

West 108th Street WSFSSH Development

Chapter 7: Transportation

A. INTRODUCTION

This chapter presents the findings of the parking analysis for the Proposed Project. As detailed in Chapter 1, “Project Description,” the Proposed Actions consist of a series of land use actions affecting Block 1863, Lots 5, 10, 13, 17, and 26 (the “Project Area”) (refer to **Figure 7-1**). The Proposed Actions would facilitate the development of an estimated combined 277 affordable dwelling units (DUs), an approximately 31,000 gross square foot (gsf) replacement transitional housing facility for older adults with 110 shelter beds, and an additional 6,400 gsf of community facility space (the “Proposed Project”). The Proposed Project would consist of two buildings: the Western Development (Lots 5, 10, and 13) with approximately 193,000-gsf, and the Eastern Development (Lot 26) with approximately 45,000 gsf.

As discussed in detail in the West 108th Street Rezoning Transportation Planning Factors (TPF)/ Travel Demand Factors (TDF) Memorandum (see Appendix III), the Proposed Project would not exceed the 2014 *City Environmental Quality Review (CEQR) Technical Manual* thresholds for a detailed traffic, transit, or pedestrian analyses and, therefore, is not anticipated to result in significant adverse impacts in these technical areas. In addition, as the Proposed Project does not warrant a traffic analysis, a parking analysis is typically not conducted, pursuant to *CEQR Technical Manual* methodology. However, as the Proposed Project would eliminate three public parking garages containing a combined 675 parking spaces, with the potential to result in a significant parking shortfall in the surrounding area, a detailed parking analysis was conducted.

B. PRINCIPAL CONCLUSIONS

In the 2025 future with the Proposed Project, a total of 675 spaces in three existing public parking facilities located on the Development Site would be displaced and two new predominately residential buildings would be constructed in their place. As the Proposed Project is located in the Manhattan Core, no accessory parking spaces are required, in accordance with zoning.

The Project Area is located in CEQR Parking Zone 1, which encompasses all Manhattan blocks south of 110th Street. As per the *CEQR Technical Manual*, the inability of proposed projects in Parking Zones 1 and 2 (which, combined, include all of Manhattan, in addition to transit-rich areas in the South Bronx, Brooklyn, and Queens) to accommodate future parking demands is considered a shortfall, but is generally not considered a significant adverse environmental impact because of the magnitude of alternative modes of transportation that are readily available for commutation, shopping, and other day-to-day needs. This approach is consistent with zoning regulations, which generally have lower or no parking requirements in transit-rich areas. Most notably, in the Manhattan Core, which includes all Manhattan blocks south of West 110th Street on the west side and south of East 96th Street on the east side, there are no accessory parking requirements, and the amount of parking permitted as-of-right is restricted.



In the future with the Proposed Project, there would be a shortfall of approximately 472 spaces (on- and off-street, combined) within a ¼-mile of the Project Area and a shortfall of approximately 471 spaces (on- and off-street, combined) within a ½-mile of the Project Area during the peak period, the weekday midday. During the weekday overnight period, there would be a shortfall of approximately 374 spaces (on- and off-street, combined) within a ¼-mile of the Project Area, and a shortfall of approximately 216 spaces (on- and off-street, combined) within a ½-mile of the Project Area.

The Project Area is located in a portion of the Upper West Side, a highly transit accessible area in which the transit mode share (subway and bus combined) is approximately 75 percent, as compared to an auto mode share of eight percent. The Project Area, like much of the Upper West Side is highly accessible to alternative modes of transportation, including the Cathedral Parkway/110th Street (B and C lines) subway station on Central Park West and the Cathedral Parkway/110th Street (No. 1 line) subway station located on Broadway, among others, and ten New York City Transit (NYCT) bus routes, all of which are within a ½-mile of the Project Area. This pattern is reflected in the usage of the Development Site garages, which exhibit low vehicle in/out volumes during the weekday peak hours, indicating that most of the garage users are not utilizing their vehicles for daily commuting. Accordingly, the parking shortfall would not significantly affect daily commuting patterns nor would it impede residents from performing daily tasks.

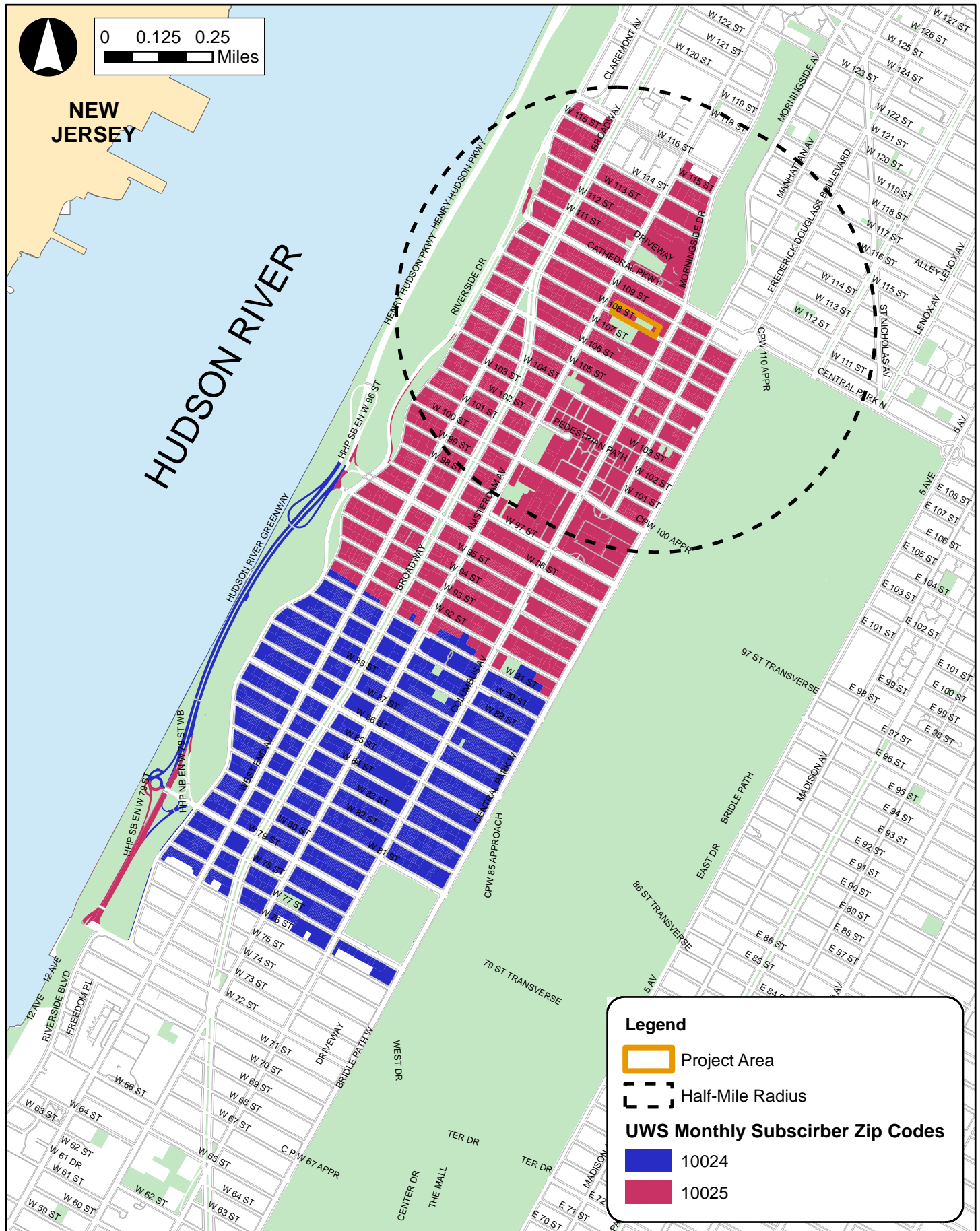
While the Proposed Actions would result in a parking shortfall within the ½-mile study area, the availability of alternative transit options in the area, and the high transit auto share and low auto share among neighborhood residents for purposes of daily commutation, are evidence that the parking shortfall would not have a significant effect upon the overall ability of neighborhood residents to commute to work, shop, and perform other daily life activities. Accordingly, and consistent with the area's designation under the CEQR Technical Manual as part of CEQR Parking Zone 1, the parking shortfall within the ½-mile study area would therefore not constitute a significant adverse environmental impact.

