specific Industries: Is the project expected to affect conditions within a specific industry? This could affect socioeconomic conditions if a substantial number of workers or residents depend on the goods or services provided by the affected businesses, or if the project would result in the loss or substantial diminishment of a particularly important product or service within the City.***

The proposed project would not result in direct business displacement, and the analysis finds that there is no potential for significant indirect displacement within any specific industry sector. Therefore, an assessment of adverse effects on specific industries is not necessary.

Based on the screening assessment presented above, the proposed project warrants preliminary assessments of indirect residential displacement and indirect business displacement due to increased rents.

ANALYSIS FORMAT

Based on *CEQR Technical Manual* guidelines, indirect residential displacement and indirect business displacement analyses begin with a preliminary assessment. The objective of the preliminary assessment is to learn enough about the potential effects of the proposed action to

either rule out the possibility of significant adverse effects or determine that a more detailed analysis is warranted to fully determine the extent of the effects. A detailed analysis, when warranted, is framed in the context of existing conditions and evaluations of the future without the proposed action and the future with the proposed action by the project's analysis year. In conjunction with the land use analysis that was undertaken for this EIS (see Chapter 5.1, "Land Use, Zoning, and Public Policy"), specific development projects expected to occur in the area in the future without the proposed project were identified, along with the possible changes in socioeconomic conditions that would result (e.g., potential increases in population, changes in the income characteristics of the study area, possible changes in rents or sales prices of residential units, or changes in employment or retail sales). Those conditions were then compared with the condition in the future with the proposed project to determine the potential for significant adverse effects.

DATA SOURCES

Demographic data was obtained primarily from the New York City Department of City Planning (DCP)'s NYC Population FactFinder, which compiles data from the U.S. Census Bureau. Data collected from FactFinder includes: American Community Survey (ACS) 2006–2010 and 2012–2016 estimates. Except where specifically noted, values (i.e., median household income, median housing value, and median contract rent) presented in this chapter are in 2016 inflation-adjusted dollars, as shown on FactFinder. Another source of demographic data included in this chapter is Social Explorer, a private data provider (particularly where 2006–2010 ACS data for Manhattan and New York City as a whole was not obtainable from FactFinder). ACS data, which are estimates from a sample of the population, are used for population characteristics including age and household income, as well as housing unit characteristics such as age of structure and unit tenure.²

Residential rental rates and sale values were obtained through online property databases such as Cityrealty.com and Streeteasy.com, as well as through current market reports published by Douglas Elliman, CitiHabitats, and Corcoran. Data on New York City Housing Authority (NYCHA) developments was collected from NYCHA's online directory.³ Data on privately owned subsidized affordable rental properties was obtained from New York University Furman Center's Subsidized Housing Information Project (SHIP), which includes data on 235,000 units in New York City that were developed with financing and insurance from the U.S. Department of Housing and Urban Development (HUD), HUD project-based rental assistance, New York City or State Mitchell-Lama financing, or the Low-Income Housing Tax Credit (LIHTC).⁴

For the indirect business displacement analyses, employment data was obtained from the U.S. Census Bureau's OnTheMap tool. Land use and parcel data were collected from the New York City Department of City Planning's MapPLUTO database. In addition, AKRF conducted field surveys of existing businesses within the ¼-mile local study area in March 2018.

² <https://www.census.gov/programs-surveys/acs/guidance/comparing-acs-data.html>

³ <http://gis.nyc.gov/nycha/im/wmp.do>, accessed September 2015.

⁴ <http://datasearch.furmancenter.org/>, accessed September 2015.

E. AFFECTED ENVIRONMENT

This section describes the population and housing characteristics of the socioeconomic study area. It outlines trend data since 2006–2010, and compares the characteristics of the socioeconomic study area with Manhattan and New York City.

POPULATION

According to the U.S. Census Bureau, the socioeconomic study area had a population of 163,962 residents in 2006–2010 and 160,138 residents in 2012–2016 (see **Table 5.2-1**). Over the same time period, the population grew in Manhattan (3.3 percent) and New York City (4.7 percent).

**Table 5.2-1
Population: 2006–2010 and 2012–2016**

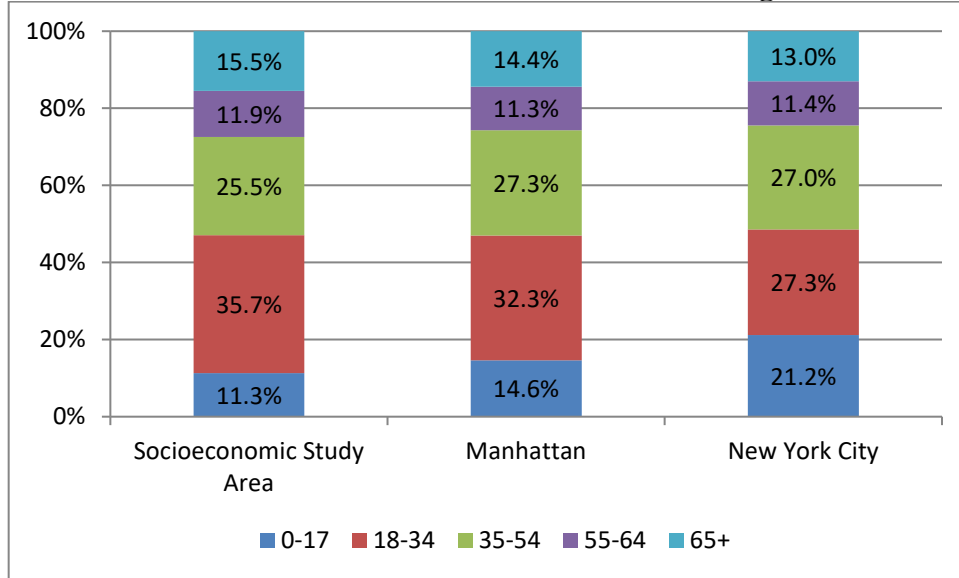
Area	Population		Percent Change
	2006–2010	2012–2016	
Socioeconomic Study Area	163,962	160,138	
Manhattan	1,583,345	1,634,989	3.3%
New York City	8,078,471	8,461,961	4.7%

Note: The statistical reliability of the data included in this table has been vetted using DCP’s NYC Population FactFinder and by following guidance provided by DCP. For the study area, neither the rate of change nor the directionality of change over time was statistically reliable. For Manhattan and New York City, the rate of change and the directionality of change were statistically reliable and therefore reported.

Sources: U.S. Census Bureau 2006–2010 ACS and 2012–2016 ACS. Accessed through DCP’s NYC Population FactFinder in November 2018. 2006–2010 ACS data for Manhattan and New York City were obtained from Social Explorer (accessed November 2018).

Figure 5.2-2 shows 2012–2016 age distribution in the socioeconomic study area, Manhattan, and New York City. Approximately 35.7 percent of the residents in the socioeconomic study area were between 18 and 34—this is higher than Manhattan (32.3 percent) and New York City (27.3 percent). The socioeconomic study area also had a slightly higher share of adults over 65—15.5 percent, as compared with 14.4 percent in Manhattan and 13.0 percent in New York City. The higher share of residents above 65 years of age suggests that more residents are aging in place in the socioeconomic study area.

Figure 5.2-2
2012–2016 Age Distribution



Source: U.S. Census Bureau. 2012–2016 ACS. Accessed through DCP’s NYC Population FactFinder (accessed November 2018).

HOUSEHOLDS AND INCOME

The socioeconomic study area contained a total of 77,596 households in 2012–2016, with an average household size of 1.97 persons per household (see **Table 5.2-2**). This average household size is similar to the average household size in Manhattan (1.99 persons per household), but lower than the average household size in New York City (2.57 persons per household). Between 2006–2010 and 2012–2016, the number of households in the socioeconomic study area increased. The number of households also increased in Manhattan (2.9 percent increase) and New York City (2.7 percent increase) over the same time period.

Table 5.2-2
Household Characteristics: 2006–2010 and 2012–2016

	Total Households			Average Household Size		
	2006–2010	2012–2016	Percent Change	2006–2010	2012–2016	Percent Change
Socioeconomic Study Area	75,420	77,596	↑ Increased	2.09	1.97	↓ Decreased
Manhattan	732,204	753,385	2.9%	2.10	2.10	N/A
New York City	3,047,249	3,128,246	2.7%	2.60	2.70	3.8%

Note: The statistical reliability of the data included in this table has been vetted using DCP’s NYC Population FactFinder and by following guidance provided by DCP. For the study area, the rate of change was not statistically reliable but the directionality of change was and therefore reported. For Manhattan and New York City, the rate of change and the directionality of change were statistically reliable and therefore reported.

