Chapter 14: Transportation

A. INTRODUCTION

This chapter describes the transportation characteristics and potential significant adverse impacts of zoning and other land use approvals proposed by the New York City Department of City Planning (DCP). The zoning and land use approvals (collectively, the Proposed Actions) would affect an approximately 54-block area of Long Island City's East River Waterfront and adjacent upland neighborhoods in Queens. The Project Area is generally bounded by Queens Plaza South and the midblock between 39th and 40th Avenues between 21st and 23rd Streets to the north; the East River, Anable Basin, and 5th Street to the west; 46th and 47th Avenues, 46th Road, and the midblock between 44th Drive and 45th Avenue to the south; and 11th, 23rd, and 24th Streets and the midblock between 24th and Crescent Streets to the east.

The Proposed Actions would implement the land use objectives of the Long Island City Neighborhood Plan (the Plan) by comprehensively updating zoning to permit a wider range of uses. The zoning changes would allow residential use in key areas and along major corridors where it is currently not allowed, and facilitate the creation of needed affordable housing through Mandatory Inclusionary Housing (MIH). Further, the zoning changes would expand the types of commercial, light industrial and manufacturing uses allowed in the Project Area, as well as the narrow list of uses allowed in the Long Island City Industrial Business Zone (IBZ). The changes are intended to facilitate residential development, including needed affordable housing and support existing businesses and the creative community, increase local job growth, and improve access to diverse, high-quality jobs.

In order to assess the potential effects of the Proposed Actions, a reasonable worst-case development scenario (RWCDS) was developed to account for the future without the Proposed Actions (No Action condition) and future with the Proposed Actions (With Action condition) in 2035, the build year or analysis year. As described in more detail in Chapter 1, "Project Description," to develop a reasonable estimate of future growth, likely development sites were identified and divided into two categories: projected development sites and potential development sites. The projected development sites are those considered more likely to be developed by the 2035 analysis year, while potential sites are considered less likely to be developed over the same period. A total of 52 projected development sites were identified and are considered for the purposes of the transportation analyses. The projected and potential development sites are shown in Figure 1-2.

Table 14-1 shows the total anticipated No Action and With Action land uses on projected development sites that were considered for the purposes of the transportation analyses.

As shown in **Table 14-1**, for the purposes of the transportation analyses it is assumed that the Proposed Actions would facilitate net increase of 14,699 dwelling units (DU), 3,427,450 square feet of commercial space, and 291,784 square feet of community facility space on the 52 projected development sites. The Proposed Actions are expected to result in net decreases of 794,485 square feet of industrial space, which includes wholesale/warehousing, storage, and light manufacturing uses.

Table 14-1
2035 RWCDS No Action and With Action Land Uses Assumed for the Transportation Analyses

Land Use	No Action Condition	With Action Condition	Increment
Residential			
Residential	2,260,332 sf	16,632,900 sf	14,372,568 gf
	2,311 DU	17,010 DU	14,699 DU
Commercial			
Local Retail	341,300 sf	911,053 sf	569,753 sf
Life Science	0 sf	345,707 sf	345,707 sf
Office	1,808,364 sf	4,373,824 sf	2,565,460 sf
Other Commercial[1]	53,470 sf	0 sf	-53,470 sf
Total Commercial	***336,206 sf***	***5,630,584 sf***	***3,427,450 sf***
Industrial/Auto-Related			
Warehouse	821,932 sf	0 sf	-821,932 sf
Auto-Related	14,936 sf	0 sf	-14,936 sf
Light Manufacturing	887,767 sf	930,150 sf	42,383 sf
Total Industrial	**1,724,635 sf**	***930,150 sf***	***-794,485 sf***
Community Facility			
Community Center[2]	0 sf	291,784 sf	291,784 sf
Total Community Facility	***0 sf***	***291,784 sf***	***291,784 sf***

Notes:
sf—square feet
[1] For purposes of travel demand forecasting, "Other Commercial" uses were assumed to be Offices.
[2] For purposes to travel demand forecasting, the 104,679-sf "Community Facility" space on Site 68 is assumed to be a 599-seat intermediate school. The remaining community facility spaces are community center spaces.

This chapter describes existing transportation conditions in the Project Area and a study area bounded by the midblock between 39th and 40th Avenues between 21st and 23rd Streets to the north; the East River, Anable Basin, and 5th Street to the west; 47th Avenue, 46th Road, and the midblock between 44th Drive and 45th Avenue to the south; and 11th, 23rd, and 24th Streets and the midblock between 24th and Crescent Streets to the east. The No Action condition in 2035 is then determined, including the additional transportation system demand and any changes expected by the 2035 build year. The increase in travel demand resulting from the Proposed Actions is then projected and added to the No Action condition to develop the 2035 With Action condition. Significant adverse impacts from project-generated trips are then identified and described in detail.

B. PRINCIPAL CONCLUSIONS

Detailed analyses were prepared for vehicular traffic, transit, ferry, and pedestrian conditions. As summarized below, potential significant adverse impacts have been

identified for traffic intersections, subway station elements, subway and bus line-haul conditions, ferry line-haul and ferry landing conditions, and pedestrian elements (sidewalks, corner reservoirs, and crosswalks).

TRAFFIC

Traffic conditions were evaluated for the weekday 7:45–8:45 AM, 1:30–2:30 PM (midday), 4:00–5:00 PM, and Saturday 3:30–4:30 PM peak hours at 65 intersections in the traffic study area where additional traffic resulting from the Proposed Actions would be most heavily concentrated. As summarized in **Tables 14-2 and 14-3**, the traffic impact analysis indicates the potential for significant adverse impacts at 44 intersections (37 signalized and nine unsignalized) during one or more analyzed peak hours. Significant adverse impacts were identified to 68 lane groups at 38 intersections during the weekday AM peak hour, 48 lane groups at 29 intersections in the midday peak hour, 72 lane groups at 38 intersections in the PM peak hour, and 47 lane groups at 28 intersections during the Saturday peak hour. Chapter 21, "Mitigation," discusses potential measures to mitigate the significant adverse traffic impacts.

Table 14-2
Number of Impacted Intersections and Lane Groups by Peak Hour

	Peak Hour			
	Weekday AM	Weekday Midday	Weekday PM	Saturday Midday
Impacted Lane Groups	68	48	72	47
Impacted Intersections	38	29	38	28

Table 14-3
Summary of Significantly Impacted Intersections

	With-Action Impacted Locations			
	With-Action Impacted Locations			
Intersections	AM	MD	PM	SAT
Signalized Intersections				
1. 21st St & 41st Ave	X		X	X
3. 11th St & 43rd Ave		X	X	
6. 21st St & 43rd Ave	X	X	X	
7. Purves St/43rd Ave & Jackson Ave	X	X	X	X
13. 11th St & 44th Ave	X	X	X	
14. 21st St & 44th Ave				
16. Vernon Blvd & 44th Ave	X	X		
18. 11th St & 44th Dr	X	X	X	X
19. 21st St & 44th Dr	X	X	X	X
20. 23rd St & 44th Dr	X	X	X	X
22. 44th Dr & Jackson Ave	X			
23. Vernon Blvd & 44th Dr	X	X	X	X
26. Vernon Blvd & 44th Rd	X	X	X	X
30. Vernon Blvd & 46th Ave	X	X	X	X
31. Vernon Blvd & 46th Rd	X	X	X	X
32. Van Dam St & 47th Ave	X			
33. Vernon Blvd & 47th Ave	X	X	X	X
34. Vernon Blvd & 47th Rd	X	X	X	X
35. 11th St & 48th Ave	X	X	X	X
37. Vernon Blvd & 48th Ave	X	X	X	X
38. Vernon Blvd & 49th Ave	X		X	X
39. Vernon Blvd & 50th Ave	X	X	X	X
40. Vernon Blvd & 51st Ave	X	X	X	X
41. Borden Ave & 21st St	X		X	
43. Borden Ave & 25th St			X	
45. Borden Ave & Vernon Blvd	X	X	X	X
47. Van Dam St & Hunters Point Ave	X	X	X	X
48. Van Dam St & Queens Blvd	X			
49. Van Dam St & Thomson Ave	X	X	X	X
50. 21st St & Queensboro Bridge Off-Ramp			X	X
51. 21st St & Queens Plaza N		X	X	X
55. 11th St & Queens Plaza S	X	X	X	X
56. 21st St & Queens Plaza S	X		X	X
58. Thomson Ave & 44th Dr	X			
62. Jackson Ave & Thomson Ave	X		X	
63. Van Dam St & Borden Ave WB	X			X
Unsignalized Intersections				
4. 12th St & 43rd Ave	X	X	X	
8. Vernon Blvd & 43rd Ave		X	X	
12. 10th St & 44th Ave	X	X	X	X
15. 9th St & 44th Ave			X	
17. 10th St & 44th Dr	X	X	X	X
27. Vernon Blvd & 45th Ave (EB)	X	X	X	X
28. Vernon Blvd & 45th Ave (WB)	X	X	X	X
29. Vernon Blvd & 45th Rd	X		X	
44. Borden Ave & 27th St	X		X	
Total Impacted Intersections	**38**	**29**	**38**	**28**

Note:

X - denotes intersection significantly impacted in peak hour.

TRANSIT

SUBWAY

Subway Stations

The Proposed Actions would generate a net increment of approximately 11,918 and 10,615 new subway trips during the weekday AM and PM commuter peak hours, respectively. The analysis of subway station conditions focuses on three Metropolitan Transportation Authority (MTA) New York City Transit (NYCT) subway stations serving the Project Area where incremental demand from the Proposed Actions would exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or both peak hours. These include the following stations listed below. The Court Square – 23rd Street station complex is served by 7 trains operating on the Flushing Line (IRT), G trains operating on the IND Crosstown Line, and E and M trains operating on the Queens Boulevard Line (QBL); the Queensboro Plaza station is served by 7 trains as well as N and W trains operating on the BMT Astoria Line; and the 21st Street – Queensbridge station is served by F trains operating on the IND 63rd Street Line.

- Court Square – 23rd Street (E/G/M/7)
- Queensboro Plaza (N/W/7)
- 21st Street – Queensbridge (F)

As summarized in **Table 14-4**, in the With Action condition, a total of eight stairs, two escalators and one fare array at the Court Square – 23rd Street (E/G/M/7) station and one escalator at the 21st Street Queensbridge (F) station would be significantly adversely impacted by project-generated demand in at least one peak hour. Chapter 21, "Mitigation," discusses potential measures to mitigate these significant adverse subway station impacts.

Table 14-4
Summary of Significantly Impacted Subway Stations

Subway Station	Station Element	Impacted Time Period
Court Square –23rd Street (E/G/M/7)	Street Stair S2/M2	AM/PM
	Street Stair S3/M3	AM/PM
	Street Stair S4/M4	AM/PM
	Platform Stair P1 (QBL)	AM/PM
	Platform Stair P2/M1 (QBL)	AM/PM
	Platform Stair P4 (QBL)	AM
	Platform Stair P1/P3 (IRT)	AM/PM
	Platform Stair P2/P4 (IRT)	AM/PM
	Escalator E-461X	AM/PM
	Escalator E-462X	AM/PM
	Fare Array N307	AM/PM
21st Street – Queensbridge (F)	Escalator E-422	AM

Subway Line Haul

The Project Area is served by eight NYCT subway routes—the 7 trains operating along the Flushing Line; G trains operating on the IND Crosstown Line; E, F, and M trains operating on the Queens Boulevard Line and/or 63rd Street Line; and N and W trains operating along the BMT Astoria Line. The peak direction of travel is typically Manhattan-bound (southbound) in the AM peak hour and Queens-bound (northbound) in the PM peak hour. (G trains are an exception, as they only operate between Brooklyn and Queens and do not enter Manhattan.)

In the With Action condition, southbound E, F, G, and 7 trains in the AM peak hour and northbound G trains in the PM peak hour are expected to operate over capacity, and would experience an average incremental increase of more than 5.43 persons/car during this period, greater than the five persons/car *CEQR Technical Manual* impact threshold. As summarized in **Table 14-5**, southbound E, F, G, and 7 service in the AM peak hour and northbound G service in the PM peak hour would therefore be considered significantly adversely impacted by the Proposed Actions. All other analyzed subway routes are projected to operate below capacity in the peak direction in both the AM and PM peak hours and would therefore not result in significant adverse impacts by the Proposed Actions in either period. Chapter 21, "Mitigation," discusses potential measures to mitigate these significant adverse subway line haul impacts.

Table 14-5
Summary of Significant Subway Line Haul Impacts

Route	Direction	Impacted Time Period
7	SB	AM
E	SB	AM
F	SB	AM
G	NB	AM
	SB	PM

BUS

The Project Area is served by a total of 12 local bus routes, three operated by NYCT and nine operated by MTA Bus Company (MTA Bus). It is estimated that the Proposed Actions would generate a net total of approximately 1,177 and 1,079 incremental bus trips on these routes during the weekday AM and PM peak hours, respectively. Incremental demand is expected to meet or exceed the 50-trip (per direction) *CEQR Technical Manual* analysis threshold in the AM and/or PM peak hour at the maximum load points along six routes—the B32, B62, and Q32 operated by NYCT and the Q39, Q60, Q66, Q67, Q69, Q100, Q101, Q102, and Q103 operated by MTA Bus. Based on projected levels of bus service in the No Action condition, the Proposed Actions would result in a capacity shortfall on the northbound Q103 buses in the AM and PM peak hours. Therefore, one bus line would be significantly adversely impacted based on *CEQR Technical Manual* criteria. Chapter 21, "Mitigation," discusses potential measures to mitigate these significant adverse bus line haul impacts.

CITYWIDE FERRY SERVICE

Ferry Line Haul

The Project Area is served by Astoria ferry route, which operates between Wall Street and East 90th Street in proximity to the Project Area. The peak direction of travel is typically Manhattan-bound in the AM peak period and Queens-bound in the PM.

In the With Action condition, southbound ferries on the Astoria route are expected to be operating near or over capacity in the AM peak hour at the maximum load and ferry departure points, with a volume to capacity (v/c) ratio of 1.62 and in the PM peak hour at the ferry departure point, with a v/c ratio of 0.94, greater than the 0.90 v/c ratio *CEQR Technical Manual* impact threshold. Therefore, as summarized in **Table 14-6**, there would be significant adverse ferry line haul impacts to the southbound ferries on the Astoria route in the AM peak hour at the maximum load point and point of departure from the Long Island City ferry landing and to the northbound ferries on the Astoria route in the PM peak hour at the point of departure from the Long Island City ferry landing. All other analyzed ferry routes are projected to operate below a v/c ratio of 0.90 in the peak direction in both the AM and PM peak hours and would therefore not be significant adversely impacted by the Proposed Actions in either period. Chapter 21, "Mitigation," discusses potential measures to mitigate these significant adverse ferry line haul impacts.

Table 14-6
Summary of Significant Ferry Line Haul Impacts

Route	Direction	Impacted Time Period	Line Haul Type
Astoria	SB	AM	Maximum Load Point Ferry Departure Point
Astoria	NB	PM	Ferry Departure Point

Ferry Landing

The Project Area is served by the Long Island City ferry landing located in Gantry Plaza State Park on the Astoria Route. In the With Action condition, the Long Island City ferry landing is expected to operate over capacity in the AM and PM peak hours with v/c ratios of 1.69 and 1.22, respectively. As the Long Island City ferry landing would operate over capacity in the With Action condition in the AM and PM peak hours, this would constitute a significant adverse impact of the Proposed Actions. In addition, it is anticipated that the queuing area in the With Action conditions would extend onto the Gantry Plaza State Park esplanade. Chapter 21, "Mitigation," discusses the potential measures to mitigate this significant adverse ferry landing impact to the Long Island City ferry landing in the AM and PM peak hours.

PEDESTRIANS

The Proposed Actions would generate a net increment of approximately 5,996 walk-only trips in the weekday AM peak hour, 11,311 in the weekday midday, and 10,345 in the weekday PM peak hour, and 11,560 in the Saturday peak hour. Persons traveling to and from subway station entrances, rail station entrances, ferry terminals, and bus stops would add 14,338, 6,942, 12,803, and 11,492 additional pedestrian trips to Project Area sidewalks and crosswalks during these same periods, respectively. Peak hour pedestrian

conditions were evaluated at a total of 154 pedestrian elements where new trips generated by projected developments are expected to be most concentrated. These elements—55 sidewalks, 45 corner areas, and 54 crosswalks—are primarily located in the vicinity of major projected development sites and corridors connecting the projected development sites to area subway station and rail entrances, ferry terminals, and bus routes. As shown in **Table 14-7**, based on *CEQR Technical Manual* criteria, 26 sidewalks, 16 crosswalks, and 10 corners would be significantly adversely impacted by the Proposed Actions in one or more of the analyzed peak hours. Chapter 21, "Mitigation," discusses potential measures to mitigate these significant adverse pedestrian impacts.

VEHICULAR AND PEDESTRIAN SAFETY

Under the *Vision Zero Queens Pedestrian Safety Action Plan*, much of the area north of 43rd Avenue and east of 10th Street is located within a "Priority Area," where safety issues were found to occur systematically at an area-wide level. 21st Street, 37th Avenue, Queens Plaza North, Queens Plaza South, and Queens Plaza are identified as Priority Corridors, and the intersection of Jackson Avenue at Davis Street, 21st Street at Queens Plaza North, 21st Street at 37th Avenue, 27th Street at Queens Plaza, and Van Dam Street at 47th Avenue are identified as Priority Intersections.

Crash data for intersections in the traffic and pedestrian study areas were obtained from the New York City Department of Transportation (DOT) for the three-year period between January 1, 2017, and December 31, 2019. During this period, a total of 2,301 reportable and non-reportable crashes, 1,030 pedestrian/bicyclist-related injury crashes, and two fatalities occurred at analyzed study area intersections.

Under *CEQR Technical Manual* guidance, high crash locations are defined as those along a Vision Zero priority intersection or locations where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. In addition, any location along a Vision Zero priority corridor with three or more pedestrian/bicyclist injury crashes in any consecutive 12 months of the three-year period for which data is available should be identified as a high crash location. A review of the crash data identified 12 intersections within a ¼-mile of the Project Area as high crash locations. Of the 12 intersections, six intersections were selected for a qualitative assessment for street user safety, which are shown in **Table 14-8**.

Table 14-7
Summary of Significant Pedestrian Impacts

Corridor/Intersection	Impacted Elements	Peak Hour			
		AM	MD	PM	SAT
Vernon Blvd and 44th Dr	SE Corner	X	X	X	X
Vernon Blvd and 44th Dr	SW Corner			X	X
Vernon Blvd and 44th Dr	NW Cormer	X		X	X
Vernon Blvd and 46th Ave	NE Corner	X		X	X
Vernon Blvd and 46th Ave	NW Corner	X	X	X	X
11th St and 44th Dr	SW Corner	X	X	X	X
21st St and 44th Dr	SW Corner	X		X	
21st St and 44th Dr	NW Corner	X			
21st St and 45th Rd	SE Corner	X		X	X
21st St and 45th Rd	SW Corner	X			
Vernon Blvd and 44th Dr	North Crosswalk	X	X	X	X
Vernon Blvd and 44th Dr	South Crosswalk	X	X	X	X
Vernon Blvd and 44th Dr	West Crosswalk	X		X	X
Vernon Blvd and 46th Ave	North Crosswalk	X	X	X	X
Vernon Blvd and 46th Ave	West Crosswalk	X	X	X	X
Vernon Blvd and 46th Rd	West Crosswalk				X
11th St and 44th Rd	South Crosswalk	X	X	X	X
11th St and 44th Dr	North Crosswalk	X	X	X	X
11th St and 44th Dr	South Crosswalk	X	X	X	X
11th St and 45th Ave	South Crosswalk				X
11th St and 45th Rd	South Crosswalk	X	X	X	X
11th St and 46th Ave	North Crosswalk	X	X	X	X
11th St and 46th Ave	South Crosswalk	X	X	X	X
21st St and 44th Dr	North Crosswalk	X	X	X	X
21st St and 44th Dr	South Crosswalk	X	X	X	X
21st St and 45th Rd	South Crosswalk	X	X	X	X
Vernon Blvd between 44th Ave and 43rd Rd	East Sidewalk	X		X	X
44th Ave between Vernon Blvd and 9th St	South Sidewalk	X	X	X	
44th Rd between Vernon Blvd and 10th St	South Sidewalk				X
44th Dr between Vernon Blvd and 10th St	South Sidewalk	X	X	X	X
44th Dr between Vernon Blvd and 5th St	North Sidewalk	X	X	X	X
45th Ave between 5th St and Vernon Blvd	South Sidewalk	X	X	X	X
46th Ave between Vernon Blvd and 11th St	North Sidewalk	X		X	X
Vernon Blvd between 45th Ave and 46th Ave	West Sidewalk	X	X	X	X
46th Ave between Vernon Blvd and 5th St	North Sidewalk	X	X	X	X
10th St between 44th Ave and 44th Rd	East Sidewalk		X	X	X
10th St between 44th Rd and 44th Ave	West Sidewalk	X	X	X	X
10th St between 44th Dr and 45th Ave	East Sidewalk				X
44th Ave between 11th St and 21st St	South Sidewalk			X	X
11th St between 44th Rd and 44th Dr	East Sidewalk	X		X	X
44th Rd between 10th St and 11th St	South Sidewalk	X	X	X	X
44th Dr between 11th St and 21st St	North Sidewalk	X			
11th St between 44th Dr and 45th Ave	West Sidewalk				X
45th Rd between 11th St and 21st St	South Sidewalk	X			X
45th Rd between Vernon Blvd and 11th St	South Sidewalk	X			X
44th Dr between 21st St and 23rd St	North Sidewalk	X	X	X	X
44th Dr between 21st St and 23rd St	South Sidewalk	X	X	X	X
45th Rd between 21st St and 23rd St	South Sidewalk	X	X	X	X
Queens Plaza South between 21st St and 13th St	South Sidewalk	X		X	
Queens Plaza South between Crescent St and 27th St	South Sidewalk	X		X	
21st St between 40th Ave and 41st Ave	East Sidewalk	X		X	X
21st St between 40th Ave and 41st Ave	West Sidewalk	X		X	X

Table 14-8
High Crash Locations

Intersection	Total Pedestrian/Bicycle Injury Crashes			Total Crashes (Reportable +Non-Reportable)		
	2017	2018	2019	2017	2018	2019
Jackson Avenue at Queens Boulevard	6	5	5	41	94	93
Queens Plaza South at Ed Koch Queensboro Bridge Off-Ramp / Crescent Street	1	5	1	14	32	26
21st St at Queens Plaza North/South	0	2	3	8	12	23
21st Street at 41st Avenue	3	5	7	7	21	23
Van Dam Street at 47th Avenue	3	3	2	14	24	27
Van Dam Street at Queens Boulevard / Thomson Ave	4	5	1	32	67	43

PARKING

The parking analysis documents the effects to parking within the study area as a result of the projected development sites. Parking demand generated by the various commercial, retail, light industrial, and community facility uses that would be developed under the Proposed Actions would peak during the midday hour, whereas residential parking demand would peak during the overnight period. While there would be net decreases in auto-related, light industrial, and warehouse parking demand (as result of net reductions in these land uses), the prominent generator of parking demand would be the residential land use as result of the significant increase of proposed dwelling units under the Proposed Actions. Overall, development associated with the Proposed Actions would generate a peak net parking demand of approximately 6,086 spaces in the weekday midday period and 5,092 spaces in the Saturday morning period. In addition, the development associated with the Proposed Actions would generate a peak parking demand of approximately 4,901 spaces in the weekday overnight period. It is expected that the total increase in parking demand under the Proposed Actions' RWCDS would not be fully accommodated on-site and excess demand would seek parking availability within a ¼-mile radius of the Project Area. These projected demand as well as any demand displaced from existing parking facilities on projected development sites would have seek available on-street and off-street parking within a ¼ mile of the Project Area. Further, some drivers destined for the Project Area would potentially have to travel a greater distance (e.g., between ¼ and ½-mile) to find available parking. Any potential deficit in parking would not be considered a significant adverse impact based on 2021 *CEQR Technical Manual* criteria due to the magnitude of available alternative modes of transportation. Therefore, the Proposed Actions are not expected to result in significant adverse parking impacts.

C. PRELIMINARY ANALYSIS METHODOLOGY

The *CEQR Technical Manual* describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed in the following sections, the preliminary analysis begins with a trip generation (Level 1) analysis to estimate the numbers of person and vehicle trips attributable to the Proposed Actions. According to the *CEQR Technical Manual*, if a proposed action is expected to result in fewer than 50

peak hour vehicle or ferry trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses are not warranted. When these thresholds are exceeded, detailed trip assignments (Level 2) are to be performed to estimate the incremental trips that could be incurred at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that a proposed action would generate 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway or rail trips at a station, 50 or more peak hour bus trips in one direction along a bus route, 25 or more peak hour ferry trips in a single direction on a single route or 50 or more at a ferry landing, or 200 or more peak hour pedestrian trips traversing a sidewalk, corner area or crosswalk, then further quantified operational analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

D. LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the Proposed Actions during the weekday AM, midday, PM, and Saturday peak hours. These estimates were then compared to the *CEQR Technical Manual* analysis thresholds to determine if a Level 2 screening and/or quantified operational analyses may be warranted. The travel demand assumptions used for the assessment are described in the following sections along with a detailed forecast of the travel demand.

BACKGROUND

The Project Area encompasses approximately 54 blocks and includes a total of 52 projected development sites (see Figure 1-2 in Chapter 1, “Project Description”). As shown in **Table 14-1**, under the RWCDS, the Proposed Actions would facilitate a net increase of 14,699 DUs, 3,427,450 square feet of commercial space, and 291,784 square feet of community facility space. It would result in a net decrease of 794,485 square feet of industrial space, which includes warehousing and auto-related uses.

TRANSPORTATION PLANNING FACTORS

The transportation planning factors used to forecast travel demand for the RWCDS land uses are summarized in **Table 14-9**. The trip generation rates, temporal distributions, modal splits, vehicle occupancies, and truck trip factors for each of the land uses were primarily based on those cited in the 2021 *City Environmental Quality Review (CEQR) Technical Manual*, factors developed for recent environmental reviews, American Community Survey (ACS) journey-to-work five-year (2015–2019) data, American Association of State Highway and Transportation Officials (AASHTO) Census Transportation Planning Products Program (CTPP) reverse journey-to-work five-year (2012–2016) data, data provided by DOT, and data from other standard professional references. Factors are shown for the weekday AM and PM peak hours (typical peak periods for commuter travel demand) and the weekday midday and Saturday peak hours (typical peak periods for retail demand). In accordance with the *CEQR Technical Manual*, a 25 percent taxi overlap was applied. Additional details on the transportation planning factors used for the travel demand forecast are presented in the *Transportation Planning Factors and Travel Demand Forecast* technical memorandum provided in **Appendix G**.

TRAVEL DEMAND FORECAST

The net incremental change in person and vehicle trips expected to result from the Proposed Actions by the 2035 analysis year was derived based on the net change in land uses shown in **Table 14-1** and the transportation planning factors shown in **Table 14-9**. **Table 14-10** shows an estimate of the net incremental change in peak hour person trips and vehicle trips (versus the No Action condition) that would occur in 2035 with implementation of the Proposed Actions. As shown in **Table 14-10**, under the RWCDS, the Proposed Actions would generate a net increase of approximately 23,162 person trips in the weekday AM peak hour, 19,936 in the weekday midday, 26,186 in the weekday PM peak hour, and 25,644 in the Saturday peak hour. Peak hour vehicle trips (including auto, truck, and taxi trips balanced to reflect that some taxis arrive or depart empty) would increase by a net total of approximately 2,698, 1,647, 2,642, and 2,112 (in and out combined) in the weekday AM, midday, PM, and Saturday peak hours, respectively. Peak hour subway trips would increase by a net total of 11,722, 5,649, 10,403, and 9,794 during these periods, respectively, while bus trips would increase by approximately 1,177, 676, 1,079, and 867, respectively. Long Island Railroad (LIRR) peak hour trips would increase by approximately 504, 128, 442, and 295, respectively. Ferry trips would increase by approximately 676, 271, 601, and 503, respectively. Walk-only trips would increase by 5,976, 11,295, 10,325, and 11,558 trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. Lastly, peak hour bike trips would increase by a net total of approximately 362, 180, 315, and 190 during these periods.

Table 14-11 summarizes the number of additional trips that would be generated by the Proposed Actions during the weekday AM, midday, PM, and Saturday peak hours by various modes of travel. Since these numbers of peak hour trips would exceed the *CEQR Technical Manual* analysis thresholds for vehicular traffic, transit and pedestrians, a Level 2 screening assessment was undertaken to identify specific locations where additional detailed analyses would be warranted.

Table 14-9
Transportation Planning Factors

Land Use:	Local Retail		Office		Residential	Auto Related	Light Industrial	Warehouse	School (Intermediate Students)	School Staff	Parents (Grade 6 Students)	Community Center	Other Commercial		Life Science	
Trip Generation:	(1)		(1)		(1)	(9)	(4)	(8)	(1)	(1)	(1)	(1)	(1)		(10)	
Weekday	329.0		18.0		8.18	19.42	14.7	2.36	2.0	2.0	4.0	51.60	18.0		6.98	
Saturday	358.0		3.9		9.08	19.42	2.2	0.2	0.0	0.0	0.0	50.40	3.9		0.43	
	per 1,000 sf		per 1,000 sf		per DU	per 1,000 sf	per 1,000 sf	per 1,000 sf	per Student	per Staff	per Parents	per 1,000 sf	per 1,000 sf		per 1,000 sf	
Temporal Distribution:	(1)		(1)		(1)	(9)	(4)	(8)	(1)(9)	(1)	(1)(9)	(1)	(1)		(10)	
AM	4.8%		12.4%		9.3%	13.2%	13.2%	10.0%	49.5%	40.0%	49.5%	9.0%	12.4%		13.0%	
MD	8.0%		11.0%		5.6%	11.0%	11.0%	9.0%	0.0%	0.0%	0.0%	7.4%	11.0%		10.0%	
PM	10.9%		10.5%		8.5%	14.2%	14.2%	11.0%	5.0%	40.0%	5.0%	9.0%	10.5%		10.0%	
SAT	11.7%		14.1%		8.4%	10.7%	10.7%	33.0%	0.0%	0.0%	0.0%	12.6%	14.1%		11.0%	
Modal Splits:	(2)		(6)(11)	(4)	(3)	(9)	(5)(11)	(5)(11)	(12)	(5)(11)	(13)	(4)	(6)(11)	(4)	(10)	(4)
	Wkday	Wkend	AM/PM/SAT	MD	All Periods	All Periods	All Periods	All Periods	All Periods	All Periods	All Periods	All Periods	AM/PM/SAT	MD	AM/MD/PM	SAT
Auto	11.0%	8.0%	14.0%	2.0%	10.9%	85.0%	35.6%	35.6%	15.0%	35.6%	0.0%	5.0%	14.0%	2.0%	24.0%	24.0%
Taxi	0.0%	0.0%	2.0%	1.0%	0.2%	5.0%	0.9%	0.9%	0.0%	0.9%	0.0%	1.0%	2.0%	1.0%	7.0%	8.0%
Subway	4.0%	7.0%	51.0%	7.0%	73.5%	1.0%	37.5%	37.5%	45.0%	37.5%	53.0%	3.0%	51.0%	7.0%	30.0%	29.0%
Railroad	0.0%	0.0%	5.0%	0.0%	2.0%	0.0%	7.9%	7.9%	0.0%	7.9%	0.0%	0.0%	5.0%	0.0%	2.0%	1.0%
Bus	3.0%	4.0%	10.0%	5.0%	1.7%	1.0%	9.1%	9.1%	20.0%	9.1%	23.5%	6.0%	10.0%	5.0%	11.0%	19.0%
Ferry	0.0%	0.0%	4.0%	0.0%	4.0%	0.0%	4.0%	4.0%	0.0%	4.0%	0.0%	0.0%	4.0%	0.0%	2.0%	1.0%
Bike	0.0%	0.0%	4.0%	2.0%	1.2%	0.0%	1.2%	1.2%	0.0%	1.2%	0.0%	0.0%	4.0%	2.0%	2.0%	2.0%
Walk/Other	82.0%	81.0%	10.0%	83.0%	6.5%	8.0%	3.7%	3.7%	20.0%	3.7%	23.5%	85.0%	10.0%	83.0%	22.0%	16.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
In/Out Splits:	(1)		(1)		(1)	(9)	(4)	(8)	(1)	(1)	(1)	(1)	(1)		(10)	
	In	Out	In	Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out		In Out	
AM	52%	48%	86%	14%	22% 78%	65% 35%	88% 12%	77% 23%	100% 0%	100% 0%	50% 50%	57% 43%	86% 14%		89.0% 11%	
MD	50%	50%	52%	48%	50% 50%	50% 50%	50% 50%	53% 47%	- -	- -	- -	48% 52%	52% 48%		49.0% 51%	
PM	50%	50%	16%	84%	62% 38%	50% 50%	12% 88%	27% 73%	0% 100%	0% 100%	50% 50%	52% 48%	16% 84%		23.0% 77%	
SAT	50%	50%	48%	52%	55% 45%	50% 50%	47% 53%	64% 36%	- -	- -	- -	48% 52%	48% 52%		75.0% 25%	
Vehicle Occupancy:	(2)		(5,4)		(3,4)	(9)	(5,4)	(5,4)	(12)	(5)		(4)	(5,4)		(10)	
Auto	1.40		1.10		1.07	1.30	1.10	1.10	1.30	1.10	N/A	1.80	1.10		1.23	1.20
Taxi	1.40		1.42		1.40	1.30	1.20	1.30	1.30	1.20	N/A	1.40	1.42		1.40	1.40
Truck Trip Generation:	(1)		(1)		(1)	(9)	(4)	(8)	(12)			(4)	(1)		(10)	
Weekday	0.35		0.32		0.06	0.89	0.67	0.91	0.04	N/A	N/A	0.29	0.32		0.32	
Saturday	0.04		0.01		0.02	0.89	0.67	0.08	0.00	N/A	N/A	0.29	0.01		0.01	
	per 1,000 sf		per 1,000 sf		per DU	per 1,000 sf	per 1,000 sf	per 1,000 sf	per seat			per 1,000 sf	per 1,000 sf		per 1,000 sf	
Truck Temporal Distribution:	(1)		(1)		(1)	(9)	(4)	(8)	(12)			(4)	(1)		(10)	
AM	8.0%		10.0%		12.0%	14.0%	14.0%	9.9%	9.7%	N/A	N/A	9.6%	10.0%		10.0%	
MD	11.0%		11.0%		9.0%	9.0%	9.0%	8.0%	7.8%	N/A	N/A	11.0%	11.0%		11.0%	
PM	2.0%		2.0%		2.0%	1.0%	1.0%	7.0%	5.1%	N/A	N/A	1.0%	2.0%		2.0%	
SAT	11.0%		11.0%		9.0%	0.0%	0.0%	28.0%	0.0%	N/A	N/A	0.0%	11.0%		11.0%	
Truck In/Out Splits:	In	Out	In	Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out		In Out	
All Periods/AM	50.0%	50.0%	50.0%	50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	67.0% 33.0%	50.0% 50.0%	N/A N/A	N/A N/A	50.0% 50.0%	50.0% 50.0%		50.0% 50.0%	
MD								57.0% 43.0%								
PM								60.0% 40.0%								
SAT								42.0% 58.0%								

Table 14-9 (cont'd)
Transportation Planning Factors

Notes:

(1) Based on data from the 2021 *City Environmental Quality Review* (CEQR) *Technical Manual*.
(2) Based on NYCDOT mode split and vehicle occupancy survey data.
(3) Based on American Community Survey journey-to-work 5-Year (2015-2019) data for Queens Census Tracts 1, 7, 19, 25 and 33.
(4) Based on data from Innovation QNS FEIS, 2022.
(5) Based on AASHTO CTPP reverse journey-to-work 5-Year (2012-2016) data for Queens Census Tracts 1, 7, 19, 25 and 33.
(6) Based on DOT Guidance.
(7) Based on NYCDOT medical office trip generation and mode choice data. Weekday daily trip estimate based on following equation: 141.77 + 66.626 x gross SF (in thousands) for uses over 15,000 sf, or trip rate 74.6 when use less than 15,000 sf.
(8) Based on data provided by NYCDOT.
(9) Based on data from the Gowanus Neighborhood Rezoning FEIS, 2021.
(10) Based on data from the SPARC Kips Bay DEIS, 2024.
(11) 4% Ferry share based on project area's proximity to ferry terminal.
(12) Based on data from Hunter's Point South Rezoning and Related Actions, 2008.
(13) Assumes a 1:1.3 parent-to-PS student ratio taking subway, rail, bus, and walk modes. Parent modal split adjusted for pedestrian related trips only.

Table 14-10
RWCDS Travel Demand Forecast

Land Use:	Local Retail		Office		Residential		Auto Repair		Light Industrial		Warehouse		School (Intermediate Students)		School Staff		Parents (Grade 6 Students)		Community Center		Other Commercial		Life Science		Total	
Size/Units:	569,753 gsf		2,511,990 gsf		14,699 DU		-14,936 gsf		42,383 gsf		-821,932 gsf		599 students		60 staff		154 parents		187,105 gsf		-53,470 gsf		345,707 gsf			
Peak Hour Trips:																										
AM	4,506		5,616		11,202		-38		76		-208		594		48		306		870		-124		314		23,162	
Midday	7,506		4,980		6,748		-32		68		-184		0		0		0		716		-108		242		19,936	
PM	10,230		4,752		10,240		-42		82		-224		60		48		32		870		-104		242		26,186	
Saturday	11,946		1,388		11,228		-32		8		-66		0		0		0		1,190		-34		16		25,644	
Person Trips:																										
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	258	236	675	109	268	956	-21	-12	25	3	-59	-16	89	0	17	0	0	0	25	19	-14	-2	66	8	1,329	1,301
Taxi	0	0	99	17	2	15	-1	-1	2	1	0	0	0	0	0	0	0	0	5	4	-2	0	20	2	125	38
Subway	93	86	2,456	401	1,815	6,434	0	0	26	1	-70	-19	267	0	18	0	81	81	15	11	-58	-9	83	10	4,726	6,996
LIRR	0	0	243	43	47	172	0	0	4	1	-10	-2	0	0	4	0	0	0	0	0	-5	0	6	1	289	215
Bus	67	63	482	78	38	150	0	0	4	1	-18	-4	119	0	4	0	36	36	29	23	-12	-2	31	4	780	349
Ferry	0	0	193	33	98	349	0	0	2	1	-5	0	0	0	2	0	0	0	0	0	-4	0	6	1	292	384
Bike	0	0	193	33	27	102	0	0	1	2	0	0	0	0	1	0	0	0	0	0	-4	0	6	1	224	138
Walk/Other	1,921	1,782	482	79	159	570	-2	-1	0	2	-5	0	119	0	2	0	36	36	420	319	-11	-1	61	8	3,182	2,794
Total	2,339	2,167	4,823	793	2,454	8,748	-24	-14	64	12	-167	-41	594	0	48	0	153	153	494	376	-110	-14	279	35	10,947	12,215
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	414	414	53	49	368	368	-14	-14	13	12	-38	-30	0	0	0	0	0	0	17	19	0	0	28	30	841	848
Taxi	0	0	27	22	5	5	-1	-1	2	2	0	0	0	0	0	0	0	0	4	4	0	0	8	9	45	41
Subway	149	149	183	165	2,488	2,488	0	0	9	8	-43	-35	0	0	0	0	0	0	10	11	-4	-4	37	38	2,829	2,820
LIRR	0	0	0	0	65	65	0	0	2	2	-5	-5	0	0	0	0	0	0	0	0	0	0	2	2	64	64
Bus	111	111	129	119	56	56	0	0	4	4	-10	-9	0	0	0	0	0	0	21	23	-2	-2	13	14	322	316
Ferry	0	0	0	0	134	134	0	0	2	2	-3	-2	0	0	0	0	0	0	0	0	0	0	2	2	135	136
Bike	0	0	53	49	36	36	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	92	88
Walk/Other	3,079	3,079	2,150	1,981	222	222	-1	-1	2	2	-2	-2	0	0	0	0	0	0	291	316	-49	-47	26	27	5,718	5,577
Total	3753	3753	2595	2385	3374	3374	-16	-16	35	33	-101	-83	0	0	0	0	0	0	343	373	-55	-53	118	124	10,046	9,890
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	564	564	108	558	691	427	-18	-18	4	22	-20	-62	0	9	0	17	0	0	23	21	-3	-11	13	45	1,362	1,572
Taxi	0	0	17	80	11	6	-1	-1	2	1	0	0	0	0	0	0	0	0	4	4	0	-1	4	13	37	102
Subway	205	205	388	2,027	4,674	2,867	0	0	4	23	-22	-71	0	27	0	18	8	8	14	12	-8	-49	17	56	5,280	5,123
LIRR	0	0	42	199	126	75	0	0	3	6	-3	-11	0	0	0	4	0	0	0	0	0	-4	1	4	169	273
Bus	154	154	76	398	109	63	0	0	3	4	-6	-18	0	12	0	4	4	4	27	25	-2	-10	6	20	371	656
Ferry	0	0	31	160	251	155	0	0	1	4	0	-5	0	0	0	2	0	0	0	0	0	-3	1	4	284	317
Bike	0	0	31	160	75	44	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	-3	1	4	108	207
Walk/Other	4,192	4,192	76	401	415	251	-2	-2	1	2	-1	-5	0	12	0	2	4	4	385	355	-1	-9	12	41	5,081	5,244
Total	5115	5115	769	3983	6352	3888	-21	-21	19	63	-52	-172	0	60	0	48	16	16	453	417	-14	-90	55	187	12,692	13,494
SAT	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	479	479	94	100	673	551	-14	-14	2	-4	-18	-7	0	0	0	0	0	0	29	31	-3	-2	3	1	1,245	1,135
Taxi	0	0	17	16	10	8	-1	-1	0	0	0	0	0	0	0	0	0	0	6	6	0	0	1	0	33	29
Subway	420	420	335	364	4,547	3,720	0	0	3	-2	-22	-10	0	0	0	0	0	0	17	19	-12	-10	4	1	5,292	4,502
LIRR	0	0	34	35	124	100	0	0	2	2	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	158	137
Bus	236	236	65	73	103	86	0	0	0	0	-4	-3	0	0	0	0	0	0	35	37	-3	-2	2	1	434	428
Ferry	0	0	27	31	246	198	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	274	229
Bike	0	0	27	31	72	58	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	90
Walk/Other	4,838	4,838	66	73	402	330	-1	-1	1	1	0	0	0	0	0	0	0	0	485	525	-1	-1	2	1	5,792	5,766
Total	5973	5973	665	723	6177	5051	-16	-16	10	-2	-46	-20	0	0	0	0	0	0	572	618	-19	-15	12	4	13,328	12,316

Table 14-10 (cont'd)
RWCDS Travel Demand Forecast

Land Use:	Local Retail		Office		Residential		Auto Repair		Light Industrial		Warehouse		School (Intermediate Students)		School Staff		Parents (Grade 6 Students)		Community Center		Other Commercial		Life Science		Total	
Size/Units:	569,753 gsf		2,511,990 gsf		14,699 DU		-14,936 gsf		42,383 gsf		-821,932 gsf		599 students		60 staff		154 parents		187,105 gsf		-53,470 gsf		345,707 gsf			
Vehicle Trips :																										
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	184	168	615	98	253	896	-16	-9	23	1	-56	-16	68	68	15	0	0	0	14	11	-13	-2	54	7	1,141	1,222
Taxi	0	0	69	16	2	12	-1	-1	0	1	0	0	0	0	0	0	0	0	3	2	-2	0	14	1	85	31
Taxi (Balanced)	0	0	69	69	14	14	-2	-2	0	0	0	0	0	0	0	0	0	0	4	4	-2	-2	14	14	97	97
Truck	6	6	42	42	49	49	-1	-1	2	2	-50	-23	1	1	0	0	0	0	2	2	0	0	6	6	57	84
Total	190	174	726	209	316	959	-19	-12	25	3	-106	-39	69	69	15	0	0	0	20	17	-15	-4	74	27	1,295	1,403
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	296	296	53	49	346	346	-11	-11	11	10	-36	-29	0	0	0	0	0	0	9	11	0	0	23	24	691	696
Taxi	0	0	18	16	5	5	-1	-1	2	2	0	0	0	0	0	0	0	0	2	2	0	0	6	6	32	30
Taxi (Balanced)	0	0	34	34	10	10	-2	-2	3	3	0	0	0	0	0	0	0	0	4	4	0	0	11	11	60	60
Truck	7	7	45	45	36	36	-1	-1	1	1	-32	-24	1	1	0	0	0	0	3	3	0	0	6	6	66	74
Total	303	303	132	128	392	392	-14	-14	15	14	-68	-53	1	1	0	0	0	0	16	18	0	0	40	41	817	830
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	403	403	98	505	648	401	-14	-14	2	19	-20	-57	7	7	0	15	0	0	13	12	-3	-11	11	37	1,145	1,317
Taxi	0	0	16	55	9	5	-1	-1	2	-1	0	0	0	0	0	0	0	0	2	2	0	-1	3	9	31	68
Taxi (Balanced)	0	0	71	71	13	13	-2	-2	1	1	0	0	0	0	0	0	0	0	4	4	-1	-1	11	11	97	97
Truck	0	0	6	6	8	8	0	0	1	1	-28	-20	1	1	0	0	0	0	0	0	0	0	1	1	-11	-3
Total	403	403	175	582	669	422	-16	-16	4	21	-48	-77	8	8	0	15	0	0	17	16	-4	-12	23	49	1,231	1,411
SAT	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	344	344	86	90	630	519	-11	-11	1	-5	-18	-7	0	0	0	0	0	0	16	17	-3	-2	3	1	1,048	946
Taxi	0	0	17	16	9	7	-1	-1	0	0	0	0	0	0	0	0	0	0	4	4	0	0	1	0	30	26
Taxi (Balanced)	0	0	33	33	15	15	-2	-2	0	0	0	0	0	0	0	0	0	0	8	8	0	0	1	1	55	55
Truck	0	0	0	0	11	11	0	0	0	0	-6	-8	0	0	0	0	0	0	0	0	0	0	0	0	5	3
Total	344	344	119	123	656	545	-13	-13	1	-5	-24	-15	0	0	0	0	0	0	24	25	-3	-2	4	2	1,108	1,004

Notes:
50% linked trip credit applied to local retail use.

Table 14-11
Summary of Net Incremental Peak Hour Trips Generated Under the RWCDS

Mode/Description	Trip Type	Weekday AM	Weekday Midday	Weekday PM	Saturday
Auto/Taxi/Truck	vehicle trips	2,698	1,647	2,642	2,112
Subway	person trips	11,722	5,649	10,403	9,794
LIRR	person trips	504	128	442	295
Local Bus*	person trips	1,129	638	1,027	862
Ferry	person trips	676	271	601	503
Bike	person trips	362	180	315	190
Walk/Other	person trips	5,976	11,295	10,325	11,558

Note: *Does not yet account for subway, rail, or ferry trips that may utilize bus before primary mode.