C. METHODOLOGY

The parking analysis identifies both the on- and off-street public parking supply in the surrounding study area. The CEQR recommends starting with a ¼-mile study area for parking analyses, and where there is insufficient parking to accommodate the parking spaces displaced by the Proposed Project within the ¼-mile radius, the study area is expanded to a ½-mile radius, as per the *CEQR Technical Manual* methodology. In addition, and as discussed in further detail below, in this case the ½-mile radius is more reflective of the existing garage users, the majority of which reside on the Upper West Side of Manhattan, in an area that extends well beyond a ¼-mile (and in many cases beyond a ½-mile) radius of the Project Area. Detailed existing on- and off-street parking inventories were conducted within ¼-mile and ½-mile radius study areas. Inventories were conducted during the weekday midday and weekday overnight periods (when commercial/retail demand and residential demand, respectively, typically peak) to document the existing supply and demand during these peak periods, in accordance with *CEQR Technical Manual* methodology. Subsequently, further analyses were conducted for a larger study area reflective of the broader population that the garages currently serve. In order to determine the transit utilization trends for the zip codes in which the current garage users reside, 2011-2015 American Community Survey (ACS) Journey to Work Data were examined (refer to **Figure 7-2**).

Parking demand generated by the residential component of the Proposed Project was forecasted based on auto ownership data for the Manhattan Census Tracts within a ¼-mile radius of the Project Area

Residential Concentration of Monthly Garage Subscribers (Zip Codes)



(tracts 189, 191, 193, 195, 197.01, 197.02, 199, and 216). For the community facility (medical office) use, parking demand was generated based on forecasts of the total daily auto trips for that use. Specifically, the modal splits and vehicle occupancies used for the forecast of the community facility use were based on data from the 2012 *West Harlem Rezoning FEIS*.

The parking analyses document the changes in parking supply and utilization under the No-Action and With-Action conditions based on accepted background growth rates and projected demand.

D. EXISTING CONDITIONS

Off-Street Parking

Study Area Parking Supply and Utilization

As previously discussed, CEQR recommends starting with a ¼-mile study area for parking analyses. If there is insufficient parking to accommodate the parking spaces displaced by the Proposed Project within the ¼-mile radius, CEQR recommends expanding the study area to a ½-mile radius. As shown in **Figure 7-3**, the ¼-mile study area is generally bounded by West 114th Street to the north, Central Park West to the east, West 103rd Street to the south, and Riverside Drive to the west. The ½-mile study area is generally bounded by West 119th Street to the north, St. Nicholas Avenue to the east, West 98th Street to the south, and Riverside Drive to the east. Ten off-street parking facilities, labeled 1 through 10 in **Figure 7-3**, are located within the ¼-mile radius, while a total of 19 off-street parking facilities are located within the ½-mile radius.

The existing off-street public parking facilities within a ¼-mile and a ½-mile of the Project Area were inventoried in April 2017. **Table 7-1** provides a summary of the name, address, license number, hours of operation, capacity, and estimated weekday midday and overnight utilizations for each facility within a ¼-mile and ½-mile of the Project Area.

Field observations and interviews with parking attendants were conducted to determine the utilization levels of each parking facility during the midday (12:00 PM to 2:00 PM) and overnight periods on a typical weekday. As shown in **Table 7-1**, the ten parking facilities within a ¼-mile radius of the Project Area have a combined licensed capacity of 1,636 spaces during both the midday and overnight periods. Accounting for the nine additional parking facilities located between a ¼-mile and a ½-mile of the Project Area, there are a total of 19 parking facilities within a ½-mile radius of the Project Area with a combined licensed capacity of 3,042 spaces during both the midday and overnight periods. During the weekday midday period, approximately 83 percent and 87 percent of spaces are utilized within the ¼-mile and ½-mile of the Project Area, respectively, leaving residual supplies of approximately 286 and 399 available parking spaces within a ¼-mile and a ½-mile of the Project Area, respectively. During the overnight period, approximately 75 percent and 83 percent of spaces are utilized within the ¼-mile and ½-mile of the Project Area, respectively, leaving residual supplies of approximately 404 and 517 available off-street parking spaces within a ¼-mile and a ½-mile of the Project Area, respectively.

