Chapter 13: Transportation

A. INTRODUCTION

This chapter describes the transportation characteristics and potential impacts associated with the Innovation QNS project (the Proposed Development). The Applicant (a joint venture between Kaufman Astoria Studios, Bedrock Real Estate Partners, and Silverstein Properties) is requesting a rezoning and other discretionary actions (the Proposed Actions) from the City Planning Commission (CPC) pursuant to the City's Uniform Land Use Review Procedure (ULURP) to facilitate the Proposed Development, which would redevelop a portion of the five city blocks bounded by 35th Avenue to the north, 43rd Street/Northern Boulevard to the east, 36th Avenue to the south and 37th Street to the west (the "Project Area"; see Figure 1-1 in Chapter 1, "Project Description") in the Astoria neighborhood of Queens in Community District 1. The Project Area (Blocks 641, 668, 669, 670, and 671) contains 43 lots, of which 21 are controlled by the Applicant while the remaining lots are controlled by others. The Applicant-controlled lots would be declared a Large Scale General Development (LSGD) with the Proposed Actions and would contain the Proposed Development: these lots are referred to as the "Development Site." The lots outside of the Development Site are not included in the Proposed Development but would be rezoned with the Proposed Actions: these lots are referred to as the "Additional Affected Area" (see Figure 1-2 in Chapter 1, "Project Description").

The Proposed Development, also known as the Innovation QNS project, would redevelop the Development Site with a series of mixed-use buildings and publicly accessible open space. The Innovation QNS project is intended to create a series of arts and cultural venues including a multi-purpose arts and culture center, a re-envisioned multiplex movie theater that would provide a state-of-the-art cinematic experience, galleries, artists' workshops, and tech and general office space. In addition to art and cultural venues, the project would include eating and drinking establishments, a grocery store and world market, and other local retail, service, and community facility uses to support the new residential population, the existing business and residential community, and provide a strong anchor for the Steinway Street and 35th Avenue commercial corridors. Residential towers and lower rise buildings would house approximately 2,800 new residential dwelling units (DUs) offering a wide range of housing options for a varied population. Pursuant to the Mandatory Inclusionary Housing (MIH) Option 1 program, 25 percent of the residential floor area would be permanently affordable units (approximately 711 DUs), a portion of which would be senior affordable housing units (subject to the availability of existing programs). The commercial space in the Proposed Development would also potentially include one or more physical culture establishments, i.e., a gym or fitness center. A series of outdoor spaces would link the blocks and would be programmed pursuant to ongoing community dialogue with art exhibits, a children's play area adjacent to a day care center, and covered outdoor seating serving the world market, performances, and events. Parking would be provided in below grade parking facilities on each of the project blocks. In total, the Proposed Development would contain approximately 2.9 million gross square feet (gsf) of space.

In addition to the Proposed Development with approximately 2.9 million gsf of space on Sites A through E shown in Figure 1-1 in Chapter 1, "Project Description," the Proposed Actions would facilitate the redevelopment of several projected development sites in the Additional Affected Area (Sites F, G, H, I, J, and K) that are not controlled by the Applicant. These additional developments would include approximately 800,000 gsf of residential and commercial space, similar to the Proposed Development. Therefore, the Proposed Actions would facilitate the development of a total of approximately 3.7 million gsf in the Project Area.

In order to assess the potential effects of the Proposed actions, a Reasonable Worst Case Development Scenario (RWCDS) for both the future without the proposed actions (No Action condition) and the future with the Proposed Actions (With Action condition) is analyzed for an analysis year of 2032. The Project Area is largely underutilized; as the majority of the Project Area is zoned M1-1, which permits a maximum FAR of 1.0 and only permits low density manufacturing, automotive, and commercial uses, it is reasonable to assume that redevelopment of the active commercial and auto-related facilities on the majority of the properties in the Project Area would not occur under existing zoning. However, portions of the Applicant-controlled properties are feasible development sites under existing zoning since they contain vacant buildings and open parking areas for vehicular storage. The Applicant controls the properties in the Development Site with the purpose of transforming the area into a mixed-use district serving the nearby neighborhood and would seek to make a return on those properties absent the Proposed Actions (the No Action condition), by redeveloping the underutilized parcels on Blocks C and D to the maximum extent feasible under the existing zoning.

Table 13-1 shows the total anticipated No Action and With Action land uses on the Projected Development Sites A through K that were considered for the purposes of the transportation analyses. As shown in **Table 13-1**, under the RWCDS, it is estimated that there would be a net increase of 3,643 DUs, 89,909 gsf of local retail space, 50 cinema seats, 250,070 gsf of office space, 2.17 acres of publicly accessible open space (including approximately 0.23 acre of potential active open space at the southern end of Block A), and 107,720 gsf of community facility space, including 70,820 gsf of community center space, 5,000 gsf of medical office space, 10,000 gsf of daycare space and 21,900 gsf of arts and cultural center space. The RWCDS would also include a net increase of 30,000 gsf of physical cultural establishment space and 933 parking spaces. It is also anticipated that bicycle parking (as required by the New York City Zoning Resolution) would be provided within the Proposed Development. In addition, it is estimated that there would be a net decrease of 32,736 gsf of destination retail space, 33,300 gsf of auto dealership space, and 150,715 gsf of industrial space, including 82,909 gsf of light industrial space and 67,806 gsf of warehouse space. As the specific community facility uses are not finalized at this time, the community facility components are analyzed as medical office, daycare, community center, and arts and cultural center space.

Table 13-1
2032 RWCDS No Action and With Action Land Uses

Land Use	No Action Condition	With Action Condition	Net Increment
Residential			
Residential	7,512 gsf (9 DU)	3,104,308 gsf (3,652 DU)	+ 3,096,796 gsf (+ 3,643 DU)
Commercial			
Local Retail	70,006 gsf	159,915 gsf	+ 89,909 gsf
Destination Retail	32,736 gsf	0 gsf	- 32,736 gsf
Auto Dealership	33,300 gsf	0 gsf	- 33,300 gsf
Office	0 gsf	250,070 gsf	+ 250,070 gsf
Cinema	98,810 gsf (3,450 seats)	73,000 gsf (3,500 seats)	- 25,810 gsf (+ 50 seats)
Supermarket	30,000 gsf	30,000 gsf	+ 0 gsf
Physical Cultural Establishment	0 gsf	*30,000 gsf*	*+ 30,000 gsf*
Total Commercial	**264,852 gsf**	***542,985 gsf***	***+ 278,133 gsf***
Community Facility			
Community Center	0 gsf	70,820 gsf	+ 70,820 gsf
Medical Office	0 gsf	5,000 gsf	+ 5,000 gsf
Daycare	0 gsf	10,000 gsf	+ 10,000 gsf
Arts and Cultural Center	0 gsf	21,900 gsf	+ 21,900 gsf
Total Community Facility	***0 gsf***	***107,720 gsf***	***+ 107,720 gsf***
Industrial			
Light Industrial	82,909 gsf	0 gsf	- 82,909 gsf
Warehouse	67,806 gsf	0 gsf	- 67,806 gsf
Total Industrial	***150,715 gsf***	***0 gsf***	***- 150,715 gsf***
Open Space			
Publicly Accessible Open Space	0 acres	2.17 acres[2]	+ 2.17 acres
Parking			
Parking Spaces[1]	700	1,633	+933

Notes:
[1] With Action parking includes 1,467 spaces on Applicant-controlled Sites A-E and 243 spaces on Sites F through K.
[2] Total publicly accessible open space in the Proposed Development, including approximately 0.23 acre (10,000 sf) of potential active open space at the southern end of Block A.

This chapter describes in detail the existing transportation conditions in proximity to the Project Area. Future conditions in the year 2032 without the Proposed Actions are then determined, including additional transportation system demand and any changes expected by the year 2032. The increase in travel demand resulting from the Proposed Actions is then projected and added to the No Action condition to develop the 2032 future with the Proposed Actions (the With Action condition). Significant adverse impacts from project-generated trips are then identified and described in detail. Chapter 20, "Mitigation," discusses practicable measures to address these impacts.

B. PRINCIPAL CONCLUSIONS

A detailed transportation analysis was conducted and concludes that the Proposed Actions would result, as detailed below, in significant adverse impacts to: a) vehicular traffic at 21 intersections, b) subway line haul conditions on southbound N/W trains in the AM peak hour, and c) pedestrian

conditions at three sidewalks and two crosswalks. (Potential measures to mitigate these impacts are described in Chapter 20, "Mitigation").

TRAFFIC

Traffic conditions were evaluated for the weekday 7:45–8:45 a.m., 1:00–2:00 p.m. (midday), 4:00–5:00 p.m., and Saturday 2:00–3:00 p.m. peak hours at 42 intersections in the traffic study area where additional traffic resulting from the Proposed Actions would be most heavily concentrated. As summarized in **Tables 13-2 and 13-3**, the traffic impact analysis indicates the potential for significant adverse impacts at 24 intersections (all signalized) during one or more analyzed peak hours. Significant adverse impacts were identified to 33 lane groups at 20 intersections during the weekday AM peak hour, 24 lane groups at 16 intersections in the midday peak hour, 32 lane groups at 19 intersections in the PM peak hour, and 25 lane groups at 16 intersections during the Saturday peak hour. Chapter 20, "Mitigation," discusses potential measures to mitigate these significant adverse traffic impacts.

Table 13-2
Number of Impacted Intersections and Lane Groups by Peak Hour

	Peak Hour			
	Weekday AM	**Weekday Midday**	**Weekday PM**	**Saturday Midday**
Impacted Lane Groups	33	24	32	25
Impacted Intersections	20	16	19	16

TRANSIT

SUBWAY

Subway Stations

The Proposed Actions would generate a net increment of approximately 2,642 and 2,958 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 in proximity to the Project Area where incremental demand from the Proposed Actions would exceed the 200-trip 2020 *City Environmental Quality Review (CEQR) Technical Manual* analysis threshold in one or both peak hours. Two of these stations, the 36th Street station and the Steinway Street station, are served by M and R trains on the Queens Boulevard Line. The third station, the 36th Avenue station, is served by the N and W trains on the Astoria Line. The Proposed Actions are not expected to result in significant adverse impacts in either the AM or PM peak hour at any of the three analyzed subway stations.

Table 13-3
Summary of Significantly Impacted Intersections

Signalized Intersections	Peak Hour			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Broadway & 43rd Street	X	X	X	X
34th Ave & 43rd Street			X	X
35th Ave & 38th Street			X	
35th Ave & Steinway Street	X	X	X	X
35th Ave & 41st Street		X	X	X
36th Ave & 38th Street	X			
36th Ave & Steinway Street	X	X	X	X
Northern Blvd & Queensboro Bridge	X	X	X	X
Northern Blvd & 35th St/ 38th Ave	X			
Northern Blvd & 37th St/ Standard Lane	X		X	
Northern Blvd & 38th Street	X	X	X	
Northern Blvd & 39th St/ Steinway St	X	X	X	X
Northern Blvd & 41st St	X			
Northern Blvd & 42nd St/ Driveway	X	X	X	X
Northern Blvd & 42nd Pl/ 43rd Street	X	X	X	X
Northern Blvd & 44th St/ 35th Ave	X	X	X	X
Northern Blvd & 46th Street	X			X
Northern Blvd & 48th St/ 34th Ave	X	X	X	X
Northern Blvd & 51st St/ Woodside Ave	X	X	X	X
Skillman Ave & 39th Street		X	X	
43rd Ave & 39th Street	X	X	X	X
Greenpoint Ave & 39th Street	X			
Greenpoint Ave & Hunts Point Ave	X	X	X	X
Greenpoint Ave & Borden Ave	X	X	X	X
Total Impacted Intersections	**20**	**16**	**19**	**16**

X - denotes intersection significantly impacted in peak hour.

Subway Line Haul

The Project Area is directly served by four NYCT subway routes—M and R trains operating on the Queens Boulevard Line and N and W trains operating on the 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.

In the With Action condition, southbound N/W trains are expected to be operating over capacity in the AM peak hour, and would experience an average incremental increase of 5.56 persons/car during this period, just above the five persons/car *CEQR Technical Manual* impact threshold. As summarized in **Table 13-4**, southbound N/W service would therefore be considered significantly adversely impacted by the Proposed Actions in the AM peak hour. 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 be significant adversely impacted by the Proposed Actions in either period. Chapter 20, "Mitigation," discusses potential measures to mitigate the significant adverse subway line haul impacts.

Table 13-4
Summary of Significant Subway Line Haul Impacts

Route	Direction	Impacted Time Period
N/W	SB	AM

BUS

The Proposed Actions are expected to generate a net total of approximately 142 and 197 incremental bus trips during the weekday AM and PM peak hours, respectively, on the four MTA Bus Company local bus routes serving the Project Area—the Q66, Q101, Q102, and Q104. The number of incremental trips in one direction is expected to reach the 50-trip *CEQR Technical Manual* analysis threshold for a detailed bus analysis on eastbound Q66 buses in the AM and PM peak hours and on westbound Q66 buses in the PM peak hour. As Q66 buses would continue to operate with available capacity in both directions in both the AM and PM peak hours in the With Action condition, the Proposed Actions are not expected to result in significant adverse impacts to local bus service in either period.

PEDESTRIANS

The Proposed Actions would generate a net increment of approximately 920 walk-only trips in the weekday AM peak hour, 3,037 in the weekday midday, 1,786 in the weekday PM peak hour and 1,651 in the Saturday peak hour. Persons en route to and from subway station entrances and bus stops would add 2,784, 1,438, 3,155 and 2,552 additional pedestrian trips to Project Area sidewalks and crosswalks during these same periods, respectively. Peak hour pedestrian conditions were evaluated at 138 pedestrian elements where new trips generated by projected developments are expected to be most concentrated. These elements—40 sidewalks, 65 corner areas, and 33 crosswalks—are primarily located in the immediate vicinity of the Project Area and along corridors connecting the Project Area to nearby subway station entrances. As shown in **Table 13-5**, based on *CEQR Technical Manual* criteria, three sidewalks and two crosswalks would be significantly adversely impacted by the Proposed Actions in one or more of the analyzed peak hours, and there would be no significant impacts to any corner areas. Chapter 20, "Mitigation," discusses potential measures to mitigate these significant adverse pedestrian impacts.

Table 13-5
Summary of Significant Pedestrian Impacts

Corridor/Intersection	Impacted Element	Peak Hour			
		AM	Midday	PM	Saturday
36th Avenue between 38th and Steinway Streets	North Sidewalk	X	X	X	X
36th Avenue between 32nd and 33rd Streets	North Sidewalk	X			
36th Avenue between 32nd and 33rd Streets	South Sidewalk	X			
35th Avenue & 41st Street	East Crosswalk		X		
35th Avenue & Steinway Street	South Crosswalk				X

VEHICULAR AND PEDESTRIAN SAFETY

Under the 2015 *Vision Zero Queens Pedestrian Safety Action Plan*, and the 2019 *Boroughs Pedestrian Safety Action Plan Update,* the Project Area is located within a "Priority Area," where safety issues were found to occur systematically at an area-wide level. Northern Boulevard, Queens Boulevard, 34th Avenue and Broadway are also identified as Priority Corridors.

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 (the most recent three-year period for which data are available). During this period, 794 reportable and non-reportable crashes, 101 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 with 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurring in any consecutive 12 months of the most recent three-year period for which data are available. A review of the crash data identified two study area intersections as high crash locations—Northern Boulevard at 43rd Street/42nd Place, which experienced five pedestrian/bicyclist-related crashes in 2017, and Northern Boulevard at 39th Street/Steinway Street, which experienced five pedestrian/bicyclist-related crashes in 2019 (see **Table 13-6**). After safety improvements were implemented by DOT at Northern Boulevard/43rd Street/42nd Place in 2017 and 2018, there were no pedestrian or bicycle injury crashes reported in 2018 and only two bicycle injury crashes in 2019. At Northern Boulevard/39th Street/Steinway Street, only two pedestrian crashes occurred in 2017 and only one bicycle-related crash in 2018. The increase in crashes in 2019 may have been due in part to construction activity, including sidewalk and lane closures, associated with a new development at the northwest corner of the intersection.

Table 13-6
High Crash Locations

Intersection	Total Pedestrian/Bicycle Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
	2017	2018	2019	2017	2018	2019
Northern Blvd at 43rd Street/42nd Place	5	0	2	15	14	13
Northern Boulevard at 39th Street/Steinway Street	2	1	5	23	17	19

PARKING

Parking demand from the proposed local retail, supermarket, office, and community facility uses would typically peak in the midday and would decline during the late afternoon and evening. By contrast, demand from the cinema and physical cultural establishment uses would typically peak in the evening hours and residential demand would peak overnight. Therefore, some of the spaces used by residents would be available to accommodate commercial and community facility demand during daytime hours. Weekday parking demand from the Proposed Development (Sites A through E) would peak at approximately 1,431 spaces from 8:00 p.m. to 9:00 p.m., primarily due to the overlapping of residential and cinema demand. On a Saturday, parking demand from the Proposed Development would peak at approximately 1,770 spaces, also between 8:00 p.m. to 9:00 p.m. These forecasts assume 100 percent occupancy of the cinema, which should be considered very conservative as multiplex cinemas typically operate at substantially lower occupancy levels.

Even when blockbuster movies are released (typically five to seven times per year), total occupancy will generally not exceed 60 percent, even on opening weekend, as the hit movie will not be showing on all of the screens at the cinema.

In addition to parking demand from the Proposed Development, new demand would also be generated by the Additional Affected Area (Sites F through K) under the Proposed Actions' RWCDS. Parking demand generated by the Additional Affected Area is expected to peak at approximately 308 spaces during the overnight period on weekdays, and at 342 spaces during the 5:00 p.m. to 6:00 p.m. period on Saturdays.

Overall, parking demand generated by the Projected Development Site (Sites A through K) under the Proposed Actions' RWCDS would peak at approximately 1,737 spaces during the 8:00 p.m. to 9:00 p.m. period on weekdays, and at 2,080 spaces during the same period on Saturdays, primarily due to the overlapping of residential and cinema demand (conservatively assuming 100 percent occupancy at the cinema).

The Proposed Actions' RWCDS includes a total of approximately 1,633 on-site accessory parking spaces. These would include 1,390 spaces located in five below-grade parking garages on the Development Site, and approximately 243 parking spaces in the Additional Affected Area. No existing off-street public parking would be displaced from the Project Area under the Proposed Actions; however, 39 spaces of existing on-street parking would be displaced to accommodate truck access to the Proposed Development's loading berths. Therefore, the total increase in parking demand under the Proposed Actions' RWCDS would result in parking shortfalls of approximately 143 spaces during the 8:00 p.m. to 9:00 p.m. period on weekdays, and approximately 486 spaces during the same period on Saturdays (conservatively assuming 100 percent occupancy at the cinema). This excess demand would need to be accommodated in nearby off-street public parking facilities, or by on-street parking. Consequently, the Proposed Actions may potentially contribute to, or result in, off-street and on-street parking shortfalls in the 2032 With Action condition. Based on *CEQR Technical Manual* guidance, any projected shortfall in parking capacity would not be considered significant due to the magnitude of available alternative modes of transportation.

C. PRELIMINARY ANALYSIS METHODOLOGY

The *City Environmental Quality Review (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 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 trips at a station, 50 or more peak hour bus trips in one direction along a bus route, 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 for the RWCDS. 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 that would be generated by the RWCDS.

BACKGROUND

Overall, the Project Area encompasses five city blocks (Blocks 641, 668, 669, 670, and 671) containing 43 lots, of which 21 are controlled by the Applicant while the remaining lots are controlled by others (see Figure 1-1 in Chapter 1, "Project Description"). As shown in **Table 13-1**, under the RWCDS, it is estimated that there would be a net increase of 3,643 DUs, 89,909 gross square feet (gsf) of local retail space, 50 cinema seats, 250,070 gsf of office space, 2.17 acres of publicly accessible open space (including approximately 0.23 acre of potential active open space at the southern end of Block A), and 107,720 gsf of community facility space, including 70,820 gsf of community center space, 5,000 gsf of medical office space, 10,000 gsf of daycare space and 21,900 gsf of arts and cultural center space. The RWCDS would also include a net increase of 30,000 gsf of physical cultural establishment space and 933 parking spaces. In addition, it is estimated that there would be a net decrease of 32,736 gsf of destination retail space, 33,300 gsf of auto dealership space, and 150,715 gsf of industrial space, including 82,909 gsf of light industrial space and 67,806 gsf of warehouse space. As the specific community facility uses are not finalized at this time, the community facility components are analyzed as medical office, daycare, community center, and arts and cultural center space.

TRANSPORTATION PLANNING FACTORS

The transportation planning factors used to forecast travel demand for the RWCDS land uses are summarized in **Table 13-7**. 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 *CEQR Technical Manual;* 2015–2019 American Community Survey (ACS) journey-to-work data for Brooklyn census tracts in proximity to the Project Area (tracts 51, 55, 57, 59, 155, 157, and 159); 2012–2016 American Association of State Highway Transportation Officials (AASHTO) Census Transportation Planning Products (CTPP) reverse journey-to-work data; data from surveys of the travel demand characteristics at existing office and retail uses; data provided by the New York City Department of Transportation (DOT); and factors developed for recent environmental reviews.

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). 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 D.

With regard to the cinema use, it is important to note that the travel demand forecast assumes 100 percent occupancy of all seats. However, multiplex cinemas typically operate at substantially lower occupancy levels. Even when blockbuster movies are released (typically five to seven times

per year), total occupancy will generally not exceed 60 percent, even on opening weekend, as the hit movie will not be showing on all of the screens at the cinema. The travel demand forecast should therefore be considered very conservative with respect to cinema demand.

TRAVEL DEMAND FORECAST

The net incremental change in person and vehicle trips expected to result from the Proposed Actions by the 2032 analysis year was derived based on the net change in land uses shown in **Table 13-1** and the transportation planning factors shown in **Table 13-7**. **Table 13-8** 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 2032 with implementation of the Proposed Actions. As shown in **Table 13-8**, under the RWCDS, the Proposed Actions would generate a net increase of approximately 4,299 person trips in the weekday AM peak hour, 4,968 in the weekday midday, 5,659 in the weekday PM peak hour, and 4,775 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 610, 457, 689 and 569 (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 2,642, 1,228, 2,958 and 2,372 during these periods, respectively, while bus trips would increase by approximately 142, 210, 197 and 180, respectively. Lastly, walk-only trips would increase by 920, 3,037, 1,786 and 1,651 trips during the weekday AM, midday, PM, and Saturday peak hours, respectively.

Table 13-7
Transportation Planning Factors

Land Use:	Residential		Local Retail		Office		Cinema		Community Center		Supermarket	
Trip Generation:	(1)		(1)		(1)		(1)		(26)		(1)	
Weekday	8.075		205		18.0		3.26		54.6		175	
Saturday	9.6		240		3.9		6.25		17.24		231	
	per DU		per 1,000 sf		per 1000 sf		per seat		per 1,000 sf		per 1,000 sf	
Temporal Distribution:	(1)		(1)		(1)		(1)		(26)		(1)	
AM	10.0%		3.0%		12.0%		1.0%		6.1%		5.0%	
MD	5.0%		19.0%		15.0%		3.0%		6.7%		6.0%	
PM	11.0%		10.0%		14.0%		8.0%		8.0%		10.0%	
Saturday	8.0%		10.0%		17.0%		5.0%		11.8%		9.0%	
	(3)		(14)		(18)(6)		(4)		(13)		(25)	
Modal Splits:			Weekday	SAT	AM/PM/ SAT	MD					Weekday	SAT
Auto	13.4%		11.0%	8.0%	14.0%	2.0%	56.0%		5.0%		22.0%	8.0%
Taxi	2.9%		0.0%	0.0%	2.0%	1.0%	7.0%		1.0%		1.0%	1.0%
Subway	76.9%		4.0%	7.0%	74.0%	7.0%	18.0%		3.0%		12.0%	6.0%
Bus	2.8%		3.0%	4.0%	2.0%	7.0%	8.0%		6.0%		3.0%	5.0%
Walk/Other	4.0%		82.0%	81.0%	8.0%	83.0%	11.0%		85.0%		62.0%	80.0%
	100.0%		100.0%	100.0%	100.0%	100.0%	100.0%		100.0%		100.0%	100.0%
	(7)		(7)		(6)		(24)		(26)		(7)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	20%	80%	50%	50%	96%	4%	95%	5%	66%	34%	57%	43%
MD	50%	50%	50%	50%	39%	61%	62%	38%	54%	46%	50%	50%
PM	65%	35%	50%	50%	5%	95%	54%	46%	47%	53%	52%	48%
Saturday	50%	50%	50%	50%	60%	40%	62%	38%	54%	46%	52%	48%
Vehicle Occupancy:	(3)(7)		(14)		(5)(6)		(4)		(26)(13)		(2)(7)	
											Weekday	Weekend
Auto	1.13		1.40		1.12		2.52		1.80		1.98	2.35
Taxi	1.40		1.40		1.42		2.30		1.40		1.12	1.48
Truck Trip Generation:	(1)		(1)		(1)		(24)		(13)		(7)	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
	0.06	0.02	0.35	0.04	0.32	0.01	0.02	0.00	0.29	0.29	0.35	0.04
	per DU		per 1,000 sf		per 1,000 sf		per seat		per 1,000 sf		per 1,000 sf	
	(1)		(1)		(1)		(24)		(13)		(7)	
AM	12.0%		8.0%		10.0%		12.0%		9.6%		8.0%	
MD	9.0%		11.0%		11.0%		11.0%		11.0%		11.0%	
PM	2.0%		2.0%		2.0%		1.0%		1.0%		2.0%	
Saturday	9.0%		11.0%		11.0%		5.0%		0.0%		4.0%	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
All Periods	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

Table 13-7 (cont'd)
Transportation Planning Factors

Land Use:	Medical Office		Daycare (Staff)		Daycare (Students)		Daycare (Parents)		PCE (Physical Cultural Establishment)		Open Space	
Trip Generation:	(9)		(8)		(8)		(8)		(25)		(1)	
Weekday	76		6		22		44		51.6		139	
Saturday	39		0		0		0		50.4		196	
	per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per acre	
Temporal Distribution:	(9)		(8)		(8)		(8)		(25)		(1)	
AM	11.0%		25.0%		25.0%		25.0%		9.0%		3.0%	
MD	13.0%		2.5%		0.0%		0.0%		7.0%		5.0%	
PM	9.0%		25.0%		25.0%		25.0%		9.0%		6.0%	
Saturday	17.0%		0.0%		0.0%		0.0%		13.0%		6.0%	
	(9)		(5)		(15)		(15)		(16)		(10)	
Modal Splits:												
Auto	23.0%		41.7%		15.0%		0.0%		4.0%		5.0%	
Taxi	7.0%		0.2%		0.0%		0.0%		9.0%		0.0%	
Subway	14.0%		32.5%		5.0%		6.0%		12.0%		5.0%	
Bus	26.0%		9.5%		5.0%		6.0%		5.0%		5.0%	
Walk/Other	30.0%		16.1%		75.0%		88.0%		70.0%		85.0%	
	100.0%		100.0%		100.0%		100.0%		100.0%		100.0%	
	(9)		(15)		(15)(23)		(15)		(25)		(10)(11)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	62%	38%	100%	0%	100%	0%	50%	50%	57%	43%	55%	45%
MD	47%	53%	50%	50%	0%	0%	50%	50%	57%	43%	50%	50%
PM	35%	65%	0%	100%	0%	100%	50%	50%	52%	48%	45%	55%
Saturday	49%	51%	0%	0%	0%	0%	0%	0%	45%	55%	50%	50%
Vehicle Occupancy:	(9)		(5)(15)		(15)				(16)		(10)	
Auto	1.58		1.12		1.00		N/A		1.40		2.80	
Taxi	1.58		1.00		1.00		N/A		1.40		2.80	
Truck Trip Generation:	(13)				(15)				(16)		(10)(11)	
	Weekday	Weekend			Weekday	Weekend			Weekday	Weekend	Weekday	Weekend
	0.29	0.29	N/A		0.03	0.00	N/A		0.04	0.04	0.02	0.02
	per 1,000 sf				per 1,000 sf				per 1,000 sf		per 1,000 sf	
	(13)				(15)				(16)		(10)(11)	
AM	9.6%		N/A		9.6%		N/A		8.0%		6.0%	
MD	11.0%		N/A		11.0%		N/A		11.0%		6.0%	
PM	1.0%		N/A		1.0%		N/A		1.0%		1.0%	
Saturday	0.0%		N/A		0.0%		N/A		0.0%		6.0%	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
All Periods	50.0%	50.0%	N/A	N/A	50.0%	50.0%	N/A	N/A	50.0%	50.0%	50.0%	50.0%

Table 13-7 (cont'd)
Transportation Planning Factors

Land Use:	Destination Retail		Auto Dealership		Warehouse		Arts and Cultural Center		Light Industrial	
Trip Generation:	(1)		(8)(17)		(19)(20)		(12)		(17)	
Weekday	78.2		13		2.36		76		14.7	
Saturday	92.5		2.63		0.20		50.74		2.2	
	per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf	
Temporal Distribution:	(1)		(8)(17)		(19)		(12)		(17)	
AM	3.0%		1.0%		10.0%		3.0%		13.2%	
MD	9.0%		10.0%		9.0%		10.3%		11.0%	
PM	9.0%		9.0%		11.0%		10.2%		14.2%	
Saturday	11.0%		12.0%		33.0%		12.5%		10.7%	
	(2)		(17)		(5)		(12)		(5)	
Modal Splits:	Weekday	SAT								
Auto	37.4%	40.4%	100.0%		41.7%		36.0%		41.7%	
Taxi	0.0%	0.6%	0.0%		0.2%		12.0%		0.2%	
Subway	32.0%	21.3%	0.0%		32.5%		25.0%		32.5%	
Bus	7.5%	9.6%	0.0%		9.5%		25.0%		9.5%	
Walk/Other	23.1%	28.1%	0.0%		16.1%		2.0%		16.1%	
	100.0%	100.0%	100.0%		100.0%		100.0%		100.0%	
	(6)		(8)(17)		(19)		(12)		(17)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out	In	Out
AM	61%	39%	78%	22%	77%	23%	56%	44%	88%	12%
MD	55%	45%	50%	50%	53%	47%	14%	86%	50%	50%
PM	47%	53%	35%	65%	27%	73%	5%	95%	12%	88%
Saturday	55%	45%	50%	50%	64%	36%	25%	75%	47%	53%
Vehicle Occupancy:	(2)(6)		(17)		(5)(17)		(12)		(5)(17)	
	Weekday	SAT					Weekday	Weekend		
Auto	1.98	2.35	1.30		1.12		2.00	3.00	1.12	
Taxi	2.60	2.60	1.50		1.30		2.00	3.00	1.20	
Truck Trip Generation:	(6)		(17)		(19)(20)(21)		(12)		(17)	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
	0.35	0.35	0.15	0.15	0.91	0.08	0.35	0.02	0.67	0.67
	per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf	
	(6)		(17)		(19)(22)		(12)		(17)	
AM	7.7%		9.6%		9.9%		7.9%		14.0%	
MD	11.0%		11.0%		8.0%		14.7%		9.0%	
PM	1.0%		1.0%		7.0%		1.1%		1.0%	
Saturday	0.0%		11.0%		28.0%		14.7%		0.0%	
	In	Out	In	Out	In	Out	In	Out	In	Out
All Periods	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

Table 13-7 (cont'd)
Transportation Planning Factors

Notes :

(1) *2020 City Environmental Quality Review (CEQR) Technical Manual.*

(2) Based on data from a PHA survey conducted at Rego Park Center 2 on May 26, 2010 & June 5, 2010.

(3) Modal split and vehicle occupancy data based on 2015 -2019 ACS journey-to-work data for Queens census tracts 51, 55, 57, 59, 155, 157, and 159. Modal split adjusted for 7-9 AM peak period.

(4) Based on data cited in Loews Elmhurst Multiplex FEIS (2000).

(5) Based on AASHTO CTPP Reverse journey-to-work 5-Year (2012-2016) data for Queens census tracts 51, 55, 57, 59, 155, 157, and 159.

(6) Souce: Dutch Kills Rezoning And Related Actions FEIS (2008).

(7) Source: Astoria Cove FEIS (2014).

(8) Based on data provided by NYCDOT.

(9) Based on NYCDOT medical office trip generation and mode choice survey data.

(10) Source: Hunter's Point South Rezoning and Related Actions FEIS (2008).

(11) Assumes Saturday person in/out splits; and truck trip generation rates and temporal distributions are similar to those applied to the weekday midday.

(12) Source: Industry City DEIS (2019).

(13) Source: Jamaica Plan FEIS (2007).

(14) Based on NYCDOT Local Retail Mode Choice Surveys.

(15) Source: Hunter's Point South Parcels F and G EAS (2019).

(16) Source: Spofford Campus FEIS (2018).

(17) Source: East New York Rezoning FEIS (2016).

(18) Based on NYCDOT Office Mode Choice Surveys (employees only) for 41-21 27th St, LIC.

(19) Based on data from ITE Trip Generation Handbook, 10th Edtion, Land use code 150 (Warehousing).

(20) Trip generation rate includes a 1.51 adjustment factor per NYCDOT Trip Generation Survey.

(21) Adjusted as per the ratio between weekday and Saturday based on the information from ITE Trip Generation Handbook, 10th Edition, Land use code 150 (Warehousing).

(22) Based on NYCDOT Trip Generation Survey.

(23) Both inbound and outbound vehicle trips take place during the same peak hour.

(24) Source: Lighthouse Point EAS (2013).

(25) Based on NYCDOT Trip Generation Surveys.

(26) Based on data from ITE Trip Generation Manual, 10th Edition, Land Use Code 495 (Recreational Community Center). Assumes weekday midday in/out splits are similar to those applied to the Saturday.

Table 13-8
RWCDS Travel Demand Forecast

Land Use:		Residential		Local Retail		Office		Cinema		Community Center		Supermarket	
Size/Units:		3,643	DU	89,909	gsf	250,070	gsf	50	seats	70,820	gsf	0	gsf
Peak Hour Person Trips:													
	AM	2,940		418		540		2		236		0	
	MD	1,471		2,632		675		5		259		0	
	PM	3,236		1,388		631		13		309		0	
	Saturday	2,797		1,626		166		16		145		0	
Person Trips:													
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	Auto	80	317	24	24	73	4	1	0	8	4	0	0
	Taxi	17	69	0	0	10	0	1	0	1	1	0	0
	Subway	454	1,799	9	9	383	16	0	0	5	2	0	0
	Bus	16	67	8	8	10	0	0	0	9	5	0	0
	Walk/Other	25	96	168	168	42	2	0	0	132	69	0	0
	Total	592	2,348	209	209	518	22	2	0	155	81	0	0
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	Auto	99	100	144	144	6	8	3	1	7	7	0	0
	Taxi	22	22	0	0	2	4	0	0	1	1	0	0
	Subway	563	564	52	52	18	29	0	0	5	3	0	0
	Bus	21	21	38	38	18	29	0	0	8	8	0	0
	Walk/Other	30	29	1,082	1,082	219	342	1	0	118	101	0	0
	Total	735	736	1,316	1,316	263	412	4	1	139	120	0	0
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	Auto	281	151	75	75	4	84	4	3	8	8	0	0
	Taxi	60	33	0	0	0	12	1	0	1	1	0	0
	Subway	1,613	869	27	27	24	444	2	1	5	5	0	0
	Bus	60	32	20	20	0	12	0	1	9	9	0	0
	Walk/Other	90	47	572	572	2	49	1	0	123	140	0	0
	Total	2,104	1,132	694	694	30	601	8	5	146	163	0	0
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Saturday	Auto	188	188	65	65	14	10	5	4	3	2	0	0
	Taxi	41	41	0	0	2	2	0	0	0	0	0	0
	Subway	1,077	1,076	57	57	71	49	2	1	1	1	0	0
	Bus	39	39	33	33	2	2	2	0	5	4	0	0
	Walk/Other	54	54	658	658	8	6	1	1	70	59	0	0
	Total	1,399	1,398	813	813	97	69	10	6	79	66	0	0
Vehicle Trips :													
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	Auto (Total)	72	281	16	16	65	4	0	0	6	3	0	0
	Taxi Balanced	60	60	0	0	8	8	0	0	2	2	0	0
	Truck	12	12	0	0	4	4	0	0	1	1	0	0
	Total	144	353	16	16	77	16	0	0	9	6	0	0
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	Auto (Total)	90	91	103	103	6	8	2	0	5	5	0	0
	Taxi Balanced	32	32	0	0	4	4	0	0	2	2	0	0
	Truck	8	8	1	1	4	4	0	0	1	1	0	0
	Total	130	131	104	104	14	16	2	0	8	8	0	0
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	Auto (Total)	249	134	52	52	4	76	2	1	6	6	0	0
	Taxi Balanced	67	67	0	0	8	8	0	0	2	2	0	0
	Truck	0	0	0	0	0	0	0	0	0	0	0	0
	Total	316	201	52	52	12	84	2	1	8	8	0	0
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Saturday	Auto (Total)	165	166	45	45	12	8	2	1	2	1	0	0
	Taxi Balanced	62	62	0	0	4	4	0	0	0	0	0	0
	Truck	2	2	0	0	0	0	0	0	0	0	0	0
	Total	229	230	45	45	16	12	2	1	2	1	0	0

Note:
25% Link Trip included for Supermarket and Local Retail by all by uses

Table 13-8 (cont'd)
RWCDS Travel Demand Forecast

Land Use:		Medical Office		Daycare (Staff)		Daycare (Students)		Daycare (Parents)		PCE (Physical Cultural Establishment)		Open Space	
Size/Units:		5,000	gsf	10,000	gsf	10,000	gsf	10,000	gsf	30,000	gsf	2.17	acre
Peak Hour Person Trips:													
	AM	42		15		55		110		139		10	
	MD	49		2		0		0		108		16	
	PM	34		15		55		110		139		18	
	Saturday	33		0		0		0		197		24	
Person Trips:													
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	Auto	5	4	6	0	8	0	0	0	3	3	0	0
	Taxi	2	1	0	0	0	0	0	0	7	6	0	0
	Subway	4	2	6	0	3	0	3	3	9	7	0	0
	Bus	7	4	1	0	3	0	3	3	4	3	0	0
	Walk/Other	8	5	2	0	41	0	49	49	55	42	6	4
	Total	26	16	15	0	55	0	55	55	78	61	6	4
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	Auto	5	5	1	1	0	0	0	0	3	2	0	0
	Taxi	2	2	0	0	0	0	0	0	6	4	0	0
	Subway	3	4	0	0	0	0	0	0	7	6	0	0
	Bus	6	7	0	0	0	0	0	0	3	3	0	0
	Walk/Other	7	8	0	0	0	0	0	0	42	32	9	7
	Total	23	26	1	1	0	0	0	0	61	47	9	7
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	Auto	3	4	0	6	0	8	0	0	3	3	0	0
	Taxi	1	2	0	0	0	0	0	0	6	6	0	0
	Subway	2	3	0	6	0	3	3	3	9	8	0	0
	Bus	3	6	0	1	0	3	3	3	3	3	0	0
	Walk/Other	4	6	0	2	0	41	49	49	52	46	9	9
	Total	13	21	0	15	0	55	55	55	73	66	9	9
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Saturday	Auto	4	4	0	0	0	0	0	0	3	4	0	0
	Taxi	1	1	0	0	0	0	0	0	8	9	0	0
	Subway	2	2	0	0	0	0	0	0	11	13	0	0
	Bus	4	4	0	0	0	0	0	0	4	6	0	0
	Walk/Other	6	5	0	0	0	0	0	0	62	77	13	11
	Total	17	16	0	0	0	0	0	0	88	109	13	11
Vehicle Trips :													
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	Auto (Total)	3	3	5	0	8	8	0	0	2	2	0	0
	Taxi Balanced	2	2	0	0	0	0	0	0	9	9	0	0
	Truck	0	0	0	0	0	0	0	0	0	0	0	0
	Total	5	5	5	0	8	8	0	0	11	11	0	0
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	Auto (Total)	3	3	1	1	0	0	0	0	2	2	0	0
	Taxi Balanced	2	2	0	0	0	0	0	0	7	7	0	0
	Truck	0	0	0	0	0	0	0	0	0	0	0	0
	Total	5	5	1	1	0	0	0	0	9	9	0	0
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	Auto (Total)	2	3	0	5	8	8	0	0	2	2	0	0
	Taxi Balanced	2	2	0	0	0	0	0	0	8	8	0	0
	Truck	0	0	0	0	0	0	0	0	0	0	0	0
	Total	4	5	0	5	8	8	0	0	10	10	0	0
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Saturday	Auto (Total)	3	3	0	0	0	0	0	0	2	3	0	0
	Taxi Balanced	2	2	0	0	0	0	0	0	12	12	0	0
	Truck	0	0	0	0	0	0	0	0	0	0	0	0
	Total	5	5	0	0	0	0	0	0	14	15	0	0