E. LEVEL 2 SCREENING ASSESSMENT

A Level 2 screening assessment involves the assignment of project-generated trips to the study area street network, pedestrian elements, and transit facilities, and the identification of specific locations where the incremental increase in demand may potentially exceed *CEQR Technical Manual* analysis thresholds and therefore require a quantitative analysis.

VEHICULAR TRAFFIC

Based on the amount of projected development associated with the Proposed Actions, there would be 2,897 additional vehicle trips during the weekday AM peak hour, 1,809 during the midday peak hour, 2,832 during the PM peak hour, and 2,135 during the Saturday peak hour. These traffic volumes would exceed the *CEQR Technical Manual* threshold of 50 peak hour vehicle trips for Level 1 screening, and therefore, a Level 2 screening was performed to help identify intersections for detailed analysis.

The *CEQR Technical Manual* Level 2 screening threshold for detailed analysis is also 50 vehicles, but this threshold applies to individual intersections during the peak hours (rather than total trips generated). Peak hour project increment traffic volumes were first assigned to the Project Area street network to identify the intersections that would potentially exceed the 50-trip threshold during one or more periods. In consultation with DCP, representative intersections most likely to be used by concentrations of action-generated vehicles traveling to and from the projected development sites were then selected for detailed analysis. Existing bottleneck locations and prevailing travel patterns in the study area were also taken into consideration. **Figure 14-1** shows the locations of the 65 intersections (45 signalized and 20 unsignalized) that were selected for detailed analysis. Most of the analyzed intersections are located along north–south corridors providing direct access to projected development sites, including Vernon Boulevard (17 intersections), 21st Street (eight intersections), and 110th Street and Van Dam Street (seven intersections each). There are also six analyzed intersections along Queens Boulevard South, Thomas Avenue, 43rd Avenue, and 44th Drive, and five intersections along 44th Avenue and Borden Avenue.



Traffic Analysis Locations

Figure 14-1

TRANSIT

According to the general thresholds used by the MTA and specified in the *CEQR Technical Manual*, detailed transit analyses are generally not required if a proposed action is projected to result in fewer than 200 peak hour rail or bus transit riders. If a proposed action would result in 50 or more bus passengers being assigned to a single bus line (in one direction), 25 or more peak hour ferry trips in a single direction on a single route or 50 or more at a ferry landing, or if it would result in an increase of 200 or more passengers at a single subway station or on a single subway line, a detailed bus, ferry, or subway analysis would be warranted.

SUBWAY

Subway Stations

There are a total of six NYCT subway stations or station complexes in proximity to projected development sites that are expected to experience new demand as a result of the Proposed Actions. These stations are presented in **Figure 14-2** and **Table 14-12**, along with the subway routes serving each facility. As shown in **Figure 14-2**, 7 subway trains operating on the Flushing Line serve three stations within the Project Area. These include the Vernon Boulevard – Jackson Avenue station (which is below-grade beneath 50th Avenue), the Court Square – 23rd Street station complex (which is on an elevated structure above 23rd Street), and the Queensboro Plaza station (which is also on an elevated structure).

G trains operating on the IND Crosstown Line (Brooklyn – Queens Crosstown Line) serve the last two stations on the line within the Project Area. These include the 21st Street and Court Square – 23rd Street stations, all of which are located below-grade underneath Jackson Avenue.

M local trains and E express trains operating on the Queens Boulevard Line serve two stations within the Project Area – Court Square and Queens Plaza stations. R trains are also local trains operating on the Queens Boulevard Line and serve the Queens Plaza station. F express trains operating on the Queens Boulevard Line and 63rd Street Line serve one station within the Project Area, which is the 21st Street – Queensbridge station.

The Court Square – 23rd Street stations on the Flushing (7), IND Crosstown (G), and Queens Boulevard (E/M) Lines are all linked, and together comprise an interconnected station complex.

As shown in **Table 14-12**, under the RWCDS, the Proposed Actions would generate a net increment of approximately 11,722 and 10,403 subway trips during the weekday AM and PM commuter peak hours, respectively. Trips from each projected development site were assigned to the individual stations serving the Project Area based on their proximity, existing ridership patterns, and guidance from NYCT. **Table 14-12** shows the estimated net incremental subway trips expected to be generated by the Proposed Actions during the weekday AM and PM peak hours at each of the subway stations serving the Project Area. As shown in **Table 14-12**, the highest number of peak hour subway trips are expected to occur at the Court Square – 23rd Street (E/G/M/7) station complex, which would experience an estimated 9,216 incremental trips (in and out combined) in the AM peak hour and 8,140 in the PM peak hour. The next highest number of trips would occur at the 21st Street – Queensbridge (F) station complex, which would experience an estimated 1,419 incremental

4.14.25



Projected Development Sites

Local Bus Route

Express Bus Route

Subway Station

Subway Line

Ferry Landing

Long Island Railroad

Long Island Railroad Station

Local Bus Routes

B32 Q67
B62 Q69
Q32 Q100
Q39 Q101
Q60 Q102
Q66 Q103

0 1,000 FEET

Transit Map

LONG ISLAND CITY NEIGHBORHOOD PLAN

Figure 14-2

trips in the AM peak hour and 1,287 in the PM peak hour. Lastly, the Queensboro Plaza (N/W/7) station would experience 737 and 668 trips in the AM and PM peak hours, respectively. All other stations are expected to experience 200 or fewer new trips in both the AM and PM peak hours.

Table 14-12
RWCDS Net Incremental Peak Hour Subway Trips by Station

Subway Station	AM Peak Hour Trips			PM Peak Hour Trips		
	Into Project	Out of Project	Total	Into Project	Out of Project	Total
Project Summary						
Peak Hour Project Increment Person Trips:	9,269	10,738	20,007	11,185	11,613	22,798
Peak Hour Project Increment Subway Trips:	4,726	6,996	11,722	5,280	5,123	10,403
Subway Station Summary						
21 St (G)	3	48	51	34	8	42
Vernon Blvd - Jackson Av (7)	-7	139	132	102	13	115
Court Sq – 23rd Street (E/G/M/7)	3,871	5,345	9,215	4,021	4,119	8,140
Queensboro Plaza (N/W/7)	263	474	737	358	310	668
21 St - Queensbridge (F)	522	897	1,419	694	593	1,287
Queens Plaza (E/M/R)	74	93	167	71	80	151
Total	**4,725**	**6,996**	**11,722**	**5,280**	**5,123**	**10,403**

The analysis of subway station conditions focuses on the three subway stations at which incremental demand from the Proposed Actions would exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or both peak hours. As shown in **Table 14-12**, these are the Court Square – 23rd Street (E/G/M/7), 21st Street – Queensbridge (F), and Queensboro Plaza (N/W/7) station complexes. At each of these facilities, key circulation elements (e.g., stairs and fare arrays) expected to be used by concentrations of new demand from the Proposed Actions are analyzed.

Subway Line Haul

As discussed above, the Project Area is currently served by a total of eight NYCT subway routes, including the G, E, M, N, R, W, and 7. As the Proposed Actions are expected to generate 200 or more new peak hour subway trips in one direction on one or more of these lines, an analysis of subway line haul conditions is included in the EIS. The analysis used existing maximum load point subway service and ridership data provided by NYCT to assess existing, future No Action, and future With Action conditions at the peak load points of each analyzed subway line during the weekday AM and PM peak hours.

BUS

A total of 12 NYCT and MTA local bus services are located within approximately ¼ mile of projected development sites; three operated by NYCT and nine operated by MTA Bus. The bus routes operating in proximity to the Project Area are shown in **Figure 14-2** and described in **Table 14-13**.

As shown in **Table 14-11**, projected development sites are expected to generate a total of approximately 1,129 and 1,027 incremental trips by local bus during the weekday AM and PM peak hours, respectively. These local bus trips were assigned to each route based on proximity to projected development sites. **Table 14-14** shows the anticipated numbers of new riders expected on each local bus route in the AM and PM peak hours. According to the general thresholds used by the MTA and specified in the *CEQR*

Technical Manual, a detailed analysis of bus conditions is generally not required if a proposed action is projected to result in fewer than 50 peak hour trips being assigned to a single bus route (in one direction), as this level of new demand is considered unlikely to result in significant adverse impacts. As shown in **Table 14-14**, six routes are expected to potentially experience 50 or more new trips in one direction in one or both peak hours and are therefore analyzed in this EIS—the B32 and Q32 operated by NYCT and the Q60, Q66, Q69, and Q103 operated by MTA Bus.

Table 14-13
Bus Routes Serving the Project Area

Route	Operating Agency	Route Endpoints	Corridors Served in Proximity to the Rezoning Area
B32	NYCT	Long Island City – Williamsburg	11th St / 21st St / 44th Dr
B62	NYCT	Long Island City – Downtown Brooklyn	Jackson Av
Q32	NYCT	Penn Station Midtown – Jackson Heights	Ed Koch Queensboro Bridge
Q39	MTA	Long Island City – Glendale	23rd St / Queens Plaza S
Q60	MTA	East Midtown – South Jamaica	Ed Koch Queensboro Bridge
Q66	MTA	Long Island City – Flushing	21st St / 35th Av / Queens Plaza S
Q67	MTA	Long Island City – Middle Village	21st St / 44th Dr / Jackson Blvd
Q69	MTA	Long Island City – Astoria	21st St / Queens Plaza S / 44th Dr
Q100	MTA	Long Island City – Rikers Island	21st St / Queens Plaza S / 42nd Rd
Q101	MTA	Astoria – East Midtown	Ed Koch Queensboro Bridge / Queens Plaza
Q102	MTA	Roosevelt Island – Astoria	21st St / Queens Plaza / 40th Av / 41st Av / 31st St
Q103	MTA	Hunters Point - Astoria	Vernon Blvd / 21st St / 40th Av / 41st Av

FERRY SERVICE

There are two NYC ferry routes that service two ferry landings within the vicinity of Project Area. These ferry landings include the Long Island City landing at Gantry Plaza State Park (located north of 46th Avenue within the Project Area) and Hunters Point South (located immediately southwest of the Project Area). The routes that serve these landings are the Astoria and the East River routes. The Astoria route stops at the Long Island City landing, the following stop in the Manhattan-bound direction is the East 34th Street landing. The East River route starts and terminates at the Hunters Point South landing, the following stop in the Manhattan-bound direction is also the East 34th Street landing. Both landings/routes effectively service the same Manhattan ferry landings.

As shown in **Table 14-11**, the Proposed Actions would generate a net total of approximately 676 and 601 incremental trips by ferry during the weekday AM and PM peak hours, respectively. These ferry trips were assigned to each landing based on proximity to each projected development site. However, as most development sites are located closer to the Long Island City landing, all ferry trips were assigned to this landing.

According to the general thresholds specified in the *CEQR Technical Manual*, a detailed analysis of ferry service conditions is generally not required if a proposed action is projected to result in fewer than 25 or more peak hour ferry trips in a single direction on a single route or 50 or more at a ferry landing, as this level of new demand is considered unlikely to result in significant adverse impacts. As the Long Island City landing and the Astoria route are expected to experience more than 25 new ferry trips in one or both peak hours, both are therefore analyzed in the EIS.

Table 14-14
Net Incremental Bus Trips by Route

Route	Direction	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
B32	NB	57	9	**66**	32	7	39
	SB	14	36	**50**	8	30	38
B62	NB	-12	4	-8	19	-3	16
	SB	-3	18	15	5	-11	-6
Q32	EB	61	9	**70**	16	37	**53**
	WB	40	13	**53**	11	56	**67**
Q39	NB	12	1	13	5	3	8
	SB	3	5	8	1	11	12
Q60	EB	140	8	**148**	36	32	**68**
	WB	36	31	**66**	9	130	**139**
Q66	EB	66	5	**71**	21	14	35
	WB	16	19	35	5	56	**61**
Q67	NB	17	2	19	9	4	13
	SB	4	8	12	2	17	19
Q69	NB	24	37	**61**	11	92	**104**
	SB	96	9	**105**	43	23	**66**
Q100	NB	4	4	8	1	12	13
	SB	14	1	15	5	3	8
Q101	EB	23	3	26	6	14	20
	WB	15	5	20	4	21	25
Q102	EB	7	24	31	19	21	40
	WB	11	16	27	28	14	42
Q103	NB	54	49	**103**	30	43	**73**
	SB	81	33	**114**	45	29	**74**
Total		780	349	1,129	371	656	1,027

Note: Bold - denotes greater than 50 incremental trips per direction.

PEDESTRIANS

Under *CEQR Technical Manual* criteria, detailed pedestrian analyses are generally warranted if a proposed action is projected to result in 200 or more peak hour pedestrians at any sidewalk, corner area, or crosswalk. As shown in **Table 14-10**, the Proposed Actions are expected to generate approximately 5,976 walk-only trips (in and out combined) in the weekday AM peak hour, 11,295 in the midday, 10,325 in the PM, and 11,558 in the Saturday peak hour. Persons traveling to and from subway/rail station entrances, bus stops, and ferry landings would add approximately 14,031, 6,686, 12,473, and 11,445 additional pedestrian trips to sidewalks and crosswalks in the vicinity of the Project Area during these same periods, respectively. In the weekday AM and PM peak hours, new pedestrian trips would be most concentrated on sidewalks and crosswalks adjacent to projected development sites as well as along corridors connecting these sites to area subway station entrances. In the midday and Saturday periods, pedestrian trips would tend to be more dispersed, as people travel throughout the area for lunch, shopping, and/or errands.

The analysis of pedestrian conditions focused on representative pedestrian elements where new trips generated by projected developments are expected to be most concentrated. These elements—sidewalks, corner areas, and crosswalks—are primarily

located in the vicinity of major projected development sites and along corridors connecting these sites to area subway station entrances and bus routes. As shown in **Figure 14-3**, they include a total of 55 sidewalks, 45 corner areas, and 54 crosswalks primarily located along the Vernon Boulevard, 11th Street, 44th Drive, and 45th Road corridors.

PARKING

The RWCDS includes 3,236 parking spaces on projected development sites. The parking assessment forecasts the parking demand for all proposed uses, including commercial and retail uses that peak in the midday as well as residential use that peaks overnight. This parking demand forecast was provided to assess the potential for a significant parking shortfall.

F. TRANSPORTATION ANALYSES METHODOLOGIES

TRAFFIC

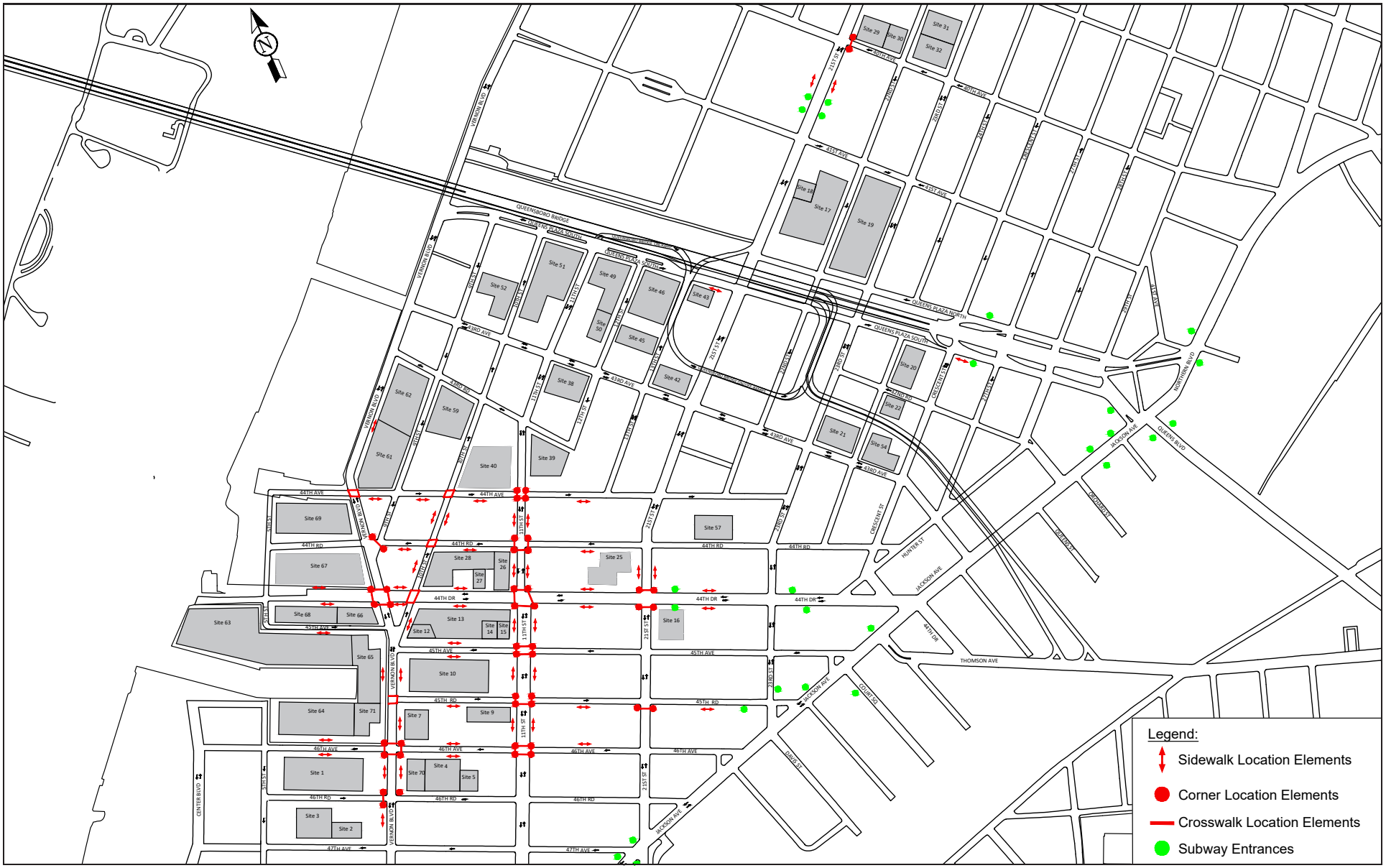
ANALYSIS METHODOLOGY

The traffic analysis examines conditions in the weekday AM, midday, PM, and Saturday peak hours when the increased travel demand attributable to the Proposed Actions is expected to be the greatest. The peak hours selected for analysis are the weekday 7:45–8:45 AM, 1:30–2:30 PM (midday) and 4:00–5:00 PM periods, and the 3:30-4:30 PM period on Saturday. These peak hours were selected based on existing traffic volumes in the study area as reflected in automatic traffic recorder (ATR) count data.

The capacity analyses at intersections are based on the methodology presented in the *Highway Capacity Manual* (HCM) and were conducted using the Synchro 12 software application. Traffic data required for these analyses include the hourly volumes on each approach, turning movements, the percentage of trucks and buses, and pedestrian volumes at crosswalks. Field inventories are also necessary to document the physical layout and street widths, lane markings, curbside parking regulations, and other relevant characteristics needed for the analysis.

The HCM methodology produces a v/c ratio for each signalized intersection approach. The v/c ratio represents the ratio of traffic volume on an approach to the approach's carrying capacity. A v/c ratio of less than 0.90 is generally considered indicative of non-congested conditions in dense urban areas; when higher than this value, the ratio reflects increasing congestion. At a v/c ratio between 0.95 and 1.0, near-capacity conditions are reached and delays can become substantial. Ratios of greater than 1.0 indicate saturated conditions with queuing. The HCM methodology also expresses the quality of traffic flow in terms of level of service (LOS), which is based on the amount of delay that a driver typically experiences at an intersection. Levels of service range from A, representing minimal delay (10 seconds or less per vehicle), to F, which represents long delays (greater than 80 seconds per vehicle).

For unsignalized intersections, the HCM methodology generally assumes that traffic on major streets is not affected by traffic flows on minor streets. Left turns from a major street are assumed to be affected by the opposing, or oncoming, traffic flow on that major street.



Pedestrian Map

Figure 14-3

Traffic on minor streets is affected by all conflicting movements. Similar to signalized intersections, the HCM methodology expresses the quality of traffic flow at unsignalized intersections in terms of LOS based on the amount of delay that a driver experiences. Level of service definitions used to characterize traffic flows at unsignalized intersections differ somewhat from those used for signalized intersections, primarily because drivers anticipate different levels of performance from the two different kinds of intersections. For unsignalized intersections, LOS ranges from A, representing minimal delay (10 seconds or less per vehicle, as it is for signalized intersections), to F, which represents long delays (greater than 50 seconds per vehicle, compared to greater than 80 seconds per vehicle for signalized intersections).

Table 14-15 shows the LOS/delay relationship for signalized and unsignalized intersections using the HCM methodology. Levels of service A, B, and C generally represent highly favorable to fair levels of traffic flow. At LOS D, the influence of congestion becomes noticeable. LOS E is considered to be the limit of acceptable delay, and LOS F is considered to be unacceptable to most drivers. In these traffic impact analyses, a signalized lane grouping operating at LOS E or F or a v/c ratio of 0.90 or more is identified as congested. For unsignalized intersections, a movement with LOS E or F is also identified as congested.

Table 14-15
Intersection Level of Service Criteria

LOS	Description	Average Delay per Vehicle (seconds)	
		Signalized Intersections	Unsignalized Intersections
A	Satisfactory—Little/No Delay	Less than 10.1	Less than 10.1
B	Satisfactory—Minor Delay	10.1 to 20.0	10.1 to 15.0
C	Satisfactory—With Some Delay	20.1 to 35.0	15.1 to 25.0
D	Borderline Congestion	35.1 to 55.0	25.1 to 35.0
E	Marginally Acceptable Congestion	55.1 to 80.0	35.1 to 50.0
F	Unsatisfactory—Highly Congested	Greater than 80.0	Greater than 50.0

Source: *2000 Highway Capacity Manual*

SIGNIFICANT IMPACT CRITERIA

The identification of significant adverse traffic impacts at analyzed intersections is based on criteria presented in the *CEQR Technical Manual*. If a lane group in the With Action condition would be LOS A, B, or C, or marginally acceptable LOS D (i.e., delay less than or equal to 55.0 seconds/vehicle for signalized intersections and 35.0 seconds/vehicle for unsignalized intersections), the impact is not considered significant. If the lane group LOS would deteriorate from LOS A, B, or C in the No Action condition to worse than mid-LOS D or to LOS E or F in the With Action condition, a significant traffic impact is identified. For a lane group that would operate at LOS D in the No Action condition, an increase in delay of 5.0 or more seconds in the With Action condition is considered a significant impact if the With Action delay would exceed mid-LOS D. For a lane group that would operate at LOS E in the No Action condition, a projected With Action increase in delay of 4.0 or more seconds is considered a significant impact. For a lane group that would operate at LOS F in the No Action condition, a projected With Action increase in delay of 3.0 or more seconds is considered a significant impact.

The same criteria apply to signalized and unsignalized intersections. However, for traffic on a minor street at an unsignalized intersection to result in a significant impact, 90 PCEs must be projected in the future With Action condition in any peak hour.

TRANSIT

ANALYSIS METHODOLOGY

Subway Stations

To determine existing conditions at analyzed subway station elements, subway ridership data were collected at analyzed subway stations in February 2025. The methodology for assessing subway station pedestrian circulation elements (stairs, escalators, and passageways), and fare control elements (regular turnstiles, high entry/exit turnstiles [HEETs], and high exit turnstiles [HXTs]) compares existing and projected pedestrian volumes with the element's design capacity to yield a volume-to-capacity (v/c) ratio. All analyses reflect pedestrian flow volumes over a 15-minute interval during each peak hour. Based on existing pedestrian volumes at area subway stations, the peak hours selected for the analysis of subway station conditions are 8:00-9:00 AM and 5:30-6:30 PM (As noted previously, transit analyses typically focus on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the subway and bus systems is usually highest.)

Under *CEQR Technical Manual* guidelines, the capacity of a stairway or passageway is determined based on four factors: the NYCT guideline capacity, the effective width, and surging and counter-flow factors, if applicable. NYCT guideline capacity is ten passengers per minute per foot-width (pmf) for stairs and 15 pmf for passageways. The effective width of a stair or passageway is the actual width adjusted to reflect pedestrian avoidance of sidewalls and for center handrails, if present. A surging factor is applied to existing pedestrian volumes to reflect conditions where pedestrian flows tend to be concentrated (or surged) during shorter periods within the 15-minute analysis interval. This factor, which is based on the size of the station and the proximity of the pedestrian element to the station platforms, can reduce the calculated capacity by up to 25 percent. Lastly, a friction (or counter-flow) factor reducing calculated capacity by 10 percent is applied where opposing pedestrian flows use the same stair or passageway. No friction factor is applied if the flow is all or predominantly in one direction.

By contrast with stairways and passageways, under *CEQR Technical Manual* guidelines the capacity of an escalator or turnstile is determined based on only two factors: the NYCT guideline capacity for a 15-minute interval and a surging factor of up to 25 percent. **Table 14-16** shows the *CEQR Technical Manual* level of service criteria for all subway station elements. As shown in **Table 14-16**, six levels of service are defined with letters A through F. LOS A is representative of free flow conditions without pedestrian conflicts and LOS F depicts severe congestion and queuing.

Table 14-16
Level of Service Criteria for Subway Station Elements

LOS	Description	V/C Ratio
A	Free Flow	0.00 to 0.45
B	Fluid Flow	0.45 to 0.70
C	Fluid, somewhat restricted	0.70 to 1.00
D	Crowded, walking speed restricted	1.00 to 1.33
E	Congested, some shuffling and queuing	1.33 to 1.67
F	Severely congested, queued	> 1.67

Source: 2021 CEQR *Technical Manual*

Subway Line Haul

Line haul capacity is based on the guideline capacity per subway car multiplied by the number of subway cars crossing the maximum load point in the peak hour. Maximum guideline capacities established by NYCT for each car class are 110 passengers/car for a 51-foot subway car, 145 passengers/car for a 60-foot car, and 175 passengers/car for a 75-foot car. The v/c ratio is determined by dividing the number of peak-hour passengers traveling through the maximum load point by the line haul capacity. Maximum load point subway service and ridership data were provided by NYCT. The subway line haul analysis focuses on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the subway system is usually highest.

Bus

The operating conditions for bus service are measured in terms of the number of passengers carried per bus at the maximum load point for each route. This is determined by dividing the peak hour passenger count by the number of buses during that hour. The bus load levels are compared with the NYCT loading guidelines of 54 passengers for a 40-foot standard bus and 85 passengers for a 60-foot articulated bus. The bus analyses focus on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the bus system is usually highest.

Ferry Line Haul

Given the seasonal nature of ferry ridership, ferry analysis assumes a typical September day for ridership and a typical fall season schedule for service levels. September service levels are used for analysis as ridership demand and capacity decrease in the winter months due to inclement weather, and September is an appropriate time to capture typical peak hour commuting patterns that are not affected by summer holidays or inclement weather.

Line haul capacity is based on the guideline capacity per boat multiplied by the number of boats crossing the maximum load point in the peak hour. Based on data provided by New York City Economic Development Corporation (EDC), the Astoria route typically operates vessels with a 299-passenger capacity in September. The v/c ratios for the point of departure from the study area and the maximum load point along the route are determined by dividing the number of peak-hour passengers traveling through the maximum load point by the line haul capacity. Maximum load point ferry service and ridership data were provided by EDC. The Citywide ferry line haul analysis focuses on

the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the ferry system is usually highest.

Ferry Landing

The operating conditions for existing facilities at ferry landings are measured in terms of passengers queued at the peak moment in the peak hour. Passengers queuing at the peak moment is equal to the number of people who board the busiest vessel in the peak hour, which is provided by EDC. The v/c ratio is determined by dividing the number of peak-hour passengers queuing at the peak moment in the peak hour by the facilities' barge area. Eight square feet are required for each queued person. The Citywide ferry landing analysis focuses on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the ferry system is usually highest.

SIGNIFICANT IMPACT CRITERIA

Subway Stations

The *CEQR Technical Manual* identifies a significant impact for stairways and passageways in terms of the minimum width increment threshold (WIT) based on the minimum amount of additional capacity that would be required to restore conditions to either their No Action v/c ratio or to a v/c ratio of 1.00 (LOS C/D), whichever is greater. Stairways that are substantially degraded in level of service or which experience the formation of extensive queues are classified as significantly impacted. Significant adverse stairway or passageway impacts are typically considered to have occurred once the thresholds shown in **Table 14-17** are reached or exceeded.

Table 14-17
Significant Impact Thresholds for Stairways and Passageways

With Action V/C Ratio	WIT for Significant Impact (inches)	
	Stairway	Passageway
1.00-1.09	8	13
1.10-1.19	7	11.5
1.20-1.29	6	10
1.30-1.39	5	8.5
1.40-1.49	4	6
1.50-1.59	3	4.5
>1.6	2	3
Source: 2021 CEQR *Technical Manual*		

For turnstiles, escalators, and high-wheel exit gates, the *CEQR Technical Manual* defines a significant impact as an increase from a No Action v/c ratio of below 1.00 to a v/c ratio of 1.00 or greater. Where a facility is already at a v/c ratio of 1.00 or greater, a 0.01 change in v/c ratio is also considered significant.

Subway Line Haul

For subway line haul conditions*, CEQR Technical Manual* criteria specify that any increases in load levels that remain within practical capacity limits are generally not considered significant. However, significant adverse subway line haul impacts can occur if a proposed action is expected to generate an incremental increase averaging five or

more riders per subway car on lines projected to carry loads exceeding guideline capacity. This is based on the general assumption that when subways are at or above practical capacity, the addition of even five or more riders per car is perceptible.

Bus

According to the *CEQR Technical Manual* and NYCT guidelines, additional bus service along a route is recommended when load levels exceed maximum capacity at the route's maximum load point. A significant impact is considered at the route's maximum load point where an increase in bus load levels would exceed the maximum capacity. NYCT's general policy is to provide additional bus service where demand warrants increased service, taking into account fiscal and operational constraints.

Citywide Ferry Line Haul / Ferry Landing

The *CEQR Technical Manual* defines a significant impact as an increase from a No Action v/c ratio at the route's maximum load point of below 0.90 to a v/c ratio of 0.90 or greater. Where a facility is already at a v/c ratio of 0.90 or greater, a 0.10 or more change in v/c ratio is also considered significant.

PEDESTRIANS

ANALYSIS METHODOLOGY

Data on peak period pedestrian flow volumes were collected along analyzed sidewalks, corner areas, and crosswalks in the vicinity of the Project Area in December 2024. Peak hours were determined by comparing rolling hourly averages, and the highest 15-minute volumes within the selected peak hours were used for analysis. Based on existing peak pedestrian volumes along major corridors in the study area, the peak hours selected for analysis include the weekday 8:00–9:00 AM, 2:00–3:00 PM (midday), and 5:00–6:00 PM, and Saturday 2:00–3:00 PM periods.

Peak 15-minute pedestrian flow conditions during the weekday AM, midday, and PM peak hours, and Saturday are analyzed using *2000 Highway Capacity Manual* methodology and procedures outlined in the *CEQR Technical Manual*. Using this methodology, the congestion level of pedestrian facilities is determined by considering pedestrian volume, measuring the sidewalk or crosswalk width, determining the available pedestrian capacity, and developing a ratio of volume flows to capacity conditions. The resulting ratio is then compared with LOS standards for pedestrian flow, which define a qualitative relationship at a certain pedestrian traffic concentration level. The evaluation of street crosswalks and corners is more complicated as these spaces cannot be treated as corridors due to the time incurred waiting for traffic lights. To effectively evaluate these facilities a "time-space" analysis methodology is employed which takes into consideration the traffic light cycle at intersections.

LOS standards are based on the average area available per pedestrian during the analysis period, typically expressed as a 15-minute peak period. LOS grades from A to F are assigned, with LOS A representative of free flow conditions without pedestrian conflicts and LOS F depicting significant capacity limitations and inconvenience. **Table 14-18** defines the LOS criteria for pedestrian crosswalk/corner area and sidewalk conditions, as based on *Highway Capacity Manual* methodology.

Table 14-18
Pedestrian Crosswalk/Corner Area and Sidewalk Levels of Service Descriptions

LOS	Crosswalk/Corner	Crosswalk/Corner Area Criteria (sf/ped)	Sidewalk/Walkway Criteria (sf/ped)
A	(Unrestricted)	> 60	> 530
B	(Slightly Restricted)	> 40 to 60	> 90 to 530
C	(Restricted but fluid)	> 24 to 40	> 40 to 90
D	(Restricted, necessary to continuously alter walking stride and direction)	> 15 to 24	> 23 to 40
E	(Severely restricted)	> 8 to 15	> 11 to 23
F	(Forward progress only by shuffling; no reverse movement possible)	< 8	< 11

Notes:
Based on average conditions for 15 minutes
sf/ped—square feet of area per pedestrian
Source: 2021 CEQR *Technical Manual*

The analysis of sidewalk conditions includes a "platoon" factor in the calculation of pedestrian flow to more accurately estimate the dynamics of walking. "Platooning" is the tendency of pedestrians to move in bunched groups or "platoons" once they cross a street where cross traffic required them to wait.

SIGNIFICANT IMPACT CRITERIA

Sidewalks

The *CEQR Technical Manual* impact criteria for a Central Business District (CBD) location are used to identify significant adverse impacts due to the proposed rezoning. These criteria define a significant adverse sidewalk impact to have occurred under platoon conditions if the average pedestrian space under the No Action condition is greater than or equal to 34.7 square feet/pedestrian (sf/ped), and the average pedestrian space under the With Action condition is 31.4 sf/ped or less (LOS D or worse). If the average pedestrian space under the With Action condition is greater than 31.4 sf/ped (LOS C or better), the impact should not be considered significant. If the No Action pedestrian space is between 6.4 and 34.6 sf/ped, a reduction in pedestrian space under the With Action condition should be considered significant based on **Table 14-19**, which shows a sliding scale that identifies what decrease in pedestrian space is considered a significant impact for a given pedestrian space value in the No Action condition. If the reduction in pedestrian space is less than the value in **Table 14-19**, the impact is not considered significant. If the average pedestrian space under the No Action condition is less than or equal to 6.3 sf/ped, then a reduction in pedestrian space greater than or equal to 0.3 sf/ped, under the With Action condition, should be considered significant.

Corner Areas and Crosswalks

For CBD areas, *CEQR Technical Manual* criteria define a significant adverse corner area or crosswalk impact to have occurred if the average pedestrian space under the No Action condition is greater than or equal to 21.5 sf/ped and, under the With Action condition, the average pedestrian space decreases to 19.4 sf/ped or less (LOS D or worse). If the

pedestrian space under the With Action condition is greater than 19.4 sf/ped (LOS C or better), the impact should not be considered significant. If the average pedestrian space under the No Action condition is between 5.1 and 21.4 sf/ped, a decrease in pedestrian space under the With Action condition should be considered significant based on **Table 14-20,** which shows a sliding scale that identifies what decrease in pedestrian space is considered a significant impact for a given amount of pedestrian space in the No Action condition. If the decrease in pedestrian space is less than the value in **Table 14-20**, the impact is not considered significant. If the average pedestrian space under the No Action condition is less than or equal to 5.0 sf/ped, then a decrease in pedestrian space greater than or equal to 0.2 sf/ped is considered significant.

VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

Under *CEQR Technical Manual* guidelines, an evaluation of vehicular and pedestrian safety is needed for locations within the traffic and pedestrian study areas that have been identified as high crash locations. These are defined as locations along a Vision Zero priority intersection or locations where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. In addition, any location along a Vision Zero priority corridor with three or more pedestrian/bicyclist injury crashes in any consecutive 12 months of the most recent three-year period for which data are available should be identified as a high crash location. For these locations, crash trends would be identified to determine whether projected vehicular and pedestrian traffic would further impact safety, or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic and pedestrian volumes, crash types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety should be identified and coordinated with DOT.

PARKING

ANALYSIS METHODOLOGY

Parking demand forecast for the Proposed Actions' RWCDS is provided to document the projected demand at on-site accessory parking and to determine whether any demand would need to be accommodated on-street or at nearby off-street public parking facilities. The analysis will disclose the hourly parking demand generated by each land use in the Proposed Actions' RWCDS and identify the periods of peak parking accumulation as a result of the Proposed Actions.

SIGNIFICANT IMPACT CRITERIA

Should a proposed action generate the need for more parking than it provides, a shortfall of spaces may be considered significant. The availability of off-street and on-street parking spaces within a convenient walking distance (about ¼ mile)—as well as the availability of alternative modes of transportation—is considered in making this determination.

Table 14-19
Significant Impact Criteria for Sidewalks in a CBD Location

No Action Condition Pedestrian Flow (sf/ped)	With Action Condition Pedestrian Flow Increment to be Considered a Significant Impact (sf/ped)
≥ 34.7	With Action Condition ≤ 31.4
34.0 to 34.6	Reduction ≥ 3.3
33.0 to 33.9	Reduction ≥ 3.2
32.1 to 32.9	Reduction ≥ 3.1
31.1 to 32.0	Reduction ≥ 3.0
30.2 to 31.0	Reduction ≥ 2.9
29.2 to 30.1	Reduction ≥ 2.8
28.3 to 29.1	Reduction ≥ 2.7
27.3 to 28.2	Reduction ≥ 2.6
26.4 to 27.2	Reduction ≥ 2.5
25.4 to 26.3	Reduction ≥ 2.4
24.5 to 25.3	Reduction ≥ 2.3
23.5 to 24.4	Reduction ≥ 2.2
22.6 to 23.4	Reduction ≥ 2.1
21.6 to 22.5	Reduction ≥ 2.0
20.7 to 21.5	Reduction ≥ 1.9
19.7 to 20.6	Reduction ≥ 1.8
18.8 to 19.6	Reduction ≥ 1.7
17.8 to 18.7	Reduction ≥ 1.6
16.9 to 17.7	Reduction ≥ 1.5
15.9 to 16.8	Reduction ≥ 1.4
15.0 to 15.8	Reduction ≥ 1.3
14.0 to 14.9	Reduction ≥ 1.2
13.1 to 13.9	Reduction ≥ 1.1
12.1 to 13.0	Reduction ≥ 1.0
11.2 to 12.0	Reduction ≥ 0.9
10.2 to 11.1	Reduction ≥ 0.8
9.3 to 10.1	Reduction ≥ 0.7
8.3 to 9.2	Reduction ≥ 0.6
7.4 to 8.2	Reduction ≥ 0.5
6.4 to 7.3	Reduction ≥ 0.4
≤ 6.3	Reduction ≥ 0.3

Note: sf/ped—square feet per pedestrian
Source: 2021 CEQR *Technical Manual*

Table 14-20
Significant Impact Criteria for Corners and Crosswalks in a CBD Location

No Action Condition Pedestrian Space (sf/ped)			With Action Condition Pedestrian Space Reduction to be Considered a Significant Impact (sf/ped)
≥ 21.5			With Action Condition ≤ 19.4
21.3	to	21.4	Reduction ≥ 2.1
20.4	to	21.2	Reduction ≥ 2.0
19.5	to	20.3	Reduction ≥ 1.9
18.6	to	19.4	Reduction ≥ 1.8
17.7	to	18.5	Reduction ≥ 1.7
16.8	to	17.6	Reduction ≥ 1.6
15.9	to	16.7	Reduction ≥ 1.5
15.0	to	15.8	Reduction ≥ 1.4
14.1	to	14.9	Reduction ≥ 1.3
13.2	to	14.0	Reduction ≥ 1.2
12.3	to	13.1	Reduction ≥ 1.1
11.4	to	12.2	Reduction ≥ 1.0
10.5	to	11.3	Reduction ≥ 0.9
9.6	to	10.4	Reduction ≥ 0.8
8.7	to	9.5	Reduction ≥ 0.7
7.8	to	8.6	Reduction ≥ 0.6
6.9	to	7.7	Reduction ≥ 0.5
6.0	to	6.8	Reduction ≥ 0.4
5.1	to	5.9	Reduction ≥ 0.3
≤ 5.0			Reduction ≥ 0.2

Note: sf/ped—square feet per pedestrian
Source: 2021 CEQR *Technical Manual*

Under *CEQR Technical Manual* guidelines, different criteria for determining significance are applied based on whether a proposed project is located in residential or commercial areas designated as Parking Zones 1 and 2 as shown in Map 16-2 (CEQR Parking Zones) in the *CEQR Technical Manual*. As the majority of the Project Area is located within Zone 2 as shown in Map 16-2, the inability of the Proposed Actions or the surrounding area to accommodate future parking demands would be considered a parking shortfall, but would generally not be considered significant due to the magnitude of available alternative modes of transportation.

G. TRAFFIC

EXISTING CONDITIONS

STUDY AREA STREET NETWORK

As shown in **Figure 14-2**, the Project Area street network is comprised of an irregular street grid, typical for this area of Queens, generally bounded by 40th Avenue to the north, 24th Street to the east, 47th Avenue to the south, and the East River to the west. North–south corridors serving the Project Area include 21st Street, Vernon Boulevard, and 11th Street. The primary east–west corridors include Jackson Avenue. To the north

of the Project Area are the Queensboro and Triborough Bridges, and to the south of the Project Area is the Midtown Tunnel.

21st Street is a major two-way north and southbound principal arterial that extends from Borden Avenue to 20th Avenue. South of 43rd Avenue, it operates with one moving lane in each direction with curbside parking along one or both curbs. Above 43rd Avenue within the study area, it operates with two moving lanes in each direction with curbside parking on one or both curbs. 21st Street is also a designated through-truck route.

Jackson Avenue is a major two-way east and westbound principal arterial that extends from Vernon Boulevard to Queens Plaza South and merges into Northern Boulevard. It generally operates with two moving lanes in each direction, curbside parking along one or both curbs, and a median separating the directional traffic flow. Jamaica Avenue is also a designated through truck route.

Queens Plaza North is a major one-way westbound principal arterial that extends from 21st Street to 41st Avenue. The roadway operates with one moving lane in the westbound direction with curbside parking along one or both curbs. Queens Plaza South is a major one-way eastbound principal arterial that extends from Vernon Boulevard to Jackson Avenue. The roadway operates with one moving lane in the eastbound direction with curbside parking.

Vernon Boulevard is a two-way north and southbound minor arterial that extends from Main Avenue in the north to Borden Avenue in the south. It typically operates with one moving lane in each direction with curbside parking in one or both curbs. The corridor is also a designated local truck route and typically includes shared bike lanes in both directions.

11th Street is a two-way north and southbound minor arterial that extends from Jackson Avenue to Queens Plaza South, within the study area. It typically operates with one moving lane in each direction with curbside parking in one or both curbs.

Crescent Street is a one-way southbound minor arterial that extends from Hunter Street to Hoyt Avenue South. It typically operates with one moving lane in the southbound direction with curbside parking in one or both curbs.

Most other roadways comprising the Project Area street network typically provide local access and operate one-way with one to two moving lanes and parking along one or both curbs.

Bus Routes

MTA and NYCT bus routes primarily operate along the following study area corridors:

- 11th Street (B32)
- 21st Street (B32, Q66, Q67, Q69, Q102, Q103)
- Vernon Boulevard (Q103)
- 44th Drive (B32, Q39, Q67)
- Ed Koch Queensboro Bridge (Q32, Q60, Q101)
- Queens Plaza North (Q66, Q100)
- Queens Plaza South (Q39, Q66, Q100)

These bus routes are described in more detail below in Section H, “Transit.”

Truck Routes

The City has established local and through-truck routes to manage the flow of trucks and improve the quality of neighborhoods. The City defines a truck as “a vehicle which is designed for transportation of property, which has either of the following characteristics: two axles and six tires or three or more axles.” Trucks must generally travel on local truck routes to reach the intersection nearest their destinations. In proximity to the Project Area, local truck routes have been designated along Vernon Boulevard and the Queensboro Bridge. Through-trucks are defined as having neither an origin nor a destination within the Borough of Brooklyn. Designated through truck routes in proximity to the Project Area include Queens Boulevard, 21st Street, 41st Avenue, 42nd Road, Jackson Avenue, Robert F. Kennedy Bridge (formerly the Triborough Bridge, which is located north of the Project Area), Long Island Expressway (south of the Project Area), and Queens Midtown Tunnel (south of the Project Area).

Bicycle Lanes

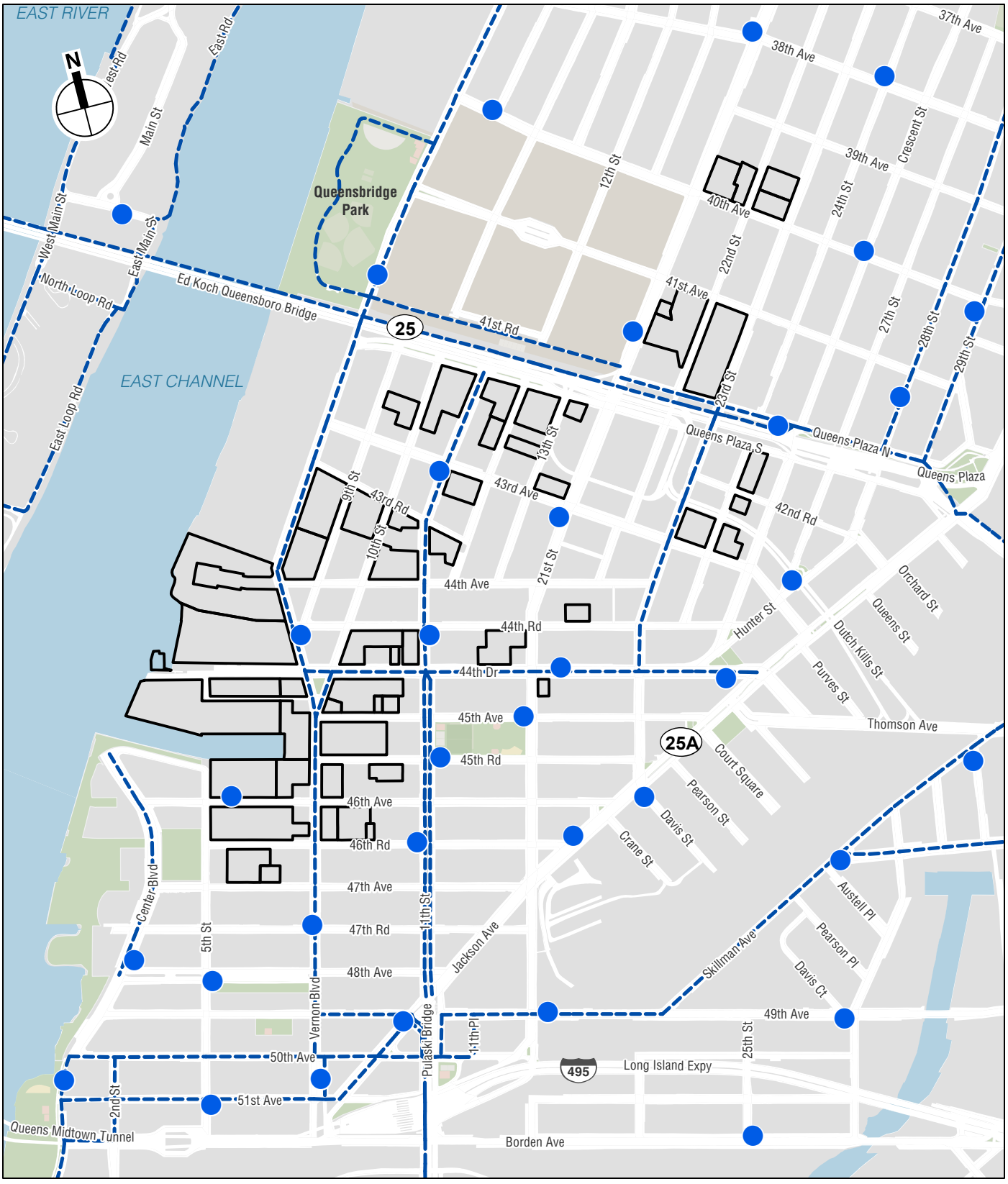
As shown in **Figure 14-4**, streets within the Project Area and its proximity host a growing number of bicycle lanes, the majority of which are protected bicycle lanes or shared lanes. The protected bicycle paths have also been installed along Vernon Boulevard north of 46th Avenue, 44th Drive, 11th Street south of 44th Drive, Ed Koch Queensboro Bridge, and Queens Plaza North.