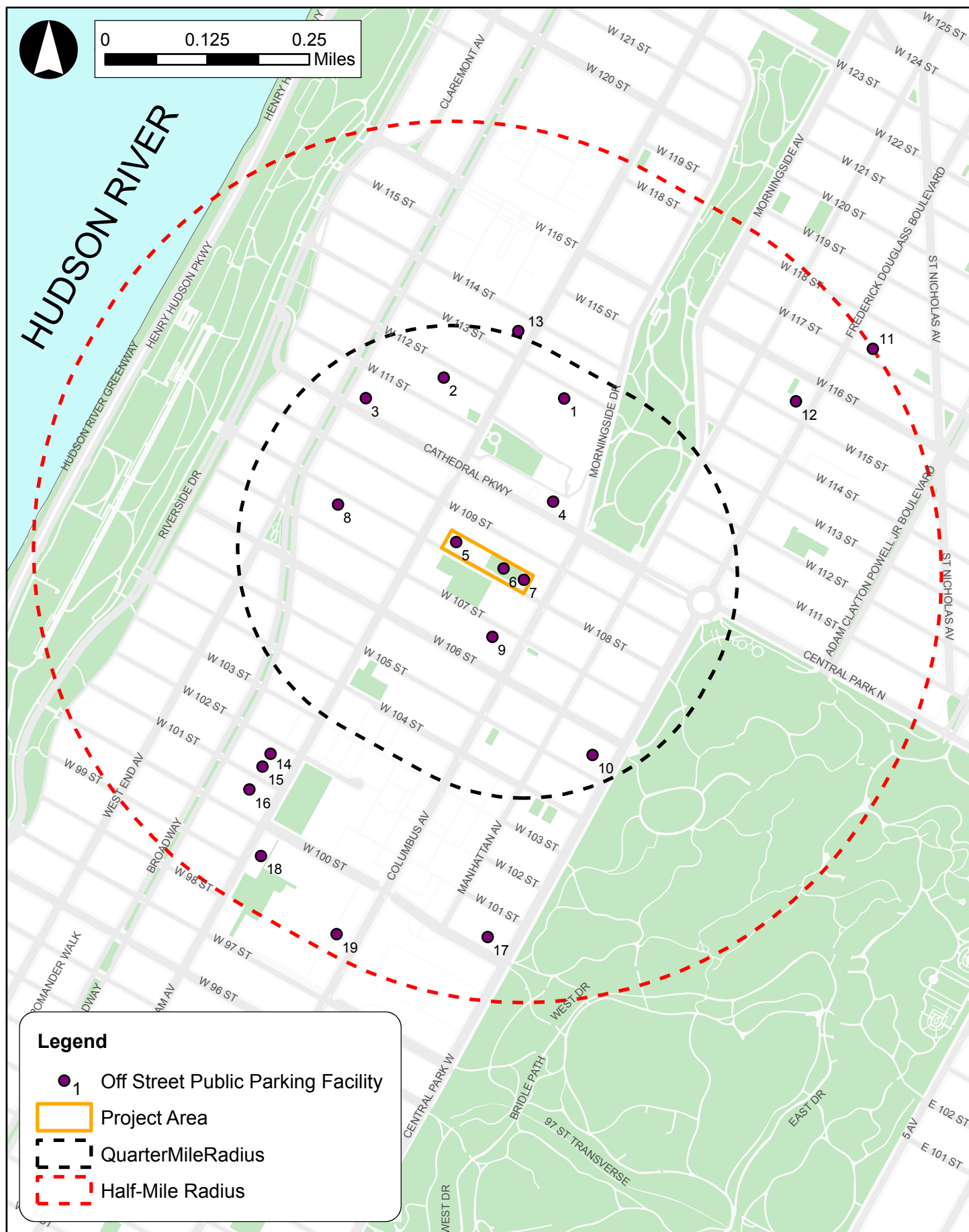


TABLE 7-1**Existing Off-Street Parking Facilities Within the ¼-Mile and ½-Mile of the Project Area**

Map No.	Name	Address	License No.	Hours of Operation	Licensed Capacity	Weekday Midday		Weekday Overnight	
						Estimated Utilization	Available Capacity	Estimated Utilization	Available Capacity
1/4-Mile Radius From the Project Area									
1	Champion Parking 113 LLC	400 W. 113th St.	2038424	24 Hours Daily	193	70%	58	10%	174
2	512-520 W. 112th St. Garage Corp.	516 W. 112th St.	0859390	Mon-Sat: 6AM-1AM; Sunday: 7AM-1AM	77	75%	19	10%	69
3	Manhattan Parking 110 LLC	543 W. 110th St.	1241570	24 Hours Daily	190	100%	0	100%	0
4	Propark America New York LLC	401 W. 110th St.	2048095	24 Hours Daily	148	100%	0	85%	22
5	HRF Operating Corp.	151 W. 108th St.	0917493	24 Hours Daily	250	100%	0	100%	0
6	E. & B. Operating Corp.	137 W. 108th St.	0469029	24 Hours Daily	300	75%	75	85%	45
7	CA-LI Automatic Transmission Corp.	103 W. 108th St.	0427913	24 Hours Daily	125	80%	25	100%	0
8	W. 108th St. Parking Garage Corp.	234 W. 108th St.	0947353	7AM-2AM Daily	98	85%	15	100%	0
9	Oliantha Garage Corp.	102 W. 107th St.	0928832	Sun-Thurs: 6AM-Midnight; Fri-Sat: 6AM-1AM	188	50%	94	50%	94
10	455 CPW Parking Corp.	455 Central Park West	2030868	24 Hours Daily	67	100%	0	100%	0
1/4-Mile Radius Sub-Total:					1636	83%	286	75%	404
1/4- to 1/2-Mile Radius From the Project Area									
11	Park 117th, LLC	279 W. 117th St.	1312575	24 Hours Daily	71	100%	0	100%	0
12	Park 115th LLC	2131 Frederick Douglass Blvd.	1360570	24 Hours Daily	47	100%	0	100%	0
13	SP Plus Corp.	1090 Amsterdam Ave.	2003035	24 Hours Daily	135	100%	0	100%	0
14	Rapid West 102 Corp.	206 W. 102nd St.	0978502	Mon-Fri: 6AM-12AM; Sat-Sun: 7AM-12AM	114	85%	17	85%	17
15	KRW Operating Corp.	205 W. 101st St.	0427235	24 Hours Daily	300	85%	45	85%	45
16	KRW Operating Corp.	204 W. 101st St.	0427236	24 Hours Daily	300	85%	45	85%	45
17	9-11 West 100th St. Corp.	11 W. 100th St.	0901540	24 Hours Daily	75	100%	0	100%	0
18	Quik Park 801 Garage LLC	801 Amsterdam Ave.	2028476	24 Hours Daily	40	85%	6	85%	6
19	Quik Park 801 Garage LLC	808 Columbus Ave.	1345532	24 Hours Daily	324	100%	0	100%	0
1/2-Mile Radius Sub-Total:					1406	92%	113	92%	113
Total:					3,042	87%	399	83%	517

Notes:

Based on PHA field surveys (April 2017).

Development Site Parking Garages

As shown in **Figure 7-3**, three of the facilities described in **Table 7-1** (Map Nos. 11-19) are located on the Development Site. These three facilities have a combined capacity of 675 parking spaces. In order to assess the existing conditions in the Project Area, vehicle counts were conducted at the entrances to each of the three parking garages during the weekday AM (7:30 AM to 9:30 AM), midday (12:00 PM to 2:00 PM), and PM (5:00 PM to 7:00 PM) peak periods in November 2016. These counts are summarized below in **Table 7-2**. As shown in **Table 7-2**, the daily in/out trips to and from the garages do not represent a substantial portion of the garage's existing user base, with a maximum of 12 vehicles entering any of the garages in any one hour and a maximum of 13 vehicles exiting any of the garages in any one hour. Looking at all three garages combined, a total of 29, 25, and 33 vehicle trips (in and out combined) were generated by

the Development Site garages during the weekday AM, midday, and PM peak hours, respectively. Additionally, within the 7:30-9:30 AM and 5:00-7:00 PM peak commuter periods, a total of 46 and 61 vehicles entered and exited the three existing garages, respectively. The vehicle trips into and out of the three existing garages during these peak periods likely represent daily commuter trips.