Note:
25% Link Trip included for Supermarket and Local Retail by all by uses

Table 13-8 (cont'd)
RWCDS Travel Demand Forecast

Land Use:		Destination Retail		Auto Dealership		Warehouse		Arts and Cultural Center		Light Industrial		TOTAL	
Size/Units:		-32,736	gsf	-33,300	gsf	-67,806	gsf	21,900	gsf	-82,909	gsf		
Peak Hour Person Trips:													
	AM	-77		-4		-16		50		-161		4,299	
	MD	-230		-43		-14		171		-133		4,968	
	PM	-230		-39		-18		170		-172		5,659	
	Saturday	-333		-11		-4		139		-20		4,775	
Person Trips:													
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	Auto	-17	-11	-3	-1	-5	-2	9	8	-60	-8	132	342
	Taxi	0	0	0	0	0	0	3	3	0	0	41	80
	Subway	-15	-10	0	0	-4	-1	7	6	-48	-7	816	1,826
	Bus	-4	-2	0	0	-1	0	7	6	-14	-1	49	93
	Walk/Other	-11	-7	0	0	-2	-1	1	0	-22	-1	494	426
	Total	-47	-30	-3	-1	-12	-4	27	23	-144	-17	1,532	2,767
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	Auto	-47	-39	-21	-22	-3	-3	9	52	-28	-28	178	228
	Taxi	0	0	0	0	0	0	3	18	0	0	36	51
	Subway	-41	-33	0	0	-2	-2	6	37	-22	-21	589	639
	Bus	-9	-8	0	0	-1	-1	6	37	-7	-7	83	127
	Walk/Other	-29	-24	0	0	-1	-1	0	3	-10	-10	1,468	1,569
	Total	-126	-104	-21	-22	-7	-7	24	147	-67	-66	2,354	2,614
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	Auto	-41	-47	-14	-25	-2	-6	3	58	-8	-63	316	259
	Taxi	0	0	0	0	0	0	1	19	0	0	70	73
	Subway	-35	-39	0	0	-2	-4	2	41	-7	-52	1,643	1,315
	Bus	-8	-9	0	0	0	-1	2	41	-1	-15	91	106
	Walk/Other	-24	-27	0	0	-1	-2	0	3	-1	-25	876	910
	Total	-108	-122	-14	-25	-5	-13	8	162	-17	-155	2,996	2,663
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Saturday	Auto	-74	-61	-5	-6	-2	-1	13	37	-3	-5	211	241
	Taxi	-1	-1	0	0	0	0	4	13	0	0	55	65
	Subway	-39	-32	0	0	-1	0	9	25	-4	-6	1,186	1,186
	Bus	-18	-14	0	0	0	0	9	26	0	0	80	100
	Walk/Other	-51	-42	0	0	0	0	1	2	-1	-1	821	830
	Total	-183	-150	-5	-6	-3	-1	36	103	-8	-12	2,353	2,422
Vehicle Trips :													
		In	Out	In	Out	In	Out	In	Out	In		In	Out
AM	Auto (Total)	-9	-6	-2	-1	-4	-2	5	4	-53	-8	114	304
	Taxi Balanced	0	0	0	0	0	0	4	4	0	0	85	85
	Truck	0	0	0	0	-3	-3	0	0	-3	-3	11	11
	Total	-9	-6	-2	-1	-7	-5	9	8	-56	-11	210	400
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	Auto (Total)	-24	-20	-16	-17	-3	-3	5	26	-27	-27	147	172
	Taxi Balanced	0	0	0	0	0	0	11	11	0	0	58	58
	Truck	-1	-1	0	0	-2	-2	1	1	-1	-1	11	11
	Total	-25	-21	-16	-17	-5	-5	17	38	-28	-28	216	241
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	Auto (Total)	-21	-24	-11	-19	-2	-5	2	29	-8	-56	285	212
	Taxi Balanced	0	0	0	0	0	0	11	11	0	0	98	98
	Truck	0	0	0	0	-2	-2	0	0	0	0	-2	-2
	Total	-21	-24	-11	-19	-4	-7	13	40	-8	-56	381	308
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Saturday	Auto (Total)	-31	-26	-4	-5	-2	-1	4	12	-3	-5	195	202
	Taxi Balanced	0	0	0	0	0	0	5	5	0	0	85	85
	Truck	0	0	0	0	-1	-1	0	0	0	0	1	1
	Total	-31	-26	-4	-5	-3	-2	9	17	-3	-5	281	288

Note:
25% Link Trip included for Supermarket and Local Retail by all by uses

Table 13-9 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 13-9
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	610	457	689	569
Subway	person trips	2,642	1,228	2,958	2,372
Local Bus	person trips	142	210	197	180
Walk/Other	person trips	920	3,037	1,786	1,651

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 610 additional vehicle trips during the weekday AM peak hour, 457 during the midday peak hour, 689 during the PM peak hour, and 569 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. The assignments of auto and taxi trips to the street network in proximity to the Project Area were based on the anticipated origins and destinations of vehicle trips associated with the different land uses projected under the RWCDS. The origins/destinations for residential uses were based on 2012–2016 American Community Survey (ACS) journey-to-work data, while those for the office/daycare (staff), warehouse, and light industrial uses were based on 2012–2016 ACS reverse journey-to-work data. The origins/destinations of trips generated by local retail, community center, daycare (students) and physical cultural establishment uses, which are typically local trips within the surrounding neighborhood, were based on the population density within a 0.5-mile radius of the Project Area. Similarly, origins/destinations for the cinema, supermarket, medical office, destination retail, auto dealership, and arts and cultural center uses were based on population density in proximity to the

Project Area and surrounding neighborhoods within a two-mile radius. (Additional data on the distributions of auto and taxi trips by land use are presented in the *Transportation Planning Factors and Travel Demand Forecast (TPF/TDF) Technical Memorandum* included in Appendix D.) Based on the O-D data, auto and taxi trips were first assigned to various portals on the periphery of Astoria, and from there via the most direct route to the Project Area. As the RWCDS includes on-site accessory parking, auto trips were assigned directly to the proposed parking garage entrances on 37th Street and 38th Street for Projected Development Site A, 38th Street for Projected Development Site B, 41st Street for Projected Development Sites C and D, and 43rd Street for Projected Development Site E. Similarly, vehicle trips for the non-applicant-controlled sites (Sites F–K) were assigned to their respective frontages. Although some drivers may park at off-site public parking facilities, assigning all trips to the Project Area 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 site rather than dispersing it to outlying parking facilities.

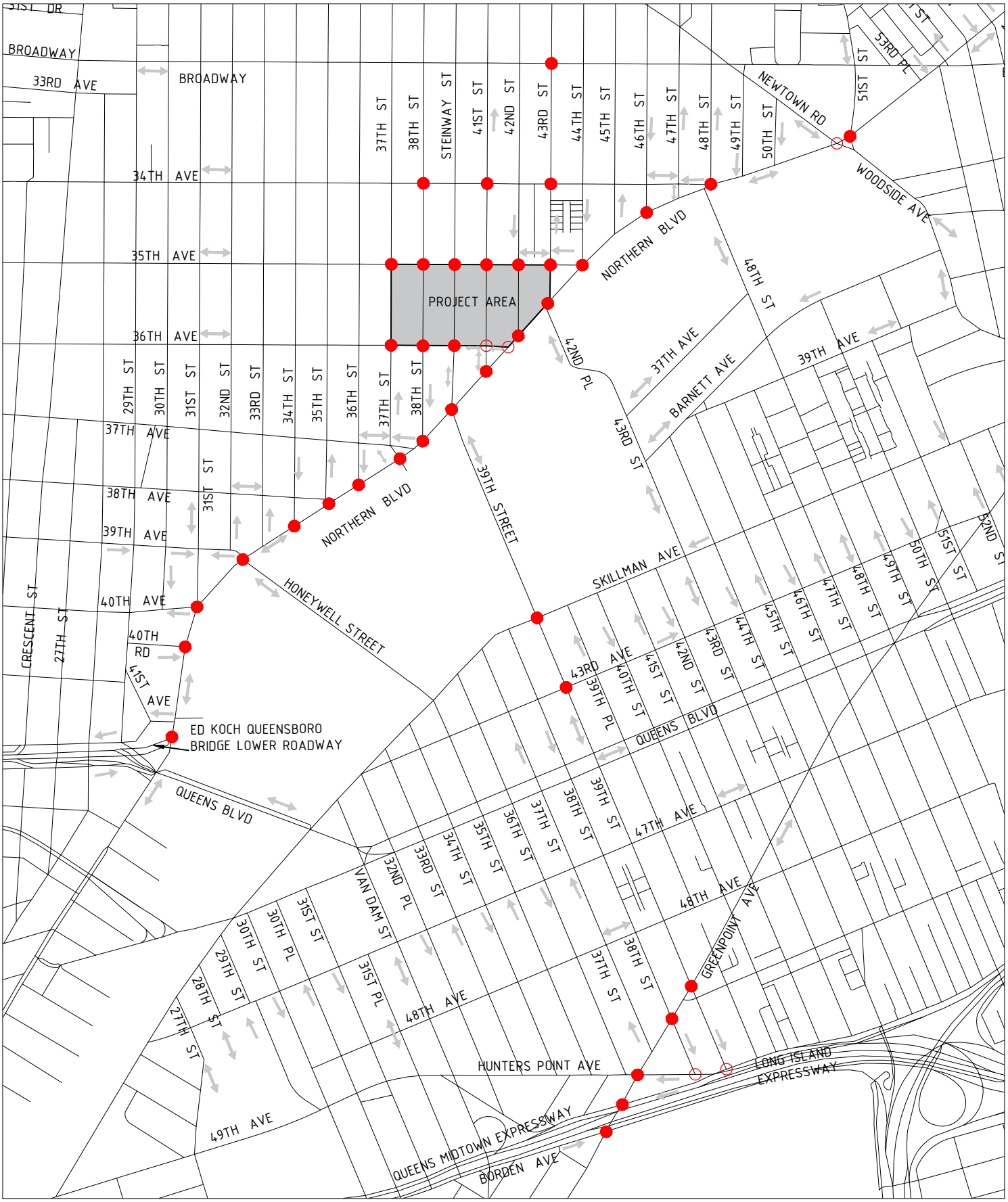
Taxi trips were generally assigned to the building frontages. Truck trips were assigned to Northern Boulevard and Astoria Boulevard, which are the primary DOT-designated Through Truck Routes in proximity to the Project Area, and to Broadway, which is a DOT-designated Local Truck Route. From these designated truck route, truck trips were assigned to the proposed loading berths on 37th Street for Projected Development Site A, 38th Street for Projected Development Site B, 41st Street for Project Development Site C, 42nd Street for Projected Development Site D, and 42nd Street and 43rd Street for Projected Development Site E. Similarly, truck trips for the non-applicant-controlled sites (Sites F–K) were assigned to their respective frontages.

Representative intersections most likely to be used by concentrations of action-generated vehicles traveling to and from the Project Area 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 13-1** shows the locations of the 42 intersections (37 signalized and 5 unsignalized) that were selected for detailed analysis. Most of the analyzed intersections are located along corridors providing direct access to the Project Area, including Northern Boulevard (19 intersections), 35th Avenue (seven intersections), 36th Avenue (five intersections), and 34th Avenue (four intersections). Analyzed intersections are also located along corridors connecting the Project Area to the Long Island Expressway and Queens Midtown Tunnel, including Greenpoint Avenue (five intersections), 39th Street (four intersections) and 38th Street (one intersection). There is also one analyzed intersection along Broadway.

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), 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 or subway analysis would be warranted.

Traffic Study Area



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location

SUBWAY

Subway Stations

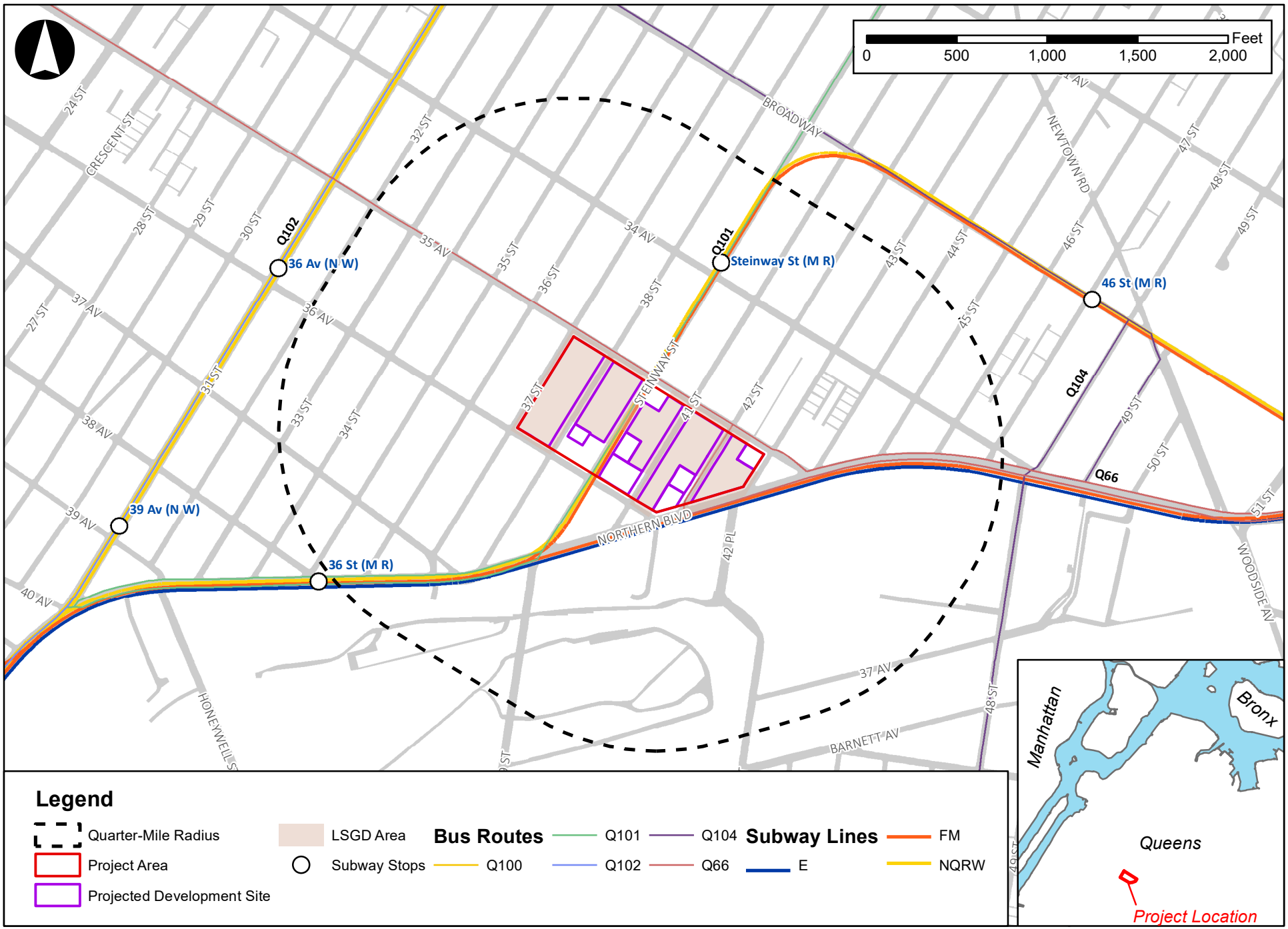
Three NYCT subway stations located in proximity to the Project Area are expected to experience new demand as a result of the Proposed Actions. These stations are presented in **Figure 13-2** and **Table 13-10**, along with the subway routes serving each facility. Two of these stations are served by M trains (weekdays only) and R trains operating on the Queens Boulevard Line—the 36th Street station located below Northern Boulevard, and the Steinway Street station located below Steinway Street. The third station, the 36th Avenue station, is located on an elevated structure above 31st Street and is served by N trains (at all times) and W trains (weekdays only) operating on the Astoria Line.

As shown in **Table 13-9**, under the RWCDS, the Proposed Actions would generate a net increment of approximately 2,642 and 2,958 subway trips during the weekday AM and PM commuter peak hours, respectively. These trips were assigned to the three stations serving the Project Area based on census origin/destination data and each station's proximity to individual projected development sites. Subway riders expected to use M and R trains were distributed between the Steinway Street and 36th Street stations based on proximity, while riders traveling via N and W trains were assigned to the 36th Avenue station. **Table 13-10** 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 these three subway stations. As shown in **Table 13-10**, the highest number of peak hour subway trips are expected to occur at Steinway Street (M/R) station, which would experience an estimated 1,352 incremental trips (in and out combined) in the AM peak hour and 1,516 in the PM peak hour. The second highest number of trips would occur at the 36th Avenue (N/W) station, which would experience an estimated 951 incremental trips in the AM peak hour and 1,063 in the PM peak hour. The 36th Street (M/R) station would experience an estimated 339 incremental trips in the AM peak hour and 379 in the PM peak hour.

Table 13-10
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	1,531	2,767	4,298	2,995	2,662	5,657
Peak Hour Project Increment Subway Trips	816	1,826	2,642	1,643	1,315	2,958
Subway Station Summary						
Steinway Street (M/R)	431	921	1,352	830	686	1,516
36th Street (M/R)	108	231	339	207	172	379
36th Avenue (N/W)	277	674	951	606	457	1,063
Total	**816**	**1,826**	**2,642**	**1,643**	**1,315**	**2,958**

As shown in **Table 13-10**, incremental demand from the Proposed Actions would exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or both peak hours at all three of the subway stations serving the Project Area. Therefore, all of these stations are included for detailed analysis. 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.



Source: NYCDCP (PLUTO 2020, Version VIII); DOITT (2020)

Innovation QNS

Figure 13-2
Project Area Transit Services

Subway Line Haul

As discussed above, the Project Area is currently served by a total of four NYCT subway routes, including the M, N, R and W. The peak direction of travel is typically Manhattan-bound (southbound) in the AM peak hour and Queens-bound (northbound) in the PM peak hour. 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 on these routes is included in the EIS. The analysis uses 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

Four MTA Bus Company local bus services operate within approximately 1/4-mile of the Project Area—the Q66, Q101, Q102, and Q104. These services and the principal corridors on which they operate are shown in **Figure 13-2** and described in **Table 13-11**.

As shown in **Table 13-9**, projected development sites are expected to generate a total of approximately 142 and 197 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 and current ridership patterns. **Table 13-12** 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 13-12**, only the Q66 bus route is expected to experience 50 or more new trips in one direction in one or both peak hours and is therefore analyzed in this EIS.

Table 13-11
Bus Routes Serving the Project Area

Route	Operating Agency	Route Endpoints	Corridors Served in Proximity to the Rezoning Area
Q66	MTA Bus	Flushing, Queens – Long Island City	35th Avenue
Q101	MTA Bus	East Midtown – Steinway	Steinway Street
Q102	MTA Bus	Astoria – Roosevelt Island	31st Street
Q104	MTA Bus	Sunnyside – Long Island City	Broadway/48th Street

Table 13-12
Net Incremental Bus Trips by Route

Route	Direction	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Q66	EB	3	51	**54**	5	58	**63**
	WB	27	6	33	49	6	**55**
Q101	NB	4	8	12	9	9	18
	SB	4	8	12	9	9	18
Q102	NB	3	6	9	5	7	12
	SB	3	6	9	5	6	11
Q104	NB	3	3	6	6	4	10
	SB	2	5	7	3	7	10
Total		49	93	142	91	106	197

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

PEDESTRIANS

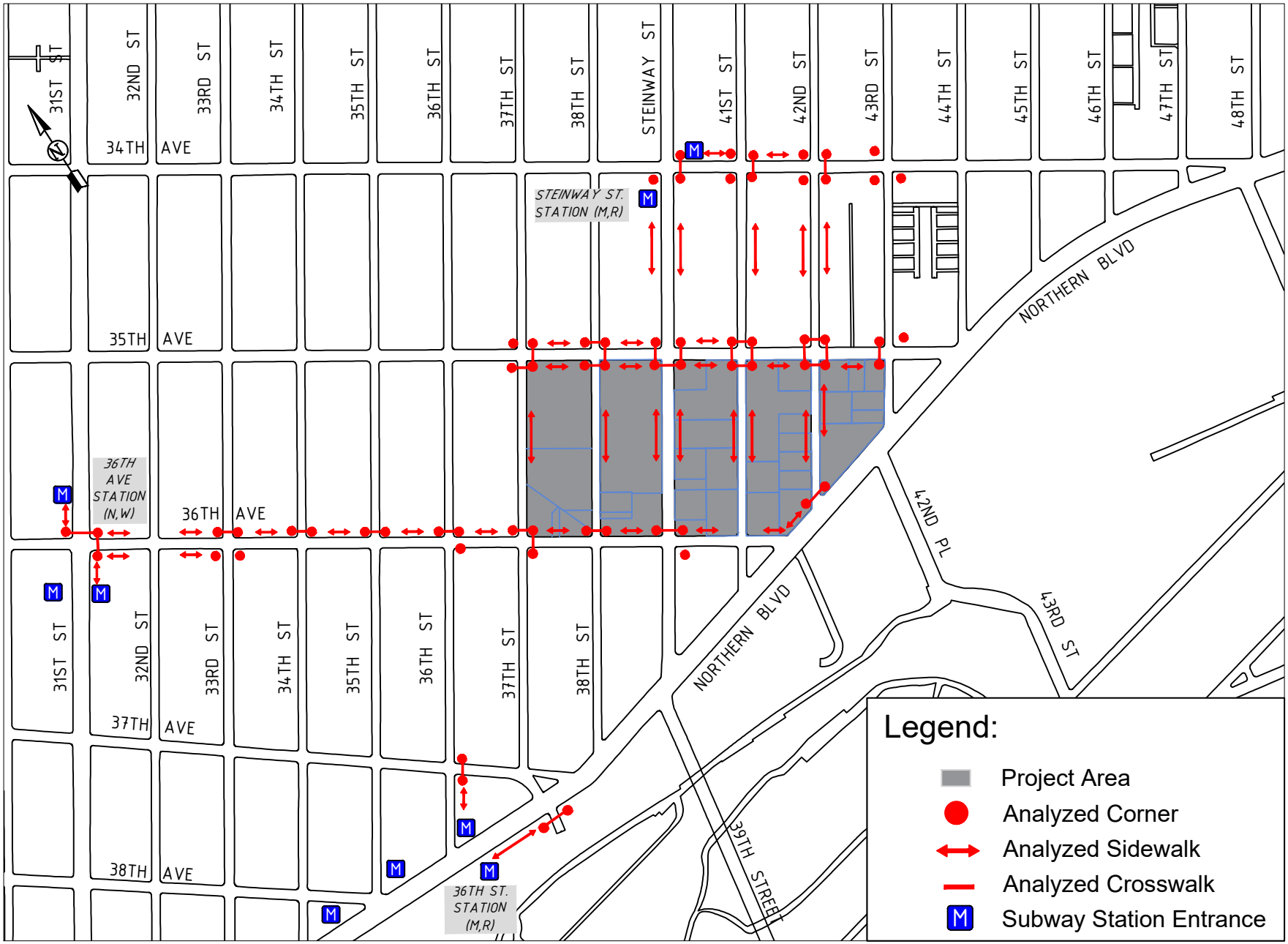
Under *CEQR Technical Manual* criteria, detailed pedestrian analyses are generally warranted if a proposed action is projected to result in 200 or more peak hour pedestrians at any sidewalk, corner area, or crosswalk. As shown in **Table 13-9**, the Proposed Actions are expected to generate approximately 920 walk-only trips (in and out combined) in the weekday AM peak hour, 3,037 in the midday, 1,786 in the PM, and 1,651 in the Saturday peak hour. Persons en route to and from subway station entrances and bus stops would add approximately 2,784, 1,438, 3,155 and 2,552 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 nearby subway station entrances and bus stops. 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.

Given the numbers of incremental pedestrian trips that would be generated by the Proposed Actions during the weekday AM, midday and PM peak hours and the Saturday peak hour, a detailed analysis of pedestrian conditions in each of these periods under the Proposed Actions is warranted. Based on pedestrian count data collected in proximity to the Project Area, the weekday 7:45–8:45 a.m., 1:00–2:00 p.m., and 5:00–6:00 p.m. peak hours, and Saturday 2:00–3:00 p.m. peak hour, have been selected for analysis.

Based on an assignment of incremental peak hour pedestrian trips, a total of 138 pedestrian elements (40 sidewalks, 33 crosswalks and 65 corner areas) are expected to experience a net increase of 200 or more trips in one or more peak hours and have therefore been selected for analysis. As shown in **Figure 13-3**, these elements are primarily located in the immediate proximity of the Project Area, along Northern Boulevard, 36th Avenue and 36th and Steinway streets which connect the Project Area to nearby subway station entrances, and along 34th Avenue and 41st, 42nd and 43rd streets.

PARKING

Parking demand from the proposed local retail, supermarket, office and community facility uses would typically peak in the midday and would decline during the late afternoon and evening. By contrast, demand from the cinema and physical cultural establishment uses would typically peak in


31ST ST
32ND ST
33RD ST
34TH ST
35TH ST
36TH ST
37TH ST
38TH ST
STEINWAY ST
41ST ST
42ND ST
43RD ST
44TH ST
45TH ST
46TH ST
47TH ST
48TH ST
34TH AVE
35TH AVE
36TH AVE
37TH AVE
38TH AVE
STEINWAY ST. STATION (M,R)
36TH AVE STATION (N,W)
36TH ST. STATION (M,R)
NORTHERN BLVD
42ND PL
43RD ST
39TH STREET
Legend:
Project Area
Analyzed Corner
Analyzed Sidewalk
Analyzed Crosswalk
Subway Station Entrance

the evening hours, and residential demand would peak overnight. Therefore, some of the spaces used by residents would be available to accommodate commercial and community facility demand during daytime hours.

As shown in **Table 13-1**, under the Proposed Actions, a total of 1,633 accessory parking spaces would be provided on projected development sites—1,390 on Applicant-controlled sites A through E, and 243 on non-Applicant-controlled sites F through K. A parking demand forecast is provided to document the ability of the on-site accessory parking to accommodate all of the projected demand from the With Action RWCDS and 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 a.m., 1:00–2:00 p.m. (midday), 4:00–5:00 p.m., and Saturday 2:00–3:00 p.m. period. These peak hours were selected based on existing traffic volumes in the study area as reflected in automatic traffic recorder (ATR) count data.[1]

The capacity analyses at intersections are based on the methodology presented in the *Highway Capacity Manual* (HCM) and were conducted using the Synchro 11 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 volume-to-capacity (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. Traffic on minor streets is affected by all conflicting movements. Similar to signalized intersections, the HCM

[1] To account for the ongoing effects of the Covid-19 Pandemic on study area traffic volumes, pre-pandemic secondary source data from DOT's Traffic Information System (TIMS) were used to develop adjustment factors for the 2021 count data.

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 13-13 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 13-13
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 45.0 seconds/vehicle for signalized intersections and 30.0 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 passenger car equivalents (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 October 2020 and June 2021. 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. Peak volumes for each of the three analyzed subway stations during the 7:00–9:00 a.m. and 4:30–6:30 p.m. peak periods were determined from the count data. (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 13-14** shows the *CEQR Technical Manual* level of service criteria for all subway station elements. As shown in **Table 13-14**, 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 13-14
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: 2020 *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 analysis focuses 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.

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 13-15** are reached or exceeded.

Table 13-15
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: 2020 *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.

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 May 2021 and June 2021. 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 7:45–8:45 a.m., 1:00–2:00 p.m. (midday), and 5:00–6:00 p.m., and Saturday 2:00–3:00 p.m. periods.[2]

Peak 15-minute pedestrian flow conditions during the weekday AM, midday, and PM peak hours 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

[2] To account for the ongoing effects of the COVID-19 pandemic on study area pedestrian volumes, pre-pandemic secondary source data from the 2019 *44-01 Northern Boulevard Rezoning EAS* were utilized for some analysis locations and to develop adjustment factors for the 2021 count data where needed.

significant capacity limitations and inconvenience. **Table 13-16** defines the LOS criteria for pedestrian crosswalk/corner area and sidewalk conditions, as based on *Highway Capacity Manual* methodology.

Table 13-16
Pedestrian Crosswalk/Corner Area and Sidewalk Levels of Service Descriptions

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

Notes:
Based on average conditions for 15 minutes
sf/ped—square feet of area per pedestrian
Source: 2020 *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. Platooning generally results in a level of service one level poorer than that determined for average flow rates.

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 39.2 square feet/pedestrian (sf/ped), and the average pedestrian space under the With Action condition is 31.5 sf/ped or less (worse than mid-LOS D). If the average pedestrian space under the With Action condition is greater than 31.5 sf/ped (mid-LOS D or better), the impact should not be considered significant. If the No Action pedestrian space is between 6.4 and 39.2 sf/ped, a reduction in pedestrian space under the With Action condition should be considered significant based on **Table 13-17**, 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 13-17**, the impact is not considered significant. If the average pedestrian space under the No Action condition is less than 6.4 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.

Table 13-17
Significant Impact Criteria for Sidewalks with Platooned Flow in a CBD Location

No Action Condition Pedestrian Flow (ft^2/ped)			With Action Condition Pedestrian Flow Increment to be Considered a Significant Impact (ft^2/ped)
> 39.2			With Action Condition < 31.5
38.7	to	39.2	Reduction ≥ 3.8
37.8	to	38.6	Reduction ≥ 3.7
36.8	to	37.7	Reduction ≥ 3.6
35.9	to	36.7	Reduction ≥ 3.5
34.9	to	35.8	Reduction ≥ 3.4
34.0	to	34.8	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
<6.4			Reduction ≥ 0.3

Source: 2020 *CEQR Technical Manual*

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 21.5 sf/ped and, under the With Action condition, the average pedestrian space decreases to 19.5 sf/ped or less (worse than mid-LOS D). If the pedestrian space under the With Action condition is greater than 19.5 sf/ped (mid-LOS D or better), the impact should not be considered significant. If the average pedestrian space under the No Action condition is between 5.1 and 21.5 sf/ped, a decrease in pedestrian space under the With Action condition should be considered significant based on **Table 13-18** 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**

13-18, the impact is not considered significant. If the average pedestrian space under the No Action condition is less than 5.1 sf/ped, then a decrease in pedestrian space greater than or equal to 0.2 sf/ped should be considered significant.

Table 13-18
Significant Impact Criteria for Corners and Crosswalks in a CBD Location

No Action Condition Pedestrian Space (ft^2/ped)			With Action Condition Pedestrian Space Reduction to be Considered a Significant Impact (ft^2/ped)
> 21.5			With Action Condition < 19.5
21.3	to	22.1	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	to	15.8	Reduction ≥ 1.4
14.1	to	14.9	Reduction ≥ 1.3
13.2	to	14	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	to	6.8	Reduction ≥ 0.4
5.1	to	5.9	Reduction ≥ 0.3
< 5.1			Reduction ≥ 0.2

Source: 2020 *CEQR Technical Manual*

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 with 48 or more total reportable and non-reportable crashes or 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. 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 forecasts for the Proposed Development and the Additional Affected Area are 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.

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.

Under *CEQR Technical Manual* guidance, different criteria for determining significance are applied based on whether or not 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, May 2010") in the *CEQR Technical Manual*. As 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 13-1**, the street network in proximity to the Project Area is comprised of an irregular grid pattern of collector and local streets. Most intersections in the study area are signalized.

The Project Area itself is bounded by 37th Street on the west, 43rd Street and Northern Boulevard on the east, 35th Avenue on the north and 36th Avenue on the south. **37th Street** and **43rd Street** are both one-way northbound local streets that typically operate with one moving lane and parking along both curbs. **Northern Boulevard (NY 25A)** is a principal arterial that operates with three moving lanes in each direction in the vicinity of the Project Area. At its western end, it connects to the Ed Koch Queensboro Bridge to midtown Manhattan, and to the east, it connects to the Brooklyn-Queens Expressway (I-278). Northern Boulevard is a DOT-designated through truck route and is traversed by MTA Bus Q66 local buses (east of 42nd Street) and Q101 local buses (west of Steinway Street). It is also used by QM2, QM3, QM20 and QM32 express buses for access to/from the Ed Koch Queensboro Bridge. **35th Avenue** is a major collector that operates as a one-way westbound street between Northern Boulevard and 43rd Street and as a two-way street with parking along both curbs to the west of 43rd Street. **36th Avenue** is a minor arterial that also operates as a one-way westbound street between Northern Boulevard and 41st Street, and as a two-way street with parking along both curbs to the west of 41st Street.

Other study area corridors of note include Steinway Street, Broadway, 34th Avenue, 36th Street, Queens Boulevard and Greenpoint Avenue. **Steinway Street and Broadway** are both principal arterials that typically operate with one moving lane in each direction and parking along both

curbs. Both are DOT-designated Local Truck Routes. Steinway Street is traversed by MTA Bus Q101 local buses while Broadway is traversed by Q104 local buses. **34th Avenue** is a two-way local street with one moving lane (striped as a shared bicycle lane) in each direction and parking along both curbs. **36th Street** is a one-way southbound local street with one moving lane and parking along both curbs. There is also a dedicated bicycle lane north of 34th Avenue. **Queens Boulevard (NY 25)** is a principal arterial roadway that extends from the Ed Koch Queensboro Bridge to Jamaica, Queens. In the vicinity of the study area it typically operates with four to five moving lanes in each direction separated by a wide median that is used for parking. NYCT No. 7 trains on the Flushing Line operate on an elevated structure above this median area. Queens Boulevard is a DOT-designated Through Truck Route and is traversed by MTA Bus Q32 and Q60 local buses, along with express buses operating on eleven routes that enter Queens via the Ed Koch Queensboro Bridge. **Greenpoint Avenue** is a principal arterial that typically operates with one to two moving lanes including a shared bicycle lane in each direction, plus parking along both curbs. It is a DOT-designated Through Truck Route that provides access to the Queens Midtown/Long Island Expressway and is also traversed by NYC Transit B24 buses. En route to and from Greenpoint, Brooklyn via the Greenpoint Avenue Bridge over Newtown Creek.

Regional arteries providing access to the Project Area include the Brooklyn-Queens Expressway (I-278) and the Queens Midtown Expressway/Long Island Expressway (I-495). The **Brooklyn-Queens Expressway or BQE**, located approximately one mile to the east of the Project Area, traverses northern Brooklyn and Queens and connects to the RFK Triborough Bridge to Manhattan and the Bronx. Northern Boulevard is the primary access corridor between the Project Area and the BQE. The **Queens Midtown Expressway**, located approximately 1.5 miles to the south of the Project Area, extends from the Queens-Midtown Tunnel to midtown Manhattan eastward to Queens Boulevard where it becomes the **Long Island Expressway or LIE** and continues for approximately 70 miles to Riverhead on Long Island. The combination of 39th Avenue and Greenpoint Avenue provides the primary access route between the Project Area and the Queens Midtown Expressway and LIE.

Bus Routes

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

- Borden Avenue (Q67)
- Broadway (Q104)
- 48th Avenue (Q39)
- Greenpoint Avenue (B24)
- Northern Boulevard (Q66, Q101, QM2, QM3, QM20, QM32)
- Queens Boulevard (Q32, Q60, QM1, QM4, QM5, QM6, QM31, QM35, QM36, QM44, X63, X64, X68)
- Steinway Street (Q101)
- 31st Street (Q102)
- 35th Avenue (Q66)

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. Through trucks are defined as having neither an origin nor a destination within the Borough of Queens. In proximity to the Project Area, Steinway Street and Broadway have been designated as local truck routes, and Astoria Boulevard, Northern Boulevard, Queens Boulevard, Greenpoint Avenue, the BQE, the LIE and the Queens Midtown Express have been designated as Through Truck Routes.

Bicycle Lanes

As shown in **Figure 13-4**, bicycle lanes have been installed along several corridors in proximity to the traffic study area. These include protected bicycle lanes along portions of Queens Boulevard and Skillman and 43rd avenues; conventional bicycle lanes along 35th and 36th streets north of 34th Avenue and along portions of Honeywell, 39th and 48th streets, and Northern Boulevard; and shared lanes along portions of 31st, 34th, 47th, 50th, Skillman and Greenpoint avenues, and 39th and 48th streets.

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 June 2021. 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 June 2021. Signal timing plans for signalized intersections within the study area were obtained from DOT. **Figures 13-5 through 13-8** show existing traffic volumes during weekday AM, midday, PM, and Saturday peak hours.

INTERSECTION CAPACITY ANALYSIS

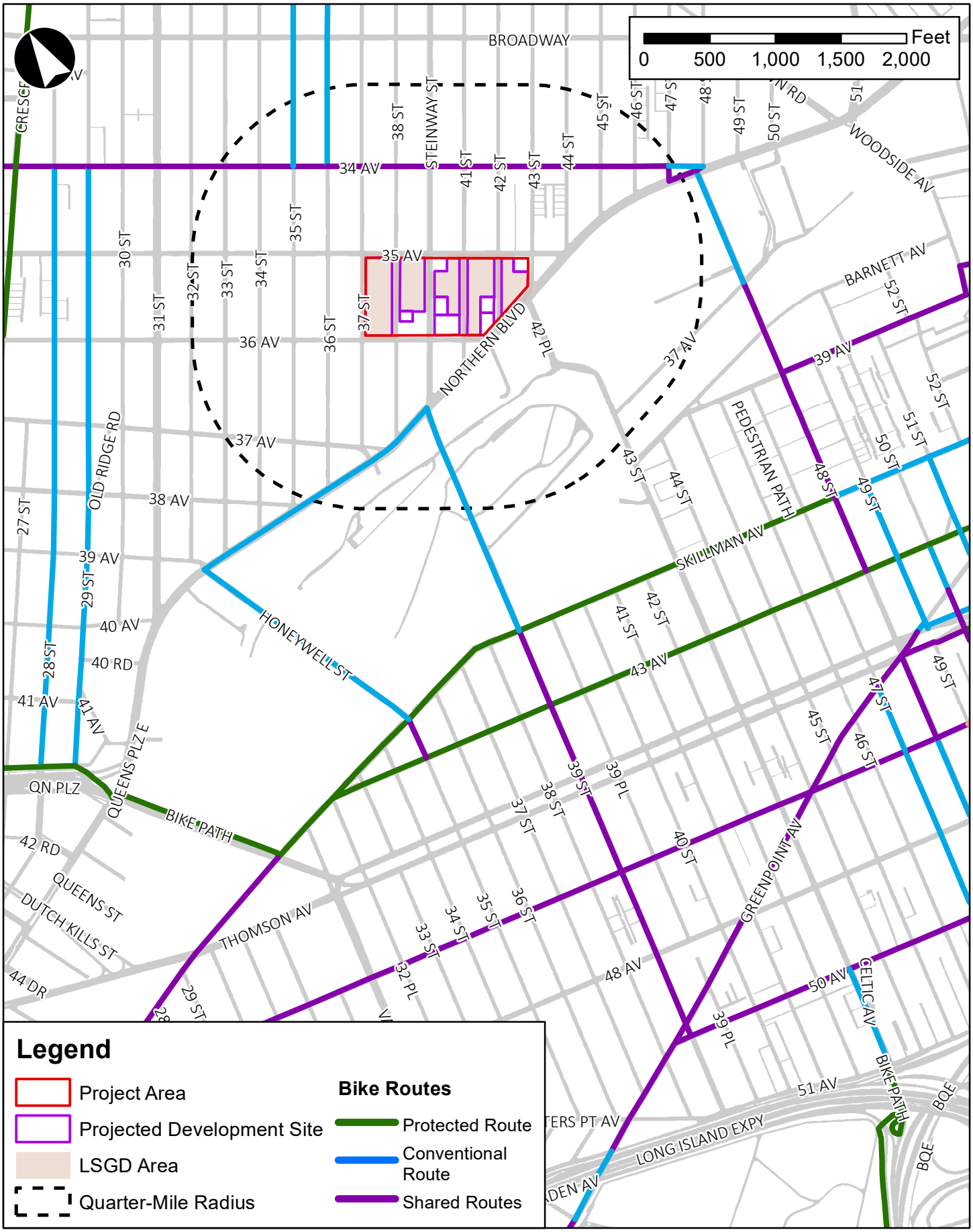
The v/c ratios, delays, and levels of service for the individual lane groups experiencing congestion in one or more peak hours under existing conditions are shown in **Table 13-19**. A lane group is considered congested and is included in **Table 13-19** if it operates at LOS E or F and/or with a v/c ratio of 0.90 or above. A v/c ratio of 1.00 or above reflects capacity conditions. As shown in **Table 13-19**, a total of 21 analyzed intersections (all signalized) currently have at least one congested lane group in one or more peak hours. Fourteen of the 21 congested intersections are located along Northern Boulevard. Greenpoint Avenue has three congested intersections, and there is one each along Broadway and along 35th, 35th and 43rd avenues. A total of 14 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, 9 in the midday, 8 in the PM and 11 in the Saturday peak hour. Overall, the data in **Table 13-19** indicate that congestion at analyzed intersections is most evident during the weekday commuter peak periods and the Saturday peak period, and least evident during the weekday midday period. V/c ratios, delays, and levels of service for all lane groups at all analyzed intersections in all peak periods under existing conditions are provided in Table D-1 in Appendix D.

