Appendix D Traffic Study 168th Street Interim Bus Terminal

168th Street Interim Bus Terminal

Traffic Study

Prepared for: Metropolitan Transportation Authority

Prepared by: AECOM Technical Services, Inc.

February 2024

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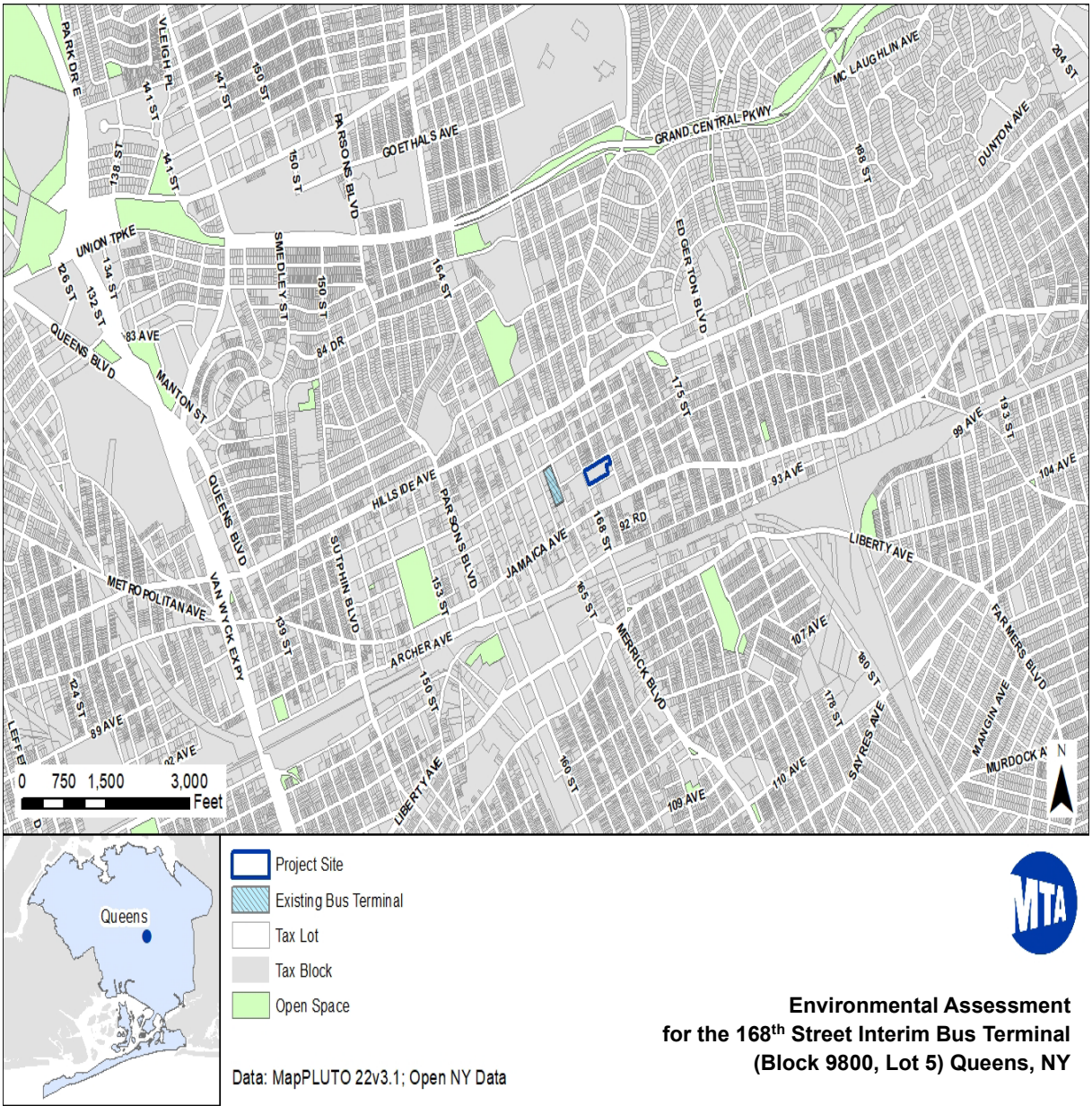
1. Introduction

This traffic study addresses the potential effects of the 168th Street Interim Bus Terminal on transportation services and safety in the vicinity of 90-01 168th Street (Block 9800, Lot 5) in Jamaica, Queens (the "project site"). Specifically, it discusses the effects of the buses and pedestrians rerouted from the existing 165th Street/Jamaica Bus Terminal on Merrick Boulevard on traffic conditions in the area. It also addresses the adequacy of existing parking supply in the area to accommodate vehicles currently parked within the public, paid commercial parking lot that will be displaced from the project site, which is currently being used as a public, paid parking facility. Further, existing and potential future safety issues are identified and discussed.

The project site is bounded by 90th Avenue to the north, 168th Street to the west, 169th Street to the east, and 91st Avenue to the south (see **Figure 1-1**).

Figure 1-1: Site Vicinity Map



2. Transportation Screening Assessment During Operations and Construction

Transportation screening assessments were conducted to determine if detailed transportation analyses would be required during the operational phase of the Proposed Project (i.e., when the 168th Street Interim Bus Terminal is constructed and operational), as well as during its construction.

The *CEQR Technical Manual* recommends a two-tier screening process for the preparation of a "preliminary analysis" to determine if quantified analyses of transportation conditions are warranted. The preliminary analysis begins with a trip generation analysis (Level 1) to estimate the volume of person and vehicle trips attributable to the Proposed Project. If the Proposed Project is expected to result in fewer than fifty 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 performed to estimate the incremental trips for specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the Proposed Project would result in fifty or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a station, fifty or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian trips traversing a pedestrian element, then further quantified analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

The findings and recommendations of the weekday and weekend screening assessments during Operations and Construction were documented in a Technical Memorandum titled ***Transportation Screening Assessment and Proposed Traffic Study Scope for NYCDOT's Review*** **with the latest revision date of April 18, 2023**. The final screening assessments and Traffic Scope of Work reflects two rounds of NYCDOT's comments and MTA/AECOM's responses. Below is a synopsis of the key findings and final outcome of the screening assessments.

2.1 During Operations: Level 1 Screening

A Level 1 (Trip Generation) and Level 2 (Trip Assignment) screening assessment was performed based on bus volumes and bus routing data provided by the MTA. The 168th Street Interim Bus Terminal will serve buses operated by MTA New York City Transit Department of Buses (MTA NYCT Bus) buses and the Nassau Inter County Express (NICE) buses. These are the same buses that use the existing 165th Street/Jamaica Bus Terminal.

Based on bus volume data provided by MTA NYCT Bus, the 168th Street Interim Bus Terminal will serve a total of 2,464 bus trips on a daily *weekday* (1,232 bus trips into the terminal and 1,232 bus trips out from the terminal). The number of buses expected to use the 168th Street Interim Bus Terminal during the *weekend* is 1794 trips on Saturday and 1442 trips on Sunday. While on both weekend days, the volume of daily bus trips is much lower than on a weekday because the volumes were higher on Saturday, the weekend screening assessment was performed for Saturday.

2.2 During Operations: Level 2 Screening

MTA NYCT Bus provided information on proposed bus routing to and from the 168th Street Interim Bus Terminal and the incremental number of buses at intersections, by turning movement, in the vicinity of the project site for each of the weekday AM, Midday, and PM, and Saturday midday peak hours. The bus volume information included both the *increases* and *decreases* in bus turning movement volumes associated with rerouting buses to and from the 168th Street Interim Bus Terminal.

On weekdays, six intersections were projected to experience more than 50 vehicle trips in one or more peak hours and are therefore recommended for further detailed analyses. In addition, one intersection (169th Street/Hillside Avenue) was projected to experience zero net incremental bus volumes because the buses in the westbound through movement will be rerouted to the westbound left turn movement. However, because of the large number of buses expected to be added to the westbound left turn movement, it was recommended that this intersection also be included for further detailed analysis.

In addition, in their comments on March 24, 2023, NYCDOT requested that three additional intersections be analyzed. Therefore, altogether, a total of ten intersections were identified for detailed traffic analyses on weekdays. On Saturday,

the 50 vehicles per hour (vph) threshold was not met or exceeded at any intersection. Therefore, since all intersections screened out, no further analyses are required for Saturday.

2.3 During Construction

Construction (or site preparation) is expected to last for less than two years. Therefore, a detailed traffic screening assessment was not performed since detailed traffic analysis will not be required. The staging of construction equipment and construction worker parking would all be accommodated on-site, thus not affecting City's streets. In addition, no roadway or lane closures are anticipated to occur during construction of the 168th Street Interim Bus Terminal.

3. Existing Conditions

3.1 Traffic Analysis

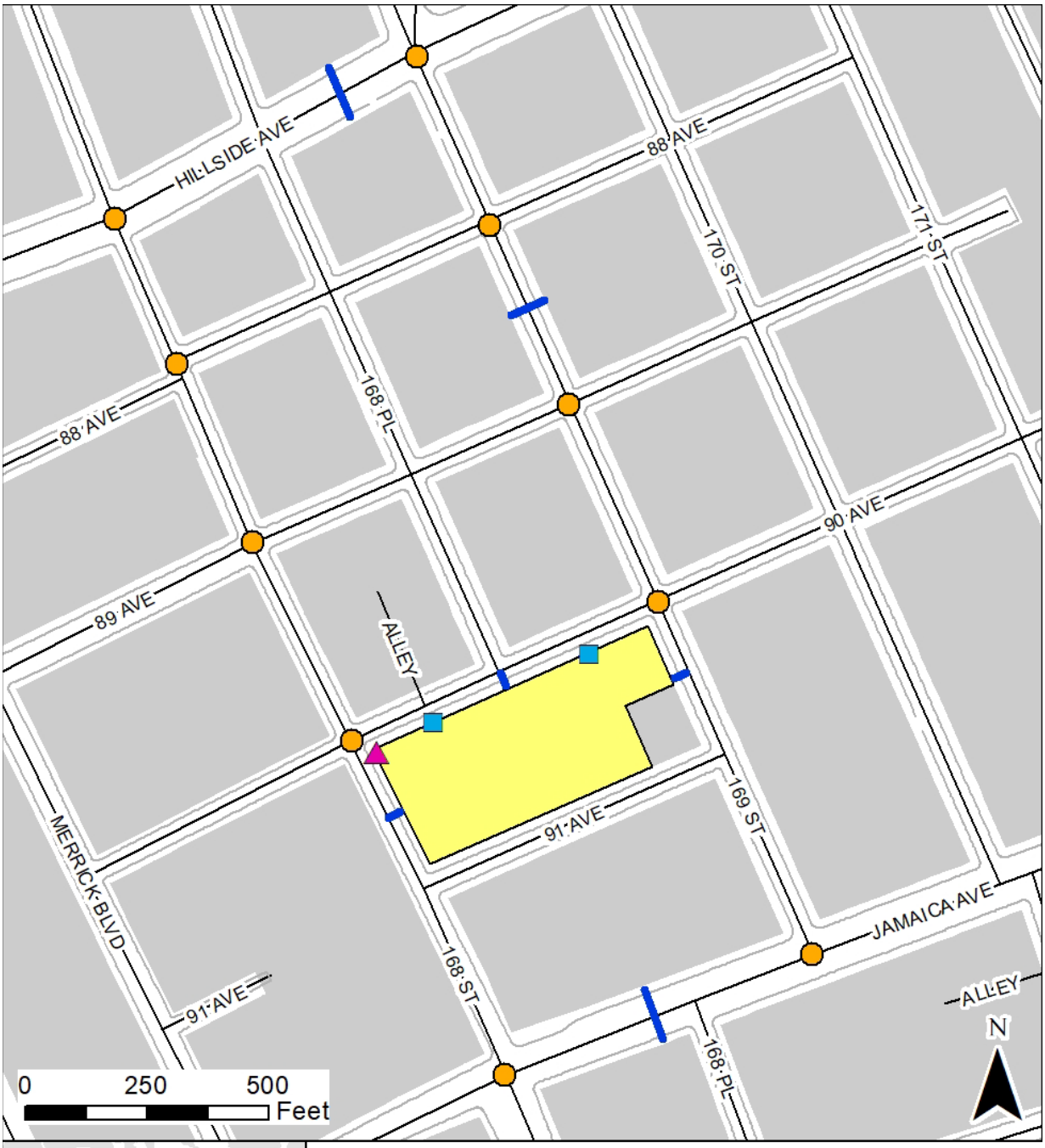
3.1.1 Study Area and Study Intersections

For purposes of the traffic study, a study area has been defined as the area bounded by Hillside Avenue to the north, 169th Street to the east, Jamaica Avenue to the south, and 168th Street to the west. This area includes the ten intersections identified for detailed analyses.

The following ten intersections, as shown in **Figure 3-1**, were selected for detailed traffic analyses during the weekday AM, Midday and PM peak hours. They include eight signalized, and two unsignalized intersections proximate to the project site that have the potential to experience changes in traffic operations as a result of the Proposed Project. The study intersections are as follows:

1. Hillside Avenue @ 169th Street (signalized)
2. 88th Avenue @ 168th Street (unsignalized)
3. 88th Avenue @ 169th Street (unsignalized)
4. 89th Avenue @168th Street (signalized)
5. 89th Avenue @ 169th Street (signalized)
6. 90th Avenue @168th Street (signalized)
7. 90th Avenue @ 169th Street (signalized)
8. Hillside Avenue @ 168th Street (signalized)
9. Jamaica Avenue @ 168th Street (signalized)
10. Jamaica Avenue @169th Street (signalized)

Figure 3-1: Study Intersections



Environmental Assessment
for the 168th Street Interim Bus Terminal
(Block 9800, Lot 5) Queens, NY

3.1.2 Roadway Network

The project site is well served by highway access being located less than a mile south of the Grand Central Parkway and approximately 1.25 miles east of the Van Wyck Expressway (I-678). Local access is provided by Hillside Avenue on the north, 168th Street on the west, Jamaica Avenue on the south and 169th Street on the east.

The physical and operational characteristics of the major streets comprising the roadway network within the study area are described as follows:

- *Jamaica Avenue* is a two-way east-west Principal Arterial roadway. It extends from Pennsylvania Avenue in Brooklyn on the west to the Cross Island Parkway on the east. In the study area, Jamaica Avenue provides two travel lanes and one parking lane in each direction, with left turn lanes and right-turn bays at major intersections. West of 168th Street, Jamaica Avenue was recently transformed into a busway; all westbound vehicles, except trucks and buses, are required to turn either left or right onto 168th Street. Several MTA NYCT Bus routes use Jamaica Avenue.

- *Hillside Avenue* is a two-way, east-west Principal Arterial roadway. It extends from Myrtle Avenue on the west to Willis Avenue in Nassau County on the east. In the study area, Hillside Avenue provides two travel lanes and one parking lane in each direction, with left-turn lanes at major intersections. Several MTA and NICE bus routes use Hillside Avenue, including the Q1, Q2, Q3, Q17, Q36, Q43, Q76, Q77, N1, N6, N22, N24, and N26 routes.

- *168th Street* is a north-south Minor Arterial roadway. It extends from Liberty Avenue on the south to Francis Lewis Boulevard on the north. In the study area, 168th Street is a one-way northbound roadway between Jamaica Avenue and Hillside Avenue. A “red-painted” Bus-Only lane exists on the easterly curb lane of 168th Street between 90th Avenue and Hillside Avenue, serving the Q17 bus route, and the Q6, Q8, Q9, and Q41 bus routes use a portion of this Bus-Only lane. In the study area, 168th Street generally provides one travel lane, and limited curbside parking on the west side of the roadway (the east side accommodates the bus-only lane).

- *169th Street* is a Minor Arterial roadway in the study area; outside of the study area it is a local roadway. It extends from Foch Boulevard on the south to Utopia Parkway on the north. In the study area, 169th Street is a one-way southbound roadway between Hillside Avenue and Jamaica Avenue. 169th Street generally provides one travel lane and curbside parking on both sides of the roadway. The Q30 and Q31 bus routes operate on 169th Street.

- *90th Avenue* is a Collector roadway in the study area; outside of the study area it is a local roadway. It extends, interruptedly, from Sutphin Boulevard on the west to Braddock Avenue on the east. In the study area, 90th Avenue is a one-way eastbound roadway with one travel lane and one parking lane on the north side of the roadway. Illegal parking is prevalent on the sidewalk on the south side of 90th Avenue between 168th Street and 169th Street often protruding into the south curb lane on 90th Avenue. 90th Avenue provides entry to and exit from the existing parking lot (the site of the proposed bus terminal) via one entrance driveway and one exit driveway. A secondary entry/exit driveway of the parking lot is located on 91st Avenue, just west of 169th Street.

3.1.3 Traffic Data Collection

Data was collected in the field at the ten study intersections in April 2023. The traffic data collection effort included 24-hour, seven-day Automatic Traffic Recorder (ATR) counts at four midblock locations; one weekday of video turning movement and vehicle classification counts for a 14-hour period from 5 AM to 7 PM; documentation of posted on-street parking regulations on approaches to the study intersections; and a comprehensive inventory of roadway geometrics and physical operating characteristics at each study intersection.

3.1.4 Intersection Inventory

The physical and operational characteristics of the study intersections were inventoried in the field. This inventory included street directions; number, configuration, and widths of lanes; conflicting pedestrians in crosswalks; curbside

parking regulations; turning restrictions and prohibitions; type of intersection traffic control; types and locations of traffic control devices and signs; and bus stop locations.

3.1.5 ATR Counts

For a period of seven days, beginning Saturday, April 22 and ending Friday, April 28, 2023, ATR counts were conducted continuously at 15-minute intervals on the following six locations roadways:

1. 168th Street NB between 91st Avenue and 90th Avenue
2. 90th Avenue EB between 168th and 169th Streets
3. 169th Street SB between 90th Avenue and 91st Avenue
4. 169th Street SB between 88th and 89th Avenues
5. Hillside Avenue between 168th Place and 169th Street (both directions)
6. Jamaica Avenue between 168th Street and 169th Street (both directions)

3.1.6 Video Turning Movement and Vehicle Classification Counts

Video turning movement and four-way vehicle classification counts (autos, buses, trucks and bicycles) were collected at each of the ten study intersections on Tuesday, April 25, 2023. These counts were performed at 15-minute intervals for a 14-hour period from 5 AM to 7 PM.

3.1.7 Traffic Volumes

Using the ATR and turning movement counts, the peak traffic hours were determined to be 7:30 AM to 8:30 AM, 1:15 PM to 2:15 PM, and 4:45 PM to 5:45 PM for the morning, midday and evening peak periods. The peak hours for buses, determined solely based on bus volumes at the existing 165th Street/Jamaica Bus Terminal and before the turning movement and ATR counts were taken, were determined to be 8:00 AM to 9:00 AM, 1:00 PM to 2:00 PM, and 5:00 PM to 6:00 PM. Though the peak hours are slightly different, for purposes of conducting a conservative traffic analysis, the incremental peak hour bus volumes were superimposed on the peak hour traffic volumes in the Future With-Action condition.

Figure 3-2, Figure 3-3, and **Figure 3-4** show the turning movement volumes at the study intersections during the weekday AM, Midday and PM peak hours, for the 2023 Existing Conditions.