Sources: U.S. Census Bureau ACS 2006–2010 and ACS 2012–2016. Accessed through DCP’s NYC Population FactFinder in November 2018. 2006–2010 ACS data for Manhattan and New York City were obtained from Social Explorer (accessed November 2018).

Table 5.2-3 presents average household income, median household income, and poverty status for the socioeconomic study area, Manhattan, and New York City over the 2006–2010 and 2012–

2016 periods. According to 2012–2016 ACS data, the average household income for the socioeconomic study area was \$92,242 (see **Table 5.2-3**). This was lower than the average household income in New York City (\$88,437) and in Manhattan (\$138,748).

Table 5.2-3
Income Characteristics and Trends

Area	Average Household Income ^{1,2,3}			Median Household Income ^{1,2,3}			Poverty Status (Percent) ²	
	2006–2010	2012–2016	Percent Change	2006–2010	2012–2016	Percent Change	2006–2010	2012–2016
Socioeconomic Study Area	\$93,007	\$92,242		\$59,613	\$59,272		19.8%	21.4%
Manhattan	\$135,027	\$138,748	2.8%	\$71,545	\$75,513	5.5%	17.8%	17.6%
New York City	\$85,779	\$88,437	3.1%	\$55,373	\$55,191	-0.3%	19.1%	20.3%

Notes:
¹ The ACS collects data throughout the period on an on-going, monthly basis and asks for respondents' income over the "past 12 months." The 2012–2016 ACS data therefore reflects incomes between 2012 and 2016, while 2006–2010 ACS data reflects incomes between 2006 and 2010.
² The average household income and median household income for both time periods is presented in 2016 inflation-adjusted dollars, as shown on DCP's NYC Population FactFinder (accessed in November 2018).
³ The statistical reliability of the data included in this table has been vetted using DCP's NYC Population FactFinder and by following guidance provided by DCP. For the study area, neither the rate of change nor the directionality of change over time was statistically reliable. For Manhattan and New York City, the rate of change and the directionality of change were statistically reliable and therefore reported.
Sources: U.S. Census Bureau 2006–2010 ACS and 2012–2016 ACS. Accessed through DCP's NYC Population FactFinder in November 2018. 2006–2010 ACS data for Manhattan and New York City were obtained from Social Explorer (accessed November 2018).

Based on 2012–2016 ACS data, the median household income in the study area was \$59,272 (see **Table 5.2-3**). The median household income in Manhattan increased by 5.5 percent over this time period, while New York City as whole experienced a slight decline in median household income.

The socioeconomic study area and New York City had similar percentages of their population living below the poverty level in 2012–2016 (21.4 percent and 20.3 percent, respectively) (see **Table 5.2-3**). This was higher than in Manhattan where 17.6 percent of the population was living below the poverty level in 2012–2016.

HOUSING PROFILE

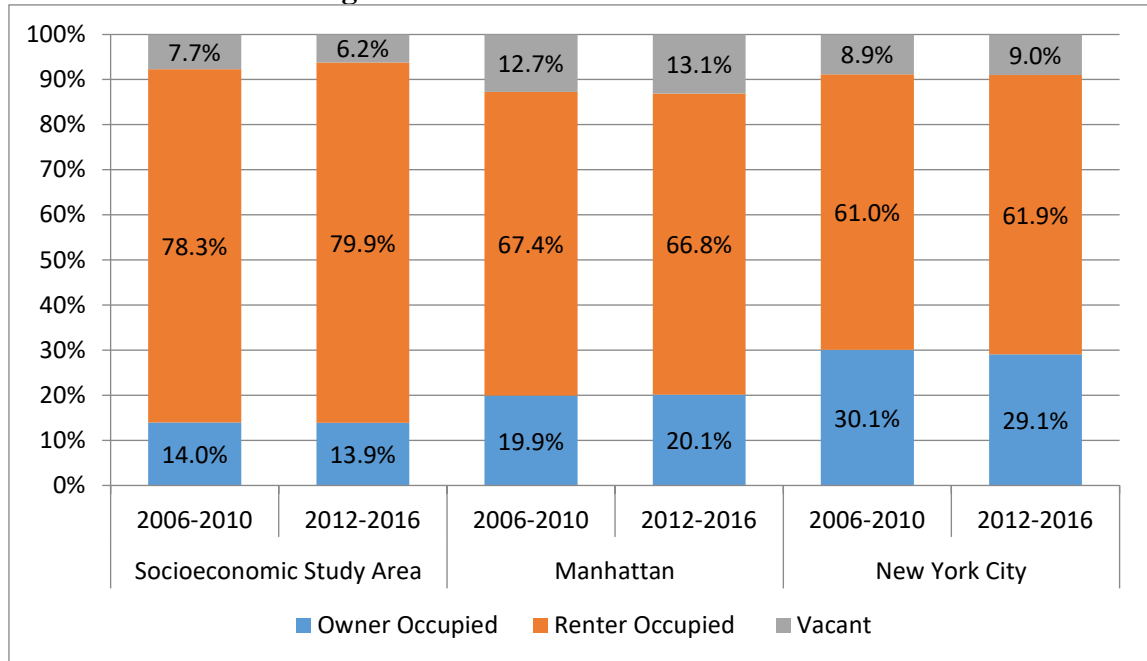
The socioeconomic study area includes predominantly multi-family mid-rise buildings (tenements) and tower-in-the-park-style developments. In 2012–2016, there were approximately 82,724 housing units in the socioeconomic study area. The number of housing units in the socioeconomic study area increased between 2006–2010 and 2012–2016. Census Tract 22.02, which is bounded by East Houston Street, Avenue B, East 3rd Street, and Avenue D, experienced an increase in housing units from 2006–2010 to 2012–2016. Also, housing units in Census Tracts 26.01 and 26.02, which are bounded by East 3rd Street, Avenue D, East 9th Street, and Avenue B, increased during the same time period. In Census Tract 26.02, which is bounded by Avenue B to the west, East 9th Street to the north, Avenue D to the east, and East 6th Street to the south, housing built between 2006 and 2010 includes 74 affordable senior units at Grand Street Settlement's Senior Supportive Housing Building at 711 East 6th Street (completed in 2006).

As shown in **Figure 5.2-3**, as reported in the 2012–2016 ACS, 6.2 percent of housing units in the socioeconomic study area were vacant. Higher shares of housing were vacant in Manhattan and New York City, at 13.1 percent and 9.0 percent, respectively. The socioeconomic study area's 7.7 percent vacancy rate in 2006–2010 was also lower than Manhattan (12.7 percent) and New York City (8.9 percent). Based on data from Corcoran's *Manhattan Residential Rental Market Report, First Quarter 2015*, the rental market conditions within the study area are tighter, with reported

vacancy rates of 2.13 percent for rental units in the East Village and 1.52 percent in Manhattan. Citi Habitats also shows lower vacancy rates in its *Manhattan Residential Rental Market Report for the Second Quarter 2015* at 1.40 percent in the East Village and 1.39 percent in Manhattan.⁵

Of the 82,724 housing units in the study area, approximately 12,707 units (or 15.5 percent) are in NYCHA developments.⁶ In addition, the study area includes 8,198 affordable residential units in privately owned subsidized rental developments in the socioeconomic study area (or 10.0 percent of study area housing units); these include developments that were developed with financing and insurance from HUD, HUD project-based assistance, Mitchell-Lama financing, or the LIHTC.⁷ See section “Investments in Affordable Housing” below for more details on NYCHA housing and other affordable housing in the socioeconomic study area.

**Figure 5.2-3
Housing Characteristics and Trends: 2006–2010 and 2012–2016**



Note: Vacant units include units “For rent,” “For sale only,” and “Other vacant.” In each geography (Socioeconomic Study Area, Manhattan, New York City), the majority of vacant units were classified as “Other vacant,” which includes the following ACS 2012–2016 Vacant Housing Unit categories: Rented, Not Occupied; Sold, Not Occupied; For Seasonal, Recreational, or Occasional Use; For Migrant Workers, and Other Vacant.

Sources: U.S. Census Bureau 2006–2010 ACS and 2012–2016 ACS. Accessed through DCP’s NYC Population FactFinder in November 2018. 2006–2010 ACS data for Manhattan and New York City were obtained from Social Explorer (accessed November 2018).