TABLE 7-2
Vehicle Counts at the West 108th Street Parking Garages

Time Period		Garage 1 (Lot 5)			Garage 2 (Lot 13)			Garage 3			Total
		In	Out	Total	In	Out	Total	In	Out	Total	
7:30 AM	8:30 AM	2	5	7	1	11	12	1	2	3	22
7:45 AM	8:45 AM	4	6	10	2	9	11	0	1	1	22
8:00 AM	9:00 AM	5	6	11	2	7	9	0	1	1	21
8:15 AM	9:15 AM	8	7	15	2	4	6	0	1	1	22
8:30 AM	9:30 AM	9	12	21	2	4	6	1	1	2	29
12:00 PM	1:00 PM	7	11	18	3	2	5	1	1	2	25
12:15 PM	1:15 PM	6	10	16	2	1	3	1	3	4	23
12:30 PM	1:30 PM	7	9	16	1	2	3	1	2	3	22
12:45 PM	1:45 PM	4	4	8	1	4	5	1	2	3	16
1:00 PM	2:00 PM	4	2	6	1	4	5	0	3	3	14
5:00 PM	6:00 PM	6	10	16	2	0	2	3	3	6	24
5:15 PM	6:15 PM	7	13	20	2	4	6	3	1	4	30
5:30 PM	6:30 PM	10	9	19	4	4	8	3	1	4	31
5:45 PM	6:45 PM	12	7	19	5	5	10	3	1	4	33
6:00 PM	7:00 PM	10	7	17	6	6	12	3	0	3	32

Notes:

Based on PHA counts (November 2016).

Bold indicates peak hour and peak hour volume.

The low volumes of cars entering and exiting the garages during each of the peak periods indicate that most of the users do not utilize their cars for daily commuting, and are instead using the three garages located on the Development Site for long-term vehicle storage and more occasional use. This is consistent with the New York City Department of City Planning's (DCP's) 2011 *Manhattan Core Public Parking Study*, which found that approximately 70 percent of parking spaces in public parking garages in Manhattan Community Districts (CDs) 7 and 8 are used by residential monthly parkers and that approximately 25 percent of monthly residential parkers at surveyed facilities in the Manhattan Core reported making five or fewer vehicle trips per month. Of the remaining monthly residential parkers that were surveyed in the Manhattan Core, approximately 38 percent reported making between five and 19 trips per month, and 37 percent reported making 20 or more trips per month. It should be noted that, as the surveys were distributed while respondents were using their vehicles, the results likely over-represent frequent auto users and under-represent infrequent auto users.

In addition, further analyses were conducted in order to determine the transit utilization of residents in the zip codes where the current garage subscribers reside. As shown in **Table 7-3**, below, the three garages currently located on the Development Site have a total of 666 monthly subscribers, as per the June 2016 *Nelson/Nygaard West 108th Street Development Parking Study*. The overwhelming majority (approximately 94 percent) of the monthly subscribers reside on the Upper West Side of Manhattan. Of these subscribers, 569 reside in the same zip code as the garages (in zip code 10025), while 58 subscribers reside in the zip code immediately south of the garages (in zip code 10024). As shown in **Figure 7-2**, these

two zip codes where the overwhelming majority of the monthly subscribers reside are generally bounded by West 115th Street to the north, Central Park West to the east, West 76th Street to the south, and Riverside Drive to the east. The southern boundary of these two zip codes (West 76th Street) is 20 blocks (approximately 1.1 miles) south of the ½-mile study area boundary. It should also be noted that the data summarized in **Table 7-3** does not include patrons who use the garages for periods less than one month, which may include visitors, area employees, and occasional commuters.

TABLE 7-3
Monthly Subscribers at the West 108th Street Parking Garages

Area	Zip Code	Monthly Subscribers	Percentage
Upper West Side	10025	569	94.14%
	10024	58	
Morningside Heights / West Harlem	10027	3	1.95%
	10026	10	
Upper East Side	10128	1	0.45%
	10021	2	
Midtown Manhattan (Lincoln Center/Clinton / Chelsea / Flatiron)	10023	6	1.80%
	10019	2	
	10018	2	
	10011	1	
	10001	1	
Lower Manhattan (Stuyvesant Town / Greenwich Village / East Village / South Street Seaport)	10038	1	1.05%
	10010	3	
	10003	3	
Bronx, NY	10467	1	0.15%
Westchester County, NY	10530	1	0.15%
New Jersey	07631	1	0.30%
	07920	1	
Total		666	100.00%

Source: Nelson/Nygaard West 108th Street Development Parking Study (June 2016)

Note: Due to rounding, percentages may not add to exactly 100%

As the majority of monthly garage subscribers reside on the Upper West Side of Manhattan (zip codes 10024 and 10025), 2011-2015 ACS Journey to Work Data were used to determine the mode choices of residents within those communities. As shown in **Table 7-4** below, subway is the dominant mode choice (68 percent) for residents of these areas, followed by walking (14 percent). The transit mode share (subway and bus combined) in these communities is approximately 75 percent, as compared to an auto mode share of eight percent (refer to **Table 7-4**). The low volumes of vehicles entering and exiting the existing West 108th Street (Development Site) garages during the weekday peak hours (refer to **Table 7-2**), is consistent with this low auto mode share ; as discussed above, it is indicative of the fact that most of the users do not utilize their cars for daily commuting or for other regular, daily purposes, and are instead using the three garages located on the Development Site for long-term vehicle storage and more occasional use. This low auto mode share is reflective of the overall low levels of auto commuting exhibited by Manhattan residents, as compared to the outer boroughs, a fact that has informed parking requirements (i.e., no minimum parking requirements in the Manhattan Core) and the *CEQR Technical Manual*'s parking impact criteria with respect to parking shortfalls.

TABLE 7-4

Upper West Side Residential Journey to Work Data

Mode	Zip Code 10024		Zip Code 10025		Total	
	Amount	%	Amount	%	Amount	%
Auto	2,060	7%	4,330	9%	6,390	8%
Taxi	1,301	4%	779	2%	2,080	3%
Subway	21,805	71%	30,035	66%	51,840	68%
Bus	2,379	8%	3,141	7%	5,520	7%
Walk/Bike/Ferry/Other	3,098	10%	7,372	16%	10,470	14%
Total	30,643	100%	45,657	100%	76,300	100%

Source: 2011-2015 ACS

As shown in **Figure 7-1**, there are six subway stations (serving the No. 1, B, and C subway lines) within a ½-mile radius of the Project Area. The greater Upper West Side neighborhood is served by a total of seven subway lines, including three lines (the Nos. 1, 2, and 3 subway lines) that run along Broadway (one block west of the Project Area) and four lines (the A, B, C, and D subway lines) that run along Central Park West (two blocks east of the Project Area). The No. 1 line provides local service between Lower Manhattan and the Bronx; the Nos. 2 and 3 lines provide express service between the Bronx, Manhattan, and Brooklyn; the A line provides express service between Manhattan, Brooklyn, and Queens; the C line provides local service between Manhattan and Brooklyn; and the B and D lines provide local and express service between the Bronx, Manhattan, and Brooklyn.