Figure 3-2: 2023 Existing Traffic Volumes – AM Peak Hour

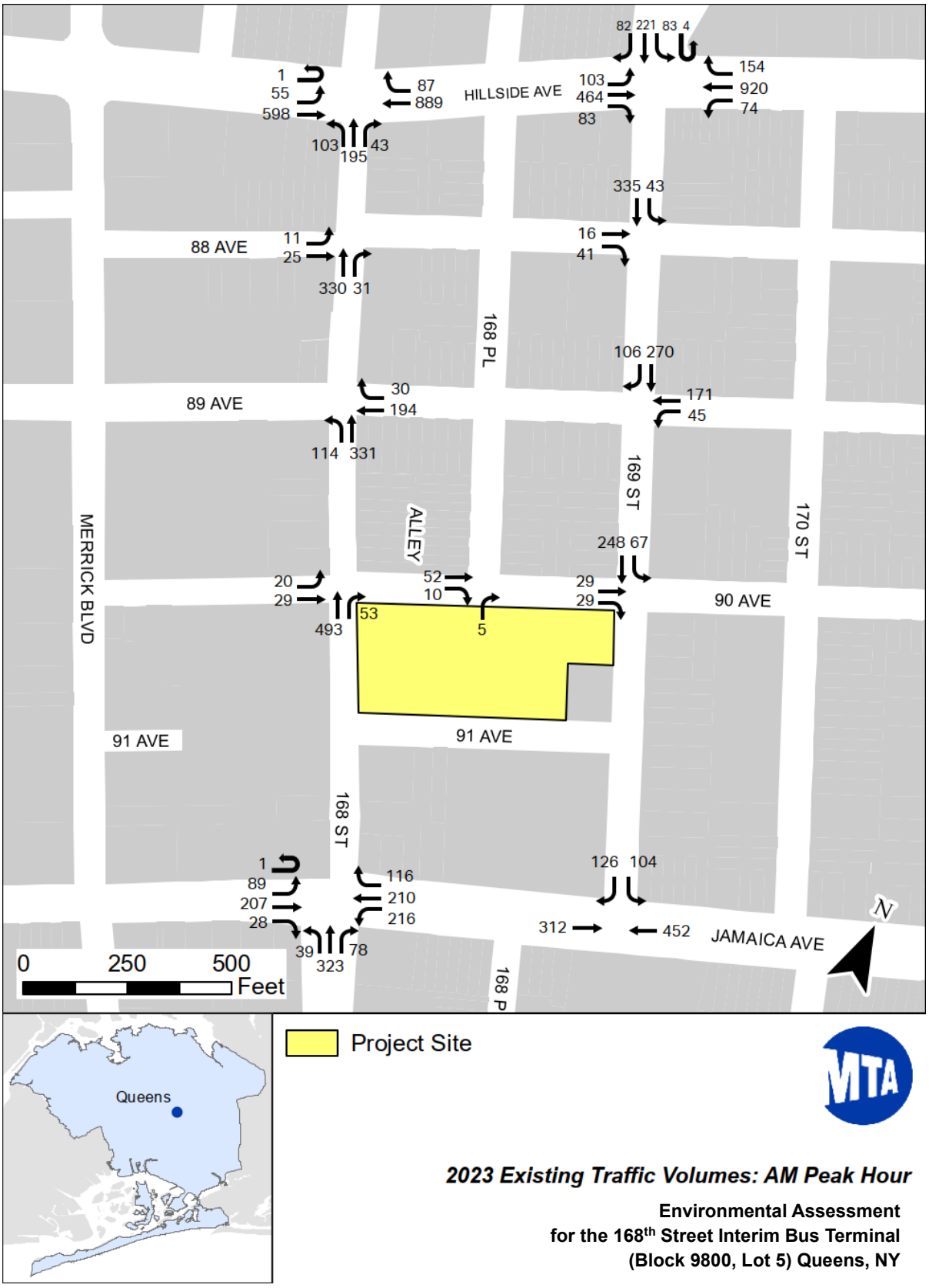


Figure 3-3: 2023 Existing Traffic Volume – Midday Peak Hour

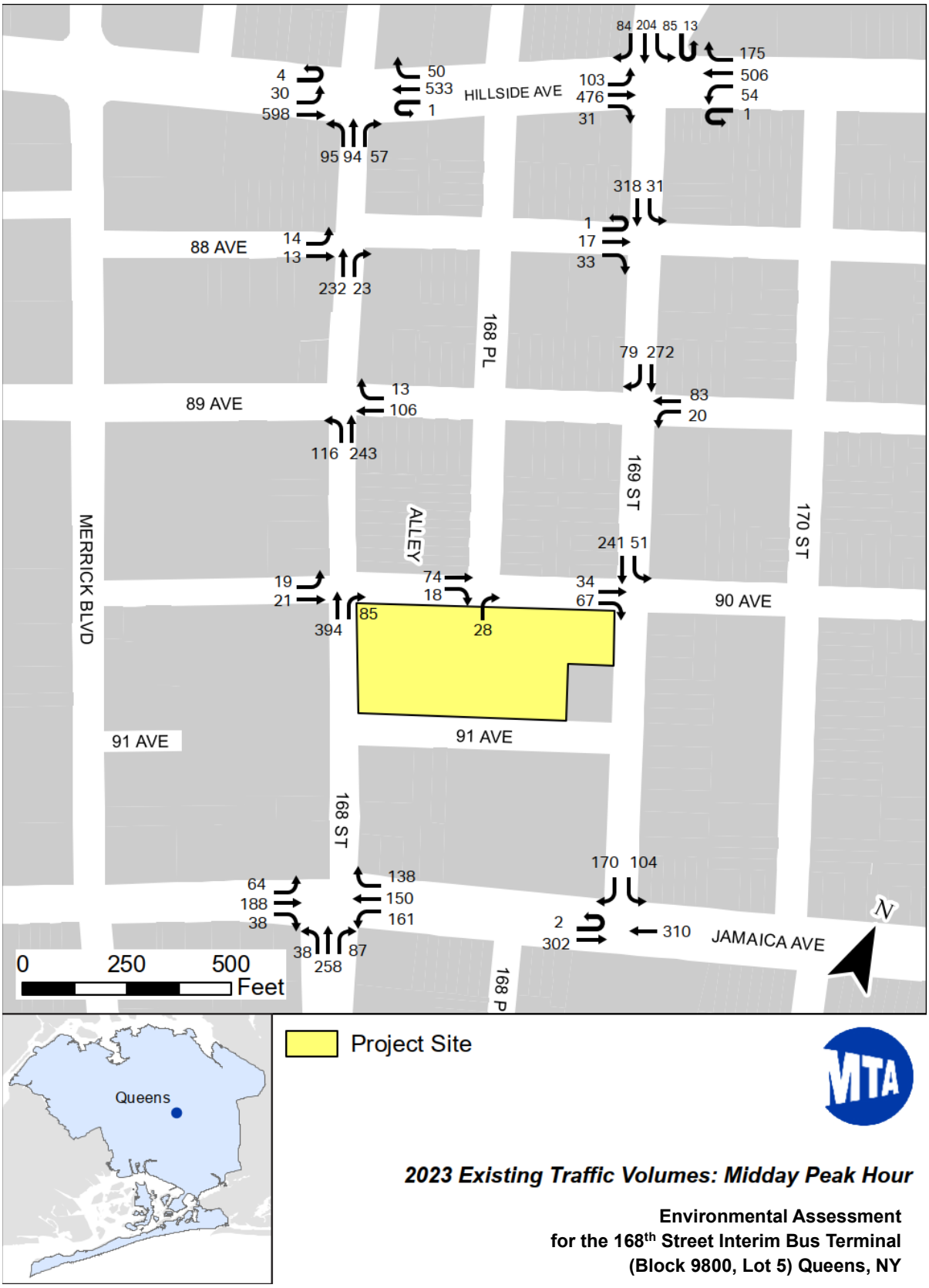
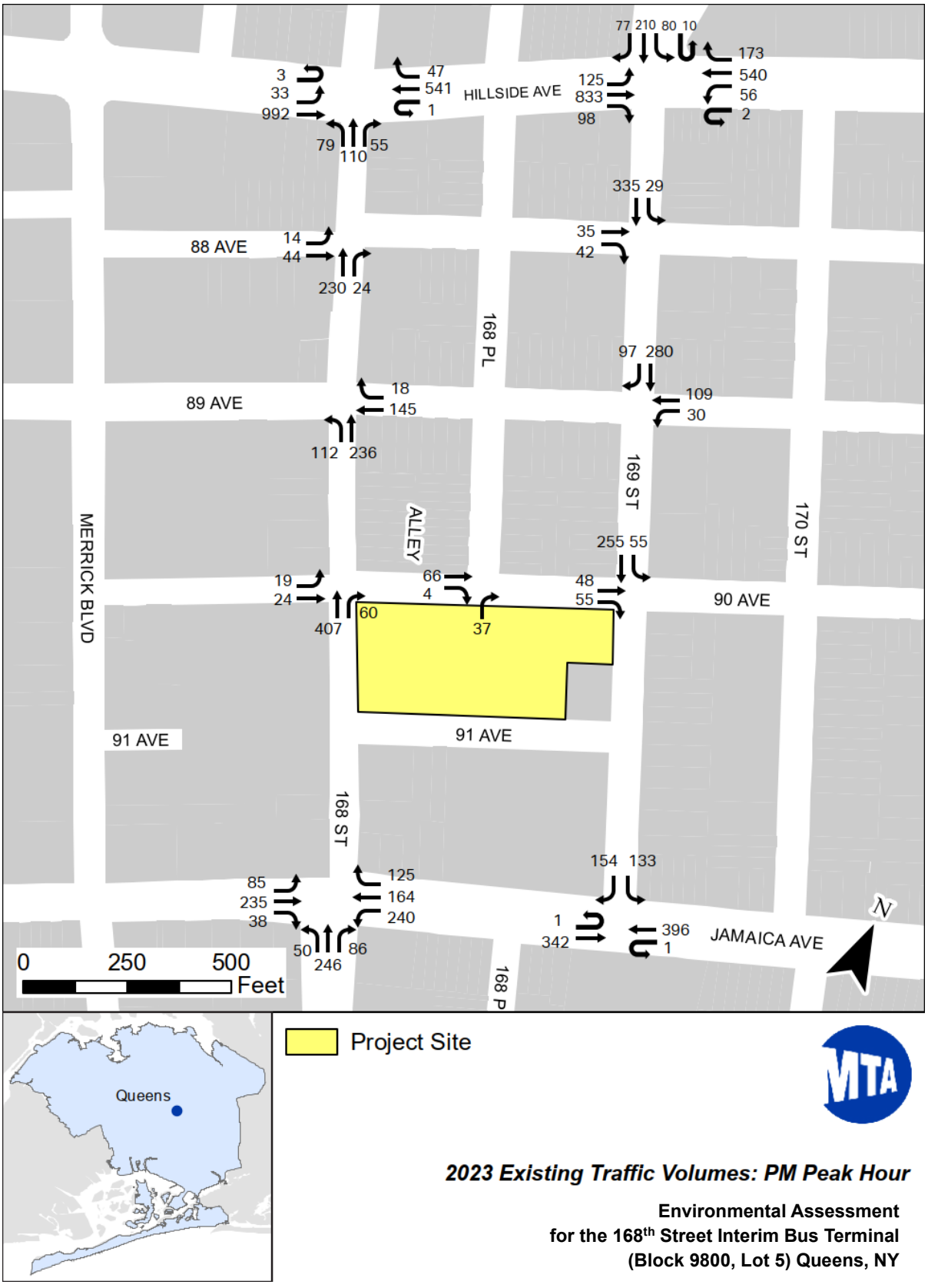


Figure 3-4: 2023 Existing Traffic Volumes – PM Peak Hour



3.1.8 Capacity Analysis

Intersection capacity analyses were performed using the Synchro traffic analysis model, Version 11. The Synchro analyses are based on the *Highway Capacity Manual* (HCM) methodology which expresses the quality of flow for an approach or lane group in terms of level-of-service (LOS), a measure based on the average delay that motorists experience when traveling through the intersection. This includes delays associated with acceleration, deceleration, and queue move-up time, in addition to stopped delay at the intersection.

According to the HCM, the capacities of signalized intersections are based on three sets of inputs: 1) geometric conditions, including the number of lanes, the length of storage bays for turns, etc.; 2) traffic conditions, including volumes by movement, vehicle classification, parking maneuvers, the nature of vehicular platooning in arrivals at the intersection, pedestrian and bicycle conflicts, etc.; and 3) signalization conditions, including signal cycle length, timing and phasing, signal coordination, and the existence of signal actuation capabilities by either vehicles or pedestrians. Based on all of these and other inputs, the HCM model then calculates the ratio of the volume on the street to the street's capacity (v/c ratios), average vehicle delays, and LOS, where LOS is defined in terms of the average control delay per vehicle for lane groups, intersection approaches, and the intersection as a whole.

Table 3-1 shows the LOS/delay relationship for signalized and unsignalized intersections using the HCM methodology.

Table 3-1: Level-of-Service Criteria for Signalized and Unsignalized Intersections

Level-of-Service	Average Control Delay (seconds per vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Source: *2000 Highway Capacity Manual*

The following LOS definitions are provided in the HCM:

- LOS A describes traffic operations with very low delay. This occurs when signal progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all.
- LOS B describes operations with low, but increased delay. This generally occurs with good progression and/or short cycle lengths. Again, most vehicles do not stop at the intersection.
- LOS C describes operations with moderate delay. These higher delays may result from fair progression and/or longer cycle lengths. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping. • LOS D describes operations with heavy delay.
- At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines substantially.
- LOS E describes very heavy delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios near capacity.
- LOS F typically describes ever increasing delays as queues begin to form. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios with cycle failures. Poor progression and long cycle lengths may also be contributing to such delays.

Using the existing turning movement volumes shown in **Figure 3-2, Figure 3-3,** and **Figure 3-4**, traffic operations analyses were conducted for each of the study intersections for the weekday AM, Midday and PM peak hours. The peak hour Synchro models were calibrated based on NYCDOT's calibration guidelines and field measured queues.

Table 3-2 shows the results of these analyses, including volume-to-capacity (v/c) ratios, total delays, and corresponding LOS for the AM, Midday and PM peak hours. As shown, all lane groups operate at LOS D or better in Existing Conditions, except for the following:

Hillside Avenue @ 169th Street:

- The southbound through movement operates at LOS F during the AM peak hour, and at LOS E during the Midday and PM peak hours.
- The southbound left turn movement operates at LOS E during the PM peak hour.

Table 3-2: 2023 Existing V/C, Delay, and LOS

Intersection		Movement	AM (7:30 – 8:30 AM)				MD (13:15 – 14:15 PM)				PM (16:45 – 17:45 PM)			
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%
1	1: 169 St & Hillside Ave & Homelawn St	EBL	0.44	17.4	B	50	0.24	9.7	A	50	0.27	9.1	A	55
		EBT	0.36	15	B	142	0.32	14.5	B	139	0.54	16.6	B	264
		EBR	0.15	13.2	B	60	0.18	13.5	B	63	0.21	13	B	67
		WBL	0.19	3.8	A	12	0.13	5.4	A	24	0.24	4.9	A	11
		WBT	0.68	10.1	B	124	0.34	10.2	B	104	0.36	8.2	A	64
		WBR	0.29	5.4	A	23	0.38	12.4	B	86	0.38	9.8	A	49
		SBL	0.44	52.1	D	125	0.41	48.8	D	133	0.57	58.6	E	128
		SBT	0.92	87	F	339	0.74	61.1	E	260	0.88	79.6	E	316
		SBR	0.48	54	D	117	0.42	49.5	D	115	0.48	54.7	D	111
		Overall		**22**	**C**			**21.7**	**C**			**22.5**	**C**	
2*	2: 168 St & 88 Ave	EBL	0.1	13.9	B	8	0.06	12.2	B	5	0.15	13.6	B	13
		EBT	0.1	13.9	B	8	0.06	12.2	B	5	0.15	13.6	B	13
		NBT	0.22	0	A	0	0.15	0	A	0	0.16	0	A	0
		NBR	0.02	0	A	0	0.02	0	A	0	0.02	0	A	0
		NBTR (Bus Lane)	0.02	0	A	0	0.01	0	A	A	0.01	0	A	0
		Overall		**1.4**	**A**			**1.3**	**A**			**2.7**	**A**	
3*	3: 169 St & 88 Ave	EBT	0.16	14.8	B	14	0.12	13.4	B	10	0.23	16.6	C	22
		EBR	0.16	14.8	B	14	0.12	13.4	B	10	0.23	16.6	C	22
		SBL	0.04	0.4	A	3	0.03	0.3	A	2	0.03	0.3	A	2
		SBT	0.04	1.2	A	3	0.03	0.9	A	2	0.03	0.9	A	2
		Overall		**3**	**A**			**2.6**	**A**			**3.8**	**A**	
4	4: 168 St & 89 Ave	WBT	0.6	26.3	C	140	0.24	22.5	C	93	0.45	22.8	C	102
		NBL					0.22	13.1	B	79				

Intersection		Movement	AM (7:30 – 8:30 AM)				MD (13:15 – 14:15 PM)				PM (16:45 – 17:45 PM)			
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%
		NBT (NBLT)	0.55	5.1	A	46	0.25	16.7	B	110	0.5	5.2	A	45
		NBT (Bus Lane)	0.04	2.8	A	m2	0.03	9.8	A	13	0.03	2.9	A	m2
		Overall		**11.9**	**B**			**17.1**	**B**			**10.3**	**B**	
5	5: 169 St & 89 Ave	WBT	0.36	13.8	B	99	0.17	11.8	B	51	0.22	12.2	B	65
		SBT(SBTR)	0.37	15.5	B	m208	0.24	19.7	B	164	0.61	14	B	m122
		SBR	0.19	12.5	B	m72								
		Overall		**14.4**	**B**			**17.8**	**B**			**13.5**	**B**	
6	6: 168 St & 90 Ave	EBLT	0.17	20.8	C	43	0.14	20.2	C	34	0.14	20.2	C	36
		NBTR	0.66	11.7	B	218	0.59	10.4	B	179	0.57	9.9	A	167
		Overall		**12.5**	**B**			**11.3**	**B**			**10.9**	**B**	
7*	7: 169 St & 90 Ave	EBT	0.09	8.1	B	0	0.15	8	A	0	0.15	8.2	A	0
		EBR	0.09	8.1	B	0	0.15	8	A	0	0.15	8.2	A	0
		SBL	0.44	10.6	B	0	0.38	10	A	0	0.4	10.2	B	0
		SBT	0.44	10.6	B	0	0.38	10	A	0	0.4	10.2	B	0
		Overall		**10.2**	**B**			**9.4**	**A**			**9.7**	**A**	
8	8: 168 St & Hillside Ave	EBL	0.39	15.1	B	18	0.11	3.8	A	6	0.14	5.4	A	10
		EBT	0.47	9.6	A	64	0.41	4.3	A	32	0.64	9.8	A	130
		WBT(WBTR)	0.61	18.8	B	305	0.4	13.6	B	163	0.45	17	B	192
		WBR	0.15	12.7	B	60								
		NBLT (NBL for AM)	0.28	33.7	C	118	0.58	48.1	D	237	0.47	35	C	166
		NBR (NBTR for AM)	0.5	38	D	238	0.24	40	D	77	0.17	30.2	C	64

Intersection		Movement	AM (7:30 – 8:30 AM)				MD (13:15 – 14:15 PM)				PM (16:45 – 17:45 PM)			
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%
		NBTR (Bus Lane)	0.1	33.7	C	m24	0.1	38.3	D	27	0.09	35.2	D	m27
		Overall		**18.9**	**B**			**15.5**	**B**			**15.3**	**B**	
9	**9: 168 St & Jamaica Ave**	EBL	0.26	9.8	A	33	0.23	7.1	A	13	0.28	6	A	57
		EBT	0.3	9.4	A	49	0.26	6.5	A	24	0.27	4.5	A	168
		EBR	0.05	6.8	A	9	0.08	4.8	A	7	0.06	1.3	A	1
		WBL	0.44	18.5	B	166	0.42	20.3	C	133	0.53	19.7	B	200
		WBT	0.35	16.1	B	143	0.3	17.3	B	110	0.25	13.3	B	107
		WBR	0.19	13.5	B	76	0.31	17.6	B	106	0.29	14.4	B	88
		NBL	0.17	33.7	C	54	0.11	28.2	C	48	0.19	32.5	C	64
		NBT (NBTR)	0.57	39.6	D	212	0.41	31.9	C	165	0.57	40.2	D	291
		NBR									0.28	34.2	C	97
		Overall		**22.4**	**C**			**19.7**	**B**			**19.6**	**B**	
10	**10: Jamaica Ave & 169 St**	EBT	0.22	11.1	B	82	0.23	13.5	B	90	0.24	11.3	B	92
		WBT	0.3	3.5	A	120	0.23	7.3	A	30	0.24	7.2	A	36
		SBL	0.39	41.6	D	128	0.31	35.7	D	120	0.48	44.2	D	160
		SBR	0.49	44.7	D	154	0.53	41.8	D	199	0.57	47.7	D	190
		Overall		**15.8**	**B**			**19.3**	**B**			**20.2**	**C**	

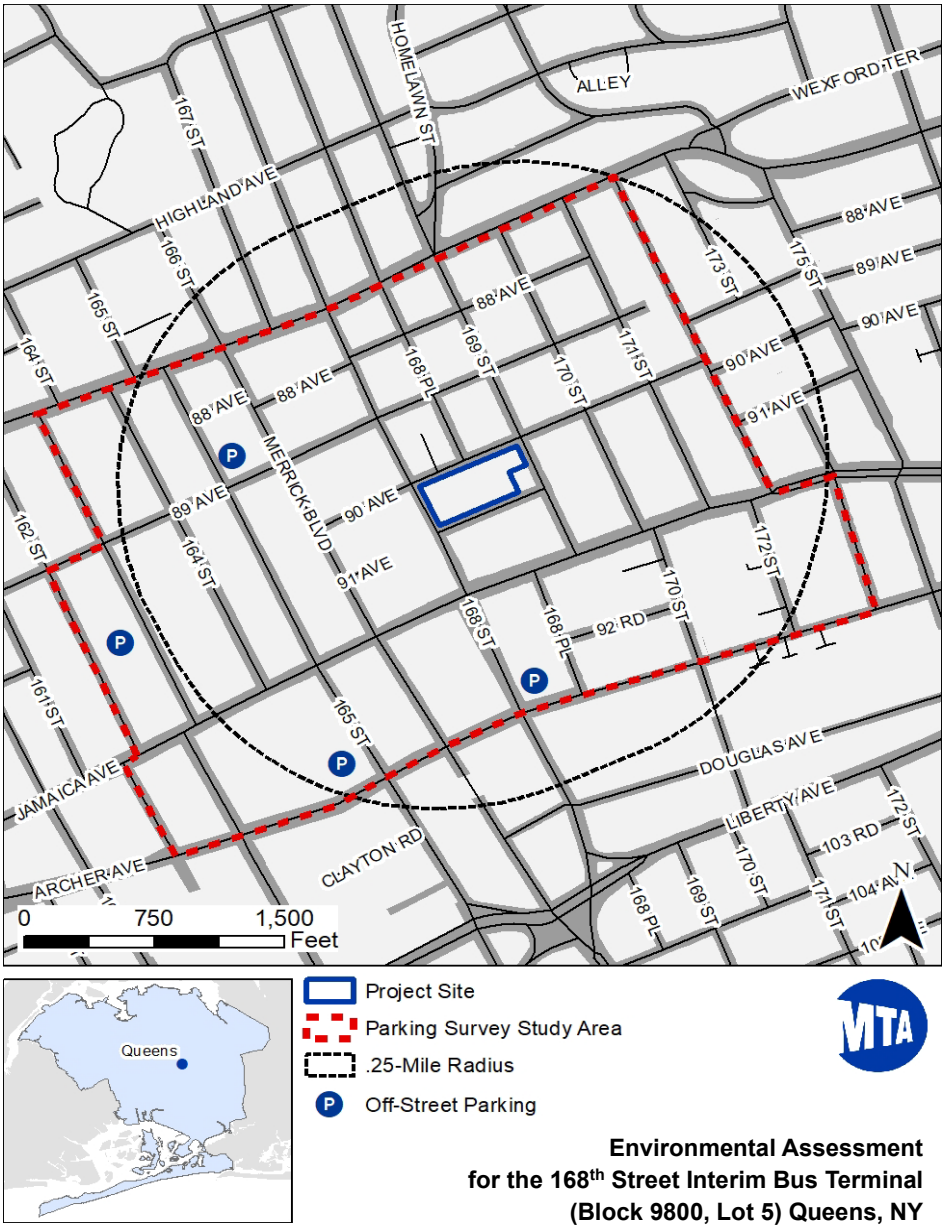
Notes:
*Unsignalized intersections
**Control Delay for unsignalized intersections

3.2 Parking

3.2.1 Data Collection

A comprehensive parking data collection program was conducted for both on-street and off-street facilities within the parking survey study area, preliminarily identified as the area bounded, in general, by 162/163rd Streets on the west, Hillside Avenue on the north, 172nd/173rd Streets on the east, and Archer Avenue on the south (see **Figure 3-5**).

Figure 3-5: Parking Survey Study Area



3.2.1.1 On-Street Parking

The parking surveys included all block faces in the parking survey study area for on-street parking. Parking utilization (# vehicles parked) on each block face was observed and documented for every hour between 5 AM and 7 PM on Wednesday, April 26, 2023. This was done by a drive-by survey, with at least two observations made during each hour. In addition, curbside parking regulations were inventoried.

3.2.1.2 Off-Street Parking

Four off-street public parking facilities (lots and garages), including the project site, which is currently used as a parking lot, were surveyed. **Table 3-3** shows the four off-street parking facilities surveyed.

Table 3-3: Off-Street Parking Facilities Surveyed

Name of Parking Facility	Location	Capacity
Impark (project site)	168-36 90th Avenue	253 spaces
Jamaica First Parking	162nd Street	405 spaces
Jamaica First Parking	Archer Avenue	601 spaces
165th Street Parking Inc.	165th Street	150 spaces

For off-street parking facilities, an inventory was taken at each facility including the name of the facility, posted parking capacity, parking rates (weekday and weekend), and hours of operation. Observations of parking occupancy were made at least two times per hour between 5 AM and 7 PM at each facility. At the project site, the number of parked vehicles in the facility were counted at 5:00 AM and then the ins/outs at the lot were recorded by Miovision cameras, concurrently with the vehicular turning movement counts. The ins/outs from the VTMCs at the driveways of this facility were used to calculate parking occupancy/accumulation at the facility on an hourly basis from 5 AM to 7 PM.

3.2.2 Existing Parking Supply and Demand (Utilization)

3.2.2.1 On-Street

Table 3-4 presents a summary of the overall on-street weekday parking capacity and utilization for the 14-hour survey period from 5 AM to 7 PM. On-street parking supply (capacity) varies hourly due to different curbside parking regulations that are in effect throughout the day. For all on-street spaces in the parking survey study area combined, hourly capacities vary from approximately 1,227 spaces at 8 AM to approximately 1,494 spaces at 6 AM.

On-street utilization varies from 79 percent between 5 AM and 6 AM to 121 percent between 3 PM and 4 PM. Consistently between 8 AM and 7 PM, on-street parking utilization exceeds the legal capacity in the parking survey study area with as many as 264 illegally parked vehicles recorded in the parking survey study area between 3 and 4 PM.

Table 3-4: Weekday On-Street Parking Supply and Utilization – 2023 Existing Conditions

Time	Capacity	Utilization	% Utilization	Available Spaces
5-6 AM	1,485	1,176	79%	309
6-7 AM	1,494	1,390	93%	104
7-8 AM	1,310	1,242	95%	68
8-9 AM	1,227	1,336	109%	-109
9-10 AM	1,329	1,510	114%	-181
10-11 AM	1,305	1,358	104%	-53
11-12 noon	1,328	1,437	108%	-109
12-1 PM	1,274	1,520	119%	-246
1-2 PM	1,256	1,401	112%	-145
2-3 PM	1,274	1,359	107%	-85
3-4 PM	1,274	1,538	121%	-264
4-5 PM	1,238	1,345	109%	-107
5-6 PM	1,256	1,329	106%	-73
6-7 PM	1,328	1,393	105%	-65

3.2.2.2 Off-Street

Table 3-5 presents a summary of the weekday parking capacity, utilization and accumulation for the parking facility at the *project site* for the 14-hour survey period from 5 AM to 7 PM.

The project site, which is a paid, public parking facility has a posted capacity of 253 cars. The highest parking accumulation occurred between 2 PM and 3 PM when 137 vehicles were parked, representing 54 percent of the lot's capacity.

Table 3-6 presents a summary of the weekday parking capacity, utilization and accumulation for the *other three off-street parking facilities surveyed* for the 14-hour survey period from 5 AM to 7 PM.

The three other off-street parking facilities surveyed are also paid, public parking facilities with a combined capacity of 1,156 cars. Overall, the highest parking accumulation occurred between 11 AM and 12 noon, when 842 vehicles were parked, representing 73 percent of the facilities' combined capacities, and 314 available (unoccupied) parking spaces.

Table 3-5: Weekday Project Site Parking Capacity, Utilization, and Accumulation – 2023 Existing Conditions

Time	Capacity	IN	OUT	Accumulation	% Occupied
5 AM	253			37	15%
5-6 AM	253	2	9	30	12%
6-7 AM	253	8	6	32	13%
7-8 AM	253	11	5	38	15%
8-9 AM	253	32	8	62	25%
9-10 AM	253	36	12	86	34%
10-11 AM	253	37	22	101	40%
11-12 noon	253	35	18	118	47%
12-1 PM	253	39	32	125	49%
1-2 PM	253	34	29	130	51%
2-3 PM	253	31	24	137	54%
3-4 PM	253	22	28	131	52%
4-5 PM	253	12	39	104	41%
5-6 PM	253	9	19	94	37%
6-7 PM	253	6	15	85	34%

Table 3-6: Other Three Off-Street Parking Facilities Capacity, Utilization, and Accumulation – 2023 Existing Conditions

Time	Capacity	Utilization	% Utilization	Available Spaces
5 AM	1,156	178	15%	978
5-6 AM	1,156	347	30%	809
6-7 AM	1,156	508	44%	648
7-8 AM	1,156	586	51%	570
8-9 AM	1,156	668	58%	488
9-10 AM	1,156	739	64%	417
10-11 AM	1,156	768	66%	388
11-12 noon	1,156	842	73%	314
12-1 PM	1,156	785	68%	371
1-2 PM	1,156	762	66%	394
2-3 PM	1,156	648	56%	508
3-4 PM	1,156	564	49%	592
4-5 PM	1,156	409	35%	747
5-6 PM	1,156	275	24%	881
6-7 PM	1,156	185	16%	971

3.3 Transit

This area of Jamaica is well served by subway and bus service. The nearest subway station is the 169th Street station on the F line located at Hillside Avenue @ 169th Street. The LIRR Jamaica Station is located approximately one mile southwest of the site at Archer Avenue and Sutphin Boulevard. Bus service in the area is provided by numerous bus routes including the 16 Queens County MTA (MTA Bus Company and NYCT) and NICE bus routes that currently use the existing 165th Street/Jamaica Bus Terminal as discussed above.

MTA bus routes serve local routes in eastern Queens to the north, east, and south of Jamaica. NICE bus routes serve local routes in Nassau County while also operating services into Queens and Suffolk Counties. Both MTA and NICE bus routes are currently served at the existing 165th Street/Jamaica Bus Terminal at 89-21 165th Street (at Merrick Boulevard and 89th Avenue) in Jamaica, Queens. These buses served at the existing bus terminal will be relocated to the 168th Street Interim Bus Terminal, which is approximately 0.3 miles east of the existing bus terminal.

The existing 165th Street/Jamaica Bus Terminal is centrally located for MTA and NICE bus routes originating and terminating at the terminal and providing local bus service throughout eastern Queens (to the north, east, and south), Nassau County, and western Suffolk County. As a gateway to the New York City regional transit networks, commuters

arriving at the existing 165th Street/Jamaica Bus Terminal are in close proximity to local routes, regional bus route transfer locations, and MTA Subway E, F, and J lines.