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

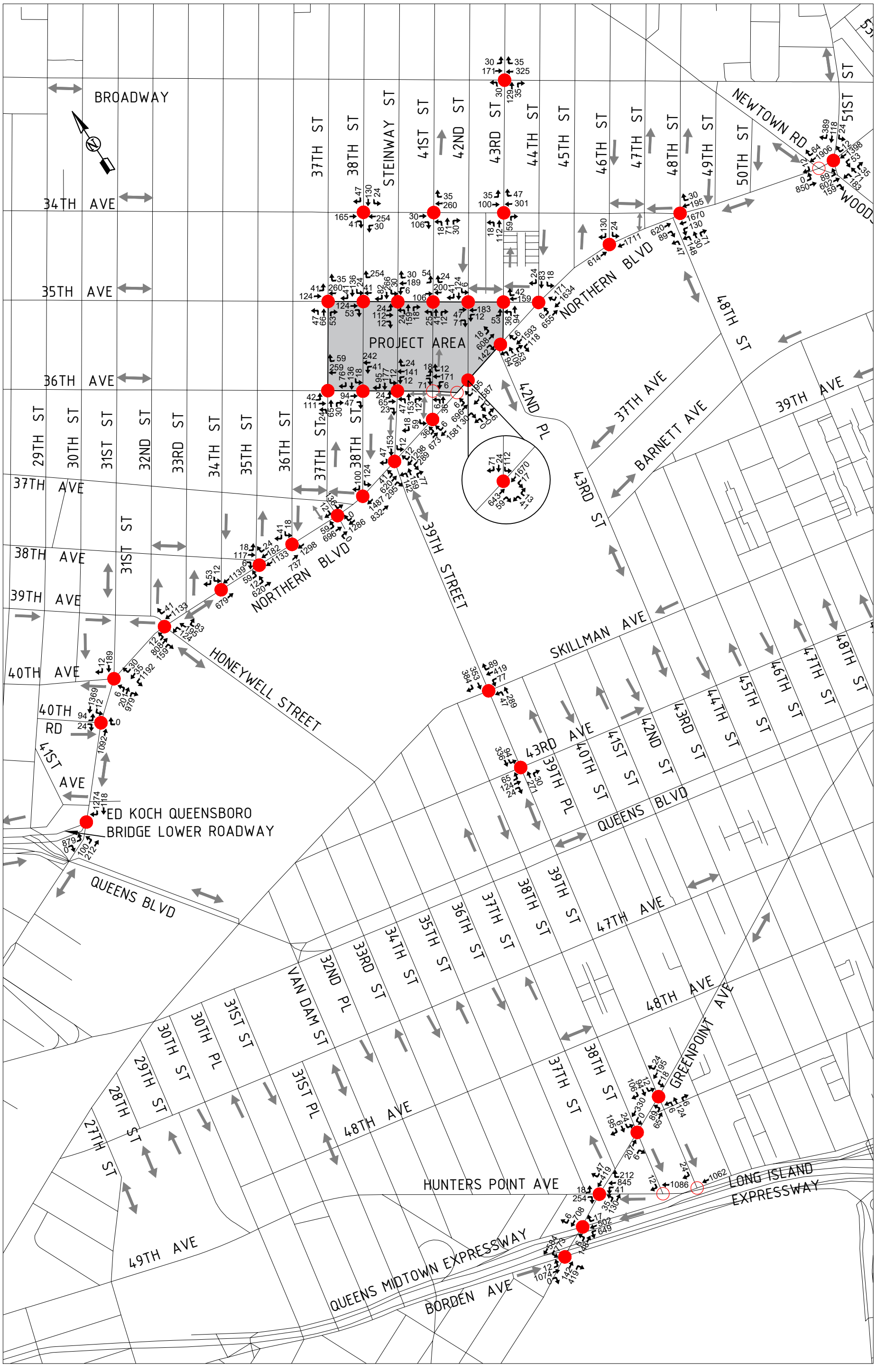
FUTURE NO ACTION TRAFFIC GROWTH

Between 2021 and 2032, 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

Study Area Bicycle Routes



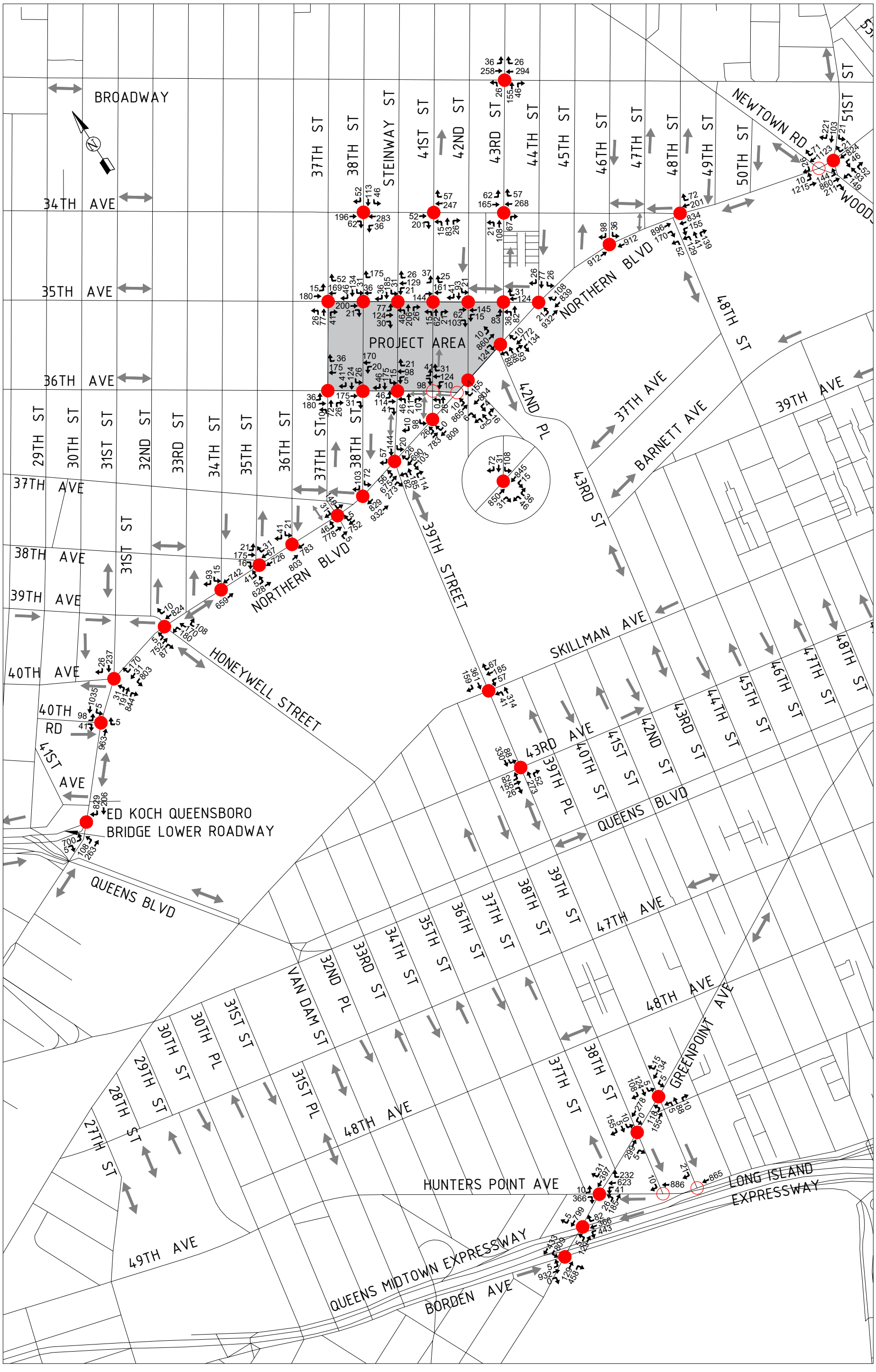
Existing AM Peak Hour Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Weekday AM Peak Hour Volume

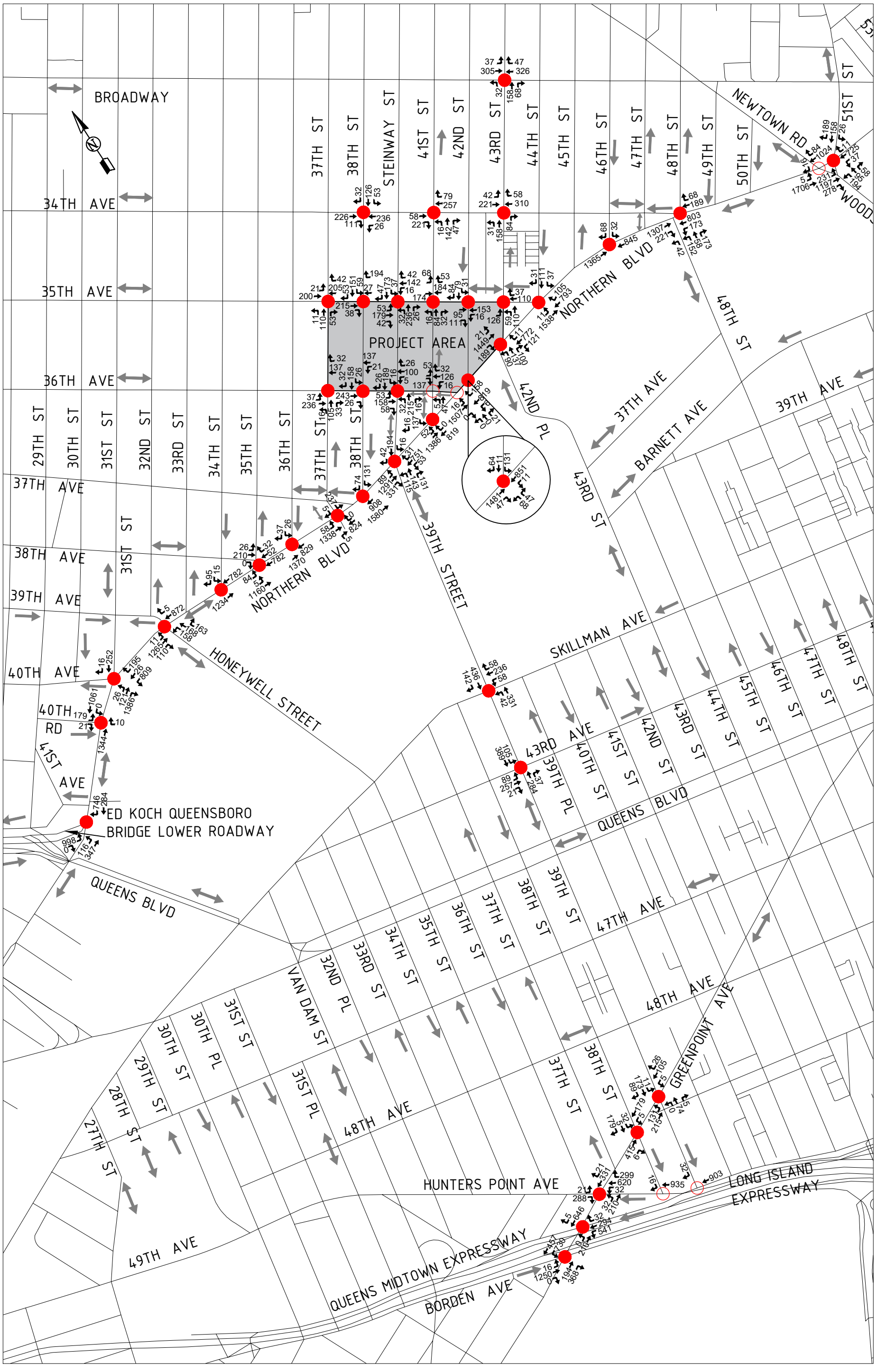
Existing Midday Peak Hour Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Weekday MD Peak Hour Volume

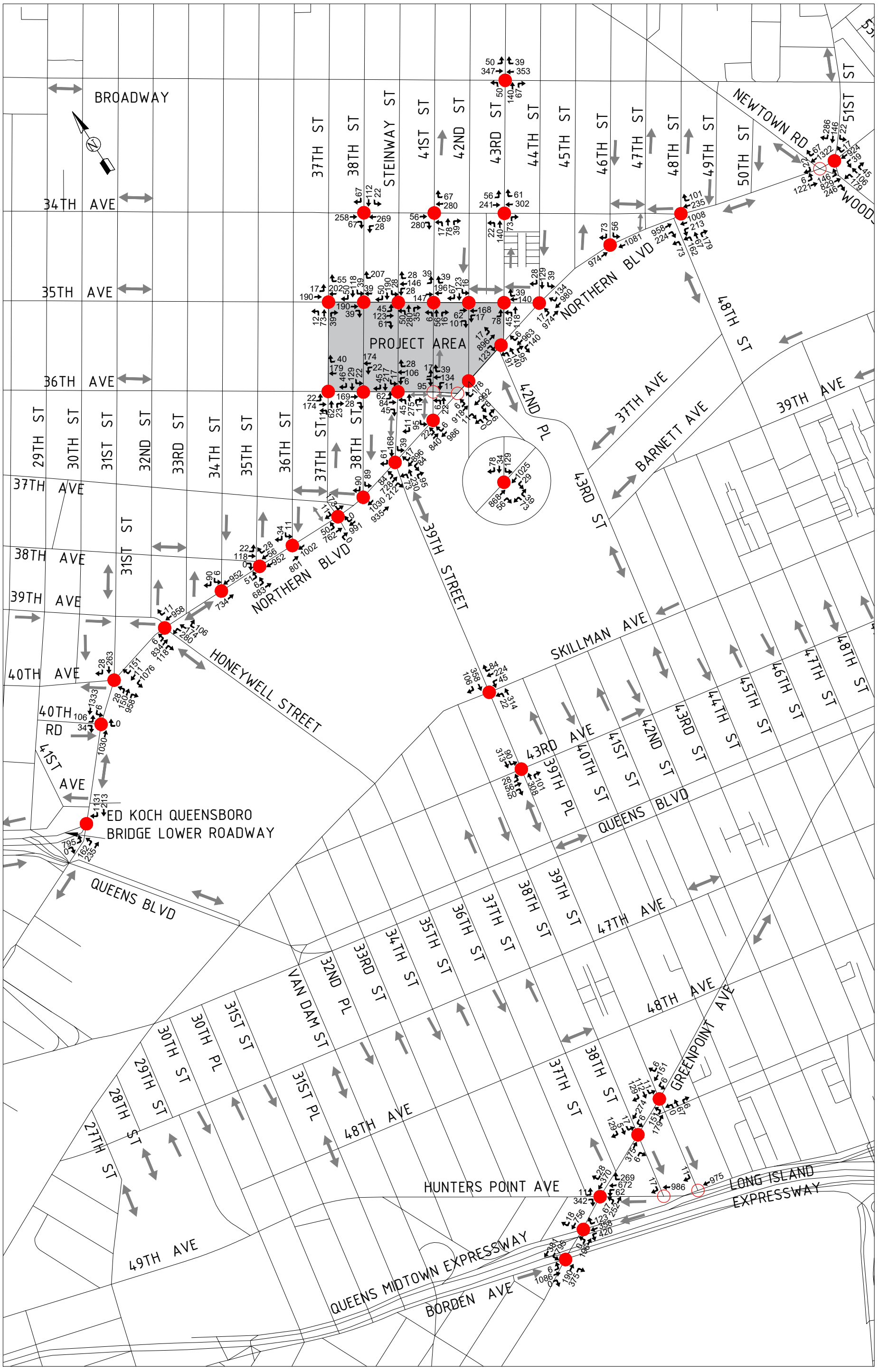
Existing PM Peak Hour Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Weekday PM Peak Hour Volume

Existing Saturday Peak Hour Traffic Volumes



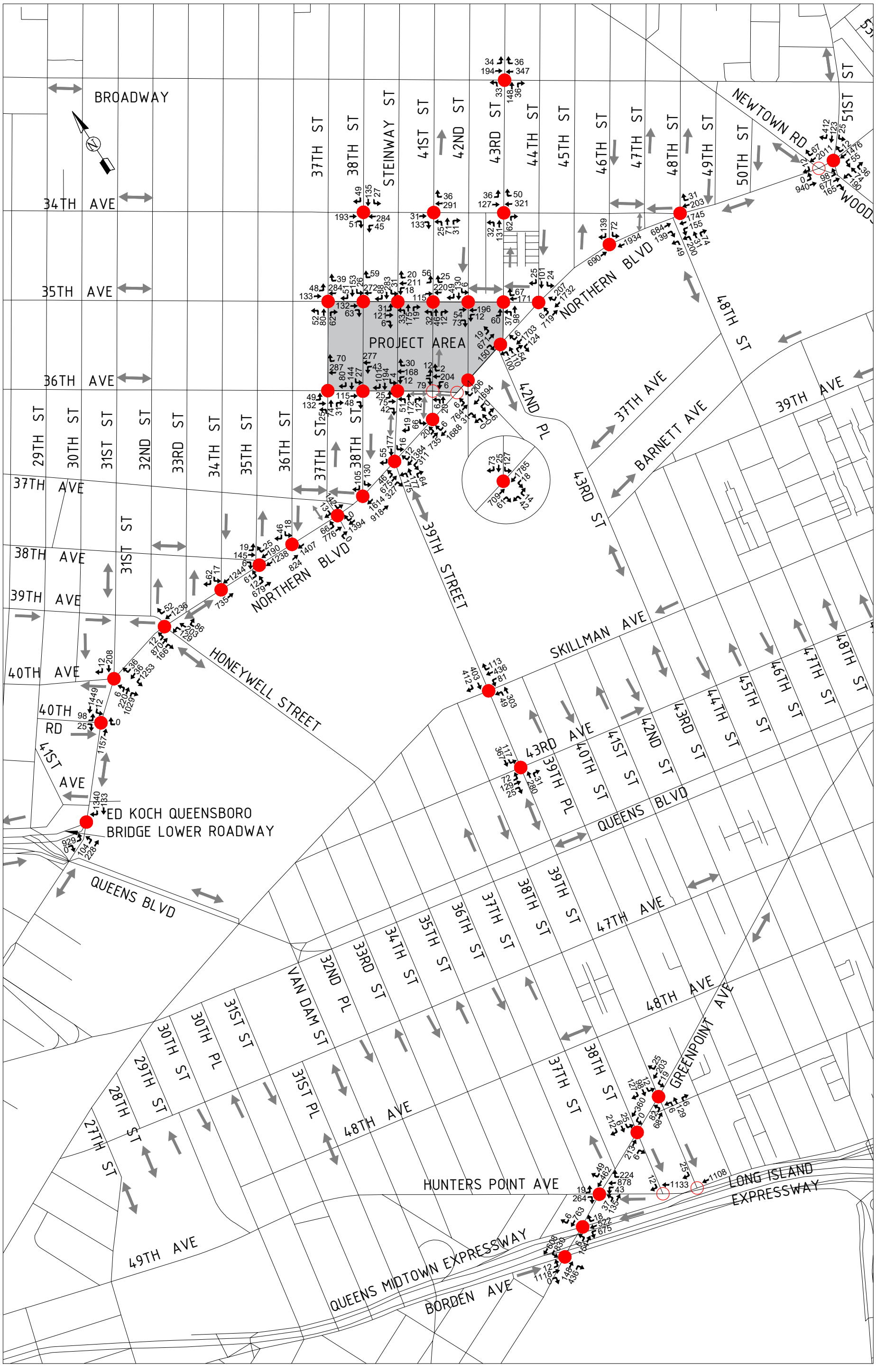
Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Saturday Peak Hour Volume

pursuant to existing zoning. The No Action RWCDS reflects a total of approximately nine dwelling units, 264,852 gsf of commercial uses and 150,715 gsf of industrial uses in the Project Area, a net increase of approximately 61,281 gsf of commercial uses and a net decrease of approximately 46,144 gsf of industrial uses compared to the existing condition. It is also expected that there would be approximately 700 parking spaces, a net increase of approximately 150 spaces compared to the existing condition.

In order to forecast future traffic conditions without the Proposed Actions (the No Action condition), development on projected development sites was considered, as were other developments within 1/2-mile of the Project Area including those listed in Table 2-1 in Chapter 2, "Land Use, Zoning, and Public Policy." The Future No Action traffic volumes also reflect annual background growth rates of 0.5 percent per year for the 2021 through 2026 period and 0.25 percent for the 2026 through 2032 period. These background growth rates, recommended in the *CEQR Technical Manual* for projects in Queens outside of Long Island City, are applied to account for smaller projects and as-of-right developments not reflected in Table 2-1, and general increases in travel demand not attributable to specific development projects. **Figures 13-9 through 13-12** show total No Action traffic volumes during weekday AM, midday, PM, and Saturday peak hours.

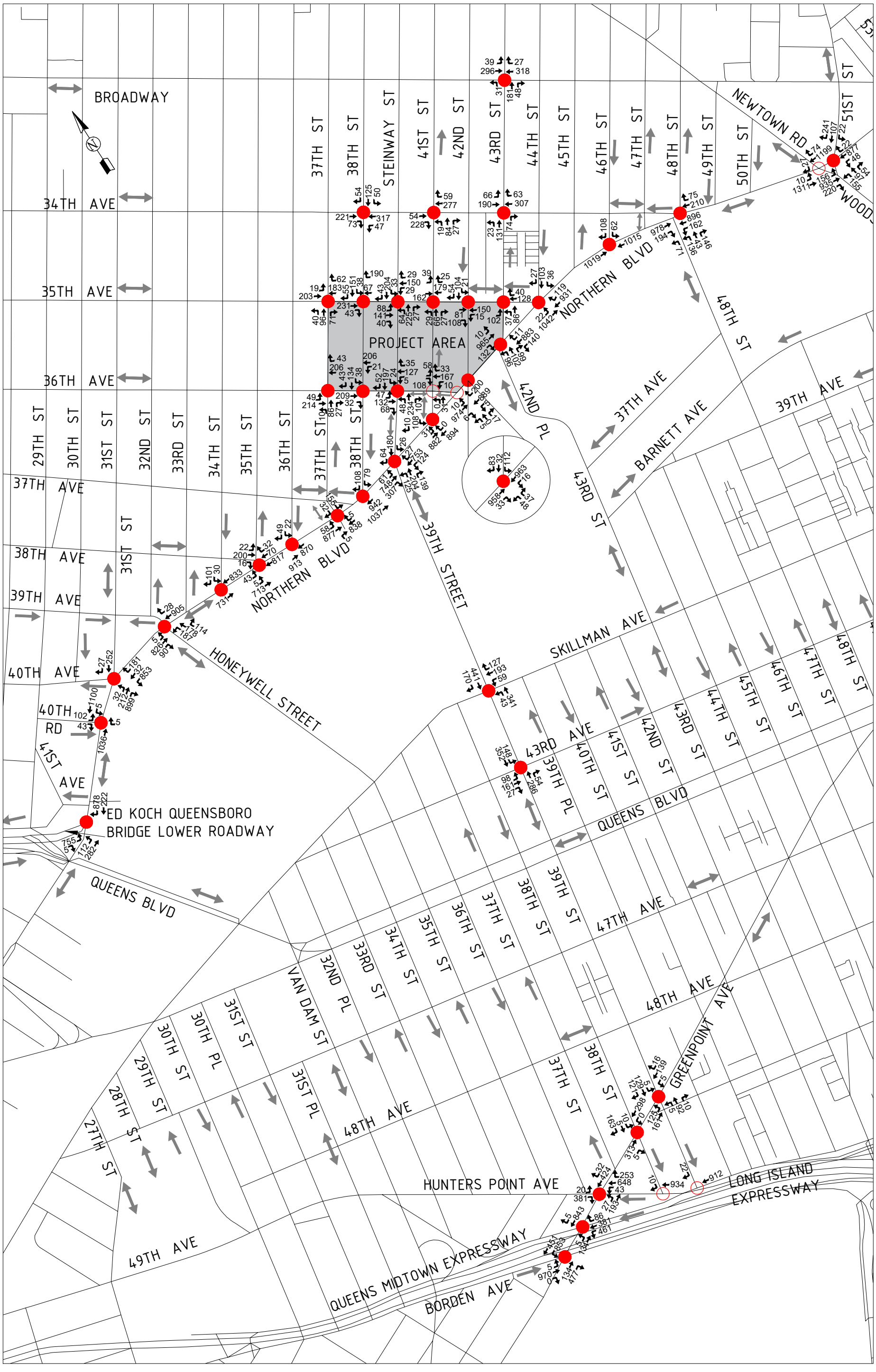
No Action AM Peak Hour Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Weekday AM Peak Hour Volume

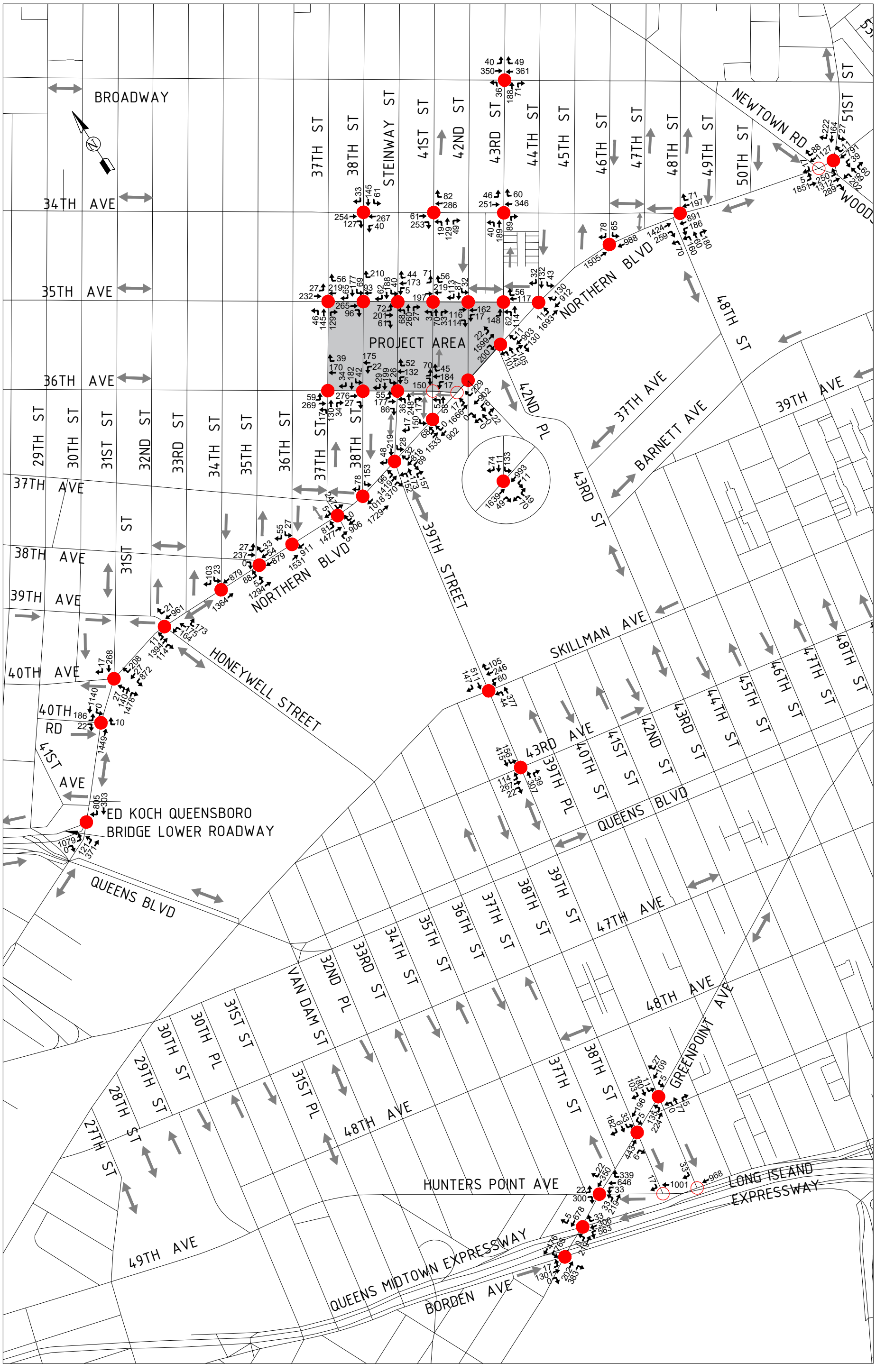
No Action Midday Peak Hour Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Weekday MD Peak Hour Volume

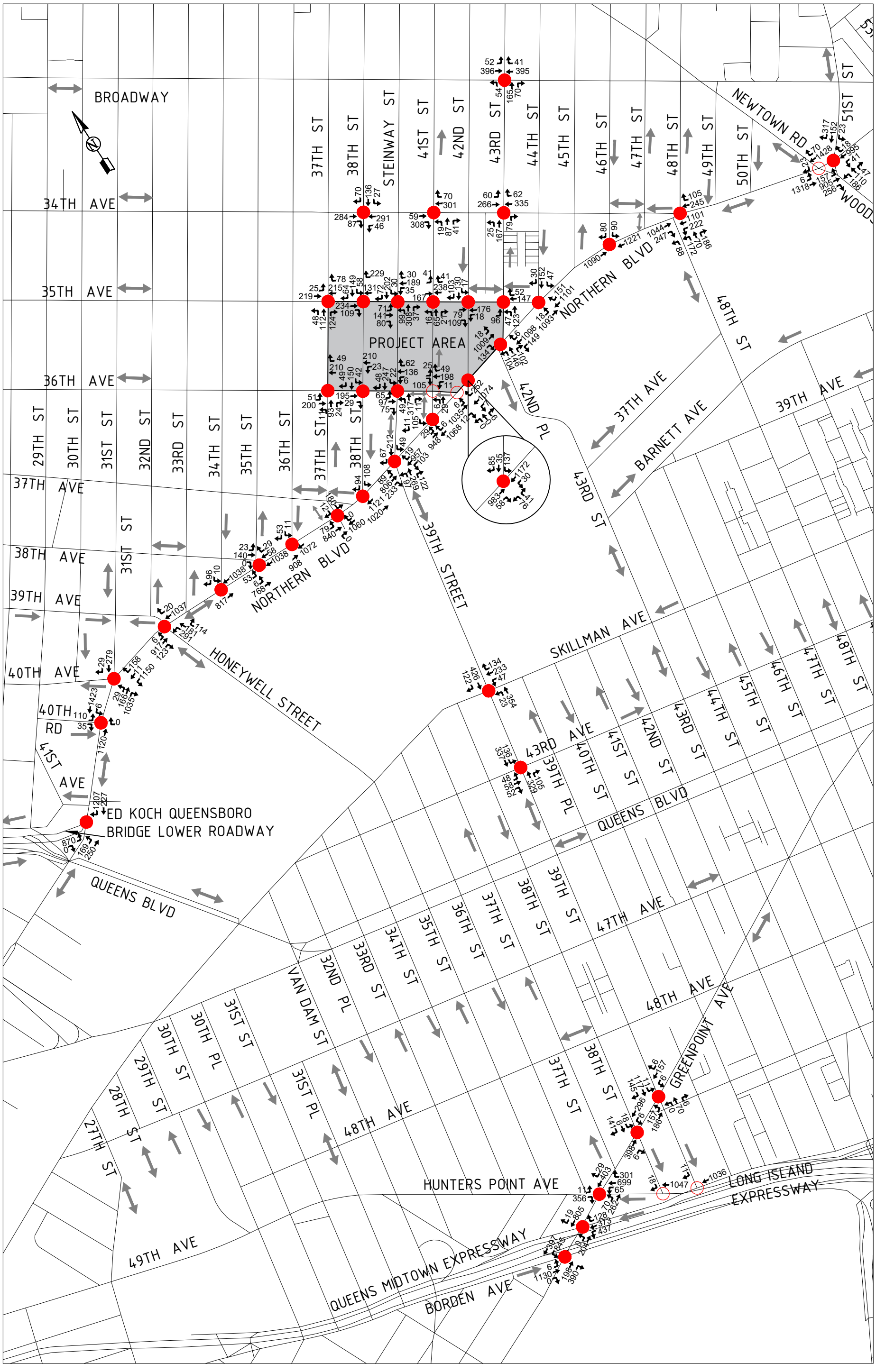
No Action PM Peak Hour Traffic Volumes



Legend

- Signalized Analysis Location
- Unsignalized Analysis Location
- 2 = Weekday PM Peak Hour Volume

No Action Saturday Peak Hour Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Saturday Peak Hour Volume

Table 13-19
Congested Lane Groups at Analyzed Intersections Under Existing Conditions

Intersection	Approach	Lane Group	Existing AM v/c Ratio	Existing AM Delay (sec/veh)	Existing AM LOS	Existing Midday v/c Ratio	Existing Midday Delay (sec/veh)	Existing Midday LOS	Existing PM v/c Ratio	Existing PM Delay (sec/veh)	Existing PM LOS	Existing Saturday v/c Ratio	Existing Saturday Delay (sec/veh)	Existing Saturday LOS
Broadway (E-W) & 43rd St (N)	NB	LTR	1.05	91.5	F	1.03	89.2	F	1.05	89.9	F	1.05	93.5	F
35th Ave (E-W) & Steinway St (N-S)	EB	LTR				0.91	62.3	E	0.94	64.8	E			
36th Ave (E-W) & Steinway St (N-S)	EB	LTR							0.92	69.9	E			
Northern Blvd (E-W) & Queensboro Bridge (S)	WB	R	1.05	49.6	D	0.99	65.2	E	0.99	39.5	D	1.05	76.5	E
	SB	L							0.95	52.7	D			
Northern Blvd (E-W) & 40th Rd / Driveway (N-S)	WB	T	0.91	15.4	B									
	SB	LTR				0.65	55.0	E	0.88	78.2	E			
Northern Blvd (E-W) & 39th Ave / Honeywell St (N-S)	EB	LTR							0.94	8.0	A			
	NB	L										0.96	84.2	F
	NB	TR	0.92	75.5	E	1.05	112.3	F	1.05	105.6	F	0.98	88.3	F
Northern Blvd (E-W) & 35th St/38th Ave (S)	EB	L	1.01	112.8	F									
	WB	TR	0.93	8.7	A									
	SB	LTR				0.88	75.0	E	0.95	85.3	F			
Northern Blvd (E-W) & 37th St (S) / Standard Ln (N)	EB	L	0.80	69.5	E									
	SB	LTR							0.95	87.0	F			
Northern Blvd (E-W) & 38th St (S)	EB	T							0.96	23.5	C			
	WB	T	0.95	13.6	B									
	SB	LR	0.80	59.1	E	0.64	59.3	E				0.63	58.8	E
Northern Blvd (E-W) & 39th St / Steinway St (N-S)	EB	TR							1.05	39.6	D			
	WB	L	1.05	36.9	D	1.00	89.3	F	1.05	149.8	F			
	WB	TR	1.05	29.7	C	1.01	42.5	D	0.96	38.9	D			
	NB	L	0.69	57.3	E									
	NB	TR	1.04	108.6	F	0.98	82.5	F	1.05	107.5	F	0.95	72.4	E
	SB	LTR	1.05	121.4	F	1.05	119.3	F	1.05	128.4	F	1.05	114.6	F
Northern Blvd (E-W) & 41st St (S)	EB	L	0.85	73.0	E									
	WB	TR	1.04	30.8	C									
Northern Blvd (E-W) & 42nd St (S) / Driveway (N)	EB	TR							0.93	16.1	B			
	WB	T	1.05	33.7	C									
	NB	LTR										0.73	67.9	E
	SB	LTR				1.01	103.9	F	0.77	60.7	E	1.05	112.3	F
Northern Blvd (E-W) & 43rd St (N) / 42nd Pl (N-S)	EB	LTR							1.05	41.1	D			
	WB	L							1.05	107.5	F	0.95	58.0	E
	WB	TR	1.02	20.9	C				0.93	33.8	C			
	NB	LTR	0.84	62.8	E	0.92	77.0	E	0.97	82.9	F	1.05	106.7	F
Northern Blvd (E-W) & 44th St (S) / 35th Ave (N)	EB	TR							0.92	4.9	A			
	WB	TR	1.05	27.2	C									
	SB	LTR	0.67	55.9	E	0.68	56.7	E	0.97	96.6	F	1.05	118.6	F
Northern Blvd (E-W) & 46th St (S)	WB	T	1.05	27.0	C									
Northern Blvd (E-W) & 48th St (N-S) / 34th Ave (N)	EB	TR				0.92	24.7	C	1.05	39.8	D	1.03	46.0	D
	WB	L				0.98	91.9	F	1.05	117.3	F	1.05	94.8	F
	WB	TR	1.05	28.1	C	1.05	45.0	D	1.05	46.6	D	1.05	36.0	D
	NB	L	0.88	75.8	E	0.94	89.6	F	1.05	122.6	F	1.05	118.8	F
	NB	TR				0.87	75.5	E	1.05	115.3	F	1.01	103.1	F
Northern Blvd (E-W) & 51st St / Woodside Ave (N-S)	EB	L	0.92	95.8	F				1.05	73.0	E			
	EB	TR							1.05	37.3	D			
	WB	TR	1.05	67.3	E									
	NB	LTR	1.05	108.5	F	1.05	105.9	F	1.05	98.7	F	1.05	106.0	F
	SB	R	1.05	99.9	F							1.03	99.6	F
43rd Ave (E) & 39th St (N-S)	SB	LT	1.05	72.6	E	1.03	59.3	E	1.05	76.1	E	1.05	70.9	E
Greenpoint Ave (E-W) & Hunters Point Ave (NW/NB)	SE	LTR	0.88	58.5	E									
	NW (NB)	LTR	1.05	77.6	E	1.05	79.2	E	0.92	47.2	D	1.05	79.4	E
Greenpoint Ave (NE-SW) & Queens Midtown Expressway (W)	WB	LTR	0.91	28.1	C									
Greenpoint Ave (NE-SW) & Borden Ave (E)	EB	LTR	1.01	66.4	E	0.90	40.3	D	0.95	48.1	D	1.00	56.6	E
	NE	R	1.05	101.1	F	1.05	90.0	F	1.05	108.8	F	1.05	95.2	F
	SW	L	1.05	81.0	F	1.05	70.3	E	1.00	69.9	E	1.03	63.3	E

INTERSECTION CAPACITY ANALYSIS

The v/c ratios, delays, and levels of service for those individual lane groups experiencing congestion in one or more peak hours under No Action conditions are shown in **Tables 13-20 through 13-23**. As shown in **Tables 13-20 through 13-23**, a total of 27 intersections (all signalized) would have at least one congested lane group in one or more peak hours in the No Action condition, compared to 21 intersections (all signalized) under existing conditions. Northern Boulevard would continue to have the most congested intersections with 17 (compared to 14 under existing conditions), followed by Greenpoint Avenue with three intersections (unchanged from existing conditions) and 35th Avenue with three intersections (one under existing conditions). Broadway and 36th and 43rd avenues would each have one congested intersection (unchanged from the existing conditions), as would Skillman Avenue (none under existing conditions). A total of 16 intersections would have one or more lane groups operating at or over capacity (v/c > 1.0) in the weekday AM peak hour, 14 in the midday, 17 in the PM, and 15 in the Saturday peak hour. This compares to 14, 9, 8 and 11 intersections operating at or over capacity during these same periods, respectively, under existing conditions. V/c ratios, delays, and levels of service for all lane groups at all analyzed intersections in all peak periods under No Action conditions are provided in Table D-2 in Appendix D.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITION)

FUTURE WITH ACTION TRAFFIC GROWTH

As shown in **Table 13-9**, based on projected development associated with the Proposed Actions, there would be a net total of approximately 610, 457, 689, and 569 additional vehicle trips (auto, taxi, 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 were based on the anticipated origins and destinations of vehicle trips associated with the different land uses projected under the RWCDS. The origins/destinations for residential uses were based on 2012–2016 American Community Survey (ACS) journey-to-work data, while those for the office/daycare (staff), warehouse, and light industrial uses were based on 2012–2016 ACS reverse journey-to-work data. The origins/destinations of trips generated by local retail, community center, daycare (students) and physical cultural establishment uses, which are typically local trips within the surrounding neighborhood, were based on the population density within a 0.5-mile radius of the Project Area. Similarly, origins/destinations for the cinema, supermarket, medical office, destination retail, auto dealership, and arts and cultural center uses were based on population density in proximity to the Project Area and surrounding neighborhoods within a two-mile radius. (Additional data on the directional distributions of auto and taxi trips by land use are provided in the *Transportation Planning Factors and Travel Demand Forecast Technical Memorandum* included in Appendix D.)