The socioeconomic study area had a higher percentage of renters than in Manhattan and New York City; approximately 79.9 percent of the socioeconomic study area’s residential units were renter-

⁵ The reports do not provide vacancy rates for the Lower East Side/Alphabet City.

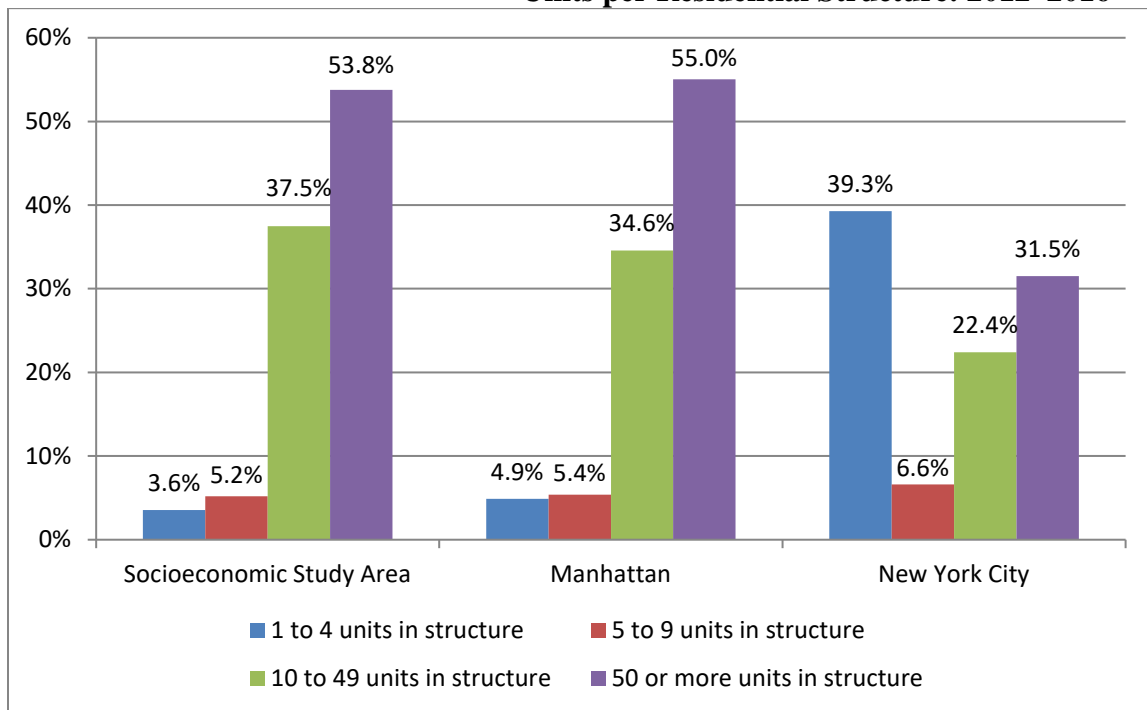
⁶ NYCHA website (accessed September 2015).

⁷ NYU Furman Center’s SHIP database (accessed September 2015).

occupied in 2012–2016, compared with 66.8 percent and 61.9 percent in Manhattan and New York City, respectively (see **Figure 5.2-3**).

Figure 5.2-4 shows the distribution of residential units per structure. Similar to Manhattan, over half of housing units in the socioeconomic study area were in buildings with 50 or more units. This reflects the presence of the study area’s tower-in-the-park-style developments. In addition, approximately 37.5 percent of housing units in the socioeconomic study area were in buildings with 10 to 49 units, reflecting the presence of the study area’s tenements. Manhattan and New York City had a lower share of housing units with 10 to 49 units, at 34.6 percent and 22.4 percent, respectively.

**Figure 5.2-4
Units per Residential Structure: 2012–2016**



Note: The above figure does not show the category “Mobile Home, other,” which has 0.1 percent of housing units in Manhattan and 0.2 percent of housing units in New York City.

Source: U.S. Census Bureau. 2012–2016 ACS. Accessed through DCP’s NYC Population FactFinder in November 2018.

As shown in **Table 5.2-4**, according to 2012–2016 ACS data the median home value in the socioeconomic study area was \$616,585, which is lower than the median home value in Manhattan (\$871,500), but higher than in New York City as a whole (\$508,900).

Table 5.2-4

Median Home Value and Gross Rent: 2006–2010 and 2012–2016

	Median Home Value ^{1,2}			Median Gross Rent ^{1,2}		
	2006–2010	2012–2016	Percent Change	2006–2010	2012–2016	Percent Change
Socioeconomic Study Area	\$672,553	\$616,585	↓ Decreased	\$1,264	\$1,405	↑ Increased
Manhattan	\$908,699	\$871,500	-4.1%	\$1,359	\$1,575	15.9%
New York City	\$565,900	\$508,900	-10.1%	\$1,179	\$1,294	9.8%

Notes:
¹ Median home value and median contract rent for both time periods are presented in 2016 inflation-adjusted dollars as shown on DCP's NYC Population Fact Finder (accessed November 2018).
² The statistical reliability of the data included in this table has been vetted using DCP's NYC Population FactFinder and by following guidance provided by DCP. For the study area, the rate of change was not statistically reliable but the directionality of change was and therefore reported.

Sources: U.S. Census Bureau 2006–2010 ACS and 2012–2016 ACS. Accessed through DCP's NYC Planning Population FactFinder in November 2018. 2006–2010 ACS data for Manhattan and New York City were obtained from Social Explorer (accessed November 2018).

Based on 2012–2016 ACS data, the median gross rent⁸ in the socioeconomic study area was an estimated \$1,405 per month, which is an increase since 2006–2010. The median contract rent also increased in Manhattan (15.9 percent) and New York City as a whole (9.8 percent).

RECENT RESIDENTIAL TRENDS

Based on a survey of current market rate rental listings collected from StreetEasy.com in August and September 2015, rental rates for studios generally ranged from \$1,850 to \$4,469, one-bedroom units ranged from \$2,095 to \$6,950 per month, rental rates for two-bedroom units ranged from \$2,500 to \$8,950 per month, and rental rates for three-bedroom units ranged from \$3,995 to \$18,500 per month (see **Table 5.2-5**). Based on this data, the overall median rental rate for new listings in the socioeconomic study area was \$3,850, which is significantly higher than the median contract rent based on the most recent ACS (\$1,335). The overall median rental rate for the socioeconomic study area was 13.4 percent higher than the median monthly rent in Manhattan of \$3,395 reported in the *Elliman Report* for March 2015.

Table 5.2-5

**Current Rental Rates
in the Socioeconomic Study Area and Manhattan**

	Median Monthly Rent	Average Annual Price per Square Foot (PSF)	Count
Socioeconomic Study Area			
Studio	\$3,350	\$53	26
1BR	\$3,488	\$61	38
2BR	\$3,900	\$57	32
3BR	\$5,395	\$68	17
Total	\$3,850	\$59	113
Manhattan	\$3,395	\$55	5,117

Source: Data for the socioeconomic study area is based on data from StreetEasy.com, accessed August and September 2015. Data source for Manhattan is the Elliman Report for Manhattan, Brooklyn, and Queens Rentals, March 2015.

⁸ According to the U.S. Census Bureau, median contract rent is the middle value of the monthly rent agreed to or contracted for, regardless of any furnishings, utilities, fees, meals, or services that may be included.

Overall, the median sales price of owner-occupied housing in the socioeconomic study area, including condos and co-ops, was \$852,500 (see **Table 5.2-6**). This was 9.3 percent lower than the median value for condos and co-ops in Manhattan (\$940,000). However, the recent sales data suggest that home values are increasing in the study area since the recent sales values are 28.7 percent higher than the median home value reported in the 2012–2016 ACS (\$619,429).

**Table 5.2-6
Recent Condo and Co-op Sales
in the Socioeconomic Study Area and Manhattan**

	Socioeconomic Study Area ¹	Manhattan
Condos		
Median Sale Price	\$1,560,000	\$1,350,000
Average Price/SF	\$1,527	\$1,529
No of Transactions	171	5,050
Co-ops		
Median Sale Price	\$625,000	\$740,000
Average Price/SF	\$904	\$1,143
No of Transactions	209	7,645
Condos and Co-ops		
Median Sale Price	\$852,500	\$940,000
Average Price/SF	\$1,184	\$1,297
No of Transactions	380	12,695
Sources: Data for the socioeconomic study area is based on properties sold from August 2014 through August 2015 with sales prices listed on CityRealty.com, accessed August 2015. While the ACS provides data on median home value, it does not distinguish between condos and co-ops. Also, ACS provides an average over a 5-year period, whereas the sales provided in this table occurred in a single year. Data source for Manhattan is from <i>The Elliman Report: 2005–2014 Manhattan Decade</i> , Douglas Elliman and Miller Samuel Inc.		