3.4 Pedestrians

The *CEQR Technical Manual* indicates that a detailed pedestrian analysis be performed for projects that are likely to generate 200 or more net incremental pedestrian trips during any peak hour on any one pedestrian element (i.e., a sidewalk, crosswalk, or corner). To determine whether detailed analyses are warranted, Level 1 and Level 2 screening assessments were performed to determine if, and which pedestrian elements would exceed the screening threshold, and therefore subject to further analyses.

3.4.1 Level 1 Screening Assessment

The Level 1 screening assessment focuses on the number of peak hour pedestrian trips projected to be generated by the 168th Street Interim Bus Terminal. The 168th Street Interim Bus Terminal will not generate any "*new*" trips; however, pedestrians (passengers) who currently walk to and from the existing 165th Street/Jamaica Bus Terminal before boarding and after disembarking buses at the terminal will be "*reassigned*" to the 168th Street Interim Bus Terminal.

Daily and peak hour passenger ON and OFF volumes boarding and disembarking buses at the existing 165th Street/Jamaica Bus Terminal were obtained from MTA NYCT Bus. The passenger counts were revised to exclude bus-to-bus transfers to yield the actual number of passengers (pedestrians) who actually walk to and from the existing bus terminal.

Table 3-7 shows the number of passengers boarding and disembarking at the existing terminal, excluding bus-to-bus transfers during the weekday AM (8 AM to 9 AM), Midday (1 PM to 2 PM) and PM (5 PM to 6 PM) peak hours, as well as the daily volumes. These would be the same number of passengers (pedestrians) walking to and from the 168th Street Interim Bus Terminal.

Table 3-7: Peak Hour and Daily ON and OFF Passenger Counts at Existing 165th Street/Jamaica Bus Terminal

Time	ON	OFF	Total
AM	187	257	444
MD	251	148	399
PM	393	186	579
Daily	3,945	2,761	6,706

As shown, the combined number of ON and OFF counts exceed the Level 1 CEQR screening threshold of 200 pedestrians per hour during every peak hour. Therefore, a Level 2 screening was conducted.

3.4.2 Level 2 Screening Assessment

The Level 2 pedestrian screening assessment focused on the distribution and assignment of pedestrian trips to and from the 168th Street Interim Bus Terminal and using the ON and OFF counts shown in **Table 3-7**. The "ON" counts correspond to pedestrians arriving at the terminal to board buses; the "OFF" counts represent passengers leaving the terminal after disembarking the buses.

3.4.2.1 Trip Distribution

Pedestrian trip distribution, in terms of the general directions from which passengers arrived from before boarding buses, and the directions where they were headed to after disembarking buses, was based on the results of a localized origin-destination survey conducted at the existing 165th Street/Jamaica Bus Terminal in May 2023. The survey was conducted on Wednesday, May 10 and Thursday, May 11, 2023, during the AM (7 AM to 9 AM), Midday (1 PM to 3 PM)

and PM (5 PM 7 PM) peak periods. The number of passengers arriving at, and departing the terminal by directions (east, west, north and south) were observed, counted and documented. Only pedestrians arriving at and departing from the *terminal* were included in the survey; "*background"* pedestrians were not included.

The results of the origin-destination survey are shown in **Table 3-8**.

Table 3-8: Origin-Destination Survey Results at Existing 165th Street/Jamaica Bus Terminal

	Passengers			Percent		
Observed Passenger Origin-Destination	**AM**	**Midday**	**PM**	**AM**	**Midday**	**PM**
To/From North	170	221	182	23%	17%	12%
To/From South	192	475	596	27%	38%	41%
To/From East	178	218	208	25%	17%	14%
To/From West	182	354	479	25%	28%	33%
All Directions	722	1,268	1,465	100%	100%	100%

During the weekday AM peak period, passenger (pedestrian) trip distribution was generally equally spread out in all four directions. During the Midday and PM peak periods, more pedestrians seem to be headed to/from the south and west, likely associated with the concentration of commercial activities on Jamaica Avenue located south of the existing terminal, and the 165th Street shopping corridor located west of the existing terminal.

3.4.2.2 Trip Assignment

Passengers (pedestrians) were assigned to and from the 168th Street Interim Bus Terminal to pedestrian facilities (sidewalks, crosswalks and corners) based on their general direction of origins and destinations in accordance with the origin-destination survey results at the *existing* bus terminal, as described above. In assigning pedestrians to specific facilities, the following assumptions were made:

To/From North: 50% of arriving and departing pedestrians were assigned to the *east sidewalk of 168th Street* between Hillside Avenue and 90th Avenue; and the south sidewalk of 90th Avenue between 168th Street and 168th Place. They all would enter and leave the terminal via the pedestrian ingress/egress point located on the south side of 90th Avenue between 168th Street and 168th Place.

50% of arriving and departing pedestrians were assigned to the *west sidewalk of 169th Street* between Hillside Avenue and 90th Avenue; and the south sidewalk of 90th Avenue between 168th Place and 169th Street. They all would enter and leave the terminal via the pedestrian ingress/egress point located on the south side of 90th Avenue between 168th Place and 169th Street.

To/From South: 50% of arriving and departing pedestrians were assigned to the *east sidewalks of 168th Street* between Jamaica Avenue and 91st Avenue, and 91st Avenue to 90th Avenue. They all would enter and leave the terminal via the pedestrian ingress/egress point located on the east side of 168th Street between 90th Avenue and 91st Avenue (closer to 91st Avenue, south of the bus entry/exit driveway).

50% of arriving and departing pedestrians were assigned to the *west sidewalk of 169th Street* between Jamaica Avenue and 91st Avenue. It is assumed that half of them (25%) would enter and leave the terminal via the pedestrian ingress/egress point located on the north side of 91st Avenue between 168th Place and 169th Street (closer to 169th Street). The remaining half (25%) would continue walking on the west sidewalk on 169th Street between 91st Avenue and 90th Avenue, and on the south sidewalk of 90th Avenue between 168th Place and 169th Street. They would enter and leave

the terminal via the pedestrian ingress/egress point located on the south side of 90th Avenue between 168th Place and 169th Street.

To/From East: 50% of arriving and departing pedestrians were assigned to the *west sidewalk of 169th Street* between 89th and 90th Avenues, and the south sidewalk of 90th Avenue between 168th Place and 169th Street. They would enter and leave the terminal via the pedestrian ingress/egress point located on the south side of 90th Avenue between 168th Place and 169th Street.

50% of arriving and departing pedestrians were assigned to the *south sidewalk of 90th Avenue* between 169th Street and 170th Street; and the south sidewalk of 91st Avenue between 168th Street and 169th Street. They would enter and leave the terminal via the pedestrian ingress/egress point located on the north side of 91st Avenue between 168th Place and 169th Street (closer to 169th Street).

To/From West: 50% of arriving and departing pedestrians were assigned to the *east sidewalk of 168th Street* between Hillside Avenue and 90th Avenue; and the south sidewalk of 90th Avenue between 168th Street and 168th Place. They all would enter and leave the terminal via the pedestrian ingress/egress point located on the south side of 90th Avenue between 168th Street and 168th Place.

50% of arriving and departing pedestrians were assigned to the *south sidewalk of* 90th Avenue between Merrick Boulevard and 168th Street; and the south sidewalk of 90th Avenue between 168th Street and 168th Place. They would enter and leave the terminal via the pedestrian ingress/egress point located on the south side of 90th Avenue between 168th Street and 168th Place.

Figures 1 through 3 in Appendix A show the assignment percentages of pedestrians assigned to the various sidewalks during the AM, Midday and PM peak hours.

In addition to the use of specific sidewalks described above, the pedestrian assignments also considered the specific crosswalks and street corners that would be used to and from the 168th Street Interim Bus Terminal. The resulting volumes of pedestrians projected to use specific sidewalks, crosswalks, and street corners during each of the AM, Midday and PM peak hours are shown in **Table 3-9**.

Table 3-9: Pedestrian Assignment

Pedestrian Facility	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Sidewalks			
90th Avenue between 168th Street and 168th Place (south side)	**162**	**146**	**225**
90th Avenue between 169th Street and 168th Place (south side)	**192**	**140**	**177**
168th Street between 89th Avenue and 90th Avenue (east side)	107	90	131
169th Street between 89th Avenue and 90th Avenue (west side)	107	68	77
168th Street between 91st Avenue and 90th Avenue (east side)	60	76	118
168th Street between Jamaica Avenue and 91st Avenue (east side)	60	76	118
169th Street between 91st Avenue and 90th Avenue (west side)	30	38	59
169th Street between Jamaica Avenue and 91st Street (west side)	60	76	118
91st Avenue between 169th Street and Parking entrance/exit (north side)	30	38	59
Crosswalks			
90th Avenue and 168th Street (east crosswalk)	107	90	131
Corners			
90th Avenue and 168th Street (southeast corner)	**162**	**146**	**225**
90t Avenue and 168th Street (northeast corner)	107	90	131

As shown, only one *sidewalk*, the south sidewalk of 90th Avenue between 168th Street and 168th Place is projected to experience an increase of more than 200 pedestrians during any peak hour (225 pedestrians during the PM peak hour). The same sidewalk is projected to experience an increase of 162 and 146 pedestrians during the AM and Midday peak hours, respectively.

The south sidewalk on 90th Avenue between 168th Place and 169th Street, while not meeting or exceeding the 200 pedestrians per hour screening criteria, would experience increases of 192, 140 and 177 pedestrians during the AM, Midday and PM peak hours, respectively.

In addition, one *corner*, the southeast corner at 90th Avenue @ 168th Street is also projected to experience an increase of more than 200 pedestrians in an hour (225 pedestrians during the PM peak hour). The same corner is projected to experience an increase of 162 and 146 pedestrians during the AM and Midday peak hours, respectively.

No *crosswalks* are projected to experience an increase of 200 or more pedestrians during any hour.

3.4.3 Detailed Pedestrian Analysis

Based on the foregoing level 1 and Level 2 screening assessments, the following pedestrian facilities were selected for detailed analyses, during the specified time periods. Though the screening criteria may not be met during all times

periods, if one peak hour exceeds the threshold, the other peak hours are also proposed for analyses. In the case of the south sidewalk on 90th Avenue between 168th Place and 169th Street, although the 200 pedestrians per hour criteria was not met during any peak hour, since they are just below the threshold, this sidewalk has also been selected for detailed analyses during all time periods.

Sidewalks:

- 90th Avenue between 168th Street and 168th Place (south sidewalk): AM, Midday and PM peak hours
- 90th Avenue between 168th Place and 169th Street (south sidewalk): AM, Midday and PM peak hours

Corners:

- 90th Avenue @168th Street (southeast corner): AM, Midday and PM peak hours

3.4.3.1 Data Collection

Field counts of pedestrian volumes at the two sidewalks and street corner at the intersection were conducted using Miovision cameras on Tuesday, April 25, 2023, between 5 AM and 7 PM. The data collection effort included counts of the numbers of pedestrians using the study sidewalks and street corner in 15-minute increments. In addition, the physical characteristics of pertinent elements were inventoried in the field. This inventory included sidewalk widths; curb return radii; and locations and dimensions of street accessories along the sidewalks and on corners (which constitute obstacles to the unimpeded flow of pedestrians).

Existing pedestrian volumes at the two study sidewalks and one street corner are shown in Appendix A for the weekday AM, Midday and PM peak hours.

3.4.3.2 Pedestrian Analysis Methodology and LOS Criteria

The analysis of pedestrian flow involves quantifying the comfort level for pedestrians walking along the sidewalks, waiting to cross the street at intersection corners, and crossing intersection crosswalks. The LOS is calculated using the physical and operational parameters at the intersection including the pedestrian flow rates, the lengths and widths (i.e., area) of the crosswalks, the effective widths of the sidewalks, the area of each street corner, conflicting vehicular traffic volumes that turn through the crosswalk, and the signal timing at the intersection. Sidewalk and street corner operations were analyzed using the methodologies described in the *CEQR Technical Manual* and were conducted using NYCDOT's Pedestrian Analysis Excel spreadsheet.

The street corner LOS methodologies are based on pedestrian density, as expressed in units of "*square feet of space per pedestrian*" (ft^2/ped), during the peak 15-minute period of the peak hour. The LOS ranges for street corners are as shown in **Table 3-10**.

Table 3-10: LOS Criteria for Street Corners

LOS	Square Feet of Space per Pedestrian (ft^2/ped)
A	>60.1
B	40.1 to 60.0
C	24.1 to 40.0
D	15.1 to 24.0
E	8.1 to 15.0
F	<8.0

Source: 2021 *CEQR Technical Manual*, Table 16-10.

The LOS methodology for sidewalks is also based on pedestrian density, as expressed in units of ft^2/ped, during the peak 15-minute period of the peak hour. The LOS ranges for sidewalks are as shown in **Table 3-11**.

Table 3-11: LOS Criteria for Sidewalks

LOS	Square Feet of Space per Pedestrian (ft^2/ped)
A	>530.1
B	90.1 to 530.0
C	40.1 to 90.0
D	23.1 to 40.0
E	11.1 to 23.0
F	<11.0

Source: 2021 *CEQR Technical Manual*, Table 16-9.

The results of the pedestrian sidewalk and corner LOS analysis under the 2023 Existing condition are shown in **Table 3-12**. As shown, the two sidewalks and corner all operate at LOS A under the Existing Conditions.

Table 3-12: Pedestrian LOS Summary – 2023 Existing Conditions

	AM Peak Hour		MD Peak Hour		PM Peak Hour	
Location	**Circulation Area (ft^2/ped)**	**LOS**	**Circulation Area (ft^2/ped)**	**LOS**	**Circulation Area (ft^2/ped)**	**LOS**
90th Ave/168th St SE Corner	451.3	A	561.1	A	374.9	A
90th Ave between 168th St and 168th Pl south sidewalk	164.8	A	154.5	A	154.5	A
90th Ave between 168th Pl and 169th St south sidewalk	398.0	A	304.3	A	344.9	A

4. Future without the Proposed Project (Future No-Action Condition)

4.1 Traffic

The Future No-Action Condition traffic analysis identifies how the study area's transportation system is projected to operate in the future without the Proposed Project. As such, the Future No-Action Condition traffic analysis includes anticipated future increases in background traffic volumes but does not include traffic generated by the Proposed Project. The 168th Street Interim Bus Terminal is expected to be fully completed and operational by 2024. Therefore, the analysis year for the Future No-Action and With-Action Conditions is the 2024 Build Year.

To establish year 2024 Future No-Action traffic volumes, the existing traffic volumes were increased by applying a background growth rate calculated over one year (i.e., 0.50% growth between 2023 and 2024) as per the growth rate for "Other Queens" noted in the *CEQR Technical Manual*.

In addition to background traffic growth, a search was conducted for projects that are proposed or under construction in the vicinity of the project site. The search consisted of contacting the New York City Department of Transportation (NYCDOT) and the New York City School Construction Authority (NYCSCA) and accessing the New York City Department of City Planning (NYCDCP) online Zoning Application Portal (ZAP) and the New York City Bureau of Standards and Appeals (NYCBSA) online applications database. NYCDOT and NYCSCA responded to the information request indicating no development projects were within the Study Area for the 2024 Build Year. The search of the NYCBSA online applications database indicated no development project applications were in the Study Area for the 2024 Build Year. Accordingly, no future development projects were identified or considered in the No-Action transportation analyses.

Therefore, the 2024 No-Action traffic volumes only reflect 2023 Existing volumes "*grown*" by the background traffic growth rate (0.50%). Due to the low growth rate applied for one year only, the resulting 2024 No-Action weekday AM, Midday and PM peak hour traffic volumes are, for the most part, the same as the 2023 Existing peak hour traffic volumes.

Figure 4-1, **Figure 4-2**, and **Figure 4-3** show the turning movement volumes at the study intersections during the weekday AM, Midday and PM peak hours, respectively, for the 2024 No-Action Condition.

Figure 4-1: 2024 No-Action Traffic Volumes – AM Peak Hour

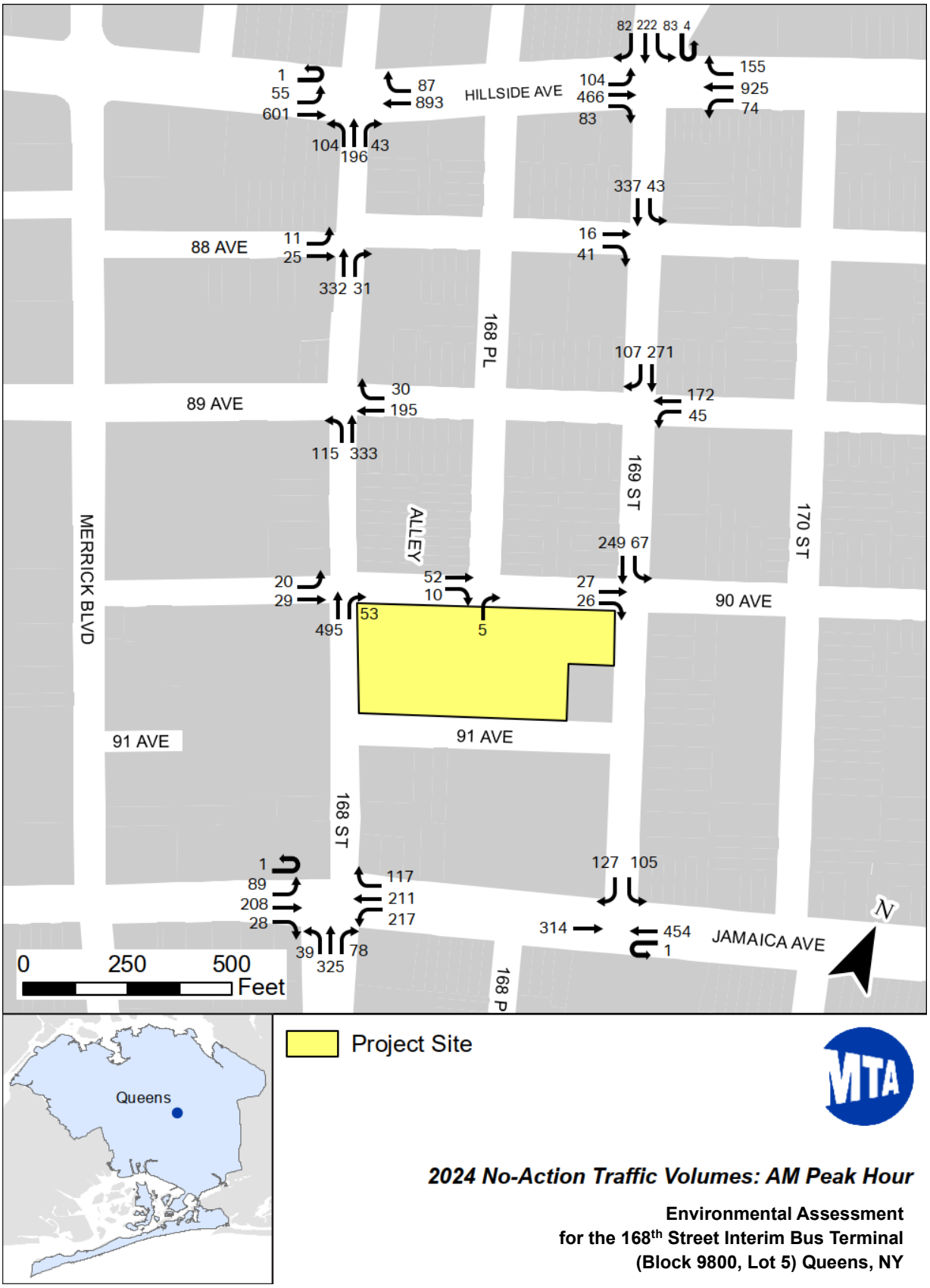


Figure 4-2: 2024 No-Action Traffic Volumes – Midday Peak Hour

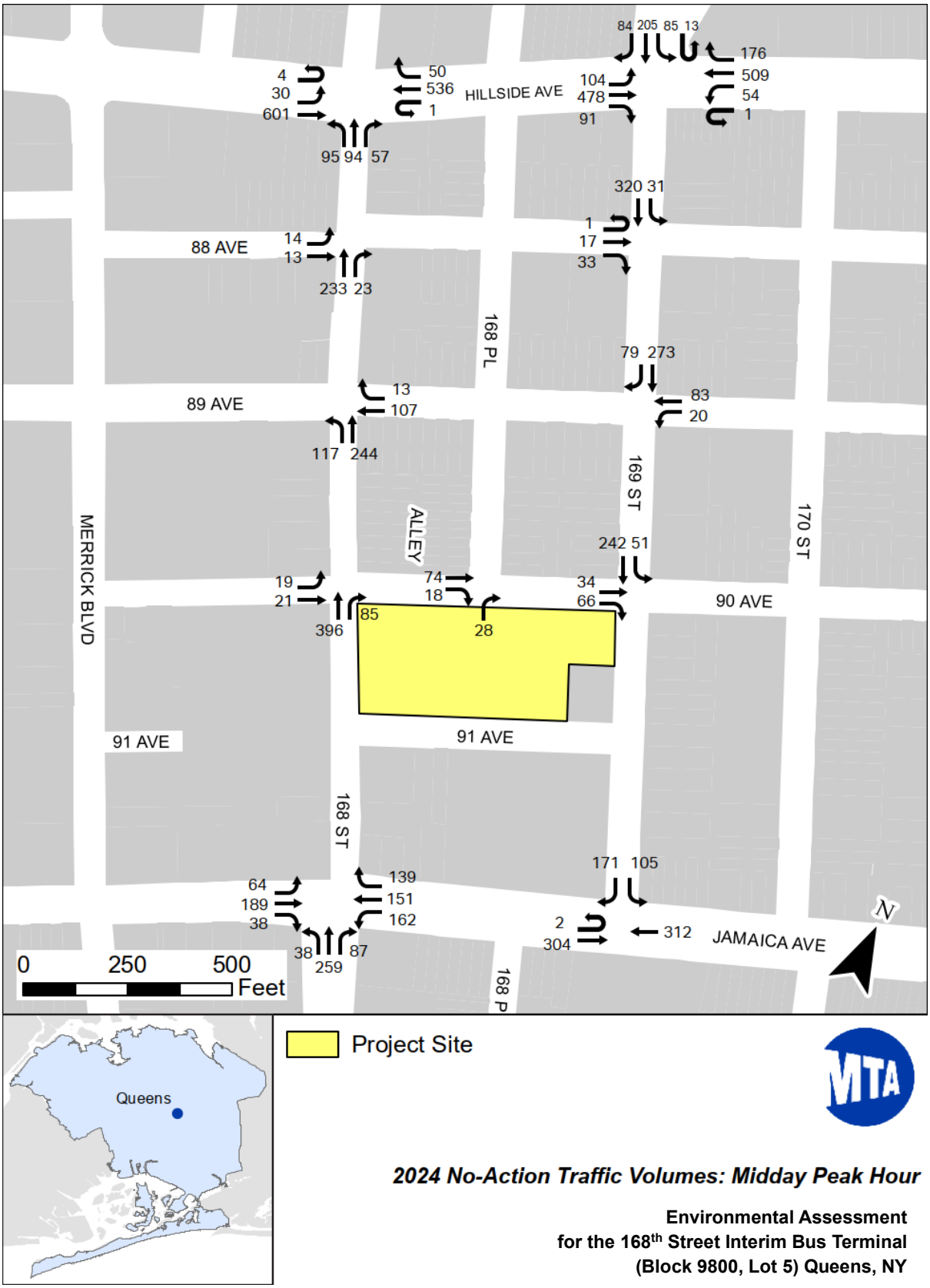
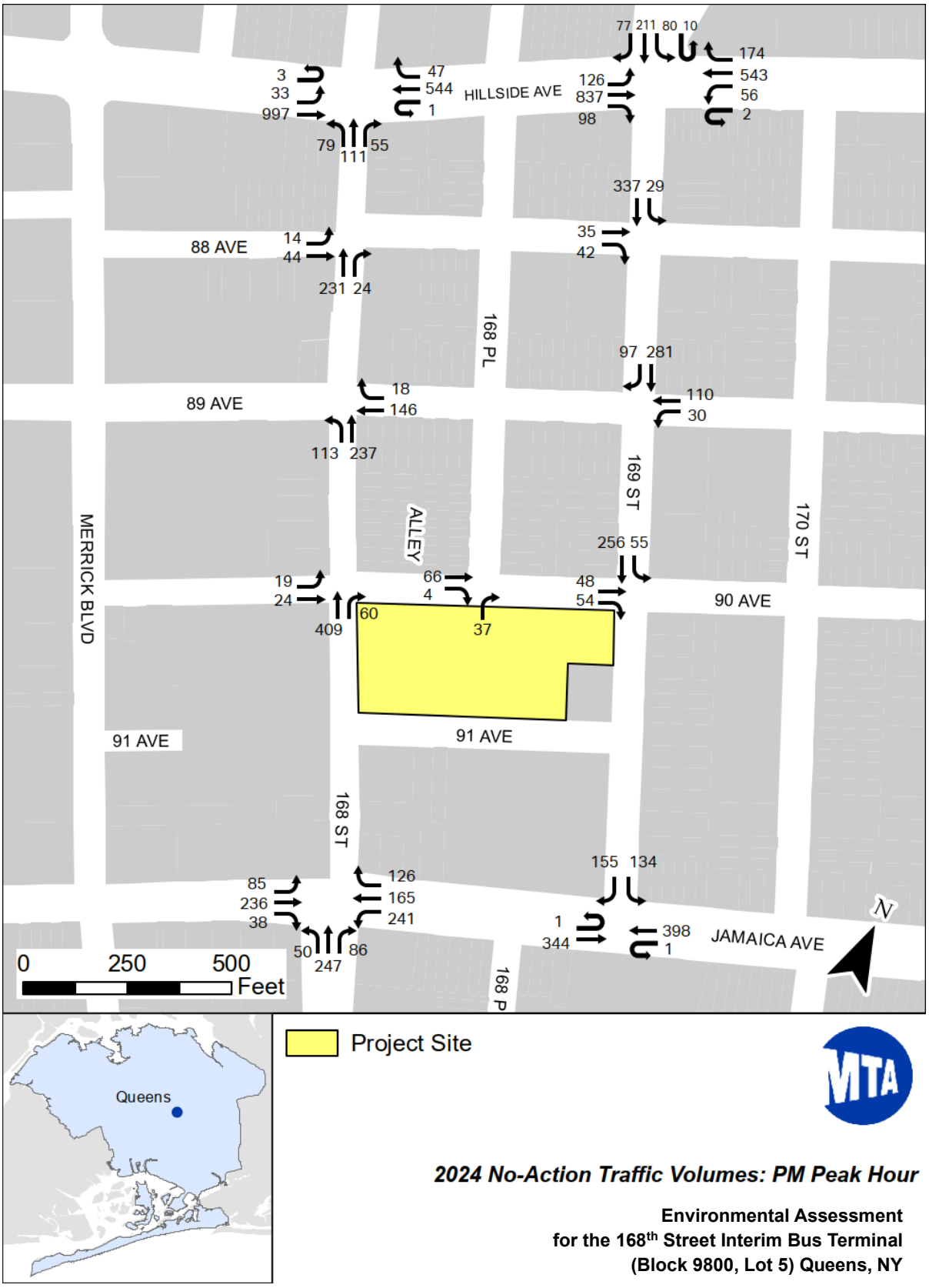


Figure 4-3: 2024 No-Action Traffic Volumes – PM Peak Hour



4.1.1 Capacity Analysis

Using the Future No-Action traffic volumes, the intersection capacity analyses were performed for the 2024 Future No-Action Condition. The 2024 No-Action LOS results are shown in **Table 4-1**. As shown, all of the lane groups at the study intersections are projected to continue to operate at LOS D or better, except for the following:

Hillside Avenue @ 169th Street:

- The southbound through movement is projected to operate at LOS F during the AM and PM peak hours, and at LOS E during the Midday peak hour.
- The southbound left turn movement is projected to continue operating at LOS E during the PM peak hour.