Table 13-20
Congested Lane Groups at Analyzed Intersections Under No Action Conditions—Weekday AM Peak Hour

Intersection	Approach	Lane Group	Existing AM			No Action AM		
			v/c Ratio	Delay (sec/veh)	LOS	v/c Ratio	Delay (sec/veh)	LOS
Broadway (E-W) & 43rd St (N)	NB	LTR	1.05	91.5	F	1.19	135.2	F
35th Ave (E-W) & Steinway St (N-S)	SB	LTR	0.86	48.7	D	0.92	58.4	E
Northern Blvd (E-W) & Queensboro Bridge (S)	WB	R	1.05	49.6	D	1.11	70.6	E
Northern Blvd (E-W) & 40th Rd / Driveway (N-S)	WB	T	0.91	15.4	B	0.96	21.1	C
Northern Blvd (E-W) & 40th Ave (N) / 31st St (N-S)	WB	T	0.86	8.0	A	0.90	8.5	A
Northern Blvd (E-W) & 39th Ave / Honeywell St (N-S)	WB	TR	0.85	9.2	A	0.94	13.2	B
	NB	TR	0.92	75.5	E	0.97	86.5	F
Northern Blvd (E-W) & 35th St / 38th Ave (S)	EB	L	1.01	112.8	F	1.38	254.5	F
	WB	TR	0.93	8.7	A	1.01	19.2	B
Northern Blvd (E-W) & 36th St (S)	WB	T	0.89	4.2	A	0.97	7.3	A
Northern Blvd (E-W) & 37th St (S)/Standard Ln (N)	EB	L	0.80	69.5	E	1.16	179.6	F
	WB	LT	0.89	8.7	A	0.96	12.2	B
Northern Blvd (E-W) & 38th St (S)	WB	T	0.95	13.6	B	1.03	29.7	C
	SB	LR	0.80	59.1	E	0.84	62.7	E
Northern Blvd (E-W) & 39th St / Steinway St (N-S)	EB	L	0.67	52.7	D	0.95	116.9	F
	WB	L	1.05	36.9	D	1.13	69.8	E
	WB	TR	1.05	29.7	C	1.12	60.0	E
	NB	L	0.69	57.3	E	0.85	70.8	E
	NB	TR	1.04	108.6	F	1.05	109.4	F
	SB	LTR	1.05	121.4	F	1.24	184.8	F
Northern Blvd (E-W) & 41st St (S)	WB	TR	1.04	30.8	C	1.11	57.2	E
Northern Blvd (E-W) & 42nd St (S) / Driveway (N)	WB	T	1.05	33.7	C	1.13	63.0	E
	SB	LTR	0.76	53.6	D	0.80	56.0	E
Northern Blvd (E-W) & 43rd St (N) / 42nd Pl (N-S)	WB	TR	1.02	20.9	C	1.09	50.7	D
	NB	LTR	0.84	62.8	E	0.88	67.6	E
Northern Blvd (E-W) & 44th St (S)/35th Ave (N)	WB	TR	1.05	27.2	C	1.13	63.2	E
	SB	LTR	0.67	55.9	E	0.83	72.4	E
Northern Blvd (E-W) & 46th St (S)	WB	T	1.05	27.0	C	1.13	61.8	E
	SB	LR	0.60	48.9	D	0.86	69.7	E
Northern Blvd (E-W) & 48th St (N-S) / 34th Ave (N)	WB	TR	1.05	28.1	C	1.10	50.8	D
	NB	L	0.88	75.8	E	1.32	216.3	F
Northern Blvd (E-W) & 51st St / Woodside Ave (N-S)	EB	L	0.92	95.8	F	1.02	123.5	F
	WB	TR	1.05	67.3	E	1.11	88.6	F
	NB	LTR	1.05	108.5	F	1.11	127.7	F
	SB	R	1.05	99.9	F	1.12	121.8	F
43rd Ave (E) & 39th St (N-S)	SB	LT	1.05	72.6	E	1.32	175.0	F
Greenpoint Ave (E-W) & Hunters Point Ave (NW-SE)	SE	LTR	0.88	58.5	E	1.02	90.9	F
	NW	LTR	1.05	77.6	E	1.10	94.8	F
Greenpoint Ave (NE-SW) & Queens Midtown Expressway (W)	WB	LTR	0.91	28.1	C	0.95	30.3	C
Greenpoint Ave (NE-SW) & Borden Ave (E)	EB	LTR	1.01	66.4	E	1.05	78.1	E
	NE	R	1.05	101.1	F	1.10	114.6	F
	SW	L	1.05	81.0	F	1.12	107.0	F

Shading denotes lane groups which are not congested in the Existing condition but are shown for comparison purposes.

Table 13-21
Congested Lane Groups at Analyzed Intersections Under No Action Conditions—Weekday Midday Peak Hour

Intersection	Approach	Lane Group	Existing Midday			No Action Midday		
			v/c Ratio	Delay (sec/veh)	LOS	v/c Ratio	Delay (sec/veh)	LOS
Broadway (E-W) & 43rd St (N)	NB	LTR	1.03	89.2	F	1.27	175.0	F
35th Ave (E-W) & Steinway St (N-S)	EB	LTR	0.91	62.3	E	1.29	185.6	F
36th Ave (E-W) & Steinway St (N-S)	EB	LTR	0.74	43.1	D	0.97	76.7	E
Northern Blvd (E-W) & Queensboro Bridge (S)	WB	R	0.99	65.2	E	1.05	82.1	F
Northern Blvd (E-W) & 40th Rd (S) / Driveway (N)	SB	LTR	0.65	55.0	E	0.67	56.7	E
Northern Blvd (E-W) & 39th Ave / Honeywell St (N-S)	NB	TR	1.05	112.3	F	1.14	140.8	F
Northern Blvd (E-W) & 35th St / 38th Ave (S)	SB	LTR	0.88	75.0	E	1.19	167.1	F
Northern Blvd (E-W) & 38th St (S)	SB	LR	0.64	59.3	E	0.68	61.3	E
Northern Blvd (E-W) & 39th St / Steinway St (N-S)	EB	TR	0.86	18.2	B	0.96	28.9	C
	WB	L	1.00	89.3	F	1.61	324.5	F
	WB	TR	1.01	42.5	D	1.10	69.6	E
	NB	TR	0.98	82.5	F	1.14	128.8	F
	SB	LTR	1.05	119.3	F	1.28	202.7	F
Northern Blvd (E-W) & 42nd St (S) / Driveway (N)	NB	LTR	0.53	53.5	D	0.56	55.6	E
	SB	LTR	1.01	103.9	F	1.09	124.9	F
Northern Blvd (E-W) & 43rd St (N) / 42nd Pl (N-S)	WB	L	0.81	38.5	D	1.03	86.0	F
	NB	LTR	0.92	77.0	E	0.98	89.3	F
Northern Blvd (E-W) & 44th St (S)/35th Ave (N)	SB	LTR	0.68	56.7	E	1.00	107.4	F
Northern Blvd (E-W) & 46th St (S)	SB	LR	0.45	43.8	D	0.69	55.4	E
Northern Blvd (E-W) & 48th St (N-S) / 34th Ave (N)	EB	TR	0.92	24.7	C	1.06	57.2	E
	WB	L	0.98	91.9	F	1.18	162.3	F
	WB	TR	1.05	45.0	D	1.16	83.4	F
	NB	L	0.94	89.6	F	1.62	351.7	F
	NB	TR	0.87	75.5	E	0.91	83.5	F
Northern Blvd (E-W) & 51st St / Woodside Ave (N-S)	EB	TR	0.85	42.0	D	0.91	45.3	D
	NB	LTR	1.05	105.9	F	1.11	125.1	F
	SB	R	0.75	52.1	D	0.81	58.4	E
43rd Ave (E) & 39th St (N-S)	SB	LT	1.03	59.3	E	1.56	273.9	F
Greenpoint Ave (E-W) & Hunters Point Ave (NW-SE)	SE	LTR	0.86	49.7	D	1.18	137.3	F
	NW	LTR	1.05	79.2	E	1.12	104.5	F
Greenpoint Ave (NE-SW) & Borden Ave (E)	EB	LTR	0.90	40.3	D	0.93	44.7	D
	NE	R	1.05	90.0	F	1.10	104.5	F
	SW	L	1.05	70.3	E	1.11	89.6	F

Shading denotes lane groups which are not congested in the Existing condition but are shown for comparison purposes.

Table 13-22
Congested Lane Groups at Analyzed Intersections Under No Action Conditions—Weekday PM Peak Hour

Intersection	Approach	Lane Group	Existing PM			No Action PM		
			v/c Ratio	Delay (sec/veh)	LOS	v/c Ratio	Delay (sec/veh)	LOS
Broadway (E-W) & 43rd St (N)	NB	LTR	1.05	89.9	F	1.28	171.2	F
35th Ave (E-W) & 37th St (N)	NB	LTR	0.44	15.5	B	0.90	40.3	D
35th Ave (E-W) & Steinway St (N-S)	EB	LTR	0.94	64.8	E	1.39	226.8	F
36th Ave (E-W) & Steinway St (N-S)	EB	LTR	0.92	69.9	E	1.20	157.0	F
Northern Blvd (E-W) & Queensboro Bridge (S)	WB	R	0.99	39.5	D	1.07	61.4	E
	SB	L	0.95	52.7	D	1.02	70.0	E
Northern Blvd (E-W) & 40th Rd / Driveway (N-S)	SB	LTR	0.88	78.2	E	0.93	86.0	F
Northern Blvd (E-W) & 40th Ave (N) / 31st St (N-S)	EB	T	0.88	12.9	B	0.94	16.0	B
Northern Blvd (E-W) & 39th Ave / Honeywell St (N-S)	EB	LTR	0.94	8.0	A	1.03	26.2	C
	NB	TR	1.05	105.6	F	1.14	136.5	F
Northern Blvd (E-W) & 34th St (S)	EB	T	0.81	31.0	C	0.90	34.7	C
Northern Blvd (E-W) & 35th St / 38th Ave (S)	SB	LTR	0.95	85.3	F	1.19	161.2	F
Northern Blvd (E-W) & 36th St (S)	EB	T	0.84	13.8	B	0.94	17.4	B
Northern Blvd (E-W) & 37th St (S)/Standard Ln (N)	EB	TR	0.82	3.8	A	0.90	4.7	A
	SB	LTR	0.95	87.0	F	1.02	103.2	F
Northern Blvd (E-W) & 38th St (S)	EB	T	0.96	23.5	C	1.05	42.4	D
Northern Blvd (E-W) & 39th St / Steinway St (N-S)	EB	TR	1.05	39.6	D	1.16	82.5	F
	WB	L	1.05	149.8	F	1.38	259.3	F
	WB	TR	0.96	38.9	D	1.04	58.2	E
	NB	L	0.52	49.1	D	0.69	55.2	E
	NB	TR	1.05	107.5	F	1.29	193.9	F
	SB	LTR	1.05	128.4	F	1.22	179.0	F
Northern Blvd (E-W) & 41st St (S)	EB	T	0.82	6.6	A	0.91	9.0	A
Northern Blvd (E-W) & 42nd St (S) / Driveway (N)	EB	TR	0.93	16.1	B	1.03	32.4	C
	SB	LTR	0.77	60.7	E	0.82	63.3	E
Northern Blvd (E-W) & 43rd St (N) / 42nd Pl (N-S)	EB	LTR	1.05	41.1	D	1.15	82.1	F
	WB	L	1.05	107.5	F	1.14	126.8	F
	WB	TR	0.93	33.8	C	1.09	74.1	E
	NB	LTR	0.97	82.9	F	1.03	99.7	F
Northern Blvd (E-W) & 44th St (S)/35th Ave (N)	EB	TR	0.92	4.9	A	1.01	13.4	B
	SB	LTR	0.97	96.6	F	1.27	202.0	F
Northern Blvd (E-W) & 46th St (S)	EB	T	0.85	7.2	A	0.94	10.4	B
Northern Blvd (E-W) & 48th St (N-S) / 34th Ave (N)	EB	TR	1.05	39.8	D	1.20	99.5	F
	WB	L	1.05	117.3	F	1.13	137.2	F
	WB	TR	1.05	46.6	D	1.16	89.9	F
	NB	L	1.05	122.6	F	1.48	289.4	F
	NB	TR	1.05	115.3	F	1.09	128.6	F
Northern Blvd (E-W) & 51st St / Woodside Ave (N-S)	EB	L	1.05	73.0	E	1.24	148.2	F
	EB	TR	1.05	37.3	D	1.14	71.6	E
	NB	LTR	1.05	98.7	F	1.11	119.6	F
Skillman Ave (W) & 39th St (N-S)	NB	LT	0.75	20.5	C	1.00	53.9	D
43rd Ave (E) & 39th St (N-S)	SB	LT	1.05	76.1	E	1.51	262.5	F
Greenpoint Ave (E-W) & Hunters Point Ave (NW-SE)	SE	LTR	0.75	41.3	D	0.88	55.1	E
	NW	LTR	0.92	47.2	D	0.99	59.5	E
Greenpoint Ave (NE-SW) & Borden Ave (E)	EB	LTR	0.95	48.1	D	0.98	55.5	E
	NE	R	1.05	108.8	F	1.10	123.3	F
	SW	L	1.00	69.9	E	1.04	82.3	F

Shading denotes lane groups which are not congested in the Existing condition but are shown for comparison purposes.

Table 13-23
Congested Lane Groups at Analyzed Intersections
Under No Action Conditions—Saturday Peak Hour

Intersection	Approach	Lane Group	Existing Saturday v/c Ratio	Existing Saturday Delay (sec/veh)	Existing Saturday LOS	No Action Saturday v/c Ratio	No Action Saturday Delay (sec/veh)	No Action Saturday LOS
Broadway (E-W) & 43rd St (N)	NB	LTR	1.05	93.5	F	1.28	174.5	F
35th Ave (E-W) & 38th St (S)	WB	LT	0.44	13.2	B	1.09	90.6	F
35th Ave (E-W) & Steinway St (N-S)	EB	LTR	0.80	44.9	D	1.34	205.1	F
36th Ave (E-W) & Steinway St (N-S)	EB	LTR	0.79	49.9	D	1.15	138.3	F
Northern Blvd (E-W) & Queensboro Bridge (S)	WB	R	1.05	76.5	E	1.12	103.1	F
Northern Blvd (E-W) & 40th Rd / Driveway (N-S)	SB	LTR	0.65	54.6	D	0.67	55.9	E
Northern Blvd (E-W) & 39th Ave / Honeywell St (N-S)	NB	L	0.96	84.2	F	1.05	107.8	F
	NB	TR	0.98	88.3	F	1.04	106.2	F
Northern Blvd (E-W) & 35th St / 38th Ave (S)	SB	LTR	0.52	46.7	D	0.68	55.3	E
Northern Blvd (E-W) & 38th St (S)	SB	LR	0.63	58.8	E	0.71	63.3	E
Northern Blvd (E-W) & 39th St / Steinway St (N-S)	EB	L	0.84	52.3	D	1.03	99.3	F
	EB	TR	0.81	15.2	B	0.90	20.3	C
	WB	L	0.88	51.9	D	1.40	227.7	F
	NB	TR	0.95	72.4	E	1.15	131.9	F
	SB	LTR	1.05	114.6	F	1.29	201.1	F
Northern Blvd (E-W) & 42nd St (S) / Driveway (N)	NB	LTR	0.73	67.9	E	0.78	72.4	E
	SB	LTR	1.05	112.3	F	1.12	133.2	F
Northern Blvd (E-W) & 43rd St (N) / 42nd Pl (N-S)	WB	L	0.95	58.0	E	1.26	154.4	F
	WB	TR	0.80	16.1	B	0.91	20.1	C
	NB	LTR	1.05	106.7	F	1.13	134.6	F
Northern Blvd (E-W) & 44th St (S)/35th Ave (N)	SB	LTR	1.05	118.6	F	1.54	316.2	F
Northern Blvd (E-W) & 48th St (N-S) / 34th Ave (N)	EB	TR	1.03	46.0	D	1.19	108.0	F
	WB	L	1.05	94.8	F	1.10	97.0	F
	WB	TR	1.05	36.0	D	1.18	86.6	F
	NB	L	1.05	118.8	F	1.62	350.6	F
	NB	TR	1.01	103.1	F	1.05	113.6	F
Northern Blvd (E-W) & 51st St / Woodside Ave (N-S)	NB	LTR	1.05	106.0	F	1.12	129.3	F
	SB	R	1.03	99.6	F	1.15	137.6	F
43rd Ave (E) & 39th St (N-S)	SB	LT	1.05	70.9	E	1.60	297.7	F
Greenpoint Ave (E-W) & Hunters Point Ave (NW-SE)	SE	LTR	0.82	45.9	D	0.91	57.9	E
	NW	LTR	1.05	79.4	E	1.13	109.0	F
Greenpoint Ave (NE-SW) & Borden Ave (E)	EB	LTR	1.00	56.6	E	1.04	67.4	E
	NE	R	1.05	95.2	F	1.10	109.9	F
	SW	L	1.03	63.3	E	1.09	83.8	F

Shading denotes lane groups which are not congested in the Existing condition but are shown for comparison purposes.

Auto and taxi trips were first assigned to various portals on the periphery of Astoria, and from there via the most direct route to the Project Area. As the RWCDS includes on-site accessory parking, auto trips were assigned directly to the proposed parking garage entrances on 37th Street and 38th Street for Projected Development Site A, 38th Street for Projected Development Site B, 41st Street for Projected Development Sites C and D, and 43rd Street for Projected Development Site E. Similarly, vehicle trips for the non-applicant-controlled sites (Sites F–K) were assigned to their respective frontages. Although some drivers may park at off-site public parking facilities,

assigning all trips to the Project Area 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 site rather than dispersing it to outlying parking facilities.

It should be noted that under the Proposed Actions the existing cinema use would be relocated from Projected Development Site A to Projected Development Site D, and expanded from 3,450 seats to 3,500 seats. As such, the traffic assignments also take into account the relocation of the existing cinema demand from Site A to Site D. With regard to the cinema use, it is also important to note that the travel demand forecast assumes 100 percent occupancy of all seats. However, multiplex cinemas typically operate at substantially lower occupancy levels.

Taxi trips were generally assigned to the building frontages. Truck trips were assigned to Northern Boulevard and Astoria Boulevard, which are the nearest DOT-designated Through Truck Routes in proximity to the Project Area, and to Broadway, which is a DOT-designated Local Truck Route. From these designated truck routes, truck trips were assigned to the proposed loading berths on 37th Street for Projected Development Site A, 38th Street for Projected Development Site B, 41st Street for Project Development Site C, 42nd Street for Projected Development Site D, and 42nd and 43rd streets for Projected Development Site E. Similarly, truck trips for the non-applicant-controlled sites (Sites F–K) were assigned to their respective frontages.

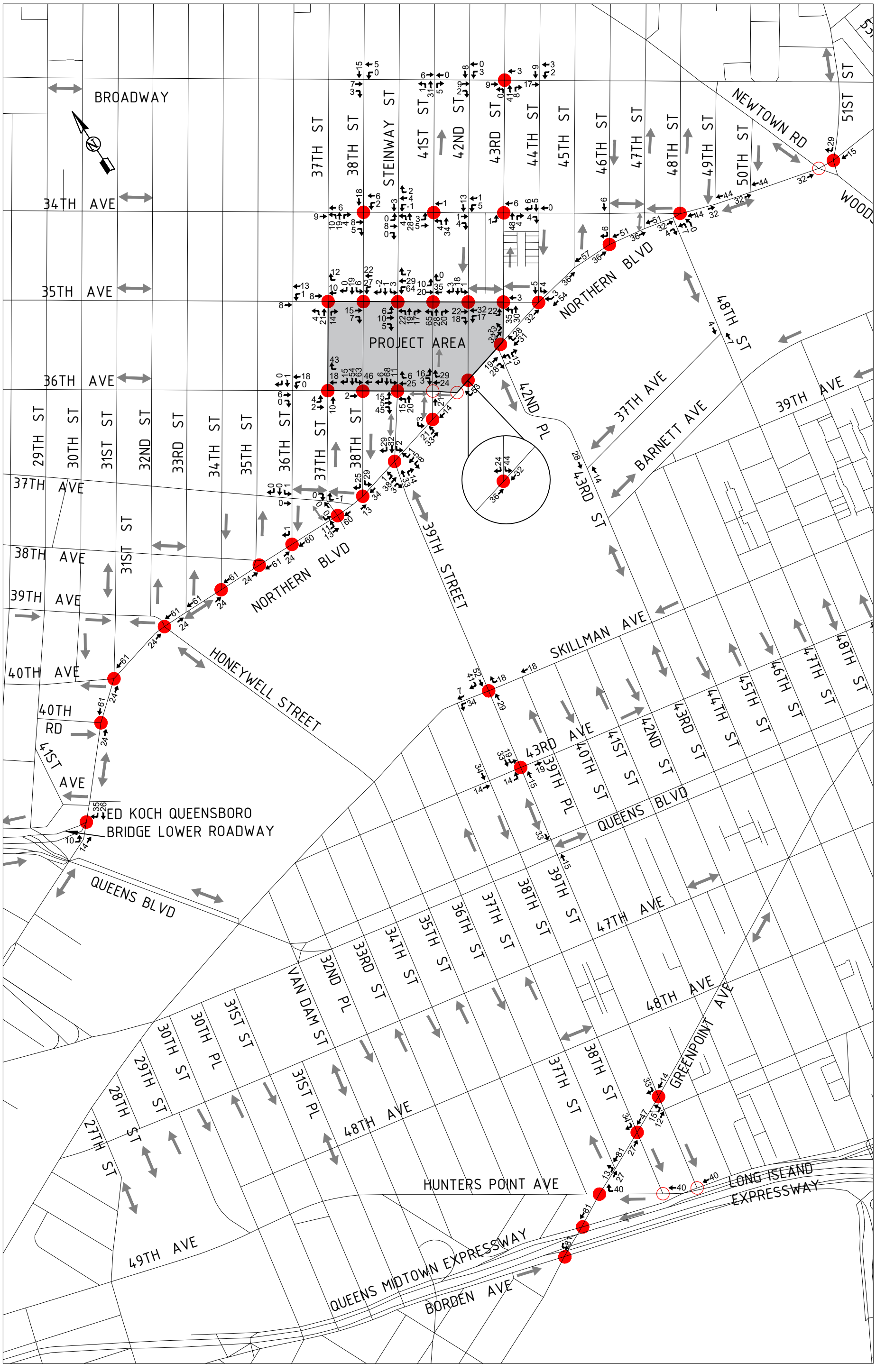
Figures 13-13 through 13-16 show the assignment of incremental vehicle trips (auto, taxi, and truck) generated during the weekday AM, midday, PM, and Saturday peak hours under the Proposed Actions. **Figures 13-17 through 13-20** show the total weekday AM, midday, PM, and Saturday traffic volumes in the 2032 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

The v/c ratios, delays, and levels of service for those individual lane groups experiencing congestion in one or more peak hours under With Action conditions are shown in **Tables 13-24 through 13-27**. Lane groups with significant adverse impacts are highlighted. As shown in **Tables 13-24 through 13-27**, a total of 30 intersections (all signalized) would have at least one congested lane group in one or more peak hours in the With Action condition. Seventeen of these intersections would be located along Northern Boulevard. By comparison, a total of 27 intersections (all signalized) would experience congestion in the No Action condition. All 17 of the Northern Boulevard intersections that would experience congestion with the Proposed Actions would also be congested in the No Action condition.

The traffic impact analysis indicates the potential for significant adverse impacts at 24 intersections (all signalized) during one or more analyzed peak hours. (As noted above, many of these intersections would already be congested in the No Action condition.) Significant adverse impacts were identified to 33 lane groups at 20 intersections during the weekday AM peak hour, 24 lane groups at 16 intersections in the weekday midday peak hour, 32 lane groups at 19 intersections in the weekday PM peak hour, and 25 lane groups at 16 intersections during the Saturday peak hour. V/c ratios, delays, and levels of service for all lane groups at all analyzed intersections in all peak periods are provided in Table D-3 in Appendix D. Potential measures to mitigate the significant adverse traffic impacts identified in **Tables 13-24 through 13-27** are discussed in Chapter 20, "Mitigation."

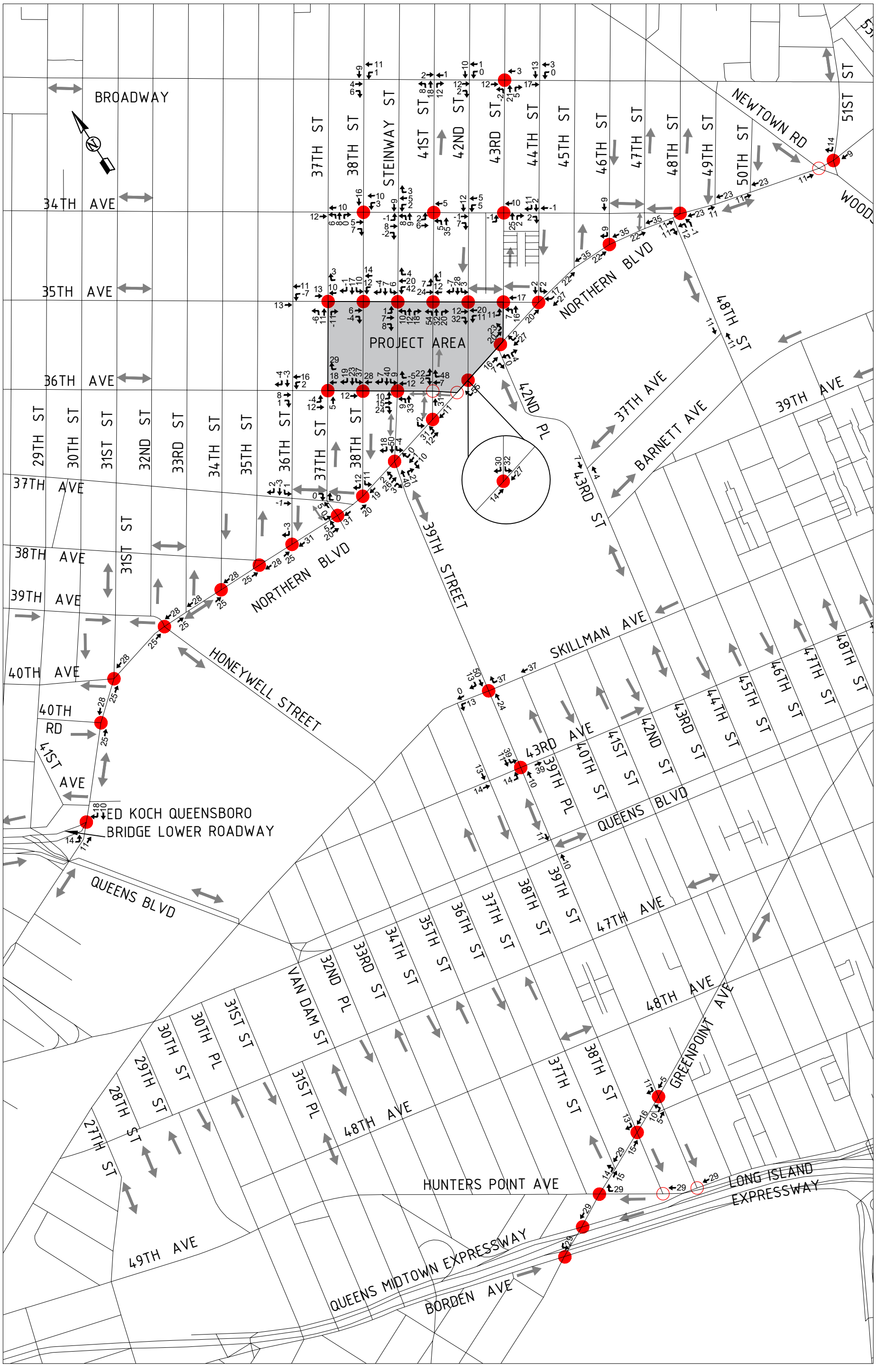
AM Peak Hour Project Increment Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Weekday AM Peak Hour Volume

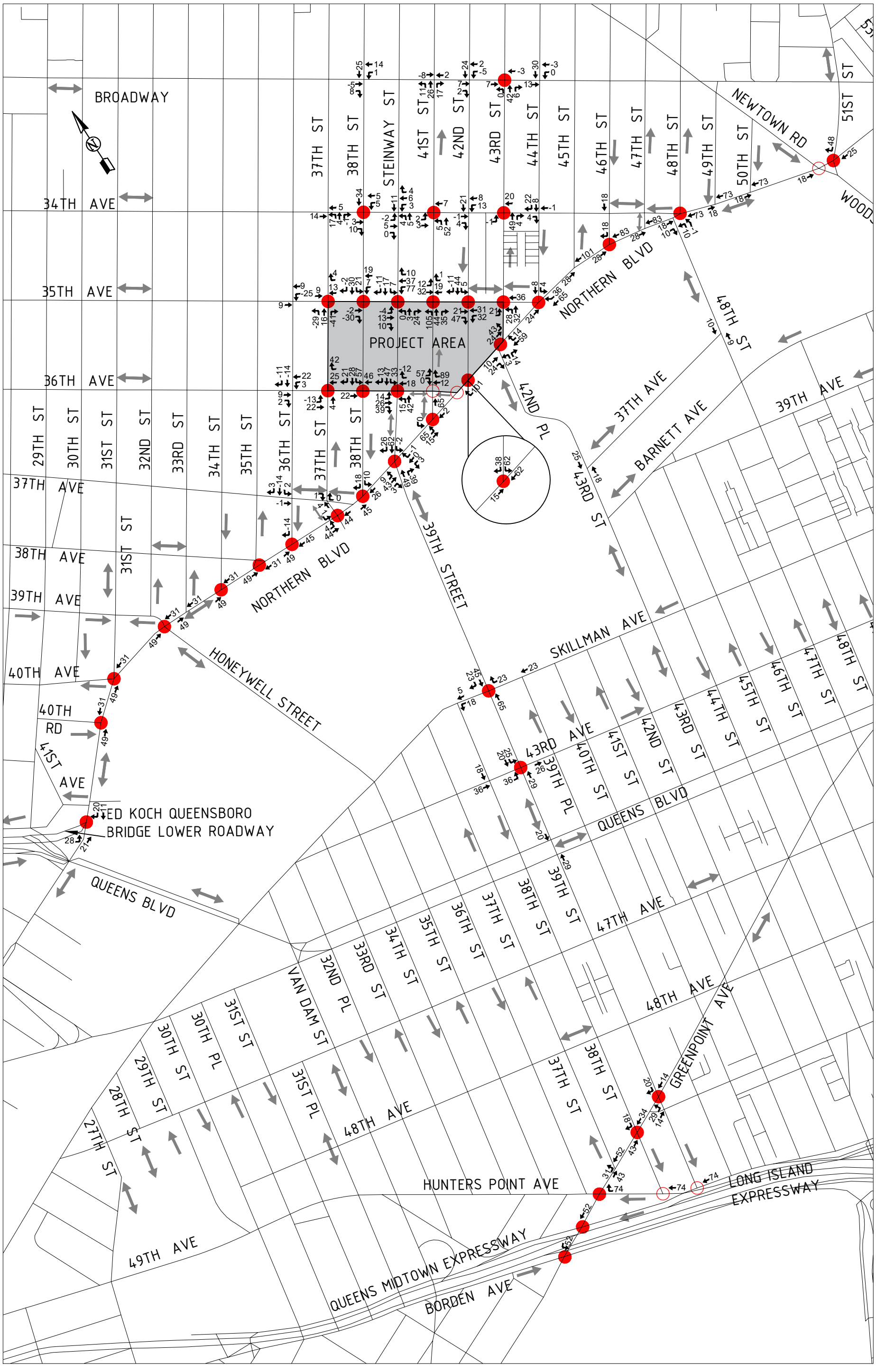
Midday Peak Hour Project Increment Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Weekday MD Peak Hour Volume

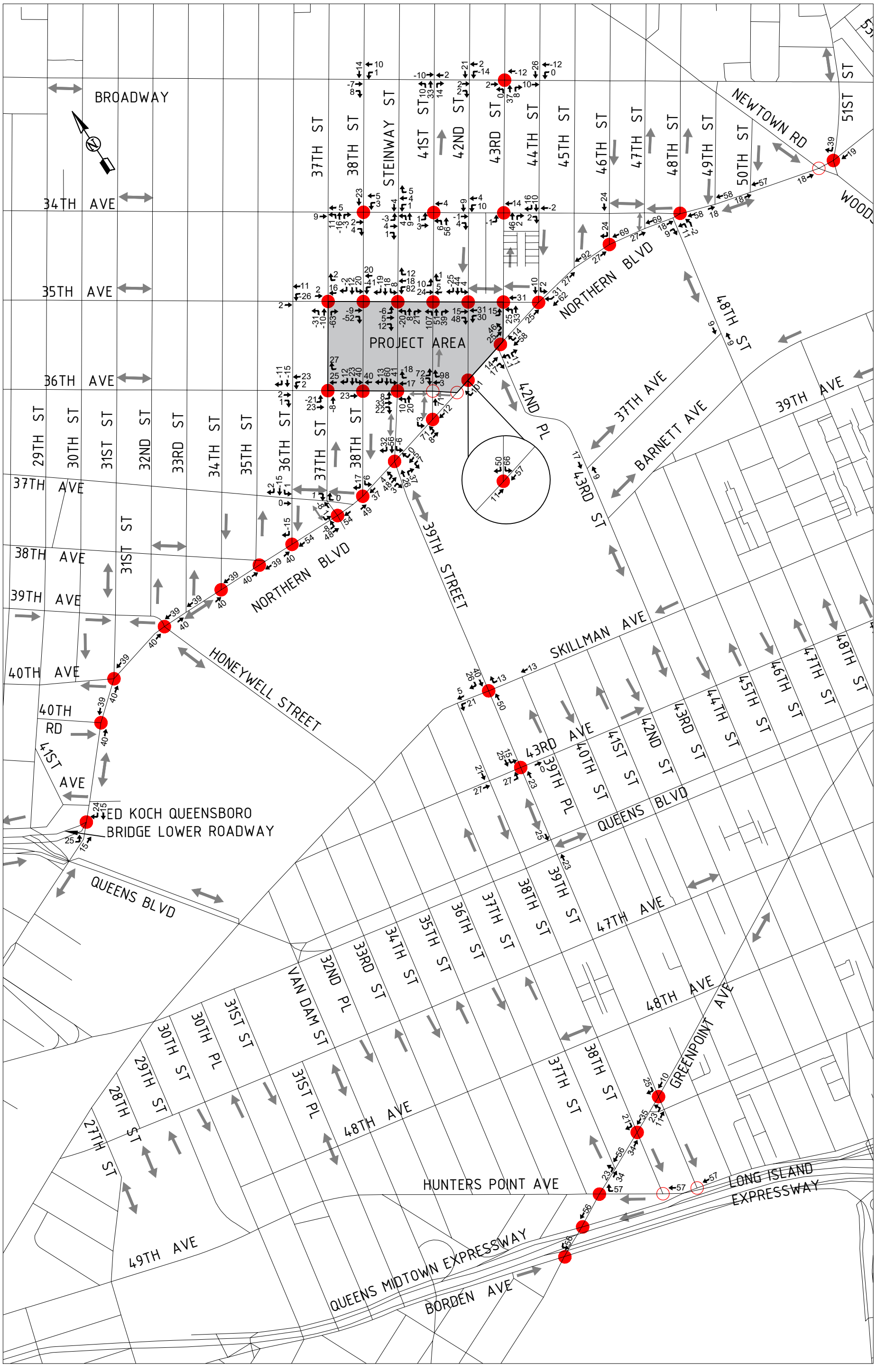
PM Peak Hour Project Increment Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Weekday PM Peak Hour Volume

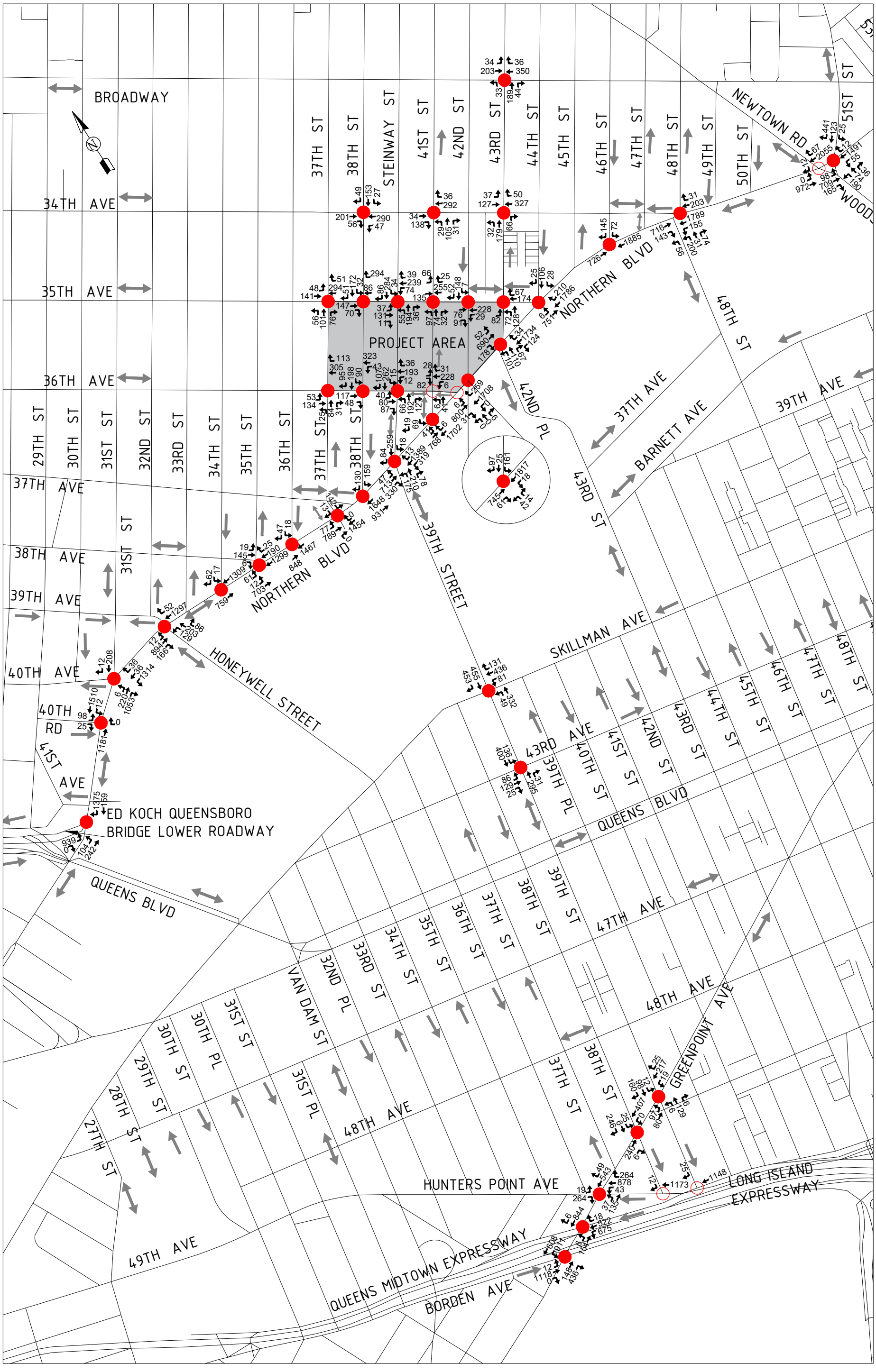
Saturday Peak Hour Project Increment Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Saturday Peak Hour Volume