The median sales price for condos in the socioeconomic study area was higher than the median sales price for condos in Manhattan as a whole. As shown in **Table 5.2-6**, the median sales price for condos in the study area was \$1.56 million, which was 15.6 percent higher than the median sale price for Manhattan as a whole. The median sales price of co-ops in the socioeconomic study area, however, was 15.5 percent lower than the median sales price of co-ops in Manhattan.

INVESTMENTS IN AFFORDABLE HOUSING

The socioeconomic study area includes 26 NYCHA developments that have over 12,700 residential units (see **Table 5.2-7** and **Figure 5.2-5**). NYCHA housing units account for 15.5 percent of the 81,929 housing units in the socioeconomic study area. It is estimated that over 28,200 residents live in the NYCHA housing units in the socioeconomic study area (or 17.5 percent of the population in the study area).

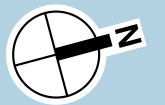
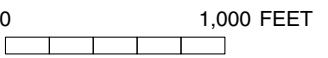


Table 5.2-7

New York City Housing Authority Developments in the Study Area

Development Name	Address	Senior Only	Number of Apartments	Completion Year
344 East 28th Street	344 East 28th Street	No	225	1971
Straus Houses	224 East 28th Street	No	267	1965
Riis House	152 Avenue D	No	1,191	1949
Jacob Riis II	765 FDR Drive	No	578	1949
Lower East Side III	722 East 9th Street	No	56	1996
Pedro Albizu Campos Plaza I	635 East 12th Street,	No	269	1979
Pedro Albizu Campos Plaza II	643 East 13th Street	No	224	1982
Lower East Side Rehab (Group 5)	89 Avenue C	No	55	1986
Lower East Side II	637 East 5th Street	No	188	1988
East 4th Street Rehab	227 East 4th Street	No	25	1988
Mariana Bracetti Plaza	251 East 3rd Street	No	108	1974
First Houses	138 East 3rd Street	No	126	1936
Judge Max Meltzer Tower	94 East 1st Street	Yes	231	1971
Stanton Street	189 Stanton Street	No	13	2003
Lillian Wald	10 Avenue D	No	1,861	1949
Bernard M. Baruch	605 FDR Drive	No	2,194	1959
Bernard M. Baruch Houses Addition	72 Columbia Street	Yes	197	1977
Samuel Gompers	100 Pitt Street	No	474	1964
Seward Park Extension	154 Broome Street	No	360	1973
Baruch Charney Vladeck	70 Gouverneur Street	No	1,531	1940
Lavanburg Houses	126 Baruch Place	No	104	1984
Baruch Charney Vladeck II	28 Jackson Street,	No	240	1940
Mayor Fiorello H. LaGuardia	45 Rutgers Street	No	1,094	1957
Mayor Fiorello H. LaGuardia Addition	282 Cherry Street	Yes	150	1965
Two Bridges URA Site 7	286 South Street	No	250	1975
Henry Rutgers	45 Pike Street	No	721	1965

Note: Locations illustrated in **Figure 5.2-5**.
Source: MyNYCHA Developments database, <https://my.nycha.info/DevPortal>, December 2018.

These developments range in size from the 13-unit Stanton Street development at 189 Stanton Street to the 2,194-unit Baruch Houses (described below).

There is a concentration of NYCHA housing in the eastern portion of the socioeconomic study area between Avenue D, the FDR Drive, and Delancey and East 14th Streets. This area includes the Jacob Riis Houses, Lillian Wald Houses, Bernard Baruch Houses, Campos Plaza II, and the Lavanburg Homes. These developments include over 6,100 apartments in 54 buildings built between 1949 and 1984. The Jacob Riis Houses are an 11.7-acre development between East 8th and East 13th Streets, Avenue D, and the FDR Drive. It was built in 1949 and has 13 buildings, 6, 13, and 14 stories tall with 1,191 apartments. Just south of the Jacob Riis Houses is the Jacob Riis II development, which has six buildings, 6, 13, and 14 stories tall with 578 apartments on 5.9 acres between East 6th and East 8th Streets, Avenue D, and the FDR Drive. The Lillian Wald Houses are south of the Jacob Riis Houses and are located on 16.5-acres between East 6th Street and East Houston Streets, between Avenue D and the FDR Drive. The Lillian Wald Houses have 16 buildings, 11 and 14 stories tall with 1,861 apartments. Between the FDR Drive and East Houston, Delancey, and Columbia Streets are three developments: Bernard Baruch Houses, Baruch Houses Addition, and Lavanburg Houses. The Bernard Baruch Houses encompass 27.5 acres and have 17 buildings, 7, 13, and 14 stories tall with 2,194 apartments. Baruch Houses Addition encompasses 1.08 acres and has 197 senior-only apartments. Lavanburg Homes, which is a 0.53-acre development, south of East Houston Street and adjacent to the Baruch Houses, is a 6-story building with 104 apartments.

There is also a concentration of NYCHA housing in the southern portion of the socioeconomic study area between the FDR Drive and Henry and Pike Streets. This area includes approximately 3,960 NYCHA apartments in 40 buildings built between 1940 and 1975. Rutgers Houses, which is a 5.2-acre development between Cherry, Pike, Madison, and Rutgers Streets, has 721 apartments in five, 20-story buildings. East of Rutgers Houses is the LaGuardia Houses and the LaGuardia Addition developments. LaGuardia Houses is a 10.7-acre development bordered by Rutgers, Madison, Montgomery, and Cherry Streets, and includes 9 16-story buildings with 1,094 apartments. The LaGuardia Addition development is 0.6 acres and includes a 16-story senior-only building (150 units). Vladeck Houses I and II are located between Gouverneur, Water, and east of Jackson Street. Vladeck Houses I is a 13-acre complex with 20 6-story buildings with 1,531 apartments and Vladeck Houses II is a 2.23-acre complex with 4 6-story buildings with 240 apartments. This area also includes the Two Bridges Urban Renewal Area Site 7 development, which has a 26-story building with 250 apartments on a site bordered by Clinton, South, Cherry, and Montgomery Streets.

In addition to the NYCHA units, the socioeconomic study area also includes affordable residential units in privately owned subsidized rental or co-op developments. Based on data from New York University's Subsidized Housing Information Project,⁹ there are approximately 60 subsidized rental or co-op developments in the socioeconomic study area. These properties include 8,198 affordable residential units in 114 buildings throughout the socioeconomic study area. These 8,198 affordable units make up 10.0 percent of the housing units in the socioeconomic study area. These developments range in size between 7 and 1,105 residential units. The largest of these properties is the Masaryk Towers, which is located on Columbia Street, and has 4 buildings with 801 residential units (co-ops). This Mitchell-Lama development was built in 1966. Another large subsidized development in the socioeconomic study area is Gouverneur Gardens on Montgomery Street, which was built in 1962 and has six buildings with 869 residential units (co-ops). Gouverneur Gardens is also a Mitchell-Lama development.

Another effort to maintain affordability in the neighborhood is evident in the sale of Stuyvesant Town-Peter Cooper Village, which has approximately 11,240 apartments between East 14th Street to the south, First Avenue to the west, East 23rd Street to the north, and Avenue C to the east. The terms of the agreement include a regulation that will reserve 4,500 units for middle-income families and 500 units for moderate-income families for the next 20 years.¹⁰

ECONOMIC PROFILE

PROJECT AREAS

As discussed above, there are a few businesses within and immediately adjacent to the project areas. The businesses include: a BP Gas Station (along the waterfront at East 23rd Street and FDR

⁹ SHIP, which is a project of New York University Furman Center and the Moelis Institute for Affordable Housing Policy, contains data on 235,000 units of privately owned subsidized affordable rental properties in New York City developed with financing and insurance from HUD, HUD-project based rental assistance, New York City or State Mitchell-Lama financing, or the LIHTC. Last accessed March 1, 2018 at <http://coredata.nyc/>.