The Project Area and surrounding study area are also well-served by public buses, with over 100 bus stops serving ten NYCT bus routes located within a ½-mile of the Project Area (refer to **Figure 7-1**). To the west of the Project Area, the M4, M5, and M104 bus routes provide local service between Washington Heights/Fort Tyron Park (The Cloisters) and Penn Station, Washington Heights and Midtown, and Harlem and the Port Authority Bus Terminal, respectively. The M7, M11, and M60 Select Bus Service (SBS) bus routes also provide service to the west of the Project Area between Harlem and Chelsea, Greenwich Village and Harlem/Riverbank State Park, and Morningside Heights and LaGuardia Airport, respectively. The M116 provides local crosstown service between East Harlem and the Upper West Side via 116th Street. Additionally, to the east of the Project Area, the M2, M3, and M10 bus routes provide local service between Washington Heights and the East Village, Fort George and the East Village, and Harlem and Columbus Circle, respectively. The transit accessibility within these communities helps to facilitate the high transit mode shares of 79 percent and 73 percent for zip codes 10024 and 10025, respectively (refer to **Table 7-4**).

On-Street Parking

An inventory of existing on-street parking regulations within a ¼-mile and a ½-mile radius of the Project Area was compiled from field data and online sources in April 2017 (see Appendix III). Existing capacities and occupancies were inventoried for the parking study area on a block by block basis during the weekday midday and overnight periods. On-street public parking is generally governed by alternate-side-of-the-street regulations to facilitate street cleaning, with more restrictive regulations in place at locations where additional traffic flow capacity is needed, especially during the weekday daytime hours. Based on the existing curbside parking regulations in this dense street grid, and taking into account curb space obstructed by curb cuts, fire hydrants, and other impediments, there are a total of approximately 1,786

and 4,726 legal curbside parking spaces during the weekday midday period within a ¼-mile and ½-mile radius of the Project Area, respectively, increasing to approximately 2,098 and 5,992 legal curbside parking spaces during the overnight period within a ¼-mile and ½-mile radius of the Project Area, respectively.

Based on the data collected during field surveys conducted in April 2017, on-street parking within a ¼-mile radius of the Project Area is fully utilized in both the weekday midday and overnight periods. In the ½-mile study area, while on-street parking is fully utilized during the weekday midday period, there are approximately 175 on-street parking spaces currently available within a ½-mile radius of the Project Area during the weekday overnight period (for a weekday overnight utilization rate of approximately 97 percent; refer to **Table 7-5**). The availability in the weekday overnight period, as compared to the weekday midday period (when the ½-mile radius on-street parking is fully utilized), could be attributable to several factors, such as area residents choosing to park in local off-street public parking garages during the overnight period, instead of utilizing the on-street supply, as well as the utilization of on-street parking spaces during the daytime by people traveling from outside of the study area (e.g., employees commuting to work in the Upper West Side, students, business patrons).

The combined off- and on-street existing parking conditions within a ¼-mile and ½-mile radius of the Project Area are shown below in **Table 7-5**. As shown in the table, the combined off- and on-street parking supply within the ¼-mile study area is approximately 92 percent and 89 percent utilized during the weekday midday and overnight periods, respectively, with 286 and 409 available spaces in the ¼-mile radius in these respective periods. Within a ½-mile radius of the Project Area, the combined off- and on-street parking supply is approximately 95 percent and 92 percent utilized during the weekday midday and overnight periods, respectively, with 399 and 692 available spaces in the ½-mile radius in these respective periods.

E. THE FUTURE WITHOUT THE PROPOSED PROJECT (NO-ACTION CONDITION)

In the No-Action condition, it is expected that no disposition of City-owned property and no changes to zoning or land use would occur within the Project Area. On the Development Site, Lots 5, 13, and 26 would continue to be occupied by parking garages with a combined capacity of 675 parking spaces, and Lot 10 would continue to be occupied by a five-story building that houses the Valley Lodge Shelter, which contains 92 beds for the homeless. Under the No-Action condition, the three off-street public parking garages located on the Development Site (with a total of 675 combined parking spaces) would continue to operate. As there would not be any new development in the Project Area, there would be no new demand for parking from Project Area uses under the No-Action condition.

However, between 2017 and 2025, it is expected that parking demand in the vicinity of the Project Area will increase due to general background growth. While there is one known and anticipated development in the parking study area (refer to **Table 2-3** in Chapter 2, “Land Use Zoning and Public Policy”), as this development is relatively small in size, it is not expected to generate an appreciable amount of new parking demand within the study area and is accounted for in the general background growth. Pursuant to *CEQR Technical Manual* methodology, annual background growth rates of 0.25 percent per year for the 2017 through 2022 period and 0.125 percent per year for the 2022 through 2025 period were applied.

TABLE 7-5
Combined Existing On- and Off-Street Parking
Conditions Within a ¼-Mile and ½-Mile Radius of
the Project Area

1/4-Mile Radius From the Project Area		
	Weekday Midday	Weekday Overnight
Off-Street		
Capacity	1,636	1,636
Demand	1,350	1,232
Utilization	83%	75%
Available Spaces	286	404
On-Street		
Capacity	1,786	2,098
Demand	1,786	2,093
Utilization	100%	100%
Available Spaces	0	5
Total		
Capacity	3,422	3,734
Demand	3,136	3,325
Utilization	92%	89%
Available Spaces	286	409
1/2-Mile Radius From the Project Area		
	Weekday Midday	Weekday Overnight
Off-Street		
Capacity	3,042	3,042
Demand	2,643	2,525
Utilization	87%	83%
Available Spaces	399	517
On-Street		
Capacity	4,726	5,992
Demand	4,726	5,817
Utilization	100%	97%
Available Spaces	0	175
Total		
Capacity	7,768	9,034
Demand	7,369	8,342
Utilization	95%	92%
Available Spaces	399	692

Notes:

Based on PHA weekday field surveys (April 2017).

It should also be noted that, in the future without the Proposed Project, existing commuting patterns in the study area are not expected to change appreciably. As noted above, the study area, which is served by multiple public transit options, currently exhibits a relatively low auto commuting mode share (eight percent), with the majority (66 percent) traveling to and from work by public transit. The current utilization patterns of the Development Site public parking garages are, therefore, not expected to change substantially, and would continue to be utilized primarily for vehicle storage, with most of the facilities' monthly parking subscribers continuing to travel to work via public transit.