TRAFFIC CONDITIONS

To establish the existing conditions traffic network, an extensive traffic data collection program—including ATR counts, turning movement counts, and vehicle classification counts—was undertaken in December 2024. Physical inventory data needed for operational analysis—e.g., the number of traffic lanes, lane widths, pavement markings, turn prohibitions, bus stops, and typical parking regulations—were collected in December 2024 and January 2025. Signal timing plans for signalized intersections within the study area were obtained from DOT. **Figures 14-5a through 14-5d** show existing traffic volumes during weekday AM, midday, PM, and Saturday peak hours.

INTERSECTION CAPACITY ANALYSIS

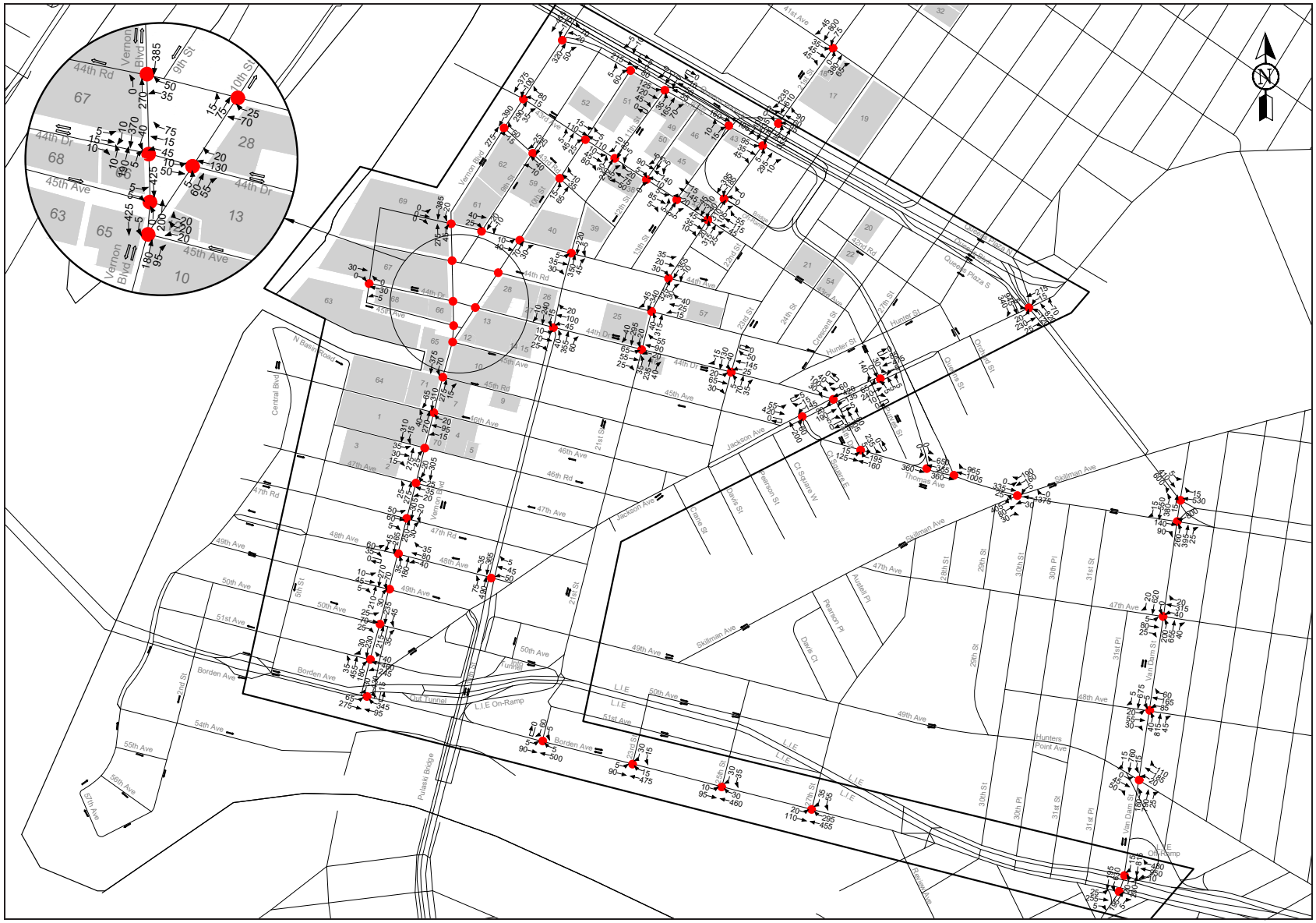
A summary of the existing conditions traffic analysis results by lane group is presented in **Table 14-21**. As described in Section F, “Transportation Analyses Methodologies,” a lane group is considered congested if it operates at LOS E or F and/or with a v/c ratio of 0.90 or above. A v/c ratio of 1.00 or above reflects capacity conditions. Under existing conditions for signalized intersections, 17 of 176 total analyzed lane groups during the weekday AM peak hour, five of 180 total analyzed lane groups during the weekday midday peak hour, 15 of 181 total analyzed lane groups during the weekday PM peak hour, and seven of 180 total analyzed lane groups during the Saturday peak hour currently operate at LOS E or F. Under existing conditions for unsignalized intersections, one of 61 total analyzed lane groups during the weekday PM peak hour. None of the analyzed lane groups during the weekday AM, weekday midday, or Saturday peak hours currently operate at LOS E or F. Details on the v/c ratios, delays, and levels of service for the individual lane groups



Transit Map
Bike Routes

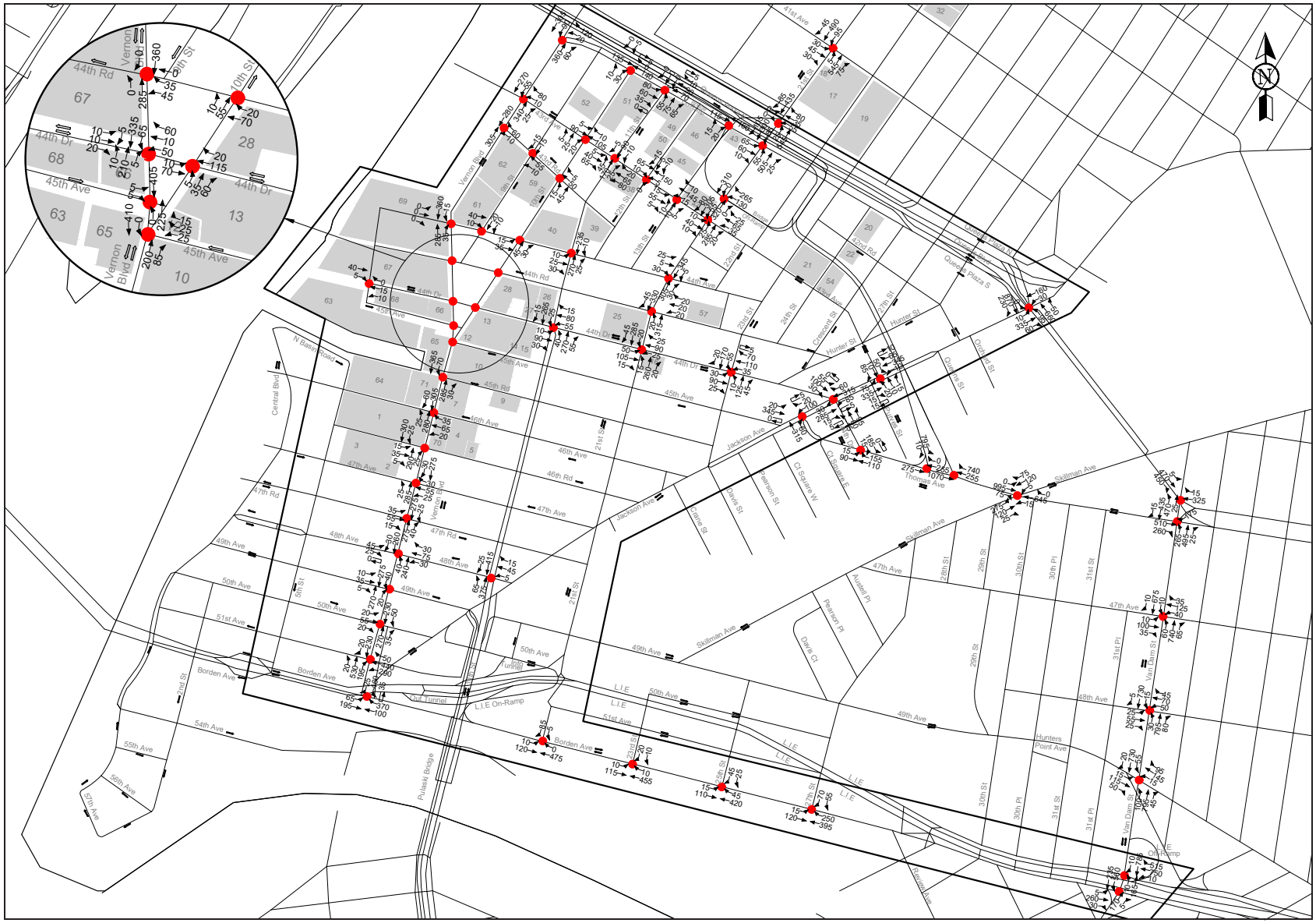
LONG ISLAND CITY NEIGHBORHOOD PLAN

Figure 14-4

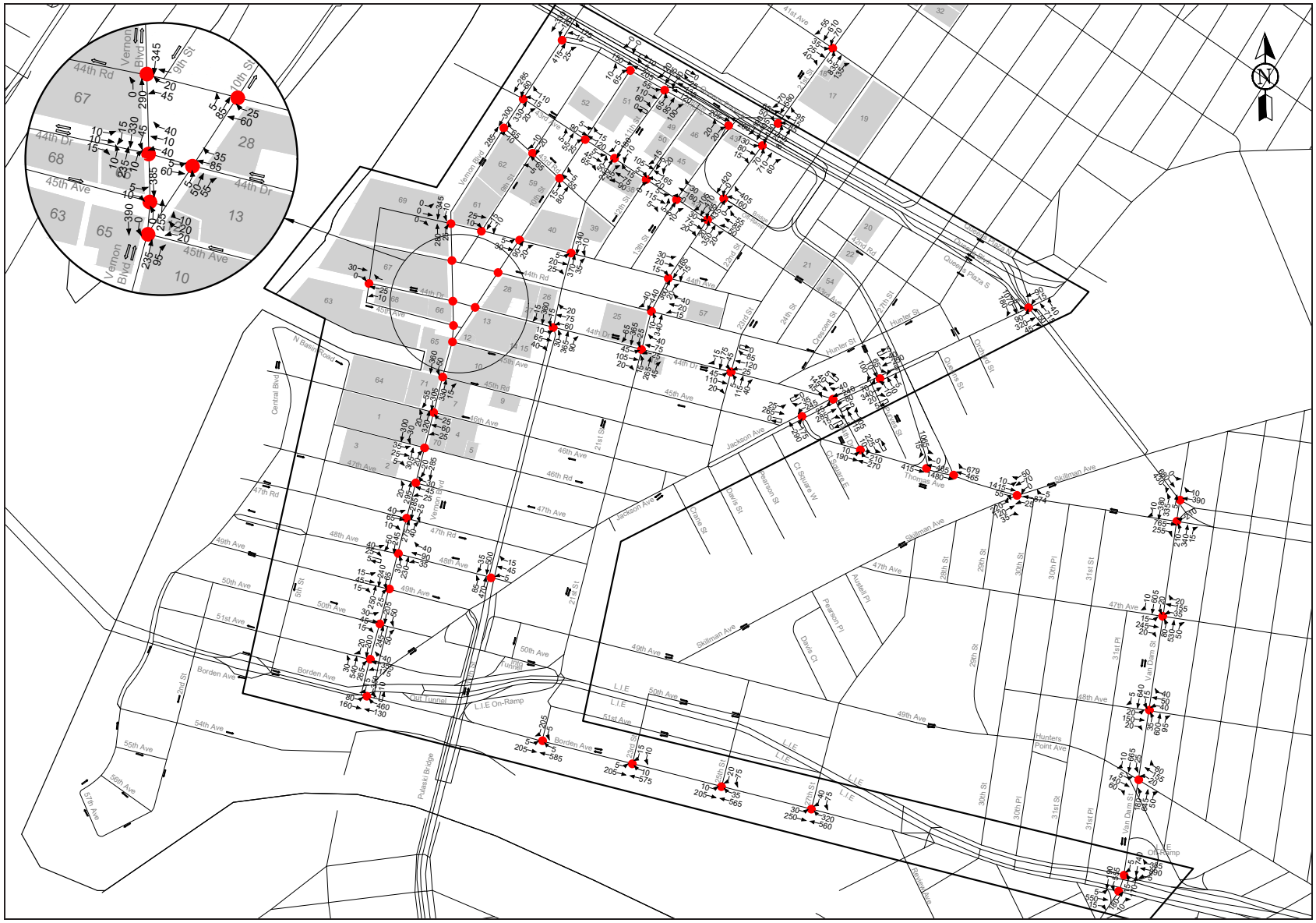


Existing AM Traffic Volumes

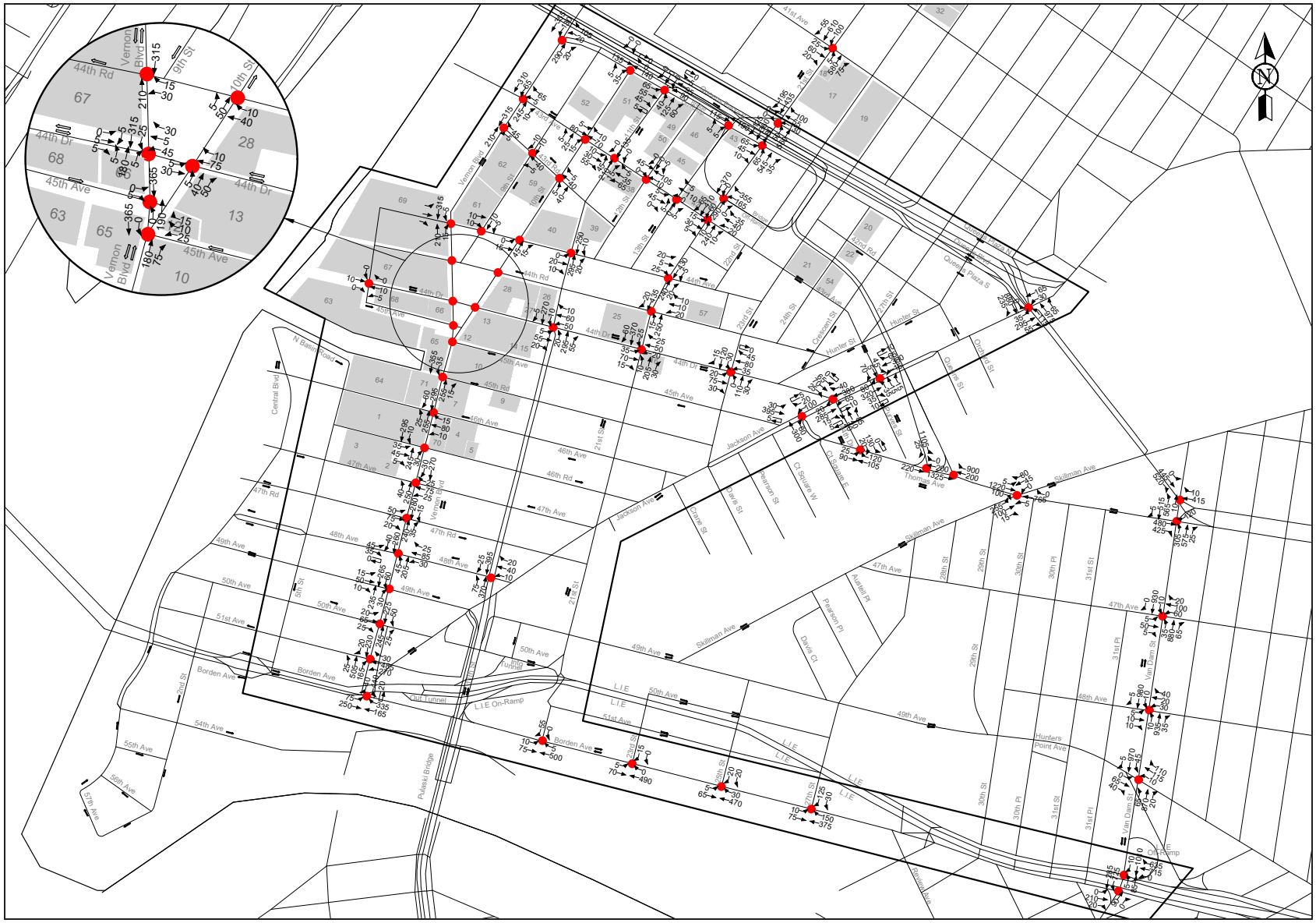
Figure 14-5a



Existing MD Traffic Volumes



Existing PM Traffic Volumes



Existing SAT Traffic Volumes

experiencing congestion in one or more peak hours under existing conditions are shown in **Table G-1 in Appendix G**. As shown in **Table G-1**, a total of 17 analyzed intersections (16 signalized and one unsignalized) currently have at least one congested lane group in one or more peak hours. A total of eight intersections currently have one or more lane groups operating at or over capacity (v/c ratio $\geq$ 1.0) in the weekday AM peak hour, one in the midday, four in the PM, and five in the Saturday peak hour. Overall, the data in **Table 14-21** indicates that congestion at analyzed intersections is most evident during the weekday AM and PM peak periods, and least evident during weekday midday and Saturday periods.

Table 14-21
Existing Conditions Traffic Analysis Results

Level of Service	Analysis Peak Hours			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Signalized Intersections				
Lane Groups at LOS A/B/C	133	147	139	147
Lane Groups at LOS D	26	28	29	26
Lane Groups at LOS E	5	3	12	4
Lane Groups at LOS F	12	2	3	3
Total	176	180	181	180
Lane Groups with v/c ≥ 0.9	16	6	7	9
Unsignalized Intersections				
Lane Groups at LOS A/B/C	65	62	61	62
Lane Groups at LOS D	1	0	0	0
Lane Groups at LOS E	0	0	1	0
Lane Groups at LOS F	0	0	0	0
Total	66	62	62	62
Lane Groups with v/c ≥ 0.9	0	0	0	0

Notes:
v/c ratio – Volume-to-capacity ratio
LOS – Level of service

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

CHANGES TO THE STUDY AREA STREET NETWORK

The 2024 through 2035 period will likely see the implementation of a number of physical and operational changes to the study area street system associated with New York City Department of Design and Construction's (DDC) Court Square Pedestrian Improvements project. Also considered were operational changes associated with No Action developments and changes to signal timings implemented by DOT subsequent to the traffic data collection program. Planned physical and operational changes that are reflected in the No Action traffic network are discussed below.

Court Square Pedestrian Improvements

The Court Square Pedestrian Improvements project will introduce pedestrian safety improvements and new public space in the Court Square neighborhood of Long Island City. This project will reconstruct Court Square West from Jackson Avenue to approximately mid-block, Thomson Avenue from 44th Drive to Jackson Avenue, the intersection of Pearson Street at Jackson Avenue, and the southern sidewalk along

Jackson Avenue from Court Square West to Thomson Avenue. Planning improvements reflected in the No Action traffic analysis include changes to lane striping and median configurations at the analyzed intersections of Jackson Avenue and Thomson Avenue, 44th Drive and Thomson Avenue, and 44th Drive and Jackson Avenue.

Future No Action Traffic Growth

Between 2024 and 2035, it is expected that transportation demands in the vicinity of the Project Area will increase due to long-term background growth as well as development that could occur pursuant to existing zoning. Development on projected development sites is expected to add a net total of approximately 2,299 dwelling units, 1,299,964 square feet of commercial uses,[1] and 463,027 square feet of industrial uses.[2]

In order to forecast future traffic conditions without the Proposed Actions (the No Action condition), development on projected development sites and other developments listed in Table 2-13A in Chapter 2, “Land Use, Zoning, and Public Policy,” were considered. The No Action condition traffic volumes also reflect annual background growth rates of 0.25 percent per year for the 2024 through 2029 period and 0.125 percent for the 2029 through 2035 period. These background growth rates, recommended in the *CEQR Technical Manual* for projects in Long Island City, are applied to account for smaller projects and as-of-right developments not reflected in Table 2-13A, and general increases in travel demand not attributable to specific development projects. **Figures 14-6a through 14-6d** show total No Action traffic volumes during weekday AM, midday, PM, and Saturday peak hours.

POTENTIAL EFFECTS OF CENTRAL BUSINESS DISTRICT (CBD) TOLLING PROGRAM

New York City's Central Business District (CBD) Tolling Program, also known as "Congestion Pricing," is an electronic toll system that charges drivers to enter Manhattan’s CBD. The program aims to reduce traffic and air pollution, enhance street safety, raise revenues to improve the transit system, and encourage the use of public transportation. The program went into effect on January 5, 2025.

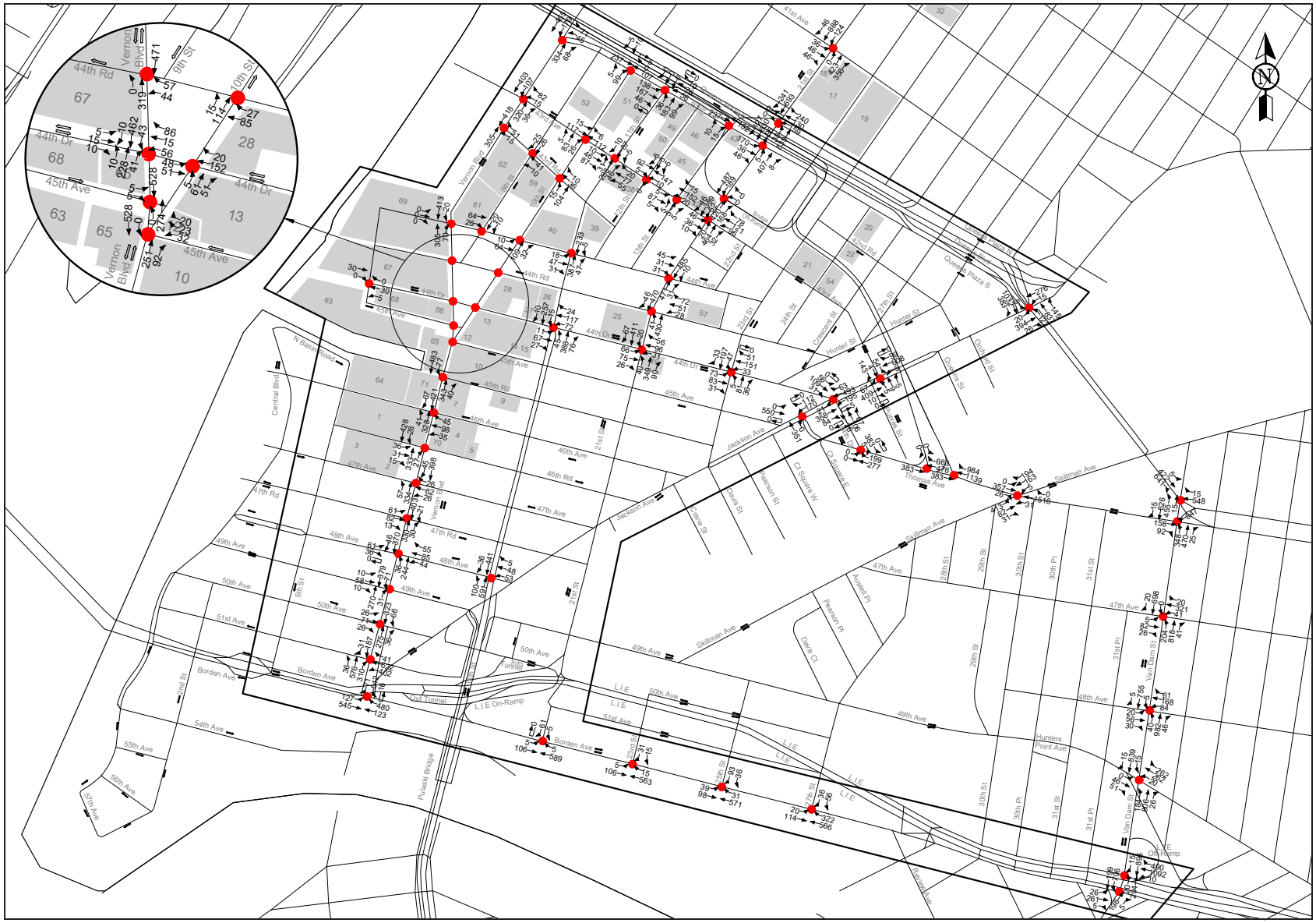
Initial data collected by MTA/NYCT and DOT indicate a decrease in the number of vehicles entering the CBD, suggesting that the program is already reducing citywide traffic volumes. Early signs also show that some drivers are shifting their travel times to off-peak hours to avoid the toll, which could lead to a reduction in peak hour traffic as commuters either switch to transit or adjust their schedules.

While some bus and subway lines indicate an increase in ridership in response to the implementation of Congestion Pricing, the program’s early effects on the pedestrian and transit networks are less clear. Other factors, such as shifts to in-office work and lingering pandemic-related trends, may also be influencing these patterns.

The transportation data presented in this document was collected prior to implementation of the Congestion Pricing program. This data was not adjusted to account for the

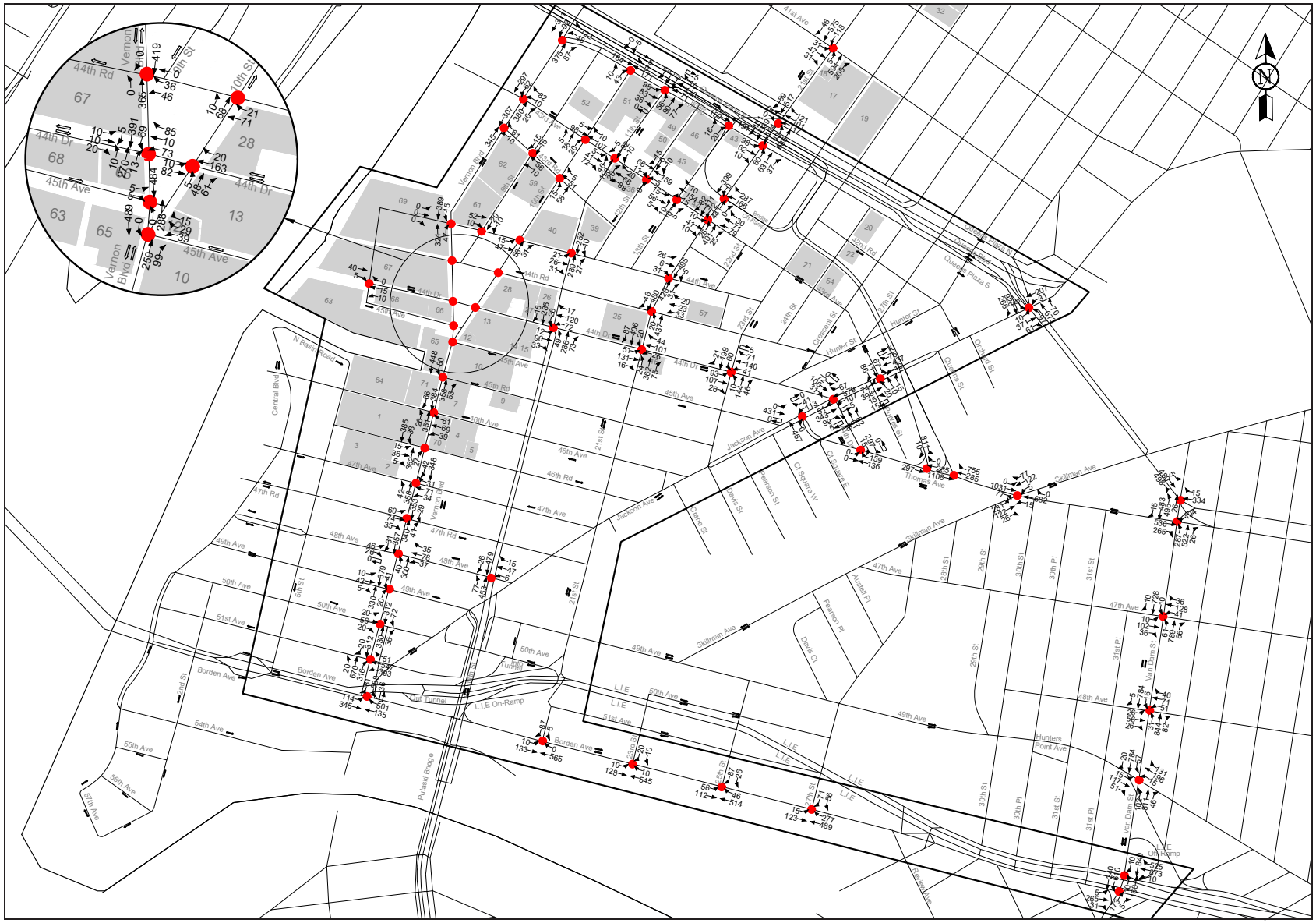
[1] Commercial total reflects a net increase of 299,395 sf of local retail space and 1,059,969 sf of office space and a net decrease of 59,400 sf of other commercial space.

[2] Industrial total reflects a net increase of 332,605 sf of warehouse space, and a net decrease of 130,422 sf of light industrial space.



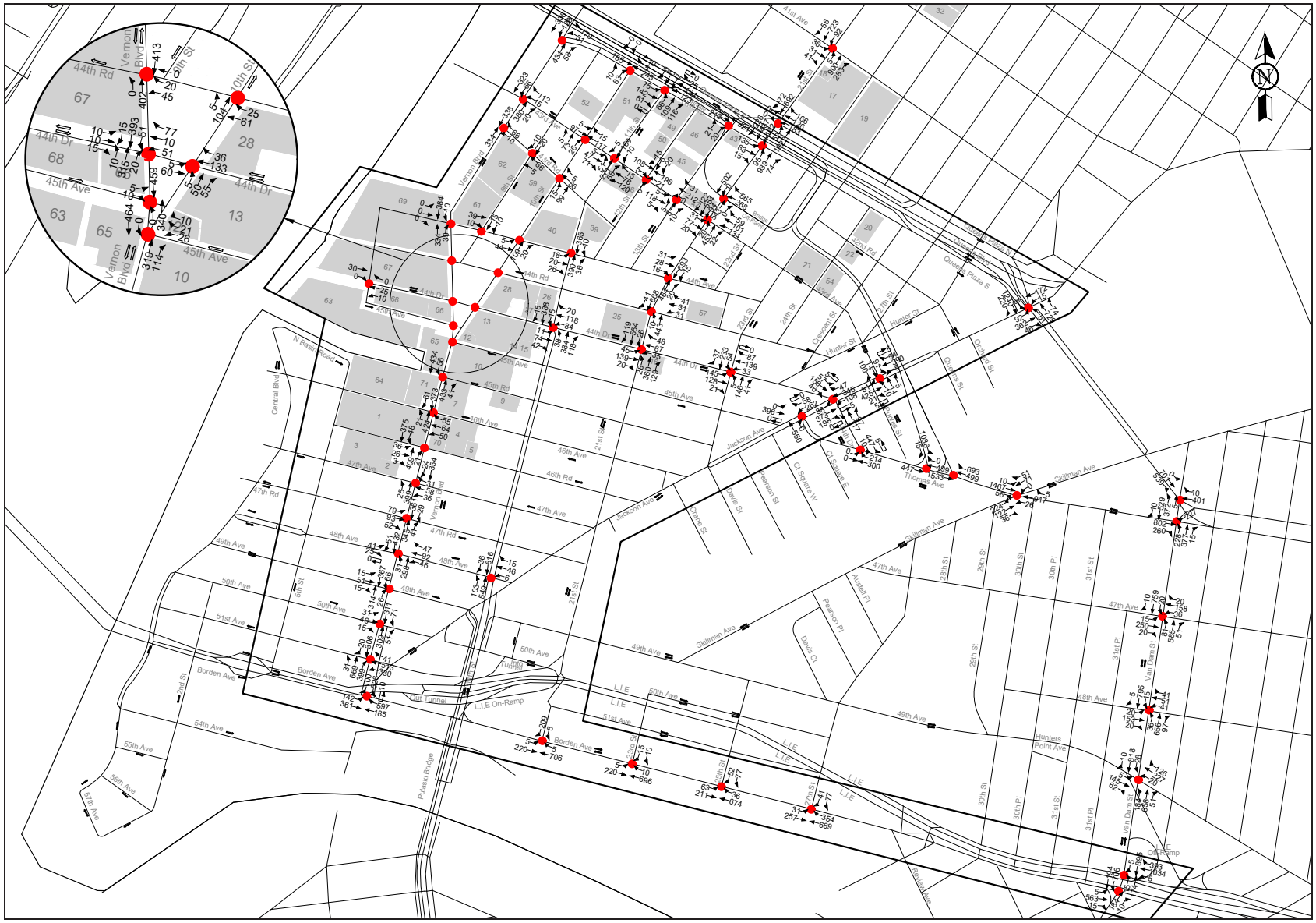
No Action AM Traffic Volumes

Figure 14-6a



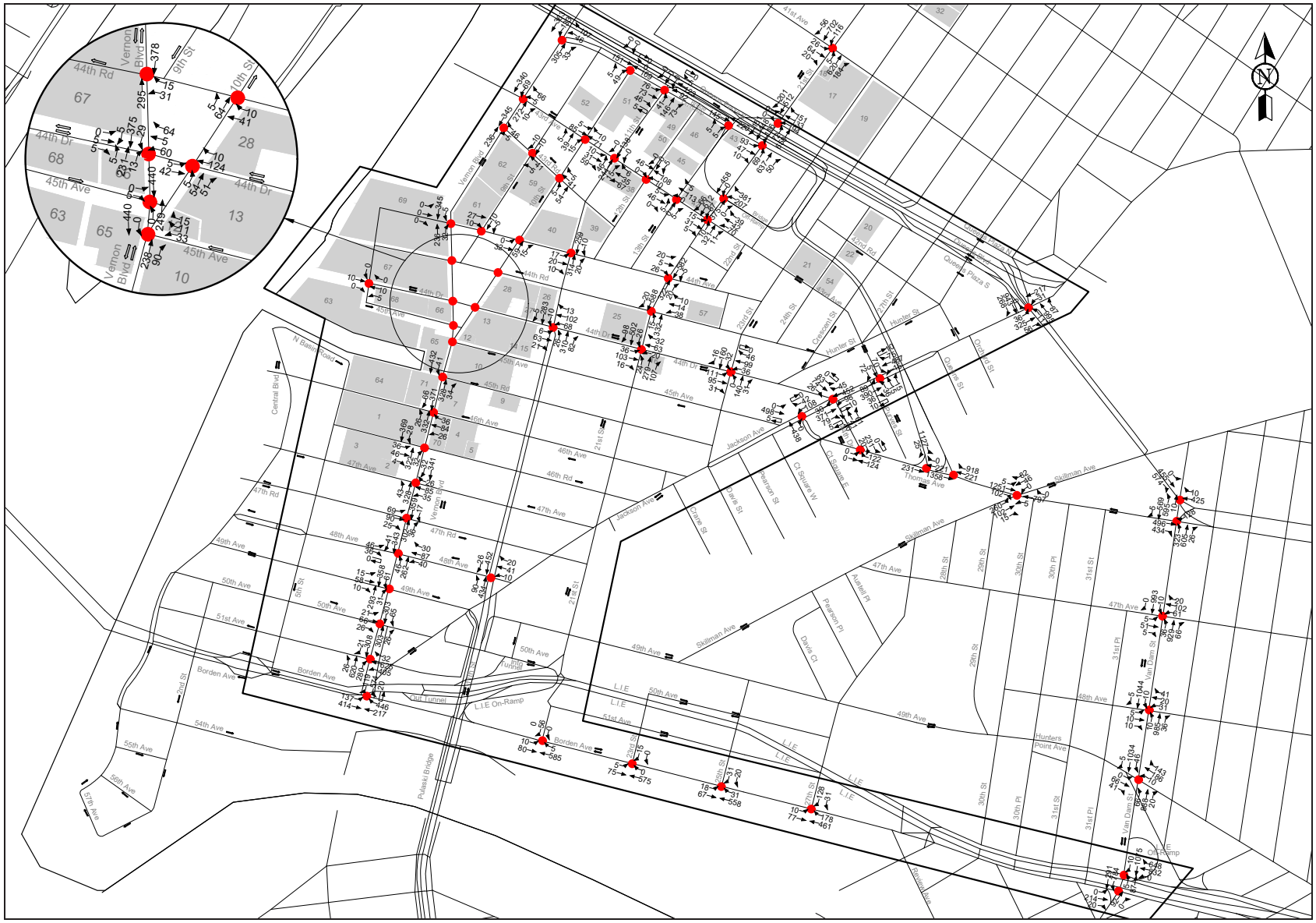
No Action MD Traffic Volumes

Figure 14-6b



No Action PM Traffic Volumes

Figure 14-6c



No Action SAT Traffic Volumes

Figure 14-6d

implementation of the program, nor have any improvements to the transit system been considered, because the long-term effects of the program are unknown at this time.

Over time, as commuters adapt and public transportation options improve, transportation patterns are expected to evolve and eventually settle into a new equilibrium. However, the timeline for this transition remains uncertain.

Adding to this uncertainty is the position of the current federal administration which has recently expressed a desire to halt Congestion Pricing. This introduces an additional layer of unpredictability and the program's long-term impact on New York City's transportation landscape.

INTERSECTION CAPACITY ANALYSIS

A summary of the No Action conditions traffic analysis results by lane group is presented in **Table 14-22**. Under the No Action condition for signalized intersections, 30 of 177 total analyzed lane groups during the weekday AM peak hour, 13 of 181 total analyzed lane groups during the weekday midday peak hour, 27 of 180 total analyzed lane groups during the weekday PM peak hour, and 14 of 181 total analyzed lane groups during the Saturday peak hour would operate at LOS E or F. Under the No Action condition for unsignalized intersections, two of 61 total analyzed lane groups during the weekday AM peak hour, one of 57 total analyzed lane groups during the weekday midday peak hour, four of 57 total analyzed lane groups during the weekday PM peak hour, and one of 57 total analyzed lane groups during the Saturday peak hour would operate at LOS E or F.

Table 14-22
No Action Conditions Traffic Analysis Results

Level of Service	Analysis Peak Hours			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Signalized Intersections				
Lane Groups at LOS A/B/C	117	138	121	138
Lane Groups at LOS D	30	30	32	29
Lane Groups at LOS E	10	6	12	5
Lane Groups at LOS F	20	7	15	9
Total	177	181	180	181
Lane Groups with v/c ≥ 0.9	35	20	29	19
Unsignalized Intersections				
Lane Groups at LOS A/B/C	57	53	53	55
Lane Groups at LOS D	2	3	0	1
Lane Groups at LOS E	1	1	2	1
Lane Groups at LOS F	1	0	2	0
Total	61	57	57	57
Lane Groups with v/c ≥ 0.9	0	0	0	0

Notes:
v/c ratio – Volume-to-capacity ratio
LOS – Level of service

Details on the v/c ratios, delays, and levels of service for the individual lane groups experiencing congestion in one or more peak hours under No Action condition are shown in **Table G-2 in Appendix G.** As shown in **Table G-2**, a total of 36 intersections (32

signalized and four unsignalized) would have at least one congested lane group in one or more peak hours in the No Action condition, compared to 17 intersections (16 signalized and one unsignalized) under existing conditions. A total of 13 intersections would have one or more lane groups operating at or over capacity (v/c > 1.0) in the weekday AM peak hour, four in the midday, 15 in the PM, and 10 in the Saturday peak hour. This compares to 8, 1, 4, and 5 intersections operating at or over capacity during these same periods, respectively, under existing conditions.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITIONS)

CHANGES TO THE STUDY AREA STREET NETWORK

As discussed in Chapter 1, Project Description," the proposed mapping actions on Blocks 488 and 489 would reconnect the area to the street grid and surrounding communities and support the redevelopment and remediation of large vacant and underutilized sites. As shown in **Figure 14-7**, these new public streets would include an extension of 44th Road and 44th Avenue, as well as an extension of 5th St connecting to 44th Avenue in the north to 45th Avenue in the south. For traffic analysis purposes it is assumed that operation of these new street segments would be as follows:

- 44th Avenue west of Vernon Boulevard: one-way eastbound road
- 44th Road west of Vernon Boulevard: one-way westbound road
- 44th Drive west of Vernon Boulevard: two-way eastbound and westbound road
- 5th St between 44th Avenue and 44th Drive: one-way northbound road
- 5th St between 44th Drive and 45th Avenue: one-way southbound road

In addition to the mapping of new streets, it is also anticipated that under the Proposed Actions, the segment of 44th Drive west of the proposed new road would be demapped. This mapped street segment is not currently used by through traffic.

FUTURE WITH ACTION TRAFFIC GROWTH

As shown in **Table 14-11**, based on projected development associated with the Proposed Actions, there would be a net total of approximately 2,698, 1,647, 2,642, and 2,112 additional vehicle trips (auto, taxi, school bus, and truck) during the weekday AM, midday, PM, and Saturday peak hours, respectively. The assignments of auto and taxi trips to the street network in proximity to the Project Area are based on the locations of each projected development site and the anticipated origins and destinations of vehicle trips associated with the different uses projected for each site (e.g., commercial, residential, etc.). The origins/destinations used for the assignments of residential trips are based on AASHTO CTPP five-year journey-to-work data sourced from the 2012–2016 ACS, while the origins/destinations of office, life science, school staff, light industrial, and warehouse uses were based on AASHTO CTPP five-year reverse journey-to-work data, sourced from the 2012–2016 ACS. Origins/destinations for uses that generate mostly local trips, including local retail, school students/parents, auto repair/service, community center, and other commercial uses, were based on population density in proximity to the Project Area and surrounding neighborhoods within a ½-mile radius. Origins/destinations for the



Project Incremental AM Traffic Volumes

Figure 14-7a



Project Incremental MD Traffic Volumes

Figure 14-7b



Project Incremental PM Traffic Volumes

Figure 14-7c



Project Incremental SAT Traffic Volumes

destination retail and medical office uses were based on population density in proximity to the Project Area and surrounding neighborhoods within a two-mile radius.

Using the origin/destination distributions, auto and taxi trips were assigned to various portals on the periphery of the Project Area and from there via the most direct route to each projected development site. Although some project-generated auto demand is expected to park at off-street public parking facilities in the area or on-street, all auto trips were assigned directly to their respective projected development sites. This can be considered a conservative approach with respect to the traffic impact analysis as it concentrates project traffic at analyzed intersections in proximity to the Project Area rather than dispersing it to outlying public parking facilities. Additional auto and taxi trip distribution data are provided in the *Long Island City Neighborhood Plan (LICNP) Rezoning Transportation Planning Factors and Travel Demand Forecast Technical Memorandum* included in **Appendix G**.

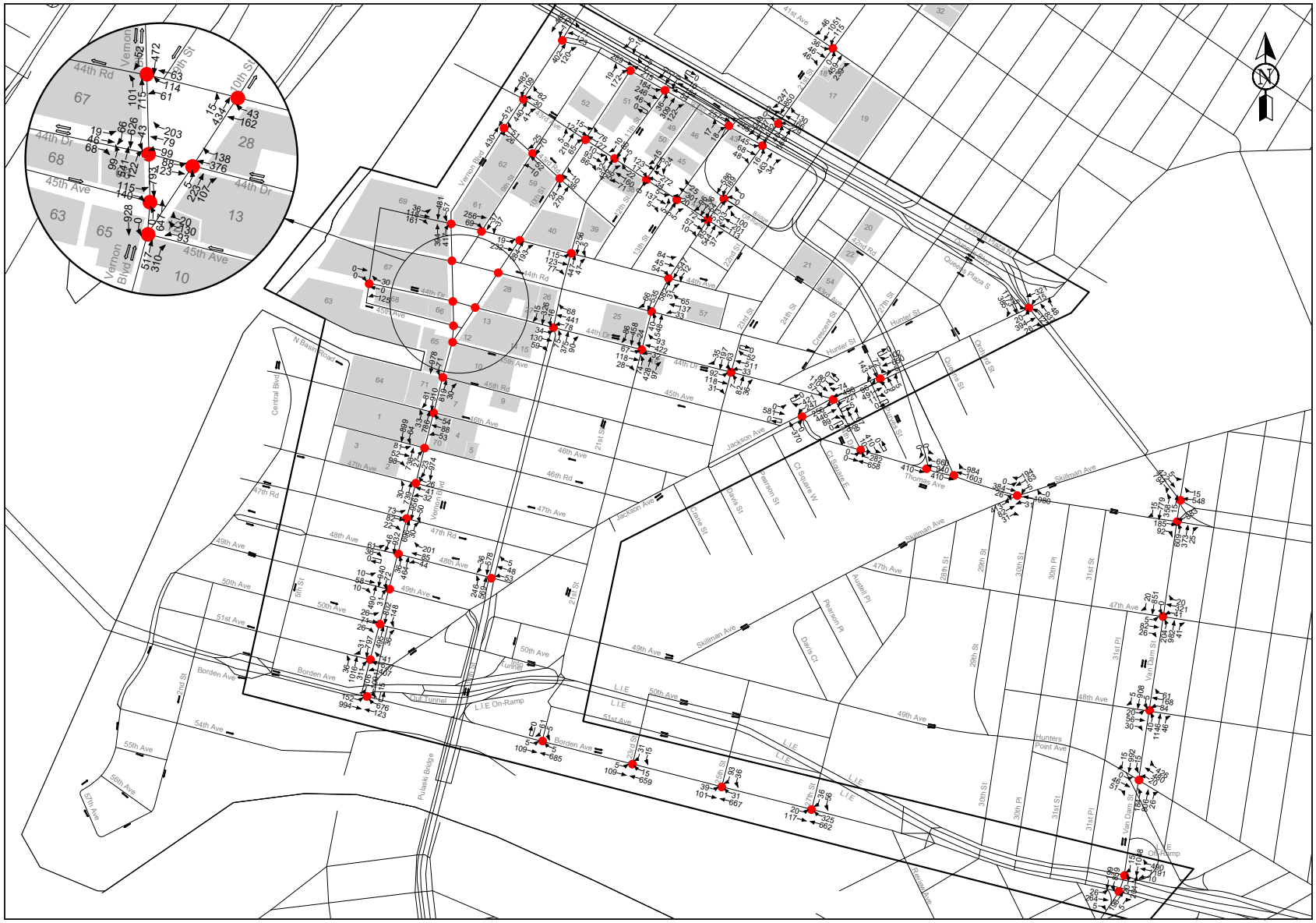
Truck trips were assigned to designated local truck routes and then to the most direct paths to and from each projected development site. The majority of truck trips were assigned to Queens Midtown Tunnel, Long Island Expressway, Robert F. Kenedy Bridge, Queens Boulevard, Thomson Avenue, Van Dam Street, Jackson Avenue, 41st Avenue, and 21st Street, all of which are Through Truck Routes, along with the Local Truck Routes along Vernon Boulevard, Borden Avenue, and Ed Koch Queensboro Bridge.