¹⁰ "Mayor, Local Elected Officials and Tenant Leaders Announce 20-Year Agreement with Blackstone and Ivanhoé Cambridge to Protect Middle Class Housing at Stuyvesant Town and Peter Cooper Village" (2015, October 20). Retrieved from <http://www1.nyc.gov/office-of-the-mayor/news/736-15/mayor-local-elected-officials-tenant-leaders-20-year-agreement-blackstone-and/#/0>.

Drive); a 395,800-sf Skyport Marina Parking Garage (just north of the project area along the waterfront north of 23rd Street); and Propark America outdoor parking lot (along the waterfront at East 20th Street and FDR Drive). In addition, Pier 42 currently has parking, as well as a temporary park that opened in 2013. NYC Parks is currently developing Pier 42 into a public waterfront open space, which is expected to be open to the public in 2020.

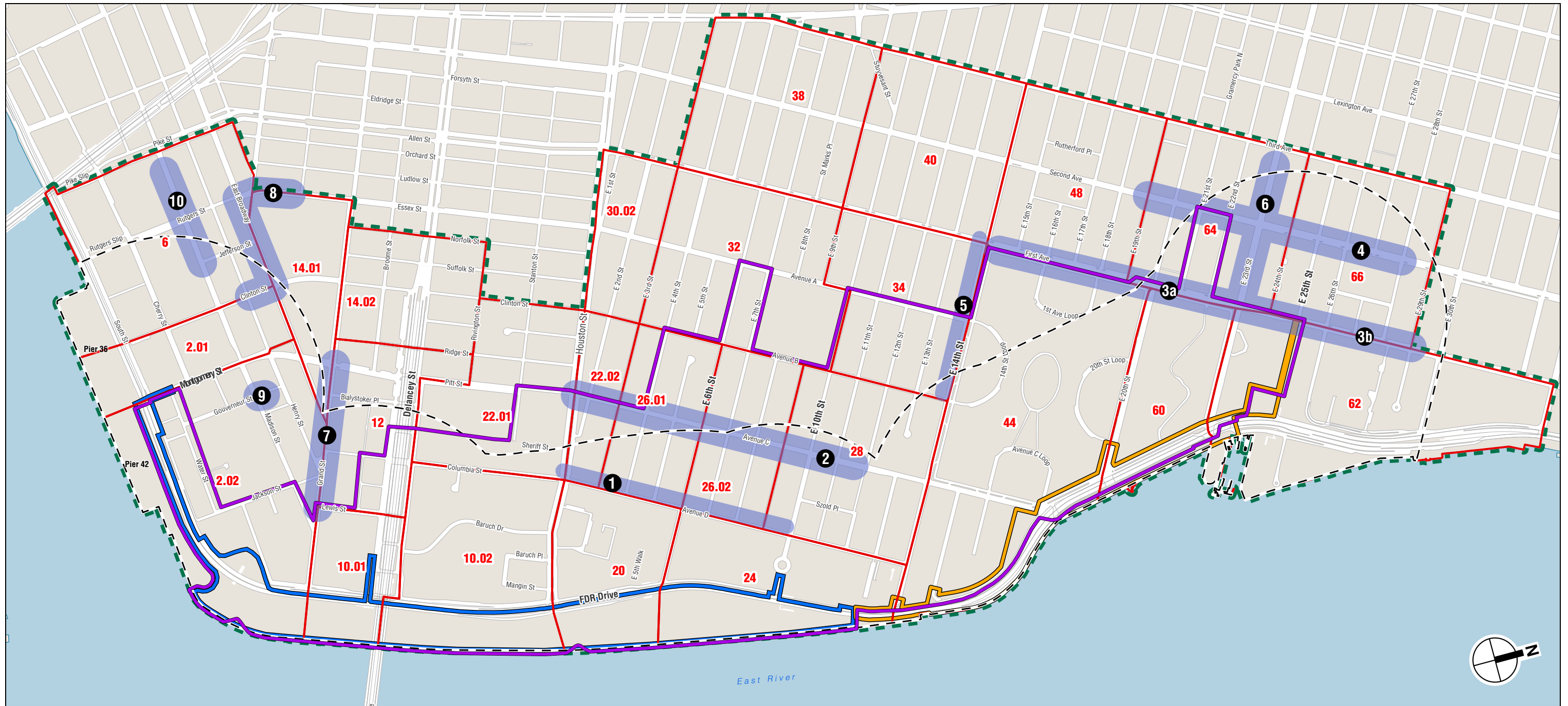
1/4-MILE LOCAL STUDY AREA

The 1/4-mile local study area—the area within which the proposed project would be expected to have the greatest potential to affect business conditions—is predominantly residential, but also includes ground-floor retail, open space, and institutional uses. Closest to the project area along FDR Drive, businesses include a limited number of parking facilities and industrial uses, including the Consolidated Edison facility located adjacent to the project area, east of Avenue C between East 13th and approximately East 17th Street. Throughout the 1/4-mile local study area, ground-floor retail uses are common along major east-west and north-south corridors. The closest neighborhood-serving retail/restaurants to the project area are on Avenue D, which is west of the project area (see Corridor 1, **Figure 5.2-6**).

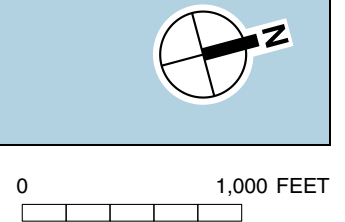
The retail corridor along First Avenue between East 14th Street and East 28th Street can be described as two somewhat distinct areas—the area north of East 23rd Street and the area south of East 23rd Street (see Corridors 3a and 3b, respectively, **Figure 5.2-6**). Retail along First Avenue between East 23rd Street and East 28th Street serves the local retail needs of the workers employed by surrounding institutional uses located on First Avenue, including Bellevue Hospital, The VA Hospital Center New York, New York University (College of Dentistry, College of Nursing, and School of Engineering), and Brookdale Health Science Center of Hunter College. Retail along this portion of First Avenue is significantly less concentrated, and includes small-sized stores, including an Au Bon Pain, Citibank, and Chase Bank. The low density of retail businesses on Corridor 3a is supplemented with food carts that are prevalent along the corridor. First Avenue below East 23rd Street is characterized by a high concentration of retail businesses and a high level of retail users (mainly catering to the relatively dense residential population, including residents of Stuyvesant Town). The dominant store types along this stretch of First Avenue are delis, restaurants, dry cleaners and laundromats, hair/nail salons, banks, clothing stores, and grocery stores. National retailers along this corridor include CVS, Dunkin' Donuts, Chipotle, TD Bank, and Walgreens. In comparison to other retail corridors included in this analysis and on **Figure 5.2-6**, there is a low level of retail vacancies on First Avenue south of East 23rd Street.

Second Avenue between East 19th Street and East 28th Street primarily serves the local retail needs of residents in the surrounding area and the southern end of the this stretch (see Corridor 4, **Figure 5.2-6**). Businesses include laundromats, dry cleaners, pharmacies, hair/nail salons, delis, and restaurants. Medical and educational uses such as a Beth Isreal Clinic and Explore and Discover Early learning Center are interspersed with the retailers on this corridor. Although the majority of the storefronts are smaller in size, there are also medium-to-large storefronts, including two Duane Reade locations and a Morton Williams's grocery store. Business activities in this area appeared healthy; however, there were approximately 14 vacant/closed storefronts, which gives the impression that business activities on Corridor 4 are not as healthy as that of Corridor 3a.

There is also a concentration of retail along the two large cross-town streets: East 23rd Street and the south side of East 14th Street (see Corridors 5 and 6, respectively, **Figure 5.2-6**). East 23rd Street includes national retailers including Mattress Firm, Amalgamated Bank, 7-Eleven, Chase Bank, McDonald's, and CVS, as well as pharmacies, second-hand clothing stores, and a spa. Stores along the south side of East 14th Street were predominantly small-format locally owned



- Project Area One
- Project Area Two
- Socioeconomic Study Area
- Protected Area
- 10 Census Tracts
- 1/4-Mile Radius of Project Area (1/4-Mile Local Study Area)
- Retail Corridors



businesses, such as laundromats and delis. On the south side of East 14th Street, close to Avenue B, are recently developed mid- to large-sized retail spaces that have not yet been occupied. One of the recent tenants to locate at the southeast corner of Avenue A and East 14th Street is an urban Target (opened July 2018).