Off-Street Parking

Under the No-Action condition, all of the existing off-street public parking facilities would continue to operate. As shown in **Table 7-6**, based on the increased demand under the No-Action condition resulting from general background growth as outlined above, weekday midday off-street parking utilization within a ¼-mile radius of the Project Area is expected to increase to 84 percent of capacity, with approximately 264 available spaces during this period, while weekday midday demand for off-street parking within a ½-mile radius of the Project Area is expected to increase to 88 percent of capacity, with approximately 356 available spaces during this period. Weekday overnight utilization within a ¼-mile radius of the Project Area is expected to increase to 77 percent of capacity, with approximately 384 available spaces during this period, while weekday overnight demand for off-street parking within a ½-mile radius of the Project Area is expected to increase to 84 percent of capacity, with a total of approximately 476 parking spaces available during this period.

TABLE 7-6
Combined No-Action On- and Off-Street Parking
Conditions Within a ¼-Mile and ½-Mile Radius of
the Project Area

1/4-Mile Radius From the Project Area		
	Weekday Midday	Weekday Overnight
Off-Street		
Capacity	1,636	1,636
Demand	1,372	1,252
Utilization	84%	77%
Available Spaces	264	384
On-Street		
Capacity	1,809	2,121
Demand	1,815	2,127
Utilization	100%	100%
Available Spaces	-6	-6
Total		
Capacity	3,445	3,757
Demand	3,187	3,379
Utilization	93%	90%
Available Spaces	258	378
1/2-Mile Radius From the Project Area		
	Weekday Midday	Weekday Overnight
Off-Street		
Capacity	3,042	3,042
Demand	2,686	2,566
Utilization	88%	84%
Available Spaces	356	476
On-Street		
Capacity	4,706	5,972
Demand	4,803	5,912
Utilization	102%	99%
Available Spaces	-97	60
Total		
Capacity	7,748	9,014
Demand	7,489	8,478
Utilization	97%	94%
Available Spaces	259	536

On-Street Parking

As described in greater detail below, in the 2023 No-Action condition, there will be changes to portions of the on-street parking supply that, combined, will result in a net gain of 23 on-street parking spaces within a ¼-mile radius of the Project Area and a net loss of 20 on-street parking spaces within a ½-mile radius of the Project Area. Specifically, the New York City Department of Transportation (DOT) is in the process of launching a citywide pilot program to remove two spaces per curb in selected residential neighborhoods and dedicate those spaces to car share vehicles (anticipated fall 2017 implementation). Morningside Heights, a portion of which falls within both a ¼- and ½-mile radius of the Project Area, was selected as one of the proposed locations for the pilot program because of its transit accessibility and the existing high percentage of residents who commute by public transit. Based on current plans (as presented in the DOT New York City Carshare Pilot Community Board Briefing in June 2017), the program will result in net losses of approximately six and 24 on-street parking spaces within a ¼- and ½-mile radius of the Project Area, respectively. In order to mitigate parking loss that will occur as a result of the Carshare Pilot Program, DOT drafted a plan to convert the existing parallel parking on the south side of West 104th Street, between Amsterdam and Columbus avenues, to angled parking. This planned change will result in a net gain of approximately 33 spaces, within both the ¼- and ½-mile radius of the Project Area. Additionally, Citi Bike is in the process of expanding their network on the Upper West Side, north of West 110th Street. Compared to exiting condition (as inventoried in April 2017), this expansion will result in the loss of approximately four on-street parking spaces (with the addition of one new bike dock) within a ¼-mile radius of the Project area and the of approximately 29 on-street parking spaces (with the addition of eight new bike docks) within a ½-mile of the Project Area. Therefore, taking into account the Carshare Pilot Program, the conversion of parking spaces on West 104th Street, and the Citi Bike expansion, there will be a net gain of 23 on-street parking spaces within a ¼-mile radius of the Project Area and a net loss of 20 on-street parking spaces within a ½-mile radius of the Project Area in the 2023 No-Action condition.

As shown in **Table 7-6**, in the future without the Proposed Project, based on current on-street parking demand (adjusted based on standard background growth rates, as outlined above¹) and the above-described planned changes to the on-street parking supply, demand within a ¼-mile of the Project Area is expected to exceed capacity during both the weekday midday and weekday overnight periods, with an overall shortfall of approximately six spaces during each period. Although some drivers destined for the Project Area may have to travel greater than a ¼-mile radius from the Project Area to find available parking during the weekday midday and weekday overnight periods, the shortfall in on-street parking capacity within a ¼-mile of the Project Area would be accommodated by on- and off-street parking facilities located within a ½-mile of the Project Area in the No-Action condition. Within a ½-mile of the Project Area, while on-street parking demand is expected to exceed capacity during the weekday midday period (with an overall shortfall of 97 on-street spaces), there will be a total of 259 (on- and off-street) spaces available during this period. During the weekday overnight period, approximately 60 on-street parking spaces

¹ It should be noted that, as outlined in DOT's June 2017 "New York City Carshare Pilot Community Board Briefing," while implementing dedicated car share spaces is expected to result in "car shedding" (i.e., lower auto ownership rates) among members and, as a result, reduced parking demand, this potential future reduction in residential parking demand was conservatively not included in the future conditions assessment.

would remain available within the ½-mile radius (for a utilization rate of approximately 99 percent, versus 97 percent under existing conditions).

F. THE FUTURE WITH THE PROPOSED PROJECT (WITH-ACTION CONDITION)

In the 2025 With-Action condition, the Proposed Actions would facilitate development within the Project Area, resulting in the displacement of 675 parking spaces in the three public parking facilities that are currently located at the Development Site. As previously discussed, as the Development Site is located in the Manhattan Core, no accessory parking spaces would be provided as part of the Proposed Project in accordance with zoning.

As outlined in Section C, “Methodology,” the parking demand forecast for the residential component of the Proposed Project was estimated based on 2011-2015 five-year ACS data on average vehicles per household for Manhattan Census Tracts 189, 191, 193, 195, 197.01, 197.02, 199, and 216. While renter and shelter units typically exhibit lower auto ownership rates than owner-occupied units, the parking demand conservatively used data representative of average auto ownership rates for the area’s combined owner- and renter-occupied units. Parking demand for the community facility component was generated based on the forecast of the total auto trips generated by the use. As shown in **Table 7-7**, the parking demand for the residential use would peak during the overnight period, while the parking demand for the community facility use would peak during the midday period. Overall, the Proposed Project would generate a total parking demand of approximately 55 parking spaces during the weekday midday (12:00 PM – 1:00 PM) period, and approximately 77 spaces during the weekday overnight period.

Off-Street Parking

A comparison of the estimated No-Action and With-Action parking demand and capacity at off-street public parking facilities within a ¼-mile and a ½-mile of the Project Area is provided in **Table 7-8**. As noted above, in the 2025 With-Action condition, the three existing public parking facilities located at the Development Site, with their combined 675 spaces, would be displaced. No new parking (public or accessory) would be located in the Project Area in the With-Action condition, reducing the ¼-mile and ½-mile off-street parking capacities to 961 spaces and 2,367 spaces, respectively, in both the weekday midday and weekday overnight periods (refer to **Table 7-8**).