Figures 14-7a through 14-7d show the assignment of incremental vehicle trips (auto, taxi, and truck) generated during the weekday AM, midday, PM, and Saturday peak hours under the Proposed Actions. **Figures 14-8a through 14-8d** show the total weekday AM, midday, PM, and Saturday traffic volumes in the 2035 With Action condition. The volumes shown are the combination of the net incremental traffic generated by the Proposed Actions and the No Action volumes.

INTERSECTION CAPACITY ANALYSIS

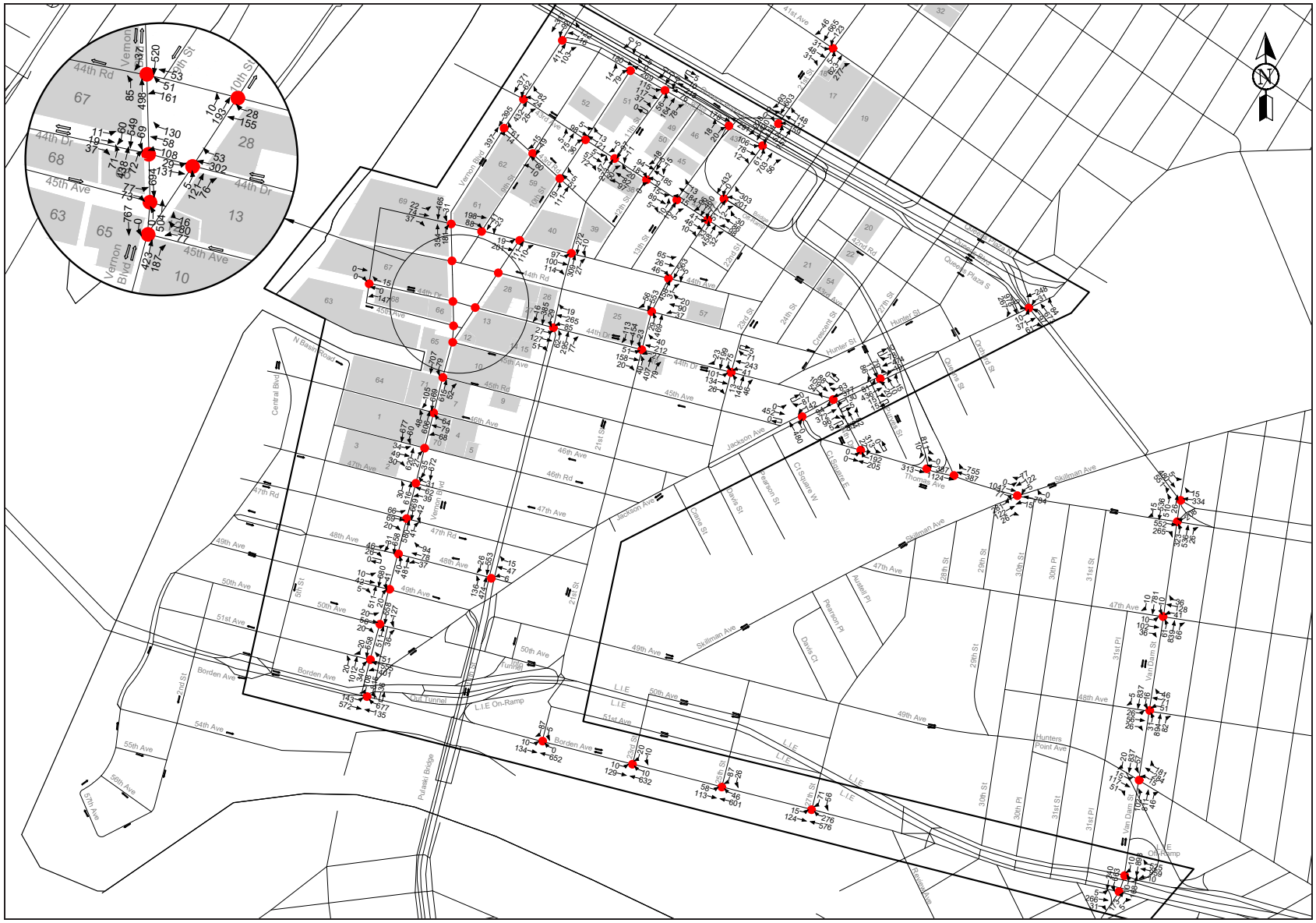
A summary of the With Action condition traffic analysis results by lane group is presented in **Table 14-23**. Under the With Action condition for signalized intersections, 69 of 180 total analyzed lane groups during the weekday AM peak hour, 44 of 184 total analyzed lane groups during the weekday midday peak hour, 69 of 184 total analyzed lane groups during the weekday PM peak hour, and 46 of 184 total analyzed lane groups during the Saturday peak hour would operate at LOS E or F. Under the With Action condition for unsignalized intersections, 10 of 59 total analyzed lane groups during the weekday AM peak hour, eight of 55 total analyzed lane groups during the weekday midday peak hour, 12 of 55 total analyzed lane groups during the weekday PM peak hour, and five of 55 total analyzed lane groups during the Saturday peak hour would operate at LOS E or F.

Details on the v/c ratios, delays, and levels of service for the individual lane groups experiencing congestion in one or more peak hours under No Action condition are shown in **Table G-3 in Appendix G** As shown in **Tables G-3 and 13-23**, a total of 51 intersections (42 signalized and nine unsignalized) would have at least one congested lane group in one or more peak hours in the With Action condition, compared to 36 intersections (32 signalized and four unsignalized) in the No Action condition.



With Action AM Traffic Volumes

Figure 14-8a



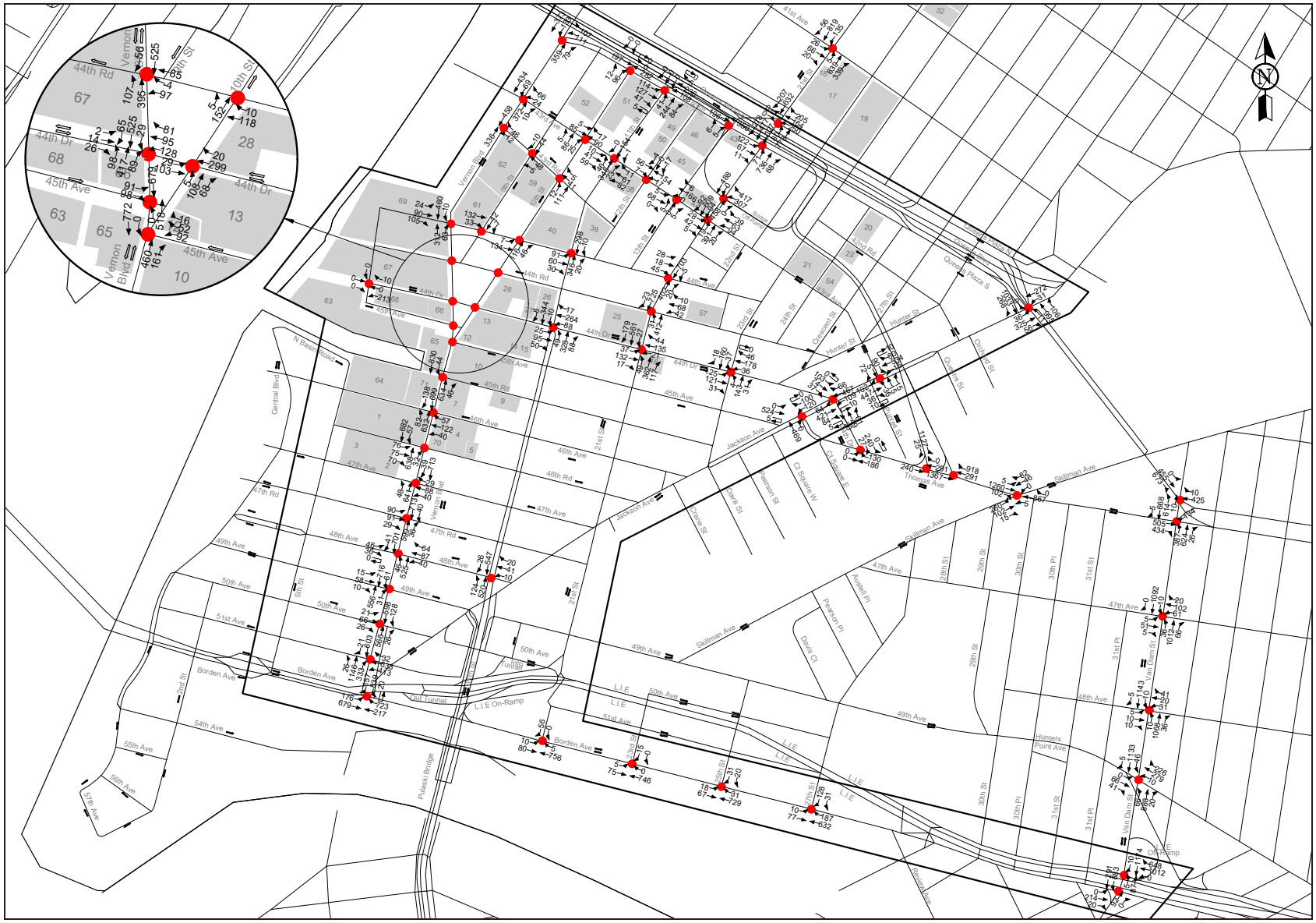
2 = Midday Peak Hour Volumes =Proposed Development Site =Traffic Study Area =Analyzed Intersection

With Action MD Traffic Volumes



With Action PM Traffic Volumes

Figure 14-8c



With Action SAT Traffic Volumes

Figure 14-8d

Table 14-23
With Action Conditions Traffic Analysis Results

Level of Service	Analysis Peak Hours			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Signalized Intersections				
Lane Groups at LOS A/B/C	86	109	86	104
Lane Groups at LOS D	25	31	29	34
Lane Groups at LOS E	9	12	11	15
Lane Groups at LOS F	60	32	58	31
Total	180	184	184	184
Lane Groups with v/c ≥ 0.9	74	52	76	52
Unsignalized Intersections				
Lane Groups at LOS A/B/C	47	45	41	46
Lane Groups at LOS D	2	2	2	4
Lane Groups at LOS E	3	0	2	0
Lane Groups at LOS F	7	8	10	5
Total	59	55	55	55
Lane Groups with v/c ≥ 0.9	6	6	8	4

Notes:
v/c ratio – Volume-to-capacity ratio
LOS – Level of service

The traffic impact analysis indicates the potential for significant adverse impacts at 44 intersections (35 signalized and nine unsignalized) during one or more analyzed peak hours. Significant adverse impacts were identified to 68 lane groups at 38 intersections during the weekday AM peak hour, 48 lane groups at 29 intersections in the weekday midday peak hour, 72 lane groups at 38 intersections in the weekday PM peak hour, and 47 lane groups at 28 intersections during the Saturday peak hour. Potential measures to mitigate the significant adverse traffic impacts identified in **Table 14-24** are discussed in Chapter 21, “Mitigation.”

Table 14-24
Summary of Impacted Lane Groups by Peak Hour

Intersections	With-Action Impact Locations (lane groups)[1] AM	MD	PM	SAT	No. of Impacted Peak Hours
Signalized Intersections					
1. 21st St & 41st Ave	2	0	4	2	3
3. 11th St & 43rd Ave	0	1	1	0	2
6. 21st St & 43rd Ave	3	1	2	0	3
7. Purves St/43rd Ave & Jackson Ave	1	1	1	1	4
13. 11th St & 44th Ave	1	1	1	0	3
14. 21st St & 44th Ave	0	0	0	0	0
16. Vernon Blvd & 44th Ave	2	1	0	0	2
18. 11th St & 44th Dr	4	4	5	3	4
19. 21st St & 44th Dr	3	1	2	2	4
20. 23rd St & 44th Dr	2	2	3	1	4
22. 44th Dr & Jackson Ave	1	0	0	0	1
23. Vernon Blvd & 44th Dr	5	4	4	3	4
26. Vernon Blvd & 44th Rd	2	1	2	1	4
30. Vernon Blvd & 46th Ave	2	2	2	2	4
31. Vernon Blvd & 46th Rd	2	2	2	2	4
32. Van Dam St & 47th Ave	1	0	0	0	1
33. Vernon Blvd & 47th Ave	2	2	2	2	4
34. Vernon Blvd & 47th Rd	2	2	2	2	4
35. 11th St & 48th Ave	1	1	2	1	4
37. Vernon Blvd & 48th Ave	3	3	3	3	4
38. Vernon Blvd & 49th Ave	1	0	1	1	3
39. Vernon Blvd & 50th Ave	1	1	1	1	4
40. Vernon Blvd & 51st Ave	3	3	3	3	4
41. Borden Ave & 21st St	1	0	1	0	2
43. Borden Ave & 25th St	0	0	2	0	1
45. Borden Ave & Vernon Blvd	3	3	3	3	4
47. Van Dam St & Hunters Point Ave	2	1	1	1	4
48. Van Dam St & Queens Blvd	1	0	0	0	1
49. Van Dam St & Thomson Ave	2	3	3	3	4
50. 21st St & Queensboro Bridge Off-Ramp	0	0	1	1	2
51. 21st St & Queens Plaza N	0	1	2	1	3
55. 11th St & Queens Plaza S	1	1	3	1	4
56. 21st St & Queens Plaza S	1	0	2	2	3
58. Thomson Ave & 44th Dr	1	0	0	0	1
62. Jackson Ave & Thomson Ave	2	0	1	0	2
63. Van Dam St & Borden Ave WB	2	0	0	1	2
Unsignalized Intersections					
4. 12th St & 43rd Ave	1	1	1	0	3
8. Vernon Blvd & 43rd Ave	0	1	1	0	2
12. 10th St & 44th Ave	1	1	1	1	4
15. 9th St & 44th Ave	0	0	1	0	1
17. 10th St & 44th Dr	2	1	2	1	4
27. Vernon Blvd & 45th Ave (EB)	1	1	1	1	4
28. Vernon Blvd & 45th Ave (WB)	1	1	1	1	4
29. Vernon Blvd & 45th Rd	1	0	1	0	2
44. Borden Ave & 27th St	1	0	1	0	2
Total Impacted Lane Groups	**68**	**48**	**72**	**47**	
Total Impacted Intersections	**38**	**29**	**38**	**28**	

[1] Number of lane groups that are impacted during the AM, MD, PM, and/or SAT peak hours.

H. TRANSIT

EXISTING CONDITIONS

SUBWAY SERVICE

Subway Stations

As discussed above in Section E, "Level 2 Screening Assessment," project-generated subway trips at the Court Square – 23rd Street (E/G/M/7), 21st Street – Queensbridge (F), and Queensboro Plaza (N/W/7) stations are expected to exceed the 200-trip *CEQR Technical Manual* analysis threshold in the weekday AM and/or PM peak hours.

Court Square – 23rd Street Subway Station Complex (E/G/M/7)

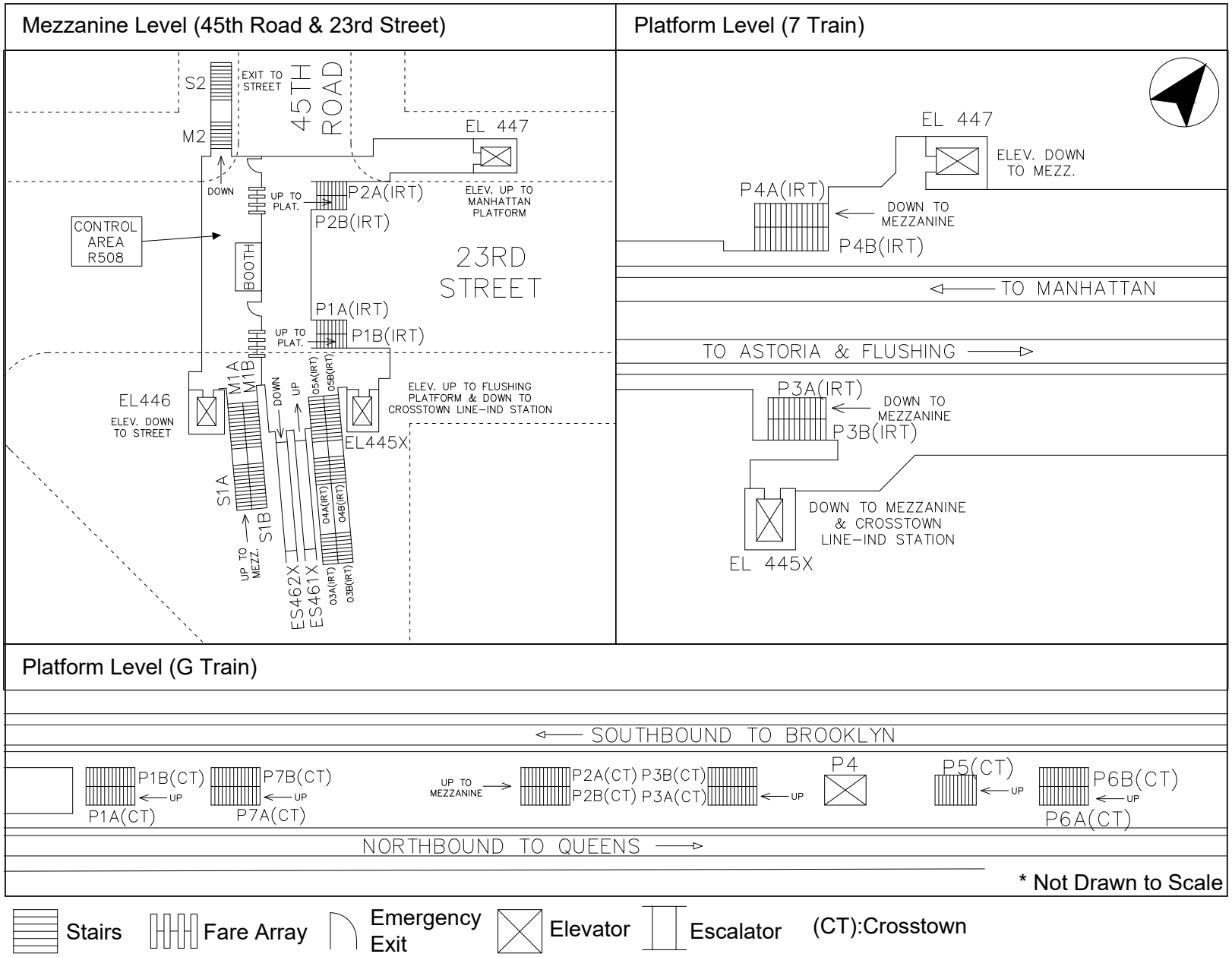
The Court Square – 23rd Street (E/G/M/7) subway station complex consists of the Court Square-23rd Street (E/M) station on the Queens Boulevard Line, the Court Square (G) station on the Crosstown Line, and the Court Square (7) station on the Flushing Line, which were originally three separate stations formerly known as the 23rd Street – Ely Avenue station, Long Island City – Court Square station, and the 45th Road – Court House Square station, respectively. All of these stations are located below-grade with the exception of the Court Square (7) station on the Flushing Line, which is located on an elevated structure. Refer to **Figures 14-9a and 14-9b** for the layout of the Court Square – 23rd Street subway station complex.

The Court Square (7) station on the Flushing Line consists of two tracks and two side platforms. Platform stair P1/P3 (IRT) and elevator EL445X provide access to the Flushing-bound 7 platform. Platform stair P2/P4 (IRT) and elevator EL447 provide access to the Manhattan-bound7 platform. These two stairs and elevators connect to the Flushing Line mezzanine level, which provides access to Control Area R508, consisting of a 24-hour fare booth and six turnstiles. Two street stairs (Stairs S1A/S1B/M1A/M1B and S2/M2) and one elevator (EL446) provide access from street level to Control Area R508. Stair S1A/S1B/M1A/M1B and elevator EL446 are located near the northeast corner of the intersection of 23rd Street and Jackson Avenue. Stair S2/M2 is located near the southwest corner of the intersection of 23rd Street and 45th Road.

The Flushing Line mezzanine level also provides connection to the Crosstown Line mezzanine level passageway via escalators ES461X and ES462X, elevator EL445X and stairs O3/O4/O5.

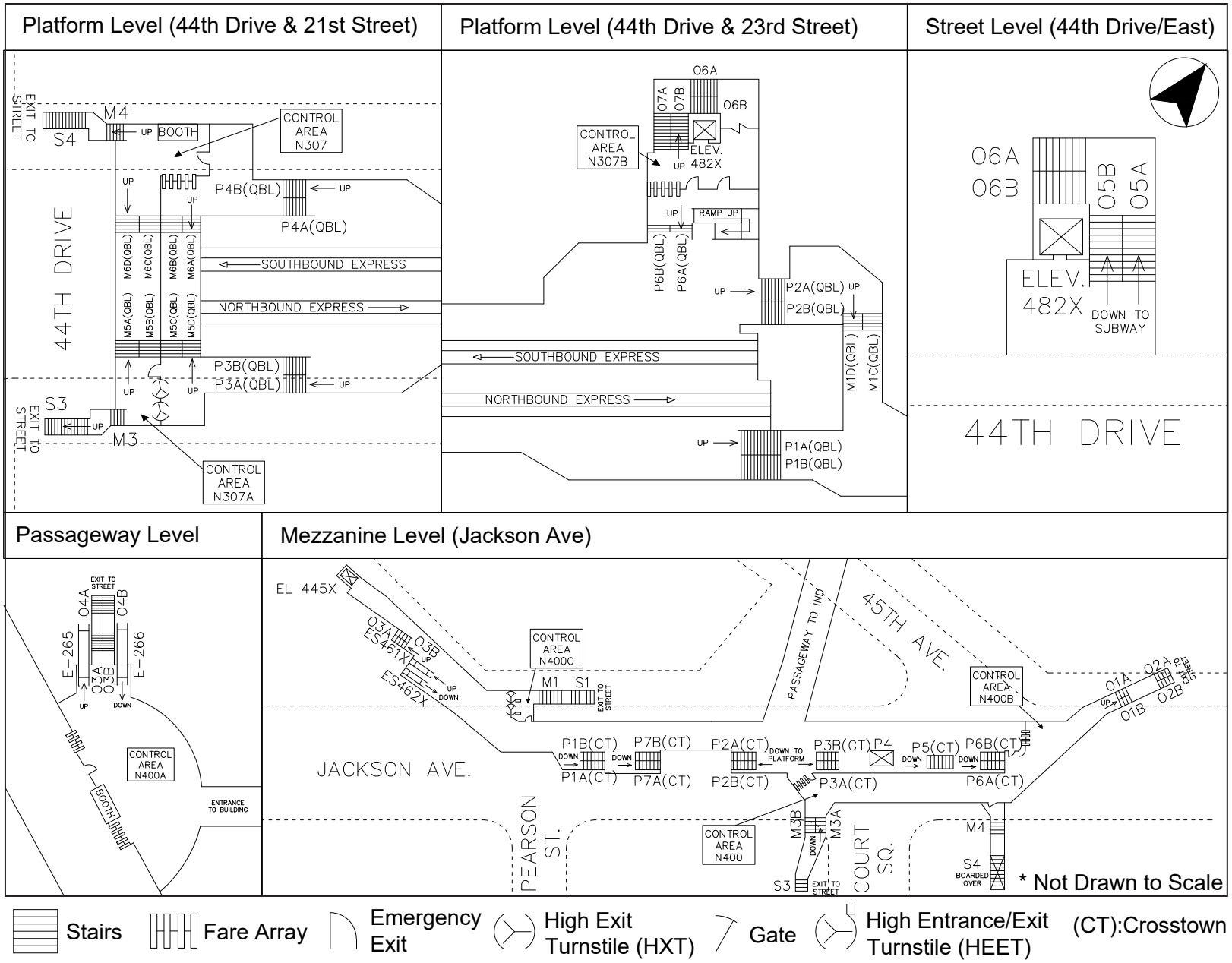
Platform stairs P1, P2, P3, P5, P6, and P7 (Crosstown) on the Crosstown Line connects Crosstown Line mezzanine level and the Crosstown Line platform. An elevator was installed in the center of the Crosstown Line platform to connect to the Crosstown Line mezzanine level in 2023, replacing a platform stair. The Crosstown Line platform has two tracks and one island platform and is to the northern terminus for the G train.

Two stairs provide access from street level to fare control areas on the Crosstown Line mezzanine level – S3/M3A/M3B and O1A/O1B/O2A/O2B. Stair S3/M3A/M3B is located near the southwest corner of the intersection of Court Square West at Jackson Avenue and leads to Control Area N400, consisting of three turnstiles. Stair O1A/O1B/O2A/O2B is located along the north sidewalk of Jackson Avenue between 45th Avenue and 44th Drive and leads to Control Area N400B, consisting of three turnstiles. Access to the



Court Square Station L2

Figure 14-9a



Court Square Station L1

Figure 14-9b

Crosstown Line mezzanine from the street is also provided by Control Area N400C, which consists of two high entry-exit turnstiles (HEETs). Street stair S1/M1 is located along the north sidewalk of Jackson Avenue between 23rd Street and 45th Avenue and provides access to Control Area N400C. However, it should be noted that no incremental trips are allocated to this staircase due to its intermediate positioning between staircases S1A/S1B/M1A/M1B, which serve the 7 train, and O1A/O1B, which serve the G train. Specifically, S1A/S1B/M1A/M1B are prioritized for sites located west of the Project Area, while O1A/O1B are assigned to sites located north of the Project Area.

The Crosstown Line mezzanine level also provides connection to the Queens Boulevard Line via a passageway to the Queens Boulevard Line (IND Passageway) near platform stairs P2 and P3 (Crosstown).

Located near the northwestern end of the IND Passageway is Control Area N400A, which consists of a 24-hour fare booth and seven turnstiles. Access between Control Area N400A and street level is provided by stair O3/O4 and escalators E265 and E266 as well as through the entrance to the Citi Corp building located at One Court Square.

Stairs P1 and P2/M1 (QBL) are located at the northwestern end of the IND Passageway and provides direct connection to the northbound (Queens-bound) platform and southbound (Manhattan-bound) platform on the Queens Boulevard Line, respectively. Half of stair P1 (QBL) is expected to be replaced by an ADA-accessible ramp by December 2025. The station is served by M trains on weekdays and E trains at all times and has two tracks and two island platforms. Access to the northbound Queens Boulevard Line platform is facilitated by stairs P1 and P3 (QBL). Access to the southbound Queens Boulevard Line platform is facilitated by stairs P2/M1, P4, and P6 (QBL).

At the eastern end of the southbound Queens Boulevard Line platform, stair P6 (QBL) and an accessible ramp provide access to Control Area N307B, consisting of four turnstiles. Access between Control Area N307B and street levels is provided by stair O5/O6/O7 and elevator EL482X near the northeast corner of the intersection of 23rd Street and 44th Drive.

Stairs P3 and P4 (QBL) provide access to Control Areas N307 and N307A, which are located on a mezzanine level at the western end of the Queens Boulevard Line platforms. Control Area N307 consists of a 24-hour fare booth and four turnstiles, and Control Area N307A consists of 2 HXTs. Mezzanine stairs M5(A, B)/M6(C,D) provides street stair S3 access to the turnstile entrances (Control Area N307). Mezzanine stairs M5 (C,D) and M6 (A,B) provide access between the northbound and southbound platforms. Access between these control areas and street levels is provided by stairs S3/M3 and S4/M4, which are located near the southeast and northeast corners of the intersection of 21st Street and 44th Drive, respectively.

As shown in **Tables 14-25 through 14-27**, all analyzed stairs, escalators, and fare arrays at the Court Square – 23rd Street subway station complex currently operate at an acceptable LOS C or better in both the AM and PM peak hours with the exception of stair P2/P4 (IRT), which currently operates at a LOS E in the AM peak hour and stair P1/P3 (IRT), which currently operates at a LOS E in the PM peak hour.

21st Street – Queensbridge Subway Station (F)

The 21st Street – Queensbridge subway station is located beneath 41st Avenue and consists of two side platforms serving the 63rd Street Line. The subway station is served at all times by the F train. Refer to **Figure 14-10** for the layout of the 21st Street – Queensbridge subway station.

As shown in **Figure 14-10**, access from the street is via fare Control Area N603, which is located at the intersection of 21st Street and 41st Avenue and contains a 24-hour fare booth and four turnstiles. Control Area N603 provides access to a mezzanine level near the end of the station via two street stairs (S1/M1 and S2/M2) on the northeast corner of the intersection and one elevator and two escalators (E421 and E422) on the northwest corner of the intersection. Access between the mezzanine and southbound (Manhattan-bound) platform levels is facilitated by platform stairs P2/P4 and escalators E423 and E424, while access between the mezzanine and northbound (Queens-bound) platform levels is facilitated by platform stairs P1/P3 and escalators E425 and E426. Access to both the northbound and southbound platforms is facilitated by a passenger overpass. In addition, elevator access to each platform is provided within the entire complex. This station underwent a refurbishment in 2023, track replacement in 2023 to 2024, and ongoing escalator replacement in 2025.

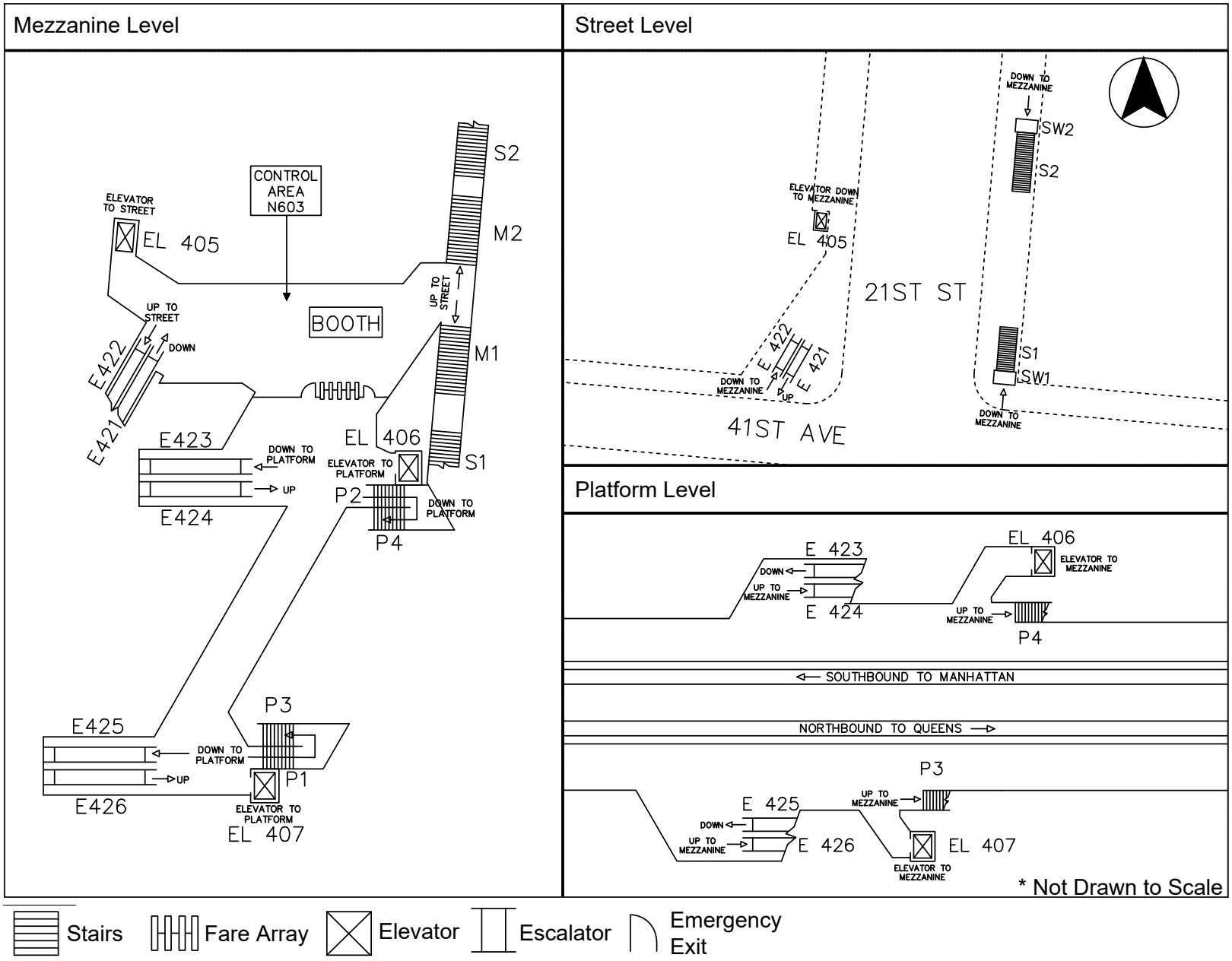
As shown in **Tables 14-25 through 14-27**, all analyzed stairs, escalators and fare arrays at the 21st Street – Queensbridge station currently operate at an acceptable LOS C or better in both the AM and PM peak hours.

Queensboro Plaza Subway Station (N/W/7)

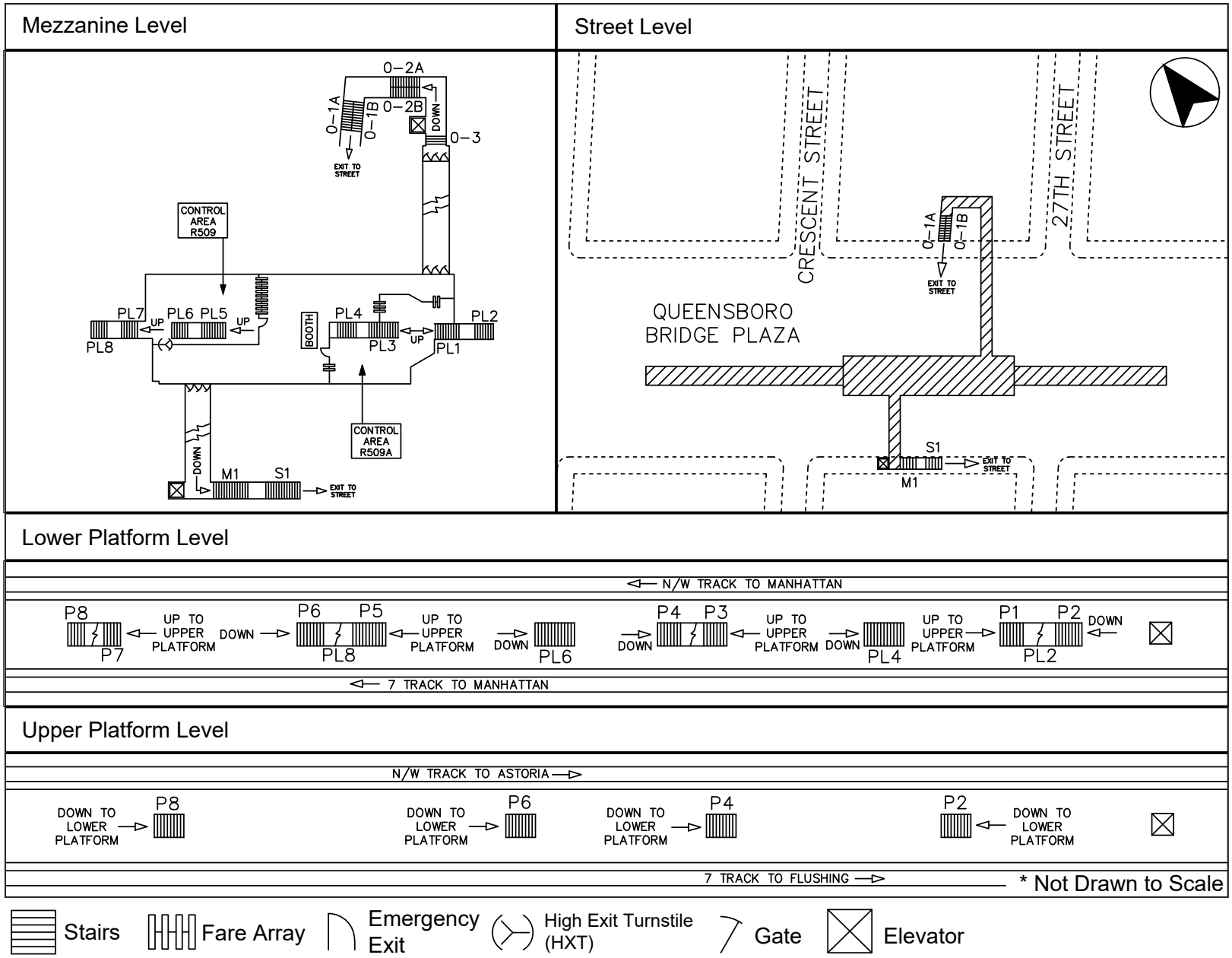
The Queensboro Plaza subway station is located on an elevated structure above the Queens Plaza and is served by to the N and W trains on the Astoria Line and the 7 train on the Flushing Line. Refer to **Figure 14-11** for the layout of the Queensboro Plaza subway station.

As shown in **Figure 14-11**, stairs S1/M1 are located on Queens Plaza South between Crescent Street and 27th Street, while stairs O-1/O-2/O-3 are located on Queens Plaza North near the northwest corner of the intersection of Queens Plaza North and 27th Street. These two street stairs (S1/M1 and O-1/O-2/O-3) provide access from street level to two fare control areas on a mezzanine level with a 24-hour fare booth – R509 and R509A. Control Area R509 consists of six turnstiles and one HXT and provides access to the lower platform via stairs PL5/PL6 and PL7/PL8. Control Area R509A consists of seven turnstiles and provides access from the lower platform via stairs PL1/PL2 and PL3/PL4. The lower platform provides access to the Manhattan-bound N, W, and No. 7 trains, which consists of an island platform and two tracks. Stairs P1/P2, P3/P4, P5/P6, and P7/P8 connects the lower platform to the upper platform. The upper platform provides access to the Astoria-bound N and W trains and the Flushing-bound No. 7 trains, which also consists of an island platform and two tracks. This station completed station upgrades in 2024, making the station fully accessible via elevator access between each platform, mezzanine, and the street.

As shown in **Tables 14-25 and 14-26**, all analyzed stairs and fare arrays at the Queensboro Plaza station currently operate at an acceptable LOS C or better in both the AM and PM peak hours with the exception of Stair S1/M1 that operates at a LOS D in the AM peak hour.



21st Street-Queensbridge (F) Subway Station Layout



Queensboro Plaza (NW7) Subway Station Existing Layout

Table 14-25a

Existing Conditions Subway Station Stair Analysis – AM Peak Hour

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
AM	21st St - Queensbridge (F)	S1/M1	6.00	5.00	301	58	0.80	1.00	0.90	0.20	A
		S2/M2	6.00	5.00	148	98	0.80	1.00	0.90	0.13	A
		P1/P3	5.50	4.50	38	23	0.75	1.00	0.90	0.04	A
		P2/P4	5.50	4.50	74	99	0.75	1.00	0.90	0.10	A
	Queensboro Plaza (N/W/7)	S1/M1	7.00	6.00	1,038	1,273	1.00	0.80	0.90	1.01	D
		PL1/PL2	7.00	6.00	157	371	0.80	0.75	0.90	0.27	A
		PL3/PL4	7.00	6.00	69	332	0.80	0.75	0.90	0.21	A
		PL5/PL6	7.00	6.00	873	308	0.80	0.75	0.90	0.58	B
		PL7/PL8	7.00	6.00	70	337	0.80	0.75	0.90	0.21	A
		P1/P2	7.00	6.00	412	116	1.00	0.75	0.90	0.22	A
		P3/P4	7.00	6.00	233	152	1.00	0.75	0.90	0.17	A
		P5/P6	7.00	6.00	262	235	1.00	0.75	0.90	0.22	A
		P7/P8	7.00	6.00	156	248	1.00	0.75	0.90	0.19	A
	Court Sq - 23rd St (E/G/M/7)	S1A/M1A/S1B/M1B	8.00	6.75	275	218	0.90	0.80	0.90	0.20	A
		P2A/P2B/M1C/M1D (QBL)	13.00	11.75	1,000	1,439	0.75	0.80	0.90	0.62	B
		S2/M2	5.50	4.50	372	419	0.90	0.80	0.90	0.48	B
		S3/M3	6.00	5.00	267	274	0.75	1.00	0.90	0.29	A
		S4/M4	6.00	5.00	435	212	0.75	1.00	0.90	0.37	A
		M5A/M5B/M6C/M6D (QBL)	13.50	12.25	298	23	0.80	1.00	0.90	0.07	A
		M5C/M5D/M6A/M6B (QBL)	13.50	12.25	79	117	0.80	1.00	0.90	0.04	A
		O1A/O2A/O1B/O2B	8.50	7.25	297	207	0.80	1.00	0.90	0.19	A
		O3A/O3B/O4A/O4B/ O5A/O5B (IRT)	8.00	6.75	91	586	0.80	0.80	0.90	0.29	A
		O5A/O5B/O6A/O6B/ O7A/O7B	11.00	9.75	167	604	0.80	1.00	0.90	0.19	A
		P1A/P1B (QBL)	15.50	14.50	473	509	0.75	0.80	0.90	0.20	A
		P3A/P3B (QBL)	13.00	11.75	288	63	0.75	1.00	0.90	0.09	A
		P4A/P4B (QBL)	13.00	11.75	439	414	0.75	1.00	0.90	0.20	A
		P6A/P6B (QBL)	11.00	9.75	167	604	0.80	1.00	0.90	0.19	A
		(IRT)	8.00	6.75	745	671	0.90	0.75	0.90	0.59	B
		P2A/P4A/P2B/P4B (IRT)	8.00	6.75	1,586	1,939	0.90	0.75	0.90	1.49	E
		P1A/P1B (Crosstown)	8.50	7.25	298	1,099	0.75	0.80	0.90	0.56	B
		P2A/P2B (Crosstown)	8.50	7.25	1,096	594	0.75	0.80	0.90	0.70	B
		P3A/P3B (Crosstown)	8.50	7.25	1,142	436	0.75	0.80	0.90	0.66	B
		P5 (Crosstown)	7.50	6.50	432	29	0.75	0.90	0.90	0.22	A
		P6A/P6B (Crosstown)	8.50	7.25	778	80	0.75	0.90	0.90	0.36	A
		P7A/P7B (Crosstown)	8.50	7.25	486	458	0.75	0.80	0.90	0.39	A

Note: Stairs O1/O2 (A,B) at Queensboro Plaza (N/W/7) subway station is under construction in the existing condition.

Table 14-25b
Existing Conditions Subway Station Stair Analysis – PM Peak Hour

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
PM	21st St - Queensbridge (F)	S1/M1	6.00	5.00	110	146	0.80	1.00	0.90	0.13	A
		S2/M2	6.00	5.00	229	87	0.80	1.00	0.90	0.17	A
		P1/P3	5.50	4.50	68	14	0.75	1.00	0.90	0.05	A
		P2/P4	5.50	4.50	22	21	0.75	1.00	0.90	0.03	A
	Queensboro Plaza (N/W/7)	S1/M1	7.00	6.00	770	1,078	1.00	0.80	0.90	0.82	C
		PL1/PL2	7.00	6.00	81	201	0.80	0.75	0.90	0.14	A
		PL3/PL4	7.00	6.00	66	344	0.80	0.75	0.90	0.21	A
		PL5/PL6	7.00	6.00	700	256	0.80	0.75	0.90	0.47	B
		PL7/PL8	7.00	6.00	31	351	0.80	0.75	0.90	0.20	A
		P1/P2	7.00	6.00	411	256	1.00	0.75	0.90	0.29	A
		P3/P4	7.00	6.00	273	314	1.00	0.75	0.90	0.27	A
		P5/P6	7.00	6.00	377	264	1.00	0.75	0.90	0.28	A
		P7/P8	7.00	6.00	80	404	1.00	0.75	0.90	0.24	A
	Court Sq - 23rd St (E/G/M/7)	S1A/M1A/S1B/M1B	8.00	6.75	162	331	0.90	0.80	0.90	0.20	A
		P2A/P2B/M1C/M1D (QBL)	13.00	11.75	533	684	0.75	0.80	0.90	0.31	A
		S2/M2	5.50	4.50	351	531	0.90	0.80	0.90	0.54	B
		S3/M3	6.00	5.00	342	180	0.75	1.00	0.90	0.29	A
		S4/M4	6.00	5.00	145	358	0.75	1.00	0.90	0.25	A
		M5A/M5B/M6C/M6D (QBL)	13.50	12.25	195	12	0.80	1.00	0.90	0.05	A
		M5C/M5D/M6A/M6B (QBL)	13.50	12.25	70	243	0.80	1.00	0.90	0.06	A
		O1A/O2A/O1B/O2B	8.50	7.25	158	292	0.80	1.00	0.90	0.16	A
		O3A/O3B/O4A/O4B/ O5A/O5B (IRT)	8.00	6.75	164	493	0.80	0.80	0.90	0.28	A
		O5A/O5B/O6A/O6B/ O7A/O7B	11.00	9.75	224	307	0.80	1.00	0.90	0.14	A
		P1A/P1B (QBL)	15.50	14.50	2,846	1,412	0.75	0.80	0.90	0.89	C
		P3A/P3B (QBL)	13.00	11.75	402	230	0.75	1.00	0.90	0.15	A
		P4A/P4B (QBL)	13.00	11.75	103	299	0.75	1.00	0.90	0.09	A
		P6A/P6B (QBL)	11.00	9.75	224	307	0.80	1.00	0.90	0.14	A
		P1A/P3A/P1B/P3B (IRT)	8.00	6.75	2,150	1,718	0.90	0.75	0.90	1.61	E
		P2A/P4A/P2B/P4B (IRT)	8.00	6.75	624	757	0.90	0.75	0.90	0.58	B
		P1A/P1B (Crosstown)	8.50	7.25	363	1,090	0.75	0.80	0.90	0.59	B
		P2A/P2B (Crosstown)	8.50	7.25	680	892	0.75	0.80	0.90	0.65	B
		P3A/P3B (Crosstown)	8.50	7.25	879	850	0.75	0.80	0.90	0.71	C
		P5 (Crosstown)	7.50	6.50	247	32	0.75	0.90	0.90	0.13	A
		P6A/P6B (Crosstown)	8.50	7.25	399	139	0.75	0.90	0.90	0.22	A
		P7A/P7B (Crosstown)	8.50	7.25	422	157	0.75	0.80	0.90	0.24	A

Note: Stairs O1/O2 (A,B) at Queensboro Plaza (N/W/7) subway station is under construction in the existing condition.