In the East Village (between East Houston Street and East 12th Street), ground-floor retail within the ¼-mile local study area is concentrated along Avenue C and the west side of Avenue D (see Corridors 2 and 1, respectively, **Figure 5.2-6**). Retail uses along Avenue C include a plethora of local eating and drinking establishments, hair/nail salons, laundromats, and delis. While most stores along Avenue C are smaller stores, there are also some mid-size grocery stores like C-Town Supermarket and Associated Grocery Store. Overall there is a mix of healthy business activity with scattered vacant storefronts (20 vacant stores were observed). Similarly, Avenue D includes delis, convenience stores, pharmacies, laundromats, and hair/nail salons. Most stores are smaller in scale; however, there are larger businesses on the southern end of this corridor including Duane Reade and Compare Food Supermarket. These retail establishments cater to the residential population; including the NYCHA developments east of Avenue D (see **Figure 5.2-5**). Approximately seven vacant retail stores were observed on Avenue D. While there are a greater number of vacancies on Avenue C than Avenue D, there are also a greater number of occupied retail spaces on Avenue C such that existing vacancies are not plaguing the retail corridor and causing disinvestment. In fact, the business activities on Avenue C appear to be healthier than those on Avenue D.

Retail south of East Houston Street in the Lower East Side neighborhood is concentrated along Grand Street and East Broadway (see Corridors 7 and 8, respectively, **Figure 5.2-6**). More specifically, retail is clustered along Grand Street from Pitt Street to Madison Street. There is also a cluster of retail along East Broadway between Clinton Street and Rutgers Street, turning north along Essex Street. There are two retail stores located on Gouverneur Street between Henry Street and Madison Street (see Corridor 9, **Figure 5.2-6**), relied upon by residents of NYCHA's Vladeck Houses and LaGuardia Houses. The last cluster of retail is along Madison Street between Pike Street and Jefferson Street (see Corridor 10, **Figure 5.2-6**). The retail stores in this area serve the nearby residents, including those who live in this area's NYCHA developments, including Vladeck Houses I and II, LaGuardia Houses, Two Bridges URA (Site 7), and Rutgers Houses. The businesses include eating and drinking establishments, grocery stores, hair/nail salons, delis, laundromats, bike shops, and banks. The larger retail stores in this area include a Fine Fare grocery store, CVS, McDonald's, and a Dunkin' Donuts. Approximately nine closed or vacant storefronts were observed on Grand Street, East Broadway, Madison Street, and Clinton Street, with the majority of vacant storefronts (4 vacancies) located on East Broadway.

ECONOMIC PROFILE OF THE SOCIOECONOMIC STUDY AREA

As of January 2017, there were an estimated 4,945 businesses in the socioeconomic study area. The 4,945 businesses in the study area represent approximately 3.6 percent of the businesses in Manhattan, and 1.6 percent of the businesses in all of New York City (see **Table 5.2-8**).

Table 5.2-8

**Estimated Businesses in the Socioeconomic Study Area,
Manhattan, and New York City**

Industry (by NAICS Code)	Study Area		Manhattan		New York City	
	Businesses	Percent	Businesses	Percent	Businesses	Percent
Agriculture, Forestry, Fishing, and Hunting	2	0.0%	57	0.0%	187	0.1%
Mining	1	0.0%	55	0.0%	100	0.0%
Utilities	4	0.1%	72	0.1%	194	0.1%
Construction	145	2.9%	3,473	2.5%	14,211	4.7%
Manufacturing	63	1.3%	3,673	2.7%	8,416	2.8%
Wholesale Trade	88	1.8%	3,950	2.9%	9,879	3.3%
Retail Trade	623	12.6%	18,897	13.8%	46,541	15.5%
Transportation and Warehousing	71	1.4%	1,468	1.1%	5,492	1.8%
Information	145	2.9%	6,206	4.5%	9,810	3.3%
Finance and Insurance	86	1.7%	8,603	6.3%	14,045	4.7%
Real Estate, Rental, and Leasing	289	5.8%	9,158	6.7%	18,724	6.2%
Professional, Scientific, and Tech Services	371	7.5%	20,171	14.8%	32,750	10.9%
Management of Companies and Enterprises	6	0.1%	367	0.3%	559	0.2%
Administrative and Support and Waste Management and Remediation Services	165	3.3%	5,888	4.3%	11,646	3.9%
Educational Services	157	3.2%	3,221	2.4%	8,705	2.9%
Health Care and Social Assistance	394	8.0%	8,573	6.3%	23,811	7.9%
Arts, Entertainment, and Recreation	139	2.8%	3,436	2.5%	5,691	1.9%
Accommodation and Food Services	838	16.9%	10,899	8.0%	26,768	8.9%
Other Services (except Public Administration)	680	13.8%	12,367	9.1%	35,500	11.8%
Public Administration	46	0.9%	1,236	0.9%	2,730	0.9%
Unclassified Establishments	632	12.8%	14,673	10.8%	24,597	8.2%
Total	4,945	100.0%	136,443	100.0%	300,356	100.0%

Source: ESRI, Business Analyst Online, Inc. Business Summary Report, 2017 data.

Within the socioeconomic study area, the Accommodation and Food Services sector accounted for the highest share of businesses, with 16.9 percent of total businesses (or 838 businesses); this was approximately double the share of Accommodation and Food Services businesses in Manhattan (8.0 percent) and New York City (8.91 percent). The Other Services (except Public Administration) accounted for the second highest share of businesses, with 13.8 percent of total businesses (or 680 businesses); this was marginally higher than the share of sector businesses in Manhattan (9.1 percent) and New York City (11.8 percent). The Retail Trade sector accounted for 12.6 percent of total businesses (or 623 businesses). Within the Retail Trade sector, there were a significant number of food and beverage stores (145 businesses), clothing and clothing accessories stores (102 businesses), and miscellaneous store retailers (154 businesses). Office uses appeared to represent a smaller share of businesses in the socioeconomic study area compared with Manhattan. As shown in **Table 5.2-8**, the Finance and Insurance sector made up 1.7 percent of businesses in the socioeconomic study area compared with 6.3 percent in Manhattan and 4.68 percent in New York City; and the Professional, Scientific, and Technical Services sector made up 7.5 percent of businesses in the socioeconomic study area compared with 14.8 percent in Manhattan and 10.9 percent in New York City.

As shown in **Table 5.2-9**, there were an estimated 65,532 employees in the socioeconomic study area in 2015. Within the study area, the Health Care and Social Assistance sector accounted for a significant share of study area employment with 38.9 percent of all employment (or 25,503 employees). In comparison, the Health Care and Social Assistance sector accounts for 10.7 percent of employment in Manhattan and 17.5 percent of employment in New York City. The Education Services sector accounted for the second-highest share of study area employment, with 21.9

percent, followed by Accommodation and Food Services, with 12.1 percent. These businesses cater to the large residential population that lives in the study area and accounted for a higher share of employment in the study area compared with Manhattan and New York City as a whole. The remaining industry sectors each represent less than 10 percent of the study area’s employment.

**Table 5.2-9
Estimated Employment in the Study Area, Manhattan, and New York City**

Industry (by NAICS Code)	Study Area		Manhattan		New York City	
	Employees	Percent	Employees	Percent	Employees	Percent
Agriculture, Forestry, Fishing, and Hunting	1	0.0	131	0.0	305	0.0
Mining, Quarrying, and Oil and Gas Extraction	0	0.0	30	0.0	60	0.0
Utilities	0	0.0	6,326	0.3	17,219	0.4
Construction	630	1.0	42,898	1.8	139,034	3.3
Manufacturing	343	0.5	26,070	1.1	77,003	1.8
Wholesale Trade	231	0.4	84,748	3.5	148,216	3.6
Retail Trade	2,700	4.1	163,656	6.8	348,783	8.4
Transportation and Warehousing	335	0.5	20,043	0.8	173,244	4.2
Information	810	1.2	178,091	7.4	204,217	4.9
Finance and Insurance	454	0.7	296,641	12.3	337,501	8.1
Real Estate, Rental, and Leasing	1,575	2.4	94,509	3.9	137,817	3.3
Professional, Scientific, and Technical Services	1,609	2.5	354,608	14.7	401,105	9.6
Management of Companies and Enterprises	731	1.1	64,169	2.7	72,039	1.7
Administrative and Support, Waste Management, and Remediation	2,129	3.2	163,737	6.8	239,381	5.7
Educational Services	14,380	21.9	142,469	5.9	354,614	8.5
Health Care and Social Assistance	25,503	38.9	257,083	10.7	730,860	17.5
Arts, Entertainment, and Recreation	653	1.0	76,126	3.2	95,055	2.3
Accommodation and Food Services	7,941	12.1	222,000	9.2	338,249	8.1
Other Services (excluding Public Administration)	1,974	3.0	102,693	4.3	168,905	4.0
Public Administration	3,533	5.4	112,132	4.7	189,152	4.5
Total	65,532	100.0	2,408,160	100.0	4,172,759	100.0

Source: U.S. Census Bureau, OnTheMap, November 2018

F. ENVIRONMENTAL EFFECTS

A detailed description of the alternatives analyzed in this chapter is presented in Chapter 2.0, “Project Alternatives.”