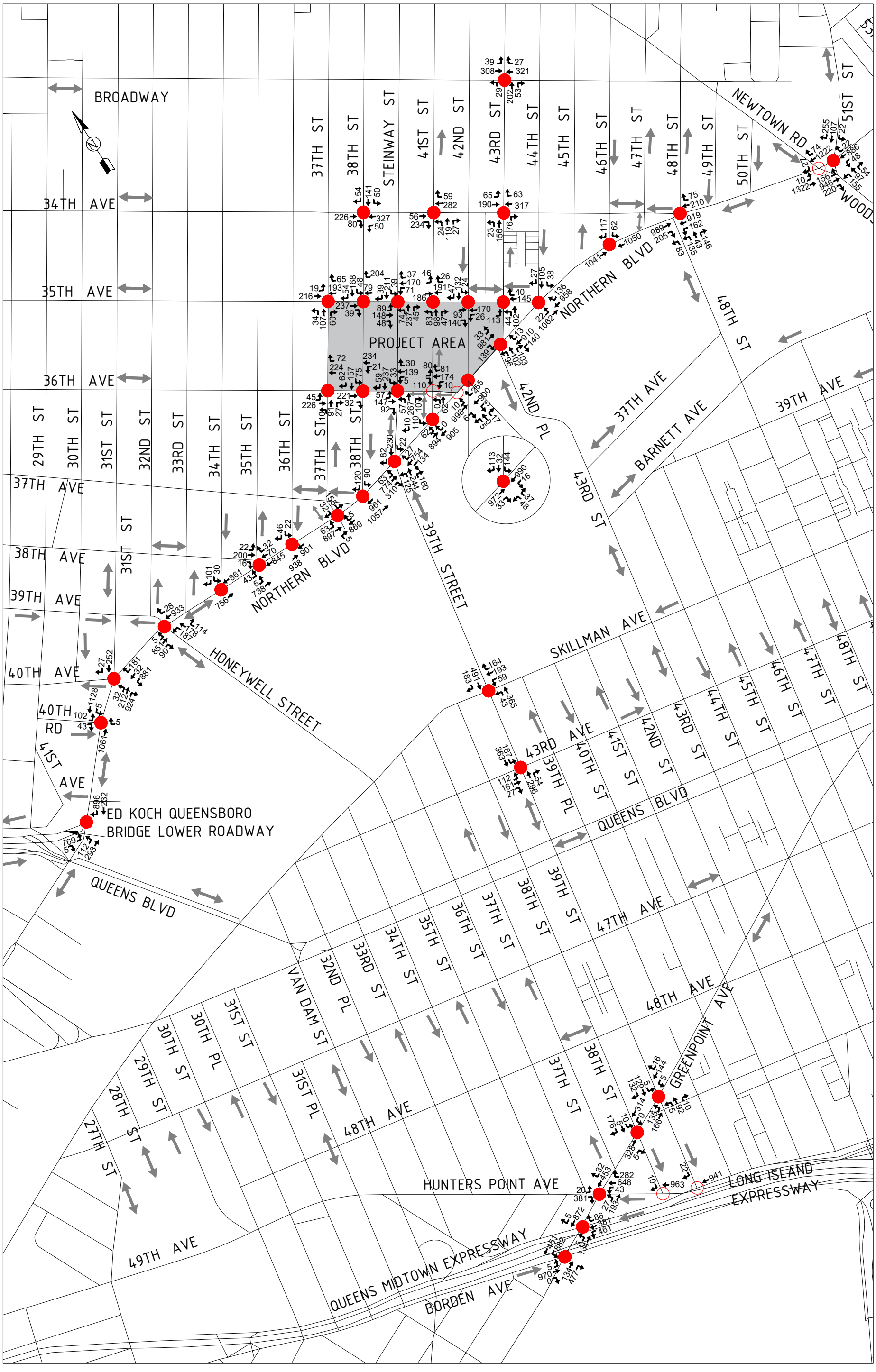
With Action AM Peak Hour Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Weekday AM Peak Hour Volume

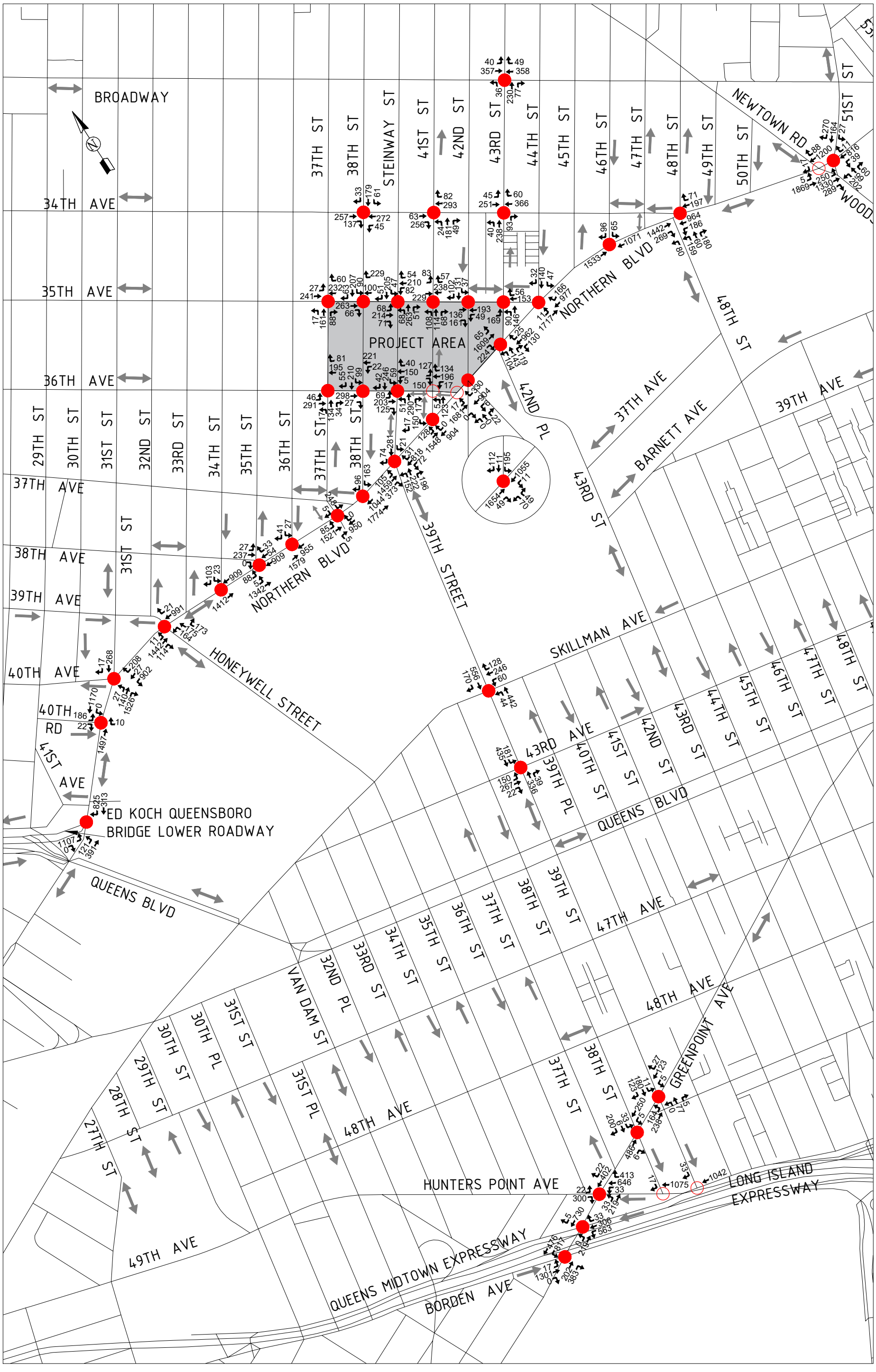
With Action Midday Peak Hour Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Weekday MD Peak Hour Volume

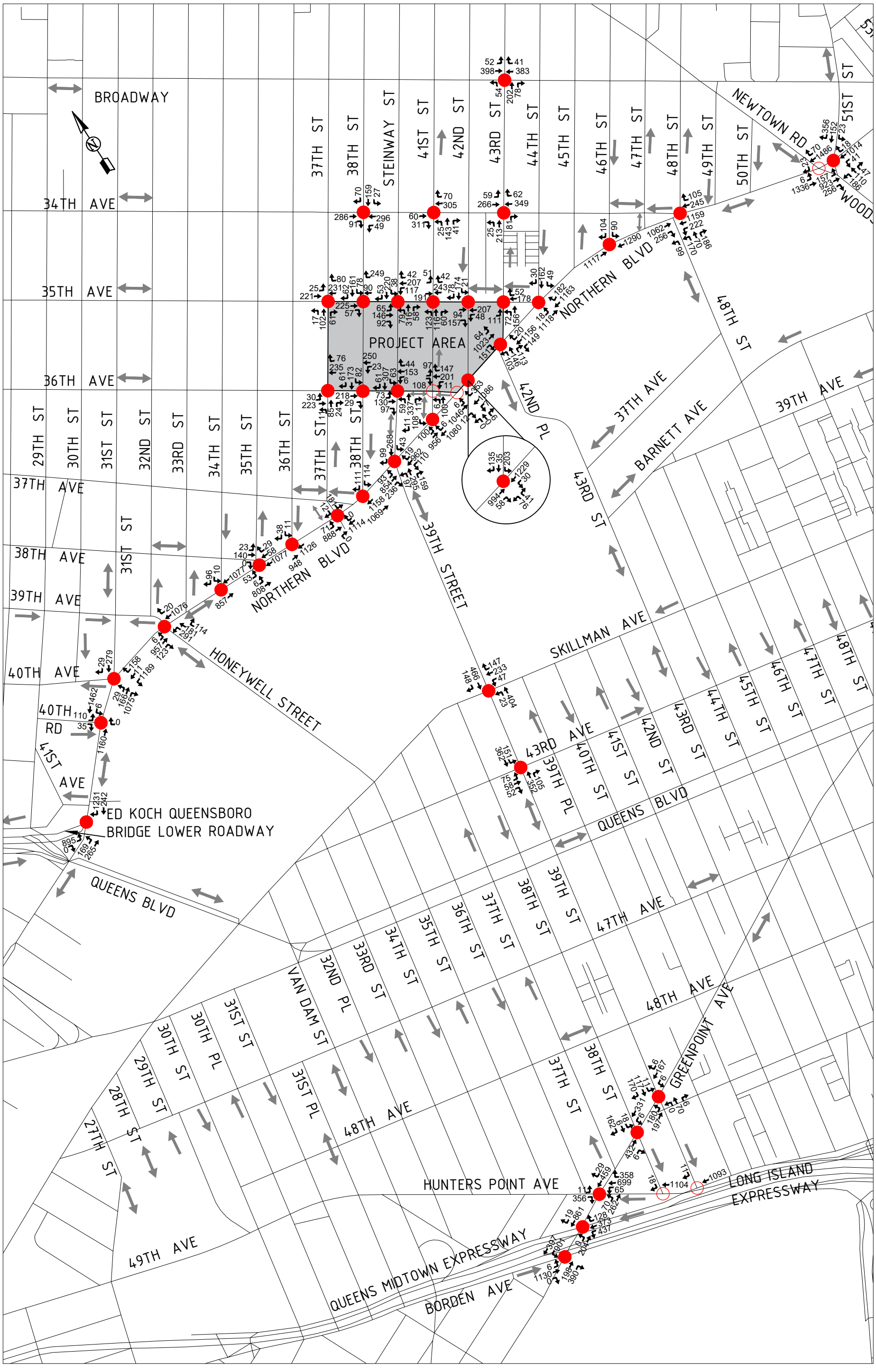
With Action PM Peak Hour Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Weekday PM Peak Hour Volume

With-Action Saturday Peak Hour Traffic Volumes



Legend

● Signalized Analysis Location ○ Unsignalized Analysis Location 2 = Saturday Peak Hour Volume

Table 13-24
Congested Lane Groups at Analyzed Intersections Under With Action Conditions—Weekday AM Peak Hour

			No Action AM			With Action AM		
Intersection	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Broadway (E-W) & 43rd St (N)	NB	LTR	1.19	135.2	F	1.47	244.5	F
35th Ave (E-W) & Steinway St (N-S)	WB	LTR	0.51	21.3	C	0.91	44.6	D
	SB	LTR	0.92	58.4	E	1.05	92.2	F
36th Ave (E-W) & 38th St (S)	SB	LTR	0.68	27.3	C	1.04	71.8	E
36th Ave (E-W) & Steinway St (N-S)	EB	LTR	0.54	36.9	D	0.99	88.1	F
	WB	LTR	0.68	47.1	D	0.85	62.9	E
Northern Blvd (E-W) & Queensboro Bridge (S)	WB	R	1.11	70.6	E	1.14	83.2	F
Northern Blvd (E-W) & 40th Rd / Driveway (N-S)	WB	T	0.96	21.1	C	1.00	28.3	C
Northern Blvd (E-W) & 40th Ave (N) / 31st St (N-S)	WB	T	0.90	8.5	A	0.94	10.0	B
Northern Blvd (E-W) & 39th Ave / Honeywell St (N-S)	WB	TR	0.94	13.2	B	0.98	17.6	B
	NB	TR	0.97	86.5	F	0.97	86.5	F
Northern Blvd (E-W) & 35th St / 38th Ave (S)	EB	L	1.38	254.5	F	1.67	377.9	F
	WB	TR	1.01	19.2	B	1.05	31.3	C
Northern Blvd (E-W) & 36th St (S)	WB	T	0.97	7.3	A	1.01	12.9	B
Northern Blvd (E-W) & 37th St (S)/Standard Ln (N)	EB	L	1.16	179.6	F	1.65	380.9	F
	WB	LT	0.96	12.2	B	1.01	19.3	B
	SB	LTR	0.69	54.3	D	0.71	55.9	E
Northern Blvd (E-W) & 38th St (S)	WB	T	1.03	29.7	C	1.05	39.4	D
	SB	LR	0.84	62.7	E	1.03	90.9	F
Northern Blvd (E-W) & 39th St / Steinway St (N-S)	EB	L	0.95	116.9	F	0.98	124.0	F
	WB	L	1.13	69.8	E	1.17	83.9	F
	WB	TR	1.12	60.0	E	1.12	62.9	E
	NB	L	0.85	70.8	E	0.85	69.7	E
	NB	TR	1.05	109.4	F	1.27	188.6	F
	SB	LTR	1.24	184.8	F	1.82	432.4	F
Northern Blvd (E-W) & 41st St (S)	EB	L	0.47	22.9	C	0.96	80.2	F
	WB	TR	1.11	57.2	E	1.12	62.0	E
Northern Blvd (E-W) & 42nd St (S) / Driveway (N)	WB	T	1.13	63.0	E	1.15	71.9	E
	SB	LTR	0.80	56.0	E	1.08	112.3	F
Northern Blvd (E-W) & 43rd St (N) / 42nd Pl (N-S)	EB	LTR	0.84	22.4	C	1.59	138.6	F
	WB	TR	1.09	50.7	D	1.14	71.2	E
	NB	LTR	0.88	67.6	E	0.93	76.0	E
Northern Blvd (E-W) & 44th St (S)/35th Ave (N)	WB	TR	1.13	63.2	E	1.16	78.4	E
	SB	LTR	0.83	72.4	E	0.92	88.6	F
Northern Blvd (E-W) & 46th St (S)	WB	T	1.13	61.8	E	1.16	75.7	E
	SB	LR	0.86	69.7	E	0.88	73.1	E
Northern Blvd (E-W) & 48th St (N-S) / 34th Ave (N)	WB	L	0.86	23.4	C	0.91	30.1	C
	WB	TR	1.10	50.8	D	1.13	63.5	E
	NB	L	1.32	216.3	F	1.35	230.5	F
Northern Blvd (E-W) & 51st St / Woodside Ave (N-S)	EB	L	1.02	123.5	F	1.02	123.1	F
	WB	TR	1.11	88.6	F	1.12	93.1	F
	NB	LTR	1.11	127.7	F	1.11	127.7	F
	SB	R	1.12	121.8	F	1.19	150.5	F
Skillman Ave (W) & 39th St (N-S)	SB	R	0.82	20.3	C	0.90	20.0	C
43rd Ave (E) & 39th St (N-S)	SB	LT	1.32	175.0	F	1.60	293.8	F
Greenpoint Ave (E-W) & 39th St (N-S)	SB	LTR	0.66	40.2	D	0.77	46.7	D
Greenpoint Ave (E-W) & Hunters Point Ave (NW-SE)	WB	TR	0.84	33.6	C	0.98	50.6	D
	SE	LTR	1.02	90.9	F	1.09	113.8	F
	NW	LTR	1.10	94.8	F	1.15	112.6	F
Greenpoint Ave (NE-SW) & Queens Midtown Expressway (W)	WB	LTR	0.95	30.3	C	0.95	30.3	C
Greenpoint Ave (NE-SW) & Borden Ave (E)	EB	LTR	1.05	78.1	E	1.05	78.1	E
	NE	R	1.10	114.6	F	1.10	114.6	F
	SW	L	1.12	107.0	F	1.23	150.7	F

Shading denotes significant adverse impact.

Table 13-25
Congested Lane Groups at Analyzed Intersections Under With Action Conditions—Weekday Midday Peak Hour

			No Action Midday			With Action Midday		
Intersection	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Broadway (E-W) & 43rd St (N)	NB	LTR	1.27	175.0	F	1.42	233.8	F
35th Ave (E-W) & Steinway St (N-S)	EB	LTR	1.29	185.6	F	1.46	259.2	F
	WB	LTR	0.70	38.0	D	1.18	141.8	F
36th Ave (E-W) & 41st St (N)	NB	LTR	0.40	19.3	B	0.97	66.4	E
36th Ave (E-W) & Steinway St (N-S)	EB	LTR	0.97	76.7	E	1.36	217.6	F
Northern Blvd (E-W) & Queensboro Bridge (S)	WB	R	1.05	82.1	F	1.07	89.8	F
Northern Blvd (E-W) & 40th Rd (S) / Driveway (N)	SB	LTR	0.67	56.7	E	0.67	56.7	E
Northern Blvd (E-W) & 39th Ave / Honeywell St (N-S)	NB	TR	1.14	140.8	F	1.14	140.8	F
Northern Blvd (E-W) & 35th St / 38th Ave (S)	SB	LTR	1.19	167.1	F	1.19	167.1	F
Northern Blvd (E-W) & 38th St (S)	SB	LR	0.68	61.3	E	0.77	65.5	E
Northern Blvd (E-W) & 39th St / Steinway St (N-S)	EB	TR	0.96	28.9	C	1.00	36.9	D
	WB	L	1.61	324.5	F	1.91	454.8	F
	WB	TR	1.10	69.6	E	1.11	72.0	E
	NB	TR	1.14	128.8	F	1.38	226.1	F
	SB	LTR	1.28	202.7	F	1.61	338.3	F
Northern Blvd (E-W) & 42nd St (S) / Driveway (N)	NB	LTR	0.56	55.6	E	0.56	55.6	E
	SB	LTR	1.09	124.9	F	1.40	243.1	F
Northern Blvd (E-W) & 43rd St (N) / 42nd Pl (N-S)	EB	LTR	0.84	30.6	C	0.94	40.0	D
	WB	L	1.03	86.0	F	1.13	115.3	F
	NB	LTR	0.98	89.3	F	1.00	95.3	F
Northern Blvd (E-W) & 44th St (S)/35th Ave (N)	SB	LTR	1.00	107.4	F	1.21	180.2	F
Northern Blvd (E-W) & 46th St (S)	SB	LR	0.69	55.4	E	0.73	58.2	E
Northern Blvd (E-W) & 48th St (N-S) / 34th Ave (N)	EB	TR	1.06	57.2	E	1.10	72.4	E
	WB	L	1.18	162.3	F	1.21	174.7	F
	WB	TR	1.16	83.4	F	1.23	113.6	F
	NB	L	1.62	351.7	F	1.71	392.0	F
	NB	TR	0.91	83.5	F	0.91	83.5	F
Northern Blvd (E-W) & 51st St / Woodside Ave (N-S)	EB	TR	0.91	45.3	D	0.92	45.8	D
	NB	LTR	1.11	125.1	F	1.11	125.1	F
	SB	R	0.81	58.4	E	0.86	63.9	E
Skillman Ave (W) & 39th St (N-S)	NB	LT	0.85	36.6	D	1.01	64.9	E
43rd Ave (W) & 39th St (N-S)	SB	LT	1.56	273.9	F	1.80	378.3	F
Greenpoint Ave (E-W) & Hunters Point Ave (NW-SE)	SE	LTR	1.18	137.3	F	1.22	156.4	F
	NW	LTR	1.12	104.5	F	1.16	118.8	F
Greenpoint Ave (NE-SW) & Borden Ave (E)	EB	LTR	0.93	44.7	D	0.93	44.7	D
	NE	R	1.10	104.5	F	1.10	104.5	F
	SW	L	1.11	89.6	F	1.15	103.6	F

Shading denotes significant adverse impact.

Table 13-26
Congested Lane Groups at Analyzed Intersections Under With Action Conditions—Weekday PM Peak Hour

			No Action PM			With Action PM		
Intersection	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Broadway (E-W) & 43rd St (N)	NB	LTR	1.28	171.2	F	1.50	265.7	F
34th Ave (E-W) & 43rd St (N)	NB	LTR	0.88	46.4	D	1.04	76.1	E
35th Ave (E-W) & 38th St (S)	SB	LTR	0.78	27.4	C	0.99	54.2	D
35th Ave (E-W) & Steinway St (N-S)	EB	LTR	1.39	226.8	F	1.60	316.9	F
	WB	LTR	0.71	37.6	D	1.65	340.8	F
35th Ave (E-W) & 41st St (N)	NB	LTR	0.30	17.3	B	1.12	107.1	F
36th Ave (E-W) & 38th St (S)	SB	LTR	0.67	22.4	C	0.97	42.8	D
36th Ave (E-W) & Steinway St (N-S)	EB	LTR	1.20	157.0	F	1.79	411.5	F
	WB	LTR	0.67	47.5	D	0.76	54.4	D
Northern Blvd (E-W) & Queensboro Bridge (S)	WB	R	1.07	61.4	E	1.10	71.1	E
	SB	L	1.02	70.0	E	1.05	77.8	E
Northern Blvd (E-W) & 40th Rd / Driveway (N-S)	EB	TR	0.89	20.0	C	0.92	22.0	C
	SB	LTR	0.93	86.0	F	0.93	86.0	F
Northern Blvd (E-W) & 40th Ave (N) / 31st St (N-S)	EB	T	0.94	16.0	B	0.97	19.0	B
Northern Blvd (E-W) & 39th Ave / Honeywell St (N-S)	EB	LTR	1.03	26.2	C	1.06	37.4	D
	NB	TR	1.14	136.5	F	1.14	136.5	F
Northern Blvd (E-W) & 34th St (S)	EB	T	0.90	34.7	C	0.93	36.4	D
Northern Blvd (E-W) & 35th St / 38th Ave (S)	SB	LTR	1.19	161.2	F	1.19	161.2	F
Northern Blvd (E-W) & 36th St (S)	EB	T	0.94	17.4	B	0.97	19.7	B
Northern Blvd (E-W) & 37th St (S)/Standard Ln (N)	EB	TR	0.90	4.7	A	0.93	5.4	A
	SB	LTR	1.02	103.2	F	1.07	118.5	F
Northern Blvd (E-W) & 38th St (S)	EB	T	1.05	42.4	D	1.08	51.9	D
Northern Blvd (E-W) & 39th St / Steinway St (N-S)	EB	TR	1.16	82.5	F	1.21	102.7	F
	WB	L	1.38	259.3	F	1.43	280.3	F
	WB	TR	1.04	58.2	E	1.04	58.9	E
	NB	TR	1.29	193.9	F	1.73	379.2	F
	SB	LTR	1.22	179.0	F	1.62	337.2	F
Northern Blvd (E-W) & 41st St (S)	EB	T	0.91	9.0	A	0.92	10.4	A
Northern Blvd (E-W) & 42nd St (S) / Driveway (N)	EB	TR	1.03	32.4	C	1.04	34.9	C
	SB	LTR	0.82	63.3	E	1.23	166.0	F
Northern Blvd (E-W) & 43rd St (N) / 42nd Pl (N-S)	EB	LTR	1.15	82.1	F	1.41	198.7	F
	WB	L	1.14	126.8	F	1.14	117.4	F
	WB	TR	1.09	74.1	E	1.19	110.5	F
	NB	LTR	1.03	99.7	F	1.09	118.0	F
Northern Blvd (E-W) & 44th St (S)/35th Ave (N)	EB	TR	1.01	13.4	B	1.02	18.5	B
	SB	LTR	1.27	202.0	F	1.49	292.9	F
Northern Blvd (E-W) & 46th St (S)	EB	T	0.94	10.4	B	0.95	11.7	B
Northern Blvd (E-W) & 48th St (N-S) / 34th Ave (N)	EB	TR	1.20	99.5	F	1.24	117.4	F
	WB	L	1.13	137.2	F	1.13	133.8	F
	WB	TR	1.16	89.9	F	1.25	128.9	F
	NB	L	1.48	289.4	F	1.53	312.5	F
	NB	TR	1.09	128.6	F	1.09	128.6	F
Northern Blvd (E-W) & 51st St / Woodside Ave (N-S)	EB	L	1.24	148.2	F	1.29	171.6	F
	EB	TR	1.14	71.6	E	1.15	76.6	E
	NB	LTR	1.11	119.6	F	1.11	119.6	F
	SB	R	0.67	41.3	D	0.81	51.6	D
Skillman Ave (W) & 39th St (N-S)	NB	LT	1.00	53.9	D	1.27	152.4	F
43rd Ave (W) & 39th St (N-S)	SB	LT	1.51	262.5	F	1.77	377.9	F
Greenpoint Ave (E-W) & Hunters Point Ave (NW-SE)	SE	LTR	0.88	55.1	E	0.98	76.8	E
	NW	LTR	0.99	59.5	E	1.06	82.2	F
Greenpoint Ave (NE-SW) & Borden Ave (E)	EB	LTR	0.98	55.5	E	0.98	55.5	E
	NE	R	1.10	123.3	F	1.10	123.3	F
	SW	L	1.04	82.3	F	1.11	105.8	F

Shading denotes significant adverse impact.

Table 13-27
Congested Lane Groups at Analyzed Intersections Under With Action Conditions—Saturday Peak Hour

			No Action Saturday			With Action Saturday		
Intersection	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Broadway (E-W) & 43rd St (N)	NB	LTR	1.28	174.5	F	1.51	271.9	F
34th Ave (E-W) & 43rd St (N)	NB	LTR	0.82	42.3	D	0.99	62.0	E
35th Ave (E-W) & Steinway St (N-S)	EB	LTR	1.34	205.1	F	1.48	265.8	F
	WB	LTR	0.78	42.3	D	1.70	363.4	F
35th Ave (E-W) & 41st St (N)	NB	LTR	0.28	17.1	B	1.06	86.8	F
36th Ave (E-W) & Steinway St (N-S)	EB	LTR	1.15	138.3	F	1.62	331.6	F
Northern Blvd (E-W) & Queensboro Bridge (S)	WB	R	1.12	103.1	F	1.14	112.0	F
	SB	L	0.89	45.9	D	0.92	48.7	D
Northern Blvd (E-W) & 40th Rd / Driveway (N-S)	SB	LTR	0.67	55.9	E	0.67	55.9	E
Northern Blvd (E-W) & 39th Ave / Honeywell St (N-S)	NB	L	1.05	107.8	F	1.05	107.8	F
	NB	TR	1.04	106.2	F	1.04	106.2	F
Northern Blvd (E-W) & 35th St / 38th Ave (S)	SB	LTR	0.68	55.3	E	0.68	55.3	E
Northern Blvd (E-W) & 38th St (S)	SB	LR	0.71	63.3	E	0.79	67.2	E
Northern Blvd (E-W) & 39th St / Steinway St (N-S)	EB	L	1.03	99.3	F	1.11	123.3	F
	EB	TR	0.90	20.3	C	0.95	27.0	C
	WB	L	1.40	227.7	F	1.76	385.0	F
	NB	TR	1.15	131.9	F	1.38	222.2	F
	SB	LTR	1.29	201.1	F	1.62	333.5	F
Northern Blvd (E-W) & 42nd St (S) / Driveway (N)	NB	LTR	0.78	72.4	E	0.77	71.2	E
	SB	LTR	1.12	133.2	F	1.67	358.9	F
Northern Blvd (E-W) & 43rd St (N) / 42nd Pl (N-S)	EB	LTR	0.87	31.0	C	1.27	153.3	F
	WB	L	1.26	154.4	F	1.48	241.4	F
	WB	TR	0.91	20.1	C	0.98	24.5	C
	NB	LTR	1.13	134.6	F	1.18	151.6	F
Northern Blvd (E-W) & 44th St (S)/35th Ave (N)	SB	LTR	1.54	316.2	F	1.80	431.3	F
Northern Blvd (E-W) & 46th St (S)	SB	LR	0.63	50.1	D	0.73	56.0	E
Northern Blvd (E-W) & 48th St (N-S) / 34th Ave (N)	EB	TR	1.19	108.0	F	1.22	122.6	F
	WB	L	1.10	97.0	F	1.10	97.1	F
	WB	TR	1.18	86.6	F	1.23	110.1	F
	NB	L	1.62	350.6	F	1.67	371.6	F
	NB	TR	1.05	113.6	F	1.05	113.6	F
Northern Blvd (E-W) & 51st St / Woodside Ave (N-S)	EB	TR	0.88	38.3	D	0.90	39.0	D
	NB	LTR	1.12	129.3	F	1.12	129.3	F
	SB	R	1.15	137.6	F	1.29	192.1	F
43rd Ave (W) & 39th St (N-S)	SB	LT	1.60	297.7	F	1.95	448.6	F
Greenpoint Ave (E-W) & Hunters Point Ave (NW-SE)	SE	LTR	0.91	57.9	E	0.97	71.5	E
	NW	LTR	1.13	109.0	F	1.19	133.8	F
Greenpoint Ave (NE-SW) & Borden Ave (E)	EB	LTR	1.04	67.4	E	1.04	67.4	E
	NE	R	1.10	109.9	F	1.10	109.9	F
	SW	L	1.09	83.8	F	1.17	111.3	F

Shading denotes significant adverse impact.

H. TRANSIT

EXISTING CONDITIONS

SUBWAY SERVICE

Subway Stations

As discussed above in Section E, "Level 2 Screening Assessment," project-generated subway trips at the 36th Street (M/R) and Steinway Street (M/R) stations on the Queens Boulevard Line, and the 36th Avenue (N/W) station on the Astoria Line are expected to exceed the 200-trip *CEQR Technical Manual* analysis threshold in the weekday AM and/or PM peak hours. The 36th Avenue station is located on an elevated structure while the remaining two stations are located below-grade.

36th Street (M/R)

The 36th Street subway station is located beneath Northern Boulevard and consists of two side platforms each serving one of the local tracks on the Queens Boulevard Line. There is no connection between the two platforms within the station.

Based on the location of the Project Area, incremental demand from the Proposed Actions is expected to be concentrated at entrance stairs and fare arrays at the station's eastern end at 36th Street. As shown in **Figure 13-21**, stair S2/P2 located at the northeast corner of Northern Boulevard and 36th Street provides access to the east end of the southbound (Manhattan-bound) platform via fare array N312A which consists of one high entry/exit turnstile (HEETs) and one high exit turnstile (HXT). Stair S1 located on the south side of Northern Boulevard opposite 36th Street provides access to fare array N313 consisting of one HEET and one HXT located on a mezzanine above the east end of the northbound (Queens-bound) platform. Stair P1 provides access between the mezzanine and platform levels.

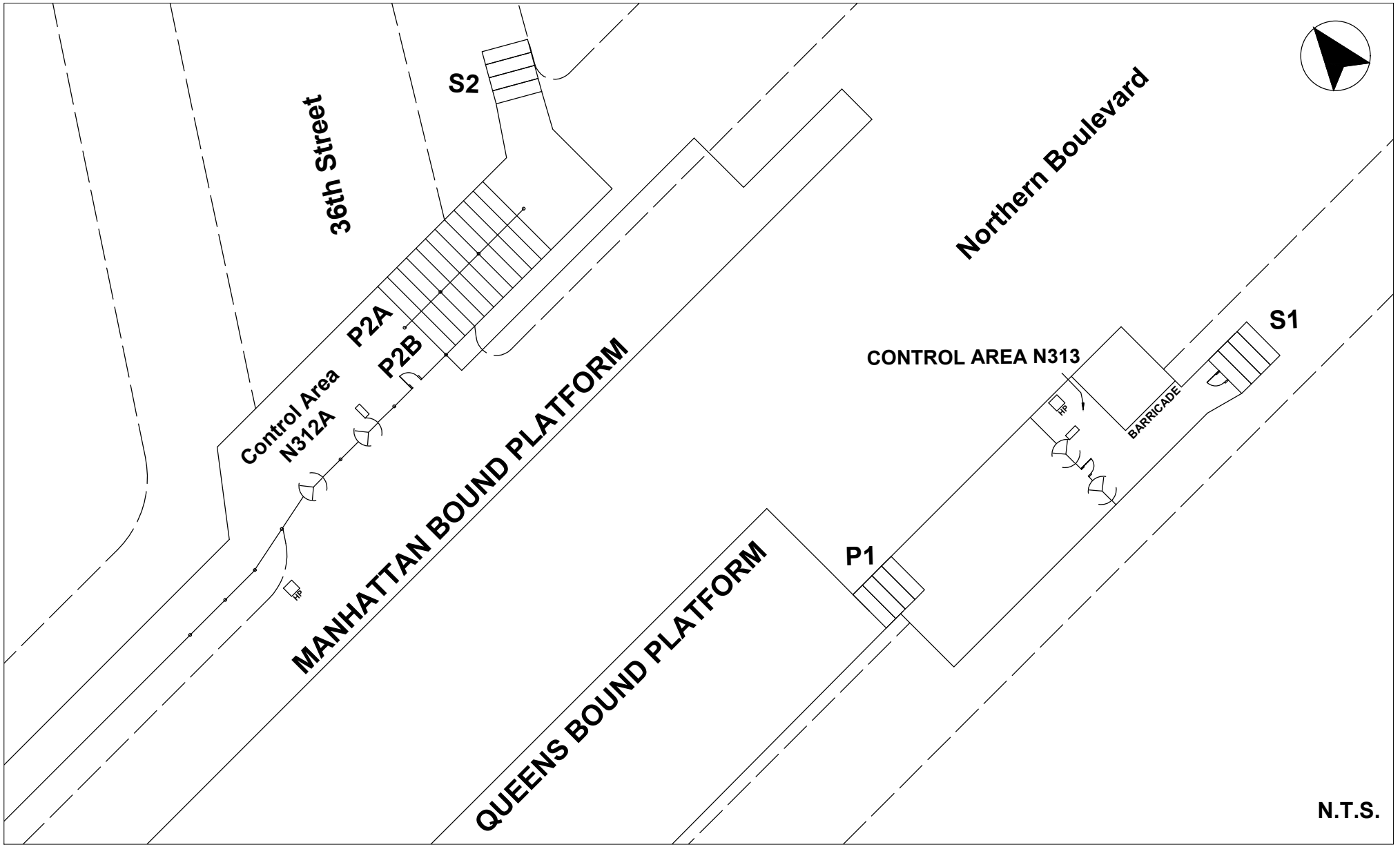
The southbound platform can also be accessed via two stairs located at the northeast and northwest corners of Northern Boulevard at 38th Avenue/35th Street. Access is controlled by fare array N312 consisting of three turnstiles and a 24-hour fare booth located at the platform level. Lastly, a stair on the south side of Northern Boulevard at 34th Street provides access to fare array N311 consisting of three turnstiles, two HEETs and two HXTs located on a mezzanine above the west end of the northbound platform. Two stairs—P6 and P7—provide access between the mezzanine and platform levels. As few, if any, trips generated by the Proposed Actions are expected to enter/exit the station via the entrances at 38th Avenue/35th Street or at 34th Street, significant adverse impacts are not expected to occur, and the stairs and fare arrays at these locations are not included for analysis.

As shown in **Tables 13-28 and 13-29**, all analyzed stairs and fare arrays at the 36th Street subway station currently operate at an uncongested LOS A or B in both the AM and PM peak hours.

Steinway Street Subway Station (M/R)

As shown in **Figure 13-22**, the Steinway Street subway station is located beneath Steinway Street, and has two mezzanines, one at the north end of the station and a second at 34th Avenue at the south end of the station. These mezzanines provide access to the station's platform level, which consists of two side platforms each serving one of the local tracks on the Queens Boulevard Line.

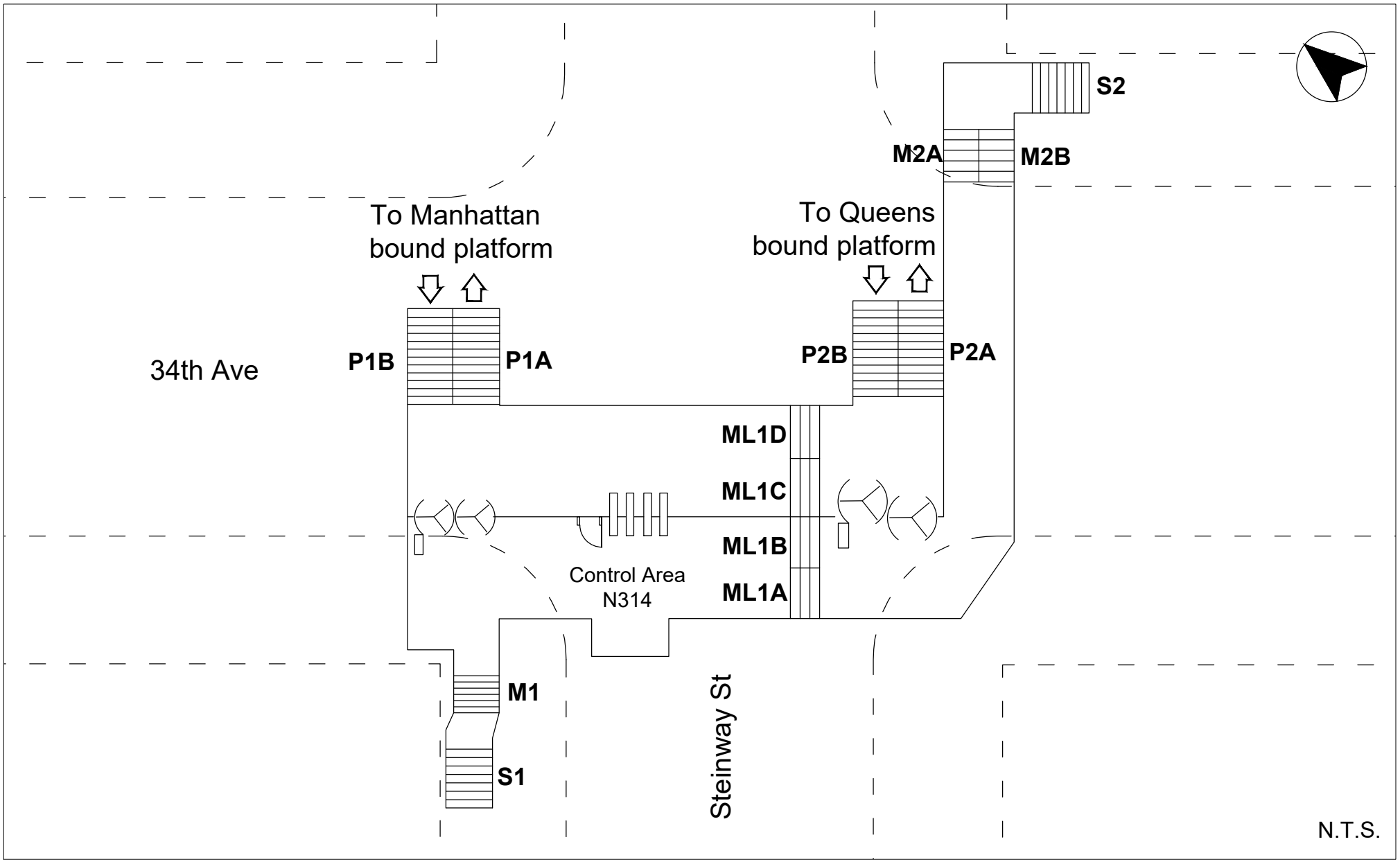
36th Street (M/R) Subway Station



Legend

- Stairs
- High Entrance/Exit Turnstile (HEET)
- High Exit Turnstile (HXT)
- Emergency Exit

Steinway Street (M/R) Subway Station



Legend

Stairs

Fare Array

High Entrance/Exit Turnstile (HEET)

High Exit Turnstile (HXT)

Emergency Exit

Based on the location of the Project Area, incremental demand from the Proposed Actions would enter and exit the station via the south mezzanine at 34th Avenue. These trips would be distributed between the two street stairs at this mezzanine—S1/M1 at the southwest corner of the Steinway Street/34th Avenue intersection, and street stair S2/M2 at the northeast corner of the intersection. Two stairs connect the mezzanine to the platforms—stair P1 to the southbound (Manhattan-bound) platform and stair P2 to the northbound (Queens-bound) platform. In addition, a short stair (ML1) connects the east and west sides of the mezzanine. Access to the platform level is controlled by fare array N314, which, as shown in **Figure 13-22**, consists of one HEET and one HXT located adjacent to stairs S1/M1 and P1, one HEET and one HXT located adjacent to stair P2, and three turnstiles located in the center of the mezzanine.