As shown below in **Table 7-8**, after accounting for the No-Action capacity displaced from the Development Site and project-generated demand, off-street public parking demand within a ¼-mile and ½-mile radius of the Project Area would exceed capacity in both the weekday midday and overnight periods, with shortfalls of approximately 466 spaces and 368 spaces, respectively, in the ¼-mile radius and shortfalls of approximately 374 spaces and 276 spaces, respectively, in the ½-mile radius. It should be noted that this anticipated With-Action demand assumes that all vehicles that currently park in the Development Site garages (including spaces used for long-term vehicle storage with occasional, non-workday trips, in addition to the small percentage of existing garage users that use the garages for commuter trips) would generate off- and on-street parking demand within the ¼- and ½-mile parking study areas, despite the larger area in which the majority of current monthly subscribers reside (refer to **Figure 7-2**) and the larger Upper West Side area in which other parking facilities are located. The ability of the on-street parking supply to accommodate this excess demand is assessed below.

TABLE 7-7
Proposed Project's Weekday Parking Accumulation

Time Period	Residential			Community Facility (Medical Office)			Total Accumulation
	295 In	du Out	Accumulation	6,400 In	gsf Out	Accumulation	
12:00 AM - 1:00 AM	0	0	77	0	0	0	77
1-2	0	0	77	0	0	0	77
2-3	0	0	77	0	0	0	77
3-4	0	0	77	0	0	0	77
4-5	0	0	77	0	0	0	77
5-6	1	2	76	0	0	0	76
6-7	1	5	72	0	0	0	72
7-8	2	5	69	0	0	0	69
8-9	3	14	58	1	0	1	59
9-10	3	4	57	1	2	0	57
10-11	3	5	55	0	0	0	55
11-12	3	4	54	0	0	0	54
12:00 PM - 1:00 PM	4	4	54	2	1	1	55
1-2	4	4	54	1	1	1	55
2-3	4	4	54	1	1	1	55
3-4	6	4	56	1	0	2	58
4-5	10	6	60	1	3	0	60
5-6	12	6	66	2	2	0	66
6-7	8	4	70	1	1	0	70
7-8	7	3	74	1	1	0	74
8-9	4	2	76	0	0	0	76
9-10	1	1	76	0	0	0	76
10-11	1	1	76	0	0	0	76
11-12	1	0	77	0	0	0	77
Total	78	78		12	12		

Notes:

Based on parking accumulation patterns from the Hudson Yards FEIS and the Jamaica Plan FEIS

On-Street Parking

The Proposed Project and the displacement of the three existing public parking facilities located at the Development Site would result in a net increase in study area on-street parking demand. Overall, on-street parking demand within a ¼-mile and a ½-mile of the Project Area, accounting for the unaccommodated off-street parking demand, would exceed capacity in the weekday midday period, as in the No-Action Condition, with the overall shortfalls increasing to 472 spaces and 471 spaces, respectively (compared to 6 spaces and 97 spaces, respectively, in the No-Action condition). During the weekday overnight period, the ¼-mile and ½-mile on-street parking utilization would exceed capacity with shortfalls of 374 spaces and 216 spaces, respectively (compared to the shortfall of six spaces and the availability of 60 spaces within a ¼- and ½-mile radius of the Project Area, respectively, in the No-Action condition). As noted above, this anticipated With-Action demand assumes that all vehicles that currently park in the Development Site garages (including spaces used for long-term vehicle storage with occasional, non-workday trips, in addition to the small percentage of existing garage users that use the garages for commuter trips) will remain within the ¼- and ½-mile study areas under the With-Action condition, despite the larger area in which the majority of current monthly subscribers reside (refer to **Figure 7-2**) and the larger Upper West Side area in which other parking facilities are located.

TABLE 7-8
Combined With-Action On- and Off-Street
Parking Conditions Within a ¼-Mile and ½-Mile
Radius of the Project Area

1/4-Mile Radius From the Project Area		
	Weekday Midday	Weekday Overnight
Off-Street		
Capacity	961	961
Demand	1,427	1,329
Utilization	148%	138%
Available Spaces	-466	-368
On-Street		
Capacity	1,809	2,121
Demand	2,281	2,495
Utilization	126%	118%
Available Spaces	-472	-374
Total		
Capacity	2,770	3,082
Demand	3,708	3,824
Utilization	134%	124%
Available Spaces	-472	-374
1/2-Mile Radius From the Project Area		
	Weekday Midday	Weekday Overnight
Off-Street		
Capacity	2,367	2,367
Demand	2,741	2,643
Utilization	116%	112%
Available Spaces	-374	-276
On-Street		
Capacity	4,706	5,972
Demand	5,177	6,188
Utilization	110%	104%
Available Spaces	-471	-216
Total		
Capacity	7,073	8,339
Demand	7,918	8,831
Utilization	112%	106%
Available Spaces	-471	-216

Notes:

1. Off-Street Parking utilization includes project generated demand (refer to **Table 7-3**).
2. On-Street Parking utilization includes unaccommodated off-street parking demand

Parking Assessment

As the Proposed Project would result in the displacement of a total of 675 spaces, in three existing public parking facilities located on the Development Site, a detailed parking analysis was conducted. As shown in **Table 7-8**, in the future with the Proposed Project, without the existing 675 Development Site parking spaces, there would be a shortfall of approximately 472 parking spaces (on- and off-street, combined) within a ¼-mile radius of the Project Area and a shortfall of approximately 471 parking spaces (on- and off-street, combined) within a ½-mile radius of the Project Area during the peak period, the weekday

midday. During the weekday overnight period, there would be a shortfall of approximately 374 parking spaces (on- and off-street, combined) within a ¼-mile radius of the Project Area, and a shortfall of approximately 216 parking spaces (on- and off-street, combined) within a ½-mile radius of the Project Area.

Under the guidance of the *CEQR Technical Manual*, a parking shortfall does not in and of itself constitute a significant adverse impact. Instead, the significance of a parking shortfall depends upon the context in which it occurs, and takes into account the magnitude of available alternative modes of transportation. For this reason, the *CEQR Technical Manual* distinguishes between projects located within transit-rich CEQR Parking Zones 1 and 2 and other parts of the City. As per the *CEQR Technical Manual*, a parking shortfall in Parking Zones 1 and 2 (which, combined, include all of Manhattan, in addition to transit-rich areas in the South Bronx, Brooklyn, and Queens), is generally not considered environmentally significant due to the magnitude of available alternative modes of transportation. This approach is consistent with zoning regulations, which generally have lower or no parking requirements in transit-rich areas. Most notably, in the Manhattan Core, which includes all Manhattan blocks south of West 110th Street on the west side and south of East 96th Street on the east side, there are no accessory parking requirements, and the amount of parking permitted as-of-right is restricted. By contrast, for projects located in residential or commercial areas not designated as Parking Zones 1 and 2, a parking shortfall may be considered a significant adverse impact, after having taken into account the availability and extent of transit in the area; the proximity of the specific project to transit; any features of the project that are considered travel demand management (TDM) measures; and patterns of automobile usage by area residents.