NO ACTION ALTERNATIVE (ALTERNATIVE 1)

As described in **Appendix A1**, there are a number of projects planned or currently under construction in the project area, including Pier 42, the Solar One Environmental Education Center, Pier 35, the East River Waterfront Esplanade-Phase IV, and the new Rutgers Slip Open Space (No Action projects). Pier 42, Pier 35, the East River Waterfront Esplanade-Phase IV, and the new Rutgers Slip Open Space projects would increase the amount of accessible public open space in the project area. The existing Solar One Environmental Education Center at the northern end of Stuyvesant Cove Park is anticipated to be redeveloped and improved with a new green arts and energy education center and horticultural garden.¹¹

¹¹ See Chapter 5.3, “Open Space,” for detailed descriptions of these open space projects.

Other targeted resiliency projects, such as those proposed at the NYCHA properties and the recently completed measures along VA Medical Center, would protect critical infrastructure at these facilities, but would not provide the type of comprehensive neighborhood protection that would be provided by the coastal flood protection systems presented in the other alternatives.

As detailed in Chapter 2.0, “Project Alternatives,” under the No Action Alternative, there are multiple new developments in the study area, which are planned for completion by 2025. Although still vulnerable to flooding during potential design storm events, these new developments would be less susceptible to flood-related damage due to assumed compliance with updated Building Code standards. As defined in the New York City Building Code, Appendix G, flood-resistant construction standards are required in flood zones including the use of flood-resistant materials for portions of structures susceptible to water damage, elevated placement of some critical systems, and in some instances, the ability to withstand wave pressure.

Overall, given the increase in total housing units within the study area since 2000, and the considerable residential and commercial development expected within the study area by 2025, a continuation of existing trends towards a mix of new uses with increasing rents and home values is expected under the No Action Alternative.

NON-STORM CONDITIONS

Under the No Action Alternative, no new public open space or recreational amenities would be introduced to the project area as part of a coastal flood protection system that could potentially affect residential rents in the study area by making the area more attractive as a residential neighborhood. However, under the No Action Alternative, there is the potential to affect residential rents through the provision of new open space as part of the Pier 42, Pier 35, the East River Waterfront Esplanade-Phase IV, and the new Rutgers Slip Open Space projects.

Under the No Action Alternative, area business conditions would not be affected by substantial increases in pedestrian traffic and associated consumer spending as a result of the proposed project. Rent levels also would not be affected by the proposed project under the No Action Alternative.

However, unlike with the other alternatives outlined below, none of the economic benefits associated with the construction of comprehensive flood protection systems would be realized under the No Action Alternative.

STORM CONDITIONS

Absent the proposed project’s coastal flood protection measures, residents and businesses within the 100-year floodplain will remain vulnerable to flooding during design storm events. Thus, the key project objective to respond quickly to the need for reliable coastal flood protection and resiliency for the design storm would not be met. Although some resiliency measures are expected to be completed at NYCHA’s Baruch Houses, Wald Houses, Riis Houses, and other developments, they will continue to be vulnerable to flood damage during future design storm events, and responders’ access to the dwellings would continue to be compromised during flood events. Additionally, residents in market rate and affordable dwellings in Stuyvesant Town and Peter Cooper Village, and many dwellings east of Avenue B, will remain vulnerable. Further, existing businesses, especially ground floor establishments along Avenues B, C, and D would remain vulnerable through potential loss of customers during flood events, and possibly by water damage to property. Thus, under the No Action Alternative, there is the potential for adverse economic effects within the study area due to potential flood damage created by future design

storm events. While the construction, operations, and maintenance costs associated with a flood protection system would be avoided, the benefit of avoided losses from a design storm event would not be realized.¹²

PREFERRED ALTERNATIVE (ALTERNATIVE 4) – FLOOD PROTECTION SYSTEM WITH A RAISED EAST RIVER PARK

The Preferred Alternative would not result in the direct displacement of any residents or businesses. The project area does not contain any residential uses; and while there are a limited number of businesses within and immediately adjacent to the project area, none of these businesses would be directly displaced by this alternative. The following assessment therefore focuses on potential indirect displacement effects, considering both non-storm and storm event influences on property values and rents.

NON-STORM CONDITIONS

The assessment of indirect residential and business displacement for this alternative is organized into the two project factors that could influence property values—flood protection measures and open space and connectivity improvements.

Flood Protection Measures

By 2025, existing residents and businesses in the study area within the existing flood hazard area would be less susceptible to coastal flooding during design storm events due to the Preferred Alternative’s flood protection measures. Within the flood hazard area portions of the study area, the addition of the alternative’s flood protection measures could lead to an increase in residential and commercial property values over time due to a number of influences. These influences include the substantial reduction of risk of property damage from flooding and the reduction of costs associated with investing in resiliency measures for individual properties. These influences could result in increases in market-rate residential and commercial rents within the existing flood hazard area portions of the study area (e.g., from the value of knowledge that your home or business would not be displaced due to flooding).

Current business activity in the existing flood hazard area portions of the study area largely consists of food service and retail establishments—including grocery, convenience, and miscellaneous retailers—that cater predominantly to existing residents. Under the Preferred Alternative, businesses within the socioeconomic study area would benefit from reduced susceptibility to flooding during a storm event, and any temporary or permanent business closures related to a major storm event. While this reduced business risk would enhance the value of properties, potentially leading to increased rents, such an influence is not expected to result in significant indirect commercial displacement. As illustrated in **Figure 5.2-6**, many commercial uses within the study area are located outside of or on the outskirts of the protected area. Therefore, any potential for indirect business displacement from storm-related influences on rent would be limited to businesses within the protected area and would not have the potential for significant effects throughout the overall study area. Also, there is an existing trend toward market-rate commercial development in the study area, with planned development totaling over 1 million sf of office space and approximately 280,000 sf of retail uses. Additionally, any new commercial space in new developments expected by 2025 would be subject to flood-resistant building

¹² Calculated losses during a design storm event include direct physical damage to buildings, human impacts, displacement, business interruption, and transportation impacts.

standards prior to completion of the flood protection system. Therefore, the Preferred Alternative would not result in significant indirect residential or business displacement pressures within the study area.

With respect to both residential and commercial market conditions in the study area, the Preferred Alternative is not expected to substantively alter existing trends. In the future with or without this alternative, the study area will continue to be an attractive area to live and work, and will experience substantial new development as well as increases in property value and rents. The Preferred Alternative is not expected to substantively alter existing trends and, therefore, would not have significant adverse effects due to indirect residential or commercial displacement.

Open Space and Connectivity Improvements

The added open space and connectivity features in the Preferred Alternative, including the shared-use flyover bridge, are not expected to result in increased residential property values and rent increases that could lead to significant indirect residential displacement within the study area. The Preferred Alternative's resiliency features would allow park improvements to better withstand storm events. This alternative's design approach would eliminate potential damage and post storm repair costs to the park. Therefore, as related to indirect residential displacement, the residential value attributable to proximity to the waterfront park is unchanged.