The mezzanine at the station's north end includes two street stairs on the west and east sides Steinway Street (S3/M3 and S4/M4, respectively), two stairs (P3 and P4) to the southbound platform and one stair (P5) to the northbound platform, and a fare array (N315) consisting of four turnstiles and a 24-hour fare booth. Given its distance from the Project Area, few, if any, trips generated by the Proposed Actions are expected to enter/exit the station via the north mezzanine. Significant adverse impacts are therefore not expected to occur at the stairs and fare arrays at this location, and they are not included for analysis.

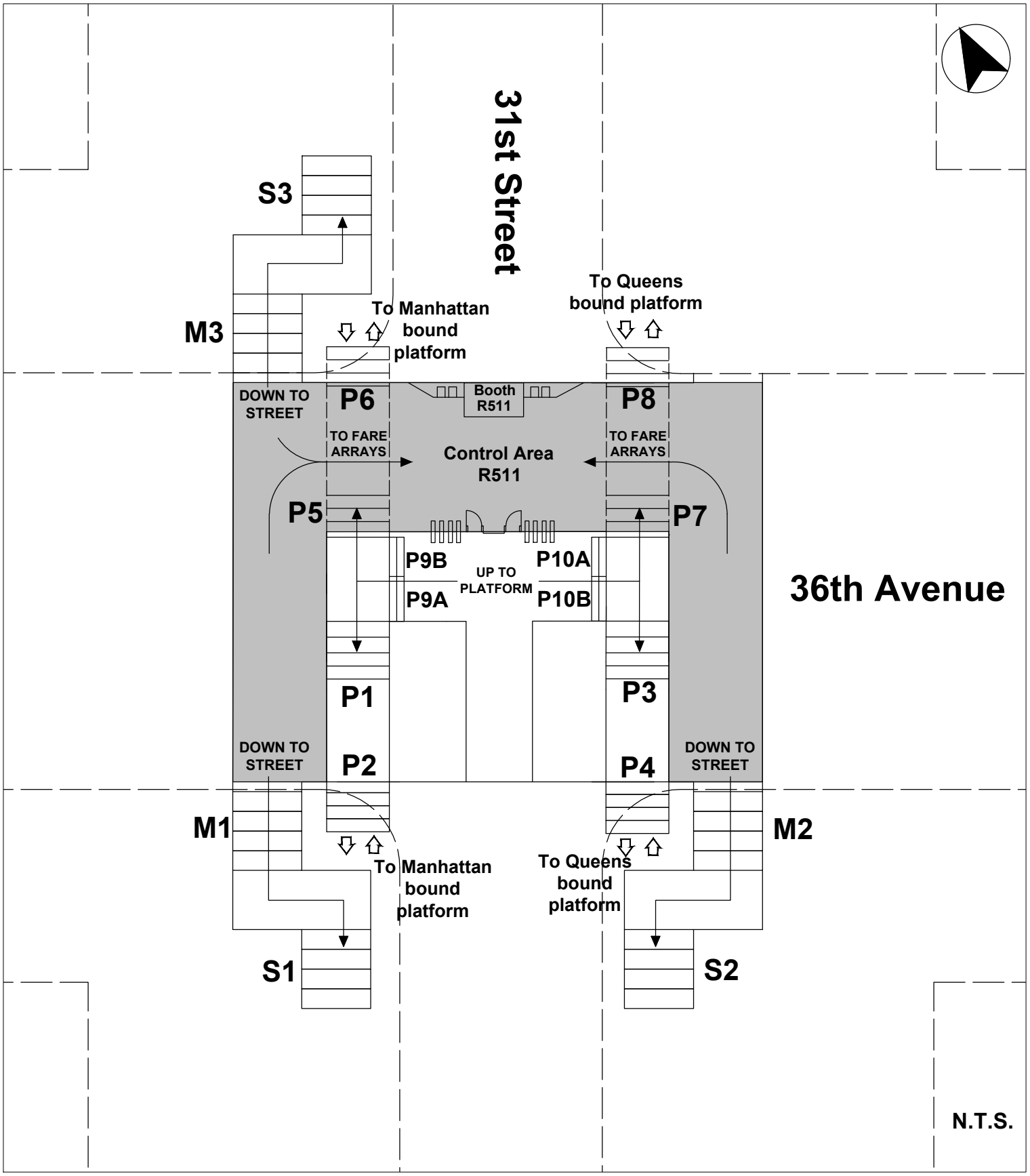
As shown in **Tables 13-28 and 13-29**, all analyzed stairs and fare arrays at the Steinway Street subway station currently operate at an uncongested LOS A or B in both the AM and PM peak hours.

36th Avenue Subway Station (N/W)

The 36th Avenue subway station is located on an elevated structure above 31st Street. It consists of a mezzanine located at the 36th Avenue/31st Street intersection, and a platform level, which consists of two side platforms serving the local tracks on the Astoria Line. (A single express track also runs through the station.) As shown in **Figure 13-23**, Access from the street is via three stairs, S1, S2, and S3, located on the southwest, southeast, and northwest corners of the intersection, respectively. Two sets of stairs connect the mezzanine to the platforms—stairs P1/P2, P5/P6, and P9 to the southbound (Manhattan-bound) platform and stairs P3/P4, P7/P8, and P10 to the northbound (Astoria-bound) platform. Access to the platforms is controlled by fare array R511, which consists of a 24-hour fare booth and two banks of turnstiles, each with three turnstiles.

As shown in **Tables 13-28 and 13-29**, all analyzed stairs and fare arrays at the 36th Avenue subway station currently operate at an uncongested LOS A or B in both the AM and PM peak hours.

36th Avenue (N/W) Subway Station



Legend

Stairs | Fare Array | Emergency Exit | Passageway to Fare Arrays

Table 13-28
Existing Conditions Subway Station Stair Analysis

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	36th Avenue (N/W)	S1/M1	4.92	3.92	242	153	1.00	0.80	0.90	0.26	A
		S2/M2	4.92	3.92	454	344	1.00	0.80	0.90	0.52	B
		S3/M3	5.00	4.00	688	109	1.00	0.80	0.90	0.48	B
		P1/P2	4.67	3.67	744	37	1.00	0.75	1.00	0.45	A
		P5/P6	4.67	3.67	609	51	1.00	0.75	0.90	0.43	A
		P3/P4	4.67	3.67	19	166	1.00	0.75	0.90	0.15	A
		P7/P8	4.67	3.67	12	352	1.00	0.75	1.00	0.27	A
	Steinway Street (M/R)	S1/M1	5.67	4.67	492	483	0.80	1.00	0.90	0.55	B
		S2/M2	5.67	4.67	232	413	0.80	1.00	0.90	0.35	A
		P1	11.83	10.58	516	673	0.75	1.00	0.90	0.30	A
		P2	11.83	10.58	208	223	0.75	1.00	0.90	0.11	A
	36th Street (M/R)	S1	4.75	3.75	177	65	0.80	1.00	0.90	0.18	A
		P1	7.92	6.92	177	65	0.75	1.00	0.90	0.10	A
		S2/P2	5.83	4.83	472	260	0.75	1.00	0.90	0.43	A
PM	36th Avenue (N/W)	S1/M1	4.92	3.92	97	250	1.00	0.80	0.90	0.24	A
		S2/M2	4.92	3.92	160	533	1.00	0.80	0.90	0.49	B
		S3/M3	5.00	4.00	315	193	1.00	0.80	0.90	0.32	A
		P1/P2	4.67	3.67	284	19	1.00	0.75	0.90	0.20	A
		P5/P6	4.67	3.67	233	26	1.00	0.75	0.90	0.17	A
		P3/P4	4.67	3.67	33	298	1.00	0.75	0.90	0.27	A
		P7/P8	4.67	3.67	22	633	1.00	0.75	1.00	0.49	B
	Steinway Street (M/R)	S1/M1	5.67	4.67	434	279	0.80	1.00	0.90	0.41	A
		S2/M2	5.67	4.67	395	224	0.80	1.00	0.90	0.36	A
		P1	11.83	10.58	267	286	0.75	1.00	0.90	0.14	A
		P2	11.83	10.58	562	217	0.75	1.00	0.90	0.21	A
	36th Street (M/R)	S1	4.75	3.75	165	402	0.80	1.00	0.90	0.38	A
		P1	7.92	6.92	165	402	0.75	1.00	0.90	0.21	A
		S2/P2	5.83	4.83	135	358	0.75	1.00	0.90	0.26	A

Table 13-29
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	36th Avenue (N/W)	R511	6	0	0	1,384	606	1.00	0.75	0.90	0.26	A
	Steinway Street (M/R)	N314	3	2	2	896	724	1.00	0.75	0.90	0.26	A
	36th Street (M/R)	N312A	0	1	1	260	472	1.00	0.75	0.90	0.55	B
		N313	0	1	1	65	177	1.00	0.75	0.90	0.16	A
PM	36th Avenue (N/W)	R511	6	0	0	572	976	1.00	0.75	0.90	0.20	A
	Steinway Street (M/R)	N314	3	2	2	503	829	1.00	0.75	0.90	0.19	A
	36th Street (M/R)	N312A	0	1	1	358	135	1.00	0.75	0.90	0.54	B
		N313	0	1	1	402	165	1.00	0.75	0.90	0.62	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, four NYCT subway routes operate in proximity to the Project Area, including the M, N, R and W. The analysis of existing subway line haul conditions on these routes is based on maximum load point capacity and ridership data collected in 2018 (prior to the Covid-19 pandemic) and provided by NYCT.[3] The ridership data were grown by 0.5 percent to account for any increases in demand during the 2018 to 2021 period, consistent with *CEQR Technical Manual* guidance.

Table 13-30 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 13-30**, southbound N/W trains are currently operating at capacity in the AM peak hour with a v/c ratio of 1.0. N/W trains currently operate with available capacity in the peak direction in the PM peak hour, as do M/R trains in both the AM and PM.

BUS SERVICE

As shown in **Figure 13-2** and listed in **Table 13-11**, four MTA Bus local bus routes operate in proximity to the Project Area—the Q66, Q101, Q102 and Q104. As shown in **Table 13-12**, only the Q66 route is expected to experience 50 or more new trips in one direction in one or both peak hours and is therefore analyzed in this EIS. Service on this local route is provided by 40-foot standard buses. **Table 13-31** shows the existing number of buses and ridership at the maximum load point by direction on the Q66 in the weekday AM and PM peak hours based on MTA Bus 2019 data collected prior to the Covid-19 pandemic. As shown in **Table 13-31**, based on MTA loading guidelines, Q66 buses currently operate with available capacity in both directions at their maximum load points in the weekday AM and PM peak hours.

Table 13-30
Existing Conditions Subway Line Haul Analysis

Peak Period	Route	Direction	Maximum Load Point (leaving station)	Average Trains Per Hour (1)	Average Cars Per Hour	Average Passengers Per Hour (2)	Average Passengers Per Car	Guideline Passengers Per Car (3)	V/C Ratio (4)
AM	M/R	SB	Elmhurst Av	18.4	148	13,936	94	164	0.57
	N/W	SB	Queensboro Plaza*	15.1	150	21,788	145	145	1.00
PM	M/R	NB	Jackson Hts - Roosevelt Av	16.3	131	11,289	86	161	0.54
	N/W	NB	Lexington Av - 59 St*	14.3	144	15,535	108	145	0.74

Notes:

(1) Based on 2017-2018 train throughput data from NYCT except where noted.

(2) Based on 2017-2018 ridership data from NYCT. Passenger volumes grown by 0.5 percent/year to account for growth in demand during the 2018 to 2021 period except where noted.

(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.

*Based on 2016-2017 data due to construction work during 2018.

[3] NYCT 2017 data were used for the N/W routes due to construction work affecting these routes in 2018.

Table 13-31
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	Q66	EB	Northern Blvd/127th Pl	14	524	37	232
		WB	Northern Blvd/56th St	17	656	39	262
PM	Q66	EB	Northern Blvd/69th St	10	333	33	207
		WB	Northern Blvd/111th St	9	263	29	223

Notes:
[1] Based on MTA Bus 2019 ridership data.
[2] Available capacity based on MTA loading guidelines of 54 passengers per standard bus.

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

Between 2021 and 2032, it is expected that subway and bus 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), projected development in the Project Area under the No Action RWCDS was considered, as were proposed developments within 1/2-mile of the Project Area, including those listed in Table 2-1 in Chapter 2, "Land Use, Zoning, and Public Policy." The Future No Action subway station and bus volumes reflect annual background growth rates of 0.5 percent per year for the 2021 through 2026 period and 0.25 percent for the 2026 through 2032 period. These background growth rates, recommended in the *CEQR Technical Manual* for projects in Queens outside of Long Island City, are applied to account for smaller projects and as-of-right developments, and general increases in travel demand not attributable to specific development projects.

SUBWAY SERVICE

Subway Stations

Under No Action conditions, demand at all analyzed subway stations is expected to increase due to new development and/or background growth. The results of the analysis of No Action AM and PM peak hour conditions at the 36th Street (M/R) and Steinway Street (M/R) subway stations on the Queens Boulevard Line and the 36th Avenue (N/W) subway station on the Astoria Line are shown in **Tables 13-32 and 13-33** and discussed below.

Table 13-32
No Action Subway Station Stair Analysis

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	36th Avenue (N/W)	S1/M1	4.92	3.92	285	168	1.00	0.80	0.90	0.29	A
		S2/M2	4.92	3.92	509	370	1.00	0.80	0.90	0.57	B
		S3/M3	5.00	4.00	720	115	1.00	0.80	0.90	0.50	B
		P1/P2	4.67	3.67	812	41	1.00	0.75	1.00	0.49	B
		P5/P6	4.67	3.67	664	54	1.00	0.75	0.90	0.47	B
		P3/P4	4.67	3.67	24	180	1.00	0.75	0.90	0.17	A
		P7/P8	4.67	3.67	14	379	1.00	0.75	1.00	0.29	A
	Steinway Street (M/R)	S1/M1	5.67	4.67	542	555	0.80	1.00	0.90	0.61	B
		S2/M2	5.67	4.67	215	439	0.80	1.00	0.90	0.35	A
		P1	11.83	10.58	527	748	0.75	1.00	0.90	0.32	A
		P2	11.83	10.58	230	245	0.75	1.00	0.90	0.12	A
	36th Street (M/R)	S1	4.75	3.75	186	69	0.80	1.00	0.90	0.19	A
		P1	7.92	6.92	186	69	0.75	1.00	0.90	0.11	A
		S2/P2	5.83	4.83	488	274	0.75	1.00	0.90	0.44	A
PM	36th Avenue (N/W)	S1/M1	4.92	3.92	119	291	1.00	0.80	0.90	0.29	A
		S2/M2	4.92	3.92	203	620	1.00	0.80	0.90	0.58	B
		S3/M3	5.00	4.00	338	212	1.00	0.80	0.90	0.35	A
		P1/P2	4.67	3.67	325	27	1.00	0.75	0.90	0.23	A
		P5/P6	4.67	3.67	266	36	1.00	0.75	0.90	0.20	A
		P3/P4	4.67	3.67	40	339	1.00	0.75	0.90	0.31	A
		P7/P8	4.67	3.67	28	721	1.00	0.75	1.00	0.56	B
	Steinway Street (M/R)	S1/M1	5.67	4.67	559	368	0.80	1.00	0.90	0.53	B
		S2/M2	5.67	4.67	423	209	0.80	1.00	0.90	0.37	A
		P1	11.83	10.58	307	350	0.75	1.00	0.90	0.17	A
		P2	11.83	10.58	675	228	0.75	1.00	0.90	0.25	A
	36th Street (M/R)	S1	4.75	3.75	186	417	0.80	1.00	0.90	0.40	A
		P1	7.92	6.92	186	417	0.75	1.00	0.90	0.22	A
		S2/P2	5.83	4.83	144	382	0.75	1.00	0.90	0.27	A

Table 13-33
No Action Subway Station Fare Array Analysis

Peak Hour	Station	Fare Array	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	36th Avenue (N/W)	R511	6	0	0	1,514	654	1.00	0.75	0.90	0.29	A
	Steinway Street (M/R)	N314	3	2	2	993	757	1.00	0.75	0.90	0.28	A
	36th Street (M/R)	N312A	0	1	1	274	488	1.00	0.75	0.90	0.58	B
		N313	0	1	1	69	186	1.00	0.75	0.90	0.17	A
PM	36th Avenue (N/W)	R511	6	0	0	659	1,123	1.00	0.75	0.90	0.23	A
	Steinway Street (M/R)	N314	3	2	2	577	982	1.00	0.75	0.90	0.22	A
	36th Street (M/R)	N312A	0	1	1	382	144	1.00	0.75	0.90	0.58	B
		N313	0	1	1	417	186	1.00	0.75	0.90	0.64	B

36th Street Subway Station (M/R)

All analyzed stairs and fare arrays at the 36th Street station are expected to operate at an uncongested LOS A or B in both the AM and PM peak hours in the No Action condition.

Steinway Street Subway Station (M/R)

All analyzed stairs and fare arrays at the Steinway Street station are expected to operate at an uncongested LOS A or B in both the AM and PM peak hours in the No Action condition.

36th Avenue Subway Station (N/W)

All analyzed stairs and fare arrays at the 36th Avenue station are expected to operate at an uncongested LOS A or B in both the AM and PM peak hours in the No Action condition.

Subway Line Haul

Table 13-34 shows anticipated 2032 No Action line haul conditions at the maximum load points on the four subway routes operating in proximity to the Project Area. The data in **Table 13-34** reflect both background growth for the 2021 through 2032 period and the addition of demand from new development within the Project Area and its proximity.

Table 13-34
No Action Subway Line Haul Analysis

Peak Period	Route	Direction	Maximum Load Point (leaving station)	Average Trains Per Hour (1)	Average Cars Per Hour	Average Passengers Per Hour (2)	Average Passengers Per Car	Guideline Passengers Per Car (3)	V/C Ratio (4)
AM	M/R	SB	Elmhurst Av	18.4	148	14,647	99	164	0.60
	N/W	SB	Queensboro Plaza*	15.1	150	22,832	152	145	1.05
PM	M/R	NB	Jackson Hts - Roosevelt Av	16.3	131	12,071	92	161	0.57
	N/W	NB	Lexington Av - 59 St*	14.3	144	16,348	114	145	0.78

Notes:

(1) Based on 2017-2018 train throughput data from NYCT except where noted.

(2) No Action passenger volumes reflect demand from No Action development plus background growth rates of 0.5 percent/year for the 2021-2026 period and 0.25 percent/year for the 2026-2032 period as per *CEQR Technical Manual* guidance.

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

(4) Volume to guideline capacity ratio.

*Based on 2016-2017 data due to construction work during 2018.

As shown in **Table 13-34**, southbound N/W trains would continue to operate over-capacity in the AM peak hour with a v/c ratio of 1.05 compared to 1.0 under existing conditions. N/W trains are expected to continue to operate with available capacity in the peak direction in the PM peak hour, as are M/R trains in both the AM and PM.

BUS SERVICE

Demand on the local bus services operating in the vicinity of the Project Area is expected to increase through 2032 as a result of background growth as well as demand from new development. As shown in **Table 13-35**, both eastbound and westbound Q66 buses are expected to operate with available capacity in the AM and PM peak hours in the 2032 No Action condition.

Table 13-35
No Action Local Bus Analysis

Peak Hour[1]	Route	Direction	Maximum Load Point	Peak Hour Passengers[1]	Peak Hour Buses[2]	Average Passengers per Bus	Available Capacity[3]
AM	Q66	EB	Northern Blvd/127th Pl	552	14	39	204
		WB	Northern Blvd/56th St	703	17	41	215
PM	Q66	EB	Northern Blvd/69th St	391	10	39	149
		WB	Northern Blvd/111th St	301	9	33	185

Notes:
[1] No Action passenger volumes reflect demand from No Action development plus background growth rates of 0.5 percent/year for the 2019–2024 period and 0.25 percent/year for the 2024–2032 period as per *CEQR Technical Manual* guidance.
[2] Based on 2019 data from MTA Bus.
[3] Available capacity based on MTA loading guidelines of 54 passengers per standard bus.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITION)

SUBWAY SERVICE

Subway Stations

As shown in **Table 13-10**, the Proposed Actions are expected to generate a net total of approximately 2,642 and 2,958 new subway trips in the weekday AM and PM peak hours, respectively. These incremental subway trips were assigned to the three stations serving the Project Area based on census origin/destination data and each station's proximity to individual projected development sites. Based on the assignment, the highest number of peak hour subway trips are expected to occur at the Steinway Street (M/R) station, which would experience approximately 1,352 incremental trips (in and out combined) in the AM peak hour and 1,516 in the PM peak hour. The second highest number of trips would occur at the 36th Avenue (N/W) station which would experience approximately 951 incremental trips in the AM peak hour and 1,063 in the PM peak hour. Lastly, the 36th Street (M/R) station would experience approximately 339 and 379 trips during these same periods, respectively.

AM and PM peak hour conditions at the 36th Street, Steinway Street and 36th Avenue subway stations in the With Action condition are shown in **Tables 13-36 and 13-37** and discussed below.

36th Street Subway Station (M/R)
In the With Action condition, all analyzed stairs and fare arrays at the 36th Street station are expected to operate at an acceptable LOS C or better in both the AM and PM peak hours. Therefore, no significant adverse impacts are anticipated to occur at this station as a result of the Proposed Actions.

Steinway Street Subway Station (M/R)
In the With Action condition, all analyzed stairs and the analyzed fare array at the Steinway Street station are projected to operate at an acceptable LOS C or better in both the AM and PM peak hours. Therefore, no significant adverse impacts are anticipated to occur at this station as a result of the Proposed Actions.

Table 13-36
With Action Subway Station Stair Analysis

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Project Increment Up	Project Increment Down	Peak Hour Volumes Up	Peak Hour Volumes Down	Surging Factor Up	Surging Factor Down	Friction Factor	V/C Ratio	LOS	WIT	Impact Threshold
AM	36th Avenue (N/W)	S1/M1	4.92	3.92	0	0	285	168	1.00	0.80	0.90	0.29	A	- - -	- - -
		S2/M2	4.92	3.92	404	222	913	592	1.00	0.80	0.90	0.98	C	- - -	- - -
		S3/M3	5.00	4.00	270	55	990	170	1.00	0.80	0.90	0.69	B	- - -	- - -
		P1/P2	4.67	3.67	351	13	1,163	54	1.00	0.75	1.00	0.70	B	- - -	- - -
		P5/P6	4.67	3.67	288	19	952	73	1.00	0.75	0.90	0.66	B	- - -	- - -
		P3/P4	4.67	3.67	21	78	45	258	1.00	0.75	0.90	0.25	A	- - -	- - -
		P7/P8	4.67	3.67	14	167	28	546	1.00	0.75	1.00	0.43	A	- - -	- - -
	Steinway Street (M/R)	S1/M1	5.67	4.67	230	543	772	1,098	0.80	1.00	0.90	1.02	D	1.27	8.00
		S2/M2	5.67	4.67	201	378	416	817	0.80	1.00	0.90	0.66	B	- - -	- - -
		P1	11.83	10.58	143	798	670	1,546	0.75	1.00	0.90	0.53	B	- - -	- - -
		P2	11.83	10.58	288	123	518	368	0.75	1.00	0.90	0.23	A	- - -	- - -
	36th Street (M/R)	S1	4.75	3.75	72	31	258	100	0.80	1.00	0.90	0.26	A	- - -	- - -
		P1	7.92	6.92	72	31	258	100	0.75	1.00	0.90	0.15	A	- - -	- - -
		S2/P2	5.83	4.83	36	200	524	474	0.75	1.00	0.90	0.56	B	- - -	- - -
PM	36th Avenue (N/W)	S1/M1	4.92	3.92	0	0	119	291	1.00	0.80	0.90	0.29	A	- - -	- - -
		S2/M2	4.92	3.92	274	485	477	1,105	1.00	0.80	0.90	1.10	D	4.58	7.00
		S3/M3	5.00	4.00	183	121	521	333	1.00	0.80	0.90	0.54	B	- - -	- - -
		P1/P2	4.67	3.67	227	13	552	40	1.00	0.75	0.90	0.38	A	- - -	- - -
		P5/P6	4.67	3.67	185	19	451	55	1.00	0.75	0.90	0.33	A	- - -	- - -
		P3/P4	4.67	3.67	27	184	67	523	1.00	0.75	0.90	0.48	B	- - -	- - -
		P7/P8	4.67	3.67	18	390	46	1,111	1.00	0.75	1.00	0.87	C	- - -	- - -
	Steinway Street (M/R)	S1/M1	5.67	4.67	434	349	993	717	0.80	1.00	0.90	0.97	C	- - -	- - -
		S2/M2	5.67	4.67	396	337	819	546	0.80	1.00	0.90	0.78	C	- - -	- - -
		P1	11.83	10.58	113	494	420	844	0.75	1.00	0.90	0.31	A	- - -	- - -
		P2	11.83	10.58	717	192	1,392	420	0.75	1.00	0.90	0.50	B	- - -	- - -
	36th Street (M/R)	S1	4.75	3.75	179	48	365	465	0.80	1.00	0.90	0.57	B	- - -	- - -
		P1	7.92	6.92	179	48	365	465	0.75	1.00	0.90	0.32	A	- - -	- - -
		S2/P2	5.83	4.83	28	124	172	506	0.75	1.00	0.90	0.35	A	- - -	- - -

Notes:
WIT - Width Increment Threshold

Table 13-37
With Action Subway Station Fare Array Analysis

Peak Hour	Station	Fare Array	Control Elements Turnstile	Control Elements HEET	Control Elements HXT	Project Increment System Entries	Project Increment System Exits	Peak Hour Volumes System Entries	Peak Hour Volumes System Exits	Surging Factor System Entries	Surging Factor System Exits	Friction Factor	V/C Ratio	LOS
AM	36th Avenue (N/W)	R511	6	0	0	674	277	2,188	931	1.00	0.75	0.90	0.41	A
	Steinway Street (M/R)	N314	3	2	2	921	431	1,914	1,188	1.00	0.75	0.90	0.51	B
	36th Street (M/R)	N312A	0	1	1	200	36	474	524	1.00	0.75	0.90	0.87	C
		N313	0	1	1	31	72	100	258	1.00	0.75	0.90	0.24	A
PM	36th Avenue (N/W)	R511	6	0	0	457	606	1,116	1,729	1.00	0.75	0.90	0.36	A
	Steinway Street (M/R)	N314	3	2	2	686	830	1,263	1,812	1.00	0.75	0.90	0.45	A
	36th Street (M/R)	N312A	0	1	1	124	28	506	172	1.00	0.75	0.90	0.76	C
		N313	0	1	1	48	179	465	365	1.00	0.75	0.90	0.79	C

36th Avenue Subway Station (N/W)

In the With Action condition, all analyzed stairs and the analyzed fare array at the 36th Avenue station are projected to operate at an acceptable LOS C or better in both the AM and PM peak hours. Therefore, no significant adverse impacts are anticipated to occur at this station as a result of the Proposed Actions.

Subway Line Haul

Table 13-38 shows line haul conditions on the subway routes serving the Project Area in the With Action condition. As shown in **Table 13-38**, N/W trains are expected to operate over capacity in the AM peak hour with a v/c ratio of 1.09 in the peak southbound direction, and below capacity in the PM peak hour with a v/c ratio of 0.83 in the peak northbound direction. This compares to v/c ratios of 1.05 and 0.78, respectively, in the PM under No Action conditions. As southbound N/W trains would be operating over capacity and would experience an average incremental increase of 5.56 persons/car in the AM, just above the five persons/car *CEQR Technical Manual* impact threshold, southbound N/W service would be considered significantly adversely impacted by the Proposed Actions in the AM peak hour. (Potential mitigation for this impact is discussed in Chapter 20, "Mitigation.") M/R trains are projected to operate below capacity 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.

BUS SERVICE

As shown in **Table 13-12**, projected development sites are expected to generate a net total of approximately 141 and 197 new trips on the bus services operating in proximity to the Project Area during the weekday AM and PM peak hours, respectively. As shown in **Table 13-39**, demand on the analyzed Q66 route is expected to increase by approximately 10 eastbound trips and 24 westbound trips at the maximum load points in the AM peak hour, and by 46 eastbound trips and 20 westbound trips in the PM. With these incremental increases in demand, this bus route would continue to operate with available capacity at its maximum load points in both directions in both the AM and PM peak hours. Therefore, based on *CEQR Technical Manual* impact criteria, no significant adverse impacts to bus service are expected to occur as a result of the Proposed Actions.

Table 13-38
With Action Subway Line Haul Analysis

Peak Period	Route	Direction	Maximum Load Point (leaving station)	Average Trains Per Hour (1)	Average Cars Per Hour	Project Increment	Average Passengers Per Hour	Average Passengers Per Car	Guideline Passengers Per Car (2)	V/C Ratio (3)	Average Additional Passengers per Car
AM	M/R	SB	Elmhurst Av	18.4	148	222	14,869	100	164	0.61	1.50
	N/W	SB	Queensboro Plaza*	15.1	150	834	23,666	158	145	1.09	5.56
PM	M/R	NB	Jackson Hts - Roosevelt Av	16.3	131	214	12,285	94	161	0.58	1.63
	N/W	NB	Lexington Av - 59 St*	14.3	144	918	17,266	120	145	0.83	6.38

Notes:

(1) Based on 2017-2018 train throughput data from NYCT except where noted.

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

(4) Volume to guideline capacity ratio.

*Based on 2016-2017 data due to construction work during 2018.

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

Table 13-39
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	Q66	EB	Northern Blvd/127th Pl	14	204	10	194
		WB	Northern Blvd/56th St	17	215	24	191
PM	Q66	EB	Northern Blvd/69th St	10	149	46	103
		WB	Northern Blvd/111th St	9	185	20	165

Notes:
[1] Based on 2019 data from MTA Bus.
[2] Available capacity based on MTA loading guidelines of 54 passengers per standard bus.

I. PEDESTRIANS

EXISTING CONDITIONS

Much of the pedestrian study area is characterized by relatively light to moderate pedestrian flows during peak periods, with the heaviest flows found along retail corridors such as Steinway Street 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 pedestrian elements where new trips generated by the Proposed Actions are expected to total 200 or more in one or more peak hours. These elements—sidewalks, corner areas and crosswalks—are primarily located in proximity to projected development sites and along corridors connecting the sites to area transit services. As shown in **Figure 13-3**, they include a total of 40 sidewalks, 65 corner areas and 33 crosswalks primarily located along 34th, 35th and 36th avenues, and 36th through 42nd streets, Steinway Street and Northern Boulevard.

SIDEWALKS

Data from pedestrian counts conducted in May and June 2021 indicate that the highest pedestrian flows at analyzed sidewalks within the study area are generally found along commercial corridors and corridors providing access to subway station entrances, including Steinway Street and 35th and 36th Avenues. Analyzed sidewalks typically range from 15 to 20 feet in width. 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 13-40 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 13-40**, all analyzed sidewalks currently operate at an acceptable LOS C or better in all peak hours.

CROSSWALKS

Most study area intersections are signalized and include pedestrian signals. The majority of crosswalks in the area feature high visibility striping and analyzed crosswalks generally range from 12 to 17 feet in width. **Table 13-41** shows the peak hour volumes, average pedestrian space (in sf/ped), and levels of service at analyzed crosswalks. As shown in **Table 13-41**, all analyzed crosswalks currently operate at an uncongested LOS A in all peak hours.

Table 13-40
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 SW of 42nd St btw 34th Ave and 35th Ave	2.3	54	59	79	44	377.4	452.2	422.1	598.0	B	B	B	A
East SW of 42nd St btw 35th Ave and Northern Blvd	2.6	21	35	39	35	1,362.2	712.2	785.8	980.8	A	A	A	A
South SW of 35th Ave btw 42nd St and 43rd St	2.0	8	16	43	48	1,227.6	1,485.0	464.0	356.2	A	A	B	B
West SW of 42nd St btw 35th Ave and Northern Blvd	3.1	56	30	54	23	461.6	1,040.7	731.7	1,060.5	B	A	A	A
West SW of 42nd St btw 34th Ave and 35th Ave	4.0	40	39	69	36	1,473.1	942.2	716.2	1,548.8	A	A	A	A
East SW of 41st St btw 34th Ave and 35th Ave	2.9	45	36	70	40	750.3	899.3	449.2	901.9	A	A	B	A
East SW of 41st St btw 35th Ave and 36th Ave	2.5	6	11	14	14	6,600.0	2,412.0	1,301.1	1,555.7	A	A	A	A
South SW of 35th Ave btw 41st St and 42nd St	5.9	41	53	60	67	960.5	1,291.5	1,078.3	643.7	A	A	A	A
West SW of 41st St btw 35th Ave and 36th Ave	2.3	14	6	12	20	1,186.3	3,075.6	1,937.6	922.6	A	A	A	A
East SW of Steinway St btw 34th Ave and 35th Ave	8.9	68	101	104	106	1,641.5	741.4	1,086.8	1,013.0	A	A	A	A
North SW of 35th Ave btw Steinway St and 41st St	10.5	137	98	112	102	959.0	1,340.7	1,158.3	1,239.2	A	A	A	A
East SW of Steinway St btw 35th Ave and 36th Ave	3.5	59	67	107	76	742.3	719.8	486.9	488.6	A	A	B	B
South SW of 35th Ave btw Steinway St and 41st St	6.7	50	105	191	117	1,204.4	654.0	436.9	541.7	A	A	B	A
West SW of Steinway St btw 35th Ave and 36th Ave	6.2	82	106	156	102	881.9	728.3	501.1	785.6	A	A	B	A
South SW of 35th Ave btw 38th St and Steinway St	11.2	81	99	171	139	1,529.0	1,036.5	858.7	712.7	A	A	A	A
West SW of Steinway St btw 34th Ave and 35th Ave	5.3	312	298	380	305	237.9	234.9	206.4	212.9	B	B	B	B
North SW of 35th Ave btw 38th St and Steinway St	3.6	324	250	287	262	134.4	174.3	179.5	170.7	B	B	B	B
North SW of 35th Ave btw 37th St and 38th St	3.1	283	275	244	245	108.1	139.8	177.6	163.0	B	B	B	B
South SW of 35th Ave btw 37th St and 38th St	5.9	196	196	231	134	286.9	373.0	385.5	552.7	B	B	B	A
North SW of Northern Blvd btw 36th Ave and 42nd St	13.5	86	61	117	60	1,939.5	2,559.0	1,425.6	2,102.7	A	A	A	A
North SW of 36th Ave btw 41st St and Northern Blvd	3.4	58	33	66	67	633.2	1,178.4	654.6	499.7	A	A	A	B
North SW of 36th Ave btw Steinway St and 41st St	7.2	41	29	49	52	1,689.7	3,211.4	1,831.0	1,987.5	A	A	A	A
East SW of 38th St btw 35th Ave and 36th Ave	3.3	25	56	38	42	1,647.3	671.0	894.1	674.1	A	A	A	A
North SW of 36th Ave btw 38th St and Steinway St	2.5	62	68	114	100	427.8	331.8	253.4	233.4	B	B	B	B
North SW of 36th Ave btw 37th St and 38th St	4.4	57	71	85	95	872.0	680.3	617.7	589.5	A	A	A	A
East SW of 37th St btw 35th Ave and 36th Ave	6.4	14	32	42	31	4,067.7	2,192.7	1,428.5	1,804.2	A	A	A	A
North SW of 36th Ave btw 36th St and 37th St	8.5	53	63	92	83	2,159.3	1,752.4	1,243.9	1,054.4	A	A	A	A
North SW of 36th Ave btw 35th St and 36th St	11.2	62	54	47	35	2,195.4	2,291.5	2,407.1	2,626.3	A	A	A	A
North SW of 36th Ave btw 34th St and 35th St	10.0	139	124	138	107	911.6	1,060.2	872.3	991.8	A	A	A	A
North SW of 36th Ave btw 33rd St and 34th St	8.7	161	160	187	222	698.6	805.8	630.8	518.9	A	A	A	B
North SW of 36th Ave btw 32nd St and 33rd St	3.3	171	200	186	141	195.4	221.1	237.8	262.7	B	B	B	B
North SW of 36th Ave btw 31st St and 32nd St	3.7	129	51	75	81	324.3	740.8	565.7	473.6	B	A	A	B
East SW of 31st St btw 36th Ave and 37th Ave	6.8	177	107	143	152	525.4	739.4	515.8	464.1	B	A	B	B
West SW of 31st St btw 35th Ave and 36th Ave	8.8	208	49	178	303	565.4	1,800.3	487.6	415.8	A	A	B	B
East SW of 36th St btw 37th Ave and Northern Blvd	3.8	68	33	58	39	758.3	1,323.6	533.4	902.2	A	A	A	A
South SW of Northern Blvd btw 36th St and 37th St	5.9	97	69	104	43	656.2	1,221.0	648.0	1,632.8	A	A	A	A
South SW of 36th Ave btw 32nd St and 33rd St	2.4	636	383	199	171	40.9	80.4	169.2	158.8	C	C	B	B
South SW of 36th Ave btw 31st St and 32nd St	4.3	277	196	242	228	156.0	150.5	266.8	283.2	B	B	B	B
North SW of 34th Ave btw 41st St and 42nd St	12.6	268	221	282	327	633.9	786.9	623.7	482.8	A	A	A	B
North SW of 34th Ave btw Steinway St and 41st St	6.2	392	286	406	395	188.9	320.5	223.3	219.6	B	B	B	B

Table 13-41
Existing Crosswalk Conditions

Intersection	Crosswalk	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
34th Av & Steinway St	East	84	298	244	248	395.9	215.6	271.1	268.4	A	A	A	A
34th Av & 41st St	East	69	63	93	58	224.5	268.9	191.6	265.4	A	A	A	A
34th Av & 42nd St	East	69	28	32	44	218.9	534.0	374.9	384.1	A	A	A	A
35th Av & 43rd St	West	26	34	44	35	678.2	791.8	419.2	635.9	A	A	A	A
35th Av & 42nd St	North	62	70	85	58	465.3	463.9	383.9	602.4	A	A	A	A
35th Av & 42nd St	East	20	34	32	36	1,013.1	582.4	845.4	540.2	A	A	A	A
35th Av & 42nd St	South	28	29	40	43	1,358.8	1,419.3	1,003.5	1,101.4	A	A	A	A
35th Av & 42nd St	West	29	16	38	21	733.6	1,056.1	591.6	1,157.8	A	A	A	A
35th Av & 41st St	North	92	88	110	78	417.3	368.3	297.3	413.8	A	A	A	A
35th Av & 41st St	East	13	20	29	14	1,052.6	539.4	468.9	812.9	A	A	A	A
35th Av & 41st St	South	36	48	64	49	852.9	788.7	781.4	794.6	A	A	A	A
35th Av & 41st St	West	26	22	42	39	555.7	570.0	336.9	308.1	A	A	A	A
35th Av & Steinway St	East	61	87	124	91	530.3	634.2	530.5	578.9	A	A	A	A
35th Av & Steinway St	South	59	88	121	105	723.2	244.1	202.7	202.3	A	A	A	A
35th Av & Steinway St	West	97	147	209	151	382.0	330.0	272.0	319.3	A	A	A	A
35th Av & 38th St	North	271	257	241	232	132.6	150.6	161.6	177.5	A	A	A	A
35th Av & 38th St	East	62	83	92	74	479.5	349.5	312.5	374.1	A	A	A	A
35th Av & 38th St	South	123	131	178	114	327.8	257.9	277.1	367.2	A	A	A	A
35th Av & 37th St	East	80	79	101	50	314.2	246.6	209.7	527.5	A	A	A	A
35th Av & 37th St	South	175	187	214	105	216.4	242.9	253.4	423.8	A	A	A	A
36th Av & Steinway St	North	54	56	55	49	414.3	433.3	525.7	512.4	A	A	A	A
36th Av & 38th St	North	55	74	72	72	521.8	438.4	432.5	509.5	A	A	A	A
36th Av & 37th St	North	49	59	78	57	924.3	826.8	611.0	881.8	A	A	A	A
36th Av & 37th St	East	20	25	35	25	705.0	711.1	416.8	501.4	A	A	A	A
36th Av & 36th St	North	61	64	81	45	966.9	700.3	573.5	905.2	A	A	A	A
36th Av & 35th St	North	71	72	71	48	716.4	647.7	643.7	885.3	A	A	A	A
36th Av & 34th St	North	139	124	164	113	299.9	383.6	306.4	339.9	A	A	A	A
36th Av & 33rd St	North	166	175	212	155	233.4	188.9	185.5	228.7	A	A	A	A
36th Av & 31st St	North	108	102	163	146	289.4	306.1	186.9	213.2	A	A	A	A
36th Av & 31st St	East	165	150	136	185	375.7	461.3	411.6	354.6	A	A	A	A
37th Av & 36th St	East	40	23	33	42	589.7	813.6	548.7	612.4	A	A	A	A
Northern Bl & 37th St	South	90	99	91	44	353.5	292.7	336.0	566.8	A	A	A	A
Northern Bl & 42nd St	North	31	43	58	37	1,707.0	1,221.1	870.4	1,378.6	A	A	A	A

CORNER AREAS

Table 13-42 shows the peak hour volumes, average pedestrian space (in sf/ped) and levels of service at analyzed corner areas. As shown in **Table 13-42**, all of the analyzed corner areas currently operate at an uncongested LOS A in the weekday AM, midday, PM, and Saturday peak hours.