Table 14-26
Existing Conditions Subway Station Fare Array Analysis

Peak Hour	Station	Control Area	Control Elements			Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits			
AM	21st St - Queensbridge (F)	N603	4	0	0	497	1,319	1.00	0.75	0.90	0.34	A
	Queensboro Plaza (N/W/7)	R509	6	0	1	943	645	1.00	0.75	0.90	0.20	A
		R509A	7	0	0	0	703	1.00	0.75	1.00	0.06	A
	Court Sq - 23rd St (E/G/M/7)	N307	4	0	0	486	458	1.00	0.75	0.90	0.18	A
		N307A	0	0	2	0	244	1.00	0.75	1.00	0.09	A
		N307B	4	0	0	604	167	1.00	0.75	0.90	0.15	A
		N400B	3	0	0	207	297	1.00	0.75	0.90	0.13	A
		R508	6	0	0	647	637	1.00	0.75	0.90	0.17	A
PM	21st St - Queensbridge (F)	N603	4	0	0	872	823	1.00	0.75	0.90	0.33	A
	Queensboro Plaza (N/W/7)	R509	6	0	1	731	607	1.00	0.75	0.90	0.16	A
		R509A	7	0	0	0	545	1.00	0.75	1.00	0.05	A
	Court Sq - 23rd St (E/G/M/7)	N307	4	0	0	422	157	1.00	0.75	0.90	0.12	A
		N307A	0	0	2	0	330	1.00	0.75	1.00	0.12	A
		N307B	4	0	0	307	224	1.00	0.75	0.90	0.10	A
		N400B	3	0	0	292	158	1.00	0.75	0.90	0.12	A
		R508	6	0	0	513	862	1.00	0.75	0.90	0.17	A

Table 14-27
Existing Conditions Subway Station Escalator Analysis

Peak Period	Station	Escalator	Tread Width	Feet per Minute	Guideline Capacity	Peak Hour Volumes	Surging Factor	V/C Ratio	LOS
AM	21st St - Queensbridge (F)	E-421 (Down)	24"	90	480	341	0.80	0.28	A
		E-422 (Up)	24"	90	480	870	0.75	0.76	C
		E-423 (Down)	40"	90	945	641	0.75	0.28	A
		E-424 (Up)	40"	90	945	409	0.75	0.18	A
		E-425 (Down)	40"	90	945	236	0.75	0.10	A
		E-426 (Up)	40"	90	945	285	0.75	0.13	A
	Court Sq - 23rd St (E/G/M/7)	E-461X (Up)	40"	100	1,050	1,230	0.75	0.49	B
		E-462X (Down)	40"	100	1,050	851	0.80	0.32	A
PM	21st St - Queensbridge (F)	E-421 (Down)	24"	90	480	639	0.80	0.52	B
		E-422 (Up)	24"	90	480	484	0.75	0.42	A
		E-423 (Down)	40"	90	945	359	0.75	0.16	A
		E-424 (Up)	40"	90	945	198	0.75	0.09	A
		E-425 (Down)	40"	90	945	318	0.75	0.14	A
		E-426 (Up)	40"	90	945	525	0.75	0.23	A
	Court Sq - 23rd St (E/G/M/7)	E-461X (Up)	40"	100	1,050	1,725	0.75	0.68	B
		E-462X (Down)	40"	100	1,050	1,422	0.80	0.53	B

Subway Line Haul

Line haul is the volume of transit riders passing a defined point on a given transit route. For subway routes in New York City to and from Queens, line haul is typically measured either at East River bridge and tunnel crossings, or at the actual maximum load point on each subway route (the point where the trains carry the greatest number of passengers during the peak hour).

As discussed previously, a total of seven NYCT subway routes operate in proximity to the Project Area, including the E, G, F, M, N, W, and 7. All of these routes cross the East River, with the exception of the G train (which travels between Brooklyn and Queens and does not enter Manhattan). The peak direction of travel is typically Manhattan-bound in the AM peak period and Queens-bound in the PM. For the G train, the peak direction of travel in Queens is typically Brooklyn-bound during the AM peak hour and Queens-bound during the PM peak hour.

The analysis of existing subway line haul conditions is based on maximum load point capacity and ridership data for 2019 provided by NYCT. **Table 14-28** shows existing line haul conditions in the peak direction at the maximum load points for each subway route during the AM and PM peak hours. As shown in **Table 14-28**, all routes currently operate below capacity in the peak direction in both periods with the exception of two routes in the AM peak hour and one route in the PM peak hour. In the AM peak hour, southbound E and G trains operate at or over capacity with a v/c ratio of 1.04 and 1.00, respectively. In the PM peak hour, northbound G trains operate over capacity with a v/c ratio of 1.01.

Table 14-28
Existing Conditions Subway Line Haul Analysis

Peak Period	Route	Direction	Maximum Load Point (leaving station)	Average Trains per Hour [1][2]	Average Cars Per Hour per Train	Average Passengers per Hour [1][2]	Average Passengers per Car [1][2]	Guideline Passengers per Car [3]	V/C Ratio [4]
AM	7 (combined)	SB	Vernon Blvd - Jackson Av	23.6	11	25,651	99	110	0.90
	E	SB	Court Sq	14.4	10	21,743	151	145	1.04
	F	SB	Roosevelt Island	13.2	10	17,805	135	145	0.93
	G	SB	Clinton - Washington Avs	8.6	5	4,944	115	115	1.00
	M	SB	Court Sq	9.2	8	7,650	104	145	0.72
	N/W [5]	SB	Queensboro Plaza	13.9	8	19,343	173	175	0.99
PM	7 (combined)	NB	Queensboro Plaza	28.0	11	22,991	75	110	0.68
	E	NB	Lexington Av - 53 St	13.5	10	13,633	101	145	0.70
	F	NB	Lexington Av - 63 St	14.4	10	14,606	101	145	0.70
	G	NB	Fulton St	8.1	5	4,697	116	115	1.01
	M	NB	Jackson Hts - Roosevelt Av	7.5	8	5,213	87	145	0.60
	N/W [5]	NB	Lexington Av - 59 St	13.6	8	15,194	140	175	0.80

Notes:

(1) AM data is based on a 3-year average of pre-pandemic ridership and train throughput data from NYCT.

(2) PM data is based on 2017-18 ridership and 2019 train throughput data from NYCT.

(3) Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service.

(4) Volume to guideline capacity ratio.

(5) Per NYCT guidance, the N and W routes are analyzed as a combined service.

BUS SERVICE

The Project Area is served by a total of 12 local bus routes, three operated by NYCT and nine operated by MTA Bus. The bus routes operating in proximity to the Project Area are shown in **Figure 14-2** and listed in **Table 14-13**.

As shown in **Table 14-14**, six bus routes are expected to potentially experience 50 or more new trips in one direction in one or both peak hours and are therefore analyzed in this EIS—the B32 and Q32 operated by NYCT and the Q60, Q66, Q69, and Q103 operated by MTA Bus. Service on these local routes is provided by 40-foot standard buses. **Table 14-29** shows the existing number of buses and ridership at the maximum load point in each direction for both services in the weekday AM and PM peak hours. As shown in **Table 14-29**, based on MTA loading guidelines, all analyzed bus routes currently operate with available capacity in each direction during the weekday AM and PM peak hours.

Table 14-29
Existing Conditions Local Bus Analysis

Peak Hour	Route	Direction	Maximum Load Point	Peak Hour Buses[1]	Peak Hour Passengers[1]	Average Passengers per Bus	Available Capacity[2]
AM	B32	NB	McGuinness Blvd/Freeman St	3	73	24	89
		SB	Franklin St/India St	2	48	24	60
	Q32	EB	Madison Av/E 34 St	6	76	13	248
		WB	82 St/37 Av	6	185	31	139
	Q60	EB	Queens Blvd/51 Av	6	116	19	208
		WB	Queens Blvd/58 St	7	264	38	114
	Q66	EB	Northern Blvd/108 St	15	561	37	249
		WB	Northern Blvd/78 St	18	700	39	272
	Q69	NB	21 St/40 Av	10	314	31	226
		SB	21 St/37 Av	11	387	35	207
	Q103	NB	21 St/41 Av	3	75	25	87
		SB	Vernon Blvd/36 Av	5	125	25	145
PM	B32	EB	Kent Av/N 9 St	2	30	15	78
		WB	11 St/Jackson Av	2	27	14	81
	Q32	EB	Queens Plaza South/28 St	8	207	26	225
		WB	Roosevelt Av/69 St	7	107	15	271
	Q60	EB	Queens Blvd/46 St	8	237	30	195
		WB	Queens Blvd/Van Loon St	7	174	25	204
	Q66	EB	Northern Blvd/54 St	10	409	41	131
		WB	Main St/Northern Blvd	8	292	37	140
	Q69	NB	21 St/40 Av	8	255	32	177
		SB	21 St/37 Av	8	217	27	215
	Q103	NB	40 Av/12 St	3	77	26	85
		SB	Vernon Blvd/38 Av	3	73	24	89

Notes:
[1] Based on NYCT 2024 ridership data.
[2] Available capacity based on MTA loading guidelines of 54 passengers per standard bus.

CITYWIDE FERRY SERVICE

Citywide Ferry Line Haul

Line haul is the volume of transit riders passing a defined point on a given transit route. For ferry routes in New York City to and from Queens, line haul is measured at the actual maximum load point on each ferry route (the point where the ferry carries the greatest number of passengers during the peak hour).

The Astoria route operates between Wall Street and East 90th Street in proximity to the Project Area. The peak direction of travel is typically Manhattan-bound in the AM peak period and Queens-bound in the PM.

The analysis of existing Citywide ferry line haul conditions is based on maximum load point capacity and ridership data for September 2024 provided by EDC. **Tables 14-30a and 14-30b** show existing line haul conditions in the peak direction for the Astoria route during the AM and PM peak hours at the maximum load points and ferry departure points, respectively. As shown in **Tables 14-30a and 14-30b**, the Astoria route currently operates below capacity in the peak direction in both periods at the maximum load point and ferry departure point. In addition, the point of departure and maximum peak load point are the same during the AM peak hour in the southbound direction.

Table 14-30a
Existing Conditions Citywide Ferry Line Haul Analysis – Maximum Peak Load Point

Peak Period	Route	Direction	Segment	Average Boats per Hour (1)	Average Capacity per Boat (3)	Passenger Volume at Peak Hour (2)	Passenger Volume per Boat at Peak Hour	V/C Ratio (4)
AM	Astoria	NB	Astoria-East 90th Street	1.6	299	123	77	0.26
		SB	Long Island City - East 34th Street	1.6	299	317	199	0.67
PM	Astoria	NB	East 34th Street - Long Island City	1.5	299	228	152	0.51
		SB	Long Island City - East 34th Street	1.5	299	125	84	0.28

Notes:

(1) Based on September 2024 ferry service schedule from EDC, which operates with a 38-minute headway during the AM peak hour per direction and a 39-minute headway during the PM peak hour per direction.

(2) Based on average weekday September 2024 ridership data from EDC.

(3) Guideline capacities are based on data from EDC. The Astoria route typically operates with 299 passenger capacity vessels in September.

(4) Volume to guideline capacity ratio.

Table 14-30b
Existing Conditions Citywide Ferry Line Haul Analysis – Point of Departure from the Long Island City Ferry Landing

Peak Period	Route	Direction	Segment	Average Boats per Hour (1)	Average Capacity per Boat (3)	Passenger Volume at Peak Hour (2)	Passenger Volume per Boat at Peak Hour	V/C Ratio (4)
AM	Astoria	NB	Long Island City-Roosevelt Island	1.6	299	24	15	0.05
		SB	Long Island City-East 34th Street	1.6	299	317	199	0.67
PM	Astoria	NB	Long Island City-Roosevelt Island	1.5	299	175	117	0.39
		SB	Long Island City-East 34th Street	1.5	299	125	84	0.28

Notes:

(1) Based on September 2024 ferry service schedule from EDC, which operates with a 38-minute headway during the AM peak hour per direction and a 39-minute headway during the PM peak hour per direction.

(2) Based on average weekday September 2024 ridership data from EDC.

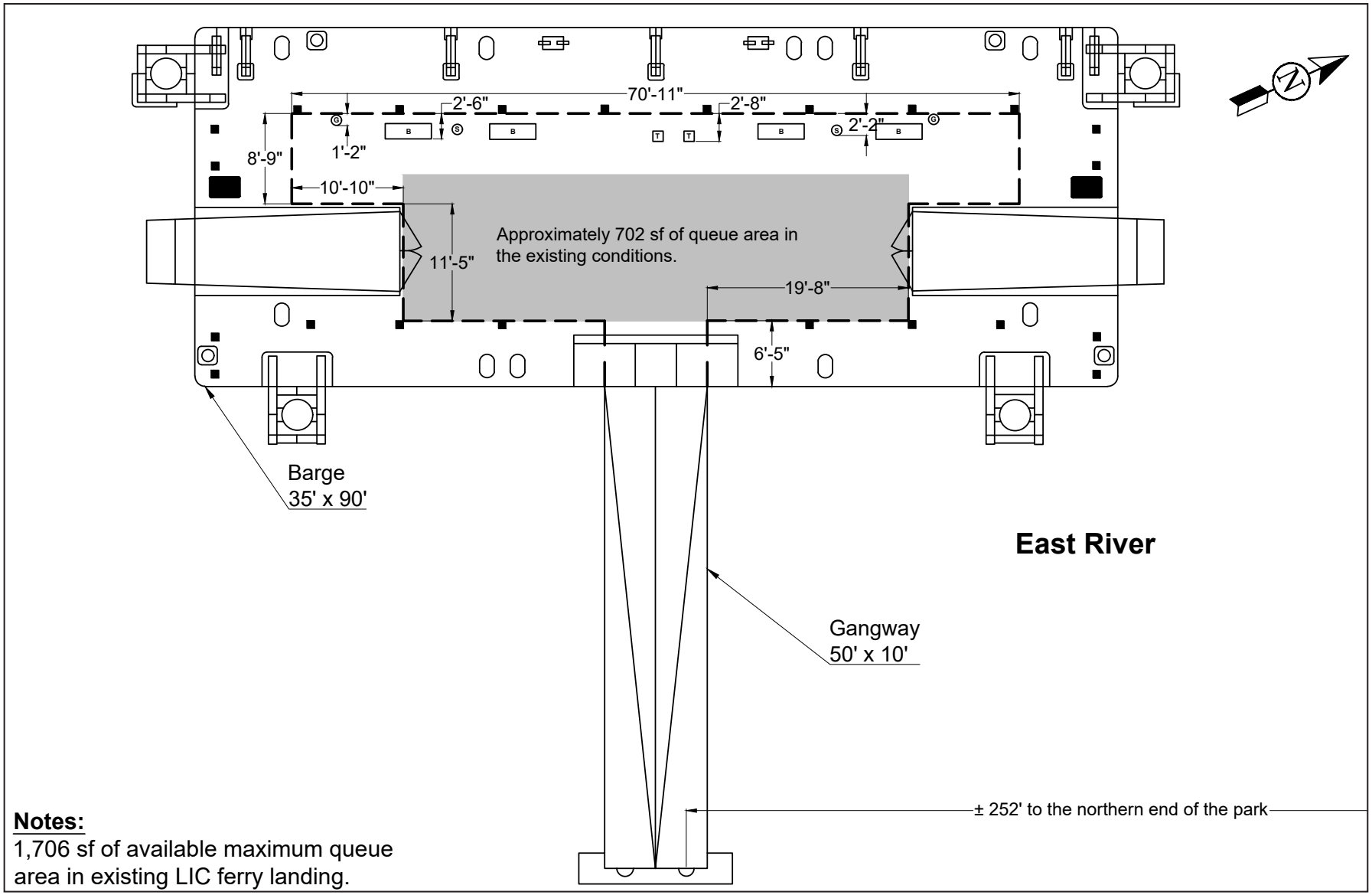
(3) Guideline capacities are based on data from EDC. The Astoria route typically operates with 299 passenger capacity vessels in September.

(4) Volume to guideline capacity ratio.

Citywide Ferry Landing

As discussed above in Section E, "Level 2 Screening Assessment," all project-generated ferry trips were assigned to Long Island City landing. The Long Island City ferry landing is located in northern portion of the Gantry Plaza State Park esplanade near the intersection of Center Boulevard at 46th Avenue and provides connections to the Q103 buses. As shown in **Figure 14-12**, the Long Island City ferry landing has a 35-by-90-foot barge with a 50-by-10-foot gangway connected to the Gantry Plaza State Park esplanade. The ferry landing also contains two gangways, one on each side of the landing to connect to the ferries. The waiting area in the Long Island City ferry landing is approximately 1,706 square feet and contains four benches.

The analysis of existing Citywide ferry landing conditions is based on the configuration of the ferry landing's waiting area and boarding data at the ferry landing for September 2024 provided by EDC. **Table 14-31** show ferry landing conditions at the Long Island City ferry landing during the AM and PM peak hours. As shown in **Table 14-31**, the Long Island City ferry landing currently operates below capacity in both periods.



Existing Conditions
Ferry Landing

Figure 14-12

Table 14-31
Existing Conditions Citywide Ferry Landing Analysis

Peak Period	Ferry Landing	Direction	Average Boat Per Hour (1)	Average Queue Per Boat (2)	Average Queue Area (sf) (3)	Landing Area (sf) (4)	V/C Ratio (5)
AM	Long Island City	Total	3.2	88	702	1,706	0.41
PM	Long Island City	Total	3.0	35	284	1,706	0.17

Notes:
(1) Based on September 2024 ferry service schedule from EDC, which operates with a 38-minute headway during the AM peak hour per direction and a 39-minute headway during the PM peak hour per direction.
(2) Based on average weekday September 2024 ridership data from EDC.
(3) Eight square feet are required for each queued person per *CEQR Technical Manual* guidance.
(4) Based on the as-builts from EDC for the Long Island City landing, which has a 35 ft by 90 ft barge and 50 ft by 10 ft gangway. Excludes the obstructions in the landing area (e.g. signs, garbage cans, and ticket machines)
(5) Volume to guideline capacity ratio.

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

Between existing conditions and 2035, it is expected that subway, bus, and ferry demands in the vicinity of the Project Area will increase due to long-term background growth as well as development that could occur pursuant to existing zoning. In order to forecast future transit conditions without the Proposed Actions (the No Action condition), development on projected development sites and developments listed in Table 2-13A in Chapter 2, "Land Use, Zoning, and Public Policy," were considered.

SUBWAY SERVICE

Subway Stations

The No Action condition subway station volumes reflect annual background growth rates of 0.25 percent per year for the 2019 through 2024 period and 0.125 percent for the 2025 through 2035 period. These background growth rates, recommended in the *CEQR Technical Manual* for projects in Long Island City, are applied to account for smaller projects and as-of-right developments not reflected in Table 2-13A and general increases in travel demand not attributable to specific development projects.

Under No Action conditions, demand at all analyzed subway stations is expected to increase as a result of new development and/or background growth. The results of the analysis of No Action AM and PM peak hour conditions at the Court Square – 23rd Street (E/G/M/7), 21st Street – Queensbridge (F), and Queensboro Plaza (N/W/7) station are shown in **Tables 14-32 through 14-34** and discussed below.

Table 14-32a

No Action Condition Subway Station Stair Analysis – AM Peak Hour

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
AM	21st St - Queensbridge (F)	S1/M1	6.00	5.00	672	214	0.80	1.00	0.90	0.49	B
		S2/M2	6.00	5.00	196	106	0.80	1.00	0.90	0.16	A
		P1/P3	5.50	4.50	55	49	0.75	1.00	0.90	0.06	A
		P2/P4	5.50	4.50	141	107	0.75	1.00	0.90	0.15	A
	Queensboro Plaza (N/W/7)	S1/M1	7.00	6.00	764	745	1.00	0.80	0.90	0.65	B
		PL1/PL2	7.00	6.00	273	486	0.80	0.75	0.90	0.38	A
		PL3/PL4	7.00	6.00	181	447	0.80	0.75	0.90	0.32	A
		PL5/PL6	7.00	6.00	1,002	422	0.80	0.75	0.90	0.70	B
		PL7/PL8	7.00	6.00	184	452	0.80	0.75	0.90	0.32	A
		P1/P2	7.00	6.00	510	140	1.00	0.75	0.90	0.27	A
		P3/P4	7.00	6.00	327	176	1.00	0.75	0.90	0.22	A
		P5/P6	7.00	6.00	356	261	1.00	0.75	0.90	0.27	A
		P7/P8	7.00	6.00	248	274	1.00	0.75	0.90	0.24	A
		O-1/O-2(A,B)	7.00	6.00	742	985	1.00	0.80	0.90	0.76	C
	Court Sq - 23rd St (E/G/M/7)	S1A/M1A/S1B/M1B	8.00	6.75	294	210	0.90	0.80	0.90	0.20	A
		P2A/P2B/M1C/M1D (QBL)	13.00	11.75	1,220	1,882	0.75	0.80	0.90	0.78	C
		S2/M2	5.50	4.50	581	500	0.90	0.80	0.90	0.65	B
		S3/M3	6.00	5.00	345	605	0.75	1.00	0.90	0.49	B
		S4/M4	6.00	5.00	540	579	0.75	1.00	0.90	0.60	B
		M5A/M5B/M6C/M6D (QBL)	13.50	12.25	629	81	0.80	1.00	0.90	0.16	A
		M5C/M5D/M6A/M6B (QBL)	13.50	12.25	632	138	0.80	1.00	0.90	0.18	A
		O1A/O2A/O1B/O2B	8.50	7.25	320	275	0.80	1.00	0.90	0.22	A
		O3A/O3B/O4A/O4B/O5A/O5B (IRT)	8.00	6.75	162	618	0.80	0.80	0.90	0.33	A
		O5A/O5B/O6A/O6B/O7A/O7B	11.00	9.75	289	938	0.80	1.00	0.90	0.31	A
		P1A/P1B (QBL)	9.00	7.75	369	795	0.75	0.80	0.90	0.44	A
		P3A/P3B (QBL)	13.00	11.75	327	615	0.75	1.00	0.90	0.21	A
		P4A/P4B (QBL)	13.00	11.75	583	560	0.75	1.00	0.90	0.26	A
		P6A/P6B (QBL)	11.00	9.75	289	938	0.80	1.00	0.90	0.31	A
		P1A/P3A/P1B/P3B (IRT)	8.00	6.75	1,291	723	0.90	0.75	0.90	0.82	C
		P2A/P4A/P2B/P4B (IRT)	8.00	6.75	1,750	2,129	0.90	0.75	0.90	1.64	E
		P1A/P1B (Crosstown)	8.50	7.25	310	1,141	0.75	0.80	0.90	0.59	B
		P2A/P2B (Crosstown)	8.50	7.25	1,124	626	0.75	0.80	0.90	0.73	C
		P3A/P3B (Crosstown)	8.50	7.25	1,171	465	0.75	0.80	0.90	0.68	B
		P5 (Crosstown)	7.50	6.50	447	50	0.75	0.90	0.90	0.23	A
		P6A/P6B (Crosstown)	8.50	7.25	800	102	0.75	0.90	0.90	0.38	A
		P7A/P7B (Crosstown)	8.50	7.25	502	487	0.75	0.80	0.90	0.41	A

Note: Assumes the construction at stair O1/O2 (A,B) at Queensboro Plaza (N/W/7) subway station is completed by 2035 and the total stair width is the same as stair S1/M1.

Table 14-32b
No Action Condition Subway Station Stair Analysis – PM Peak Hour

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
PM	21st St - Queensbridge (F)	S1/M1	6.00	5.00	249	479	0.80	1.00	0.90	0.37	A
		S2/M2	6.00	5.00	241	138	0.80	1.00	0.90	0.20	A
		P1/P3	5.50	4.50	74	75	0.75	1.00	0.90	0.09	A
		P2/P4	5.50	4.50	45	36	0.75	1.00	0.90	0.05	A
	Queensboro Plaza (N/W/7)	S1/M1	7.00	6.00	528	734	1.00	0.80	0.90	0.56	B
		PL1/PL2	7.00	6.00	196	293	0.80	0.75	0.90	0.25	A
		PL3/PL4	7.00	6.00	180	441	0.80	0.75	0.90	0.31	A
		PL5/PL6	7.00	6.00	827	351	0.80	0.75	0.90	0.58	B
		PL7/PL8	7.00	6.00	145	448	0.80	0.75	0.90	0.30	A
		P1/P2	7.00	6.00	510	278	1.00	0.75	0.90	0.34	A
		P3/P4	7.00	6.00	369	338	1.00	0.75	0.90	0.32	A
		P5/P6	7.00	6.00	475	287	1.00	0.75	0.90	0.33	A
		P7/P8	7.00	6.00	173	429	1.00	0.75	0.90	0.29	A
		O-1/O-2(A,B)	7.00	6.00	710	724	1.00	0.80	0.90	0.62	B
	Court Sq - 23rd St (E/G/M/7)	S1A/M1A/S1B/M1B	8.00	6.75	158	348	0.90	0.80	0.90	0.21	A
		P2A/P2B/M1C/M1D (QBL)	13.00	11.75	1,087	912	0.75	0.80	0.90	0.51	B
		S2/M2	5.50	4.50	468	701	0.90	0.80	0.90	0.72	C
		S3/M3	6.00	5.00	594	325	0.75	1.00	0.90	0.52	B
		S4/M4	6.00	5.00	421	533	0.75	1.00	0.90	0.51	B
		M5A/M5B/M6C/M6D (QBL)	13.50	12.25	340	208	0.80	1.00	0.90	0.12	A
		M5C/M5D/M6A/M6B (QBL)	13.50	12.25	319	303	0.80	1.00	0.90	0.13	A
		O1A/O2A/O1B/O2B	8.50	7.25	211	325	0.80	1.00	0.90	0.19	A
		O3A/O3B/O4A/O4B/O5A/O5B (IRT)	8.00	6.75	203	561	0.80	0.80	0.90	0.33	A
		O5A/O5B/O6A/O6B/O7A/O7B	11.00	9.75	472	485	0.80	1.00	0.90	0.26	A
		P1A/P1B (QBL)	9.00	7.75	2,113	1,207	0.75	0.80	0.90	1.29	D
		P3A/P3B (QBL)	13.00	11.75	514	483	0.75	1.00	0.90	0.23	A
		P4A/P4B (QBL)	13.00	11.75	520	367	0.75	1.00	0.90	0.21	A
		P6A/P6B (QBL)	11.00	9.75	472	485	0.80	1.00	0.90	0.26	A
		P1A/P3A/P1B/P3B (IRT)	8.00	6.75	2,479	1,868	0.90	0.75	0.90	1.8	F
		P2A/P4A/P2B/P4B (IRT)	8.00	6.75	709	1,232	0.90	0.75	0.90	0.83	C
		P1A/P1B (Crosstown)	8.50	7.25	390	1,124	0.75	0.80	0.90	0.61	B
		P2A/P2B (Crosstown)	8.50	7.25	714	922	0.75	0.80	0.90	0.67	B
		P3A/P3B (Crosstown)	8.50	7.25	917	879	0.75	0.80	0.90	0.74	C
		P5 (Crosstown)	7.50	6.50	272	45	0.75	0.90	0.90	0.15	A
		P6A/P6B (Crosstown)	8.50	7.25	427	154	0.75	0.90	0.90	0.24	A
		P7A/P7B (Crosstown)	8.50	7.25	451	172	0.75	0.80	0.90	0.26	A

Note: Assumes the construction at stair O1/O2 (A,B) at Queensboro Plaza (N/W/7) subway station is completed by 2035 and the total stair width is the same as stair S1/M1.

Table 14-33
No Action Condition Subway Station Fare Array Analysis

Peak Hour	Station	Control Area	Control Elements			Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits			
AM	21st St - Queensbridge (F)	N603	4	0	0	829	2,164	1.00	0.75	0.90	0.56	B
	Queensboro Plaza (N/W/7)	R509	6	0	1	1,186	874	1.00	0.75	0.90	0.25	A
		R509A	7	0	0	224	933	1.00	0.75	0.90	0.12	A
	Court Sq - 23rd St (E/G/M/7)	N307	4	0	0	1,184	621	1.00	0.75	0.90	0.36	A
		N307A	0	0	2	0	264	1.00	0.75	1.00	0.10	A
		N307B	4	0	0	938	289	1.00	0.75	0.90	0.25	A
		N400B	3	0	0	275	320	1.00	0.75	0.90	0.15	A
		R508	6	0	0	874	711	1.00	0.75	0.90	0.21	A
PM	21st St - Queensbridge (F)	N603	4	0	0	1,648	1,127	1.00	0.75	0.90	0.54	B
	Queensboro Plaza (N/W/7)	R509	6	0	1	972	797	1.00	0.75	0.90	0.22	A
		R509A	7	0	0	226	736	1.00	0.75	0.90	0.10	A
	Court Sq - 23rd St (E/G/M/7)	N307	4	0	0	740	629	1.00	0.75	0.90	0.27	A
		N307A	0	0	2	0	386	1.00	0.75	1.00	0.15	A
		N307B	4	0	0	485	472	1.00	0.75	0.90	0.19	A
		N400B	3	0	0	325	211	1.00	0.75	0.90	0.14	A
		R508	6	0	0	626	1,048	1.00	0.75	0.90	0.21	A

Table 14-34
No Action Condition Subway Station Escalator Analysis

Peak Period	Station	Escalator	Tread Width	Feet per Minute	Guideline Capacity	Peak Hour Volumes	Surging Factor	V/C Ratio	LOS
AM	21st St - Queensbridge (F)	E-421 (Down)	24"	100	600	509	0.80	0.33	A
		E-422 (Up)	24"	100	600	1,296	0.75	0.90	C
		E-423 (Down)	40"	100	1,050	712	0.75	0.28	A
		E-424 (Up)	40"	100	1,050	1,006	0.75	0.40	A
		E-425 (Down)	40"	100	1,050	473	0.75	0.19	A
		E-426 (Up)	40"	100	1,050	438	0.75	0.17	A
	Court Sq - 23rd St (E/G/M/7)	E-461X (Up)	40"	100	1,050	1,800	0.75	0.71	C
		E-462X (Down)	40"	100	1,050	1,125	0.80	0.42	A
PM	21st St - Queensbridge (F)	E-421 (Down)	24"	100	600	1,031	0.80	0.67	B
		E-422 (Up)	24"	100	600	637	0.75	0.44	A
		E-423 (Down)	40"	100	1,050	502	0.75	0.20	A
		E-424 (Up)	40"	100	1,050	409	0.75	0.16	A
		E-425 (Down)	40"	100	1,050	870	0.75	0.35	A
		E-426 (Up)	40"	100	1,050	588	0.75	0.23	A
	Court Sq - 23rd St (E/G/M/7)	E-461X (Up)	40"	100	1,050	2,115	0.75	0.84	C
		E-462X (Down)	40"	100	1,050	1,940	0.80	0.72	C

Court Square – 23rd Street Subway Station Complex (E/G/M/7)

It should be noted that half of platform stair P1 (IND) on the Queens Boulevard Line would be replaced by an ADA-accessible ramp. This planned transit accessibility improvement, which would decrease the LOS at stair P1 (QBL), would be implemented by the 2035 analysis year. However, the loss in capacity at stair P1 (QBL) would be partially supplemented by the new ADA-accessible ramp. The condition of the ramp under the No Action condition is assessed in **Table 14-35**, which is analyzed as a passageway. As shown in **Table 14-35**, the new ramp would operate at LOS A in the AM peak hour and acceptable LOS C or better in the PM peak hour.

Table 14-35
No Action Condition Subway Station Passageway Analysis

Peak Hour	Station	Passageway	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
AM	Court Sq - 23rd St (E/G/M/7)	New ADA Ramp (QBL)	5.00	3.00	158	342	0.75	0.80	0.90	0.28	A
PM	Court Sq - 23rd St (E/G/M/7)	New ADA Ramp (QBL)	5.00	3.00	907	519	0.75	0.80	0.90	0.89	C

All analyzed stairs, escalators, and fare arrays at the Court Square – 23rd Street subway station complex are expected to operate at an acceptable LOS C or better in both the AM and PM peak hours in the No Action condition with the exception of three stairs. During the AM peak hour, stair P2/P4 (IRT) would operate at a LOS E. During the PM peak hour, stair P1 (QBL) and stair P1/P3 (IRT) would operate at a LOS F.

21st Street - Queensbridge Subway Station (F)

It should be noted that the operating speed for all escalators at the 21st Street – Queensbridge (F) subway station would increase to 100 feet per minute (fpm) by the 2035 analysis year.

All analyzed stairs, escalators and fare arrays at the 21st Street – Queensbridge subway station are expected to operate at an acceptable LOS C or better in both the AM and PM peak hours in the No Action condition.

Queensboro Plaza Subway Station (N/W/7)

It should be noted that stairs 0-1/0-2 would be rebuilt to accommodate the installation of a new elevator connecting the street level and mezzanine level. This planned transit accessibility improvement would be implemented by the 2035 analysis year.

All analyzed stairs, escalators and fare arrays at the Queensboro Plaza subway station are expected to operate at an uncongested LOS B or better in both the AM and PM peak hours in the No Action condition.

Subway Line Haul

The Future No Action subway line haul conditions reflect annual background growth rates of 0.25 percent per year for the 2019 through 2024 period and 0.125 percent for the 2025 through 2035 period. These background growth rates, recommended in the *CEQR*

Technical Manual for projects in Long Island City, are applied to account for smaller projects and as-of-right developments not reflected in Table 2-13 and general increases in travel demand not attributable to specific development projects.

Table 14-36 shows anticipated 2035 No Action line haul conditions at the maximum load points on the twelve subway routes operating in proximity to the Project Area. The data in **Table 14-36** reflect both background growth through 2035 and the addition of demand from new development within the Project Area and its proximity.

Table 14-36
No Action Condition Subway Line Haul Analysis

Peak Period	Route	Direction	Maximum Load Point (leaving station)	Average Trains per Hour [1][2]	Average Cars Per Hour per Train	Average Passengers per Hour [1][2]	Average Passengers per Car [1][2]	Guideline Passengers per Car [3]	V/C Ratio [4]
AM	7 (combined)	SB	Vernon Blvd - Jackson Av	23.6	11	27,754	107	110	0.97
	E	SB	Court Sq	14.4	10	22,765	158	145	1.09
	F	SB	Roosevelt Island	13.2	10	18,536	140	145	0.97
	G	SB	Clinton - Washington Avs	8.6	5	5,181	120	115	1.04
	M	SB	Court Sq	9.2	8	8,014	109	145	0.75
	N/W [5]	SB	Queensboro Plaza	13.9	8	20,076	180	175	1.03
PM	7 (combined)	NB	Queensboro Plaza	28.0	11	24,748	80	110	0.73
	E	NB	Lexington Av - 53 St	13.5	10	14,277	106	145	0.73
	F	NB	Lexington Av - 63 St	14.4	10	15,223	106	145	0.73
	G	NB	Fulton St	8.1	5	4,920	122	115	1.06
	M	NB	Jackson Hts - Roosevelt Av	7.5	8	5,454	91	145	0.63
	N/W [5]	NB	Lexington Av - 59 St	13.6	8	15,798	146	175	0.83

Notes:

(1) AM data is based on a 3-year average of pre-pandemic ridership and train throughput data from NYCT.

(2) PM data is based on 2017-18 ridership and 2019 train throughput data from NYCT.

(3) Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service.

(4) Volume to guideline capacity ratio.

(5) Per NYCT guidance, the N and W routes are analyzed as a combined service.

(6) No-Action passenger volumes reflect demand from No-Action development plus background growth rates of 0.25 percent/year to account for growth in demand during the 2019 to 2024 period and 0.125 percent/year for the 2024 to 2035 period as per 2021 CEQR Technical Manual guidance.

As shown in **Table 14-36**, in the No Action condition, three routes would operate over capacity in the AM peak hour and one route would operate over capacity in the PM peak hour. In the AM peak hour, southbound E, G, and N/W trains are expected to operate over capacity with a v/c ratio of 1.09, 1.04 and 1.03, respectively under the No Action condition. In the PM peak hour, northbound G trains are expected to operate over capacity with a v/c ratio of 1.06 under the No Action condition. All other analyzed subway routes are expected to continue to operate below capacity with a v/c ratio of 0.97 or less in the peak direction in both the AM and PM peak hours.

BUS SERVICE

The No Action condition bus volumes reflect annual background growth rates of 0.25 percent per year for the 2024 through 2029 period and 0.125 percent for the 2029 through 2035 period. These background growth rates, recommended in the *CEQR Technical Manual* for projects in Long Island City, are applied to account for smaller projects and as-of-right developments not reflected in Table 2-13A and general increases in travel demand not attributable to specific development projects.

Demand on the local bus services operating in the vicinity of the Project Area is expected to increase during the 2024 through 2035 period as a result of background growth as well as demand from new development. As shown in **Table 14-37**, existing levels of bus service are expected to be sufficient to provide adequate supply to meet the projected demand in the 2035 No Action condition for all analyzed bus routes in both the AM and PM peak hours. All analyzed bus routes would operate with available capacity in each direction during the weekday AM and PM peak hours under the No Action condition.

Table 14-37
No Action Condition Local Bus Analysis

Peak Hour1	Route	Direction	Maximum Load Point	Peak Hour Passengers[1]	No Action Conditions with Current Service Levels		
					Peak Hour Buses[2]	Average Passengers per Bus	Available Capacity[3]
AM	B32	NB	McGuinness Blvd/Freeman St	79	3.00	26	83
		SB	Franklin St/India St	54	2	27	54
	Q32	EB	Madison Av/E 34 St	91	6	15	233
		WB	82 St/37 Av	197	6	33	127
	Q60	EB	Queens Blvd/51 Av	120	6	20	204
		WB	Queens Blvd/58 St	278	7	40	100
	Q66	EB	Northern Blvd/108 St	574	15	38	236
		WB	Northern Blvd/78 St	721	18	40	251
	Q69	NB	21 St/40 Av	352	10	35	188
		SB	21 St/37 Av	432	11	39	162
	Q103	NB	21 St/41 Av	102	3	34	60
		SB	Vernon Blvd/36 Av	139	5	28	131
PM	B32	NB	Kent Av/N 9 St	36	2	18	72
		SB	11 St/Jackson Av	36	2	18	72
	Q32	EB	Queens Plaza South/28 St	227	8	28	205
		WB	Roosevelt Av/69 St	114	7	16	264
	Q60	EB	Queens Blvd/46 St	253	8	32	179
		WB	Queens Blvd/Van Loon St	181	7	26	197
	Q66	EB	Northern Blvd/54 St	427	10	43	113
		WB	Main St/Northern Blvd	298	8	37	134
	Q69	NB	21 St/40 Av	306	8	38	126
		SB	21 St/37 Av	250	8	31	182
	Q103	NB	40 Av/12 St	106	3	35	56
		SB	Vernon Blvd/38 Av	91	3	30	71

Notes:
[1] No Action passenger volumes reflect demand from No Action development plus background growth rates of 0.25 percent/year for the 2019-2024 period and 0.125 percent/year for the 2024-2035 period as per *CEQR Technical Manual* guidance.
[2] Based on most currently available data from NYCT.
[3] Available capacity based on MTA loading guidelines of 54 passengers per standard bus.

CITYWIDE FERRY SERVICE

The No Action condition Citywide ferry volumes reflect a compounded annual growth rate of three percent per year for the 2024 through 2035 period. This compounded annual growth rate, recommended in the *CEQR Technical Manual*, is applied to account for general background growth and other developments in the study area.

Citywide Ferry Line Haul

Tables 14-38a and 14-38b show anticipated 2035 No Action line haul conditions at the maximum load points on the Astoria route and ferry departure points from the Project Area, respectively. The data in **Table 14-38a and 14-38b** reflect three percent compounded annual growth rate from both background growth through 2035 and the addition of demand from new development within the Project Area and its proximity. As shown in **Tables 14-38a and 14-38b**, in the No Action condition, the Astoria route would continue to operate below capacity in the peak direction in both periods at the maximum load point.

Table 14-38a
No Action Condition Citywide Ferry Line Haul Analysis – Maximum Load Point

Peak Period	Route	Direction	Segment	Average Boats per Hour (1)	Average Capacity per Boat (3)	Passenger Volume at Peak Hour (2)	Passenger Volume per Boat at Peak Hour	V/C Ratio (4)
AM	Astoria	NB	Astoria-East 90th Street	1.6	299	170	107	0.36
		SB	Long Island City - East 34th Street	1.6	299	439	275	0.92
PM	Astoria	NB	East 34th Street - Long Island City	1.5	299	316	211	0.71
		SB	Long Island City - East 34th Street	1.5	299	173	116	0.39

Notes:

(1) Based on September 2024 ferry service schedule from EDC, which operates with a 38-minute headway during the AM peak hour per direction and a 39-minute headway during the PM peak hour per direction.

(2) No Action passenger volumes reflect compounded annual growth rates of 0.3 percent/year for the 2024-2035 period as per *CEQR Technical Manual* guidance.

(3) Guideline capacities are based on data from EDC. The Astoria route typically operates with 299 passenger capacity vessels in September.

(4) Volume to guideline capacity ratio.

Table 14-38b
No Action Condition Citywide Ferry Line Haul Analysis – Point of Departure from the Long Island City Ferry Landing

Peak Period	Route	Direction	Segment	Average Boats per Hour (1)	Average Capacity per Boat (3)	Passenger Volume at Peak Hour (2)	Passenger Volume per Boat at Peak Hour	V/C Ratio (4)
AM	Astoria	NB	Long Island City-Roosevelt Island	1.6	299	33	21	0.07
		SB	Long Island City-East 34th Street	1.6	299	439	275	0.92
PM	Astoria	NB	Long Island City-Roosevelt Island	1.5	299	242	162	0.54
		SB	Long Island City-East 34th Street	1.5	299	173	116	0.39

Notes:
(1) Based on September 2024 ferry service schedule from EDC, which operates with a 38-minute headway during the AM peak hour per direction and a 39-minute headway during the PM peak hour per direction.
(2) No Action passenger volumes reflect compounded annual growth rates of 0.3 percent/year for the 2024-2035 period as per *CEQR Technical Manual* guidance.
(3) Guideline capacities are based on data from EDC. The Astoria route typically operates with 299 passenger capacity vessels in September.
(4) Volume to guideline capacity ratio.

Citywide Ferry Landing

Table 14-39 shows anticipated No Action condition ferry landing conditions at the Long Island City ferry landing during the AM and PM peak hours. The data in **Table 14-39** reflect three percent compounded annual growth rate from both background growth through 2035 and the addition of demand from new development within the Project Area and its proximity. As shown in **Table 14-39**, in the No Action condition, the Long Island City ferry landing would continue to operate below capacity in both periods.

Table 14-39
No Action Condition Citywide Ferry Landing Analysis

Peak Period	Route	Direction	Average Boat Per Hour (1)	Average Queue Per Boat (2)	Average Queue Area (sf) (3)	Landing Area (sf) (4)	V/C Ratio (5)
AM	Long Island City	Total	3.2	121	968	1,706	0.57
PM	Long Island City	Total	3.0	49	392	1,706	0.23

Notes:
(1) Based on September 2024 ferry service schedule from EDC, which operates with a 38-minute headway during the AM peak hour per direction and a 39-minute headway during the PM peak hour per direction.
(2) No Action passenger volumes reflect compounded annual growth rates of 0.3 percent/year for the 2024-2035 period as per *CEQR Technical Manual* guidance.
(3) Eight square feet are required for each queued person per *CEQR Technical Manual* guidance.
(4) Based on the as-builts from EDC for the Long Island City landing, which has a 35 ft by 90 ft barge and 50 ft by 10 ft gangway. Excludes the obstructions in the landing area (e.g. signs, garbage cans, and ticket machines).
(5) Volume to guideline capacity ratio.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITION)

SUBWAY SERVICE

Subway Stations

As shown in **Table 14-12**, the Proposed Actions are expected to generate a net total of approximately 11,722 and 10,403 new subway trips in the weekday AM and PM peak hours, respectively. Based on proximity to projected development sites, the highest number of peak hour subway trips are expected to occur at the Court Square – 23rd Street (E/G/M/7) station complex, which would experience an estimated 9,215 incremental trips (in and out combined) in the AM peak hour and 8,140 in the PM peak hour. The next highest number of trips would occur at the 21st Street – Queensbridge (F) station complex, which would experience an estimated 1,419 incremental trips in the AM peak hour and 1,287 in the PM peak hour. Lastly, the Queensboro Plaza (N/W/7) station would experience 737 and 668 trips in the AM and PM peak hours, respectively. All other subway stations/station complexes in proximity to the Project Area are expected to experience 200 or fewer new trips in both the AM and PM peak hours.

AM and PM peak hour conditions at the Court Square – 23rd Street, 21st Street – Queensbridge, and Queensboro Plaza stations in the With Action condition are shown in **Tables 14-40 through 14-42** and discussed below.

Court Square – 23rd Street Subway Station Complex (E/G/M/7)

As shown in **Table 14-40,** a total of eight stairs at the Court Square – 23rd Street subway station complex would be significantly adversely impacted by project-generated demand in the AM and/or PM peak hour based on the impact criteria in **Table 14-16**. Stairs S2/M2, S3/M3, S4/M4, P1/P3 (IRT), and P2/P4 (IRT) are expected to operate at a LOS F in both the AM and PM peak hours. Stair P1 (QBL) is expected to operate at a LOS D in the AM peak hour and LOS F in the PM peak hour. Stair P2/M1 (QBL) is expected to operate at a LOS E in the AM peak hour and a congested LOS D in the PM peak hour. Stair P4 (QBL) is expected to operate at a congested LOS D in the AM peak hour.

As shown in **Table 14-41**, in the With-Action condition, all analyzed fare arrays at Court Square – 23rd Street subway station complex are expected to operate at an acceptable LOS C or better in both the AM and PM peak hours with the exception of fare array N307. Fare array N307 is expected to operate at a LOS E in the AM and PM peak hours (compared to LOS A under the No-Action Condition). The degradation of this fare array in the AM and PM peak hours would be considered a significant impact based on the *CEQR Technical Manual* impact criteria previously described in Section F, "Transportation Analyses Methodologies."