Table 4-1: 2024 No-Action V/C, Delay, and LOS

Intersection		Movement	AM (7:30 - 8:30 AM)				MD (13:15 - 14:15 PM)				PM (16:45 - 17:45 PM)			
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%
1	1: 169 St & Hillside Ave & Homelawn St	EBL	0.44	17.9	B	50	0.24	9.8	A	51	0.27	9.2	A	55
		EBT	0.36	15	B	143	0.32	14.5	B	140	0.54	16.6	B	265
		EBR	0.15	13.2	B	60	0.18	13.5	B	63	0.21	13	B	67
		WBL	0.19	3.8	A	12	0.13	5.3	A	24	0.24	4.9	A	11
		WBT	0.68	10.2	B	127	0.34	10.3	B	105	0.36	8.2	A	65
		WBR	0.29	5.4	A	23	0.39	12.5	B	86	0.38	9.8	A	50
		SBL	0.44	52.1	D	125	0.41	48.9	D	133	0.57	58.6	E	128
		SBT	0.92	87.7	F	#340	0.74	61.6	E	#267	0.88	80.2	F	#318
		SBR	0.48	54	D	117	0.42	49.5	D	115	0.48	54.7	D	111
		Overall		**22.1**	**C**			**21.8**	**C**			**22.5**	**C**	
2*	2: 168 St & 88 Ave	EBL	0.1	14	B	8	0.06	12.3	B	5	0.15	13.6	B	13
		EBT	0.1	14	B	8	0.06	12.3	B	5	0.15	13.6	B	13
		NBT	0.22	0	A	0	0.16	0	A	0	0.16	0	A	0
		NBR	0.02	0	A	0	0.02	0	A	0	0.02	0	A	0
		NBTR (Bus Lane)	0.02	0	A	0	0.01	0	A	0	0.01	0	A	0
		Overall		**1.4**	**A**			**1.3**	**A**			**2.7**	**A**	
3*	3: 169 St & 88 Ave	EBT	0.16	14.9	B	14	0.12	13.4	B	11	0.24	16.6	C	23
		EBR	0.16	14.9	B	14	0.12	13.4	B	11	0.24	16.6	C	23
		SBL	0.04	0.4	A	3	0.03	0.3	A	2	0.03	0.3	A	2
		SBT	0.04	1.2	A	3	0.03	0.9	A	2	0.03	0.9	A	2
		Overall		**3**	**A**			**2.6**	**A**			**3.8**	**A**	
4	4: 168 St & 89 Ave	WBT	0.6	26.4	C	140	0.24	22.5	C	94	0.45	22.9	C	102
		NBL					0.22	13.1	B	78				

Intersection		Movement	AM (7:30 - 8:30 AM)				MD (13:15 - 14:15 PM)				PM (16:45 - 17:45 PM)			
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%
		NBT (NBLT)	0.55	5.2	A	46	0.25	16.8	B	110	0.5	5.2	A	45
		NBT (Bus Lane)	0.04	2.8	A	m2	0.03	9.8	A	13	0.03	2.9	A	m2
		Overall		**11.9**	**B**			**17.1**	**B**			**10.3**	**B**	
5	5: 169 St & 89 Ave	WBT	0.36	13.8	B	99	0.17	11.8	B	51	0.22	12.2	B	65
		SBT(SBTR)	0.37	15.5	B	m208	0.25	19.8	B	165	0.62	14	B	m121
		SBR	0.19	12.6	B	m72								
		Overall		**14.4**	**B**			**17.8**	**B**			**13.5**	**B**	
6	6: 168 St & 90 Ave	EBLT	0.17	20.8	C	43	0.14	20.2	C	34	0.14	20.2	C	36
		NBTR	0.66	11.7	B	220	0.6	10.5	B	181	0.57	10	A	167
		Overall		**12.5**	**B**			**11.3**	**B**			**10.9**	**B**	
7*	7: 169 St & 90 Ave	EBT	0.09	8.1	A	0	0.15	8	A	0	0.15	8.2	A	0
		EBR	0.09	8.1	A	0	0.15	8	A	0	0.15	8.2	A	0
		SBL	0.44	10.6	B	0	0.38	10	A	0	0.4	10.2	B	0
		SBT	0.44	10.6	B	0	0.38	10	A	0	0.4	10.2	B	0
		Overall		**10.2**	**B**			**9.4**	**A**			**9.7**	**A**	
8	8: 168 St & Hillside Ave	EBL	0.39	15.3	B	18	0.11	3.7	A	6	0.14	5.4	A	10
		EBT	0.47	9.6	A	64	0.42	4.3	A	32	0.64	9.9	A	151
		WBT(WBTR)	0.61	18.9	B	306	0.4	13.6	B	164	0.45	17	B	193
		WBR	0.15	12.7	B	60								
		NBLT (NBL for AM)	0.29	33.7	C	120	0.56	47	D	231	0.48	35	C	167

Intersection		Movement	AM (7:30 - 8:30 AM)				MD (13:15 - 14:15 PM)				PM (16:45 - 17:45 PM)			
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%
		NBR (NBTR for AM)	0.51	38.1	D	240	0.24	40	D	77	0.17	30.1	C	63
		NBTR (Bus Lane)	0.18	37.2	D	m27	0.1	38.4	D	27	0.09	35.3	D	m27
		Overall		**19**	**B**			**15.2**	**B**			**15.4**	**B**	
9	**9: 168 St & Jamaica Ave**	EBL	0.27	9.8	A	33	0.23	7	A	13	0.28	6	A	57
		EBT	0.3	9.4	A	50	0.26	6.5	A	24	0.27	4.5	A	168
		EBR	0.05	6.8	A	9	0.08	4.8	A	7	0.06	1.3	A	1
		WBL	0.45	18.5	B	167	0.42	20.4	C	135	0.53	19.8	B	201
		WBT	0.35	16.1	B	144	0.3	17.3	B	111	0.25	13.3	B	108
		WBR	0.19	13.5	B	77	0.31	17.6	B	107	0.29	14.4	B	89
		NBL	0.17	33.7	C	54	0.11	28.2	C	48	0.19	32.5	C	64
		NBT (NBTR)	0.58	39.6	D	213	0.41	31.9	C	165	0.57	40.2	D	291
		NBR									0.28	34.3	C	97
		Overall		**22.4**	**C**			**19.7**	**B**			**19.6**	**B**	
10	**10: Jamaica Ave & 169 St**	EBT	0.23	11.1	B	83	0.23	13.5	B	90	0.24	11.3	B	93
		WBT	0.3	3.5	A	120	0.23	7.3	A	30	0.25	7.2	A	36
		SBL	0.39	41.7	D	130	0.31	35.8	D	121	0.49	44.3	D	161
		SBR	0.49	44.8	D	155	0.53	41.9	D	200	0.58	48	D	191
		Overall		**15.9**	**B**			**19.3**	**B**			**20.3**	**C**	

Notes:
*Unsignalized intersections
**Control Delay for unsignalized intersections

4.2 Parking

For the 2024 Future No-Action Condition, existing parking demand (utilization) was increased from 2023 to 2024 by applying the CEQR background traffic growth factor of 0.50% per year.

Table 4-2 presents a summary of the 2024 No-Action *overall on-street weekday parking capacity and utilization* for the 14-hour period from 5 AM to 7 PM. On-street accumulation patterns remain the same as Existing Conditions, but with slightly higher utilization due to the one-year background growth.

Table 4-2: On-Street Parking Supply and Utilization – 2024 Future No-Action Condition

Time	Capacity	Utilization	% Utilization	Available Spaces
5-6 AM	1,485	1,182	80%	303
6-7 AM	1,494	1,397	94%	97
7-8 AM	1,310	1,248	95%	62
8-9 AM	1,227	1,343	109%	-116
9-10 AM	1,329	1,518	114%	-189
10-11 AM	1,305	1,365	105%	-60
11-12 noon	1,328	1,444	109%	-116
12-1 PM	1,274	1,528	120%	-254
1-2 PM	1,256	1,408	112%	-152
2-3 PM	1,274	1,366	107%	-92
3-4 PM	1,274	1,546	121%	-272
4-5 PM	1,238	1,352	109%	-114
5-6 PM	1,256	1,336	106%	-80
6-7 PM	1,328	1,400	105%	-72

Table 4-3 presents a summary of the No-Action weekday parking capacity, utilization and accumulation for the parking facility at the *project site* for the 14-hour period from 5 AM to 7 PM. Accumulation patterns at the project site remain the same as Existing Conditions, but with slightly higher utilization due to the one-year background growth.

Table 4-3: Weekday Project Site Parking Capacity, Utilization, and Accumulation – 2024 Future No-Action Condition

Time	Capacity	IN	OUT	Accumulation	% Occupied
5 AM	253			37	15%
5-6 AM	253	2	9	30	12%
6-7 AM	253	8	6	32	13%
7-8 AM	253	11	5	38	15%
8-9 AM	253	32	8	62	25%
9-10 AM	253	36	12	86	34%
10-11 AM	253	37	22	101	40%
11-12 noon	253	35	18	118	47%
12-1 PM	253	39	32	125	49%
1-2 PM	253	34	29	130	51%
2-3 PM	253	31	24	137	54%
3-4 PM	253	22	28	131	52%
4-5 PM	253	12	39	104	41%
5-6 PM	253	9	19	94	37%
6-7 PM	253	6	15	85	34%

Table 4-4 presents a summary of the No-Action weekday parking capacity, utilization, and accumulation for the *other three off street parking facilities surveyed* for the 14-hour period from 5 AM to 7 PM. Accumulation patterns at the three off-street facilities remain the same as Existing conditions, but with slightly higher utilization due to the one-year background growth.

Table 4-4: Weekday Other Three Off-Street Parking Facilities Capacity, Utilization, and Accumulation – 2024 Future No-Action Condition

Time	Capacity	Utilization	% Utilization	Available Spaces
5 AM	1,156	179	15%	977
5-6 AM	1,156	349	30%	807
6-7 AM	1,156	511	44%	645
7-8 AM	1,156	589	51%	567
8-9 AM	1,156	671	58%	485
9-10 AM	1,156	743	64%	413
10-11 AM	1,156	772	67%	384
11-12 noon	1,156	846	73%	310
12-1 PM	1,156	789	68%	367
1-2 PM	1,156	766	66%	390
2-3 PM	1,156	651	56%	505
3-4 PM	1,156	567	49%	589
4-5 PM	1,156	411	36%	745
5-6 PM	1,156	276	24%	880
6-7 PM	1,156	186	16%	970

4.3 Transit

In the Future No-Action Condition, MTA and NICE buses will continue using the existing 165th Street/Jamaica Bus Terminal, and the project site will continue to be used as a public parking facility. There will be no rerouting of buses from the existing terminal to the 168th Street Interim Bus Terminal. All other transit services in the area are expected to continue operating as they do under the existing conditions.

4.4 Pedestrians

Pedestrian volumes were increased from 2023 to 2024 by applying the CEQR background traffic growth factor of 0.50% per year. The results of the pedestrian sidewalk and corner LOS analysis under the 2024 No-Action Condition are shown in **Table 4-5**. As shown, the two sidewalks and corner are projected to continue operating at LOS A during all three peak hours.

Table 4-5: Pedestrian LOS Summary – 2024 No-Action

	AM Peak Hour		MD Peak Hour		PM Peak Hour	
Location	**Circulation Area (ft^2/ped)**	**LOS**	**Circulation Area (ft^2/ped)**	**LOS**	**Circulation Area (ft^2/ped)**	**LOS**
90th Ave/168th St SE Corner	449.0	A	558.3	A	373.0	A
90th Ave between 168th St and 168th Pl south sidewalk	164.0	A	153.8	A	153.8	A
90th Ave between 168th Pl and 169th St south sidewalk	396.0	A	302.8	A	343.2	A

5. Future with the Proposed Project (Future With-Action Condition)

5.1 Traffic

The Future With-Action Condition traffic analysis identifies how the study intersections are projected to operate in the 2024 Build Year with the additional buses on the network.

5.1.1 Terminal Operations

The Proposed Project will operate as the 168th Street Interim Bus Terminal, which serves as a terminus and departure point for commuter routes. It also will provide a place for rest stops, bus layovers, and bus stops where passengers board and alight from buses. After leaving their respective bus depots (garages), buses will make their first stops at the 168th Street Interim Bus Terminal, pick up passengers, and begin their trip. Each bus will return to the 168th Street Interim Bus Terminal upon completion of their trip for the final stop. As a commuter bus service, NICE bus routes will continue operating only in the morning and evening peak periods.

On a typical weekday, 2,464 bus trips from all 16 routes will be made by the 16 assigned bus routes to and from the 168th Street Interim Bus Terminal (1,232 in and 1,232 out). **Table 5-1** shows the hourly weekday bus volumes that will be using the 168th Street Interim Bus Terminal, by direction (in/out) and driveway to be used (the west driveway refers to the 168th Street driveway; the east driveway refers to the 169th Street driveway).

Table 5-1: Weekday Hourly Bus Volumes Using the 168th Street Interim Bus Terminal

168th Street Terminal Bus Weekday Volumes														
	South MTABC Buses		North NYCT Buses		North NICE		West Driveway		East Driveway		Terminal Total			
	West Dr	East Dr	East Dr	West Dr	East Dr	West Dr								
Hour	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	Total	
0	5	5	9	9	5	5	5	14	14	5	19	19	38	
1	2	2	6	6	2	2	2	8	8	2	10	10	20	
2	2	2	5	5	2	2	2	7	7	2	9	9	18	
3	2	2	5	5	2	2	2	7	7	2	9	9	18	
4	2	2	8	8	7	7	2	15	15	2	17	17	34	
5	7	7	15	15	11	11	7	26	26	7	33	33	66	
6	22	22	32	32	20	20	22	52	52	22	74	74	148	
7	30	30	41	41	21	21	30	62	62	30	92	92	184	
8	29	29	47	47	20	20	29	67	67	29	96	96	192	AM Peak Hour
9	19	19	32	32	16	16	19	48	48	19	67	67	134	
10	15	15	23	23	9	9	15	32	32	15	47	47	94	
11	15	15	23	23	8	8	15	31	31	15	46	46	92	
12	15	15	24	24	8	8	15	32	32	15	47	47	94	
13	15	15	25	25	8	8	15	33	33	15	48	48	96	Midday Peak Hour
14	17	17	36	36	10	10	17	46	46	17	63	63	126	
15	25	25	47	47	20	20	25	67	67	25	92	92	184	
16	24	24	39	39	23	23	24	62	62	24	86	86	172	
17	25	25	39	39	25	25	25	64	64	25	89	89	178	PM Peak Hour
18	25	25	41	41	19	19	25	60	60	25	85	85	170	
19	11	11	34	34	13	13	11	47	47	11	58	58	116	
20	14	14	29	29	9	9	14	38	38	14	52	52	104	
21	11	11	20	20	7	7	11	27	27	11	38	38	76	
22	7	7	16	16	7	7	7	23	23	7	30	30	60	
23	6	6	14	14	5	5	6	19	19	6	25	25	50	
Grand Total	345	345	610	610	277	277	345	887	887	345	1,232	1,232	2,464	

5.1.2 Incremental Bus Volumes

The incremental vehicular traffic volumes generated by the Proposed Project will only be from bus trips. MTA bus operators will continue to commute to their reporting depots (garages) in Queens where they will drive their buses to and from the 168th Street Interim Bus Terminal. There will be a few dedicated parking spaces in the project site for bus dispatchers and maintenance vehicles, but these parking spaces will not be used during peak hours.

MTA NYCT Bus provided turning movement diagrams showing the number of incremental buses that would be added to the study intersections during the weekday AM, Midday and PM peak hours, based on their rerouting from the existing 165th Street/Jamaica Bus Terminal to the 168th Street Interim Bus Terminal. As stated earlier, the screening assessment concluded that the incremental bus volumes on weekend (Saturday being the higher of the two weekend days) would not meet or exceed CEQR thresholds. Therefore, Saturday was excluded from further detailed analyses.

Table 5-2 shows the incremental bus volumes at the 168th Street Interim Bus Terminal during the weekday AM, Midday and PM peak hours.

Table 5-2: Peak Hour Incremental Bus Volumes

Entrance/Exit Location	AM	MD	PM
168th Street Entrance	29	15	25
169th Street Entrance	67	33	64
168th Street Exit	67	33	64
169th Street Exit	29	15	25
Total In/Out	192	96	178

The peak hour incremental weekday bus volumes, assigned through the study area network, are shown in **Figure 5-1**. These volumes were added to the Future No-Action traffic volumes to yield the Future With-Action traffic volumes. The resulting 2024 Future With-Action traffic volumes are shown in **Figure 5-2**, **Figure 5-3**, and **Figure 5-4**.

It is noted that the peak hours for the bus volumes (8 AM to 9 AM, 1 PM to 2 PM and 5 PM to 6 PM) are slightly different than the peak traffic analysis hours (7:30 AM 8:30 AM, 1:15 PM to 2:15 PM and 4:45 PM to 5:45 PM), since the bus peak hours were determined before the traffic counts were taken and the traffic peak hours were determined. To be conservative, the incremental peak hour bus volumes were superimposed on the peak hour traffic volumes, representing a worst-case condition.