Table 13-42
Existing Corner Conditions

Intersection	Corner	Average Pedestrian Space (ft^2/ped)				Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT
34th Av & Steinway St	NE	534.3	286.0	284.4	433.2	A	A	A	A
34th Av & Steinway St	SE	1,111.9	404.5	490.0	527.6	A	A	A	A
34th Av & Steinway St	SW	418.6	292.7	263.2	380.6	A	A	A	A
34th Av & 41st St	NE	438.7	607.1	431.4	542.5	A	A	A	A
34th Av & 41st St	SE	604.5	671.6	506.1	596.4	A	A	A	A
34th Av & 41st St	SW	451.4	557.8	395.8	478.6	A	A	A	A
34th Av & 41st St	NW	366.6	537.8	424.1	534.6	A	A	A	A
34th Av & 42nd St	NE	517.9	910.7	693.6	535.7	A	A	A	A
34th Av & 42nd St	SE	814.1	1,060.4	786.3	711.6	A	A	A	A
34th Av & 42nd St	SW	820.9	638.5	719.0	602.9	A	A	A	A
34th Av & 42nd St	NW	473.3	656.0	624.0	427.2	A	A	A	A
34th Av & 43rd St	SE	1,321.6	891.7	821.4	586.5	A	A	A	A
34th Av & 43rd St	SW	1,041.6	830.4	706.1	544.0	A	A	A	A
34th Av & 43rd St	NW	913.0	1,150.5	814.7	567.1	A	A	A	A
35th Av & 43rd St	NE	2,596.2	2,192.1	1,399.7	2,088.3	A	A	A	A
35th Av & 43rd St	SW	2,075.8	1,956.5	1,573.5	1,687.4	A	A	A	A
35th Av & 43rd St	NW	1,304.7	1,546.6	1,125.9	1,401.9	A	A	A	A
35th Av & 42nd St	NE	1,189.2	1,114.4	1,160.1	1,254.0	A	A	A	A
35th Av & 42nd St	SE	2,632.8	2,088.9	1,751.2	1,809.8	A	A	A	A
35th Av & 42nd St	SW	1,441.4	1,984.4	1,597.1	2,034.6	A	A	A	A
35th Av & 42nd St	NW	1,258.0	1,368.4	1,014.1	1,815.9	A	A	A	A
35th Av & 41st St	NE	1,298.7	1,104.9	924.4	1,292.4	A	A	A	A
35th Av & 41st St	SE	2,302.5	1,846.0	1,634.2	1,923.6	A	A	A	A
35th Av & 41st St	SW	1,759.0	1,806.7	1,407.4	1,372.4	A	A	A	A
35th Av & 41st St	NW	1,168.0	1,122.6	884.3	978.4	A	A	A	A
35th Av & Steinway St	NE	942.9	976.1	883.5	1,065.0	A	A	A	A
35th Av & Steinway St	SE	1,301.2	981.7	776.8	859.5	A	A	A	A
35th Av & Steinway St	SW	1,228.5	839.2	677.1	808.4	A	A	A	A
35th Av & Steinway St	NW	504.4	521.5	479.3	490.5	A	A	A	A
35th Av & 38th St	NE	510.5	513.8	487.7	549.1	A	A	A	A
35th Av & 38th St	SE	690.8	529.0	535.9	670.7	A	A	A	A
35th Av & 38th St	SW	807.7	603.1	632.4	637.8	A	A	A	A
35th Av & 38th St	NW	564.9	371.4	514.6	430.6	A	A	A	A
35th Av & 37th St	NE	340.8	342.5	362.2	422.4	A	A	A	A
35th Av & 37th St	SE	612.2	541.1	549.9	1,032.4	A	A	A	A
35th Av & 37th St	SW	337.5	580.0	574.8	916.9	A	A	A	A
35th Av & 37th St	NW	304.8	372.9	583.6	553.2	A	A	A	A
Northern Bl & 42nd St	NW	1,251.5	1,362.6	1,058.1	1,520.3	A	A	A	A
36th Av & Steinway St	NE	1,349.1	1,685.3	1,662.5	1,760.5	A	A	A	A
36th Av & Steinway St	SE	1,443.2	1,651.5	1,495.8	1,735.5	A	A	A	A
36th Av & Steinway St	NW	1,597.2	1,096.1	1,306.8	1,484.9	A	A	A	A
36th Av & 38th St	NE	1,887.2	1,349.4	1,240.0	1,244.2	A	A	A	A
36th Av & 38th St	NW	1,357.9	980.3	1,020.2	944.8	A	A	A	A
36th Av & 37th St	NE	1,378.3	1,299.9	854.7	1,101.3	A	A	A	A
36th Av & 37th St	SE	2,595.1	1,638.9	1,275.7	1,313.7	A	A	A	A
36th Av & 37th St	NW	1,597.6	1,545.5	1,406.4	1,235.2	A	A	A	A
36th Av & 36th St	NE	1,801.1	1,267.7	1,244.6	1,986.5	A	A	A	A
36th Av & 36th St	SE	1,928.2	1,257.0	1,237.8	1,942.1	A	A	A	A
36th Av & 36th St	NW	1,624.9	1,139.6	1,205.5	1,860.9	A	A	A	A
36th Av & 35th St	NE	809.3	996.0	1,003.8	1,468.7	A	A	A	A
36th Av & 35th St	NW	951.4	913.1	978.5	1,300.4	A	A	A	A
36th Av & 34th St	NE	785.2	733.8	806.4	880.5	A	A	A	A
36th Av & 34th St	NW	625.0	831.5	597.1	721.2	A	A	A	A
36th Av & 33rd St	NE	693.3	606.0	621.6	719.6	A	A	A	A
36th Av & 33rd St	NW	761.4	580.0	615.2	798.9	A	A	A	A
36th Av & 31st St	NE	890.4	1,064.1	813.8	782.5	A	A	A	A
36th Av & 31st St	SE	802.8	1,002.6	802.8	936.5	A	A	A	A
36th Av & 31st St	NW	1,210.5	2,102.8	978.9	854.4	A	A	A	A
37th Av & 36th St	NE	2,094.3	1,905.5	2,131.8	2,345.1	A	A	A	A
37th Av & 36th St	SE	2,300.9	2,582.3	2,170.7	2,170.7	A	A	A	A
Northern Bl & 37th St	SE	1,526.8	1,281.4	1,161.9	2,174.3	A	A	A	A
Northern Bl & 37th St	SW	1,185.5	1,020.4	860.6	1,849.0	A	A	A	A
36th Av & 33rd St	SE	179.0	379.0	576.6	969.7	A	A	A	A
36th Av & 33rd St	SW	172.1	282.0	532.6	757.7	A	A	A	A
Northern Bl & 42nd St	NE	2525.0	1790.0	1538.7	422.4	A	A	A	A

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

Pedestrian volumes along analyzed sidewalks, crosswalks, and corner areas are expected to increase during the 2021 through 2032 period due to background growth as well as demand from new development. In determining future No Action pedestrian volumes, development on projected development sites pursuant to the No Action RWCDS was considered, as was demand from other No Action development projects (see Table 2-1 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 13-43 shows the No Action peak hour pedestrian volumes, average pedestrian space, and platoon-adjusted levels of service at analyzed sidewalks. As shown in **Table 13-43**, all analyzed sidewalks are projected to operate at an acceptable LOS C or better in all peak hours with the exception of the south sidewalk on 36th Avenue between 32nd and 33rd streets which would operate at LOS D in the AM peak hour.

CROSSWALKS

Table 13-44 shows the peak hour volumes, average pedestrian space, and levels of service at analyzed crosswalks in the No Action condition. As shown in **Table 13-44**, all analyzed crosswalks are expected to operate at an uncongested LOS A or B in all peak hours in the No Action condition.

CORNER AREAS

Table 13-45 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 13-45**, all analyzed corner areas are expected to continue to operate at an uncongested LOS A in all peak hours.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITION)

Incremental pedestrian demand generated by the Proposed Actions by 2032 would include trips made solely by walking, as well as pedestrian trips en route to and from subway station entrances 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. To better accommodate the increased pedestrian demand, sidewalk widths on the south side of 35th Avenue from 37th Street to Steinway Street, and from 41st Street to 43rd Street, would be widened by five feet adjacent to the Applicant-controlled development sites.

As shown in **Table 13-9**, the Proposed Actions are expected to generate a net total of approximately 920 walk-only trips in the weekday AM peak hour, 3,037 in the midday peak hour, 1,786 in the PM peak hour and 1,651 in the Saturday peak hour. Persons en route to and from subway station entrances and bus stops would add approximately 2,784, 1,438, 3,155 and 2,552 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.

Table 13-43
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 SW of 42nd St btw 34th Ave and 35th Ave	2.3	64	137	119	94	318.4	194.5	280.1	279.8	B	B	B	B
East SW of 42nd St btw 35th Ave and Northern Blvd	2.6	22	37	41	37	1,300.3	673.7	747.5	927.7	A	A	A	A
South SW of 35th Ave btw 42nd St and 43rd St	2.0	44	214	160	192	223.0	110.5	124.3	88.5	B	B	B	C
West SW of 42nd St btw 35th Ave and Northern Blvd	3.1	45	137	89	102	574.5	227.7	443.9	238.9	A	B	B	B
West SW of 42nd St btw 34th Ave and 35th Ave	4.0	60	143	134	123	982.0	256.8	368.7	453.2	A	B	B	B
East SW of 41st St btw 34th Ave and 35th Ave	2.9	79	156	159	163	427.3	207.3	197.5	221.1	B	B	B	B
East SW of 41st St btw 35th Ave and 36th Ave	2.5	24	203	107	139	1,650.0	130.3	169.9	156.3	A	B	B	B
South SW of 35th Ave btw 41st St and 42nd St	5.9	75	313	206	276	525.0	218.5	313.9	155.9	B	B	B	B
West SW of 41st St btw 35th Ave and 36th Ave	2.3	9	2	6	20	1,845.3	9,226.8	3,875.2	922.6	A	A	A	A
East SW of Steinway St btw 34th Ave and 35th Ave	8.9	68	174	151	223	1,641.5	430.2	748.5	481.4	A	B	A	B
North SW of 35th Ave btw Steinway St and 41st St	10.5	181	322	254	283	725.9	407.9	510.6	446.5	A	B	B	B
East SW of Steinway St btw 35th Ave and 36th Ave	3.5	212	444	465	164	206.3	108.1	111.6	226.3	B	B	B	B
South SW of 35th Ave btw Steinway St and 41st St	6.7	158	521	515	531	381.0	131.4	161.7	118.9	B	B	B	B
West SW of Steinway St btw 35th Ave and 36th Ave	6.2	88	112	163	110	821.8	689.3	479.6	728.5	A	A	B	A
South SW of 35th Ave btw 38th St and Steinway St	11.2	134	333	396	408	924.2	308.0	370.7	242.6	A	B	B	B
West SW of Steinway St btw 34th Ave and 35th Ave	5.3	357	402	538	489	207.9	174.0	145.6	132.5	B	B	B	B
North SW of 35th Ave btw 38th St and Steinway St	3.6	403	509	474	491	107.8	85.2	108.4	90.6	B	C	B	B
North SW of 35th Ave btw 37th St and 38th St	3.1	302	324	281	291	101.2	118.5	154.2	137.1	B	B	B	B
South SW of 35th Ave btw 37th St and 38th St	5.9	219	262	320	342	256.7	279.0	278.2	216.4	B	B	B	B
North SW of Northern Blvd btw 36th Ave and 42nd St	13.5	106	223	210	198	1,573.5	699.9	794.2	637.1	A	A	A	A
North SW of 36th Ave btw 41st St and Northern Blvd	3.4	89	283	198	255	412.6	137.0	218.0	130.9	B	B	B	B
North SW of 36th Ave btw Steinway St and 41st St	7.2	51	221	135	190	1,358.4	421.3	664.5	543.9	A	B	A	A
East SW of 38th St btw 35th Ave and 36th Ave	3.3	26	59	40	44	1,584.0	636.9	849.4	643.4	A	A	A	A
North SW of 36th Ave btw 38th St and Steinway St	2.5	71	149	174	204	373.5	151.1	165.8	114.1	B	B	B	B
North SW of 36th Ave btw 37th St and 38th St	4.4	79	190	242	316	629.1	254.0	216.7	176.9	A	B	B	B
East SW of 37th St btw 35th Ave and 36th Ave	6.4	53	68	84	89	1,074.4	1,031.8	714.2	628.4	A	A	A	A
North SW of 36th Ave btw 36th St and 37th St	8.5	107	211	261	316	1,069.5	523.1	438.4	276.8	A	B	B	B
North SW of 36th Ave btw 35th St and 36th St	11.2	100	188	181	220	1,361.1	658.1	625.0	417.7	A	A	A	B
North SW of 36th Ave btw 34th St and 35th St	10.0	182	272	282	303	696.2	483.2	426.8	350.1	A	B	B	B
North SW of 36th Ave btw 33rd St and 34th St	8.7	190	242	294	380	591.9	532.7	401.1	303.0	A	A	B	B
North SW of 36th Ave btw 32nd St and 33rd St	3.3	201	279	283	284	166.2	158.3	156.1	130.1	B	B	B	B
North SW of 36th Ave btw 31st St and 32nd St	3.7	157	124	168	221	266.4	304.5	252.4	173.3	B	B	B	B
East SW of 31st St btw 36th Ave and 37th Ave	6.8	250	371	343	385	371.9	213.0	214.8	183.0	B	B	B	B
West SW of 31st St btw 35th Ave and 36th Ave	8.8	253	183	278	425	464.8	481.9	312.1	296.3	B	B	B	B
East SW of 36th St btw 37th Ave and Northern Blvd	3.8	71	40	73	60	726.2	1,092.0	423.7	586.4	A	A	B	A
South SW of Northern Blvd btw 36th St and 37th St	5.9	105	81	124	72	606.2	1,040.1	543.5	975.1	A	A	A	A
South SW of 36th Ave btw 32nd St and 33rd St	2.4	690	524	300	292	37.5	58.3	112.0	92.6	D	C	B	B
South SW of 36th Ave btw 31st St and 32nd St	4.3	313	321	339	346	138.0	91.5	190.3	186.5	B	B	B	B
North SW of 34th Ave btw 41st St and 42nd St	12.6	329	427	428	510	516.4	407.2	410.9	309.5	B	B	B	B
North SW of 34th Ave btw Steinway St and 41st St	6.2	467	504	564	586	158.5	181.7	160.6	147.8	B	B	B	B

Table 13-44
No Action Crosswalk Conditions

Intersection	Crosswalk	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
34th Av & Steinway St	East	76	371	283	350	391.6	172.2	233.0	188.9	A	A	A	A
34th Av & 41st St	East	104	183	183	181	147.4	91.6	95.6	83.6	A	A	A	A
34th Av & 42nd St	East	82	106	73	94	182.4	140.2	159.8	178.7	A	A	A	A
35th Av & 43rd St	West	33	68	64	57	532.5	98.6	285.9	383.2	A	A	A	A
35th Av & 42nd St	North	116	291	234	247	247.4	109.0	136.4	138.9	A	A	A	A
35th Av & 42nd St	East	28	132	80	100	726.4	148.5	332.7	191.8	A	A	A	A
35th Av & 42nd St	South	73	325	204	249	516.7	122.2	193.5	187.4	A	A	A	A
35th Av & 42nd St	West	49	118	102	107	427.8	143.4	213.4	216.5	A	A	A	A
35th Av & 41st St	North	131	293	242	246	291.5	108.3	133.2	131.0	A	A	A	A
35th Av & 41st St	East	44	160	137	165	318.6	68.3	96.3	64.9	A	A	A	A
35th Av & 41st St	South	90	436	292	416	338.5	83.6	168.5	91.3	A	A	A	A
35th Av & 41st St	West	60	159	139	174	239.7	78.8	103.0	66.1	A	A	A	A
35th Av & Steinway St	East	73	213	210	264	475.5	256.7	310.5	195.7	A	A	A	A
35th Av & Steinway St	South	121	354	322	351	351.4	60.1	73.7	56.7	A	A	A	B
35th Av & Steinway St	West	136	250	368	340	269.8	186.4	147.8	133.0	A	A	A	A
35th Av & 38th St	North	314	331	321	338	114.2	115.1	119.4	121.8	A	A	A	A
35th Av & 38th St	East	67	94	117	105	442.4	307.0	242.7	258.0	A	A	A	A
35th Av & 38th St	South	153	219	336	304	256.0	149.3	128.8	114.0	A	A	A	A
35th Av & 37th St	East	139	135	191	165	178.1	139.6	100.6	144.7	A	A	A	A
35th Av & 37th St	South	205	248	279	188	184.3	183.6	193.6	236.5	A	A	A	A
36th Av & Steinway St	North	67	152	125	170	327.9	154.7	219.5	139.7	A	A	A	A
36th Av & 38th St	North	64	156	130	175	453.5	206.1	235.2	208.2	A	A	A	A
36th Av & 37th St	North	93	157	219	258	479.3	304.3	210.5	186.5	A	A	A	A
36th Av & 37th St	East	37	76	94	100	374.5	234.6	151.6	126.9	A	A	A	A
36th Av & 36th St	North	95	192	210	226	619.0	225.8	220.2	177.5	A	A	A	A
36th Av & 35th St	North	109	207	206	233	462.3	221.5	219.1	179.6	A	A	A	A
36th Av & 34th St	North	167	204	270	266	249.1	58.5	184.5	142.6	A	B	A	A
36th Av & 33rd St	North	195	257	317	306	197.6	127.5	123.0	114.6	A	A	A	A
36th Av & 31st St	North	132	158	227	235	235.8	196.0	133.0	130.5	A	A	A	A
36th Av & 31st St	East	227	342	284	363	269.4	198.1	193.9	175.2	A	A	A	A
37th Av & 36th St	East	51	39	61	82	457.6	477.3	295.1	312.8	A	A	A	A
Northern Bl & 37th St	South	98	112	111	73	324.0	258.9	280.7	341.4	A	A	A	A
Northern Bl & 42nd St	North	65	220	167	176	795.7	237.8	258.0	277.5	A	A	A	A

Table 13-45
No Action Corner Conditions

Intersection	Corner	Average Pedestrian Space (ft^2/ped)				Level of Service			
		AM	MD	PM	SAT	AM	MD	PM	SAT
34th Av & Steinway St	NE	472.1	206.9	230.5	281.8	A	A	A	A
34th Av & Steinway St	SE	790.6	261.2	343.1	294.5	A	A	A	A
34th Av & Steinway St	SW	343.7	206.3	203.1	249.7	A	A	A	A
34th Av & 41st St	NE	349.5	289.3	282.3	278.2	A	A	A	A
34th Av & 41st St	SE	391.0	291.3	280.2	251.0	A	A	A	A
34th Av & 41st St	SW	309.9	264.8	231.8	223.2	A	A	A	A
34th Av & 41st St	NW	304.1	297.0	285.6	299.1	A	A	A	A
34th Av & 42nd St	NE	377.1	262.4	318.4	246.7	A	A	A	A
34th Av & 42nd St	SE	515.0	344.6	373.2	321.1	A	A	A	A
34th Av & 42nd St	SW	512.5	267.8	362.5	283.7	A	A	A	A
34th Av & 42nd St	NW	366.6	265.8	324.2	227.0	A	A	A	A
34th Av & 43rd St	SE	667.0	382.8	411.1	275.1	A	A	A	A
34th Av & 43rd St	SW	572.4	336.4	357.6	254.1	A	A	A	A
34th Av & 43rd St	NW	603.1	274.1	329.9	252.3	A	A	A	A
35th Av & 43rd St	NE	853.1	181.9	342.2	314.5	A	A	A	A
35th Av & 43rd St	SW	1,242.0	227.3	657.3	554.2	A	A	A	A
35th Av & 43rd St	NW	801.7	211.0	470.4	478.2	A	A	A	A
35th Av & 42nd St	NE	775.0	329.8	481.4	414.9	A	A	A	A
35th Av & 42nd St	SE	1,310.6	314.6	518.6	455.3	A	A	A	A
35th Av & 42nd St	SW	1,014.1	320.3	523.1	475.6	A	A	A	A
35th Av & 42nd St	NW	761.0	335.4	428.8	463.9	A	A	A	A
35th Av & 41st St	NE	828.7	284.8	369.2	308.5	A	A	A	A
35th Av & 41st St	SE	891.4	216.1	381.7	224.1	A	A	A	A
35th Av & 41st St	SW	782.5	216.4	376.2	214.7	A	A	A	A
35th Av & 41st St	NW	773.8	307.8	384.1	310.1	A	A	A	A
35th Av & Steinway St	NE	731.9	374.3	454.6	379.6	A	A	A	A
35th Av & Steinway St	SE	550.1	235.2	263.3	190.0	A	A	A	A
35th Av & Steinway St	SW	781.9	328.3	326.7	293.8	A	A	A	A
35th Av & Steinway St	NW	408.7	285.9	288.4	263.7	A	A	A	A
35th Av & 38th St	NE	448.6	413.8	379.9	396.5	A	A	A	A
35th Av & 38th St	SE	585.2	366.6	327.9	315.3	A	A	A	A
35th Av & 38th St	SW	643.8	407.1	355.6	308.7	A	A	A	A
35th Av & 38th St	NW	475.8	305.5	378.2	306.0	A	A	A	A
35th Av & 37th St	NE	260.5	248.0	238.0	244.3	A	A	A	A
35th Av & 37th St	SE	463.1	381.9	354.8	462.4	A	A	A	A
35th Av & 37th St	SW	305.9	470.9	468.2	608.4	A	A	A	A
35th Av & 37th St	NW	268.9	312.7	444.2	390.7	A	A	A	A
Northern Bl & 42nd St	NW	1,111.6	553.5	628.7	594.2	A	A	A	A
36th Av & Steinway St	NE	1,109.1	772.2	931.2	701.2	A	A	A	A
36th Av & Steinway St	SE	1,194.7	968.5	991.1	949.5	A	A	A	A
36th Av & Steinway St	NW	1,376.8	689.3	894.1	751.1	A	A	A	A
36th Av & 38th St	NE	1,701.2	815.7	852.4	745.1	A	A	A	A
36th Av & 38th St	NW	984.1	512.0	419.7	350.3	A	A	A	A
36th Av & 37th St	NE	765.1	489.6	326.9	283.6	A	A	A	A
36th Av & 37th St	SE	1,666.2	839.7	685.4	573.1	A	A	A	A
36th Av & 37th St	NW	1,104.0	843.8	668.1	532.6	A	A	A	A
36th Av & 36th St	NE	1,161.9	577.8	563.3	474.3	A	A	A	A
36th Av & 36th St	SE	1,286.7	673.2	724.9	753.1	A	A	A	A
36th Av & 36th St	NW	1,261.6	572.6	610.6	550.4	A	A	A	A
36th Av & 35th St	NE	635.1	443.3	444.0	390.4	A	A	A	A
36th Av & 35th St	NW	778.7	509.1	527.4	486.9	A	A	A	A
36th Av & 34th St	NE	636.5	183.3	497.2	406.8	A	A	A	A
36th Av & 34th St	NW	555.8	214.4	447.9	416.6	A	A	A	A
36th Av & 33rd St	NE	615.5	450.6	450.4	421.2	A	A	A	A
36th Av & 33rd St	NW	630.4	355.1	417.4	430.4	A	A	A	A
36th Av & 31st St	NE	683.4	550.6	476.7	435.2	A	A	A	A
36th Av & 31st St	SE	674.3	617.8	556.3	581.9	A	A	A	A
36th Av & 31st St	NW	984.4	1,045.0	708.1	616.7	A	A	A	A
37th Av & 36th St	NE	1,375.6	772.6	954.9	903.5	A	A	A	A
37th Av & 36th St	SE	1,457.4	964.7	930.5	912.7	A	A	A	A
Northern Bl & 37th St	SE	1,357.5	1,079.5	908.6	1,138.8	A	A	A	A
Northern Bl & 37th St	SW	1,088.9	904.9	743.0	1,214.3	A	A	A	A
36th Av & 33rd St	SE	160.7	235.7	377.3	529.3	A	A	A	A
36th Av & 33rd St	SW	151.5	168.95	323.7	402.2	A	A	A	A
Northern Bl & 42nd St	NE	1731.2	635.4	780.9	668.6	A	A	A	A

Anticipated conditions and significant adverse impacts at analyzed sidewalks, crosswalks, and corner areas in the With Action condition are shown in **Tables 13-46 through 13-48**. As discussed below, only three sidewalks out of the 40 analyzed and only two crosswalks out of the 33 analyzed would be impacted in one or more peak hours, and there would be no impacts to any analyzed corner areas. Potential mitigation for these sidewalk and crosswalk impacts are discussed in Chapter 20, "Mitigation."

SIDEWALKS

Table 13-46 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 13-46** 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 13-17**. As shown in **Table 13-46**, there would be significant adverse impacts at only three of the 40 analyzed sidewalks in one or more peak hours. These would include:

- The north sidewalk on 36th Avenue between 38th Street and Steinway Street in all analyzed peak hours;
- The north sidewalk of 36th Avenue between 32nd Street and 33rd Street in the weekday AM peak hour; and
- The south sidewalk of 36th Avenue between 32nd Street and 33rd Street in the weekday AM peak hour.

CROSSWALKS

Table 13-47 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. As shown in **Table 13-47**, based on the *CEQR Technical Manual* criteria shown in **Table 13-18**, there would be significant adverse impacts at only two of the 33 analyzed crosswalks in one or more peak hours as result of the Proposed Actions. These would include:

- The east crosswalk on 35th Avenue at 41st Street in the weekday midday peak hour; and
- The south crosswalk on 35th Avenue at Steinway Street in the Saturday peak hour.

CORNER AREAS

Table 13-48 shows the total With Action pedestrian volumes, average pedestrian space, and levels of service at analyzed corner areas. As shown in **Table 13-48**, based on the *CEQR Technical Manual* criteria shown in **Table 13-18**, all analyzed corner areas are expected to continue to operate at an uncongested LOS AC in all peak hours. Therefore, there would be no significant adverse impacts to any analyzed corner area in any peak hour as a result of the Proposed Actions.

Table 13-46
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 SW of 42nd St btw 34th Ave and 35th Ave	2.3	320	373	450	352	384	510	569	446	52.1	51.3	57.7	58.1	C	C	C	C
East SW of 42nd St btw 35th Ave and Northern Blvd	9.2	329	361	286	242	351	398	327	279	289.5	222.4	333.0	437.2	B	B	B	B
South SW of 35th Ave btw 42nd St and 43rd St	2.0	49	275	107	121	93	489	267	313	105.1	47.5	74.0	53.7	B	C	C	C
West SW of 42nd St btw 35th Ave and Northern Blvd	6.9	187	710	479	555	232	847	568	657	250.2	82.2	156.0	82.8	B	C	B	C
West SW of 42nd St btw 34th Ave and 35th Ave	4.0	55	252	150	155	115	395	284	278	512.3	92.5	173.7	200.3	B	B	B	B
East SW of 41st St btw 34th Ave and 35th Ave	2.9	61	249	143	129	140	405	302	292	240.9	79.3	103.6	123.1	B	C	B	B
East SW of 41st St btw 35th Ave and 36th Ave	9.3	307	364	548	547	331	567	655	686	442.5	172.8	102.4	117.0	B	B	B	B
South SW of 35th Ave btw 41st St and 42nd St	15.4	107	453	293	302	182	766	499	578	563.6	232.5	337.6	194.1	A	B	B	B
West SW of 41st St btw 35th Ave and 36th Ave	5.3	186	367	255	272	195	369	261	292	191.6	112.2	200.5	142.0	B	B	B	B
East SW of Steinway St btw 34th Ave and 35th Ave	8.9	340	355	515	498	408	529	666	721	273.4	141.2	169.4	148.6	B	B	B	B
North SW of 35th Ave btw Steinway St and 41st St	10.5	158	253	307	284	339	575	561	567	387.4	228.3	231.0	222.7	B	B	B	B
East SW of Steinway St btw 35th Ave and 36th Ave	7.1	216	537	448	429	428	981	913	593	206.7	98.9	115.0	126.3	B	B	B	B
South SW of 35th Ave btw Steinway St and 41st St	6.7	399	508	559	636	557	1029	1074	1167	107.6	65.9	77.0	53.3	B	C	C	C
West SW of Steinway St btw 35th Ave and 36th Ave	6.2	252	119	256	225	340	231	419	335	212.5	334.1	186.3	239.0	B	B	B	B
South SW of 35th Ave btw 38th St and Steinway St	16.4	187	364	270	295	321	697	666	703	567.1	216.2	324.0	206.9	A	B	B	B
West SW of Steinway St btw 34th Ave and 35th Ave	5.3	808	384	846	643	1165	786	1384	1132	62.9	88.5	55.8	56.5	C	C	C	C
North SW of 35th Ave btw 38th St and Steinway St	3.6	329	245	384	238	732	754	858	729	58.7	57.0	59.2	60.6	C	C	C	C
North SW of 35th Ave btw 37th St and 38th St	3.1	354	312	474	367	656	636	755	658	45.7	59.7	56.6	59.9	C	C	C	C
South SW of 35th Ave btw 37th St and 38th St	6.3	96	393	147	132	315	655	467	474	188.3	117.4	201.1	164.7	B	B	B	B
North SW of Northern Blvd btw 36th Ave and 42nd St	13.5	342	294	401	343	448	517	611	541	372.2	301.8	272.8	233.0	B	B	B	B
North SW of 36th Ave btw 41st St and Northern Blvd	11.2	332	390	448	411	421	673	646	666	285.3	188.8	218.7	164.2	B	B	B	B
North SW of 36th Ave btw Steinway St and 41st St	13.8	636	863	912	947	687	1084	1047	1137	193.1	164.4	164.0	174.0	B	B	B	B
East SW of 38th St btw 35th Ave and 36th Ave	3.3	92	206	177	180	118	265	217	224	348.9	141.4	156.2	126.0	B	B	B	B
North SW of 36th Ave btw 38th St and Steinway St	2.5	871	595	1027	922	942	744	1201	1126	26.2	28.5	21.8	18.1	D *	D *	E *	E *
North SW of 36th Ave btw 37th St and 38th St	4.4	892	582	957	848	971	772	1199	1164	50.1	61.7	42.6	47.0	C	C	C	C
East SW of 37th St btw 35th Ave and 36th Ave	6.4	441	446	495	265	494	514	579	354	114.8	136.1	103.1	157.7	B	B	B	B
North SW of 36th Ave btw 36th St and 37th St	8.5	1152	692	1235	1036	1259	903	1496	1352	90.3	121.8	75.8	63.9	B	B	C	C
North SW of 36th Ave btw 35th St and 36th St	11.2	973	574	1094	905	1073	762	1275	1125	126.4	162.1	88.1	81.0	B	B	C	C
North SW of 36th Ave btw 34th St and 35th St	10.0	973	574	1094	905	1155	846	1376	1208	109.2	155.1	86.9	87.2	B	B	C	C
North SW of 36th Ave btw 33rd St and 34th St	8.7	973	574	1094	905	1163	816	1388	1285	96.2	157.7	84.4	89.1	B	B	C	C
North SW of 36th Ave btw 32nd St and 33rd St	3.3	907	522	948	801	1108	801	1231	1085	28.4	54.3	34.5	32.6	D *	C	D	D
North SW of 36th Ave btw 31st St and 32nd St	3.7	907	522	948	801	1064	646	1116	1022	38.0	57.6	36.6	36.1	D	C	D	D
East SW of 31st St btw 36th Ave and 37th Ave	6.8	627	317	760	609	877	688	1103	994	105.6	114.5	66.1	70.2	B	B	C	C
West SW of 31st St btw 35th Ave and 36th Ave	8.8	326	140	304	262	579	323	582	687	202.9	272.9	148.8	183.1	B	B	B	B
East SW of 36th St btw 37th Ave and Northern Blvd	3.8	236	79	152	151	307	119	225	211	167.6	366.9	137.1	166.4	B	B	B	B
South SW of Northern Blvd btw 36th St and 37th St	5.9	104	77	225	145	209	158	349	217	304.4	533.1	192.8	323.4	B	A	B	B
South SW of 36th Ave btw 32nd St and 33rd St	2.4	122	185	263	207	812	709	563	499	31.4	42.6	59.0	53.5	D *	C	C	C
South SW of 36th Ave btw 31st St and 32nd St	4.3	122	185	263	207	435	506	602	553	99.0	57.5	106.8	116.4	B	C	B	B
North SW of 34th Ave btw 41st St and 42nd St	12.6	184	146	221	158	513	573	649	668	331.1	303.3	270.9	236.2	B	B	B	B
North SW of 34th Ave btw Steinway St and 41st St	6.2	181	158	226	172	648	662	790	758	114.0	138.2	114.4	114.1	B	B	B	B

Table 13-47
With Action Crosswalk Conditions

Intersection	Crosswalk	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
34th Av & Steinway St	East	475	402	670	608	551	773	953	958	58.8	81.5	66.6	66.9	B	A	A	A
34th Av & 41st St	East	58	248	140	125	162	431	323	306	93.6	37.9	53.2	48.7	A	C	B	B
34th Av & 42nd St	East	186	313	294	254	268	419	367	348	52.8	34.0	30.3	47.0	B	C	C	B
35th Av & 43rd St	West	66	199	113	133	99	267	177	190	167.3	78.9	98.5	108.7	A	A	A	A
35th Av & 42nd St	North	34	96	58	48	150	387	292	295	190.7	81.3	109.0	115.8	A	A	A	A
35th Av & 42nd St	East	342	474	512	422	370	606	592	522	52.5	30.5	43.4	35.2	B	C	B	C
35th Av & 42nd St	South	98	440	253	287	171	765	457	536	209.9	47.4	78.6	79.7	A	B	A	A
35th Av & 42nd St	West	109	267	164	189	158	385	266	296	126.6	42.5	81.6	78.1	A	B	A	A
35th Av & 41st St	North	171	252	318	281	302	545	560	527	123.7	56.7	56.5	61.7	A	B	B	A
35th Av & 41st St	East	121	392	364	305	165	552	501	470	79.3	19.0	25.6	22.6	A	D *	C	D
35th Av & 41st St	South	283	539	499	530	373	975	791	946	78.5	35.5	60.3	38.6	A	C	A	C
35th Av & 41st St	West	63	220	148	125	123	379	287	299	107.5	30.3	43.5	33.2	A	C	B	C
35th Av & Steinway St	East	241	260	331	340	314	473	541	604	115.3	111.8	116.4	81.7	A	A	A	A
35th Av & Steinway St	South	370	498	526	508	491	852	848	859	77.8	22.6	24.0	19.1	A	D	D	D *
35th Av & Steinway St	West	539	340	568	481	675	590	936	821	46.6	77.3	55.7	54.7	B	A	B	B
35th Av & 38th St	North	376	352	486	371	690	683	807	709	48.8	53.7	46.6	56.2	B	B	B	B
35th Av & 38th St	East	122	283	212	213	189	377	329	318	154.7	74.4	83.2	82.0	A	A	A	A
35th Av & 38th St	South	102	207	63	6	255	426	399	310	148.1	75.1	110.8	123.8	A	A	A	A
35th Av & 37th St	East	363	256	397	228	502	391	588	393	47.1	47.7	31.7	63.7	B	B	C	A
35th Av & 37th St	South	84	213	123	92	289	461	402	280	129.8	99.3	133.4	159.1	A	A	A	A
36th Av & Steinway St	North	702	515	835	754	769	667	960	924	24.1	32.4	25.9	23.4	C	C	C	D
36th Av & 38th St	North	909	619	1065	968	973	775	1195	1143	26.2	38.9	22.9	29.2	C	C	D	C
36th Av & 37th St	North	1152	692	1235	1036	1245	849	1454	1294	33.5	52.6	28.6	34.5	C	B	C	C
36th Av & 37th St	East	51	94	83	44	88	170	177	144	154.1	104.7	80.1	87.1	A	A	A	A
36th Av & 36th St	North	973	574	1094	905	1068	766	1304	1131	50.9	54.5	32.6	33.0	B	B	C	C
36th Av & 35th St	North	973	574	1094	905	1082	781	1300	1138	41.7	56.0	32.4	34.4	B	B	C	C
36th Av & 34th St	North	973	574	1094	905	1140	778	1364	1171	33.4	52.4	34.0	29.9	C	B	C	C
36th Av & 33rd St	North	951	556	1045	870	1146	813	1362	1176	31.6	38.3	26.6	27.9	C	C	C	C
36th Av & 31st St	North	364	266	377	330	496	424	604	565	59.8	72.4	48.1	52.9	B	A	B	B
36th Av & 31st St	East	542	256	571	471	769	598	855	834	77.9	111.8	62.3	74.1	A	A	A	A
37th Av & 36th St	East	255	116	178	175	306	155	239	257	70.9	115.9	74.9	100.2	A	A	A	A
Northern Bl & 37th St	South	104	77	225	145	202	189	336	218	153.6	152.1	92.1	109.8	A	A	A	A
Northern Bl & 42nd St	North	260	198	290	228	325	418	457	404	149.4	121.6	101.2	116.6	A	A	A	A