As shown in **Table 14-42**, in the With-Action condition, escalator E-461X is expected to operate at a LOS E (compared to LOS C under the No-Action Condition) in the AM and PM peak hours. Escalator E-462X is expected to operate at a congested LOS D in the AM and PM peak hours (compared to LOS A in the No-Action AM condition and LOS C in the No-Action PM condition). The degradation of these escalators in the AM and PM peak hours would be considered a significant impact based on the *CEQR Technical Manual* impact criteria previously described in Section F, "Transportation Analyses Methodologies."

Table 14-40a
With Action Condition Subway Station Stair Analysis – AM Peak Hour

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS	WIT	Impact Threshold
					Up	Down	Up	Down	Up	Down					
AM	21st St - Queensbridge (F)	S1/M1	6.00	5.00	-36	393	636	607	0.80	1.00	0.90	0.65	B	- - -	- - -
		S2/M2	6.00	5.00	297	56	493	162	0.80	1.00	0.90	0.36	A	- - -	- - -
		P1/P3	5.50	4.50	10	73	65	122	0.75	1.00	0.90	0.11	A	- - -	- - -
		P2/P4	5.50	4.50	42	18	183	125	0.75	1.00	0.90	0.19	A	- - -	- - -
	Queensboro Plaza (N/W/7)	S1/M1	7.00	6.00	166	445	930	1,190	1.00	0.80	0.90	0.93	C	- - -	- - -
		PL1/PL2	7.00	6.00	119	65	392	551	0.80	0.75	0.90	0.47	B	- - -	- - -
		PL3/PL4	7.00	6.00	118	66	299	513	0.80	0.75	0.90	0.41	A	- - -	- - -
		PL5/PL6	7.00	6.00	118	66	1,120	488	0.80	0.75	0.90	0.79	C	- - -	- - -
		PL7/PL8	7.00	6.00	119	66	303	518	0.80	0.75	0.90	0.41	A	- - -	- - -
		P1/P2	7.00	6.00	95	13	605	153	1.00	0.75	0.90	0.31	A	- - -	- - -
		P3/P4	7.00	6.00	95	13	422	189	1.00	0.75	0.90	0.26	A	- - -	- - -
		P5/P6	7.00	6.00	95	13	451	274	1.00	0.75	0.90	0.32	A	- - -	- - -
		P7/P8	7.00	6.00	95	13	343	287	1.00	0.75	0.90	0.28	A	- - -	- - -
		O-1/O-2(A,B)	7.00	6.00	308	-182	1,050	803	1.00	0.80	0.90	0.79	C	- - -	- - -
	Court Sq - 23rd St (E/G/M/7)	S1A/M1A/S1B/ M1B	8.00	6.75	47	9	341	219	0.90	0.80	0.90	0.22	A	- - -	- - -
		P2A/P2B/M1C/ M1D (QBL)	13.00	11.75	1,622	615	2,842	2,497	0.75	0.80	0.90	1.36	E *	50.91	5.00
		S2/M2	5.50	4.50	1,593	466	2,174	966	0.90	0.80	0.90	1.86	F *	46.62	2.00
		S3/M3	6.00	5.00	1,460	1,818	1,805	2,423	0.75	1.00	0.90	2.24	F *	74.13	2.00
		S4/M4	6.00	5.00	1,684	1,782	2,224	2,361	0.75	1.00	0.90	2.47	F *	87.97	2.00
		M5A/M5B/M6C/ M6D (QBL)	13.50	12.25	1,819	1,168	2,448	1,249	0.80	1.00	0.90	0.81	C	- - -	- - -
		M5C/M5D/M6A /M6B (QBL)	13.50	12.25	2,881	337	3,513	475	0.80	1.00	0.90	0.92	C	- - -	- - -
		O1A/O2A/O1B/ O2B	8.50	7.25	3	10	323	285	0.80	1.00	0.90	0.22	A	- - -	- - -
		O3A/O3B/O4A/ O4B/O5A/O5B (IRT)	8.00	6.75	253	173	415	791	0.80	0.80	0.90	0.52	B	- - -	- - -
		O5A/O5B/O6A/ O6B/O7A/O7B	11.00	9.75	249	95	538	1,033	0.80	1.00	0.90	0.40	A	- - -	- - -
		P1A/P1B (QBL)	9.00	7.75	274	1,508	643	2,303	0.75	0.80	0.90	1.12	D *	10.82	7.00
		P3A/P3B (QBL)	13.00	11.75	629	2,881	956	3,496	0.75	1.00	0.90	0.94	C	- - -	- - -
		P4A/P4B (QBL)	13.00	11.75	2,516	720	3,099	1,280	0.75	1.00	0.90	1.07	D *	9.28	8.00
		P6A/P6B (QBL)	11.00	9.75	249	95	538	1,033	0.80	1.00	0.90	0.40	A	- - -	- - -
		P1A/P3A/P1B/P 3B (IRT)	8.00	6.75	1,840	333	3,131	1,056	0.90	0.75	0.90	1.68	F *	54.70	2.00
		P2A/P4A/P2B/P 4B (IRT)	8.00	6.75	460	1,332	2,210	3,461	0.90	0.75	0.90	2.43	F *	37.49	2.00
		P1A/P1B (Crosstown)	8.50	7.25	52	71	362	1,212	0.75	0.80	0.90	0.64	B	- - -	- - -
		P2A/P2B (Crosstown)	8.50	7.25	52	71	1,176	697	0.75	0.80	0.90	0.78	C	- - -	- - -
		P3A/P3B (Crosstown)	8.50	7.25	52	71	1,223	536	0.75	0.80	0.90	0.73	C	- - -	- - -
		P5 (Crosstown)	7.50	6.50	52	71	499	121	0.75	0.90	0.90	0.29	A	- - -	- - -
		P6A/P6B (Crosstown)	8.50	7.25	52	71	852	173	0.75	0.90	0.90	0.42	A	- - -	- - -
		P7A/P7B (Crosstown)	8.50	7.25	52	71	554	558	0.75	0.80	0.90	0.46	B	- - -	- - -

Notes:

Assumes the construction at stair O1/O2 (A,B) at Queensboro Plaza (N/W/7) subway station is completed by 2035 and the total stair width is the same as stair S1/M1.

WIT – Width Increment Threshold

* - Denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

Table 14-40b
With Action Condition Subway Station Stair Analysis – PM Peak Hour

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS	WIT	Impact Threshold
					Up	Down	Up	Down	Up	Down					
PM	21st St - Queensbridge (F)	S1/M1	6.00	5.00	285	60	534	539	0.80	1.00	0.90	0.56	B	- - -	- - -
		S2/M2	6.00	5.00	62	237	303	375	0.80	1.00	0.90	0.35	A	- - -	- - -
		P1/P3	5.50	4.50	14	47	88	122	0.75	1.00	0.90	0.12	A	- - -	- - -
		P2/P4	5.50	4.50	56	12	101	48	0.75	1.00	0.90	0.09	A	- - -	- - -
	Queensboro Plaza (N/W/7)	S1/M1	7.00	6.00	383	141	911	875	1.00	0.80	0.90	0.77	C	- - -	- - -
		PL1/PL2	7.00	6.00	77	90	273	383	0.80	0.75	0.90	0.33	A	- - -	- - -
		PL3/PL4	7.00	6.00	78	89	258	530	0.80	0.75	0.90	0.40	A	- - -	- - -
		PL5/PL6	7.00	6.00	78	89	905	440	0.80	0.75	0.90	0.66	B	- - -	- - -
		PL7/PL8	7.00	6.00	77	90	222	538	0.80	0.75	0.90	0.38	A	- - -	- - -
		P1/P2	7.00	6.00	62	18	572	296	1.00	0.75	0.90	0.37	A	- - -	- - -
		P3/P4	7.00	6.00	62	18	431	356	1.00	0.75	0.90	0.35	A	- - -	- - -
		P5/P6	7.00	6.00	62	18	537	305	1.00	0.75	0.90	0.36	A	- - -	- - -
		P7/P8	7.00	6.00	62	18	235	447	1.00	0.75	0.90	0.32	A	- - -	- - -
		O-1/O-2(A,B)	7.00	6.00	-73	217	637	941	1.00	0.80	0.90	0.70	B	- - -	- - -
	Court Sq - 23rd St (E/G/M/7)	S1A/M1A/S1B/M1B	8.00	6.75	18	33	176	381	0.90	0.80	0.90	0.23	A	- - -	- - -
		P2A/P2B/M1C/M1D (QBL)	13.00	11.75	1,738	632	2,825	1,544	0.75	0.80	0.90	1.12	D *	17.32	7.00
		S2/M2	5.50	4.50	730	1,187	1,198	1,888	0.90	0.80	0.90	1.90	F *	48.49	2.00
		S3/M3	6.00	5.00	1,368	1,489	1,962	1,814	0.75	1.00	0.90	2.05	F *	63.05	2.00
		S4/M4	6.00	5.00	1,347	1,659	1,768	2,192	0.75	1.00	0.90	2.11	F *	66.43	2.00
		M5A/M5B/M6C/M6D (QBL)	13.50	12.25	1,489	1,095	1,829	1,303	0.80	1.00	0.90	0.68	B	- - -	- - -
		M5C/M5D/M6A/M6B (QBL)	13.50	12.25	2,518	270	2,837	573	0.80	1.00	0.90	0.78	C	- - -	- - -
		O1A/O2A/O1B/O2B	8.50	7.25	8	5	219	330	0.80	1.00	0.90	0.19	A	- - -	- - -
		O3A/O3B/O4A/O4B/O5A/O5B (IRT)	8.00	6.75	203	200	406	761	0.80	0.80	0.90	0.50	B	- - -	- - -
		O5A/O5B/O6A/O6B/O7A/O7B	11.00	9.75	78	218	550	703	0.80	1.00	0.90	0.33	A	- - -	- - -
		P1A/P1B (QBL)	9.00	7.75	300	1,263	2,413	2,470	0.75	0.80	0.90	1.88	F *	43.85	2.00
		P3A/P3B (QBL)	13.00	11.75	543	2,518	1,057	3,001	0.75	1.00	0.90	0.87	C	- - -	- - -
		P4A/P4B (QBL)	13.00	11.75	2,173	630	2,693	997	0.75	1.00	0.90	0.90	C	- - -	- - -
		P6A/P6B (QBL)	11.00	9.75	78	218	550	703	0.80	1.00	0.90	0.33	A	- - -	- - -
		P1A/P3A/P1B/P3B (IRT)	8.00	6.75	1,614	394	4,093	2,262	0.90	0.75	0.90	2.59	F *	37.37	2.00
		P2A/P4A/P2B/P4B (IRT)	8.00	6.75	404	1,577	1,113	2,809	0.90	0.75	0.90	1.71	F *	57.43	2.00
		P1A/P1B (Crosstown)	8.50	7.25	67	69	457	1,193	0.75	0.80	0.90	0.67	B	- - -	- - -
		P2A/P2B (Crosstown)	8.50	7.25	67	69	781	991	0.75	0.80	0.90	0.73	C	- - -	- - -
		P3A/P3B (Crosstown)	8.50	7.25	67	69	984	948	0.75	0.80	0.90	0.80	C	- - -	- - -
		P5 (Crosstown)	7.50	6.50	67	69	339	114	0.75	0.90	0.90	0.21	A	- - -	- - -
		P6A/P6B (Crosstown)	8.50	7.25	67	69	494	223	0.75	0.90	0.90	0.29	A	- - -	- - -
		P7A/P7B (Crosstown)	8.50	7.25	67	69	518	241	0.75	0.80	0.90	0.32	A	- - -	- - -

Notes:

Assumes the construction at stair O1/O2 (A,B) at Queensboro Plaza (N/W/7) Station is completed by 2035 and the total stair width is the same as stair S1/M1.

WIT – Width Increment Threshold

* - Denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

Table 14-41
With Action Condition Subway Station Fare Array Analysis

Peak Hour	Station	Control Area	Control Elements			Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits	System Entries	System Exits			
AM	21st St - Queensbridge (F)	N603	4	0	0	897	522	1,726	2,686	1.00	0.75	0.90	0.84	C
	Queensboro Plaza (N/W/7)	R509	6	0	1	237	131	1,423	1,005	1.00	0.75	0.90	0.30	A
		R509A	7	0	0	237	132	461	1,065	1.00	0.75	0.90	0.16	A
	Court Sq - 23rd St (E/G/M/7)	N307	4	0	0	3,600	2,852	4,784	3,473	1.00	0.75	0.90	1.61	E *
		N307A	0	0	2	0	292	0	556	1.00	0.75	1.00	0.21	A
		N307B	4	0	0	95	249	1,033	538	1.00	0.75	0.90	0.31	A
		N400B	3	0	0	10	3	285	323	1.00	0.75	0.90	0.16	A
		R508	6	0	0	1,640	475	2,514	1,186	1.00	0.75	0.90	0.49	B
PM	21st St - Queensbridge (F)	N603	4	0	0	593	694	2,241	1,821	1.00	0.75	0.90	0.79	C
	Queensboro Plaza (N/W/7)	R509	6	0	1	155	179	1,127	976	1.00	0.75	0.90	0.26	A
		R509A	7	0	0	155	179	381	915	1.00	0.75	0.90	0.14	A
	Court Sq - 23rd St (E/G/M/7)	N307	4	0	0	3,148	2,441	3,888	3,070	1.00	0.75	0.90	1.35	E *
		N307A	0	0	2	0	274	0	660	1.00	0.75	1.00	0.25	A
		N307B	4	0	0	218	78	703	550	1.00	0.75	0.90	0.24	A
		N400B	3	0	0	5	8	330	219	1.00	0.75	0.90	0.14	A
		R508	6	0	0	748	1,220	1,374	2,268	1.00	0.75	0.90	0.46	B

* - Denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

Table 14-42
With Action Condition Escalator Analysis

Peak Period	Station	Escalator	Tread Width	Feet per Minute	Guideline Capacity	Project Increment	Peak Hour Volumes	Surging Factor	V/C Ratio	LOS
AM	21st St - Queensbridge (F)	E-421 (Down)	24"	100	600	448	957	0.80	0.62	B
		E-422 (Up)	24"	100	600	261	1,557	0.75	1.08	D *
		E-423 (Down)	40"	100	1,050	161	873	0.75	0.35	A
		E-424 (Up)	40"	100	1,050	375	1,381	0.75	0.55	B
		E-425 (Down)	40"	100	1,050	645	1,118	0.75	0.44	A
		E-426 (Up)	40"	100	1,050	95	533	0.75	0.21	A
	Court Sq - 23rd St (E/G/M/7)	E-461X (Up)	40"	100	1,050	1,679	3,479	0.75	1.38	E *
		E-462X (Down)	40"	100	1,050	2,156	3,281	0.80	1.22	D *
PM	21st St - Queensbridge (F)	E-421 (Down)	24"	100	600	296	1,327	0.80	0.86	C
		E-422 (Up)	24"	100	600	347	984	0.75	0.68	B
		E-423 (Down)	40"	100	1,050	108	610	0.75	0.24	A
		E-424 (Up)	40"	100	1,050	499	908	0.75	0.36	A
		E-425 (Down)	40"	100	1,050	426	1,296	0.75	0.51	B
		E-426 (Up)	40"	100	1,050	125	713	0.75	0.28	A
	Court Sq - 23rd St (E/G/M/7)	E-461X (Up)	40"	100	1,050	2,046	4,161	0.75	1.65	E *
		E-462X (Down)	40"	100	1,050	1,579	3,519	0.80	1.31	D *

* - Denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

As shown in **Table 14-43**, in the With Action condition, the new ADA-accessible ramp is expected to operate at a LOS B in the AM peak hour and a marginal LOS D in the PM peak hour. However, the ramp would not be considered significantly adversely impacted based on the *CEQR Technical Manual* impact criteria previously described in Section F, "Transportation Analyses Methodologies."

Potential mitigation for the significant adverse impacts to eight stairs, two escalators, and one fare array at the Court Square – 23rd Street subway station complex are discussed in Chapter 21, "Mitigation."

21st Street - Queensbridge Subway Station (F)

In the With Action condition, all analyzed stairs, escalators, and fare arrays at the 21st Street – Queensbridge subway station are projected to operate at an acceptable LOS C or better in both the AM and PM peak hours with the exception of escalator E-422 which would operate at a LOS E in the AM peak hour (compared to a LOS C under the No-Action condition). The degradation of escalator E-422 in the AM peak hour would be considered a significant impact based on the *CEQR Technical Manual* impact criteria previously described in Section F, "Transportation Analyses Methodologies."

Table 14-43
With Action Condition Passageway Analysis

Peak Hour	Station	Passageway	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS	WIT	Impact Threshold
					Up	Down	Up	Down	Up	Down					
AM	Court Sq - 23rd St (E/G/M/7)	New ADA Ramp (QBL)	5.00	3.00	118	646	276	988	0.75	0.80	0.90	0.70	B	- - -	- - -
PM	Court Sq - 23rd St (E/G/M/7)	New ADA Ramp (QBL)	5.00	3.00	128	541	1,035	1,060	0.75	0.80	0.90	1.25	D	9.04	10.00

Notes:

WIT – Width Increment Threshold

* - Denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

Potential mitigation for the significant adverse impacts to two escalators at the 21st Street- Queensbridge subway station is discussed in Chapter 21, "Mitigation."

Queensboro Plaza Subway Station (N/W/7)

In the With-Action condition, all analyzed stairs and fare arrays at the Queensboro Plaza station are expected to operate at an acceptable LOS C or better in both the AM and PM peak hours. No significant adverse impacts are therefore anticipated to occur at this station as a result of the Proposed Actions based on the *CEQR Technical Manual* impact criteria previously described in Section F, "Transportation Analyses Methodologies."

Subway Line Haul

Table 14-44 shows line haul conditions on the subway routes serving the Project Area in the With Action condition. As shown in **Table 14-44**, in the With Action condition, southbound 7, E, F, G, N/W trains are expected to operate over capacity in the AM peak hour with a v/c ratio of 1.05, 1.00, 1.17, 1.12, and 1.04, respectively. In the PM peak hour, the northbound G train is expected to operate over capacity with a v/c ratio of 1.13. The southbound 7, E, F, and G trains in the AM peak hour and the northbound G train in the PM peak hour, would operate over capacity, with an average incremental increase in

persons per car exceeding the five persons/car *CEQR Technical Manual* impact threshold. Therefore, the southbound 7, E, F, and G trains in the AM peak hour and the northbound G train in the PM peak hour would be considered significantly adversely impacted by the Proposed Actions. All other analyzed subway routes are projected to operate below capacity in the peak direction and/or not exceed the *CEQR Technical Manual* impact threshold of five persons/car in both the AM and PM peak hours and would therefore not be significant adversely impacted by the Proposed Actions in either period. Potential mitigation for the significant adverse impacts to four subway routes in the AM peak hour and one subway route in the PM peak hour are discussed in Chapter 21, "Mitigation."

Table 14-44
With Action Condition Subway Line Haul Analysis

Peak Period	Route	Direction	Maximum Load Point (leaving station)	Average Trains per Hour [1][2]	Average Cars Per Hour per Train	Project Increment	Average Passengers per Hour	Average Passengers per Car [1][2]	Guideline Passengers per Car [3]	V/C Ratio [4]	Average Additional Passengers Per Car Per Hour
AM	7 (combined)	SB	Vernon Blvd - Jackson Av	23.6	11	2,166	29,920	115	110	1.05	8.34
	E	SB	Court Sq	14.4	10	1,539	24,304	169	145	1.17	10.71
	F	SB	Roosevelt Island	13.2	10	718	19,254	146	145	1.00	5.43
	G	SB	Clinton - Washington Avs	8.6	5	380	5,561	129	115	1.12	8.80
	M	SB	Court Sq	9.2	8	556	8,570	116	145	0.80	7.55
	N/W [5]	SB	Queensboro Plaza	13.9	8	163	20,239	181	175	1.04	1.46
PM	7 (combined)	NB	Queensboro Plaza	28.0	11	1,830	26,578	86	110	0.78	5.94
	E	NB	Lexington Av - 53 St	13.5	10	965	15,242	113	145	0.78	7.15
	F	NB	Lexington Av - 63 St	14.4	10	555	15,778	109	145	0.75	3.85
	G	NB	Fulton St	8.1	5	349	5,269	130	115	1.13	8.64
	M	NB	Jackson Hts - Roosevelt Av	7.5	8	354	5,808	97	145	0.67	5.90
	N/W [5]	NB	Lexington Av - 59 St	13.6	8	115	15,913	147	175	0.84	1.06

s:

(1) AM data is based on a 3-year average of pre-pandemic ridership and train throughput data from NYCT.

(2) PM data is based on 2017-18 ridership and 2019 train throughput data from NYCT.

(3) Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service.

(4) Volume to guideline capacity ratio.

(5) Per NYCT guidance, the N and W routes are analyzed as a combined service.

BUS SERVICE

As shown in **Table 14-14**, projected development sites are expected to generate a net total of approximately 1,129 and 1,027 new trips on the bus services operating in proximity to the Project Area during the weekday AM and PM peak hours, respectively. These local bus trips were assigned to each route based on proximity to projected development sites. With the incremental increases in demand shown in **Table 14-45**, all the analyzed bus routes would continue to operate with available capacity at their maximum load points in both directions in both the AM and PM peak hours with the exception of the northbound Q103 bus route in the weekday AM and PM peak hours. As shown in **Table 14-45**, based on projected levels of bus service in the No-Action condition, the Proposed Actions would result in a passenger capacity shortfall of 43 on the northbound Q103 buses in the AM peak hour. In addition, the Proposed Actions would also result in a passenger capacity shortfall of 17 on the northbound Q103 buses in the PM peak hour. Therefore, based on *CEQR Technical Manual* impact criteria, the northbound 103 bus routes in the AM and PM peak hour would be significantly adversely impacted. Potential mitigation for the significant adverse impacts to Q103 bus route in the AM and PM peak hours are discussed in Chapter 21, "Mitigation."

Table 14-45
With Action Conditions Local Bus Analysis

Peak Hour	Route	Direction	Maximum Load Point	Peak Hour Buses[1]	No Action Available Capacity[2]	Project Increment	Available Capacity w/ Proposed Actions[2]
AM	B32	NB	McGuinness Blvd/ Freeman St	3	83	51	32
		SB	Franklin St/India St	2	54	29	25
	Q32	EB	Madison Av/E 34 St	6	233	37	196
		WB	82 St/37 Av	6	127	20	107
	Q60	EB	Queens Blvd/51 Av	6	204	3	201
		WB	Queens Blvd/58 St	7	100	25	75
	Q66	EB	Northern Blvd/108 St	15	236	1	235
		WB	Northern Blvd/78 St	18	251	8	243
	Q69	NB	21 St/40 Av	10	188	61	127
		SB	21 St/37 Av	11	162	96	66
	Q103	NB	21 St/41 Av	3	60	103	-43
		SB	Vernon Blvd/36 Av	5	131	73	58
PM	B32	NB	Kent Av/N 9 St	2	72	22	50
		SB	11 St/Jackson Av	2	72	30	42
	Q32	EB	Queens Plaza South/28 St	8	205	37	168
		WB	Roosevelt Av/69 St	7	264	7	257
	Q60	EB	Queens Blvd/46 St	8	179	26	153
		WB	Queens Blvd/Van Loon St	7	197	4	193
	Q66	EB	Northern Blvd/54 St	10	113	10	103
		WB	Main St/Northern Blvd	8	134	0	134
	Q69	NB	21 St/40 Av	8	126	104	22
		SB	21 St/37 Av	8	182	43	139
	Q103	NB	40 Av/12 St	3	56	73	-17
		SB	Vernon Blvd/38 Av	3	71	45	26

Notes:
[1] No service levels adjustments were made as there is no capacity shortfalls in the No Action condition.
[2] Available capacity based on MTA loading guidelines of 54 passengers per standard bus.

CITYWIDE FERRY SERVICE

Ferry Line Haul

Tables 14-46a and 14-46b show line haul conditions on the Astoria route serving the Project Area in the With Action condition at the maximum load points and ferry departure points from the study area, respectively. As shown in **Tables 14-46a**, in the With Action condition, the Astoria route is expected to operate over capacity in the AM peak hour with a v/c ratio of 1.62 in the peak southbound direction compared to a v/c ratio of 0.92 under No Action conditions at the maximum load point and ferry departure point. In addition, as shown in **Table 14-46b**, in the With Action condition, the Astoria route is expected to operate over capacity in the PM peak hour with a v/c ratio of 0.94 in the peak northbound direction compared to a v/c ratio of 0.54 under No Action conditions at the ferry departure point. All other analyzed ferry routes are expected to continue to operate below capacity with a v/c ratio of 0.71 or less in the peak direction in both the AM and PM peak hours at the maximum peak load point and a v/c ratio of 0.70 or less in the peak direction in both the AM and PM peak hours at the point of departure from the Project Area.

Table 14-46a
With Action Conditions Citywide Ferry Line Haul Analysis – Maximum Load Point

Peak Period	Route	Direction	Segment	Average Boats per Hour (1)	Average Capacity per Boat (2)	No Action Condition			With Action Condition			
						Passenger Volume at Peak Hour	Passenger Volume per Boat at Peak Hour	V/C Ratio (3)	Project Increment	Passenger Volume at Peak Hour	Passenger Volume per Boat at Peak Hour	V/C Ratio (3)
AM	Astoria	NB	Astoria - East 90th Street	1.6	299	170	107	0.36	51	221	139	0.46
		SB	Long Island City - East 34th Street	1.6	299	439	275	0.92	333	772	483	1.62
PM	Astoria	NB	East 34th Street - Long Island City	1.5	299	316	211	0.71	0	316	211	0.71
		SB	Long Island City - East 34th Street	1.5	299	173	116	0.39	139	312	209	0.70

Notes:

(1) Based on September 2024 ferry service schedule from EDC, which operates with a 38-minute headway during the AM peak hour per direction and a 39-minute headway during the PM peak hour per direction.

(2) Guideline capacities are based on data from EDC. The Astoria route typically operates with 299 passenger capacity vessels in September.

(3) Volume to guideline capacity ratio.

Shading denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

Table 14-46b
With Action Conditions Citywide Ferry Line Haul Analysis – Point of Departure from the Long Island City Ferry Landing

Peak Period	Route	Direction	Segment	Average Boats per Hour (1)	Average Capacity per Boat (2)	No Action Condition			With Action Condition			
						Passenger Volume at Peak Hour	Passenger Volume per Boat at Peak Hour	V/C Ratio (3)	Project Increment	Passenger Volume at Peak Hour	Passenger Volume per Boat at Peak Hour	V/C Ratio (3)
AM	Astoria	NB	Long Island City-Roosevelt Island	1.6	299	33	21	0.07	51	84	53	0.18
		SB	Long Island City-East 34th Street	1.6	299	439	275	0.92	333	772	483	1.62
PM	Astoria	NB	Long Island City-Roosevelt Island	1.5	299	242	162	0.54	178	420	281	0.94
		SB	Long Island City-East 34th Street	1.5	299	173	116	0.39	139	312	209	0.70

Notes:

(1) Based on September 2024 ferry service schedule from EDC, which operates with a 38-minute headway during the AM peak hour per direction and a 39-minute headway during the PM peak hour per direction.

(2) Guideline capacities are based on data from EDC. The Astoria route typically operates with 299 passenger capacity vessels in September.

(3) Volume to guideline capacity ratio.

Shading denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

As the southbound ferries on the Astoria route in the AM peak hour would have a v/c ratio greater than 0.90 under the No Action condition and a v/c ratio increase of 0.10 or more between the No-Action and With Action conditions at the maximum load point and ferry departure point, southbound ferries on the Astoria route would be considered significantly adversely impacted by the Proposed Actions in the AM peak hour at the maximum load point and ferry departure point. In addition, As the northbound ferries on the Astoria route in the PM peak hour would have a v/c ratio greater than 0.90 in the With Action condition and a v/c ratio less than 0.90 in the No Action condition, northbound ferries on the Astoria

route would be considered significantly adversely impacted by the Proposed Actions in the PM peak hour at the ferry departure point. All other analyzed ferry routes are projected to operate below a v/c ratio of 0.90 in the peak direction in both the AM and PM peak hours and would therefore not be significantly adversely impacted by the Proposed Actions in either period. Potential mitigation for the significant adverse impact to southbound ferries on the Astoria route in the AM peak hour at the maximum load point and ferry departure point is discussed in Chapter 21, "Mitigation."

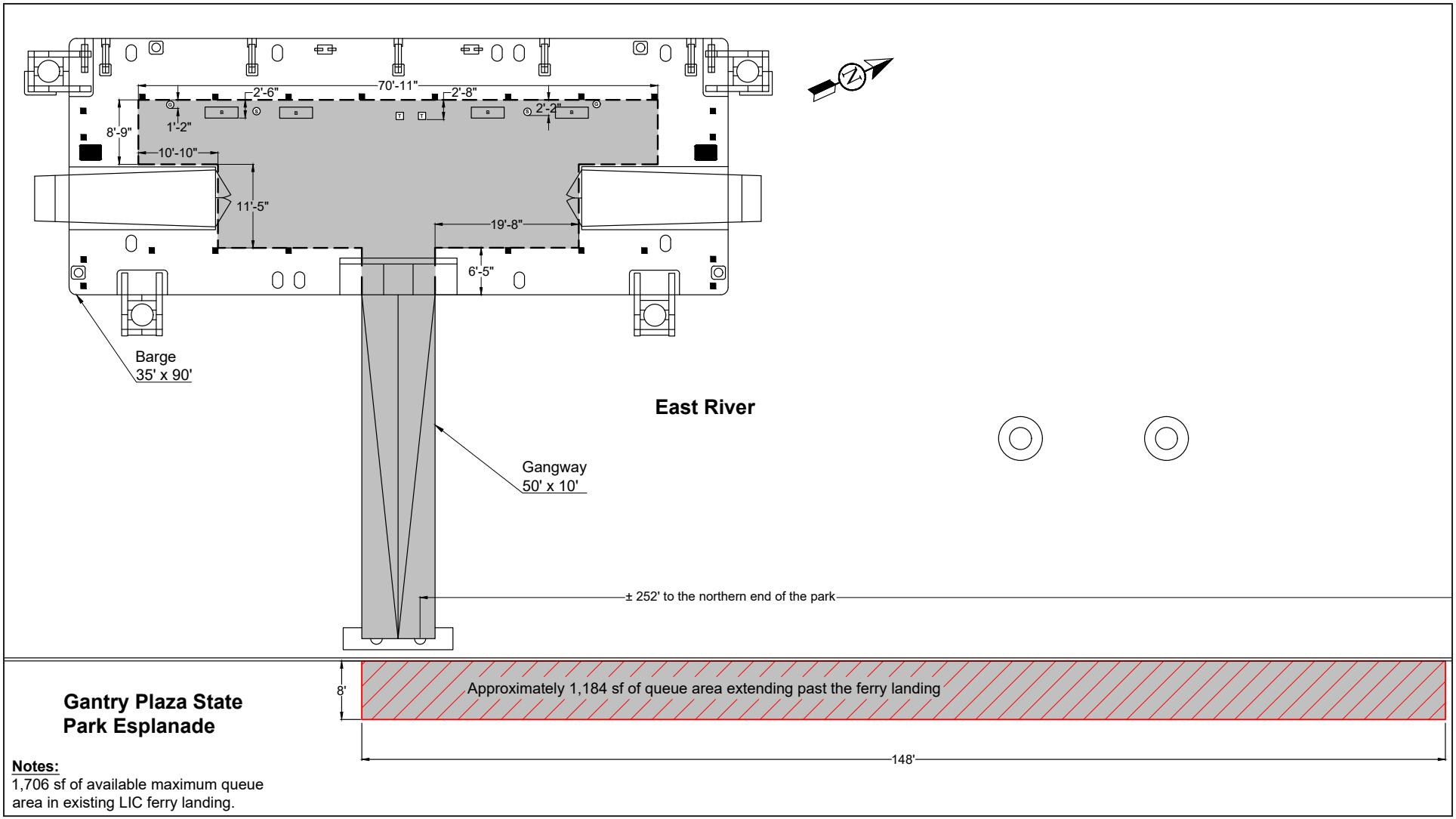
Citywide Ferry Landing

Table 14-47 shows ferry landing conditions at the Long Island City ferry landing serving the Project Area in the With Action condition. As shown in **Table 14-47**, in the With Action condition, the Long Island City ferry landing is expected to operate over capacity in the AM peak hour with a v/c ratio of 1.69 and in the PM peak hour with a v/c ratio of 1.22 compared to a v/c ratio of 0.57 and 0.23 under No Action conditions, respectively. As the Long Island City ferry landing would operate over capacity in the With Action conditions, the queuing area in the With Action conditions would extend onto the Gantry Plaza State Park esplanade as shown in **Figure 14-13**. As the Long Island City ferry landing in both the AM and PM peak hours would have a v/c ratio greater than 0.90, the Long Island City ferry landing would be considered significantly adversely impacted by the Proposed Actions in both the AM and PM peak hours. Potential mitigation for the significant adverse impacts to the Long Island City ferry landing conditions in both the AM and PM peak hours are discussed in Chapter 21, "Mitigation."

I. PEDESTRIANS

EXISTING CONDITIONS

Much of the Project Area is characterized by relatively light to moderate pedestrian flows during peak periods with the exception of major retail corridors and corridors providing access to area subway stations and bus routes. As discussed previously in Section E, "Level 2 Screening Assessment," the analysis of pedestrian conditions focuses on representative pedestrian elements where new trips generated by projected developments are expected to be most concentrated. These elements—sidewalks, corner areas and crosswalks—are primarily located in the vicinity of major projected development sites and along corridors connecting these sites to area transit services. As shown in **Figure 14-4**, they include a total of 55 sidewalks, 54 crosswalks, and 45 corner areas primarily located along the Vernon Boulevard, 11th Street, 44th Drive, and 45th Road corridors.



With Action
Ferry Landing
Figure 14-13

Table 14-47
With Action Conditions Citywide Ferry Landing Analysis

Peak Period	Route	Direction	Average Boat Per Hour (1)	Landing Area (sf) (3)	No Action Condition			With Action Condition			
					Average Queue Per Boat	Average Queue Area (sf) (2)	V/C Ratio (4)	Project Increment Queue Length (person)	Average Queue Per Boat	Average Queue Area (sf) (2)	V/C Ratio (4)
AM	Long Island City	Total	3.2	1,706	121	968	0.57	240	361	2,888	1.69
PM	Long Island City	Total	3.0	1,706	49	392	0.23	212	261	2,088	1.22

Notes:
(1) Based on September 2024 ferry service schedule from EDC, which operates with a 38-minute headway during the AM peak hour per direction and a 39-minute headway during the PM peak hour per direction.
(2) Eight square feet are required for each queued person per *CEQR Technical Manual* guidance.
(3) Based on the as-builts from EDC for the Long Island City landing, which has a 35 ft by 90 ft barge and 50 ft by 10 ft gangway. Excludes the obstructions in the landing area (e.g. signs, garbage cans, and ticket machines)
(4) Volume to guideline capacity ratio.
Shading denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

SIDEWALKS

Data from pedestrian counts conducted in December 2024 indicate that the highest pedestrian flows at analyzed sidewalks within the study area are generally found along corridors providing access to subway station entrances, including along 44th Drive in the vicinity of the Court Square – 23rd Street subway station complex, and along Queens Plaza South in the vicinity of the Queensboro Plaza subway station. As shown in **Table 14-48**, analyzed sidewalks typically range from approximately four to eight feet in effective width, with some wider sidewalks (i.e., up to 12.5 feet in effective width) present along parts of 44th Drive, and some more narrow (i.e., two foot or less in effective width) present along 10th Avenue and other parts of 44th Drive. Features typically present along study area sidewalks that can reduce the effective width available for pedestrian flow include street furniture such as sign posts, traffic signal and lamp posts, fire hydrants and tree pits, as well as larger installations such as subway stairs.

Table 14-48 shows the existing peak hour pedestrian volumes, average pedestrian space in square feet per pedestrian (sf/ped), and platoon-adjusted levels of service at analyzed sidewalks. As shown in **Table 14-48**, all analyzed sidewalks currently operate at an acceptable LOS C or better in all peak hours with the exception of two sidewalks – the south sidewalk along 44th Drive between 10th Street and 11th Street, which operates at LOS D during the weekday PM and Saturday peak hours; and the south sidewalk along Queens Plaza South between Crescent Street and 27th Street, which operates at LOS E during all analyzed peak hours.

Table 14-48
Existing Sidewalk Conditions

Location	Effective Width (ft)	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
East Sidewalk along Vernon Blvd between 44th Ave and 43rd Rd	3.5	5	16	15	8	3,492.7	2,079.0	2,079.0	2,598.7	A	A	A	A
South Sidewalk along 44th Ave between Vernon Blvd and 9th St	2.5	1	4	6	6	7,425.0	3,712.5	1,881.0	3,712.5	A	A	A	A
South Sidewalk along 44th Rd between Vernon Blvd and 10th St	9.5	16	18	7	11	4,726.0	2,382.6	9,351.3	3,488.4	A	A	A	A
North Sidewalk along 44th Dr between Vernon Blvd and 10th St	11.5	98	81	95	69	1,226.8	1,366.2	1,179.2	1,425.6	A	A	A	A
South Sidewalk along 44th Dr between Vernon Blvd and 10th St	4.0	20	21	57	31	1,972.1	1,697.1	441.8	659.1	A	A	B	A
North Sidewalk along 44th Dr between Vernon Blvd and 5th St	4.5	11	12	33	11	1,336.5	1,684.0	3,368.0	3,341.2	A	A	A	A
South Sidewalk along 44th Dr between Vernon Blvd and 5th St	11.5	28	20	10	12	6,831.0	4,895.5	1,614.6	4,222.8	A	A	A	A
South Sidewalk along 45th Ave between 5th St and Vernon Blvd	2.5	0	3	0	0	N/A	3,762.0	N/A	N/A	N/A	A	N/A	N/A
East Sidewalk along Vernon Blvd between 45th Ave and 45th Rd	8.5	56	58	59	86	1,099.9	1,044.6	1,403.4	904.1	A	A	A	A
East Sidewalk along Vernon Blvd between 45th Rd and 46th Ave	8.0	74	78	84	94	1,078.8	694.5	916.4	849.3	A	A	A	A
North Sidewalk along 46th Ave between Vernon Blvd and 11th St	8.0	225	119	192	164	308.3	495.1	391.0	411.4	B	B	B	B
East Sidewalk along Vernon Blvd between 46th Ave and 46th Rd	8.0	74	100	139	93	1,078.8	475.1	594.8	878.8	A	B	A	A
South Sidewalk along 46th Ave between Vernon Blvd and 11th St	7.5	144	116	205	140	519.7	476.2	317.2	560.0	B	B	B	A
West Sidewalk along Vernon Blvd between 46th Ave and 46th Rd	7.5	163	126	207	207	437.2	494.9	275.4	288.3	B	B	B	B
South Sidewalk along 46th Ave between Vernon Blvd and 5th St	7.5	300	230	253	193	240.4	224.6	257.0	369.2	B	B	B	B
West Sidewalk along Vernon Blvd between 45th Ave and 46th Ave	2.5	99	79	104	128	263.9	266.8	216.9	164.6	B	B	B	B
North Sidewalk along 46th Ave between Vernon Blvd and 5th St	5.5	155	143	204	208	316.1	287.8	249.7	276.3	B	B	B	B
West Sidewalk along Vernon Blvd between 46th Rd and 47th Ave	7.0	238	209	319	294	296.9	366.0	242.3	220.5	B	B	B	B
East Sidewalk along 10th St between 44th Ave and 44th Rd	4.0	13	14	11	20	2,960.9	1,697.1	2,376.0	1,496.9	A	A	A	A
West Sidewalk along 10th St between 44th Rd and 44th Ave	0.5	7	32	39	18	746.7	66.4	74.2	125.2	A	C	C	B
South Sidewalk along 44th Ave between 10th St and 9th St	7.5	7	6	6	8	7,382.6	11,137.5	7,425.0	4,455.0	A	A	A	A
West Sidewalk along 10th St between 44th Rd and 44th Dr	11.0	6	11	11	7	16,335.0	8,197.2	4,633.2	8,214.2	A	A	A	A
East Sidewalk along 10th St between 44th Dr and 45th Ave	4.0	54	45	39	92	660.0	665.2	1,084.4	408.0	A	A	A	B
East Sidewalk along 11th St between 44th Ave and 44th Rd	5.0	50	55	57	77	712.8	874.8	823.2	462.8	A	A	A	B
South Sidewalk along 44th Ave between 11th St and 21st St	1.5	15	19	19	22	641.5	637.7	497.0	315.8	A	A	B	B
West Sidewalk along 11 St between 44th Ave and 44th Rd	4.0	39	72	76	44	913.8	336.5	493.9	702.0	A	B	B	A
South Sidewalk along 44th Ave between 10th St and 11th St	3.5	27	34	53	24	939.4	1,149.5	651.1	1,299.4	A	A	A	A
East Sidewalk along 11th St between 44th Rd and 44th Dr	3.0	84	86	113	102	262.9	372.9	261.7	248.0	B	B	B	B

Note:
N/A is noted for sidewalks that are utilized infrequently (i.e., zero pedestrian volumes).

Table 14-48 (cont'd)
Existing Sidewalk Conditions

Location	Effective Width (ft)	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
South Sidewalk along 44th Rd between 11th St and 21st St	8.5	32	36	32	19	2,303.6	1,935.4	2,114.3	3,614.0	A	A	A	A
West Sidewalk along 11 St between 44th Rd and 44th Dr	12.5	60	87	101	63	1,608.7	904.6	1,279.1	1,485.0	A	A	A	A
South Sidewalk along 44th Rd between 10th St and 11th St	4.0	31	51	37	16	996.4	698.8	590.7	2,376.0	A	A	A	A
North Sidewalk along 44th Dr between 11th St and 21st St	12.0	211	217	203	152	466.1	381.0	554.7	844.1	B	B	A	A
East Sidewalk along 11th St between 44th Dr and 45th Ave	7.5	77	79	80	124	972.0	823.3	968.9	617.9	A	A	A	A
South Sidewalk along 44th Dr between 11th St and 21st St	12.5	189	169	210	188	628.5	746.9	579.8	631.9	A	A	A	A
West Sidewalk along 11th St between 44th Dr and 45th Ave	3.5	65	77	66	85	550.1	372.5	497.6	322.8	A	B	B	B
South Sidewalk along 44th Dr between 10th St and 11th St	0.5	91	87	134	162	52.3	52.7	32.8	27.5	C	C	D	D
North Sidewalk along 44th Dr between 10th St and 11th St	10.5	131	78	91	72	761.7	1,423.3	1,206.3	1,247.4	A	A	A	A
East Sidewalk along 11th St between 45th Ave and 45th Rd	7.0	82	84	74	101	902.6	831.6	831.6	559.8	A	A	A	A
West Sidewalk along 11th St between 45th Ave and 45th Rd	5.0	109	91	81	98	343.2	574.4	447.3	381.8	B	A	B	B
South Sidewalk along 45th Ave between 11th St and Vernon Blvd	7.0	35	34	44	36	1,306.8	1,736.6	982.8	1,155.0	A	A	A	A
North Sidewalk along 45th Ave between 11th St and Vernon Blvd	2.0	22	36	38	21	658.8	422.3	393.8	746.7	A	B	B	A
East Sidewalk along 11th St between 45th Rd and 46th Ave	6.5	204	118	148	137	325.4	523.5	417.3	439.6	B	B	B	B
South Sidewalk along 45th Rd between 11th St and 21st St	2.0	98	58	71	38	155.0	331.7	237.5	393.8	B	B	B	B
West Sidewalk along 11 St between 45th Rd and 46th Ave	8.0	216	119	146	107	237.5	567.0	611.9	790.5	B	A	A	A
South Sidewalk along 45th Rd between Vernon Blvd and 11th St	4.0	19	10	17	18	1,325.5	2,993.7	1,984.6	1,478.4	A	A	A	A
North Sidewalk along 46th Ave between 11th St and 21st St	5.5	94	66	104	113	583.8	742.5	508.8	468.3	A	A	B	B
East Sidewalk along 21st St between 44th Rd and 44th Dr	4.5	506	427	264	141	93.7	87.3	155.7	291.8	B	C	B	B
North Sidewalk along 44th Dr between 21st St and 23rd St	1.5	185	234	233	117	65.0	63.5	59.9	135.3	C	C	C	B
South Sidewalk along 44th Dr between 21st St and 23rd St	9.5	1,186	857	1,156	508	85.3	102.4	85.6	197.6	C	B	C	B
West Sidewalk along 21st St between 44th Rd and 44th Dr	7.5	219	206	221	75	309.1	358.9	342.6	926.6	B	B	B	A
South Sidewalk along 45th Rd between 21st St and 23rd St	1.5	197	109	133	104	73.8	127.3	105.6	138.6	C	B	B	B
South Sidewalk along Queens Plaza South between 21st St and 13th St	4.5	72	29	84	57	497.4	1,493.2	432.7	581.4	B	A	B	A
South Sidewalk along Queens Plaza South between Crescent St and 27th St	1.5	1,044	830	966	731	11.8	17.5	15.0	20.8	E	E	E	E
East Sidewalk along 21st St between 40th Ave and 41st Ave	3.5	200	165	259	258	182.8	186.3	134.6	127.1	B	B	B	B
West Sidewalk along 21st St between 40th Ave and 41st Ave	4.0	639	495	604	345	63.5	90.9	72.0	101.6	C	B	C	B

CROSSWALKS

Study area intersections are a mix of signalized and stop controlled, and the signalized intersections generally include pedestrian signals. The majority of crosswalks in the area feature high visibility striping and analyzed crosswalks generally range from 13 to 15 feet in width. **Table 14-49** shows the peak hour volumes, average pedestrian space (in sf/ped), and levels of service at analyzed crosswalks.

It should be noted that a total of 19 crosswalks at five intersections are unsignalized intersections and are included in the analysis based on guidance from DOT. In addition, nine of the analyzed crosswalks are currently not striped, but are anticipated to be striped as high visibility crosswalks by the 2035 analysis year. Therefore, the LOS conditions for these 19 crosswalks are unable to be assessed.

As shown in **Table 14-49**, all analyzed crosswalks currently operate at an acceptable LOS C or better in all peak hours.

CORNER AREAS

Table 14-50 shows the peak hour volumes, average pedestrian space (in sf/ped) and levels of service at analyzed corner areas. As shown in **Table 14-50**, all of the analyzed corner areas currently operate at an uncongested LOS A in the weekday AM, midday, PM, and Saturday peak hours.

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

Pedestrian volumes along analyzed sidewalks, crosswalks, and corner areas are expected to increase during the 2024 through 2035 period as a result of background growth as well as demand from new development. In determining future No Action pedestrian volumes, development on projected development sites pursuant to existing zoning was considered, as was demand from other No Action development projects (see Table 2-13A in Chapter 2, “Land Use, Zoning, and Public Policy”). Conditions on analyzed sidewalks, crosswalks, and corner areas in the No Action condition are discussed below.