Figure 5-1: 2024 Incremental Weekday Bus Volumes

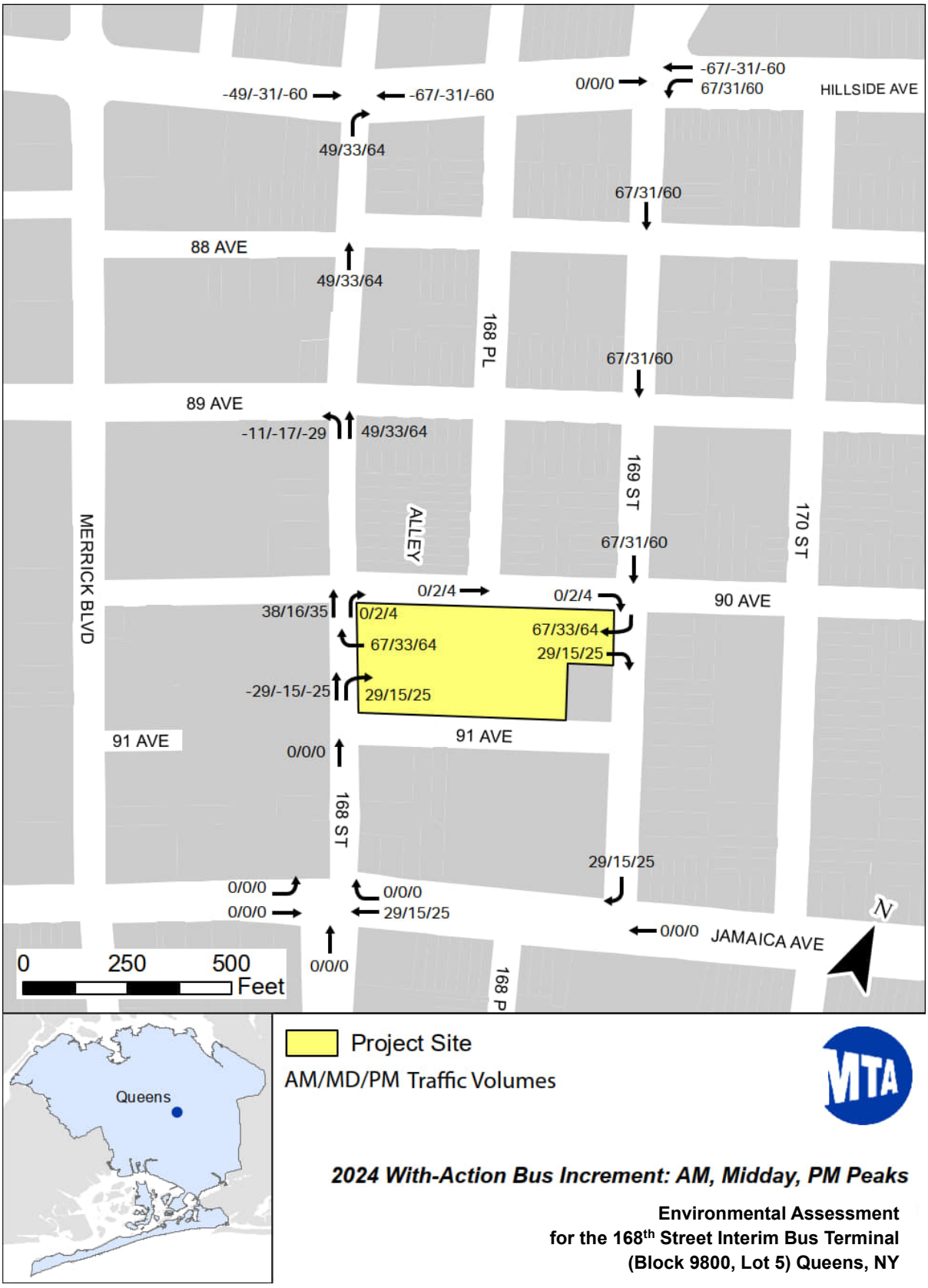


Figure 5-2: 2024 With-Action Traffic Volumes – AM Peak Hour

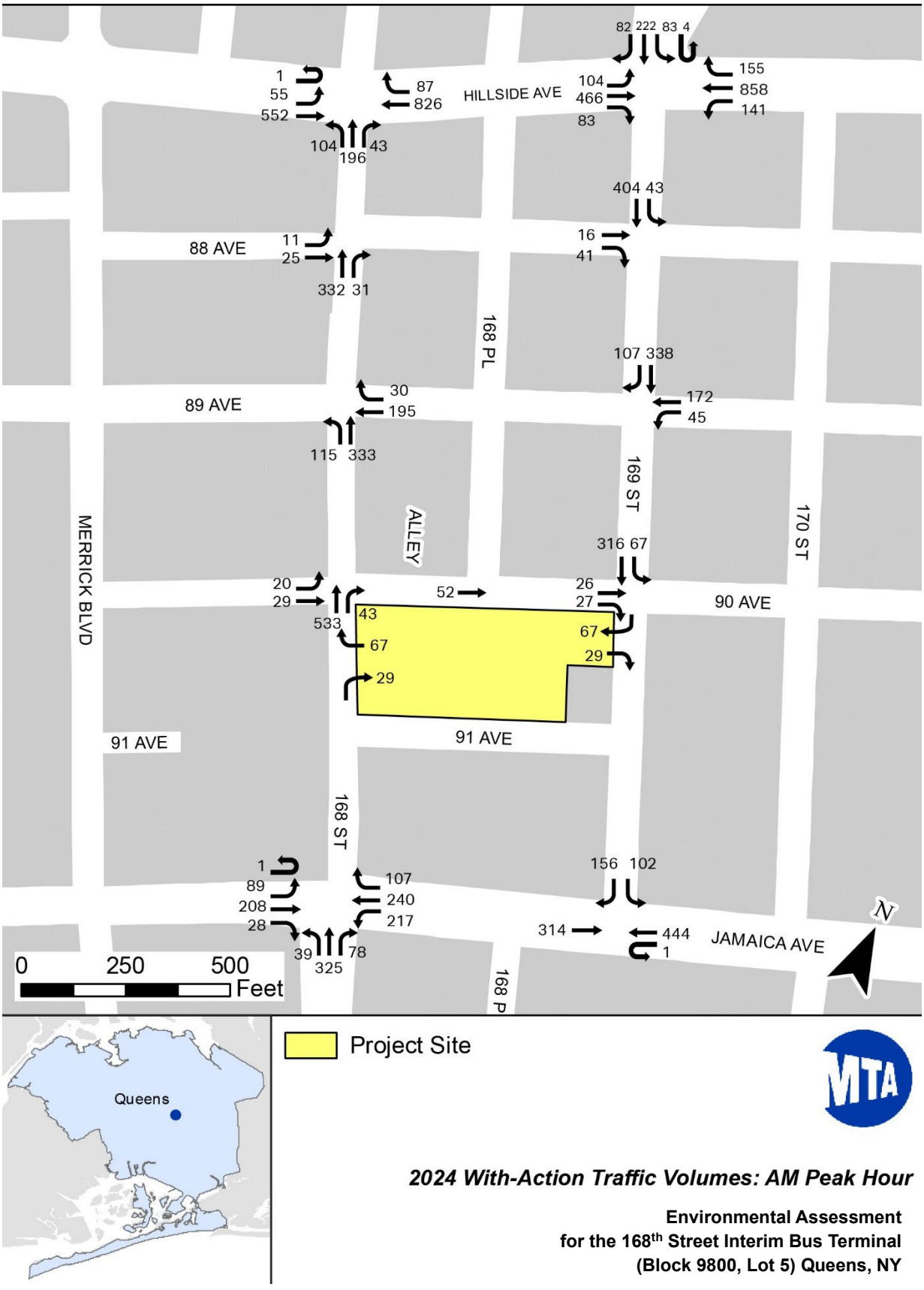


Figure 5-3: 2024 With-Action Traffic Volumes – Midday Peak Hour

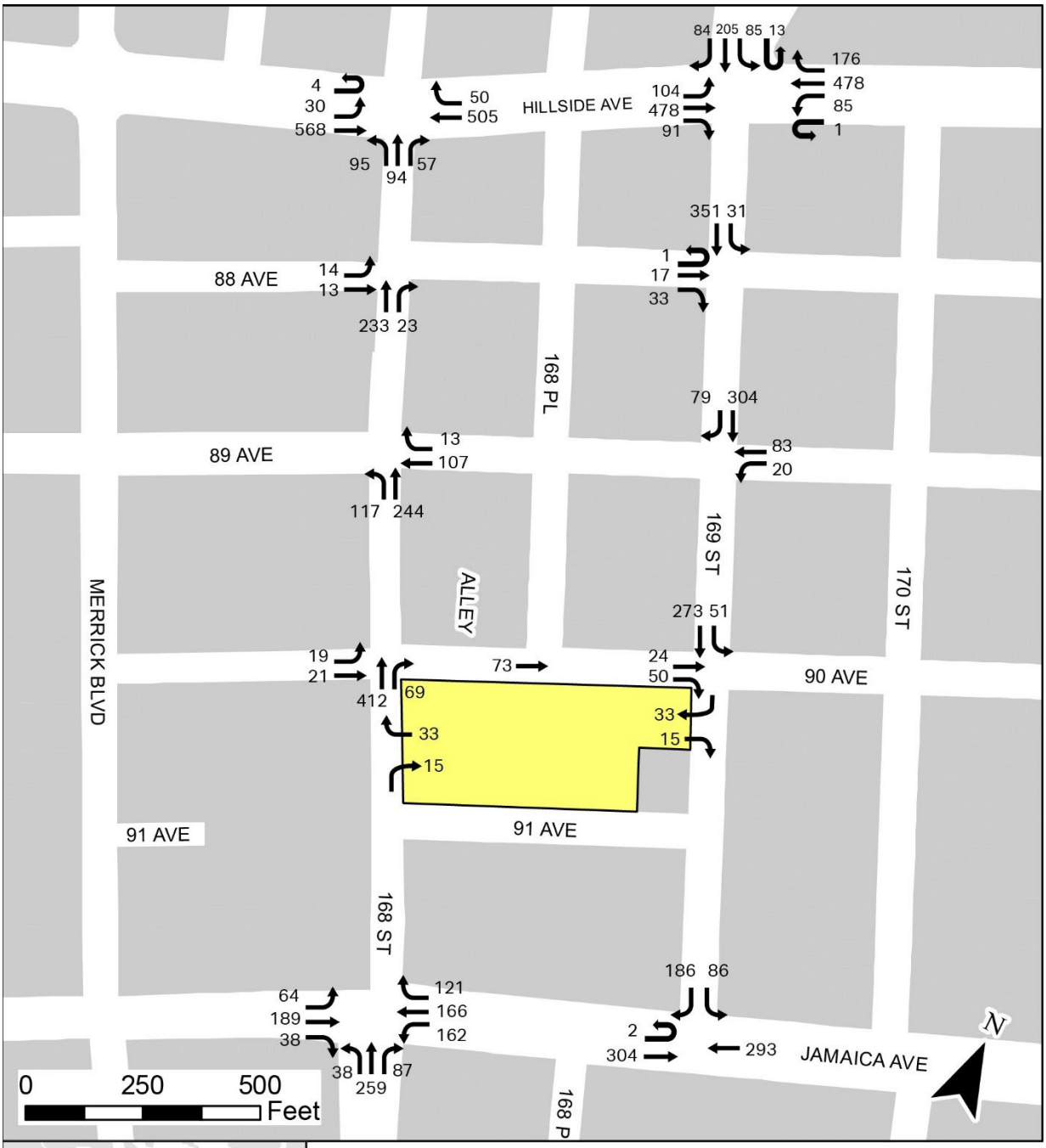
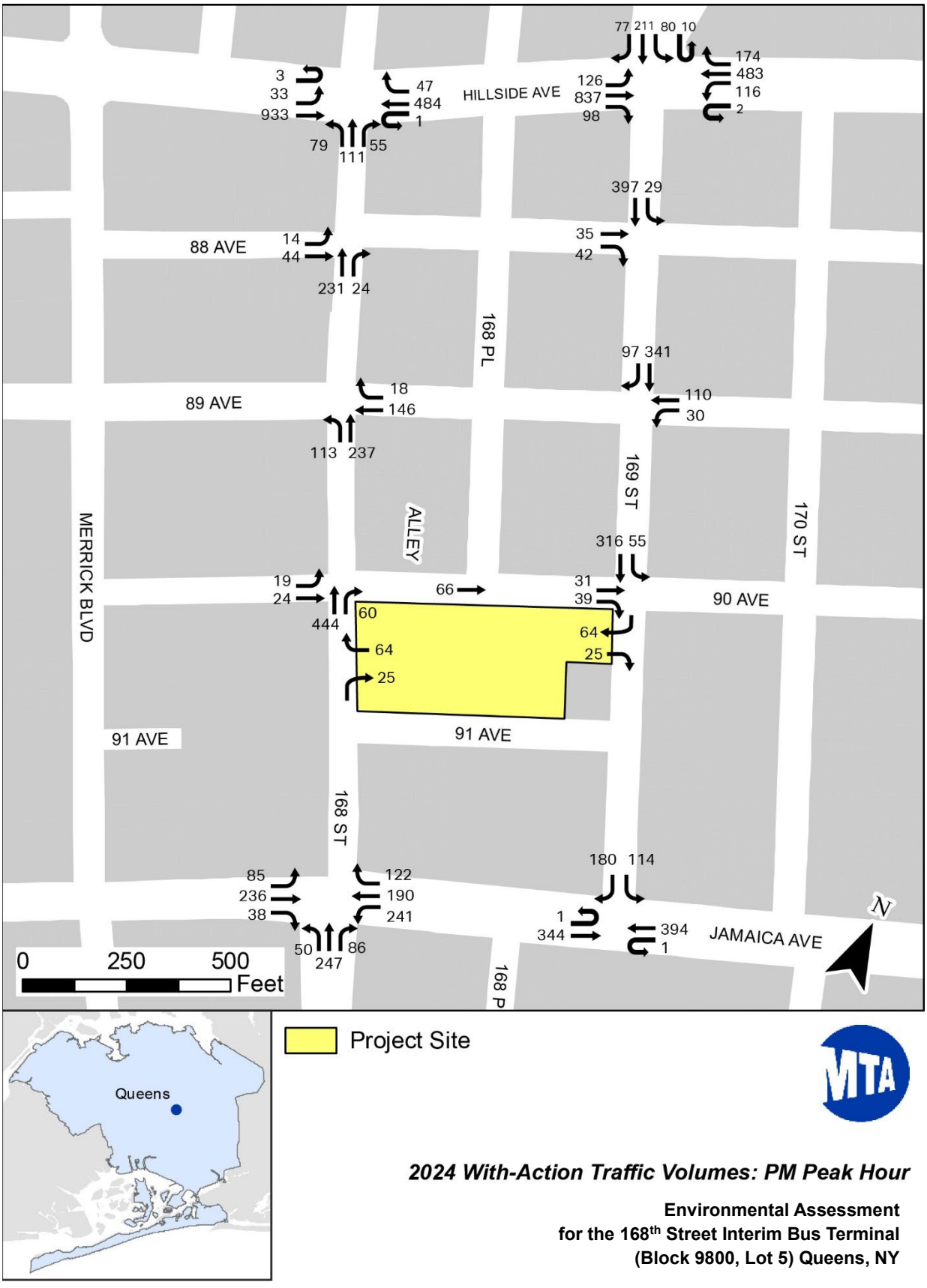


Figure 5-4: 2024 With-Action Traffic Volumes – PM Peak Hour



5.1.3 Capacity Analysis

Using the Future With-Action Condition traffic volumes, intersection capacity analyses were conducted using the Synchro traffic analysis model. The models were updated in the With-Action condition to reflect higher heavy vehicle percentages as a result of the additional buses on the network, and the increase in pedestrians in crosswalks. The Future With-Action LOS are shown in **Table 5-3**. As shown, all of the lane groups at the study intersections are projected to continue to operate at LOS D or better, except for the following:

Hillside Avenue @ 169th Street:

- The southbound through movement is projected to continue operating at LOS F during the AM and PM peak hours, and at LOS E during the Midday peak hour.
- The southbound left turn movement is projected to continue operating at LOS E during the PM peak hour.
- The southbound right turn movement is projected to operate at LOS E during the AM and PM peak hours.

Jamaica Avenue @ 169th Street:

- The southbound right turn movement is projected to operate at LOS E during the AM and PM peak hours.

Table 5-3: 2024 With-Action V/C, Delay, and LOS

Intersection		Movement	AM (7:30 - 8:30 AM)				MD (13:15 - 14:15 PM)				PM (16:45 - 17:45 PM)			
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%
1	1: 169 St & Hillside Ave & Homelawn St	EBL	0.41	15.4	B	50	0.23	9.6	A	51	0.25	8.8	A	55
		EBT	0.36	15	B	143	0.32	14.5	B	140	0.54	16.6	B	265
		EBR	0.15	13.2	B	60	0.18	13.5	B	63	0.21	13	B	67
		WBL	0.53	12.8	B	29	0.27	7.2	A	35	0.72	34.6	C	#64
		WBT	0.6	8	A	63	0.3	10	A	98	0.29	8	A	59
		WBR	0.29	5.4	A	23	0.39	12.5	B	86	0.38	9.9	A	51
		SBL	0.44	52.1	D	125	0.41	48.9	D	133	0.57	58.6	E	128
		SBT	0.92	87.7	F	#340	0.74	61.6	E	#267	0.88	84.7	F	#318
		SBR	0.51	56	E	118	0.44	50.4	D	116	0.51	56.1	E	111
		Overall		**21.6**	**C**			**21.7**	**C**			**24.5**	**C**	
2*	2: 168 St & 88 Ave	EBL	0.1	13.8	B	8	0.06	12.3	B	5	0.15	13.6	B	13
		EBT	0.1	13.8	B	8	0.06	12.3	B	5	0.15	13.6	B	13
		NBT	0.22	0	A	0	0.16	0	A	0	0.16	0	A	0
		NBR	0.02	0	A	0	0.02	0	A	0	0.02	0	A	0
		NBTR (Bus Lane)	0.05	0	A	0	0.04	0	A	0	0.06	0	A	0
		Overall		**1.4**	**A**			**1.3**	**A**			**2.7**	**A**	
3*	3: 169 St & 88 Ave	EBT	0.2	17.6	C	18	0.14	14.5	B	12	0.28	19.4	C	28
		EBR	0.2	17.6	C	18	0.14	14.5	B	12	0.28	19.4	C	28
		SBL	0.04	0.4	A	3	0.03	0.3	A	2	0.03	0.3	A	2
		SBT	0.04	1.1	A	3	0.03	0.9	A	2	0.03	0.8	A	2
		Overall		**3.1**	**A**			**2.6**	**A**			**3.9**	**A**	
4	4: 168 St & 89 Ave	WBT	0.6	26.4	C	140	0.24	22.5	C	94	0.45	22.8	C	102
		NBL					0.18	12.2	B	69				

Intersection		Movement	AM (7:30 - 8:30 AM)				MD (13:15 - 14:15 PM)				PM (16:45 - 17:45 PM)			
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%
		NBT (NBLT)	0.53	5.6	A	62	0.25	16.8	B	110	0.44	4.6	A	38
		NBT (Bus Lane)	0.14	3.6	A	m10	0.1	10.5	B	30	0.16	3.3	A	m10
		Overall		**12.3**	**B**			**17**	**B**			**10.1**	**B**	
5	5: 169 St & 89 Ave	WBT	0.37	13.9	B	100	0.17	11.8	B	51	0.22	12.2	B	65
		SBT(SBTR)	0.54	18.3	B	m240	0.28	19.3	B	171	0.79	23.7	C	m293
		SBR	0.2	12.3	B	m64								
		Overall		**15.9**	**B**			**17.6**	**B**			**20.7**	**C**	
6	6: 168 St & 90 Ave	EBLT	0.17	20.8	C	43	0.14	20.2	C	34	0.14	20.2	C	36
		NBTR	0.73	14.6	B	263	0.61	11	B	186	0.66	12.2	B	206
		Overall		**15.1**	**B**			**11.8**	**B**			**12.9**	**B**	
7*	7: 169 St & 90 Ave	EBT	0.09	8.3	A	0	0.11	7.9	A	0	0.11	8.2	A	0
		EBR	0.09	8.3	A	0	0.11	7.9	A	0	0.11	8.2	A	0
		SBL	0.57	13.4	B	0	0.43	10.7	B	0	0.5	11.9	B	0
		SBT	0.57	13.4	B	0	0.43	10.7	B	0	0.5	11.9	B	0
		Overall		**12.8**	**B**			**10.1**	**B**			**11.2**	**B**	
8	8: 168 St & Hillside Ave	EBL	0.35	13.3	B	18	0.11	3.6	A	6	0.13	5.3	A	10
		EBT	0.4	9	A	60	0.37	3.9	A	30	0.57	8.4	A	76
		WBT(WBTR)	0.53	17	B	264	0.37	13.1	B	152	0.38	15.7	B	164
		WBR	0.15	12.7	B	60								
		NBLT (NBL for AM)	0.29	34.3	C	118	0.57	47.2	D	232	0.48	35.6	D	175
		NBR (NBTR for AM)	0.51	39	D	237	0.24	40.2	D	77	0.17	30.9	C	66
		NBTR (Bus Lane)	0.42	44.3	D	89	0.38	47.4	D	72	0.5	45.1	D	95

Intersection		Movement	AM (7:30 - 8:30 AM)				MD (13:15 - 14:15 PM)				PM (16:45 - 17:45 PM)			
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%
		Overall		**18.3**	**B**			**15.2**	**B**			**14.4**	**B**	
9	9: 168 St & Jamaica Ave	EBL	0.28	10.2	B	36	0.23	7.2	A	14	0.28	6.2	A	58
		EBT	0.29	9.2	A	44	0.25	6.5	A	24	0.27	4.4	A	168
		EBR	0.05	6.8	A	9	0.08	4.8	A	7	0.06	1.3	A	1
		WBL	0.45	18.5	B	167	0.42	20.3	C	134	0.53	19.8	B	201
		WBT	0.41	17.2	B	168	0.34	18.1	B	124	0.31	14.2	B	127
		WBR	0.18	13.3	B	71	0.27	17	B	94	0.28	14.3	B	86
		NBL	0.17	33.7	C	54	0.11	28.2	C	48	0.19	32.5	C	64
		NBT (NBTR)	0.58	39.9	D	214	0.42	32.1	C	166	0.57	40.3	D	291
		NBR									0.31	35.3	D	100
		Overall		**22.6**	**C**			**19.8**	**B**			**19.7**	**B**	
10	10: Jamaica Ave & 169 St	EBT	0.23	11.2	B	83	0.23	13.5	B	90	0.25	11.4	B	93
		WBT	0.29	3.4	A	117	0.22	7.4	A	28	0.24	7.2	A	36
		SBL	0.37	41.2	D	126	0.26	34.7	C	101	0.41	42.2	D	138
		SBR	0.72	58.5	E	201	0.65	48.1	D	228	0.83	70.3	E	#268
		Overall		**19**	**B**			**20.8**	**C**			**24.4**	**C**	

Notes:
*Unsignalized intersections
**Control Delay for unsignalized intersections

5.1.4 Site Driveways

Two bus entry and exit driveways located on 168th and 169th Streets between 91st and 90th Avenues will be unsignalized and will allow right turns in, and right turns out only. **Table 5-4** shows the projected levels of service at the two driveways during the AM, Midday and PM peak hours. As shown, both driveways are projected to operate at LOS B or better during all peak hours.

Table 5-4: 2024 Driveway With-Action V/C, Delay, and LOS

Intersection	Movement	AM (7:30 - 8:30 AM)				MD (13:15 - 14:15 PM)				PM (16:45 - 17:45 PM)			
		v/c Ratio	Control Delay	LOS	Queue 95%	v/c Ratio	Control Delay	LOS	Queue 95%	v/c Ratio	Control Delay	LOS	Queue 95%
168th Street Entrance/Exit	WBR	0.24	20.6	C	23	0.11	16.7	B	9	0.22	19.8	C	21
	NBTR	0.34	0	A	0	0.3	0	A	0	0.3	0	A	0
	Overall		1.9	**A**			**1**	**A**			**1.9**	**A**	
169th Street Entrance/Exit	EBR	0.08	14.5	B	6	0.04	14.9	B	3	0.08	16.3	C	6
	SBTR	0.22	0	A	0	0.21	0	A	0	0.23	0	A	0
	Overall		0.9	**A**			**0.5**	**A**			**0.8**	**A**	

5.2 Parking

The 168th Street Interim Bus Terminal will not generate any new or additional parking demand for employees/bus operators. However, the Proposed Project will displace vehicles currently parked within the existing commercial parking lot. It is expected that these vehicles would prefer to use another paid, public parking facility when the current paid parking lot is converted to the 168th Street Interim Bus Terminal. In addition, as stated before, on-street parking is already over-utilized in the Existing and No-Action Conditions.

Therefore, the 2024 No-Action hourly parking accumulation at the project site was added to the 2024 hourly parking accumulation for the three off street parking facilities surveyed (see **Table 5-5**) to determine the 2024 With-Action cumulative hourly parking accumulation with the project site. As shown, the combined capacity of the three off-street parking facilities in the parking survey study area would be sufficient to accommodate the displaced demand from the project site, and with excess capacity still available. Even with the parking demand from the project site added to the three off-street facilities, the peak demand will be at only 83 percent in the highest hour (12 noon to 1 PM), and 192 spaces would still be available.

The Proposed Project will also displace two *legal* parking spaces on the west side of 169th Street between 90th Avenue and 91st Avenue to accommodate the driveways. Based on the current parking regulations "*No Parking 8 AM to 7 PM, Except Sunday*," these spaces would be displaced between 7 PM and 8 AM on weekdays, Saturday, and all day on Sunday. The wide turns that would be required for buses to enter and leave the driveways at the project site would require that curbside portions of the east and west sides of 168th Street and 169th Street between 91st Avenue and 90th Avenue remain clear of parked vehicles. These curbsides are already regulated by "*No Parking Anytime*" or "*No Standing Anytime*" signs, so there will be no additional displacement of *legal* parking.

The 2024 No-Action on-street parking capacity was reduced by the two displaced on-street parking spaces between 5 AM and 8 AM. As shown in **Table 5-5** and **Table 5-6,** these two spaces would be adequately accommodated by available on-street parking spaces during these hours. On street parking demand and capacities for the remaining hours in the 2024 With-Action conditions would be the same as the 2024 No-Action Condition, with utilization exceeding parking capacity for several hours of the day.

Therefore, the Proposed Project will not have any adverse effects on parking in the area.

Table 5-5: On-Street Parking Demand vs. Parking Capacity – 2024 Future With-Action Condition

Time	Capacity	Utilization	% Utilization	Available Spaces
5-6 AM	1,485	1,182	80%	303
6-7 AM	1,494	1,397	94%	97
7-8 AM	1,310	1,248	95%	62
8-9 AM	1,227	1,343	109%	-116
9-10 AM	1,329	1,518	114%	-189
10-11 AM	1,305	1,365	105%	-60
11-12 noon	1,328	1,444	109%	-116
12-1 PM	1,274	1,528	120%	-254
1-2 PM	1,256	1,408	112%	-152
2-3 PM	1,274	1,366	107%	-92
3-4 PM	1,274	1,546	121%	-272
4-5 PM	1,238	1,352	109%	-114
5-6 PM	1,256	1,336	106%	-80
6-7 PM	1,328	1,400	105%	-72

Table 5-6: Off-Street Parking Facilities Parking Demand vs. Parking Capacity – 2024 Future With-Action Condition

Time	Capacity	No-Action Utilization	% No-Action Utilization	Displaced Site Parking	With-Action Utilization	% With-Action Utilization	With-Action Available Spaces
5 AM	1,156	179	15%	37	216	19%	940
5-6 AM	1,156	349	30%	30	379	33%	777
6-7 AM	1,156	511	44%	32	543	47%	613
7-8 AM	1,156	589	51%	38	627	54%	529
8-9 AM	1,156	671	58%	62	733	63%	423
9-10 AM	1,156	743	64%	86	829	72%	327
10-11 AM	1,156	772	67%	101	873	76%	283
11-12 noon	1,156	846	73%	118	964	83%	192
12-1 PM	1,156	789	68%	125	914	79%	242
1-2 PM	1,156	766	66%	130	896	78%	260
2-3 PM	1,156	651	56%	137	788	68%	368
3-4 PM	1,156	567	49%	131	698	60%	458
4-5 PM	1,156	411	36%	104	515	45%	641
5-6 PM	1,156	276	24%	94	370	32%	786
6-7 PM	1,156	186	16%	85	271	23%	885

5.2.1 Parking Enforcement

Illegal on-street parking in *No-Parking/No-Standing* zones and on sidewalks were frequently observed around the project site and throughout the overall parking survey study area. In particular, double, illegal and parking on sidewalks were observed on the north sidewalk on 91st Avenue between 168th Street and 169th Street; the east sidewalk of 168th Street between 91st Avenue and 90th Avenue; and the south sidewalk of 90th Avenue between 168th Street and 169th Street. In addition, illegal parking was observed on the east curbside of 169th Street between 90th Avenue and Jamaica Avenue in a "*No-Parking Anytime*" zone.

For the 168th Street Interim Bus Terminal to operate safely and efficiently, especially for buses to be able to turn in and out of the terminal without being blocked by illegally parked vehicles, more robust and stringent parking enforcement practices would be needed. Parking enforcement is also needed to eliminate illegal parking on sidewalks so that pedestrians can safely access and depart the terminal without incurring unnecessary and unsafe vehicular-pedestrian conflicts.

While MTA does not have jurisdiction related to the enforcement of parking or curbside uses, the use of sidewalks for parking by the NYPD 103rd Precinct, located at the corner of 91st Avenue and 168th Street, it has been recognized as

an issue and was considered in the Proposed Project's site plan. Accordingly, the Proposed Project includes approximately 13 parallel parking spaces for Precinct parking on the south side of the project site to provide some relief and accommodation for the Precinct.

5.3 Transit

Except for the rerouting of buses from the existing 165th Street/Jamaica Bus Terminal to the 168th Street Interim Bus Terminal, transit operations in the With-Action Condition will remain the same as in the No-Action Condition. Bus ridership, peak load points, and other operations parameters are not expected to change as a result of the 168th Street Interim Bus Terminal. The potential impacts of the incremental bus volumes on traffic operations in the study area have been addressed in the preceding sections.

5.4 Pedestrians

The 2024 With-Action incremental pedestrian volumes are shown in **Figure 5-5**, **Figure 5-6**, and **Figure 5-7** for the AM, Midday and PM peak hours, respectively. These volumes were added to the 2024 No-Action pedestrian volumes to yield the 2024 With-Action pedestrian volumes.

5.4.1 Capacity Analyses

Pedestrian LOS analyses for the two sidewalks and one corner were repeated for the 2024 With-Action condition.

The results of the pedestrian sidewalk and corner LOS analysis under the 2024 With-Action Condition are shown in **Table 5-7**. As shown, the south sidewalk of 90th Avenue between 168th Place and 169th Street, and the 90th Avenue/168th Street southeast corner are projected to continue operating at LOS A during all three peak hours. However, the south sidewalk on 90th Avenue between 168th Street and 168th Place is projected to operate at LOS C during all three peak hours under the With-Action condition.