The Project Area is located in CEQR Parking Zone 1, which encompasses all Manhattan blocks south of 110th Street, in addition to being located within the Manhattan Core. Near the Project Area, alternative modes of transportation include the Cathedral Parkway/110th Street (B and C lines) subway station on Central Park West, the Cathedral Parkway/110th Street (1 line) subway station located on Broadway, and ten NYCT bus routes, all of which are within a ½-mile of the Project Area. The availability of alternative modes of transportation is consistent with transit-accessibility of the greater borough, and particularly the Manhattan Core and the Upper West Side.

Consistent with this transit-rich character, area residents exhibit low auto usage, with only eight percent of workers driving to work. The transit accessibility of the area helps to facilitate the high transit mode shares (73 percent and 79 percent in the two zip codes in which monthly parking subscribers at the Development Site mostly reside). This low auto share is evident in the usage of the existing Development Site garages, which exhibits low vehicle in/out volumes during the weekday peak hours, consistent with DCP's 2011 *Manhattan Core Public Parking Study*, which found that approximately 25 percent of monthly residential parkers at surveyed facilities in the Manhattan Core reported making five or fewer vehicle trips per month. These findings indicate that most of the monthly subscribers to the existing Development Site garages are not utilizing their vehicles for daily commuting or other daily needs, but are instead using the garages for long term vehicle storage and more occasional use.

While the Proposed Actions would result in a parking shortfall within the ½-mile study area, the availability of alternative transit options in the area, and the high transit auto share and low auto share among neighborhood residents for purposes of daily commutation, are evidence that the parking shortfall would not have an overall significant effect upon the general ability of neighborhood residents to commute to work, shop, and perform other daily life activities. Accordingly, and consistent with the area's designation under the CEQR Technical Manual as part of CEQR Parking Zone 1, the parking shortfall within the ½-mile

study would therefore not constitute a significant adverse environmental impact, in accordance with *CEQR Technical Manual* criteria.

Vehicle Redistribution and Circulation

Three public parking garages, with a total of 675 parking spaces, would be displaced as a result of the Proposed Project. As previously discussed, vehicle counts were conducted at the entrances to each of the three garages during weekday peak periods. A total of 29, 25, and 33 vehicle trips (in and out combined at all three garages) were generated during the weekday AM, midday, and PM peak hours, respectively (refer to **Table 7-2**). During the peak commuter periods of 7:30 AM – 9:30 AM and 5:00 PM – 7:00 PM, a total of 41 and 61 vehicles entered and exited the three garages, respectively (refer to **Table 7-2**). The low vehicular volumes exhibited by the existing garages suggests that the majority of garage users are not utilizing their vehicles for daily commuting, but are instead utilizing the garages for vehicle storage. These users will likely choose to utilize available space in nearby off-street parking facilities, instead of utilizing the available on-street parking supply. Therefore, although 675 spaces will be displaced, the number of vehicles circulating in the surrounding area on a daily basis would be substantially lower.

As shown in **Table 7-8**, there would be a shortfall of approximately 472 parking spaces (on- and off-street combined) and 471 parking spaces (on- and off-street combined) within a ¼-mile and ½-mile radius of the Project Area, respectively, during the weekday midday peak period. Additionally, during the weekday overnight period, there would be a shortfall of approximately 374 parking spaces (on- and off-street combined) and 216 parking spaces (on- and off-street combined) within a ¼-mile and ½-mile radius of the Project Area, respectively, under the With-Action condition. The parking shortfalls in the weekday midday and overnight periods could initially result in increased vehicle movement, as former users of the displaced garages search for available parking. However, the resulting vehicle movement is not expected to be concentrated at the Development Site, as the location of garage users are dispersed among a wide geographic area. Specifically, with the overwhelming majority (approximately 94 percent) of current garage users residing within two zip codes on the Upper West Side of Manhattan, (the southern boundary of which extends approximately 1.1 miles south of the ½-mile study area boundary; refer to **Table 7-3**), any vehicle movement would be dispersed throughout an even larger area reflective of the residence locations of the current garage users; the remaining six percent of current garage users live even further away. Therefore, vehicles that would not be accommodated within a ¼-mile or ½-mile of the Project Area during the weekday midday and overnight periods would overflow into the larger area beyond the study area boundary. As a result, traffic congestion is not anticipated in any one area or at any single intersection as a result of this vehicle movement.

G. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

Study Area High Crash Locations

Under *CEQR Technical Manual* guidelines, an evaluation of pedestrian and vehicular safety is needed for locations within the traffic and pedestrian study areas that have been identified as high crash locations. These locations are defined as locations where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes have occurred in any consecutive twelve months of the

most recent three-year period for which data are available. Reportable crashes are defined as those involving injuries, fatalities, and/or \$1,000 or more in property damage

Table 7-9, below, shows summary crash data for eleven intersections in proximity to the Project Area for the three-year reporting period between January 1, 2012 and December 31, 2014 that were obtained from DOT. This is the most recent three-year period for which data are available. The table shows the total number of crashes each year and the number of crashes each year involving pedestrians and cyclists at intersections in proximity to the Project Area where the majority of new vehicular and pedestrian trips would be concentrated.

TABLE 7-9
Accident Data Summary 2012-2014

Intersection		Pedestrian Injury Accidents			Bicycle Injury Accidents			Total Pedestrian/ Bicyclist Injury Accidents			Total Accidents (Reportable + Non-Reportable)		
Roadway 1	Roadway 2	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014
West 106 th Street	Amsterdam Avenue	0	0	0	0	0	0	0	0	0	2	2	2
	Columbus Avenue	1	1	2	0	1	0	1	2	2	4	5	5
West 107 th Street	West End Avenue	0	1	0	1	1	0	1	2	0	3	2	0
	Amsterdam Avenue	0	0	0	1	0	0	1	0	0	2	0	1
	Columbus Avenue	1	0	0	0	0	0	1	0	0	1	1	1
West 108 th Street	Broadway	1	0	2	0	0	1	1	0	3	4	6	5
	Amsterdam Avenue	1	0	1	0	1	0	1	1	1	3	2	1
	Columbus Avenue	1	3	1	0	0	0	1	3	1	0	4	1
West 109 th Street	Amsterdam Avenue	0	0	0	0	0	0	0	0	0	1	2	1
	Columbus Avenue	1	1	2	0	0	1	1	1	3	2	2	3
Morningside Drive	Columbus Avenue	0	1	3	0	0	0	0	1	3	9	4	7

Source: NYSDMV/DOT

As shown in **Table 7-9**, no intersections were found to have experienced a total of 48 or more crashes in any one year, nor were any intersections found to have experienced five or more pedestrian/bicyclist injury crashes in one year. Therefore, none of the analyzed intersections are considered high accident locations.