SIDEWALKS

Table 14-51 shows the No Action peak hour pedestrian volumes, average pedestrian space, and platoon-adjusted levels of service at analyzed sidewalks. As shown in **Table 14-51**, all analyzed sidewalks are projected to operate at an acceptable LOS C or better in all peak hours with the exception of seven sidewalks in one or more peak hours.

CROSSWALKS

Table 14-52 shows the peak hour volumes, average pedestrian space, and levels of service at analyzed crosswalks in the No Action condition. As shown in **Table 14-52**, all analyzed crosswalks are expected to operate at an acceptable LOS C or better in all peak hours with the exception of the north crosswalk of 11th Street and 46th Avenue during the AM peak hour, the north crosswalk of 21st Street and 44th Drive during the AM peak hour, and the south crosswalk of 21st Street and 44th Drive during the AM, midday, and PM peak hours.

Table 14-49
Existing Crosswalk Conditions

Intersection	Crosswalk	Crosswalk Width	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Vernon Blvd & 44th Ave	North	8.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vernon Blvd & 44th Ave	East	14.0	10	16	17	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vernon Blvd & 44th Ave	South	8.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vernon Blvd & 44th Ave	West	8.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vernon Blvd & 44th Rd	East	14.0	13	24	27	15	3,046.1	1,694.2	1,382.6	3,075.5	A	A	A	A
Vernon Blvd & 44th Dr	North	14.0	56	54	42	28	318.6	287.8	359.8	621.1	A	A	A	A
Vernon Blvd & 44th Dr	East	14.0	32	40	52	54	1,026.2	885.8	784.0	644.6	A	A	A	A
Vernon Blvd & 44th Dr	South	14.5	24	30	39	27	633.9	416.1	363.6	576.5	A	A	A	A
Vernon Blvd & 44th Dr	West	15.0	79	59	51	64	545.1	866.1	738.9	670.4	A	A	A	A
Vernon Blvd & 46th Ave	North	14.0	188	117	173	166	154.2	247.0	212.6	207.9	A	A	A	A
Vernon Blvd & 46th Ave	East	13.0	109	83	101	90	251.1	308.3	273.8	320.1	A	A	A	A
Vernon Blvd & 46th Ave	South	14.0	189	182	171	138	142.9	94.6	198.7	254.3	A	A	A	A
Vernon Blvd & 46th Ave	West	13.5	128	97	107	134	227.4	286.0	258.3	219.9	A	A	A	A
Vernon Blvd & 46th Rd	West	12.5	206	157	229	199	133.2	175.6	135.4	151.7	A	A	A	A
11th St and 44th Ave	East	17.0	48	49	52	63	955.8	1,204.1	1,129.1	765.1	A	A	A	A
11th St and 44th Ave	South	12.0	20	24	20	21	782.8	612.4	883.5	780.8	A	A	A	A
11th St and 44th Ave	West	17.0	31	47	39	46	1,644.5	787.4	1,403.4	986.2	A	A	A	A
11th St and 44th Rd	East	13.0	62	69	81	78	670.4	697.0	669.0	668.5	A	A	A	A
11th St and 44th Rd	South	12.0	42	44	46	30	424.7	455.3	481.4	531.7	A	A	A	A
11th St and 44th Rd	West	13.0	69	75	112	58	677.7	494.5	425.5	530.0	A	A	A	A
11th St and 44th Dr	North	14.0	126	103	104	80	93.3	111.4	94.2	137.4	A	A	A	A
11th St and 44th Dr	East	14.5	96	90	83	78	472.3	500.1	731.3	828.2	A	A	A	A
11th St and 44th Dr	South	21.0	94	102	130	137	221.6	163.0	122.7	138.2	A	A	A	A
11th St and 44th Dr	West	13.0	51	68	73	63	828.8	481.1	665.9	616.9	A	A	A	A
11th St and 45th Ave	North	13.5	59	45	66	39	217.3	301.5	166.8	326.2	A	A	A	A
11th St and 45th Ave	East	13.5	101	104	98	96	511.7	447.2	494.6	510.4	A	A	A	A
11th St and 45th Ave	South	14.0	64	43	58	53	257.6	335.7	235.1	245.4	A	A	A	A
11th St and 45th Ave	West	13.5	97	70	67	74	340.4	751.7	630.4	562.0	A	A	A	A
11th St and 45th Rd	East	12.0	213	114	177	157	196.7	337.6	284.5	270.5	A	A	A	A
11th St and 45th Rd	South	14.0	96	42	70	44	94.0	332.3	226.6	334.2	A	A	A	A
11th St and 45th Rd	West	13.0	134	86	97	84	273.2	462.1	492.8	509.0	A	A	A	A
11th St and 46th Ave	North	13.5	165	94	150	118	68.5	118.2	84.0	108.8	A	A	A	A
11th St and 46th Ave	East	14.5	131	74	92	110	341.8	701.1	542.0	523.7	A	A	A	A
11th St and 46th Ave	South	16.0	102	65	56	93	98.4	150.0	251.1	133.1	A	A	A	A
11th St and 46th Ave	West	13.5	114	73	88	75	387.7	517.0	597.0	620.5	A	A	A	A
21st St and 44th Dr	North	13.5	222	179	234	146	60.7	95.9	76.7	124.3	A	A	A	A
21st St and 44th Dr	South	15.0	564	416	538	296	35.4	40.8	36.0	71.6	C	B	C	A
21st St and 45th Rd	South	13.0	89	74	87	63	202.3	293.0	260.0	335.5	A	A	A	A
21st St and 40th Ave	East	10.0	153	125	155	130	224.2	258.3	206.3	259.8	A	A	A	A

Note:
N/A is noted for crosswalks at unsignalized intersections or are not currently striped.

Table 14-50
Existing Corner Conditions

Intersection	Corner	Average Pedestrian Space (ft^2/ped)				Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT
Vernon Blvd & 44th Rd	NE	2,764.5	2,073.1	2,174.3	3,202.1	A	A	A	A
Vernon Blvd & 44th Rd	SE	10,913.2	5,749.7	7,494.9	7,069.5	A	A	A	A
Vernon Blvd & 44th Dr	NE	974.9	941.4	965.0	1,136.9	A	A	A	A
Vernon Blvd & 44th Dr	SE	139.2	107.4	100.0	104.8	A	A	A	A
Vernon Blvd & 44th Dr	SW	1,367.5	1,442.2	1,023.2	1,568.1	A	A	A	A
Vernon Blvd & 44th Dr	NW	776.0	922.8	949.1	1,056.4	A	A	A	A
Vernon Blvd & 46th Ave	NE	345.1	508.6	424.3	445.4	A	A	A	A
Vernon Blvd & 46th Ave	SE	281.7	238.1	317.8	392.5	A	A	A	A
Vernon Blvd & 46th Ave	SW	233.7	160.2	266.0	303.4	A	A	A	A
Vernon Blvd & 46th Ave	NW	300.7	389.9	348.9	315.1	A	A	A	A
Vernon Blvd & 46th Rd	NE	533.0	577.4	339.6	532.1	A	A	A	A
Vernon Blvd & 46th Rd	SW	313.4	388.9	301.6	341.2	A	A	A	A
Vernon Blvd & 46th Rd	NW	389.7	526.2	400.1	397.6	A	A	A	A
11th St & 44th Ave	NE	1,331.5	1,584.7	1,584.2	987.5	A	A	A	A
11th St & 44th Ave	SE	1,776.8	1,952.6	2,169.6	1,576.3	A	A	A	A
11th St & 44th Ave	SW	1,851.4	1,102.8	1,700.6	1,301.0	A	A	A	A
11th St & 44th Ave	NW	1,787.8	1,348.8	2,378.7	1,513.4	A	A	A	A
11th St & 44th Rd	NE	770.4	1,228.7	1,109.5	1,260.0	A	A	A	A
11th St & 44th Rd	SE	1,134.9	1,136.7	1,165.4	1,137.5	A	A	A	A
11th St & 44th Rd	SW	1,064.8	920.3	789.1	1,085.5	A	A	A	A
11th St & 44th Rd	NW	983.5	1,135.1	916.9	1,128.9	A	A	A	A
11th St & 44th Dr	NE	595.9	514.5	798.1	1,008.0	A	A	A	A
11th St & 44th Dr	SE	568.8	606.8	610.8	627.1	A	A	A	A
11th St & 44th Dr	SW	505.3	353.0	289.3	294.5	A	A	A	A
11th St & 44th Dr	NW	1,355.2	1,237.9	1,317.1	1,373.8	A	A	A	A
11th St & 45th Ave	NE	621.2	649.3	588.4	813.8	A	A	A	A
11th St & 45th Ave	SE	875.7	985.9	952.2	889.7	A	A	A	A
11th St & 45th Ave	SW	581.8	1,072.2	746.1	761.4	A	A	A	A
11th St & 45th Ave	NW	579.5	1,002.1	695.4	934.2	A	A	A	A
11th St & 45th Rd	NE	566.6	904.0	726.1	732.2	A	A	A	A
11th St & 45th Rd	SE	286.4	619.0	501.0	557.6	A	A	A	A
11th St & 45th Rd	SW	400.0	962.8	831.3	942.7	A	A	A	A
11th St & 45th Rd	NW	473.1	765.8	706.8	722.7	A	A	A	A
11th St & 46th Ave	NE	365.8	693.6	480.8	555.3	A	A	A	A
11th St & 46th Ave	SE	405.7	685.9	702.1	566.7	A	A	A	A
11th St & 46th Ave	SW	208.2	298.0	390.5	270.6	A	A	A	A
11th St & 46th Ave	NW	348.4	523.0	400.0	457.3	A	A	A	A
21st St & 44th Dr	NE	210.0	217.9	291.1	612.4	A	A	A	A
21st St & 44th Dr	SE	125.4	145.3	143.8	322.1	A	A	A	A
21st St & 44th Dr	SW	120.6	131.0	125.4	250.6	A	A	A	A
21st St & 44th Dr	NW	325.6	401.2	365.2	741.0	A	A	A	A
21st St & 45th Rd	SE	153.3	234.4	192.0	238.8	A	A	A	A
21st St & 45th Rd	SW	223.9	288.1	236.2	372.3	A	A	A	A
21st St & 40th Ave	NE	541.0	579.9	539.0	601.1	A	A	A	A
21st St & 40th Ave	SE	211.1	216.2	184.2	199.5	A	A	A	A

Table 14-51
No Action Sidewalk Conditions

Location	Effective Width (ft)	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
East Sidewalk along Vernon Blvd between 44th Ave and 43rd Rd	3.5	25	44	58	59	563.3	665.2	421.3	266.4	A	A	B	B
South Sidewalk along 44th Ave between Vernon Blvd and 9th St	2.5	16	24	35	40	464.0	675.0	322.4	556.8	B	A	B	A
South Sidewalk along 44th Rd between Vernon Blvd and 10th St	9.5	402	292	421	481	187.9	146.2	155.3	79.4	B	B	B	C
North Sidewalk along 44th Dr between Vernon Blvd and 10th St	11.5	350	268	381	395	343.4	412.8	293.9	248.9	B	B	B	B
South Sidewalk along 44th Dr between Vernon Blvd and 10th St	4.0	287	224	361	375	135.3	155.4	68.2	52.6	B	B	C	C
North Sidewalk along 44th Dr between Vernon Blvd and 5th St	4.5	14	16	39	17	1,207.1	1,403.3	2,245.3	2,227.5	A	A	A	A
South Sidewalk along 44th Dr between Vernon Blvd and 5th St	11.5	31	24	15	18	5,367.2	3,671.7	1,366.2	2,732.4	A	A	A	A
South Sidewalk along 45th Ave between 5th St and Vernon Blvd	2.5	2	5	2	2	11,880.0	2,257.2	11,880.0	11,880.0	A	A	A	A
East Sidewalk along Vernon Blvd between 45th Ave and 45th Rd	8.5	119	133	176	203	504.8	442.2	450.0	366.7	B	B	B	B
East Sidewalk along Vernon Blvd between 45th Rd and 46th Ave	8.0	221	216	289	285	356.3	246.1	260.0	270.5	B	B	B	B
North Sidewalk along 46th Ave between Vernon Blvd and 11th St	8.0	598	362	633	602	115.8	162.6	118.4	111.8	B	B	B	B
East Sidewalk along Vernon Blvd between 46th Ave and 46th Rd	8.0	164	198	281	205	486.7	239.9	294.1	398.6	B	B	B	B
South Sidewalk along 46th Ave between Vernon Blvd and 11th St	7.5	202	188	311	277	370.4	293.7	209.0	283.0	B	B	B	B
West Sidewalk along Vernon Blvd between 46th Ave and 46th Rd	7.5	257	245	386	406	277.2	254.5	147.5	146.8	B	B	B	B
South Sidewalk along 46th Ave between Vernon Blvd and 5th St	7.5	332	269	307	255	217.2	192.0	211.7	279.4	B	B	B	B
West Sidewalk along Vernon Blvd between 45th Ave and 46th Ave	8.0	312	340	481	560	269.7	200.7	152.2	122.2	B	B	B	B
North Sidewalk along 46th Ave between Vernon Blvd and 5th St	5.0	637	468	764	787	69.5	79.6	60.1	66.0	C	C	C	C
West Sidewalk along Vernon Blvd between 46th Rd and 47th Ave	7.0	312	302	453	439	226.4	253.2	170.5	147.5	B	B	B	B
East Sidewalk along 10th St between 44th Ave and 44th Rd	4.0	101	130	184	220	381.0	182.6	141.8	135.9	B	B	B	B
West Sidewalk along 10th St between 44th Rd and 44th Ave	0.5	36	65	106	95	141.1	33.0	26.3	22.5	B	D	D	E
South Sidewalk along 44th Ave between 10th St and 9th St	7.5	24	26	38	46	2,153.2	2,570.2	1,172.3	774.7	A	A	A	A
West Sidewalk along 10th St between 44th Rd and 44th Dr	11.0	31	49	66	69	3,161.6	1,840.2	772.2	833.3	A	A	A	A
East Sidewalk along 10th St between 44th Dr and 45th Ave	4.0	122	118	157	208	285.0	245.3	257.8	173.6	B	B	B	B
East Sidewalk along 11th St between 44th Ave and 44th Rd	8.0	75	86	111	141	760.3	895.1	676.4	404.3	A	A	A	B
South Sidewalk along 44th Ave between 11th St and 21st St	1.5	66	49	91	70	145.6	247.2	103.5	99.0	B	B	B	B
West Sidewalk along 11 St between 44th Ave and 44th Rd	4.0	64	103	129	107	556.8	235.2	290.9	288.6	A	B	B	B
South Sidewalk along 44th Ave between 10th St and 11th St	9.5	59	76	112	92	1,166.8	1,395.9	836.3	920.0	A	A	A	A
East Sidewalk along 11th St between 44th Rd and 44th Dr	3.0	187	172	243	251	117.9	186.3	121.5	100.5	B	B	B	B

Table 14-51 (cont'd)
No Action Sidewalk Conditions

Location	Effective Width (ft)	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
South Sidewalk along 44th Rd between 11th St and 21st St	8.5	291	197	321	317	253.2	353.6	210.6	216.5	B	B	B	B
West Sidewalk along 11 St between 44th Rd and 44th Dr	12.5	160	167	230	213	603.2	471.2	561.7	439.2	A	B	A	B
South Sidewalk along 44th Rd between 10th St and 11th St	4.0	415	310	457	497	74.0	114.7	47.2	76.1	C	B	C	C
North Sidewalk along 44th Dr between 11th St and 21st St	12.0	525	486	579	645	187.2	170.0	194.4	198.8	B	B	B	B
East Sidewalk along 11th St between 44th Dr and 45th Ave	7.5	168	177	221	260	445.4	367.4	350.7	294.6	B	B	B	B
South Sidewalk along 44th Dr between 11th St and 21st St	12.5	502	406	536	539	236.5	310.8	227.0	220.3	B	B	B	B
West Sidewalk along 11th St between 44th Dr and 45th Ave	3.5	153	170	213	251	233.6	168.6	154.0	109.1	B	B	B	B
South Sidewalk along 44th Dr between 10th St and 11th St	0.5	324	245	380	433	12.8	17.3	9.3	7.8	E	E	F	F
North Sidewalk along 44th Dr between 10th St and 11th St	10.5	349	257	364	429	285.8	431.9	301.5	209.2	B	B	B	B
East Sidewalk along 11th St between 45th Ave and 45th Rd	7.0	172	182	217	242	430.2	383.7	283.5	233.5	B	B	B	B
West Sidewalk along 11th St between 45th Ave and 45th Rd	5.0	199	187	236	270	187.9	279.4	153.3	138.4	B	B	B	B
South Sidewalk along 45th Ave between 11th St and Vernon Blvd	7.0	53	57	74	67	862.9	1,035.8	584.3	620.5	A	A	A	A
North Sidewalk along 45th Ave between 11th St and Vernon Blvd	2.0	14	34	45	48	1,035.2	447.2	332.5	326.6	A	B	B	B
East Sidewalk along 11th St between 45th Rd and 46th Ave	6.5	284	199	264	258	233.7	310.3	233.9	233.3	B	B	B	B
South Sidewalk along 45th Rd between 11th St and 21st St	7.0	421	350	399	382	126.2	192.3	147.8	136.9	B	B	B	B
West Sidewalk along 11 St between 45th Rd and 46th Ave	8.0	301	205	273	253	170.3	329.1	327.2	334.2	B	B	B	B
South Sidewalk along 45th Rd between Vernon Blvd and 11th St	4.0	198	194	270	256	127.0	154.1	124.7	103.7	B	B	B	B
North Sidewalk along 46th Ave between 11th St and 21st St	6.5	379	209	396	389	171.0	277.0	157.8	160.6	B	B	B	B
East Sidewalk along 21st St between 44th Rd and 44th Dr	7.5	802	512	536	299	98.6	121.6	127.8	229.3	B	B	B	B
North Sidewalk along 44th Dr between 21st St and 23rd St	1.5	628	580	713	687	17.7	24.6	18.2	21.8	E	D	E	E
South Sidewalk along 44th Dr between 21st St and 23rd St	9.5	1,609	1,176	1,582	979	62.6	74.4	62.3	102.3	C	C	C	B
West Sidewalk along 21st St between 44th Rd and 44th Dr	7.5	409	317	407	236	165.4	233.2	185.9	294.4	B	B	B	B
South Sidewalk along 45th Rd between 21st St and 23rd St	1.5	501	354	437	455	28.1	38.5	31.3	30.8	D	D	D	D
South Sidewalk along Queens Plaza South between 21st St and 13th St	4.5	241	347	368	323	148.4	124.5	98.5	102.3	B	B	B	B
South Sidewalk along Queens Plaza South between Crescent St and 27th St	5.6	1,392	1,147	1,416	1,193	38.3	50.9	41.9	50.0	D	C	C	C
East Sidewalk along 21st St between 40th Ave and 41st Ave	3.5	819	525	893	703	44.0	58.1	38.3	46.1	C	C	D	C
West Sidewalk along 21st St between 40th Ave and 41st Ave	4.0	1,254	847	1,230	785	31.7	52.7	34.7	44.1	D	C	D	C

Table 14-52
No Action Crosswalk Conditions

Intersection	Crosswalk	Crosswalk Width	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Vernon Blvd & 44th Ave	North	8.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vernon Blvd & 44th Ave	East	14.0	25	34	52	52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vernon Blvd & 44th Ave	South	8.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vernon Blvd & 44th Ave	West	8.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vernon Blvd & 44th Rd	East	14.0	389	294	437	479	36.8	44.6	28.5	31.1	C	B	C	C
Vernon Blvd & 44th Dr	North	14.0	304	238	323	351	39.4	37.2	27.0	28.4	C	C	C	C
Vernon Blvd & 44th Dr	East	14.0	82	106	150	163	275.3	236.1	193.0	148.3	A	A	A	A
Vernon Blvd & 44th Dr	South	14.5	287	231	332	353	54.6	52.2	48.0	45.5	B	B	B	B
Vernon Blvd & 44th Dr	West	15.0	479	415	573	664	95.1	133.7	70.9	70.8	A	A	A	A
Vernon Blvd & 46th Ave	North	14.0	626	414	693	693	43.4	66.7	49.9	46.9	B	A	B	B
Vernon Blvd & 46th Ave	East	13.0	197	178	243	204	143.8	141.7	109.0	137.3	A	A	A	A
Vernon Blvd & 46th Ave	South	14.0	226	235	247	227	117.4	72.5	135.3	152.3	A	A	A	A
Vernon Blvd & 46th Ave	West	13.5	266	277	372	434	104.5	97.3	71.2	64.5	A	A	A	A
Vernon Blvd & 46th Rd	West	12.5	300	265	381	334	87.5	102.2	80.1	88.3	A	A	A	A
11th St and 44th Ave	East	17.0	66	68	86	104	689.6	865.4	681.8	460.8	A	A	A	A
11th St and 44th Ave	South	12.0	38	48	53	60	410.8	308.3	328.4	274.6	A	A	A	A
11th St and 44th Ave	West	17.0	51	68	81	96	988.4	548.9	680.8	469.5	A	A	A	A
11th St and 44th Rd	East	13.0	89	102	140	148	465.7	471.0	384.5	349.3	A	A	A	A
11th St and 44th Rd	South	12.0	340	242	369	400	38.5	78.1	55.9	36.2	C	A	B	C
11th St and 44th Rd	West	13.0	97	105	175	131	483.0	360.5	272.2	237.5	A	A	A	A
11th St and 44th Dr	North	14.0	377	297	384	417	29.8	37.0	25.4	24.9	C	C	C	C
11th St and 44th Dr	East	14.5	160	158	205	215	268.1	289.6	296.4	294.5	A	A	A	A
11th St and 44th Dr	South	21.0	393	321	441	495	47.8	50.3	36.2	35.8	B	B	C	C
11th St and 44th Dr	West	13.0	189	208	287	332	220.1	161.2	164.0	114.0	A	A	A	A
11th St and 45th Ave	North	13.5	72	61	98	80	177.0	222.1	111.5	158.8	A	A	A	A
11th St and 45th Ave	East	13.5	190	199	234	226	267.3	231.3	200.8	213.8	A	A	A	A
11th St and 45th Ave	South	14.0	78	62	88	89	210.9	232.8	153.6	144.6	A	A	A	A
11th St and 45th Ave	West	13.5	180	161	217	251	170.1	320.6	187.3	163.0	A	A	A	A
11th St and 45th Rd	East	12.0	303	212	318	295	131.5	180.0	156.2	141.6	A	A	A	A
11th St and 45th Rd	South	14.0	257	207	275	243	34.2	65.1	54.6	58.4	C	A	B	B
11th St and 45th Rd	West	13.0	239	200	279	282	142.5	195.8	167.4	148.4	A	A	A	A
11th St and 46th Ave	North	13.5	470	253	475	420	23.3	43.3	25.5	29.7	D	B	C	C
11th St and 46th Ave	East	14.5	215	181	231	268	206.6	284.1	212.6	212.8	A	A	A	A
11th St and 46th Ave	South	16.0	154	135	158	220	68.0	70.8	88.1	54.8	A	A	A	B
11th St and 46th Ave	West	13.5	189	170	233	242	228.3	216.1	214.3	184.1	A	A	A	A
21st St and 44th Dr	North	13.5	565	457	621	618	20.5	35.9	27.8	28.0	D	C	C	C
21st St and 44th Dr	South	15.0	974	724	948	761	19.2	23.1	19.8	26.9	D	D	D	C
21st St and 45th Rd	South	13.0	342	288	346	341	49.7	73.5	62.4	59.7	B	A	A	B
21st St and 40th Ave	East	10.0	284	371	352	283	121.6	84.5	86.4	115.8	A	A	A	A

Note:
N/A is noted for crosswalks at unsignalized intersections or are not currently striped.

CORNER AREAS

Table 14-53 shows the peak hour volumes, average pedestrian space, and levels of service at analyzed corner areas in the No Action condition. As shown in **Table 14-53**, all analyzed corner areas are expected to operate at an acceptable LOS C or better in all peak hours with the exception of the southeast corner of Vernon Boulevard and 44th Drive during all peak hours.

Table 14-53
No Action Corner Conditions

Intersection	Corner	Average Pedestrian Space (ft^2/ped)				Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT
Vernon Blvd & 44th Rd	NE	42.4	45.5	29.7	31.0	B	B	C	C
Vernon Blvd & 44th Rd	SE	316.8	364.5	248.2	264.8	A	A	A	A
Vernon Blvd & 44th Dr	NE	225.0	213.3	165.7	159.1	A	A	A	A
Vernon Blvd & 44th Dr	SE	15.2	8.8	10.1	5.3	D	E	E	F
Vernon Blvd & 44th Dr	SW	192.6	229.1	151.0	151.3	A	A	A	A
Vernon Blvd & 44th Dr	NW	116.8	133.8	81.4	82.1	A	A	A	A
Vernon Blvd & 46th Ave	NE	119.4	166.1	120.8	121.4	A	A	A	A
Vernon Blvd & 46th Ave	SE	207.9	162.8	187.2	223.8	A	A	A	A
Vernon Blvd & 46th Ave	SW	164.2	108.2	142.2	138.6	A	A	A	A
Vernon Blvd & 46th Ave	NW	97.5	118.6	88.9	79.2	A	A	A	A
Vernon Blvd & 46th Rd	NE	330.2	361.0	212.6	323.0	A	A	A	A
Vernon Blvd & 46th Rd	SW	208.7	228.9	184.1	216.8	A	A	A	A
Vernon Blvd & 46th Rd	NW	253.1	310.6	233.4	242.8	A	A	A	A
11th St & 44th Ave	NE	988.8	1,152.5	994.2	637.0	A	A	A	A
11th St & 44th Ave	SE	1,198.4	1,287.3	1,138.2	826.8	A	A	A	A
11th St & 44th Ave	SW	1,131.3	724.9	838.5	623.4	A	A	A	A
11th St & 44th Ave	NW	1,131.1	858.8	975.1	601.5	A	A	A	A
11th St & 44th Rd	NE	620.0	919.4	702.3	685.3	A	A	A	A
11th St & 44th Rd	SE	246.3	390.6	297.5	205.7	A	A	A	A
11th St & 44th Rd	SW	191.3	320.1	207.8	166.2	A	A	A	A
11th St & 44th Rd	NW	774.4	865.5	608.9	558.0	A	A	A	A
11th St & 44th Dr	NE	277.5	280.4	289.0	272.9	A	A	A	A
11th St & 44th Dr	SE	236.2	264.3	213.5	200.9	A	A	A	A
11th St & 44th Dr	SW	132.9	124.7	96.0	81.9	A	A	A	A
11th St & 44th Dr	NW	424.1	433.4	353.3	283.6	A	A	A	A
11th St & 45th Ave	NE	409.2	403.4	309.1	373.3	A	A	A	A
11th St & 45th Ave	SE	575.4	573.8	469.7	454.4	A	A	A	A
11th St & 45th Ave	SW	347.1	569.4	330.1	301.7	A	A	A	A
11th St & 45th Ave	NW	338.0	552.3	311.3	320.3	A	A	A	A
11th St & 45th Rd	NE	394.0	513.3	422.6	391.8	A	A	A	A
11th St & 45th Rd	SE	149.6	257.0	215.5	210.8	A	A	A	A
11th St & 45th Rd	SW	176.6	304.0	249.1	235.3	A	A	A	A
11th St & 45th Rd	NW	274.9	359.8	300.5	270.6	A	A	A	A
11th St & 46th Ave	NE	156.1	264.3	160.4	180.0	A	A	A	A
11th St & 46th Ave	SE	262.6	313.7	287.3	238.1	A	A	A	A
11th St & 46th Ave	SW	319.8	317.1	349.1	245.0	A	A	A	A
11th St & 46th Ave	NW	150.5	220.4	152.5	154.7	A	A	A	A
21st St & 44th Dr	NE	111.4	148.0	133.3	187.7	A	A	A	A
21st St & 44th Dr	SE	86.3	109.3	94.8	163.2	A	A	A	A
21st St & 44th Dr	SW	68.1	80.9	71.7	100.1	A	A	A	A
21st St & 44th Dr	NW	136.0	205.2	166.0	195.2	A	A	A	A
21st St & 45th Rd	SE	58.6	96.1	65.7	67.1	B	A	A	A
21st St & 45th Rd	SW	84.2	111.4	93.9	100.2	A	A	A	A
21st St & 40th Ave	NE	323.8	250.6	259.4	325.5	A	A	A	A
21st St & 40th Ave	SE	132.4	104.2	101.6	129.4	A	A	A	A

THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITION)

As discussed in Chapter 1, Project Description," the Proposed Actions would include the mapping of new public streets to coordinate private and public improvements and to provide access to new mixed-use developments. As shown in **Figure 14-7**, these new mapped streets would include an extension of 44th Avenue west toward the waterfront. The mapping actions also includes the establishment of a new loop road as an extension of 5th Street running north from 44th Drive and an extension of 44th Avenue running west of Vernon Boulevard. These new street segments are reflected in the assignment of incremental pedestrian trips associated with the Proposed Actions. To be conservative with respect to the analysis of potential impacts to applicable analyzed pedestrian elements, incremental pedestrian trips were assumed to primarily utilize sidewalks, corners and crosswalks for access to and from projected development sites in proximity to these shorefront public walkways. It should also be noted that under the Proposed Actions some corridors may be widened or narrowed, including 45th Avenue and 44th Drive, respectively, west of Vernon Boulevard.

Incremental pedestrian demand generated by the Proposed Actions by 2035 would include trips made solely by walking, as well as pedestrian trips en route to and from subway/rail station entrances, ferry landings, and bus stops. Pedestrian trips generated by the Proposed Actions are expected to be most concentrated in proximity to projected development sites and along corridors connecting these sites to area transit services.

As shown in **Table 14-11**, the Proposed Actions are expected to generate a net total of approximately 5,976 walk-only trips in the weekday AM peak hour, 11,295 in the midday peak hour, 10,325 in the PM peak hour, and 11,558 in the Saturday peak hour. Persons en route to and from subway/rail station entrances, ferry landings, and bus stops would add approximately 14,031, 6,686, 12,473, and 11,454 additional pedestrian trips to Project Area sidewalks and crosswalks during these same periods, respectively. These pedestrian volumes were added to the projected No Action volumes to generate the With Action pedestrian volumes for analysis.

Anticipated conditions and significant adverse impacts at analyzed sidewalks, crosswalks, and corner areas in the With Action condition are shown in **Tables 14-54 through 14-56**. As discussed below, a total of 26 sidewalks, 16 crosswalks, and 10 corners would be impacted in one or more peak hours. Potential mitigation for these sidewalk, crosswalk, and corner impacts are discussed in Chapter 21, "Mitigation."

SIDEWALKS

Table 14-54 shows the incremental change in peak hour pedestrian volumes attributable to the Proposed Actions and the total With Action pedestrian volumes, average pedestrian space, and platoon-adjusted levels of service at analyzed sidewalks. In addition, **Table 14-54** identifies the sidewalks that are expected to be significantly adversely impacted in one or more peak hours based on the *CEQR Technical Manual* criteria shown in **Table 14-19**. As shown in **Table 14-54**, there would be significant adverse impacts at 26 of the 55 analyzed sidewalks in one or more peak hours. These would include:

- The east sidewalk on Vernon Boulevard between 44th Avenue and 43rd Road in the AM, PM, and Saturday peak hours;

- The south sidewalk on 44th Avenue between Vernon Boulevard and 9th Street in the AM, Midday, and PM peak hours;
- The south sidewalk on 44th Road between Vernon Boulevard and 10th Street in the Saturday peak hour;
- The south sidewalk on 44th Drive between Vernon Boulevard and 10th Street in all analyzed peak hours;
- The north sidewalk on 44th Drive between Vernon Boulevard and 5th Street in all analyzed peak hours;
- The south sidewalk on 45th Avenue between 5th Street and Vernon Boulevard in all analyzed peak hours;
- The north sidewalk on 46th Avenue between Vernon Boulevard and 11th Street in the AM, PM, and Saturday peak hours;
- The west sidewalk on Vernon Boulevard between 45th Avenue and 46th Avenue in all analyzed peak hours;
- The north sidewalk on 46th Avenue between Vernon Boulevard and 5th Street in all analyzed peak hours;
- The east sidewalk on 10th Street between 44th Avenue and 44th Road in the Midday, PM, and Saturday peak hours;
- The west sidewalk on 10th Street between 44th Road and 44th Avenue in all analyzed peak hours;
- The east sidewalk on 10th Street between 44th Drive and 45th Avenue in the Saturday peak hour;
- The south sidewalk on 44th Avenue between 11th Street and 21st Street in the PM and Saturday peak hours;
- The east sidewalk on 11th Street between 44th Road and 44th Drive in the AM, PM, and Saturday peak hours;
- The south sidewalk on 44th Road between 10th Street and 11th Street in all analyzed peak hours;
- The north sidewalk on 44th Drive between 11th Street and 21st Street in the AM peak hour;
- The west sidewalk on 11th Street between 44th Drive and 45th Avenue in the Saturday peak hour;
- The south sidewalk on 45th Road between 11th Street and 21st Street in the AM and Saturday peak hours;
- The south sidewalk on 45th Road between Vernon Boulevard and 11th Street in the AM and Saturday peak hours;
- The north sidewalk on 44th Drive between 21st Street and 23rd Street in all analyzed peak hours;
- The south sidewalk on 44th Drive between 21st Street and 23rd Street in all analyzed peak hours;
- The south sidewalk on 45th Road between 21st Street and 23rd Street in all analyzed peak hours;

- The south sidewalk on Queens Plaza South between 21st Street and 13th Street in the AM and PM peak hours;
- The south sidewalk on Queens Plaza South between Crescent Street and 27th Street in the AM and PM peak hours;
- The east sidewalk on 21st Street between 40th Avenue and 41st Avenue in the AM, PM, and Saturday peak hours; and
- The west sidewalk on 21st Street between 40th Avenue and 41st Avenue in the AM, PM, and Saturday peak hours.

CROSSWALKS

Table 14-55 shows the incremental change in peak hour pedestrian volumes attributable to the Proposed Actions and the total With Action pedestrian volumes, average pedestrian space, and levels of service at analyzed crosswalks. It should be noted that 44th Avenue and Vernon Boulevard is an unsignalized T-intersection under existing conditions; however, with the proposed mapping actions, a fourth leg would be introduced and it is assumed that the north, west, and south crosswalks will also be added. The intersection has also passed the signal warrant and will be signalized under the With Action conditions. As shown in **Table 14-55**, based on the *CEQR Technical Manual* criteria shown in **Table 14-20**, there would be significant adverse impacts at 16 of the 54 analyzed crosswalks in one or more peak hours as result of the Proposed Actions. These would include:

- The north crosswalk on Vernon Boulevard and 44th Drive in all analyzed peak hours;
- The south crosswalk on Vernon Boulevard and 44th Drive in all analyzed peak hours;
- The west crosswalk on Vernon Boulevard and 44th Drive in the AM, PM, and Saturday peak hours;
- The north crosswalk on Vernon Boulevard and 46th Avenue in all analyzed peak hours;
- The west crosswalk on Vernon Boulevard and 46th Avenue in all analyzed peak hours;
- The west crosswalk on Vernon Boulevard and 46th Road in the Saturday peak hour;
- The south crosswalk on 11th Street and 44th Road in all analyzed peak hours;
- The north crosswalk on 11th Street and 44th Drive in all analyzed peak hours;
- The south crosswalk on 11th Street and 44th Drive in all analyzed peak hours;
- The south crosswalk on 11th Street and 45th Avenue in the Saturday peak hour;
- The south crosswalk on 11th Street and 45th Road in all analyzed peak hours;
- The north crosswalk on 11th Street and 46th Avenue in all analyzed peak hours;
- The south crosswalk on 11th Street and 46th Avenue in all analyzed peak hours;
- The north crosswalk on 21st Street and 44th Drive in all analyzed peak hours;
- The south crosswalk on 21st Street and 44th Drive in all analyzed peak hours; and
- The south crosswalk on 21st Street and 45th Road in all analyzed peak hours.

CORNER AREAS

Table 14-56 shows the peak hour volumes, average pedestrian space and levels of service at analyzed corner areas. As shown in **Table 14-56**, based on the *CEQR Technical Manual* criteria shown in **Table 14-20**, there would be significant adverse impacts at 10 of the 45 analyzed corners in one or more peak hours. These would include:

- The southeast corner of Vernon Boulevard and 44th Drive in all analyzed peak hours;
- The southwest corner of Vernon Boulevard and 44th Drive in the PM and Saturday peak hours;
- The northwest corner of Vernon Boulevard and 44th Drive in the AM, PM, and Saturday peak hours;
- The northeast corner of Vernon Boulevard and 46th Avenue in the AM, PM, and Saturday peak hours;
- The northwest corner of Vernon Boulevard and 46th Avenue in all analyzed peak hours;
- The southwest corner of 11th Street and 44th Drive in all analyzed peak hours;
- The southwest corner of 21st Street and 44th Drive in the AM and PM peak hours;
- The northwest corner of 21st Street and 44th Drive in the AM peak hour;
- The southeast corner of 21st Street and 45th Road in the AM, PM, and Saturday peak hours; and
- The southwest corner of 21st Street and 45th Road in the AM peak hour.

Table 14-54
With Action Sidewalk Conditions

Location	Effective Width (ft)	Project Increment				Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
East Sidewalk along Vernon Blvd between 44th Ave and 43rd Rd	3.5	936	911	1105	738	961	955	1,163	797	16.5	34.0	25.7	24.9	E *	D	D *	D *
South Sidewalk along 44th Ave between Vernon Blvd and 9th St	2.5	680	731	810	450	696	755	845	490	7.8	18.1	11.1	44.8	F *	E *	E *	C
South Sidewalk along 44th Rd between Vernon Blvd and 10th St	9.5	691	552	860	998	1,093	844	1,281	1,479	68.7	50.2	50.5	24.8	C	C	C	D *
North Sidewalk along 44th Dr between Vernon Blvd and 10th St	11.5	2061	1443	2057	2310	2,411	1,711	2,438	2,705	49.3	64.2	45.3	35.5	C	C	C	D
South Sidewalk along 44th Dr between Vernon Blvd and 10th St	4.0	2149	1444	2164	2308	2,436	1,668	2,525	2,683	14.3	19.9	6.9	3.6	E *	E *	F *	F *
North Sidewalk along 44th Dr between Vernon Blvd and 5th St	4.5	1030	683	1083	1313	1,044	699	1,122	1,330	18.7	30.3	19.8	21.7	E *	D *	E *	E *
South Sidewalk along 44th Dr between Vernon Blvd and 5th St	11.5	1817	1054	1571	1722	1,848	1,078	1,586	1,740	71.5	83.7	46.8	34.0	C	C	C	D
South Sidewalk along 45th Ave between 5th St and Vernon Blvd	2.5	1360	1321	1816	2035	1,362	1,326	1,818	2,037	15.7	4.9	10.7	9.0	E *	F *	F *	F *
East Sidewalk along Vernon Blvd between 45th Ave and 45th Rd	8.5	638	641	862	965	757	774	1,038	1,168	81.0	77.9	79.4	66.1	C	C	C	C
East Sidewalk along Vernon Blvd between 45th Rd and 46th Ave	8.0	1031	800	1184	1373	1,252	1,016	1,473	1,658	63.3	52.7	51.7	47.5	C	C	C	C
North Sidewalk along 46th Ave between Vernon Blvd and 11th St	8.0	1912	1258	2004	2236	2,510	1,620	2,637	2,838	26.5	35.5	27.4	22.5	D *	D	D *	E *
East Sidewalk along Vernon Blvd between 46th Ave and 46th Rd	8.0	299	311	426	512	463	509	707	717	172.2	93.0	116.7	113.7	B	B	B	B
South Sidewalk along 46th Ave between Vernon Blvd and 11th St	7.5	421	393	553	662	623	581	864	939	119.9	94.8	74.9	83.1	B	B	C	C
West Sidewalk along Vernon Blvd between 46th Ave and 46th Rd	7.5	555	621	865	971	812	866	1,251	1,377	87.4	71.6	44.9	42.6	C	C	C	C
South Sidewalk along 46th Ave between Vernon Blvd and 5th St	7.5	737	650	922	1235	1,069	919	1,229	1,490	67.1	55.7	52.3	47.2	C	C	C	C
West Sidewalk along Vernon Blvd between 45th Ave and 46th Ave	8.0	2564	2328	3394	3803	2,876	2,668	3,875	4,363	28.0	24.1	17.0	13.5	D *	D *	E *	E *
North Sidewalk along 46th Ave between Vernon Blvd and 5th St	5.0	2157	1706	2622	2773	2,794	2,174	3,386	3,560	14.0	15.4	11.4	12.6	E *	E *	E *	E *
West Sidewalk along Vernon Blvd between 46th Rd and 47th Ave	7.0	513	469	644	804	825	771	1,097	1,243	85.3	98.9	70.1	51.6	C	B	C	C
East Sidewalk along 10th St between 44th Ave and 44th Rd	4.0	463	668	752	822	564	798	936	1,042	67.8	28.7	26.8	27.7	C	D *	D *	D *
West Sidewalk along 10th St between 44th Rd and 44th Ave	0.5	1124	1071	1273	803	1,160	1,136	1,379	898	-2.3	-14.4	-12.4	-9.7	F *	F *	F *	F *
South Sidewalk along 44th Ave between 10th St and 9th St	7.5	581	516	654	318	605	542	692	364	85.1	123.0	63.9	97.6	C	B	C	B
West Sidewalk along 10th St between 44th Rd and 44th Dr	11.0	482	422	612	506	513	471	678	575	190.9	191.3	74.8	99.7	B	B	C	B
East Sidewalk along 10th St between 44th Dr and 45th Ave	4.0	664	678	935	1039	786	796	1,092	1,247	44.7	36.8	37.9	29.1	C	D	D	D *
East Sidewalk along 11th St between 44th Ave and 44th Rd	8.0	670	506	757	530	745	592	868	671	76.1	129.8	86.1	84.6	C	B	C	C
South Sidewalk along 44th Ave between 11th St and 21st St	1.5	216	300	285	227	282	349	376	297	33.2	33.8	23.9	22.1	D	D	D *	E *
West Sidewalk along 11 St between 44th Ave and 44th Rd	4.0	499	467	610	474	563	570	739	581	62.8	41.8	50.2	52.6	C	C	C	C
South Sidewalk along 44th Ave between 10th St and 11th St	9.5	127	199	208	219	186	275	320	311	370.0	385.7	292.6	272.1	B	B	B	B
East Sidewalk along 11th St between 44th Rd and 44th Dr	3.0	785	616	920	725	972	788	1,163	976	21.4	40.0	24.2	24.7	E *	D	D *	D *

Table 14-54 (cont'd)
With Action Sidewalk Conditions

Location	Effective Width (ft)	Project Increment				Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
South Sidewalk along 44th Rd between 11th St and 21st St	8.5	1044	881	1102	808	1,335	1,078	1,423	1,125	54.7	64.2	46.9	60.5	C	C	C	C
West Sidewalk along 11 St between 44th Rd and 44th Dr	12.5	635	578	809	725	795	745	1,039	938	121.2	105.4	124.1	99.4	B	B	B	B
South Sidewalk along 44th Rd between 10th St and 11th St	4.0	1290	1224	1446	1173	1,705	1,534	1,903	1,670	16.4	21.9	8.8	21.4	E *	E *	F *	E *
North Sidewalk along 44th Dr between 11th St and 21st St	12.0	2867	1493	2481	2315	3,392	1,979	3,060	2,960	27.9	41.0	36.0	42.6	D *	C	D	C
East Sidewalk along 11th St between 44th Dr and 45th Ave	7.5	608	598	747	776	776	775	968	1,036	96.1	83.6	79.7	73.5	B	C	C	C
South Sidewalk along 44th Dr between 11th St and 21st St	12.5	2725	1548	2459	2439	3,227	1,954	2,995	2,978	36.0	64.1	39.9	39.1	D	C	D	D
West Sidewalk along 11th St between 44th Dr and 45th Ave	3.5	405	524	575	638	558	694	788	889	63.6	40.6	41.0	29.9	C	C	C	D *
South Sidewalk along 44th Dr between 10th St and 11th St	12.0	2370	1597	2260	2553	2,694	1,842	2,640	2,986	42.1	59.9	40.3	36.4	C	C	C	D
North Sidewalk along 44th Dr between 10th St and 11th St	10.5	2420	1529	2235	2159	2,769	1,786	2,599	2,588	35.2	61.7	41.5	33.8	D	C	C	D
East Sidewalk along 11th St between 45th Ave and 45th Rd	7.0	530	539	683	718	702	721	900	960	105.1	96.6	67.9	58.4	B	B	C	C
West Sidewalk along 11th St between 45th Ave and 45th Rd	5.0	478	564	651	753	677	751	887	1,023	54.7	69.2	40.1	35.7	C	C	C	D
South Sidewalk along 45th Ave between 11th St and Vernon Blvd	7.0	267	265	382	447	320	322	456	514	142.7	183.2	94.5	80.5	B	B	B	C
North Sidewalk along 45th Ave between 11th St and Vernon Blvd	7.0	497	514	704	865	511	548	749	913	99.0	96.8	69.5	59.6	B	B	C	C
East Sidewalk along 11th St between 45th Rd and 46th Ave	6.5	659	531	786	834	943	730	1,050	1,092	70.0	84.3	58.3	54.6	C	C	C	C
South Sidewalk along 45th Rd between 11th St and 21st St	7.0	1256	820	1254	1491	1,677	1,170	1,653	1,873	30.8	57.0	34.9	26.9	D *	C	D	D *
West Sidewalk along 11 St between 45th Rd and 46th Ave	8.0	662	578	796	941	963	783	1,069	1,194	52.7	85.8	83.2	70.4	C	C	C	C
South Sidewalk along 45th Rd between Vernon Blvd and 11th St	4.0	581	378	597	742	779	572	867	998	31.4	51.8	38.1	25.5	D *	C	D	D *
North Sidewalk along 46th Ave between 11th St and 21st St	6.5	1072	699	1073	1228	1,451	908	1,469	1,617	44.0	63.3	41.9	37.9	C	C	C	D
East Sidewalk along 21st St between 44th Rd and 44th Dr	7.5	1004	532	948	552	1,806	1,044	1,484	851	43.2	59.2	45.6	80.2	C	C	C	C
North Sidewalk along 44th Dr between 21st St and 23rd St	1.5	3478	1687	3060	2527	4,106	2,267	3,773	3,214	-7.4	2.0	-4.5	-1.3	F *	F *	F *	F *
South Sidewalk along 44th Dr between 21st St and 23rd St	9.5	3313	1662	2919	2596	4,922	2,838	4,501	3,575	19.2	30.0	20.7	27.0	E *	D *	E *	D *
West Sidewalk along 21st St between 44th Rd and 44th Dr	7.5	917	535	882	470	1,326	852	1,289	706	50.5	86.4	58.2	98.1	C	C	C	B
South Sidewalk along 45th Rd between 21st St and 23rd St	1.5	2095	1280	1973	2292	2,596	1,634	2,410	2,747	0.2	4.9	0.6	-0.6	F *	F *	F *	F *
South Sidewalk along Queens Plaza South between 21st St and 13th St	4.5	1053	950	863	227	1,294	1,297	1,231	550	26.6	32.5	28.5	59.8	D *	D	D *	C
South Sidewalk along Queens Plaza South between Crescent St and 27th St	5.6	635	172	565	285	2,027	1,319	1,981	1,478	25.7	44.1	29.5	40.1	D *	C	D *	C
East Sidewalk along 21st St between 40th Ave and 41st Ave	3.5	507	383	565	722	1,326	908	1,458	1,425	26.5	33.0	22.7	21.7	D *	D	E *	E *
West Sidewalk along 21st St between 40th Ave and 41st Ave	4.0	405	356	459	657	1,659	1,203	1,689	1,442	23.4	36.7	24.7	23.1	D *	D	D *	D *