Figure 5-5: 2024 With-Action Incremental Pedestrian Volumes – AM Peak Hour

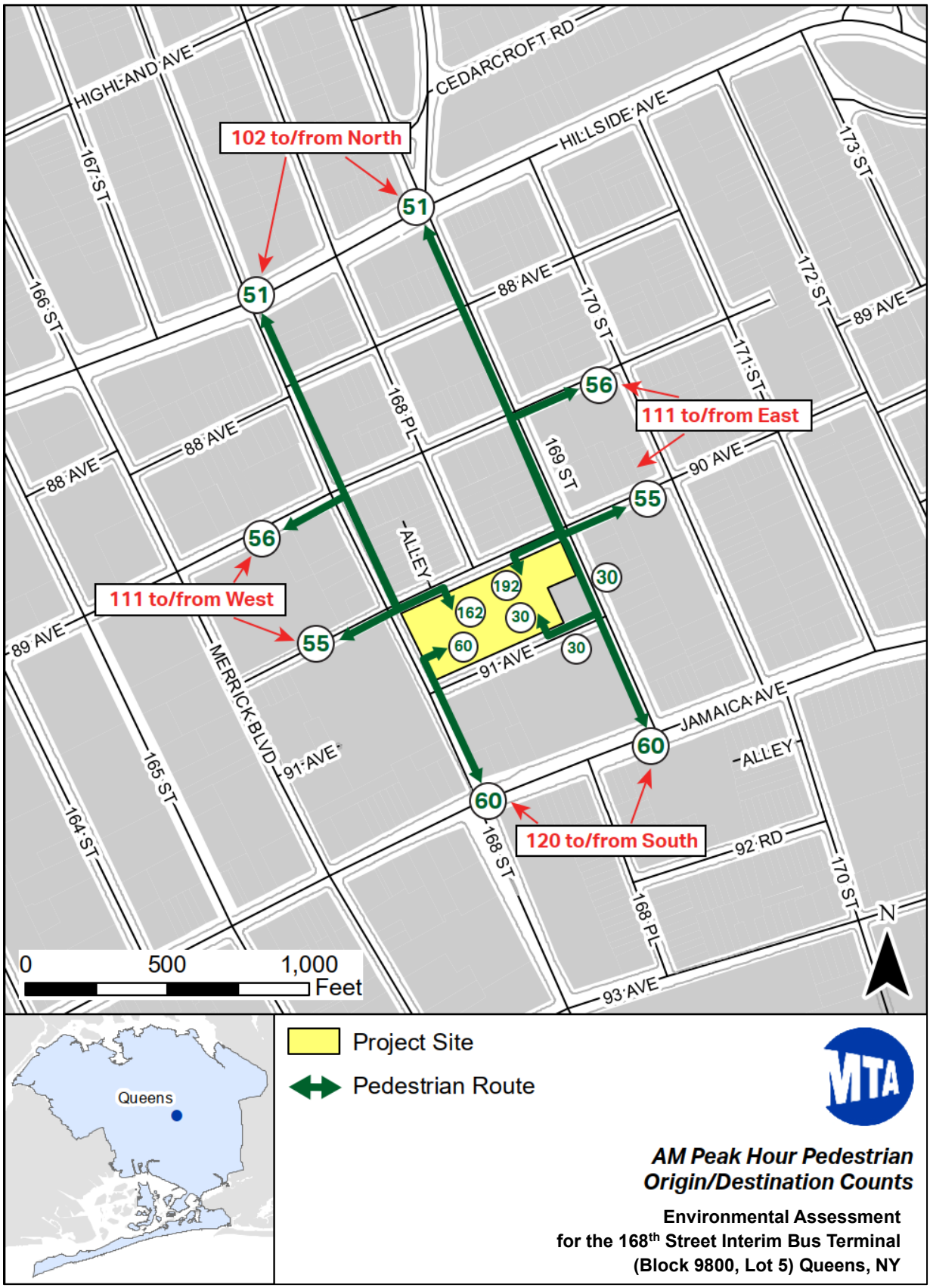


Figure 5-6: 2024 With-Action Incremental Pedestrian Volumes – Midday Peak Hour

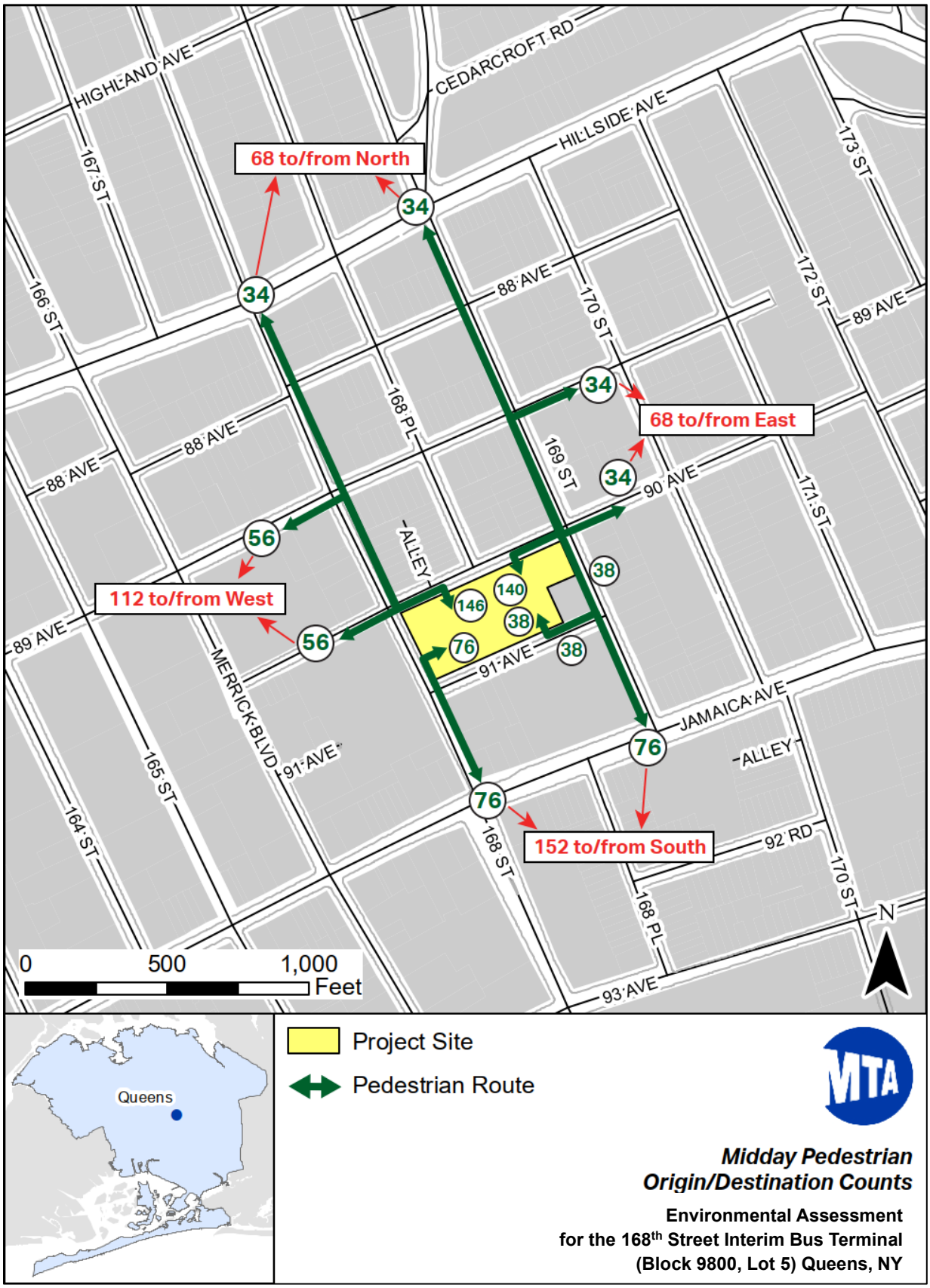


Figure 5-7: 2024 With-Action Incremental Pedestrian Volumes – PM Peak Hour

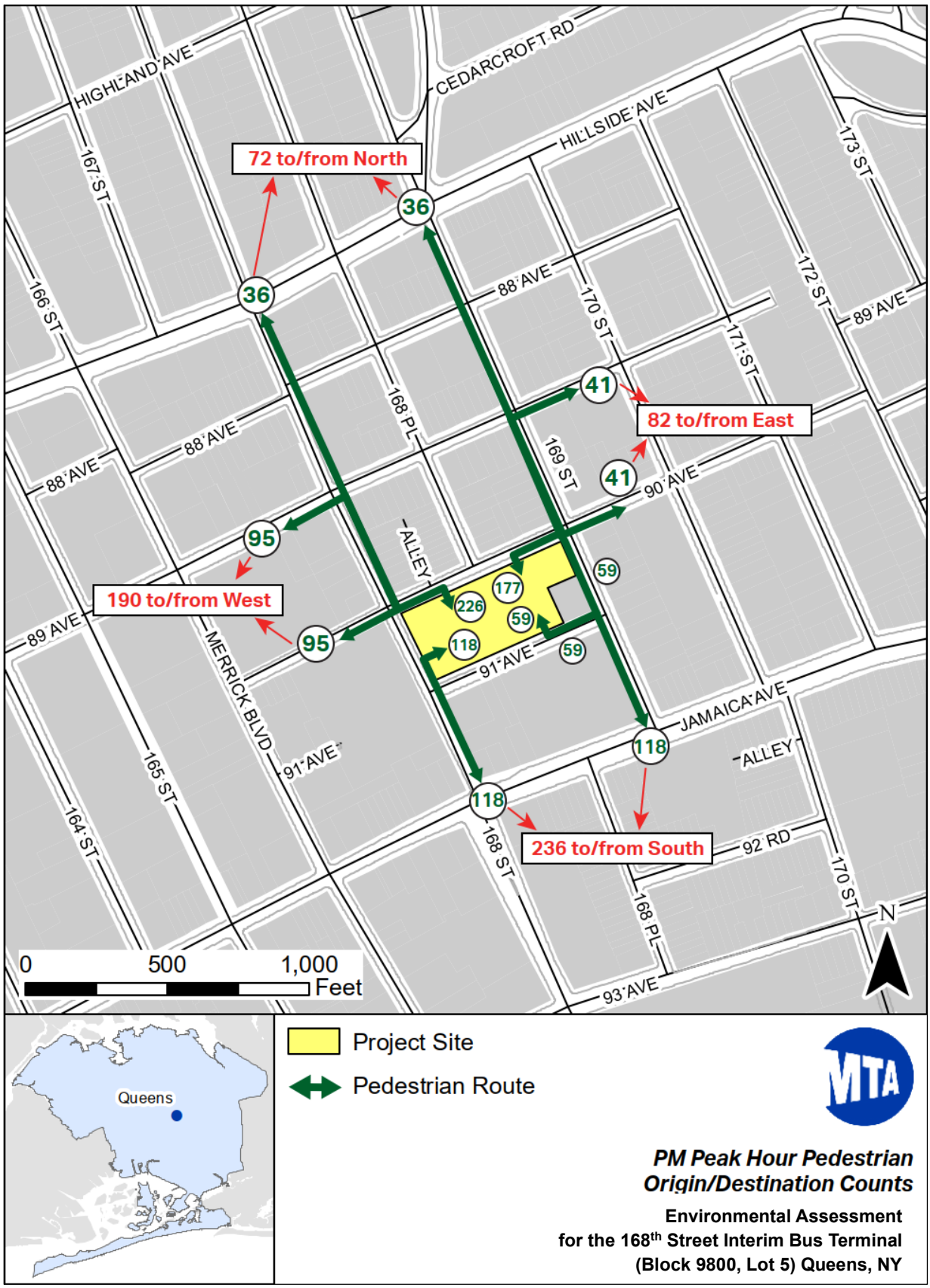


Table 5-7: Pedestrian LOS Summary – 2024 With-Action Condition

		AM Peak Hour		MD Peak Hour		PM Peak Hour	
	Location	Circulation Area (ft^2/ped)	LOS	Circulation Area (ft^2/ped)	LOS	Circulation Area (ft^2/ped)	LOS
With-Action Condition	90th Ave/168th St SE Corner	158.8	A	186.0	A	125.1	A
	90th Ave between 168th St and 168th Pl south sidewalk	31.2	C	35.1	C	28.6	C
	90th Ave between 168th Pl and 169th St south sidewalk	68.2	A	61.8	A	52.3	B

6. Determination of Significant Impacts

6.1 Traffic

6.1.1 Traffic Impact Criteria

According to the thresholds established in the *CEQR Technical Manual*, the following situations represent significant traffic impacts for signalized intersections:

1. If a lane group under the With-Action condition is within acceptable LOS A, B C, or D (average control delay less than or equal to 55.0 seconds/vehicle), the impact is not considered significant.

2. For a lane group with LOS E under the With-Action condition, an increase in projected delay of 5.0 or more seconds compared to the No-Action Condition should be considered significant.

3. For a lane group with LOS F under the With-Action condition, an increase in projected delay of 4.0 or more seconds compared to the No-Action Condition should be considered significant.

For unsignalized intersections the same criteria as for signalized intersections would apply. For the minor street to trigger a significant impact, a total approach volume of 90 PCEs must be identified in the Future With-Action Condition in any peak hour.

The criteria described above ensures that the LOS for individual turning movements at each intersection does not degrade significantly under the Future With-Action Condition. In contrast, movements that are projected to operate relatively well under the Future No-Action Condition can accommodate additional volumes and marginally increased delays under the Future With-Action without experiencing a significant adverse impact, provided the additional volume does not significantly degrade intersection operations.

6.1.2 Potential Traffic Impacts

Table 6-1, **Table 6-2**, and **Table 6-3** compare the Future No-Action Condition LOS and delays with the Future With-Action Condition LOS and delays for the AM, Midday and PM peak hours, respectively. The intersection lane groups that are projected to experience significant adverse traffic impacts are identified. Based on the *CEQR Technical Manual* criteria described above, the following significant adverse traffic impacts are projected to occur as a result of the additional buses on the roadway network:

- *Hillside Avenue @ 169th Street*: The southbound *through* movement is projected to be significantly impacted during the PM peak hour.

- *Jamaica Avenue @ 169th Street*: The southbound *right turn* movement is projected to be significantly impacted during the AM and PM peak hours.

Table 6-1: 2024 No-Action vs. With-Action Conditions LOS Comparison – AM Peak Hour

Intersection		Movement	Year 2024 No-Action				Year 2024 With-Action				Impact
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	
1	1: 169 St & Hillside Ave & Homelawn St	EBL	0.44	17.9	B	50	0.41	15.4	B	50	
		EBT	0.36	15	B	143	0.36	15	B	143	
		EBR	0.15	13.2	B	60	0.15	13.2	B	60	
		WBL	0.19	3.8	A	12	0.53	12.8	B	29	
		WBT	0.68	10.2	B	127	0.6	8	A	63	
		WBR	0.29	5.4	A	23	0.29	5.4	A	23	
		SBL	0.44	52.1	D	125	0.44	52.1	D	125	
		SBT	0.92	87.7	F	#340	0.92	87.7	F	#340	
		SBR	0.48	54	D	117	0.51	56	E	118	
		Overall		**22.1**	**C**			**21.6**	**C**		
2*	2: 168 St & 88 Ave	EBL	0.1	14	B	8	0.1	13.8	B	8	
		EBT	0.1	14	B	8	0.1	13.8	B	8	
		NBT	0.22	0	A	0	0.22	0	A	0	
		NBR	0.02	0	A	0	0.02	0	A	0	
		NBTR (Bus Lane)	0.02	0	A	0	0.05	0	A	0	
		Overall		**1.4**	**A**			**1.4**	**A**		
3*	3: 169 St & 88 Ave	EBT	0.16	14.9	B	14	0.2	17.6	C	18	
		EBR	0.16	14.9	B	14	0.2	17.6	C	18	
		SBL	0.04	0.4	A	3	0.04	0.4	A	3	
		SBT	0.04	1.2	A	3	0.04	1.1	A	3	
		Overall		**3**	**A**			**3.1**	**A**		
4	4: 168 St & 89 Ave	WBTR	0.6	26.4	C	140	0.6	26.4	C	140	
		NBLT	0.55	5.2	A	46	0.53	5.6	A	62	

	Intersection	Movement	Year 2024 No-Action				Year 2024 With-Action				Impact
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	
		NBT (Bus Lane)	0.04	2.8	A	m2	0.14	3.6	A	m10	
		Overall		**11.9**	**B**			**12.3**	**B**		
5	5: 169 St & 89 Ave	WBLT	0.36	13.8	B	99	0.37	13.9	B	100	
		SBT	0.37	15.5	B	m208	0.54	18.3	B	m240	
		SBR	0.19	12.6	B	m72	0.2	12.3	B	m64	
		Overall		**14.4**	**B**			**15.9**	**B**		
6	6: 168 St & 90 Ave	EBLT	0.17	20.8	C	43	0.17	20.8	C	43	
		NBTR	0.66	11.7	B	220	0.73	14.6	B	263	
		Overall		**12.5**	**B**			**15.1**	**B**		
7*	7: 169 St & 90 Ave	EBT	0.09	8.1	A	0	0.09	8.3	A	0	
		EBR	0.09	8.1	A	0	0.09	8.3	A	0	
		SBL	0.44	10.6	B	0	0.57	13.4	B	0	
		SBT	0.44	10.6	B	0	0.57	13.4	B	0	
		Overall		**10.2**	**B**			**12.8**	**B**		
8	8: 168 St & Hillside Ave	EBL	0.39	15.3	B	18	0.35	13.3	B	18	
		EBT	0.47	9.6	A	64	0.4	9	A	60	
		WBT	0.61	18.9	B	306	0.53	17	B	264	
		WBR	0.15	12.7	B	60	0.15	12.7	B	60	
		NBL	0.29	33.7	C	120	0.29	34.3	C	118	
		NBTR	0.51	38.1	D	240	0.51	39	D	237	
		NBTR (Bus Lane)	0.18	37.2	D	m27	0.42	44.3	D	89	
		Overall		**19**	**B**			**18.3**	**B**		
9	9: 168 St & Jamaica Ave	EBL	0.27	9.8	A	33	0.28	10.2	B	36	
		EBT	0.3	9.4	A	50	0.29	9.2	A	44	

Intersection		Movement	Year 2024 No-Action				Year 2024 With-Action				Impact
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	
		EBR	0.05	6.8	A	9	0.05	6.8	A	9	
		WBL	0.45	18.5	B	167	0.45	18.5	B	167	
		WBT	0.35	16.1	B	144	0.41	17.2	B	168	
		WBR	0.19	13.5	B	77	0.18	13.3	B	71	
		NBL	0.17	33.7	C	54	0.17	33.7	C	54	
		NBTR	0.58	39.6	D	213	0.58	39.9	D	214	
		Overall		**22.4**	**C**			**22.6**	**C**		
10	**10: Jamaica Ave & 169 St**	EBT	0.23	11.1	B	83	0.23	11.2	B	83	
		WBT	0.3	3.5	A	120	0.29	3.4	A	117	
		SBL	0.39	41.7	D	130	0.37	41.2	D	126	
		SBR	0.49	44.8	D	155	0.72	58.5	E	201	yes
		Overall		**15.9**	**B**			**19**	**B**		

Notes:
*Unsignalized intersections
**Control Delay for unsignalized intersections

Table 6-2: 2024 No-Action vs. With-Action Conditions LOS Comparison – Midday Peak Hour

Intersection		Movement	Year 2024 No-Action				Year 2024 With-Action				Impact
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	
1	1: 169 St & Hillside Ave & Homelawn St	EBL	0.24	9.8	A	51	0.23	9.6	A	51	
		EBT	0.32	14.5	B	140	0.32	14.5	B	140	
		EBR	0.18	13.5	B	63	0.18	13.5	B	63	
		WBL	0.13	5.3	A	24	0.27	7.2	A	35	
		WBT	0.34	10.3	B	105	0.3	10	A	98	
		WBR	0.39	12.5	B	86	0.39	12.5	B	86	
		SBL	0.41	48.9	D	133	0.41	48.9	D	133	
		SBT	0.74	61.6	E	#267	0.74	61.6	E	#267	
		SBR	0.42	49.5	D	115	0.44	50.4	D	116	
		Overall		**21.8**	**C**			**21.7**	**C**		
2*	2: 168 St & 88 Ave	EBL	0.06	12.3	B	5	0.06	12.3	B	5	
		EBT	0.06	12.3	B	5	0.06	12.3	B	5	
		NBT	0.16	0	A	0	0.16	0	A	0	
		NBR	0.02	0	A	0	0.02	0	A	0	
		NBTR (Bus Lane)	0.01	0	A	0	0.04	0	A	0	
		Overall		**1.3**	**A**			**1.3**	**A**		
3*	3: 169 St & 88 Ave	EBT	0.12	13.4	B	11	0.14	14.5	B	12	
		EBR	0.12	13.4	B	11	0.14	14.5	B	12	
		SBL	0.03	0.3	A	2	0.03	0.3	A	2	
		SBT	0.03	0.9	A	2	0.03	0.9	A	2	
		Overall		**2.6**	**A**			**2.6**	**A**		
4	4: 168 St & 89 Ave	WBTR	0.24	22.5	C	94	0.24	22.5	C	94	
		NBL	0.22	13.1	B	78	0.18	12.2	B	69	
		NBT	0.25	16.8	B	110	0.25	16.8	B	110	

Intersection		Movement	Year 2024 No-Action				Year 2024 With-Action				Impact
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	
		NBT (Bus Lane)	0.03	9.8	A	13	0.1	10.5	B	30	
		Overall		**17.1**	**B**			**17**	**B**		
5	**5: 169 St & 89 Ave**	WBLT	0.17	11.8	B	51	0.17	11.8	B	51	
		SBTR	0.25	19.8	B	165	0.28	19.3	B	171	
		Overall		**17.8**	**B**			**17.6**	**B**		
6	**6: 168 St & 90 Ave**	EBLT	0.14	20.2	C	34	0.14	20.2	C	34	
		NBTR	0.6	10.5	B	181	0.61	11	B	186	
		Overall		**11.3**	**B**			**11.8**	**B**		
7*	**7: 169 St & 90 Ave**	EBT	0.15	8	A	0	0.11	7.9	A	0	
		EBR	0.15	8	A	0	0.11	7.9	A	0	
		SBL	0.38	10	A	0	0.43	10.7	B	0	
		SBT	0.38	10	A	0	0.43	10.7	B	0	
		Overall		**9.4**	**A**			**10.1**	**B**		
8	**8: 168 St & Hillside Ave**	EBL	0.11	3.7	A	6	0.11	3.6	A	6	
		EBT	0.42	4.3	A	32	0.37	3.9	A	30	
		WBTR	0.4	13.6	B	164	0.37	13.1	B	152	
		NBLT	0.56	47	D	231	0.57	47.2	D	232	
		NBR	0.24	40	D	77	0.24	40.2	D	77	
		NBTR (Bus Lane)	0.1	38.4	D	27	0.38	47.4	D	72	
		Overall		**15.2**	**B**			**15.2**	**B**		
9	**9: 168 St & Jamaica Ave**	EBL	0.23	7	A	13	0.23	7.2	A	14	
		EBT	0.26	6.5	A	24	0.25	6.5	A	24	
		EBR	0.08	4.8	A	7	0.08	4.8	A	7	
		WBL	0.42	20.4	C	135	0.42	20.3	C	134	

Intersection		Movement	Year 2024 No-Action				Year 2024 With-Action				Impact
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	
		WBT	0.3	17.3	B	111	0.34	18.1	B	124	
		WBR	0.31	17.6	B	107	0.27	17	B	94	
		NBL	0.11	28.2	C	48	0.11	28.2	C	48	
		NBTR	0.41	31.9	C	165	0.42	32.1	C	166	
		Overall		**19.7**	**B**			**19.8**	**B**		
10	**10: Jamaica Ave & 169 St**	EBT	0.23	13.5	B	90	0.23	13.5	B	90	
		WBT	0.23	7.3	A	30	0.22	7.4	A	28	
		SBL	0.31	35.8	D	121	0.26	34.7	C	101	
		SBR	0.53	41.9	D	200	0.65	48.1	D	228	
		Overall		**19.3**	**B**			**20.8**	**C**		

Notes:
*Unsignalized intersections
**Control Delay for unsignalized intersections

Table 6-3: 2024 No-Action vs. With-Action Conditions LOS Comparison – PM Peak Hour

Intersection		Movement	Year 2024 No-Action				Year 2024 With-Action				Impact
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	
1	1: 169 St & Hillside Ave & Homelawn St	EBL	0.27	9.2	A	55	0.25	8.8	A	55	
		EBT	0.54	16.6	B	265	0.54	16.6	B	265	
		EBR	0.21	13	B	67	0.21	13	B	67	
		WBL	0.24	4.9	A	11	0.72	34.6	C	#64	
		WBT	0.36	8.2	A	65	0.29	8	A	59	
		WBR	0.38	9.8	A	50	0.38	9.9	A	51	
		SBL	0.57	58.6	E	128	0.57	58.6	E	128	
		SBT	0.88	80.2	F	#318	0.88	84.7	F	#318	yes
		SBR	0.48	54.7	D	111	0.51	56.1	E	111	
		Overall		**22.5**	**C**			**24.5**	**C**		
2*	2*: 168 St & 88 Ave	EBL	0.15	13.6	B	13	0.15	13.6	B	13	
		EBT	0.15	13.6	B	13	0.15	13.6	B	13	
		NBT	0.16	0	A	0	0.16	0	A	0	
		NBR	0.02	0	A	0	0.02	0	A	0	
		NBTR (Bus Lane)	0.01	0	A	0	0.06	0	A	0	
		Overall		**2.7**	**A**			**2.7**	**A**		
3*	3*: 169 St & 88 Ave	EBT	0.24	16.6	C	23	0.28	19.4	C	28	
		EBR	0.24	16.6	C	23	0.28	19.4	C	28	
		SBL	0.03	0.3	A	2	0.03	0.3	A	2	
		SBT	0.03	0.9	A	2	0.03	0.8	A	2	
		Overall		**3.8**	**A**			**3.9**	**A**		
4	4: 168 St & 89 Ave	WBTR	0.45	22.9	C	102	0.45	22.8	C	102	
		NBLT	0.5	5.2	A	45	0.44	4.6	A	38	