For the following reasons, this alternative is not expected to result in significant indirect residential displacement within the study area. First, the Preferred Alternative does not add a new use to the project area that would have the potential to fundamentally alter real estate values. The project area currently includes large public open spaces—including East River Park—that offer active and passive recreation options to study area residents and visitors, and which as described in Chapter 5.3, "Open Space," are highly utilized. Thus, the proposed project would not create new public parkland that could affect property values, but would elevate, protect, and reconstruct the existing parks (e.g., East River Park, Murphy Brothers Playground, and Asser Levy Playground) in the study area that already influence property values. Second, recent trends already show study area market housing costs to be well above rents affordable to low- and moderate-income households. These trends are expected to continue with or without this alternative's park and neighborhood connection improvements in place, and this alternative is not anticipated to accelerate those trends substantially. Third, there is little existing, and limited opportunity to develop additional, market housing abutting the project area, where values and rents would have the greatest potential to increase as a result of proximity to the park improvements. Fourth, the majority of existing housing directly abutting the project area consists of NYCHA housing developments. Thus, even with the Preferred Alternative's open space and connectivity improvements in place, rents in these developments are protected from local market forces and, therefore, would not be affected by changes in market conditions generated by the proposed project. Similarly, area households who live in other forms of rent-regulated housing—including the approximately 5,000 units within Peter Cooper Village and Stuyvesant Town abutting the project area—would not see rent increases as a result of potential market changes generated by the proposed project. The Preferred Alternative is also not expected to result in increases in commercial rents that could lead to significant indirect business displacement pressures within the study area. First, the resiliency features would not increase visitation to East River Park or other parks in the study area, thus to the extent that commercial rents are influenced by consumer spending, commercial rents are not expected to increase due to the proposed project. Should there be some increase in visitation attributable to the proposed project, there are few businesses directly abutting the project area that would be affected by any increases in expenditure potential. As stated

above and highlighted in **Figure 5.2-6**, most of the businesses in the study area are located several blocks away from the project area, and not located on streets leading to the improved pedestrian connections across the FDR Drive, where businesses could be affected by any potential increased pedestrian traffic. Third, with multiple residential projects expected to be completed by 2025 and the associated increases in population and spending potential, any effects on commercial rent increases would be attributable to these projects and not the proposed project. Fourth, although this alternative would provide park and neighborhood connection improvements, the alternative does not present new uses or activities to the project area. So while visitation and associated consumer spending could increase, such an increase is expected to be minor and thus not substantially affect the study area's commercial market.

For all of these reasons, the additional open space and connectivity features included in the Preferred Alternative would not be expected to lead to significant indirect business displacement.

STORM CONDITIONS

Under the Preferred Alternative, residents and businesses within the 100-year floodplain in the socioeconomic study area would be less vulnerable to flooding during storm events. Thus, the key objective of the proposed project—to respond quickly to the need for reliable coastal flood protection and resiliency for the design storm—would be met. Under the Preferred Alternative, there would be positive socioeconomic benefits due to the avoided costs associated with flood damage that would otherwise be incurred during storm events.

OTHER ALTERNATIVE (ALTERNATIVE 2): FLOOD PROTECTION SYSTEM ON THE WEST SIDE OF EAST RIVER PARK – BASELINE

Similar to the Preferred Alternative, Alternative 2 would not result in the direct displacement of any residents or businesses. The following assessment therefore focuses on potential indirect displacement effects, considering both non-storm and storm event influences on property values and rents.

NON-STORM CONDITIONS

The findings with respect to potential indirect displacement are the same as for the Preferred Alternative. Added flood protection and resiliency design features in Alternative 2 are not expected to result in increases in commercial rents that could lead to significant indirect business displacement pressures within the study area. The resiliency features would not increase visitation to East River Park before a storm event; thus, to the extent that commercial rents are influenced by consumer spending, commercial rents are not expected to increase as a result. In addition, although the resiliency measures would allow park improvements to be more immediately usable following a storm event, there are few businesses abutting the project area, and increases in pedestrian traffic to the project study area's commercial uses is not expected to substantially influence commercial rents. Moreover, as previously discussed, many commercial uses within the study area are located outside of or on the outskirts of the protected area; therefore, any potential for indirect business displacement from storm-related influences on rent would be limited to businesses within the protected area and would not have the potential for significant effects throughout the overall study area. Also, as noted above, there is an existing trend toward market-rate residential and commercial development in the study area, and much of the study area's housing (approximately 25 percent) is rent-regulated.

The minor open space modifications under this alternative would not result in major new additional publicly accessible open spaces that could contribute to making the area more attractive

as a residential neighborhood, nor would additional access points to existing open spaces be created. Thus, Alternative 2 is not expected to affect residential rents in the study area. Similarly, business conditions in the study area are not expected to materially change due to non-storm-related influences under this alternative. Therefore, under Alternative 2, the study area would not be expected to receive substantial additional pedestrian traffic nor the increased consumer spending potential associated with that visitation.

With respect to both residential and commercial market conditions in the study area, Alternative 2 is not expected to substantively alter existing trends. Alternative 2 is not expected to substantively alter existing trends and, therefore, would not have significant adverse effects due to indirect residential or commercial displacement.

STORM CONDITIONS

Residents and businesses within the 100-year floodplain area under Alternative 2 would be less vulnerable to flooding during storm events. Thus, the key objective of the proposed project—to respond quickly to the need for reliable coastal flood protection and resiliency for the design storm—would be met. Under Alternative 2, there would be positive socioeconomic benefits due to the avoided costs associated with flood damage that would otherwise be incurred during storm events.

OTHER ALTERNATIVE (ALTERNATIVE 3): FLOOD PROTECTION SYSTEM ON THE WEST SIDE OF EAST RIVER PARK – ENHANCED PARK AND ACCESS

Similar to the Preferred Alternative, Alternative 3 would not result in the direct displacement of any residents or businesses. The following assessment therefore focuses on potential indirect displacement effects, considering both non-storm and storm event influences on property values and rents.

NON-STORM CONDITIONS

The findings with respect to potential indirect displacement are the same as for the Preferred Alternative. Added resiliency design features in Alternative 3 are not expected to result in increases in commercial rents that could lead to significant indirect business displacement pressures within the study area. The resiliency features would not increase visitation to East River Park before a storm event, thus to the extent that commercial rents are influenced by consumer spending, commercial rents are not expected to increase as a result. In addition, although the resiliency measures would allow park improvements to be more immediately usable following a storm event, there are few businesses abutting the project area, and increases in pedestrian traffic to the project study area's commercial uses is not expected to substantially influence commercial rents.

By 2025, existing residents and businesses in the study area within the existing flood hazard area would be less susceptible to coastal flooding during storm events due to Alternative 3's flood protection measures described above. The addition of these measures could lead to an increase in residential and commercial property values over time due to the same influences as previously described in the Preferred Alternative. Potential increases in property value attributable to Alternative 3's storm protection system elements are not expected to result in significant indirect residential or business displacement pressures within the study area for the same reasons as detailed for the Preferred Alternative.

Under Alternative 3, the concern with respect to potential indirect displacement is whether park improvements could lead to increases in residential and commercial property values over time due

to the following influences: the enhanced waterfront open space amenities that could make the study area neighborhoods a more desirable location in which to live; from increased pedestrian traffic and associated consumer spending at study area businesses; and from potential increased spending associated with higher income households that may be attracted to the neighborhood.

For the same reasons as the Preferred Alternative, this alternative is not expected to result in significant indirect residential or business displacement within the study area.

STORM CONDITIONS

Under Alternative 3, residents and businesses within the 100-year floodplain in the socioeconomic study area would be less vulnerable to flooding during storm events. Thus, the key objective of the proposed project—to respond quickly to the need for reliable coastal flood protection and resiliency for the design storm—would be met. Under Alternative 3, there would be positive socioeconomic benefits due to the avoided costs associated with flood damage that would otherwise be incurred during storm events.

ALTERNATIVE 5 – FLOOD PROTECTION SYSTEM EAST OF FDR DRIVE

Similar to the Preferred Alternative, Alternative 5 would not result in the direct displacement of any residents or businesses. The following assessment therefore focuses on potential indirect displacement effects, considering both non-storm and storm event influences on property values and rents.

NON-STORM CONDITIONS

Alternative 5 includes similar flood protection objectives and the same general open space improvements as described in Alternative 4; therefore, this assessment only addresses the additional connectivity enhancements provided by this alternative.

The enhanced connectivity would not be expected to substantially increase visitation to East River Park; thus, to the extent that commercial rents are influenced by consumer spending, commercial rents are not expected to increase. In addition, most of the business activity in the study area is located several blocks away from the project area, and not located on streets leading to the improved park connections where business activity would most likely benefit from any increased pedestrian or bicyclist traffic that may occur primarily in the north-south direction.

STORM CONDITIONS

Under Alternative 5, residents and businesses within the 100-year floodplain area would be less vulnerable to flooding during storm events. Therefore, as with the other alternatives described above, there would be positive socioeconomic benefits due to the avoided costs associated with flood damage that would otherwise occur during storm events. *