Note: * denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

Table 14-55
With Action Crosswalk Conditions

Intersection	Crosswalk	Crosswalk Width	Project Increment				Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Vernon Blvd & 44th Ave	North	8.0	136	141	188	152	143	151	202	168	82.8	80.8	58.6	71.9	A	A	B	A
Vernon Blvd & 44th Ave	East	14.0	1171	1095	1389	793	1,196	1,129	1,441	845	17.9	30.6	25.3	44.3	D	C	C	B
Vernon Blvd & 44th Ave	South	8.0	77	95	113	109	93	117	142	143	111.9	99.5	76.8	78.3	A	A	A	A
Vernon Blvd & 44th Ave	West	8.0	279	284	398	386	292	302	427	422	101.3	98.0	68.4	69.3	A	A	A	A
Vernon Blvd & 44th Rd	East	14.0	812	630	942	747	1,201	924	1,379	1,226	29.2	38.3	23.5	34.0	C	C	D	C
Vernon Blvd & 44th Dr	North	14.0	1796	1175	1709	1974	2,100	1,413	2,032	2,325	5.0	7.9	5.4	5.7	F *	F *	F *	F *
Vernon Blvd & 44th Dr	East	14.0	684	632	943	897	766	738	1,093	1,060	40.3	45.0	34.0	30.1	B	B	C	C
Vernon Blvd & 44th Dr	South	14.5	2095	1514	2161	2540	2,382	1,745	2,493	2,893	4.2	4.7	3.9	3.4	F *	F *	F *	F *
Vernon Blvd & 44th Dr	West	15.0	1659	1203	1839	2103	2,138	1,618	2,412	2,767	16.9	27.6	12.4	12.6	D *	C	E *	E *
Vernon Blvd & 46th Ave	North	14.0	2670	1904	2941	3272	3,296	2,318	3,634	3,965	6.3	9.5	7.2	6.0	F *	E *	F *	F *
Vernon Blvd & 46th Ave	East	13.0	530	509	703	858	727	687	946	1,062	31.8	33.7	25.4	23.4	C	C	C	D
Vernon Blvd & 46th Ave	South	14.0	501	461	658	812	727	696	905	1,039	34.5	22.5	33.0	29.8	C	D	C	C
Vernon Blvd & 46th Ave	West	13.5	1185	1244	1757	2110	1,451	1,521	2,129	2,544	16.3	14.0	8.5	7.3	D *	E *	E *	F *
Vernon Blvd & 46th Rd	West	12.5	646	591	822	1050	946	856	1,203	1,384	24.7	28.8	22.7	18.4	C	C	D	D *
11th St and 44th Ave	East	17.0	666	537	757	516	732	605	843	620	59.2	93.3	64.5	73.3	B	A	A	A
11th St and 44th Ave	South	12.0	208	254	266	192	246	302	319	252	57.4	42.5	42.1	61.8	B	B	B	A
11th St and 44th Ave	West	17.0	570	530	671	466	621	598	752	562	77.3	60.4	68.3	76.2	A	A	A	A
11th St and 44th Rd	East	13.0	648	428	748	540	737	530	888	688	50.2	86.1	55.3	70.5	B	A	B	A
11th St and 44th Rd	South	12.0	1148	1034	1245	951	1,488	1,276	1,614	1,351	7.6	12.1	10.4	8.7	F *	E *	E *	E *
11th St and 44th Rd	West	13.0	515	454	659	547	612	559	834	678	71.8	66.4	52.2	42.0	A	A	B	B
11th St and 44th Dr	North	14.0	2306	1375	2066	2095	2,683	1,672	2,450	2,512	2.5	5.0	2.6	2.8	F *	F *	F *	F *
11th St and 44th Dr	East	14.5	737	801	942	881	897	959	1,147	1,096	45.2	46.2	48.5	54.6	B	B	B	B
11th St and 44th Dr	South	21.0	2568	1503	2357	2417	2,961	1,824	2,798	2,912	5.1	7.5	4.4	4.7	F *	F *	F *	F *
11th St and 44th Dr	West	13.0	1125	982	1326	1243	1,314	1,190	1,613	1,575	28.4	25.8	26.1	21.2	C	C	C	D
11th St and 45th Ave	North	13.5	245	284	388	471	317	345	486	551	38.8	37.9	21.5	21.9	C	C	D	D
11th St and 45th Ave	East	13.5	670	652	839	898	860	851	1,073	1,124	56.0	50.4	41.7	39.5	B	B	B	C
11th St and 45th Ave	South	14.0	353	340	471	557	431	402	559	646	37.0	34.7	22.8	18.6	C	C	D	D *
11th St and 45th Ave	West	13.5	618	718	848	985	798	879	1,065	1,236	38.4	53.6	32.5	28.4	C	B	C	C
11th St and 45th Rd	East	12.0	483	423	620	663	786	635	938	958	49.4	57.2	49.5	40.5	B	B	B	B
11th St and 45th Rd	South	14.0	1078	711	1088	1320	1,335	918	1,363	1,563	6.0	13.9	10.2	8.0	F *	E *	E *	E *
11th St and 45th Rd	West	13.0	583	575	761	904	822	775	1,040	1,186	39.3	47.2	41.7	32.1	C	B	B	C
11th St and 46th Ave	North	13.5	1349	786	1306	1418	1,819	1,039	1,781	1,838	5.2	9.7	6.0	5.9	F *	E *	F *	F *
11th St and 46th Ave	East	14.5	343	390	491	570	558	571	722	838	76.9	86.9	65.0	65.1	A	A	A	A
11th St and 46th Ave	South	16.0	391	393	542	650	545	528	700	870	19.2	17.1	18.9	12.9	D *	D *	D *	E *
11th St and 46th Ave	West	13.5	296	329	433	517	485	499	666	759	87.0	69.7	68.0	54.2	A	A	A	B
21st St and 44th Dr	North	13.5	2833	1472	2484	2258	3,398	1,929	3,105	2,876	2.5	7.7	4.6	5.1	F *	F *	F *	F *
21st St and 44th Dr	South	15.0	3297	1694	2924	2637	4,271	2,418	3,872	3,398	3.6	6.2	4.0	5.1	F *	F *	F *	F *
21st St and 45th Rd	South	13.0	1180	741	1125	1327	1,522	1,029	1,471	1,668	9.1	19.3	13.0	10.7	E *	D *	E *	E *
21st St and 40th Ave	East	10.0	577	343	699	574	861	714	1,051	857	37.2	41.2	24.4	34.5	C	B	C	C

Note:

* denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

Table 14-56
With Action Corner Conditions

Intersection	Corner	Average Pedestrian Space (ft^2/ped)				Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT
Vernon Blvd & 44th Rd	NE	46.1	50.8	32.3	38.8	B	B	C	C
Vernon Blvd & 44th Rd	SE	136.7	190.0	150.2	151.1	A	A	A	A
Vernon Blvd & 44th Dr	NE	39.3	45.0	29.2	30.4	C	B	C	C
Vernon Blvd & 44th Dr	SE	-5.6	-10.8	-7.9	-9.7	F *	F *	F *	F *
Vernon Blvd & 44th Dr	SW	20.0	29.7	18.4	15.7	D	C	D *	D *
Vernon Blvd & 44th Dr	NW	11.1	26.0	12.4	11.1	E *	C	E *	E *
Vernon Blvd & 46th Ave	NE	17.9	24.9	15.0	12.3	D *	C	E *	E *
Vernon Blvd & 46th Ave	SE	53.5	44.9	47.9	41.7	B	B	B	B
Vernon Blvd & 46th Ave	SW	35.5	24.7	26.7	19.9	C	C	C	D
Vernon Blvd & 46th Ave	NW	8.7	12.7	8.2	5.3	E *	E *	E *	F *
Vernon Blvd & 46th Rd	NE	100.8	110.0	62.6	63.9	A	A	A	A
Vernon Blvd & 46th Rd	SW	72.6	77.4	61.6	49.4	A	A	A	B
Vernon Blvd & 46th Rd	NW	74.7	93.1	67.0	51.7	A	A	A	B
11th St & 44th Ave	NE	105.2	117.4	106.2	119.0	A	A	A	A
11th St & 44th Ave	SE	126.7	161.5	135.6	147.6	A	A	A	A
11th St & 44th Ave	SW	122.1	94.4	107.9	120.2	A	A	A	A
11th St & 44th Ave	NW	130.8	100.0	114.9	120.5	A	A	A	A
11th St & 44th Rd	NE	130.3	185.2	136.4	156.7	A	A	A	A
11th St & 44th Rd	SE	42.3	62.8	54.1	46.6	B	A	B	B
11th St & 44th Rd	SW	38.2	60.5	43.9	38.1	C	A	B	C
11th St & 44th Rd	NW	184.7	172.5	141.2	115.5	A	A	A	A
11th St & 44th Dr	NE	42.2	58.2	40.5	42.1	B	B	B	B
11th St & 44th Dr	SE	28.5	38.0	24.1	20.9	C	C	C	D
11th St & 44th Dr	SW	-0.2	10.0	2.5	4.3	F *	E *	F *	F *
11th St & 44th Dr	NW	43.9	62.5	41.2	38.7	B	A	B	C
11th St & 45th Ave	NE	96.2	87.0	61.3	62.3	A	A	A	A
11th St & 45th Ave	SE	132.6	122.7	91.3	81.6	A	A	A	A
11th St & 45th Ave	SW	75.0	92.7	58.5	46.9	A	A	B	B
11th St & 45th Ave	NW	73.9	94.9	57.4	50.0	A	A	B	B
11th St & 45th Rd	NE	157.9	166.2	141.9	114.0	A	A	A	A
11th St & 45th Rd	SE	31.2	59.9	40.4	31.0	C	B	B	C
11th St & 45th Rd	SW	26.5	63.1	49.8	35.3	C	A	B	C
11th St & 45th Rd	NW	85.3	96.8	84.0	65.2	A	A	A	A
11th St & 46th Ave	NE	37.8	59.4	31.7	32.4	C	B	C	C
11th St & 46th Ave	SE	80.6	81.7	72.6	58.8	A	A	A	B
11th St & 46th Ave	SW	98.0	81.0	91.5	59.1	A	A	A	B
11th St & 46th Ave	NW	26.3	49.4	34.8	29.3	C	B	C	C
21st St & 44th Dr	NE	24.0	51.0	30.4	41.3	C	B	C	B
21st St & 44th Dr	SE	25.7	42.5	29.2	39.2	C	B	C	C
21st St & 44th Dr	SW	9.4	22.7	13.4	21.1	E *	D	E *	D
21st St & 44th Dr	NW	18.7	56.9	32.8	43.6	D *	B	C	B
21st St & 45th Rd	SE	12.7	20.0	10.7	7.9	E *	D	E *	F *
21st St & 45th Rd	SW	11.0	32.3	24.3	20.3	E *	C	C	D
21st St & 40th Ave	NE	103.1	110.8	70.6	94.5	A	A	A	A
21st St & 40th Ave	SE	44.3	40.0	30.9	40.7	B	B	C	B

Note: * denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

J. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

RECENT DOT INITIATIVES

VISION ZERO QUEENS PEDESTRIAN SAFETY ACTION PLAN

The City's Vision Zero initiative seeks to eliminate all deaths from traffic crashes regardless of whether on foot, bicycle, or inside a motor vehicle. In an effort to drive these fatalities down, DOT and the New York City Police Department (NYPD) developed a set of five plans, each of which analyzes the unique conditions of one New York City borough and recommends actions to address the borough's specific challenges to pedestrian safety. These plans pinpoint the conditions and characteristics of pedestrian fatalities and severe injuries; they also identify priority corridors, intersections, and areas that disproportionately account for pedestrian fatalities and severe injuries, prioritizing them for safety interventions. The plans outline a series of recommended actions comprised of engineering, enforcement, and education measures that intend to alter the physical and behavioral conditions on City streets that lead to pedestrian fatality and injury.

The *Vision Zero Queens Pedestrian Safety Action Plan* was initially released on February 19, 2015 and a *Boroughs Pedestrian Action Plan Update* was released in 2019, which was last updated in 2023. A small portion of the study area north of 43rd Avenue and east of 12th Street is located within a Priority Area where safety issues were found to occur systematically at an area-wide level. 21st Street, 37th Avenue, Queens Plaza North, Queens Plaza South, and Queens Plaza are identified as Priority Corridors. The intersections of Jackson Avenue at Davis Street, 21st Street at Queens Plaza North, 21st Street at 37th Avenue, 27th Street at Queens Plaza, and Van Dam at 47th Avenue are identified as Priority Intersections. In addition, much of the Project Area south of Queens Plaza is located within a Senior Pedestrian Focus Area. Actions recommended in the *Vision Zero Queens Pedestrian Safety Action Plan* to enhance pedestrian safety in Queens are summarized below. Many of these actions were subsequently advanced as reported in the 2019 and 2023 updates.

Actions recommended in the *Vision Zero Queens Pedestrian Safety Action Plan* to enhance pedestrian safety in Queens are summarized below.

Engineering and Planning

- Implement at least 50 Vision Zero safety engineering improvements at Priority Corridors, Intersections, and Areas citywide, informed by community input
- Expand exclusive pedestrian crossing time, install expanded speed limit signage, and modify signal timing to reduce off-speak speeding on Priority Corridors and Intersections where feasible
- Expand community outreach and engagement with regard to Priority Corridors, Intersections, and Areas
- Install additional lighting under elevated trains and around other key transit stops
- Coordinate with MTA to ensure bus operations contribute to a safe pedestrian environment
- Expand a bicycle network in Queens that improves safety for all road users

- Proactively design for pedestrian safety in high-growth areas in Queens

Enforcement

- Deploy speed camera at Priority Corridors, Intersections, and Areas
- Focus enforcement and deploy dedicated resources to Queens NYPD precincts that overlap substantially with Priority Areas
- Prioritize targeted enforcement at all Priority Corridors, Intersections, and Areas annually

Education and Awareness Campaigns

- Target child and senior safety education at Priority Corridors and Priority Areas
- Launch multilingual public information campaigns in Priority Areas
- Target intensive street-level outreach at Priority Corridors, Intersections, and Areas

STUDY AREA HIGH CRASH LOCATIONS

Crash data for analyzed intersections in the traffic and pedestrian study areas were obtained from DOT for the three-year period between January 1, 2017, and December 31, 2019 (the most recent three-year period for which data are available before the Covid-19 pandemic). The data quantify the total number of reportable crashes (involving a fatality, injury, or more than $1,000 in property damage) and non-reportable crashes as well as the total number of crashes involving injuries to pedestrians or bicyclists. During the three-year reporting period, a total of 2,301 reportable and non-reportable crashes, 1,030 total injuries, 233 pedestrian/bicyclist-related injury crashes and two fatalities occurred at intersections within the ¼-mile study area.

According to the *CEQR Technical Manual*, a high crash location is defined as an intersection where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. In addition, any location along a Vision Zero priority corridor with three or more pedestrian/bicyclist injury crashes in any consecutive 12 months of the most recent three-year period for which data is available should be identified as a high crash location. As shown in **Table 14-57**, five pedestrian analysis intersections, all of which are located along a Vision Zero Priority Corridor and of which one is a Vision Zero Priority Intersection, were found to have experienced a total of three or more pedestrian/bicyclist injury crashes in any more year. There is an additional traffic analysis intersection that is also a Vision Zero Priority Intersection. As such, these six intersections have been selected for the safety assessment.

JACKSON AVENUE AT QUEENS BOULEVARD

This intersection is located on a priority corridor. At this intersection, a total of one pedestrian injury crash and five bicycle injury crashes occurred in 2017. Two pedestrian injury crashes and three bicycle injury crashes occurred in 2018. Four pedestrian injury crashes and one bicycle injury crash occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. In addition, the intersection includes a median on the north approach that separates northbound and southbound vehicular traffic.

Table 14-57
Summary of Crash Data 2017-2019

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicyclist Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
		2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
BORDEN AVENUE	VERNON BOULEVARD	0	0	1	0	0	0	0	0	1	3	6	9
	23 STREET	1	1	0	0	0	0	1	1	0	4	9	0
	21 STREET	0	0	0	0	0	0	0	0	0	1	1	1
	25 STREET	0	0	1	0	0	0	0	0	1	1	6	5
	VAN DAM STREET	0	0	1	0	0	0	0	0	1	21	52	60
	27 STREET	0	0	0	0	0	0	0	0	0	3	6	3
JACKSON AVENUE	QUEENS BOULEVARD	1	2	4	5	3	1	**6**	**5**	**5**	41	94	93
	51 AVENUE	0	0	0	0	0	0	0	0	0	0	3	3
	11 STREET	0	0	1	1	0	1	1	0	2	9	22	20
	48 AVENUE	0	0	0	0	0	1	0	0	1	1	2	3
	47 ROAD	0	0	0	0	0	0	0	0	0	3	7	3
	21 STREET	2	0	1	1	1	0	**3**	1	1	6	5	14
	46 ROAD	0	0	0	0	0	0	0	0	0	1	3	3
	CRANE STREET	1	0	0	0	0	0	1	0	0	1	1	0
	23 STREET / DAVIS STREET	2	0	1	1	0	0	3	0	1	6	5	7
	PEARSON STREET	0	0	0	0	0	0	0	0	0	0	0	2
	COURT SQUARE	0	1	1	0	0	0	0	1	1	0	2	2
	45 AVENUE	0	0	0	0	0	0	0	0	0	0	1	1
	THOMSON AVENUE	0	0	1	0	0	1	0	0	2	3	3	6
	44 DRIVE	0	1	0	0	1	0	0	2	0	3	7	3
	43 AVENUE	1	1	1	0	0	0	1	1	1	3	5	9
	42 ROAD	0	0	0	0	1	0	0	1	0	3	9	3
	ORCHARD STREET	0	1	0	0	0	0	0	1	0	0	5	4
	50 AVENUE	0	1	1	0	0	0	0	1	1	3	4	10
	46 AVENUE	0	1	0	0	0	0	0	1	0	0	4	4
QUEENS PLAZA SOUTH	10 STREET	0	0	0	0	0	0	0	0	0	1	5	1
	VERNON BOULEVARD	0	0	0	0	0	0	0	0	0	1	3	3
	ED KOCH BR UPPER 11 STREET / ROADWAY APPR	1	1	0	0	1	0	1	2	0	5	7	4
	ED KOCH BR UPPER 13 STREET / ROADWAY APPR	0	0	0	0	0	0	0	0	0	0	3	1
	9 STREET	0	0	0	0	0	0	0	0	0	0	1	1
	12 STREET	0	0	0	0	0	0	0	0	0	0	2	1
	CRESCENT STREET (RAMP)	1	4	1	0	1	0	1	**5**	1	14	32	26
QUEENS PLAZA NORTH	24 STREET	0	0	0	0	0	0	0	0	0	0	1	4
	27 STREET	0	5	3	2	0	0	2	**5**	**3**	13	22	17
	29 STREET / QUEENS PLAZA	0	1	2	2	1	1	2	2	**3**	6	7	10
	41 AVENUE	0	0	0	0	0	0	0	0	0	0	1	1
	22 STREET	0	0	0	0	0	1	0	0	1	4	8	10
	23 STREET	0	0	1	0	0	1	0	0	2	4	4	4
	21 STREET / QUEENS PLAZA SOUTH	0	2	1	0	0	2	0	2	**3**	8	12	23

Notes: Shading denotes a high crash location based on *CEQR Technical Manual* criteria.

Table 14-57 (cont'd)
Summary of Crash Data 2017-2019

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicyclist Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
		2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
CENTER BOULEVARD	50 AVENUE	0	0	0	0	0	0	0	0	0	0	0	0
	49 AVENUE	0	0	1	0	0	0	0	0	1	1	0	2
	48 AVENUE	0	0	0	1	0	0	1	0	0	2	0	0
	47 ROAD	0	0	0	0	0	0	0	0	0	0	3	1
	47 AVENUE	0	0	0	0	0	0	0	0	0	1	1	3
	46 AVENUE	0	0	0	0	0	0	0	0	0	0	0	0
2 STREET	50 AVENUE	0	0	0	0	0	0	0	0	0	2	1	1
5 STREET	51 AVENUE	0	0	0	0	0	0	0	0	0	1	2	3
	50 AVENUE	1	0	0	0	0	0	1	0	0	2	1	2
	49 AVENUE	0	0	0	0	0	0	0	0	0	0	2	2
	48 AVENUE	0	1	0	0	0	0	0	1	0	1	1	1
	47 ROAD	1	0	1	0	0	0	1	0	1	2	5	2
	47 AVENUE	0	0	0	0	0	0	0	0	0	0	1	3
	46 ROAD	0	0	0	0	0	0	0	0	0	0	1	0
	46 AVENUE	0	0	0	0	0	0	0	0	0	3	2	2
	45 AVENUE	0	0	0	0	0	0	0	0	0	2	0	0
	44 DRIVE	0	0	0	0	0	0	0	0	0	0	0	0
VERNON BOULEVARD	51 AVENUE	0	0	0	0	0	0	0	0	0	8	6	3
	50 AVENUE	1	0	0	0	0	0	1	0	0	6	6	2
	49 AVENUE	1	0	0	0	0	0	1	0	0	1	5	4
	48 AVENUE	0	0	2	0	0	0	0	0	2	0	1	9
	47 ROAD	1	0	1	0	0	0	1	0	1	1	2	4
	47 AVENUE	0	2	0	0	0	0	0	2	0	0	3	1
	46 ROAD	0	0	1	0	0	0	0	0	1	0	0	2
	46 AVENUE	0	0	0	1	2	1	1	2	1	3	6	3
	45 ROAD	0	0	0	0	0	0	0	0	0	0	2	1
	45 AVENUE	0	0	0	0	0	0	0	0	0	1	3	2
	44 DRIVE	0	0	0	0	0	0	0	0	0	0	4	2
	44 ROAD / 9 STREET	0	0	0	0	0	0	0	0	0	3	1	1
	44 AVENUE	0	0	0	0	0	0	0	0	0	1	0	1
	43 ROAD	0	0	1	1	0	0	1	0	1	1	2	2
	43 AVENUE	0	0	0	0	0	0	0	0	0	1	3	2
	41 AVENUE	2	1	0	1	0	0	3	1	0	6	1	0
9 STREET	44 AVENUE	0	0	0	0	0	0	0	0	0	0	4	0
	43 ROAD	0	0	0	0	0	0	0	0	0	0	0	2
	40 AVENUE	0	0	0	0	0	0	0	0	0	0	0	0
10 STREET	44 DRIVE	0	2	0	0	0	0	0	2	0	5	6	2
	44 ROAD	0	0	0	0	0	0	0	0	0	8	1	2
	44 AVENUE	0	0	0	0	0	0	0	0	0	1	3	0
	43 ROAD	0	0	0	0	0	1	0	0	1	0	1	3
	43 AVENUE	0	0	0	0	0	0	0	0	0	5	9	5
	41 AVENUE	0	1	0	0	0	0	0	1	0	1	3	1
	40 AVENUE	0	0	0	1	0	0	1	0	0	2	0	1
	38 AVENUE	0	0	0	0	0	0	0	0	0	2	0	0
PULASKI BRIDGE	50 AVENUE	0	0	0	0	0	0	0	0	0	0	3	2

Notes: Shading denotes a high crash location based on *CEQR Technical Manual* criteria.

Table 14-57 (cont'd)
Summary of Crash Data 2017-2019

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicyclist Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
		2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
11 STREET	48 AVENUE	0	0	0	0	0	0	0	0	0	2	2	4
	47 ROAD	0	0	0	0	1	0	0	1	0	1	5	5
	47 AVENUE	0	0	3	0	0	1	0	0	4	2	3	5
	46 ROAD	0	0	0	0	1	0	0	1	0	0	4	2
	46 AVENUE	0	0	0	0	0	0	0	0	0	1	4	3
	45 ROAD	0	0	0	0	0	0	0	0	0	0	2	2
	45 AVENUE	0	1	0	0	0	0	0	1	0	0	4	4
	44 DRIVE	1	1	0	0	1	0	1	2	0	7	7	6
	44 AVENUE	0	0	0	0	0	0	0	0	0	0	1	5
	43 AVENUE	1	1	1	0	0	0	1	1	1	3	4	4
	40 AVENUE	0	0	0	0	0	0	0	0	0	1	0	1
	38 AVENUE	0	1	0	0	1	0	0	2	0	0	2	0
	43 ROAD	0	0	0	0	0	0	0	0	0	0	4	2
11 PLACE	49 AVENUE	0	0	0	0	0	0	0	0	0	0	5	4
12 STREET	43 ROAD	0	0	0	0	0	0	0	0	0	0	0	0
	43 AVENUE	0	0	0	0	0	0	0	0	0	0	2	0
	41 AVENUE	0	0	0	0	0	1	0	0	1	1	0	1
	40 AVENUE	1	0	0	1	0	0	2	0	0	3	1	0
	38 AVENUE	0	0	0	0	0	0	0	0	0	0	1	3
13 STREET	43 AVENUE	0	0	0	0	0	0	0	0	0	1	2	3
	40 AVENUE	0	0	0	0	0	0	0	0	0	0	1	2
	38 AVENUE	0	1	0	0	0	0	0	1	0	0	2	2
	37 AVENUE	0	0	1	0	0	0	0	0	1	0	0	2
	44 AVENUE	0	0	0	0	0	0	0	0	0	0	2	2
14 STREET	37 AVENUE	1	1	0	0	0	0	1	1	0	1	2	3
	21 STREET	0	0	0	0	0	0	0	0	0	0	0	0
21 STREET	49 AVENUE	5	0	0	1	0	0	6	0	0	7	11	4
	47 ROAD	1	0	0	0	0	0	1	0	0	1	2	0
	46 ROAD	0	1	0	1	0	0	1	1	0	1	1	2
	46 AVENUE	1	0	0	0	0	0	1	0	0	3	0	2
	45 ROAD	0	1	0	0	0	0	0	1	0	3	3	2
	45 AVENUE	0	0	0	0	0	0	0	0	0	0	4	1
	44 DRIVE	0	0	1	0	0	0	0	0	1	2	6	5
	44 ROAD	0	0	0	0	0	0	0	0	0	3	1	1
	44 AVENUE	0	0	0	0	0	0	0	0	0	0	1	3
	43 AVENUE	0	1	1	0	0	0	0	1	1	3	11	7
	ED KOCH LOWER ROADWAY OFF RAMP	0	0	0	0	0	0	0	0	0	0	0	0
	41 AVENUE	3	4	5	0	1	2	3	5	7	7	21	23
	40 AVENUE	2	1	0	0	0	0	2	1	0	6	7	6
	39 AVENUE	0	1	0	0	0	0	0	1	0	3	8	7
	38 AVENUE	1	0	0	1	0	0	2	0	0	6	7	5
	37 AVENUE	1	1	1	0	0	0	1	1	1	6	5	15
22 STREET	39 AVENUE	1	0	0	0	0	0	1	0	0	4	0	2
	38 AVENUE	0	0	0	0	0	0	0	0	0	3	5	7
	37 AVENUE	0	0	0	0	0	0	0	0	0	4	6	6
	44 AVENUE	0	0	0	0	0	0	0	0	0	0	0	0
	43 AVENUE	0	0	0	0	0	0	0	0	0	0	4	1
	41 AVENUE	0	0	0	0	0	0	0	0	0	5	3	3
	40 AVENUE	0	1	1	0	0	0	0	1	1	2	5	3

Notes: Shading denotes a high crash location based on *CEQR Technical Manual* criteria.

Table 14-57 (cont'd)
Summary of Crash Data 2017-2019

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicyclist Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
		2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
23 STREET	45 ROAD	0	1	0	0	0	0	0	1	0	0	2	2
	45 AVENUE	0	0	1	0	0	0	0	0	1	0	3	2
	44 DRIVE	0	0	1	0	0	0	0	0	1	1	4	3
	39 AVENUE	0	0	0	0	0	0	0	0	0	1	0	3
	38 AVENUE	0	0	1	0	0	0	0	0	1	5	1	2
	37 AVENUE	0	1	0	1	0	0	1	1	0	5	3	2
	44 ROAD	0	0	0	0	0	0	0	0	0	1	2	2
	44 AVENUE	0	0	0	0	0	0	0	0	0	0	0	2
	43 AVENUE	0	0	0	0	0	0	0	0	0	1	2	3
	42 ROAD	0	0	1	0	0	0	0	0	1	0	0	3
	41 AVENUE	0	0	0	0	0	0	0	0	0	3	0	4
	40 AVENUE	0	0	0	0	0	0	0	0	0	2	0	4
24 STREET	44 ROAD	0	0	0	0	0	0	0	0	0	0	0	1
	43 AVENUE	0	0	0	0	0	0	0	0	0	0	2	1
	41 AVENUE	0	0	0	0	0	0	0	0	0	0	5	2
	40 AVENUE	0	0	0	0	0	2	0	0	2	1	2	3
	39 AVENUE	0	0	0	0	0	0	0	0	0	0	0	2
	38 AVENUE	1	1	0	0	0	0	1	1	0	6	7	3
	37 AVENUE	1	0	0	0	0	0	1	0	0	4	1	7
	42 ROAD	0	0	0	0	0	0	0	0	0	0	0	2
CRESCENT STREET	43 AVENUE	0	0	0	0	0	0	0	0	0	0	1	1
	42 ROAD	0	0	0	0	0	0	0	0	0	0	3	2
	41 AVENUE	0	0	0	0	0	0	0	0	0	3	14	10
	40 AVENUE	0	0	0	0	0	0	0	0	0	1	1	1
	39 AVENUE	0	0	0	0	0	0	0	0	0	0	4	3
	38 AVENUE	0	0	0	0	0	1	0	0	1	1	0	7
27 STREET	43 AVENUE	0	0	0	0	0	0	0	0	0	1	4	1
	42 ROAD	0	0	0	0	0	0	0	0	0	0	2	2
	41 AVENUE	0	0	0	0	1	0	0	1	0	1	3	1
	40 AVENUE	1	1	0	1	0	1	2	1	1	3	2	1
	39 AVENUE	0	0	0	0	0	0	0	0	0	1	1	0
	38 AVENUE	0	0	1	0	0	0	0	0	1	1	3	2
HUNTER STREET	44 DRIVE	0	1	0	0	0	0	0	1	0	0	2	1
	28 STREET / 42 ROAD	0	1	0	0	0	0	0	1	0	0	4	1
	44 ROAD	0	0	0	0	0	0	0	0	0	0	4	0
28 STREET	41 AVENUE	1	0	1	0	0	0	1	0	1	1	2	6
	40 AVENUE	1	0	0	0	0	0	1	0	0	3	0	1
	39 AVENUE	0	0	1	1	0	0	1	0	1	1	1	2
	38 AVENUE	0	0	0	0	0	0	0	0	0	3	4	6
	QUEENS PLAZA	1	1	2	1	0	0	2	1	2	16	24	12
THOMSON AVENUE	COURT SQUARE	0	0	0	0	0	0	0	0	0	1	1	0
	44 DRIVE	0	0	0	0	0	0	0	0	0	2	5	4
	SKILLMAN AVENUE	0	1	0	0	0	0	0	1	0	7	31	25
	ED KOCH BR UPPER ROADWAY APPR	0	0	0	0	0	0	0	0	0	0	1	1
29 STREET	40 AVENUE	0	0	1	0	0	0	0	0	1	0	1	1
	39 AVENUE	0	0	0	0	0	0	0	0	0	2	2	1
	41 AVENUE	0	2	0	1	0	0	1	2	0	2	3	2
VAN DAM STREET	HUNTERS POINT AVENUE / GALE AVENUE	0	0	1	0	0	0	0	0	1	13	42	26
	48 AVENUE	0	1	0	0	0	0	0	1	0	8	12	13
	47 AVENUE	1	2	1	2	1	1	3	3	2	14	24	27
	QUEENS BOULEVARD / THOMSON AVENUE	2	4	1	2	1	0	4	5	1	32	67	43

Notes: Shading denotes a high crash location based on *CEQR Technical Manual* criteria.

Three of the seven pedestrian injury crashes occurred on a rainy day with a wet road surface, one during daylight and two at night with the road lighted. Four of the nine bicycle injury crashes occurred at night with the road lighted. In addition, three bicycle injury crashes cited driver inattention as a factor in the crash. DOT has made improvements along Queens Boulevard, adding a protected bike lane and creating signal timing adjustments along a large majority of the boulevard, which has since improved safety at this intersection. Improvements to street lighting may warrant consideration as a potential safety improvement measure at this intersection, based on the fact that two pedestrian crashes and four bicycle crashes occurred during darkness.

QUEENS PLAZA SOUTH AT ED KOCH QUEENSBORO BRIDGE OFF-RAMP/ CRESCENT STREET

This intersection is located on a priority corridor. At this intersection, a total of one pedestrian injury crash occurred in 2017, four pedestrian injury crashes occurred in 2018, and one pedestrian injury crash occurred in 2019. There was also one bicycle injury crash in 2018. The Ed Koch Queensboro Bridge roadways and the ramps connecting to it are located on elevated structures above Queens Plaza. At this intersection, traffic is funneled from the eastbound Ed Koch Queensboro Bridge Outer Roadway to Queens Plaza South via an off-ramp. The intersection is unsignalized and includes striped crosswalks only at the west and south approaches.

Two of the six pedestrian injury crashes occurred at night with the road lighted, on a rainy day with a wet road surface. This intersection was referenced in Vision Zero and DOT's "Crescent Street" safety improvement plan. DOT plans to make additional improvements at this intersection in the Queensboro Bridge South Outer Roadway Street Improvements plan, building a pedestrian landing, sidewalk, and median extension, as well as a crossing point across Queens Plaza. Several safety improvements are expected as a result of DOT's project, including the expansion of the existing sidewalk and addition of ADA ramps, the addition of crosswalks at the east approach and across Queens Plaza North and South, updating the crosswalks to high-visibility crosswalks, and installing a new traffic signal at the intersection, all of which would likely improve user safety at this location.

QUEENS PLAZA NORTH/SOUTH AT 21ST STREET

This is a priority intersection. At this intersection, a total of two pedestrian injury crashes occurred in 2018. One pedestrian injury crash and two bicycle injury crashes occurred in 2019. There were no crashes in 2017. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach.

All three of the pedestrian injury crashes occurred on a rainy day with a wet road surface, two of which occurred at night with the road lighted. One of the two bicycle injury crashes occurred at night with the road lighted. This intersection was referenced in Vision Zero and DOT's "21st Street" safety improvement plan. New York City has recently installed a Leading Pedestrian Interval (LPI) at this intersection. Improvements to street lighting may warrant consideration as a potential safety improvement measure at this intersection based on the fact that two pedestrian crashes and one bicycle crash occurred during

darkness. Impacts were identified at this intersection in the traffic analysis, and a mitigation was proposed to adjust the signal timing at this intersection (discussed in Chapter 21, "Mitigation"), which could improve user safety by allowing more time for pedestrian crossings.

21ST STREET AT 41ST AVENUE

This intersection is located on a priority corridor. At this intersection, a total of three pedestrian injury crashes and zero bicycle injury crashes occurred in 2017. Four pedestrian injury crashes and one bicycle injury crash occurred in 2018. Five pedestrian injury crashes and two bicycle injury crashes occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach.

Six of the twelve pedestrian injury crashes occurred at night with the road lighted, three of which were on a rainy day with a wet road surface. One of the three bicycle injury crashes occurred at dawn on a rainy day with a wet road surface. In addition, five pedestrian crashes and one bicycle crash cited pedestrian error/confusion as a factor in the crash, three pedestrian crashes cited failure to yield right of way as a factor in the crash, and two bicycle crashes and one pedestrian crash cited driver inattention as a factor in the crash. This intersection was referenced in Vision Zero and DOT's "21st Street" safety improvement plan. New York City has recently installed an LPI at this intersection. Improvements to street lighting may warrant consideration as a potential safety improvement measure at this intersection based on the fact that six pedestrian crashes occurred during darkness. Impacts were identified at this intersection in the traffic analysis, and a mitigation was proposed to adjust the signal timing at this intersection (discussed in Chapter 21, "Mitigation"), which could improve user safety by allowing more time for pedestrian crossings.

VAN DAM STREET AT 47TH AVENUE

This is a priority intersection. At this intersection, a total of one pedestrian injury crash and two bicycle injury crashes occurred in 2017. Two pedestrian injury crashes and one bicycle injury crash occurred in 2018. One pedestrian injury crash and one bicycle injury crash occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. In addition, the intersection includes a painted island on the north approach that separates northbound and southbound vehicular traffic.

Two of the four pedestrian injury crashes occurred on a rainy day with a wet road surface, with one occurring at dusk and the other occurring in the dark with the road lighted. One of the four bicycle injury crashes occurred with cloudy weather on a wet road surface. In addition, one bicycle crash and one pedestrian crash cited failure to yield right of way as a factor in the crash. This intersection was referenced in Vision Zero and DOT's "Long Island City – Phase I" safety improvement plan. Installation of a "slippery when wet" road warning sign approximately 50-100 feet from the crosswalk may warrant consideration as a potential safety improvement measure at this intersection based on the fact that two pedestrian crashes and one bicycle crash occurred on a wet road surface.

VAN DAM STREET AT QUEEN'S BOULEVARD/THOMSON AVENUE

This intersection is located on a priority corridor. At this intersection, a total of two pedestrian injury crashes and two bicycle injury crashes occurred in 2017. Four pedestrian injury crashes and one bicycle injury crash occurred in 2018. One pedestrian injury crash and zero bicycle injury crashes occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. In addition, the intersection includes a pedestrian island on the north approach that separates the west southbound-only lane from the east northbound/southbound lane.

Four of the seven pedestrian injury crashes occurred in the dark with the road lighted, three of which occurred at night. Two pedestrian injury crashes occurred on a rainy day with a wet road surface. In addition, three bicycle crashes cited driver inattention as a factor in the crash. This intersection was referenced in Vision Zero and DOT's "Queens Blvd and Van Dam St" safety improvement plan and "Queens Blvd, Skillman Ave to Roosevelt Ave" safety improvement plan. As discussed previously, DOT has made improvements along Queens Boulevard, adding a protected bike lane and creating signal timing adjustments along a large majority of the boulevard, which has since improved safety at this intersection. Improvements to street lighting may warrant consideration as a potential safety improvement measure at this intersection based on the fact that four pedestrian crashes occurred during darkness. Impacts were identified at this intersection in the traffic analysis, and a mitigation was proposed to adjust the signal timing at this intersection (discussed in Chapter 21, "Mitigation"), which could improve user safety by allowing more time for pedestrian crossings.

K. PARKING

Tables 14-58 and 14-59 show the hourly With Action parking demand for each land use under the Proposed Actions during the weekday and Saturday, respectively. The forecast of overnight parking demand generated by the Proposed Actions' residential component is based on 2015–2019 five-year ACS data on average vehicles per household for Queens Census Tracts 1, 7, 19, 25, and 33 which encompass the Project Area. Parking demands from all other uses are derived from the forecasts of daily auto trips from these uses.

As shown in **Tables 14-58 and 14-59**, parking demand generated by the various commercial, retail, light industrial, and community facility uses that would be developed under the Proposed Actions would typically peak during the midday hour, whereas residential parking demand would peak during the overnight period. Overall, as shown in **Table 14-58,** development associated with the Proposed Actions would generate a weekday peak net parking demand of approximately 6,086 spaces in the weekday midday (3:00 PM to 4:00 PM) period and 4,901 spaces in the overnight period. As shown in **Table 14-59**, development associated with the Proposed Actions would generate a peak net Saturday parking demand of approximately 5,092 spaces in the overnight period (from 5:00 AM to 6:00 AM). These totals should be considered conservative as they do not reflect any credit for parking demand from existing uses on projected development sites that would be eliminated under the With Action condition.

Table 14-58
With Action Weekday Hourly Parking Demand by Land Use

	Local Retail (Transit Zone)	Office	Residential	Light Industrial	PS School (staff)	Community Center	Life Science	Total Demand
12-1 AM	5	40	4,812	0	0	0	0	4,857
1-2	4	24	4,845	0	0	0	0	4,873
2-3	4	24	4,868	0	0	0	0	4,896
3-4	4	23	4,872	0	0	0	0	4,899
4-5	4	35	4,861	0	0	0	1	4,901
5-6	4	56	4,787	0	0	0	2	4,849
6-7	8	119	4,617	0	0	0	5	4,749
7-8	22	340	4,217	40	4	6	16	4,645
8-9	38	907	3,485	483	20	11	42	4,986
9-10	57	1,802	3,172	823	20	9	84	5,967
10-11	76	1,928	3,045	825	20	7	93	5,994
11-12	76	1,929	3,008	825	20	7	93	5,958
12-1 PM	92	1,923	3,008	825	20	9	88	5,965
1-2	92	1,925	3,035	825	20	10	90	5,997
2-3	111	1,934	3,046	825	4	11	92	6,023
3-4	127	1,908	3,123	825	0	13	90	6,086
4-5	114	1,713	3,199	583	0	8	81	5,698
5-6	114	998	3,419	104	0	6	47	4,688
6-7	114	503	3,712	10	0	4	24	4,367
7-8	62	271	3,937	0	0	3	13	4,286
8-9	45	177	4,185	0	0	0	7	4,414
9-10	10	115	4,406	0	0	0	3	4,534
10-11	8	81	4,585	0	0	0	0	4,674
11-12	5	63	4,729	0	0	0	0	4,797

Table 14-59
With Action Saturday Hourly Parking Demand by Land Use

	Local Retail (Transit Zone)	Office	Residential	Light Industrial	PS School (staff)	Community Center	Life Science	Total Demand
12-1 AM	6	12	4,812	0	0	0	0	4,830
1-2	6	8	4,887	0	0	0	0	4,901
2-3	6	8	4,982	0	0	0	0	4,996
3-4	6	9	5,031	0	0	0	0	5,046
4-5	6	22	5,063	0	0	0	0	5,091
5-6	6	35	5,051	0	0	0	0	5,092
6-7	8	63	5,012	0	0	0	1	5,084
7-8	20	90	4,897	9	0	0	2	5,018
8-9	31	155	4,695	77	0	0	2	4,960
9-10	53	199	4,440	129	0	1	2	4,824
10-11	63	213	4,237	135	0	0	2	4,650
11-12	74	229	4,083	136	0	-2	2	4,522
12-1 PM	74	219	3,958	137	0	-2	2	4,388
1-2	74	204	3,921	137	0	1	2	4,339
2-3	74	184	3,940	135	0	3	2	4,338
3-4	74	155	3,940	129	0	6	2	4,306
4-5	75	133	4,041	90	0	6	2	4,347
5-6	75	100	4,172	17	0	6	1	4,371
6-7	64	79	4,286	6	0	9	0	4,444
7-8	42	62	4,357	1	0	2	0	4,464
8-9	42	50	4,466	0	0	0	0	4,558
9-10	24	40	4,582	0	0	0	0	4,646
10-11	6	31	4,656	0	0	0	0	4,693
11-12	5	19	4,715	0	0	0	0	4,739

As the Proposed Actions' RWCDS includes 3,236 on-site parking spaces on projected development sites; however, the total increase in parking demand under the Proposed Actions' RWCDS would not be accommodated on-site and excess demand would seek parking availability within a ¼-mile radius of the Project Area.

As discussed under "Transportation Analysis Methodologies," the majority of the Project Area is located within Parking Zone 2 and the inability of a proposed project or the surrounding area to accommodate future parking demands would be considered a parking shortfall but would generally not be considered significant under 2021 *CEQR Technical Manual* guidance due to the magnitude of available alternative modes of transportation.

In addition, under 2021 *CEQR Technical Manual* guidance, one of the factors to be considered in determining the significance of a parking shortfall is the availability of alternative modes of transportation. The Project Area is well-served by alternate modes of transportation within walking distance of the Project Area, including six subway stations: 21st Street (G) station, Vernon Boulevard – Jackson Avenue (7) station, Court Square – 23rd Street (E/G/M/7) station complex, 21st Street – Queensbridge (F) station, and Queens Plaza (E/M/R) station.

In addition, the Project Area is well-served by 12 bus routes that not only provide bus service throughout Queens, but also to Brooklyn and Manhattan. Long Island City is the terminal for seven bus routes: the B32 with a terminal in Williamsburg, the B62 with a terminal in Downtown Brooklyn, the Q39 with a terminal in Glendale, the Q66 with a terminal in Flushing, the Q67 with a terminal in Middle Village, the Q69 with a terminal in Astoria, and the Q100 with a terminal in Rikers Island. In addition to the Q69 having a terminal in Astoria, three additional bus routes have a terminal in Astoria – the Q101 with a terminal in East Midtown, Q102 with a terminal in Roosevelt Island, and the Q103 with a terminal in Hunters Point. The Q32 bus route runs between Penn Station Midtown and Jackson Heights.

In addition, there are two NYC ferry routes that service two ferry landings within the vicinity of the Project Area. These ferry landings include the Long Island City landing at Gantry Plaza State Park (located north of 46th Avenue within the Project Area) and Hunters Point South (located immediately southwest of the Project Area). The routes that serve these landings are the Astoria and the East River routes.

Lastly, Long Island City and Hunters Point Avenue LIRR stations serve the weekday rush hours in the peak directions by the LIRR's Oyster Bay, Montauk, and Port Jefferson branches. The LIRR stations are located in the south of the Project Area within the City Terminal Zone of the LIRR.

The Project Area has a growing bicycle network with a number of bike routes within a ¼-mile radius of the Project Area. This includes protected bike lanes along Vernon Boulevard north of 46th Avenue, 44th Drive, 11th Street south of 44th Drive, Ed Koch Queensboro Bridge, and Queens Plaza North. There are also shared bike lanes along Vernon Boulevard south of 46th Avenue, 11th Street north of 44th Drive, and 23rd Street south of Queens Plaza. Moreover, there are numerous Citi Bike dock stations located within the vicinity of the Project Area. Many of the dock stations in Project Area are located along or adjacent to the 11th Street corridor.

Therefore, the Project Area is well-served by alternate modes of transportation and any potential parking shortfalls as a result of the Proposed Actions would not be considered significant per the 2021 *CEQR Technical Manual*. ✷