Intersection		Movement	Year 2024 No-Action				Year 2024 With-Action				Impact
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	
		NBT (Bus Lane)	0.03	2.9	A	m2	0.16	3.3	A	m10	
		Overall		**10.3**	**B**			**10.1**	**B**		
5	5: 169 St & 89 Ave	WBLT	0.22	12.2	B	65	0.22	12.2	B	65	
		SBTR	0.62	14	B	m121	0.79	23.7	C	m293	
		Overall		**13.5**	**B**			**20.7**	**C**		
6	6: 168 St & 90 Ave	EBLT	0.14	20.2	C	36	0.14	20.2	C	36	
		NBTR	0.57	10	A	167	0.66	12.2	B	206	
		Overall		**10.9**	**B**			**12.9**	**B**		
7*	7*: 169 St & 90 Ave	EBT	0.15	8.2	A	0	0.11	8.2	A	0	
		EBR	0.15	8.2	A	0	0.11	8.2	A	0	
		SBL	0.4	10.2	B	0	0.5	11.9	B	0	
		SBT	0.4	10.2	B	0	0.5	11.9	B	0	
		Overall		**9.7**	**A**			**11.2**	**B**		
8	8: 168 St & Hillside Ave	EBL	0.14	5.4	A	10	0.13	5.3	A	10	
		EBT	0.64	9.9	A	151	0.57	8.4	A	76	
		WBTR	0.45	17	B	193	0.38	15.7	B	164	
		NBLT	0.48	35	C	167	0.48	35.6	D	175	
		NBR	0.17	30.1	C	63	0.17	30.9	C	66	
		NBTR (Bus Lane)	0.09	35.3	D	m27	0.5	45.1	D	95	
		Overall		**15.4**	**B**			**14.4**	**B**		
9	9: 168 St & Jamaica Ave	EBL	0.28	6	A	57	0.28	6.2	A	58	
		EBT	0.27	4.5	A	168	0.27	4.4	A	168	
		EBR	0.06	1.3	A	1	0.06	1.3	A	1	
		WBL	0.53	19.8	B	201	0.53	19.8	B	201	

Intersection		Movement	Year 2024 No-Action				Year 2024 With-Action				Impact
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	
		WBT	0.25	13.3	B	108	0.31	14.2	B	127	
		WBR	0.29	14.4	B	89	0.28	14.3	B	86	
		NBL	0.19	32.5	C	64	0.19	32.5	C	64	
		NBT	0.57	40.2	D	291	0.57	40.3	D	291	
		NBR	0.28	34.3	C	97	0.31	35.3	D	100	
		Overall		**19.6**	**B**			**19.7**	**B**		
10	**10: Jamaica Ave & 169 St**	EBT	0.24	11.3	B	93	0.25	11.4	B	93	
		WBT	0.25	7.2	A	36	0.24	7.2	A	36	
		SBL	0.49	44.3	D	161	0.41	42.2	D	138	
		SBR	0.58	48	D	191	0.83	70.3	E	#268	yes
		Overall		**20.3**	**C**			**24.4**	**C**		

Notes:
*Unsignalized intersections
**Control Delay for unsignalized intersections

6.1.3 Potential Traffic Impact Mitigations

Mitigations have been applied to the following intersections in AM and PM peak hour to mitigate the potential traffic impacts. **Table 6-4** and **Table 6-5** compare the Future No-Action Condition LOS and delays with the Future With-Action Without Mitigation and Future With Action With Planter Mitigation LOS and delays for the AM and PM peak hours at the intersections with potential traffic impacts, respectively. With the proposed signal timing mitigation, the potential traffic impacts would be fully mitigated.

- *Hillside Avenue @ 169th Street*: Reallocate one (1) second of green time from the eastbound and westbound approaches on Hillside Avenue to the southbound movement on 169th Street during the PM peak hour.
- *Jamaica Avenue @ 169th Street*: Reallocate two (2) seconds of green time from the eastbound and westbound approaches on Jamaica Avenue to the southbound movement on 169th Street during the AM peak hour, and four (4) seconds during PM peak hour.

Table 6-4: 2024 No-Action vs. With-Action Conditions Without Mitigation vs With-Action Conditions With Mitigation LOS Comparison – AM Peak Hour

Intersection		Movement	Year 2024 No-Action				Year 2024 With-Action Without Mitigation				Year 2024 With-Action With Mitigation				Impact after Mitigation
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	
10	10: Jamaica Ave & 169 St	EBT	0.23	11.1	B	83	0.23	11.2	B	83	0.23	12.1	B	87	
		WBT	0.3	3.5	A	120	0.29	3.4	A	117	0.3	4.5	A	123	
		SBL	0.39	41.7	D	130	0.37	41.2	D	126	0.35	39	D	123	
		SBR	0.49	44.8	D	155	0.72	58.5	E	201	0.67	52.7	D	196	
		Overall		**15.9**	**B**			**19**	**B**			**18.5**	**B**		

Table 6-5: 2024 No-Action vs. With-Action Conditions Without Mitigation vs With-Action Conditions With Mitigation LOS Comparison – PM Peak Hour

Intersection		Movement	Year 2024 No-Action				Year 2024 With-Action Without Mitigation				Year 2024 With-Action With Mitigation				Impact after Mitigation
			v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	v/c Ratio	**Total Delay	LOS	Queue 95%	
1	1: 169 St & Hillside Ave & Homelawn St	EBL	0.27	9.2	A	55	0.25	8.8	A	55	0.26	9.3	A	57	
		EBT	0.54	16.6	B	265	0.54	16.6	B	265	0.55	17.3	B	271	
		EBR	0.21	13	B	67	0.21	13	B	67	0.21	13.6	B	69	
		WBL	0.24	4.9	A	11	0.72	34.6	C	#64	0.73	36.6	D	#66	
		WBT	0.36	8.2	A	65	0.29	8	A	59	0.3	8.5	A	61	
		WBR	0.38	9.8	A	50	0.38	9.9	A	51	0.39	10.5	B	52	
		SBL	0.57	58.6	E	128	0.57	58.6	E	128	0.53	55.4	E	126	
		SBT	0.88	80.2	F	#318	0.88	84.7	F	#318	0.84	75.4	E	#307	
		SBR	0.48	54.7	D	111	0.51	56.1	E	111	0.48	53.6	D	110	
		Overall		**22.5**	**C**			**24.5**	**C**			**23.9**	**C**		
10	10: Jamaica Ave & 169 St	EBT	0.24	11.3	B	93	0.25	11.4	B	93	0.26	13.3	B	102	
		WBT	0.25	7.2	A	36	0.24	7.2	A	36	0.26	8.5	A	44	
		SBL	0.49	44.3	D	161	0.41	42.2	D	138	0.36	37.6	D	131	
		SBR	0.58	48	D	191	0.83	70.3	E	#268	0.72	54	D	226	
		Overall		**20.3**	**C**			**24.4**	**C**			**22.2**	**C**		

6.2 Parking

6.2.1 Parking Shortfall Criteria

For projects located in Parking Zones 1 and 2, the inability of the project or the surrounding area to accommodate a project's future parking demands is considered a parking shortfall, but is generally not considered significant due to the magnitude of available alternative modes of transportation

For projects located in residential or commercial areas not designated as Parking Zones 1 and 2, a project's parking shortfall that exceeds the available on-street and off-street parking spaces within 0.25 mile of the site when compared to the No-Action Condition, can be considered significant.

6.2.2 Potential Parking Shortfall

As discussed earlier, there are sufficient off-street parking spaces within a 0.25-mile radius of the site to accommodate the parking that would be displaced from the project site, and two spaces that will be displaced on 169th Street between 90th and 91st Avenues to allow buses to turn into, and out of the 168th Street Interim Bus Terminal. Therefore, there will be no parking shortfall as a result of the Proposed Project.

6.3 Transit

The Proposed Project will not change the line haul capacity or maximum load point of any MTA NYCT Bus or NICE bus route. Accordingly, there will be no impacts on transit service due to the Proposed Project.

6.4 Pedestrians

6.4.1 Pedestrian Impact Criteria

Determination of significant impacts for ***sidewalks*** in a non-CBD area is summarized as follows:

- If the average pedestrian space under the No-Action Condition is greater than or equal to 44.3 ft^2/ped:
    - Then a reduction in average pedestrian space under the With-Action condition to 40.0 ft^2/ped or less (LOS D or worse) should be considered a significant impact.
    - If the average pedestrian space under the With-Action condition is greater than or equal to 40.1 ft^2/ped (LOS C or better), the impact should not be considered significant.
- If the average pedestrian space under the No-Action Condition is between 6.4 and 44.2 ft^2/ped, inclusive, then a reduction in pedestrian space under the With-Action Condition should be considered significant using the sliding scale formula in Equation 16-8 below or using Table 16-14: in the *CEQR Technical Manual*.

Determination of significant impacts for ***corners and crosswalks*** in a non-CBD area is summarized as follows:

- If the average pedestrian space under the No-Action Condition is greater than or equal to 26.6 ft^2/ped:
    - Then a reduction in average pedestrian space under the With-Action Condition to 24.0 ft^2/ped or less (LOS D or worse) should be considered a significant impact.
    - If the average pedestrian space under the With-Action Condition is greater than or equal to 24.1 ft^2/ped (LOS C or better), the impact should not be considered significant.
- If the average pedestrian space under the No-Action Condition is between 5.1 and 26.5 ft^2/ped, inclusive, then a reduction in pedestrian space under the With-Action Condition should be considered significant according to the sliding scale formula in Equation 16-7 or using Table 16-12 in the *CEQR Technical Manual*.

6.4.2 Potential Pedestrian Impacts

Based on the pedestrian impact criteria above, significant impacts are projected to occur on the south sidewalk of 90th Avenue between 168th Street and 168th Place during the AM, Midday and PM peak hours. The comparison between the 2024 No-Action and 2024 With-Action LOS are shown in **Table 6-6**, **Table 6-7**, and **Table 6-8**, for the AM, Midday and PM peak hours, respectively.

Table 6-6: 2024 No-Action vs. With-Action Pedestrian LOS Comparison – AM Peak Hour

		No-Action		With-Action		
	Location	Circulation Area (ft²/ped)	LOS	Circulation Area (ft²/ped)	LOS	Impact
Without Mitigation	90th Ave/168th St SE Corner	449.0	A	158.8	A	No
	90th Ave between 168th St and 168th Pl south sidewalk	164.0	A	31.2	C	Yes
	90th Ave between 168th Pl and 169th St south sidewalk	396.0	A	68.2	A	No

Table 6-7: 2024 No-Action vs. With-Action Pedestrian LOS Comparison – Midday Peak Hour

		No-Action		With-Action		
	Location	Circulation Area (ft²/ped)	LOS	Circulation Area (ft²/ped)	LOS	Impact
Without Mitigation	90th Ave/168th St SE Corner	558.3	A	186.0	A	No
	90th Ave between 168th St and 168th Pl south sidewalk	153.8	A	35.1	C	Yes
	90th Ave between 168th Pl and 169th St south sidewalk	302.8	A	61.8	A	No

Table 6-8: 2024 No-Action vs. With-Action Pedestrian LOS Comparison – PM Peak Hour

		No-Action		With-Action		
	Location	Circulation Area (ft²/ped)	LOS	Circulation Area (ft²/ped)	LOS	Impact
Without Mitigation	90th Ave/168th St SE Corner	373.0	A	125.1	A	No
	90th Ave between 168th St and 168th Pl south sidewalk	153.8	A	28.6	C	Yes
	90th Ave between 168th Pl and 169th St south sidewalk	343.2	A	52.3	B	No

6.4.3 Potential Pedestrian Impacts Mitigations

The project site would include the placement of concrete planters along the sidewalks on 90th Avenue and 91st Avenue to beautify the urban streetscape, enhance the pedestrian experience, and provide pedestrian access, mobility and safety to the sidewalks. These planters would provide pedestrian safety and mobility by preventing vehicles from encroaching/occupying the sidewalks, and therefore would also mitigate the projected pedestrian impact. The planters would be located on the sidewalks to allow for maximum pedestrian access and would be in compliance with the NYCDOT *Street Design Manual*. The comparison between the 2024 No-Action and 2024 With-Action with mitigation LOS are shown in **Table 6-9**, **Table 6-10**, and **Table 6-11**, for the AM, Midday and PM peak hours, respectively.

Table 6-9: 2024 No-Action vs. With-Action with Mitigation Pedestrian LOS Comparison – AM Peak Hour

		No-Action		With-Action		
	Location	**Circulation Area (ft^2/ped)**	**LOS**	**Circulation Area (ft^2/ped)**	**LOS**	**Impact**
With Mitigation	90th Ave/168th St SE Corner	449.0	A	407.8	A	No
	90th Ave between 168th St and 168th Pl south sidewalk	164.0	A	264.5	A	No
	90th Ave between 168th Pl and 169th St south sidewalk	396.0	A	277.2	A	No

Table 6-10: 2024 No-Action vs. With-Action with Mitigation Pedestrian LOS Comparison – Midday Peak Hour

		No-Action		With-Action		
	Location	**Circulation Area (ft^2/ped)**	**LOS**	**Circulation Area (ft^2/ped)**	**LOS**	**Impact**
With Mitigation	90th Ave/168th St SE Corner	558.3	A	470.6	A	No
	90th Ave between 168th St and 168th Pl south sidewalk	153.8	A	295.9	A	No
	90th Ave between 168th Pl and 169th St south sidewalk	302.8	A	251.4	A	No

Table 6-11: 2024 No-Action vs. With-Action with Mitigation Pedestrian LOS Comparison – PM Peak Hour

		No-Action		With-Action		
	Location	**Circulation Area (ft2/ped)**	**LOS**	**Circulation Area (ft2/ped)**	**LOS**	**Impact**
With Mitigation	90th Ave/168th St SE Corner	373.0	A	319.9	A	No
	90th Ave between 168th St and 168th Pl south sidewalk	153.8	A	243.6	A	No
	90th Ave between 168th Pl and 169th St south sidewalk	343.2	A	213.3	A	No

6.5 During Construction

Since construction (or site preparation) is expected to last for less than two years, a detailed traffic analysis was not performed. In addition, staging of construction equipment and construction worker parking would be accommodated on-site thus not affecting City's streets. No roadway or lane closures are anticipated to occur during construction of the 168th Street Interim Bus Terminal. In addition, no sidewalk closures are anticipated. Accordingly, the Proposed Project will not have any adverse impacts to transportation services during construction.

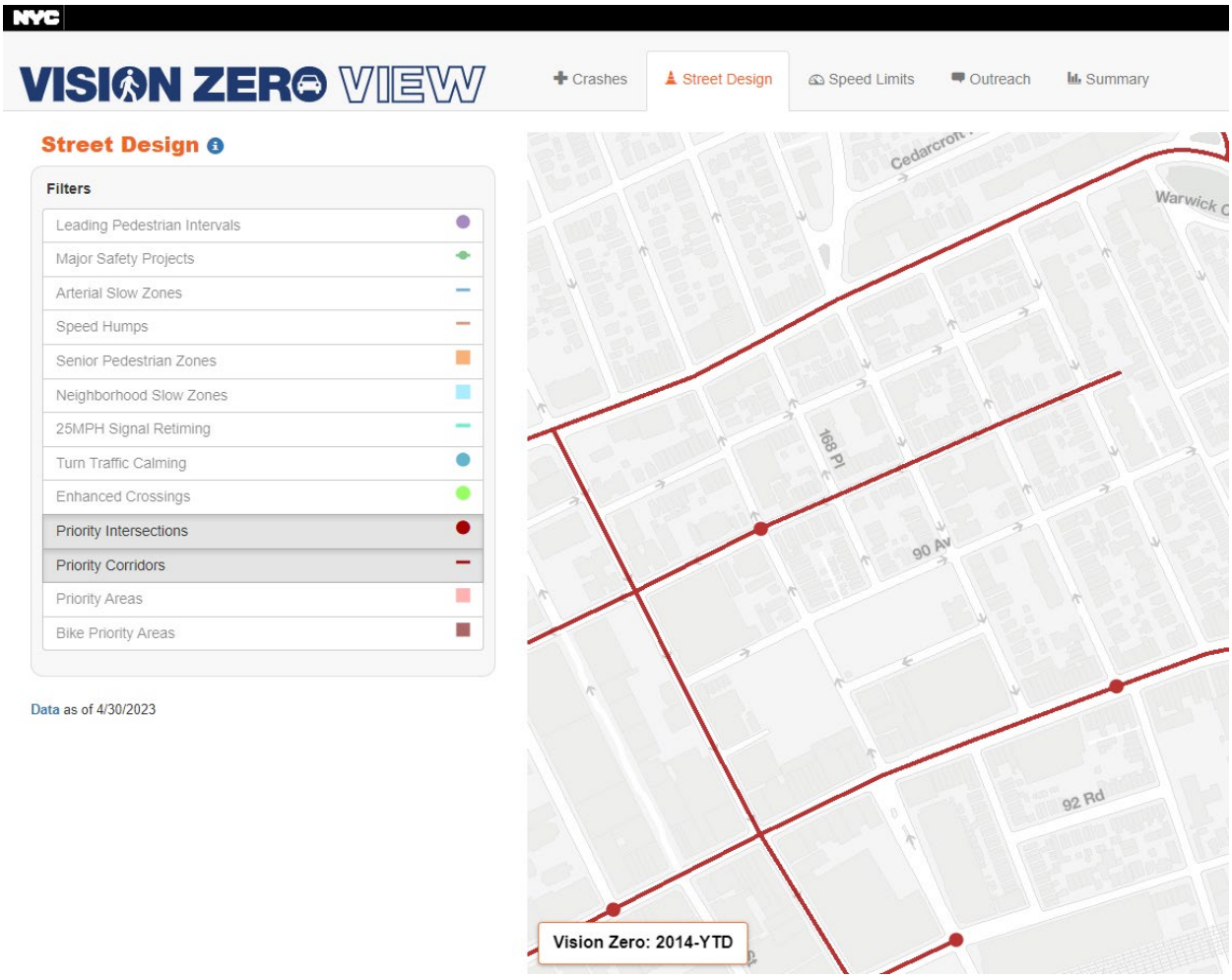
6.6 Transportation Safety Assessment

Crash data for the ten study intersections were obtained from NYCDOT for the three-year period 2017-2019. **Table 6-7** presents a summary of the pedestrian and bicycle crashes for the three-year period. NYCDOT defines a high crash location as "*a Vision Zero priority intersection, or a location with five or more pedestrian/bicyclist injury crashes in any consecutive 12 months of the most recent three-year period for which data is available. In addition, any location along a Vision Zero priority corridor with three or more pedestrian/bicyclist injury crashes in any consecutive 12 months of the most recent three-year period for which data is available should be identified as a high crash location*."

6.6.1 Priority Intersections and Priority Corridors

Within the study area, the intersection of 89th Avenue @ 168th Street has been identified as a priority intersection based on the NYC Vision Zero View (https://vzv.nyc/) data of April 30, 2023. In addition, Hillside Avenue, 89th Avenue and Jamaica Avenue have been defined as Priority Corridors (see **Figure 6-1**).

Figure 6-1: Priority Intersections and Priority Corridors in the Study Area



As shown in **Table 6-12**, for the three-year period from 2017 to 2019, the number of pedestrian and bicycle injury crashes at the corridors of 168th Street @ Hillside Avenue, 169th Street @ Jamaica Avenue, and 169th Street @ Hillside Avenue are three or higher. According to the criteria for a high crash location, these three locations are determined to be high crash locations.

During the 2017-2019 period, there were no crashes reported at 169th Street @ 89th Avenue. Also, there were no fatal crashes reported at any of the ten study intersections.

Table 6-12: Intersection Crashes by Year (2017-2019)

#	Intersections	Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicycle Crashes			Vision Zero Priority Intersection/Corridor		High Crash Location
		2017	2018	2019	2017	2018	2019	2017	2018	2019	Intersection	Corridor	
37124	168 STREET / JAMAICA AVENUE	1	2	1	0	0	1	1	2	2	No	Yes	No
37126	168 STREET / 88 AVENUE	0	0	2	0	0	0	0	0	2	No	No	No
37127	168 STREET / 89 AVENUE	2	1	1	0	0	0	2	1	1	Yes	Yes	No
37129	168 STREET / 90 AVENUE	0	1	0	0	0	0	0	1	0	No	No	No
37133	168 STREET / HILLSIDE AVENUE / QUEENS BOULEVARD LINE	3	2	0	0	0	0	3	2	0	No	Yes	Yes
37140	169 STREET / 88 AVENUE	0	2	0	0	0	0	0	2	0	No	No	No
37212	169 STREET / JAMAICA AVENUE	1	4	1	0	0	0	1	4	1	No	Yes	Yes
37218	169 STREET / 90 AVENUE	0	0	0	0	0	0	0	0	0	No	No	No
82001	169 STREET / HOMELAWN STREET	8	3	3	1	1	1	9	4	4	No	Yes	Yes
	Total =	**15**	**15**	**8**	**1**	**1**	**2**	**16**	**16**	**10**			

6.6.2 Effects on Road User Safety

The Proposed Project will result in an increase in bus volume at the ten study intersections, three of which have been determined to be high crash locations. However, as shown in **Table 5-1**, at most of the intersections, the additional buses will be going "*straight*" through the intersections, and therefore would not conflict with pedestrians and bicycles in crosswalks.

All of the three high crash locations will experience an increase in right or left turning bus volumes:

- *Hillside Avenue @ 169th Street:* The westbound left-turn movement from Hillside Avenue onto southbound 169th Street will experience an increase of 67 buses in the AM peak hour, 31 buses in the Midday peak hour and 60 buses in the PM peak hour. Although, the westbound left turn from Hillside Avenue has a protected plus permitted left turn, pedestrians, and bicycles on the south crosswalk of the intersection would have increased exposure to and conflict with added bus volumes which may compromise safety. Since this intersection is located along a Vision Zero Priority Corridor, therefore as part of the Traffic Monitoring Plan, pedestrian and bicycle safety on the south crosswalk will be monitored and appropriate measures will be recommended if any safety issues are identified.

- *Hillside Avenue @ 168th Street*: The right-turn movement from northbound 168th Street onto eastbound Hillside Avenue will experience an increase of 49 buses in the AM peak hour, 33 buses in the Midday peak hour, and 64 buses in the PM peak hour. However, there is a 10 second Leading Pedestrian Interval (LPI) for the east and west crosswalks. East and west crosswalks receive the Walk indication before vehicular traffic

on the northbound approach receives the green signal. Since this intersection is located along a Vision Zero Priority Corridor, therefore as part of the Traffic Monitoring Plan, pedestrian and bicycle safety on the east crosswalk will be monitored and appropriate measures will be recommended if any safety issues are identified.

- *Jamaica Avenue @ 169th Street*: The right-turn movement from southbound 169th Street onto westbound Jamaica Avenue will experience an increase of 29 buses in the AM peak hour, 15 buses in the Midday peak hour, and 25 buses in the PM peak hour. However, there is a seven seconds LPI for east and west crosswalks. East and west crosswalks across Jamaica Avenue receive the Walk indication before vehicular traffic on the southbound approach receives the green signal. Since this intersection is located along a Vision Zero Priority Corridor, therefore as part of the Traffic Monitoring Plan pedestrian and bicycle safety on the east crosswalk will be monitored and appropriate measures will be recommended if any safety issues are identified.

Overall, the Proposed Project will result in an increase in bus volume for some intersection movements, and reduction in bus volumes for others. Where buses are added to the roadway network, they would be traveling *"through"* the intersection and would therefore not conflict with pedestrians or bicyclists in the parallel crosswalks. At the two intersection approaches where the additional buses will be making right turns, both approaches already have LPIs to provide priority for pedestrians crossing in the conflicting crosswalks. On one intersection approach where buses will be added to a left-turn movement, that left turn is already operating with a protected plus permitted left-turn phase which reduces the conflicts between turning vehicles and pedestrians in conflicting crosswalk. Therefore, the Proposed Project is not expected to affect road user safety at the study locations.

6.7 Access Management

The purpose of access management is to provide access to land development—via driveways and associated curb cuts—in a manner that preserves the safety and efficiency of the transportation system. Access management is defined as: *The coordinated planning, regulation, and design of access between roadways and land development. It involves the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway, as well as roadway design applications that affect access, such as median treatments and auxiliary lanes, and the appropriate separation of traffic signals*.

The guidance in the *CEQR Technical Manual* was prepared to incorporate access management concepts and methods into the site planning process in a manner that is consistent with NYCDOT's Mission Statement: *"…to provide for the safe, efficient, and environmentally responsible movement of people and goods in the City of New York and to maintain and enhance the transportation infrastructure crucial to the economic vitality and quality of life of our primary customers, City residents."*

The site plan for the 168th Street Interim Bus Terminal was developed by MTA NYCT Bus in close coordination with NYCDOT. The plan was developed based on appropriate access management principles, and NYCDOT's guidelines to minimize vehicular-vehicular and vehicular-pedestrian conflicts, at and near the proposed terminal.

The proposed bus terminal will be accessed via new driveways to be located on 168th Street and 169th Street. The existing driveways serving the parking lot, located on 90th Avenue and 91st Avenue, will be closed. There will be three east-west oriented travel aisles providing five lanes for bus circulation in the terminal, with adjacent designated bus layover areas and passenger boarding platforms and bus shelters for passengers.