Table 13-48
With Action Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
34th Av & Steinway St	C1	NE	195.6	136.1	127.4	149.6	A	A	A	A
34th Av & Steinway St	C2	SE	231.7	164.8	162.7	156.7	A	A	A	A
34th Av & Steinway St	C3	SW	314.1	170.5	178.5	224.4	A	A	A	A
34th Av & 41st St	C4	NE	229.4	168.8	180.4	183.5	A	A	A	A
34th Av & 41st St	C5	SE	247.6	176.6	183.7	178.0	A	A	A	A
34th Av & 41st St	C6	SW	213.0	182.6	161.5	167.2	A	A	A	A
34th Av & 41st St	C7	NW	220.0	201.0	192.1	209.1	A	A	A	A
34th Av & 42nd St	C8	NE	193.8	149.2	140.1	148.6	A	A	A	A
34th Av & 42nd St	C9	SE	241.4	166.1	159.1	182.9	A	A	A	A
34th Av & 42nd St	C10	SW	310.4	152.7	220.5	194.2	A	A	A	A
34th Av & 42nd St	C11	NW	233.6	156.3	190.4	156.5	A	A	A	A
34th Av & 43rd St	C12	SE	528.4	260.1	333.0	226.4	A	A	A	A
34th Av & 43rd St	C13	SW	426.2	200.1	252.9	189.8	A	A	A	A
34th Av & 43rd St	C14	NW	467.5	183.3	242.8	195.9	A	A	A	A
35th Av & 43rd St	C15	NE	592.2	329.7	266.2	248.3	A	A	A	A
35th Av & 43rd St	C16	SW	569.2	249.1	328.8	281.4	A	A	A	A
35th Av & 43rd St	C17	NW	460.7	235.4	272.9	282.6	A	A	A	A
35th Av & 42nd St	C18	NE	243.0	136.0	188.3	166.2	A	A	A	A
35th Av & 42nd St	C19	SE	300.2	120.9	200.7	181.4	A	A	A	A
35th Av & 42nd St	C20	SW	456.8	125.5	220.8	179.5	A	A	A	A
35th Av & 42nd St	C21	NW	417.9	167.4	261.7	274.2	A	A	A	A
35th Av & 41st St	C22	NE	324.5	113.5	135.6	130.4	A	A	A	A
35th Av & 41st St	C23	SE	270.6	103.6	155.3	117.2	A	A	A	A
35th Av & 41st St	C24	SW	227.6	98.7	145.0	108.5	A	A	A	A
35th Av & 41st St	C25	NW	379.8	150.1	178.5	165.3	A	A	A	A
35th Av & Steinway St	C26	NE	360.1	224.1	254.7	184.5	A	A	A	A
35th Av & Steinway St	C27	SE	175.4	107.5	115.0	87.0	A	A	A	A
35th Av & Steinway St	C28	SW	227.5	179.3	164.2	154.1	A	A	A	A
35th Av & Steinway St	C29	NW	153.5	161.3	131.3	130.5	A	A	A	A
35th Av & 38th St	C30	NE	193.6	166.5	156.8	176.3	A	A	A	A
35th Av & 38th St	C31	SE	360.4	174.2	233.3	246.1	A	A	A	A
35th Av & 38th St	C32	SW	514.1	274.7	395.2	395.7	A	A	A	A
35th Av & 38th St	C33	NW	214.5	168.3	186.2	192.9	A	A	A	A
35th Av & 37th St	C34	NE	135.8	124.9	112.7	153.2	A	A	A	A
35th Av & 37th St	C35	SE	258.3	200.0	200.2	315.3	A	A	A	A
35th Av & 37th St	C36	SW	253.2	281.0	353.7	452.0	A	A	A	A
35th Av & 37th St	C37	NW	231.6	222.7	339.0	318.7	A	A	A	A
Northern Bl & 42nd St	C38	NW	362.4	286.6	251.9	249.1	A	A	A	A
36th Av & Steinway St	C39	NE	171.3	200.4	181.3	162.3	A	A	A	A
36th Av & Steinway St	C40	SE	827.8	433.2	505.6	534.5	A	A	A	A
36th Av & Steinway St	C42	NW	212.7	238.2	202.3	192.9	A	A	A	A
36th Av & 38th St	C43	NE	147.8	200.3	124.7	151.9	A	A	A	A
36th Av & 38th St	C44	NW	123.5	162.5	102.3	124.4	A	A	A	A
36th Av & 37th St	C45	NE	82.6	111.4	64.9	74.7	A	A	A	A
36th Av & 37th St	C46	SE	739.8	392.6	371.3	363.5	A	A	A	A
36th Av & 37th St	C47	NW	144.4	207.4	120.3	136.9	A	A	A	A
36th Av & 36th St	C48	NE	149.6	166.0	108.1	105.8	A	A	A	A
36th Av & 36th St	C49	SE	489.7	343.4	373.7	364.2	A	A	A	A
36th Av & 36th St	C50	NW	177.9	179.3	115.3	118.5	A	A	A	A
36th Av & 35th St	C51	NE	94.5	127.6	77.7	81.0	A	A	A	A
36th Av & 35th St	C52	NW	143.2	177.1	110.3	117.7	A	A	A	A
36th Av & 34th St	C53	NE	126.9	168.7	128.4	112.9	A	A	A	A
36th Av & 34th St	C54	NW	130.9	195.0	128.1	118.4	A	A	A	A
36th Av & 33rd St	C55	NE	131.8	161.7	114.6	117.0	A	A	A	A
36th Av & 33rd St	C56	NW	160.4	163.7	127.9	139.9	A	A	A	A
36th Av & 31st St	C57	NE	193.9	266.5	163.8	184.1	A	A	A	A
36th Av & 31st St	C58	SE	353.6	402.4	279.6	319.5	A	A	A	A
36th Av & 31st St	C59	NW	551.4	651.7	441.8	424.5	A	A	A	A
37th Av & 36th St	C60	NE	424.8	342.5	380.9	435.2	A	A	A	A
37th Av & 36th St	C61	SE	437.2	405.3	375.7	445.6	A	A	A	A
Northern Bl & 37th St	C62	SE	601.0	659.3	362.5	485.1	A	A	A	A
Northern Bl & 37th St	C63	SW	611.5	607.0	347.8	490.2	A	A	A	A
36th Av & 33rd St	C64	SE	141.2	178.0	249.7	331.7	A	A	A	A
36th Av & 33rd St	C65	SW	131.3	133.4	209.8	278.9	A	A	A	A
Northern Bl & 42nd St	C66	NE	446.3	345.4	295.6	320.0	A	A	A	A

J. STREET USER 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 released in 2015 and a *Boroughs Pedestrian Safety Action Plan Update* was released in 2019. The plans define areas where safety issues have been found to occur systematically at an area-wide level as Priority Areas. Based on the 2019 update, the Project Area is located within a Priority Area, and Northern Boulevard, Queens Boulevard, 34th Avenue, and Broadway are identified as Priority Corridors.

Actions recommended in the 2015 *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 update.

Engineering and Planning

- Implement at least 50 Vision Zero safety engineering improvements annually 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). The data quantify the total number of reportable and non-reportable crashes (reportable crashes are those involving a fatality, injury, or more than $1,000 in property damage), as well as the total number of crashes involving injuries to pedestrians or bicyclists. During the three-year reporting period, a total of 794 reportable and non-reportable crashes, 101 pedestrian/bicyclist-related injury crashes and two fatalities occurred at study area intersections. **Table 13-49** provides a summary of these crashes by year and location, including a breakdown of pedestrian and bicycle crashes.

According to the *CEQR Technical Manual*, a high crash location is one where there were 48 or more reportable and non-reportable crashes or five or more pedestrian/bicyclist-related crashes in any consecutive 12 months within the most recent three-year period for which data are available. As shown in **Table 13-49**, no study area intersections experienced 48 or more reportable and non-reportable crashes within a consecutive 12-month period during the 2017 to 2019 period. However, the intersection of Northern Boulevard and 43rd Street/42nd Place experienced five pedestrian/bicyclist-related crashes in 2017, and the intersection of Northern Boulevard and 39th Street/Steinway Street experienced five pedestrian/bicyclist-related crashes in 2019. Both are therefore considered high crash locations and discussed below.

NORTHERN BOULEVARD AND 43RD STREET/42ND PLACE

A total of four pedestrian injury crashes and one bicycle injury crash occurred at this intersection in 2017. No pedestrian or bicycle-related crashes were reported in 2018, and only two bicycle-related crashes occurred at this intersection in 2019. Geometric and operational characteristics affecting safety at this intersection likely include high traffic volumes, an irregular geometry (43rd Street and 42nd Place are offset), and a relatively long (approximately 95-foot) pedestrian crossing distance on Northern Boulevard. In the high-crash year of 2017, high-visibility crosswalks were in place on the crossings of Northern Boulevard, while standard crosswalks were in place on the crossings of 43rd Street and 42nd Place. Pedestrian signals with countdown clocks were also in place at all four crosswalks at this intersection. Subsequently, in 2018, high visibility crosswalks were installed on 43rd Street and on 42nd Place, and a new restriction on trucks turning from Northern Boulevard onto 42nd Place (except for local deliveries) was implemented. These operational changes likely contributed to the fact that there were no pedestrian or bicycle injury crashes reported in 2018 and only two bicycle injury crashes in 2019. It should also be noted that in 2020, new striped bicycle lanes marked by delineator posts were installed along each curb on Northern Boulevard.

NORTHERN BOULEVARD AND 39TH STREET/STEINWAY STREET

A total of four pedestrian injury crashes and one bicycle injury crash occurred at this intersection in 2019. Only two pedestrian crashes occurred at this intersection in 2017, and only one bicycle-

related crash occurred at this intersection in 2018. The increase in crashes in 2019 compared to earlier years may have been due in part to construction activity, including sidewalk and lane closures, associated with a new development at the northwest corner of the intersection. In addition to the construction-related sidewalk and lane closures, geometric and operational characteristics affecting safety at this intersection likely include high traffic volumes, an irregular geometry (39th Street and Steinway Street are slightly offset), and relatively long pedestrian crossing distances on Northern Boulevard (approximately 105 feet on the west crosswalk and 125 feet on the east crosswalk). High-visibility crosswalks and pedestrian signals with countdown clocks have already been installed on all crossings at this intersection, and a striped bicycle lane is in place along the west curb on 39th Street. It should also be noted that in 2020, new striped bicycle lanes marked by delineator posts were installed along each curb on Northern Boulevard.

Table 13-49
Summary of Motor Vehicle 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
Northern Blvd	41st Ave / Queens Plaza E.	0	0	0	0	0	0	0	0	0	0	0	0
	40th Rd	2	0	0	0	0	0	2	0	0	6	4	7
	31st St / 40th Ave	0	0	0	0	0	0	0	0	0	5	17	11
	39th Ave / Honeywell St	1	0	0	0	1	1	1	1	1	9	10	11
	34th St	2	2	0	0	0	2	2	2	2	4	7	4
	35th St / 38th Ave	1	0	0	0	0	0	1	0	0	4	5	7
	36th St	1	0	1	0	0	0	1	0	1	1	2	3
	37th St / 37th Ave	0	0	0	0	1	0	0	1	0	2	6	3
	38th St	0	0	0	0	0	0	0	0	0	1	0	1
	39th St / Steinway St	2	0	4	0	1	1	2	1	**5**	23	17	19
	41st St	0	0	0	0	1	0	0	1	0	4	6	6
	36th Ave	0	0	0	1	0	0	1	0	0	4	3	2
	42nd St	0	0	0	1	0	1	1	0	1	3	2	4
	43rd St / 42nd Pl	4	0	0	1	0	2	**5**	**0**	2	15	14	13
	44th St / 35th Ave	0	0	0	0	0	0	0	0	0	2	5	9
	46th St	0	0	0	0	0	0	0	0	0	0	2	2
	48th St / 34th Ave	1	0	2	0	1	2	1	1	4	7	16	21
	51st St / Woodside Ave	1	1	0	0	1	1	1	2	1	13	20	16
	Newtown Rd / Woodside Ave	0	0	0	0	0	0	0	0	0	1	3	1
34th Ave	38th St	1	0	1	0	1	0	1	1	1	1	4	5
	Steinway St	1	2	0	3	1	2	4	3	2	8	18	12
	41st St	1	0	0	1	0	0	2	0	0	4	6	1
	42nd St	0	0	0	0	0	0	0	0	0	2	2	2
	43rd St	0	0	1	1	0	0	1	0	1	1	4	3
35th Ave	36th St	1	0	0	0	0	0	1	0	0	2	1	2
	37th St	0	0	0	0	0	0	0	0	0	1	4	0
	38th St	0	0	0	0	0	0	0	0	0	2	3	0
	Steinway St	1	0	3	0	0	0	1	0	3	6	6	12
	41st St	0	0	0	0	0	0	0	0	0	0	2	1
	42nd St	0	0	0	0	0	0	0	0	0	0	0	5
	43rd St	0	0	0	0	0	0	0	0	0	1	2	1
36th Ave	31st St	1	0	1	0	0	0	1	0	1	3	6	7
	32nd St	0	2	0	0	0	0	0	2	0	1	6	0
	33rd St	2	1	2	0	1	0	2	2	2	4	3	5
	34th St	0	0	0	0	0	0	0	0	0	3	2	1
	35th St	0	0	1	0	0	0	0	0	1	0	7	4
	36th St	0	0	0	0	0	0	0	0	0	0	1	1
	37th St	0	0	0	0	0	0	0	0	0	1	1	0
	38th St	0	1	0	0	0	0	0	1	0	1	1	1
	Steinway St	0	1	0	1	0	0	1	1	0	2	4	9
	41st St	1	0	0	0	0	0	1	0	0	1	2	4
Greenpoint Ave	38th St	0	1	0	1	0	0	1	1	0	3	1	0
	39th St / 50th Ave	1	0	0	0	1	1	1	1	1	1	3	2
	Borden Ave	0	0	1	1	0	2	1	0	3	21	29	32
	Hunters Point Ave	0	0	0	1	0	1	1	0	1	14	18	11
39th St	43rd Ave	1	0	1	1	0	1	2	0	2	8	5	5
	51st Ave / Hunters Point Ave	0	0	0	0	0	0	0	0	0	0	4	1
	Skillman Ave	0	1	0	1	1	0	1	2	0	2	9	4
36th St	37th Ave	0	0	0	1	0	0	1	0	0	4	4	2
38th St	Hunters Point Ave	0	0	0	0	0	0	0	0	0	1	6	6
43rd St	Broadway	1	0	0	1	0	0	2	0	0	5	2	3

5 Denotes a high crash location based on CEQR Technical Manual criteria.

K. PARKING

Parking demand forecasts were prepared to determine if the on-site accessory parking provided under the Proposed Actions' RWCDS would be sufficient to accommodate all of the projected demand for both a typical weekday and a typical Saturday. **Tables 13-50 and 13-51** show forecasts of the total parking demand for the Proposed Development (Projected Development Sites A through E) on a weekday and Saturday, respectively, while **Tables 13-52 and 13-53** show similar forecasts for the Additional Affected Area (Sites F through K). **Tables 13-54 and 13-55** show the total weekday and Saturday parking demand generated at the Projected Development Site (Sites A through K) under the Proposed Actions' RWCDS. The hourly parking patterns used to estimate parking demand from the office, daycare, and community center uses were based on data from the 2016 *East New York Rezoning FEIS*. The hourly parking patterns used to generate the parking demand for the medical office use were based on data from the New York City Department of City Planning (NYCDCP). The parking patterns used to estimate the parking demand for the performing arts center use were based on data from the 2019 *Industry City DEIS*, and the parking patterns used to for PCE use were based on data from the 2018 *Spofford FEIS*. Parking patterns from the 2014 *Astoria Cove FEIS* were used to estimate the parking demand from the Proposed Development's residential, local retail, and supermarket uses. As the Proposed Development's residential component is expected to be comprised of rental units, 2015–2019 ACS auto ownership data for rental households in Queens census tracts 51, 55, 57, 59, 155, 157 and 159 were used to estimate residential overnight parking demand. Accordingly, an auto ownership rate of 0.38 autos per household was utilized for the residential component.

Lastly, the parking patterns used to estimate the parking demand for the cinema use were based on data from the April 2019 Astoria Kaufman Cinema parking study. With regard to the cinema use, it is important to note that the travel and parking demand forecasts assume full occupancy of all seats. However, multiplex cinemas typically operate at substantially lower occupancy levels. Even when blockbuster movies are released (typically five to seven times per year), total occupancy will generally not exceed 60 percent, even on opening weekend, as the hit movie will not be showing on all of the screens at the cinema. The parking demand forecast should therefore be considered very conservative with respect to cinema demand.

As shown in **Tables 13-50 and 13-51**, parking demand from office, retail and community facility uses typically peaks in the midday period and declines during the late afternoon and evening. By contrast, parking demand from residential uses peaks overnight. Therefore, some of the spaces used by residents would be available to accommodate commercial and community facility demand during daytime hours. Overall, as shown in **Table 13-50**, weekday parking demand from the Proposed Development would peak at approximately 1,431 spaces from 8:00 p.m. to 9:00 p.m. (conservatively assuming the cinema would be operating at 100 percent capacity), primarily due to the overlapping of residential and cinema demand. As the Kaufman Astoria Studios have a prior agreement with the Astoria Kaufman cinema to reserve 150 parking spaces of the cinema parking for its employees from 5:30 a.m. to 6:30 p.m. on weekdays, the agreement is expected to be continue with the Proposed Development. The Kaufman Astoria Studios' employees parking pattern is assumed to be similar to an office parking pattern, which peaks in the midday. Conservatively assuming that all 150 spaces would be occupied by the Kaufman Astoria Studios' employees during the weekday midday period, the weekday midday parking demand would peak at approximately 1,216 occupied spaces from 2:00 p.m. to 3:00 p.m. and would not exceed the Proposed Developments' peak weekday parking demand of 1,431 spaces.

Table 13-50
Total Weekday Hourly Parking Accumulation for the Proposed Development (Sites A-E)

	Residential 2,843 DUs			Local Retail 74,930 gsf			Office 250,070 gsf			Cinema 3,500 seats			Community Center 70,820 gsf			Supermarket 30,000 gsf			Medical Office 5,000 gsf			Daycare (Staff) 10,000 gsf			PCE (Physical Cultural Establishment) 30,000 gsf			Arts and Cultural Center 21,900 gsf			Total Accum.
	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	
12-1 AM	5	5	1082	0	0	0	0	0	0	0	29	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1083
1-2	5	5	1082	0	0	0	0	0	0	11	3	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1091
2-3	5	5	1082	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1091
3-4	5	5	1082	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1091
4-5	5	5	1082	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1091
5-6	9	28	1063	0	0	0	0	0	0	6	10	5	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1068
6-7	24	82	1005	0	0	0	0	0	0	9	0	14	0	0	0	7	2	5	0	0	0	0	0	0	0	0	0	0	0	0	1024
7-8	28	84	949	1	0	1	4	0	4	15	10	19	2	1	1	9	5	9	0	0	0	2	0	2	2	0	2	2	0	2	989
8-9	55	218	786	14	14	1	65	4	65	24	1	42	6	3	4	13	9	13	3	3	0	5	0	7	2	2	2	5	4	3	923
9-10	49	78	757	14	8	7	58	7	116	16	13	45	6	6	4	16	9	20	4	2	2	2	0	9	1	3	0	29	3	29	989
10-11	49	83	723	32	19	20	9	6	119	37	13	69	4	4	4	17	13	24	4	2	4	0	0	9	1	1	0	21	4	46	1018
11-12	52	72	703	33	31	22	4	14	109	45	13	101	4	5	3	18	18	24	3	5	2	1	0	10	1	1	0	8	23	31	1005
12-1 PM	69	69	703	86	86	22	6	8	107	48	29	120	5	5	3	13	13	24	3	3	2	1	1	10	2	2	0	5	26	10	1001
1-2	70	71	702	44	38	28	5	4	108	45	42	123	5	5	3	20	24	20	4	3	3	0	1	9	3	2	1	27	5	32	1029
2-3	72	69	705	44	29	43	22	6	124	36	48	111	4	2	5	22	27	15	4	3	4	0	0	9	2	1	2	22	6	48	1066
3-4	103	63	745	33	33	43	6	8	122	60	92	79	3	2	6	21	27	9	4	3	5	0	1	8	2	2	2	16	10	54	1073
4-5	177	101	821	38	38	43	6	42	86	92	59	112	3	7	2	22	21	10	4	5	4	1	3	6	2	3	1	10	15	49	1134
5-6	194	105	910	45	45	43	4	76	14	110	93	129	6	6	2	22	21	11	2	3	3	0	5	1	2	2	1	2	29	22	1136
6-7	138	69	979	24	41	26	2	14	2	142	118	153	5	6	1	11	11	11	0	3	0	0	1	0	1	2	0	3	25	0	1172
7-8	124	55	1048	22	39	9	0	2	0	175	88	240	2	2	1	4	7	8	0	0	0	0	0	0	1	1	0	0	0	0	1306
8-9	74	42	1080	15	23	1	0	0	0	150	46	344	1	2	0	2	4	6	0	0	0	0	0	0	1	1	0	0	0	0	**1431**
9-10	23	27	1076	9	9	1	0	0	0	97	224	217	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	1296
10-11	16	15	1077	0	1	0	0	0	0	110	193	134	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1211
11-12	14	9	1082	0	0	0	0	0	0	40	144	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1112

Note:

25% linked-trip credit applied to supermarket and local retail

Assumes 0.38 autos/DU based on 2015-2019 ACS auto ownership data for rental households in Queens census tracts 51, 55,57,59,155,157,159.

80 denotes the total peak parking accumulation

Table 13-51
Total Saturday Hourly Parking Accumulation for the Proposed Development (Sites A-E)

	Residential 2,843 DUs			Local Retail 74,930 gsf			Office 250,070 gsf			Cinema 3,500 seats			Community Center 70,820 gsf			Supermarket 30,000 gsf			Medical Office 5,000 gsf			Daycare (Staff) 10,000 gsf			PCE (Physical Cultural Establishment) 30,000 gsf			Arts and Cultural Center 21,900 gsf			Total Accum.
	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	
12-1 AM	16	16	1082	0	0	0	0	0	0	0	213	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1199
1-2	16	16	1082	0	0	0	0	0	0	0	84	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1115
2-3	7	7	1082	0	0	0	0	0	0	0	21	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1094
3-4	2	2	1082	0	0	0	0	0	0	0	5	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1089
4-5	2	2	1082	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1089
5-6	4	5	1081	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1088
6-7	4	12	1073	0	0	0	2	0	2	0	0	7	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1082
7-8	17	47	1043	6	1	5	8	0	10	5	10	2	1	0	1	3	1	2	0	0	0	0	0	0	1	0	1	0	0	0	1064
8-9	47	113	977	14	14	5	12	0	22	16	5	13	2	1	2	4	4	2	1	0	1	0	0	0	1	0	2	0	0	0	1024
9-10	89	118	948	15	9	11	12	4	30	21	0	34	1	1	2	5	2	5	2	1	2	0	0	0	2	2	2	2	0	2	1036
10-11	89	137	900	33	18	26	2	0	32	84	0	118	1	3	0	6	3	8	2	1	3	0	0	0	2	2	2	5	0	7	1096
11-12	113	113	900	32	29	29	0	2	30	95	0	213	3	2	1	7	5	10	2	2	3	0	0	0	2	2	2	7	1	13	1201
12-1 PM	130	131	899	38	40	27	2	2	30	126	46	293	3	1	3	8	8	10	1	1	3	0	0	0	2	2	2	12	2	23	1290
1-2	129	130	898	39	39	27	12	8	34	150	92	351	2	1	4	8	8	10	3	3	3	0	0	0	2	3	1	4	12	15	1343
2-3	118	117	899	39	31	35	2	0	36	139	72	418	1	2	3	8	9	9	1	1	3	0	0	0	3	2	2	5	11	9	1414
3-4	124	95	928	30	30	35	0	2	34	200	182	436	1	1	3	8	9	8	1	1	3	0	0	0	3	2	3	9	8	10	1460
4-5	161	70	1019	33	35	33	4	16	22	252	129	559	0	1	2	7	11	4	2	2	3	0	0	0	2	2	3	12	6	16	1661
5-6	144	88	1075	39	38	34	2	12	12	173	162	570	1	1	2	9	9	4	0	1	2	0	0	0	0	2	1	5	10	11	1711
6-7	113	111	1077	24	36	22	2	10	4	189	258	501	2	1	3	7	8	3	0	1	1	0	0	0	1	2	0	3	11	3	1614
7-8	97	95	1079	22	34	10	2	6	0	341	263	579	1	3	1	5	4	4	0	1	0	0	0	0	1	1	0	3	6	0	1673
8-9	64	63	1080	16	23	3	0	0	0	242	138	683	0	1	0	2	2	4	0	0	0	0	0	0	1	1	0	0	0	0	**1770**
9-10	47	47	1080	8	8	3	0	0	0	168	251	600	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	1686
10-11	47	47	1080	0	3	0	0	0	0	168	340	428	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1509
11-12	40	38	1082	0	0	0	0	0	0	62	160	330	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1412

Note:

25% linked-trip credit applied to supermarket and local retail

Assumes 0.38 autos/DU based on 2015-2019 ACS auto ownership data for rental households in Queens census tracts 51, 55,57,59,155,157,159.

80 denotes the total peak parking accumulation

Table 13-52
Total Weekday Hourly Parking Accumulation for the Additional Affected Area (Sites F-K)

	Residential			Local Retail			Total Accum.
	809 DUs			84,985 gsf			
	In	Out	Accum.	In	Out	Accum.	
			308				
12-1 AM	0	0	308	0	0	0	**308**
1-2	0	0	308	0	0	0	**308**
2-3	0	0	308	0	0	0	**308**
3-4	0	0	308	0	0	0	**308**
4-5	0	0	308	0	0	0	**308**
5-6	1	8	301	0	0	0	301
6-7	7	23	285	0	0	0	285
7-8	8	26	267	1	0	1	268
8-9	17	63	221	15	15	1	222
9-10	14	22	213	15	8	8	221
10-11	14	26	201	39	21	26	227
11-12	15	21	195	36	37	25	220
12-1 PM	21	21	195	98	98	25	220
1-2	20	21	194	50	46	29	223
2-3	22	20	196	50	33	46	242
3-4	29	17	208	38	37	47	255
4-5	50	30	228	44	46	45	273
5-6	55	30	253	50	50	45	298
6-7	43	20	276	28	48	25	301
7-8	34	15	295	25	41	9	304
8-9	22	12	305	18	26	1	306
9-10	8	8	305	10	11	0	305
10-11	5	5	305	0	0	0	305
11-12	4	1	308	0	0	0	**308**

Note:

25% linked-trip credit applied to local retail

Assumes 0.38 autos/DU based on 2015-2019 ACS auto ownership data for rental households in Queens census tracts 51, 55,57,59,155,157,159.

80 denotes the total peak parking accumulation

Table 13-53
Total Saturday Hourly Parking Accumulation
for the Additional Affected Area (Sites F-K)

	Residential 809 DUs			Local Retail 84,985 gsf			Total Accum.
	In	Out	Accum.	In	Out	Accum.	
12-1 AM	5	5	308	0	0	0	308
1-2	5	5	308	0	0	0	308
2-3	1	1	308	0	0	0	308
3-4	0	0	308	0	0	0	308
4-5	0	0	308	0	0	0	308
5-6	0	0	308	0	0	0	308
6-7	0	2	306	0	0	0	306
7-8	6	13	299	7	1	6	305
8-9	13	33	279	16	15	7	286
9-10	25	34	270	16	9	14	284
10-11	25	41	254	35	22	27	281
11-12	32	32	254	36	33	30	284
12-1 PM	37	39	252	43	45	28	280
1-2	36	36	252	43	43	28	280
2-3	35	34	253	45	32	41	294
3-4	35	28	260	33	35	39	299
4-5	47	21	286	37	40	36	322
5-6	43	24	305	45	44	37	**342**
6-7	32	31	306	26	44	19	325
7-8	27	27	306	26	38	7	313
8-9	20	19	307	20	24	3	310
9-10	13	13	307	12	11	4	311
10-11	13	13	307	0	4	0	307
11-12	12	11	308	0	0	0	308

Note:

25% linked-trip credit applied to local retail

Assumes 0.38 autos/DU based on 2015-2019 ACS auto ownership data f
rental households in Queens census tracts 51, 55,57,59,155,157,159.

80 denotes the total peak parking accumulation

Table 13-54
Total Weekday Hourly Parking Accumulation for the Projected Development Site (Sites A-K)

	Residential 3,652 DUs			Local Retail 159,915 gsf			Office 250,070 gsf			Cinema 3,500 seats			Community Center 70,820 gsf			Supermarket 30,000 gsf			Medical Office 5,000 gsf			Daycare (Staff) 10,000 gsf			PCE (Physical Cultural Establishment) 30,000 gsf			Arts and Cultural Center 21,900 gsf			Total Accum.
	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	
12-1 AM	5	5	1390	0	0	0	0	0	0	0	29	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1391
1-2	5	5	1390	0	0	0	0	0	0	11	3	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1399
2-3	5	5	1390	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1399
3-4	5	5	1390	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1399
4-5	5	5	1390	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1399
5-6	10	36	1364	0	0	0	0	0	0	6	10	5	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1369
6-7	31	105	1290	0	0	0	0	0	0	9	0	14	0	0	0	7	2	5	0	0	0	0	0	0	0	0	0	0	0	1309
7-8	36	110	1216	2	0	2	4	0	4	15	10	19	2	1	1	9	5	9	0	0	0	2	0	2	2	0	2	2	0	1257
8-9	72	281	1007	29	29	2	65	4	65	24	1	42	6	3	4	13	9	13	3	3	0	5	0	7	2	2	2	5	4	3	1145
9-10	63	100	970	29	16	15	58	7	116	16	13	45	6	6	4	16	9	20	4	2	2	2	0	9	1	3	0	29	3	29	1210
10-11	63	109	924	71	40	46	9	6	119	37	13	69	4	4	4	17	13	24	4	2	4	0	0	9	1	1	0	21	4	46	1245
11-12	67	93	898	69	68	47	4	14	109	45	13	101	4	5	3	18	18	24	3	5	2	1	0	10	1	1	0	8	23	31	1225
12-1 PM	90	90	898	184	184	47	6	8	107	48	29	120	5	5	3	13	13	24	3	3	2	1	1	10	2	2	0	5	26	10	1221
1-2	90	92	896	94	84	57	5	4	108	45	42	123	5	5	3	20	24	20	4	3	3	0	1	9	3	2	1	27	5	32	1252
2-3	94	89	901	94	62	89	22	6	124	36	48	111	4	2	5	22	27	15	4	3	4	0	0	9	2	1	2	22	6	48	1308
3-4	132	80	953	71	70	90	6	8	122	60	92	79	3	2	6	21	27	9	4	3	5	0	1	8	2	2	2	16	10	54	1328
4-5	227	131	1049	82	84	88	6	42	86	92	59	112	3	7	2	22	21	10	4	5	4	1	3	6	2	3	1	10	15	49	1407
5-6	249	135	1163	95	95	88	4	76	14	110	93	129	6	6	2	22	21	11	2	3	3	0	5	1	2	2	1	2	29	22	1434
6-7	181	89	1255	52	89	51	2	14	2	142	118	153	5	6	1	11	11	11	0	3	0	0	1	0	1	2	0	3	25	0	1473
7-8	158	70	1343	47	80	18	0	2	0	175	88	240	2	2	1	4	7	8	0	0	0	0	0	0	1	1	0	0	0	0	1610
8-9	96	54	1385	33	49	2	0	0	0	150	46	344	1	2	0	2	4	6	0	0	0	0	0	0	1	1	0	0	0	0	**1737**
9-10	31	35	1381	19	20	1	0	0	0	97	224	217	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	1601
10-11	21	20	1382	0	1	0	0	0	0	110	193	134	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1516
11-12	18	10	1390	0	0	0	0	0	0	40	144	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1420

Note:

25% linked-trip credit applied to supermarket and local retail

Assumes 0.38 autos/DU based on 2015-2019 ACS auto ownership data for rental households in Queens census tracts 51, 55,57,59,155,157,159.

80 denotes the total peak parking accumulation

Table 13-55

Total Saturday Hourly Parking Accumulation for the Projected Development Site (Sites A-K)

	Residential 3,652 DUs			Local Retail 159,915 gsf			Office 250,070 gsf			Cinema 3,500 seats			Community Center 70,820 gsf			Supermarket 30,000 gsf			Medical Office 5,000 gsf			Daycare (Staff) 10,000 gsf			PCE (Physical Cultural Establishment) 30,000 gsf			Arts and Cultural Center 21,900 gsf			Total Accum.
	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	
12-1 AM	21	21	1390	0	0	0	0	0	0	0	213	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1507
1-2	21	21	1390	0	0	0	0	0	0	0	84	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1423
2-3	8	8	1390	0	0	0	0	0	0	0	21	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1402
3-4	2	2	1390	0	0	0	0	0	0	0	5	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1397
4-5	2	2	1390	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1397
5-6	4	5	1389	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
6-7	4	14	1379	0	0	0	2	0	2	0	0	7	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1388
7-8	23	60	1342	13	2	11	8	0	10	5	10	2	1	0	1	3	1	2	0	0	0	0	0	0	1	0	1	0	0	0	1369
8-9	60	146	1256	30	29	12	12	0	22	16	5	13	2	1	2	4	4	2	1	0	1	0	0	0	1	0	2	0	0	0	1310
9-10	114	152	1218	31	18	25	12	4	30	21	0	34	1	1	2	5	2	5	2	1	2	0	0	0	2	2	2	2	0	2	1320
10-11	114	178	1154	68	40	53	2	0	32	84	0	118	1	3	0	6	3	8	2	1	3	0	0	0	2	2	2	5	0	7	1377
11-12	145	145	1154	68	62	59	0	2	30	95	0	213	3	2	1	7	5	10	2	2	3	0	0	0	2	2	2	7	1	13	1485
12-1 PM	167	170	1151	81	85	55	2	2	30	126	46	293	3	1	3	8	8	10	1	1	3	0	0	0	2	2	2	12	2	23	1570
1-2	165	166	1150	82	82	55	12	8	34	150	92	351	2	1	4	8	8	10	3	3	3	0	0	0	2	3	1	4	12	15	1623
2-3	153	151	1152	84	63	76	2	0	36	139	72	418	1	2	3	8	9	9	1	1	3	0	0	0	3	2	2	5	11	9	1708
3-4	159	123	1188	63	65	74	0	2	34	200	182	436	1	1	3	8	9	8	1	1	3	0	0	0	3	2	3	9	8	10	1759
4-5	208	91	1305	70	75	69	4	16	22	252	129	559	0	1	2	7	11	4	2	2	3	0	0	0	2	2	3	12	6	16	1983
5-6	187	112	1380	84	82	71	2	12	12	173	162	570	1	1	2	9	9	4	0	1	2	0	0	0	0	2	1	5	10	11	2053
6-7	145	142	1383	50	80	41	2	10	4	189	258	501	2	1	3	7	8	3	0	1	1	0	0	0	1	2	0	3	11	3	1939
7-8	124	122	1385	48	72	17	2	6	0	341	263	579	1	3	1	5	4	4	0	1	0	0	0	0	1	1	0	3	6	0	1986
8-9	84	82	1387	36	47	6	0	0	0	242	138	683	0	1	0	2	2	4	0	0	0	0	0	0	1	1	0	0	0	0	**2080**
9-10	60	60	1387	20	19	7	0	0	0	168	251	600	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	1997
10-11	60	60	1387	0	7	0	0	0	0	168	340	428	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1816
11-12	52	49	1390	0	0	0	0	0	0	62	160	330	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1720

Note:

25% linked-trip credit applied to supermarket and local retail

Assumes 0.38 autos/DU based on 2015-2019 ACS auto ownership data for rental households in Queens census tracts 51, 55,57,59,155,157,159.

80 denotes the total peak parking accumulation

As shown in **Table 13-51**, on a Saturday, parking demand from the Proposed Development would peak at approximately 1,770 spaces between 8:00 p.m. to 9:00 p.m. (conservatively assuming 100 percent cinema occupancy). There would be no reserved parking spaces for the Kaufman Astoria Studios' employees on the weekend.

In addition to parking demand from the Proposed Development (Sites A through E), new demand would also be generated by the Additional Affected Area (Sites F through K) under the Proposed Actions' RWCDS. As shown in **Tables 13-52 and 13-53**, parking demand generated by the Additional Affected Area is expected to peak at approximately 308 spaces during the overnight period on weekdays, and at 342 spaces during the 5:00 p.m. to 6:00 p.m. period on Saturdays.

Overall, as shown in **Tables 13-54 and 13-55**, parking demand generated by the Projected Development Site (Sites A through K) under the Proposed Actions' RWCDS would peak at approximately 1,737 spaces during the 8:00 p.m. to 9:00 p.m. period on weekdays, and at 2,080 spaces during the same period on Saturdays, primarily due to the overlapping of residential and cinema demand (conservatively assuming 100 percent cinema occupancy).

As shown in **Table 13-56**, the Proposed Actions' RWCDS includes a total of approximately 1,633 on-site accessory parking spaces compared with 700 spaces under the No Action RWCDS. These would include 1,390 spaces located in five below-grade parking garages and one surface parking lot on the Development Site. There would be approximately 489 spaces on Site A, 237 spaces on Site B, 288 spaces on Site C, 241 spaces on Site D and 135 spaces on Site E. It is also anticipated that there would also be a total of approximately 243 parking spaces in the Additional Affected Area. No existing off-street public parking would be displaced from the Project Area under the Proposed Actions; however, approximately 39 spaces of existing on-street parking would be displaced to accommodate truck access to the Proposed Development's loading berths. (As discussed in Chapter 20, "Mitigation," approximately 36 existing spaces of on-street parking would also be displaced under the Proposed Actions' traffic mitigation plan.)

Table 13-56
Proposed Accessory Parking Spaces
on the Projected Development Site

Site	Parking Spaces
A	489
B	237
C	288
D	241
E	135
Proposed Development Total	1,390
F	29
G	36
H	79
I	34
J	43
K	22
Additional Affected Area Total	243
Projected Development Site Total	**1,633**

As discussed above, the Proposed Development (Sites A through E) would generate a peak parking demand of approximately 1,431 spaces during the 8:00 p.m. to 9:00 p.m. period on weekdays, and

1,770 spaces during the same period on Saturdays. Therefore, there would be a shortfall of approximately 41 spaces on weekday evenings and 380 spaces on Saturday evenings during periods of peak activity at the cinema (conservatively assuming 100 percent cinema occupancy).

Peak parking demand generated by the Additional Affected Area (Sites F through K), would total approximately 308 spaces during the overnight period on weekdays, and 342 spaces during the 5:00 p.m. to 6:00 p.m. period on Saturdays. Therefore, there would be shortfalls of approximately 65 spaces during the overnight period on weekdays and 99 spaces during the 5:00 p.m. to 6:00 p.m. period on Saturdays.

Total parking demand at the Projected Development Site (Sites A through K) would peak at approximately 1,737 spaces during the 8:00 p.m. to 9:00 p.m. period on weekdays, and at 2,080 spaces during the same period on Saturdays. In addition, approximately 39 existing on-street parking spaces would be displaced from the Project Area under the Proposed Actions in order to accommodate truck access to the Proposed Development's loading berths. Therefore, the total increase in parking demand under the Proposed Actions' RWCDS would result in parking shortfalls of approximately 143 spaces during the 8:00 p.m. to 9:00 p.m. period on weekdays, and approximately 486 spaces during the same period on Saturdays. This excess demand, much of which would be associated with peak activity at the cinema, would need to be accommodated in nearby off-street public parking facilities, or by on-street parking. Consequently, the Proposed Actions may potentially contribute to, or result in, off-street and on-street parking shortfalls in the 2032 With Action condition.

As discussed in Section F, "Transportation Analysis Methodologies," in this area of Queens, 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 *CEQR Technical Manual* guidance due to the magnitude of available alternative modes of transportation. Therefore, under the Proposed Actions, any shortfalls in off-street and on-street parking spaces Project Area and its vicinity would not be considered significant. ✷