The 168th Street Interim Bus Terminal will also include three east-west passenger boarding platforms with bus shelters for passengers. Pedestrians will enter and leave the terminal and access the passenger boarding platforms via ingress and egress points located on 90th Avenue, 169th Street, 168th Street and 91st Avenue. Figures 4, 5, and 6 in Appendix A show the site plan with Auto Turn swept paths for standard and articulated buses entering and exiting the terminal, and for the right turn onto eastbound 90th Avenue from northbound 168th Street. Pedestrian ingress and egress point into and out of the bus terminal are also shown.

The following access management principles and design guidelines have been incorporated into the site plan:

- *Minimizing the number of driveways/curb cuts*: Buses will enter and leave the terminal via driveways located on 168th Street and 169th Street. Only right turns in and right turns out will be permitted at the driveways. Entrance and exit driveways on each street were separated to the extent geometrically possible, based on

Auto Turn analyses. The bus entrance driveway on 168th Street will be located just north of 91st Avenue; the exit driveway on 168th Street will be located closer to 90th Avenue. The bus entrance driveway on 169th Street will be located just south of 90th Avenue; the exit driveway will be located adjacent to the entrance driveway, but separated by a concrete curb.

- *Minimizing the Widths of Curb Cuts*: The configurations and widths of the curb cuts were based on Auto Turn analyses which were performed for both standard buses as well as articulated buses. The vast majority of buses expected to use the 168th Street Interim Bus Terminal are standard buses although there are a few articulated buses operated by NICE. Every effort was made to keep the driveways as narrow as possible and minimize the width of the curb cuts, but they had to be sufficiently wide to accommodate the "*wide*" turns that buses would need to make to enter and exit the terminal. At the 169th Street entrance/exit, the existing residential building, which is not part of the terminal development and would remain on site, posed some physical constraints to the 169th Street driveway configuration.

- *Optimizing Internal Circulation for Buses*: Bus flows within the terminal will be oriented east-west. Buses entering from 168th Street would travel through the center and northernmost travel aisles, load, and unload passengers from designated bus layovers, and exit via 169th Street. Similarly, buses entering from 169th Street would occupy the northernmost, center, and southernmost bypass lanes and exit the terminal from 168th Street. This pattern of internal bus flows will eliminate the need for buses to make U-turns in the terminal, thus eliminating conflicts with other buses and pedestrians.

- *Optimizing Pedestrian Access*: The terminal will provide three east-west oriented passenger boarding platforms furnished with bus shelters where pedestrians would wait before boarding, or after departing from their buses. These passenger boarding platforms will be accessed from a number of pedestrian access points that have been optimally located to minimize conflicts between buses and pedestrians. Two designated north-south oriented pedestrian walkways will connect all three passenger boarding platforms.

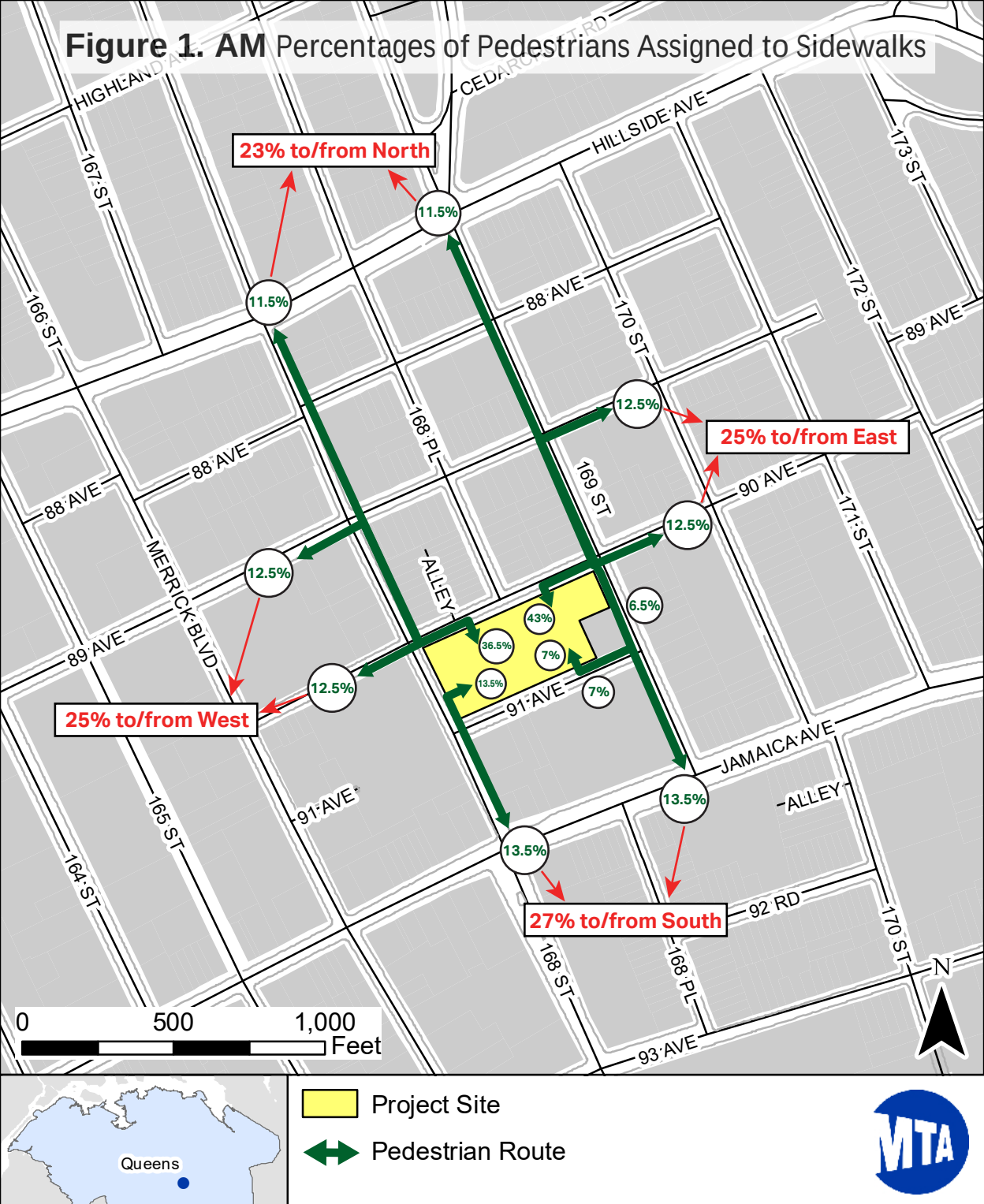
  The pedestrian access point on 168th Street is located south of the bus entrance driveway, so pedestrians are not in conflict with buses turning into the terminal. Pedestrians entering from this location would easily access the southerly pedestrian entrance protected by planters, and use the designated walkway to access the center and northerly passenger boarding platform.

  There will be two pedestrian access points on 90th Avenue: one between 168th Street and 168th Place; and the other between 168th Place and 169th Street. Pedestrians entering leaving the terminal via these locations will not be in conflict with any vehicular traffic, since the existing driveways on 90th Avenue serving the existing parking lot will be closed.

  Another pedestrian access point will be located on 91st Avenue, just west of the existing residential building. Pedestrians entering leaving the terminal via this location will also not be in conflict with any vehicular traffic.

- Overall, the 168th Street Interim Bus Terminal would allow for the separation and organization of buses and pedestrians to optimize bus flows into, within and out of the terminal, while reducing conflicts with other buses and pedestrians. This 168th Street Interim Bus Terminal would therefore not only result in increased transit efficiency at the terminal but would also improve safety for all terminal users.

Appendix A



AM Peak Hour Pedestrian Origin/Destination Percentages
Environmental Due Diligence Assessment for the Proposed New Bus Terminal (Block 9800, Lot 5), Queens, NY

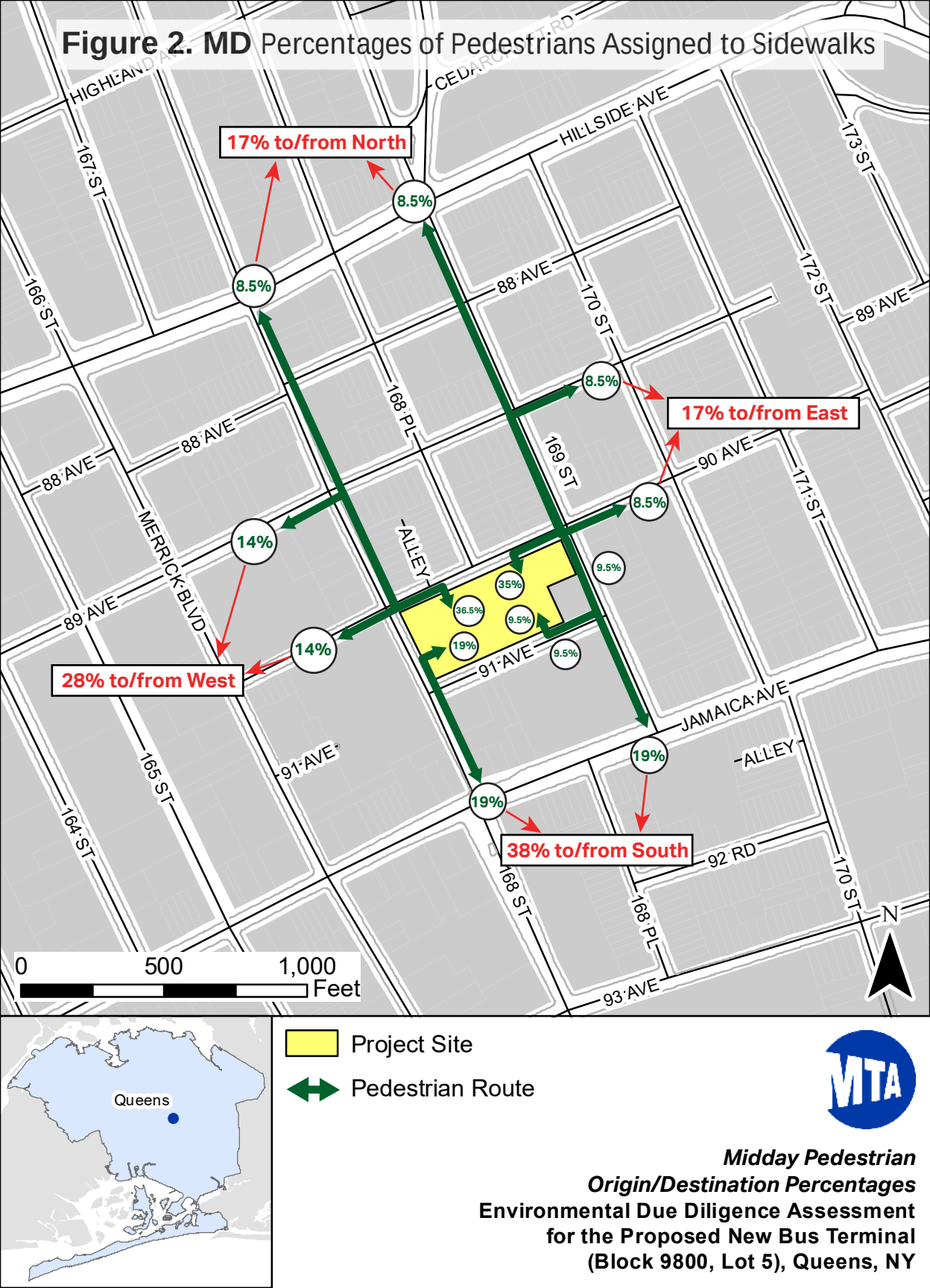
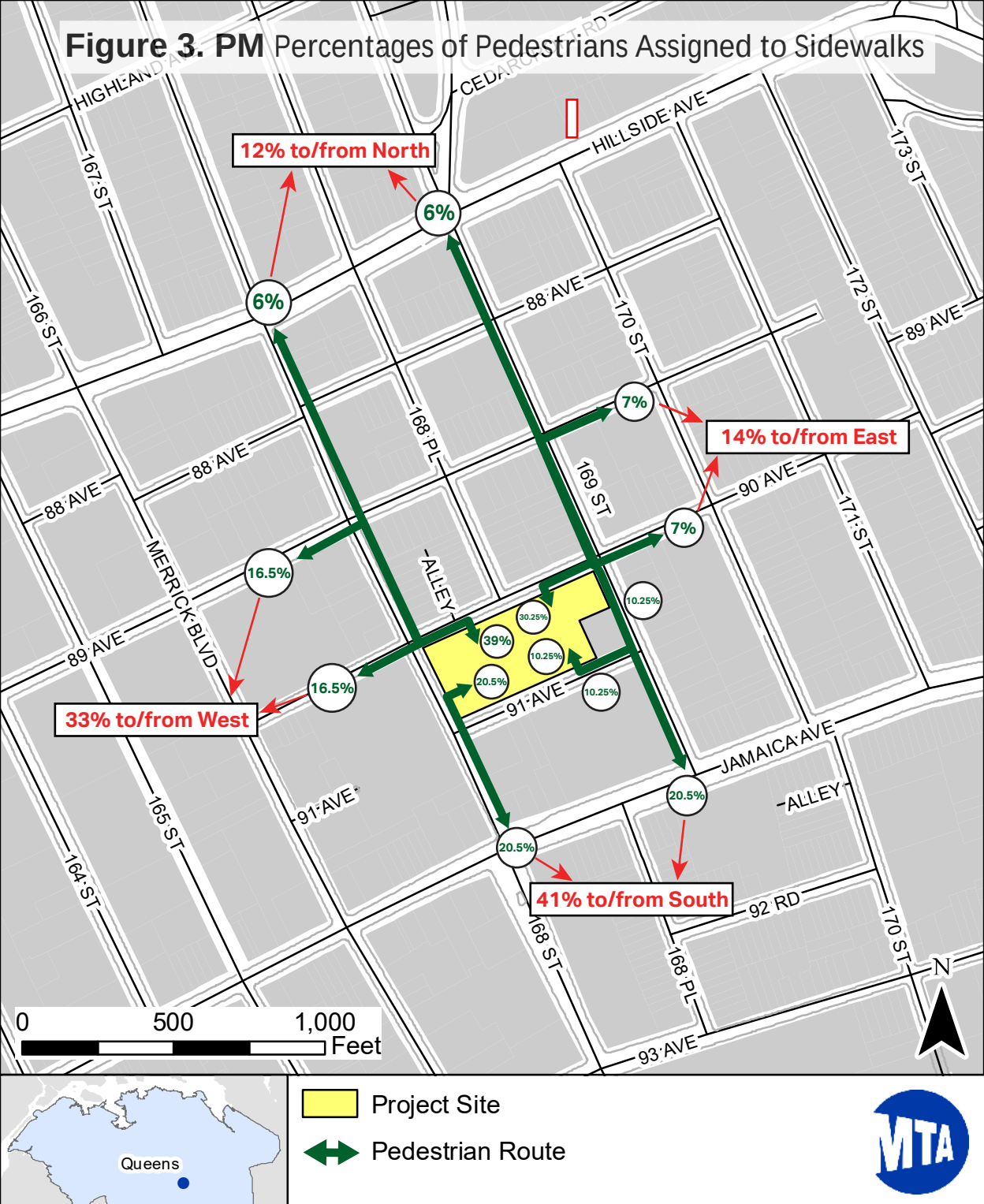
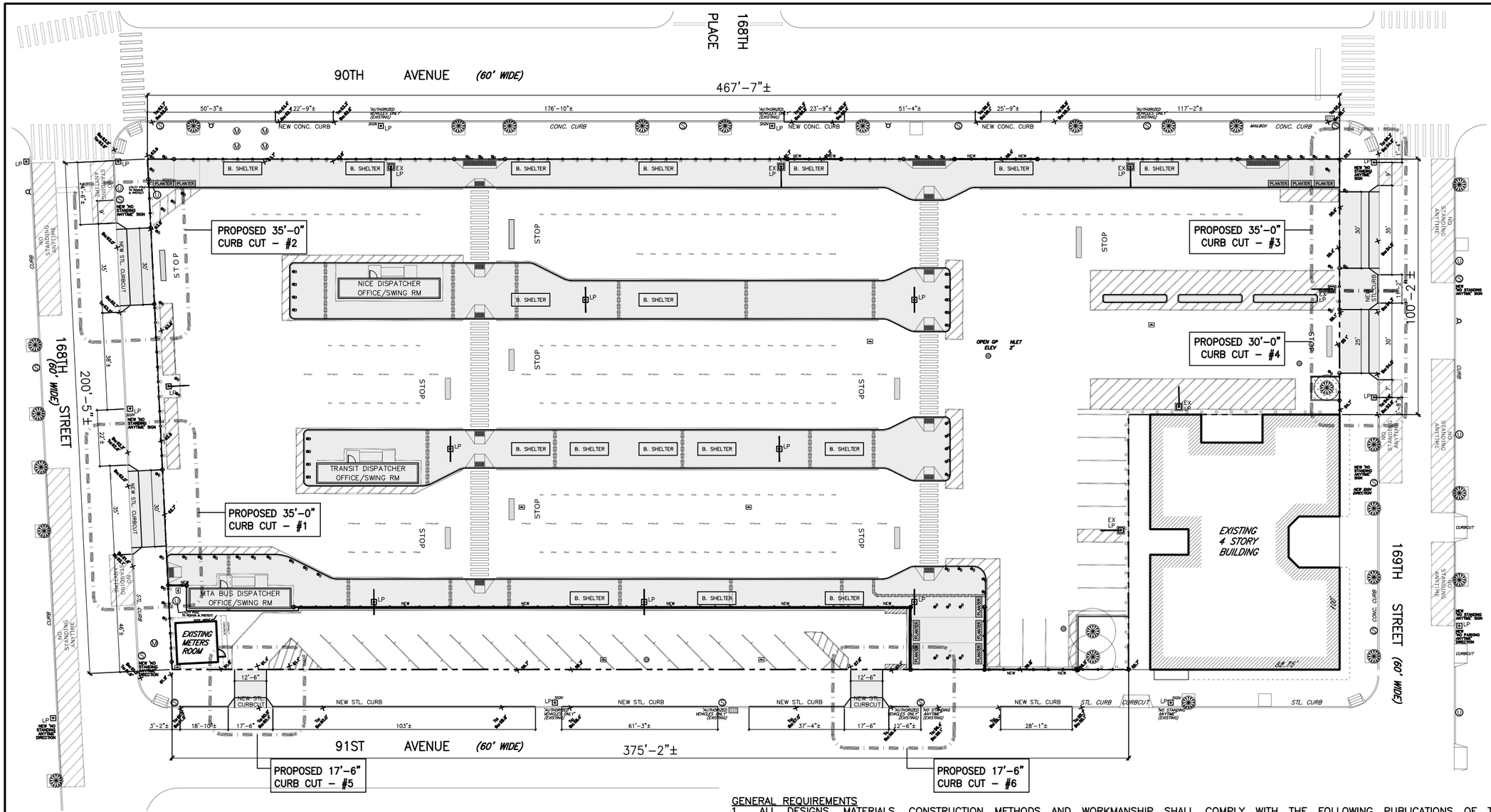


Figure 2. MD Percentages of Pedestrians Assigned to Sidewalks
17% to/from North
8.5%
8.5%
8.5%
17% to/from East
8.5%
14%
14%
28% to/from West
35%
36.5%
9.5%
9.5%
9.5%
19%
19%
19%
38% to/from South
HILLSIDE AVE
88 AVE
88 AVE
88 AVE
89 AVE
89 AVE
90 AVE
91 AVE
91 AVE
92 RD
93 AVE
JAMAICA AVE
166 ST
167 ST
164 ST
165 ST
168 PL
168 ST
168 PL
169 ST
170 ST
171 ST
172 ST
173 ST
MERRICK BLVD
ALLEY
ALLEY
0
500
1,000
Feet
N
Queens
Project Site
Pedestrian Route
MTA
Midday Pedestrian
Origin/Destination Percentages
Environmental Due Diligence Assessment
for the Proposed New Bus Terminal
(Block 9800, Lot 5), Queens, NY



PM Peak Hour Pedestrian Origin/Destination Percentages
Environmental Due Diligence Assessment for the Proposed New Bus Terminal (Block 9800, Lot 5), Queens, NY



LEGEND

- PROPERTY LINE
- STANDARD BUS (40' LONG)
- ARTICULATED BUS (SBS)(60' LONG)
- BUS STOP
- TRAFFIC DIRECTION
- NORTH BOUND BUS ROUTE
- SOUTH BOUND BUS ROUTE
- PASSENGER TRAFFIC
- LIGHT POLE
- UTILITIES POLE
- STREET SIGN
- FIRE HYDRANT
- MANHOLE
- NYC ELECTRICAL MANHOLE
- STORM DRAIN
- CHAIN LINK FENCE
- CHAIN LINK FENCE (NEW)
- GUARD RAIL
- TREE
- DISPATCHER TRAILER (8'x40')
- BUS SHELTER (5'x14')
- CONC. PAVEMENT (NEW)
- PEDESTRIAN CROSSWALK
- 42" HIGH CONCRETE BOLLARD
- PEDESTRIAN ISLAND TRENCH GRATE
- 10' LONG CONCRETE JERSEY BARRIER

BUILDING INFORMATION

PROJECT INFORMATION:	NYCT – JAMAICA BUS TERMINAL 90-01 168TH STREET JAMAICA, NEW YORK 11432
ZONING DISTRICT:	C4-5X (SPECIAL DISTRICT – DJ)
BLOCK:	9800
LOT:	5
MAP#:	14d
U.G.:	12D (AUTOMOTIVE SERVICE ESTABLISHMENTS)
O.C.:	S2 (PARKING GARAGE)
LOT AREA:	84,355 SF (1.9365 ACRE)

1 / CC1 PROPOSED (6) CURB CUTS SITE PLAN

SCALE: 0 5 10 20 40 FT

GENERAL REQUIREMENTS

1. ALL DESIGNS, MATERIALS, CONSTRUCTION METHODS AND WORKMANSHIP SHALL COMPLY WITH THE FOLLOWING PUBLICATIONS OF THE BUREAU OF HIGHWAYS: STANDARD SPECIFICATIONS, STANDARD DETAILS OF CONSTRUCTION; RULES OF THE BUREAU OF HIGHWAY OPERATIONS; GUIDELINES FOR THE DESIGN OF INFRASTRUCTURE COMPONENTS.
2. ALL NON-STANDARD MATERIALS AND CONSTRUCTION PROCEDURES SHALL BE SPECIFICALLY APPROVED IN WRITING BY THE DOT.
3. ANY WORK NOT COMPLYING WITH THE REQUIREMENTS OF THE DOT SHALL BE REMOVED AND REPLACED.
4. THIS PLAN SHALL BE VALID FOR THE ISSUANCE OF CONSTRUCTION PERMITS FOR A PERIOD OF ONE YEAR FROM THE DATE OF APPROVAL OR SELF-CERTIFICATION, AS APPLICABLE.
5. ALL SIDEWALK AND STREET AREAS CONSTRUCTED UNDER THIS PLAN SHALL REMAIN OPEN TO THE PUBLIC AT ALL TIMES. ISSUANCE OF PERMITS.
6. NO SIDEWALK, CURB OR ROADWAY WORK SHALL BE DONE WITHOUT A PERMIT FROM THE BOROUGH HIGHWAY SUPERINTENDENT. APPLICATION SHALL BE MADE THREE DAYS BEFORE STARTING CONSTRUCTION. THE CONTRACTOR SHALL HAVE ALL INSURANCE COVERAGE ON FILE REQUIRED.
7. NO WORK ON DRAINAGE STRUCTURES SHALL BE DONE WITHOUT A PERMIT FROM THE BOROUGH OFFICE OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
8. ANY VAULT WORK AT THE SITE SHALL BE DONE AS PER THE APPLICABLE RULES OF THE DOT AND THE DEPT. OF BUILDINGS. CONSTRUCTION ACTIVITY.
9. A CONSTRUCTION PLAN SHOWING MAINTENANCE AND PROTECTION OF TRAFFIC, INCLUDING PLACEMENT OF SIDEWALK BRIDGES, BARRIERS AND SIGNAGE SHALL BE SUBMITTED TO THE BOROUGH HIGHWAY OFFICE BEFORE CONSTRUCTION BEGINS.
10. NO SIDEWALK SHALL BE CLOSED WITHOUT A PERMIT. PEDESTRIAN AND TRAFFIC SAFETY SHALL BE PROTECTED AT ALL TIMES, ROADWAY CLOSINGS SHALL BE AS DIRECTED.
11. THE SITE SHALL BE MAINTAINED IN A CLEAN AND SAFE CONDITION.

FINAL SIGN-OFF

12. PERMITS SHALL BE PRESENTED FROM ALL PUBLIC AGENCIES AND UTILITIES HAVING OWNERSHIP OF STRUCTURES RELOCATED OR REMOVED DURING CONSTRUCTION
13. ALL PAVEMENT MARKINGS INCLUDING THERMOPLASTIC LANE DIVIDERS, REMOVED DURING CONSTRUCTION SHALL BE REPLACED IN KIND TO THE BUREAU OF TRAFFIC STDS.
14. ALL EXISTING CATCH BASINS ON SITE SHALL BE CLEANED AND MADE OPERABLE.
15. ALL DAMAGE CAUSED BY CONSTRUCTION ON THIS PROJECT OUTSIDE THE PROJECT LIMITS SHALL BE REPAIRED AS DIRECTED.
16. THE ROADWAY SHALL BE PAVED TO THE REQUIREMENTS OF THE DOT AND AS DIRECTED.

REVISION	DESCRIPTION	DATE	APPROVED

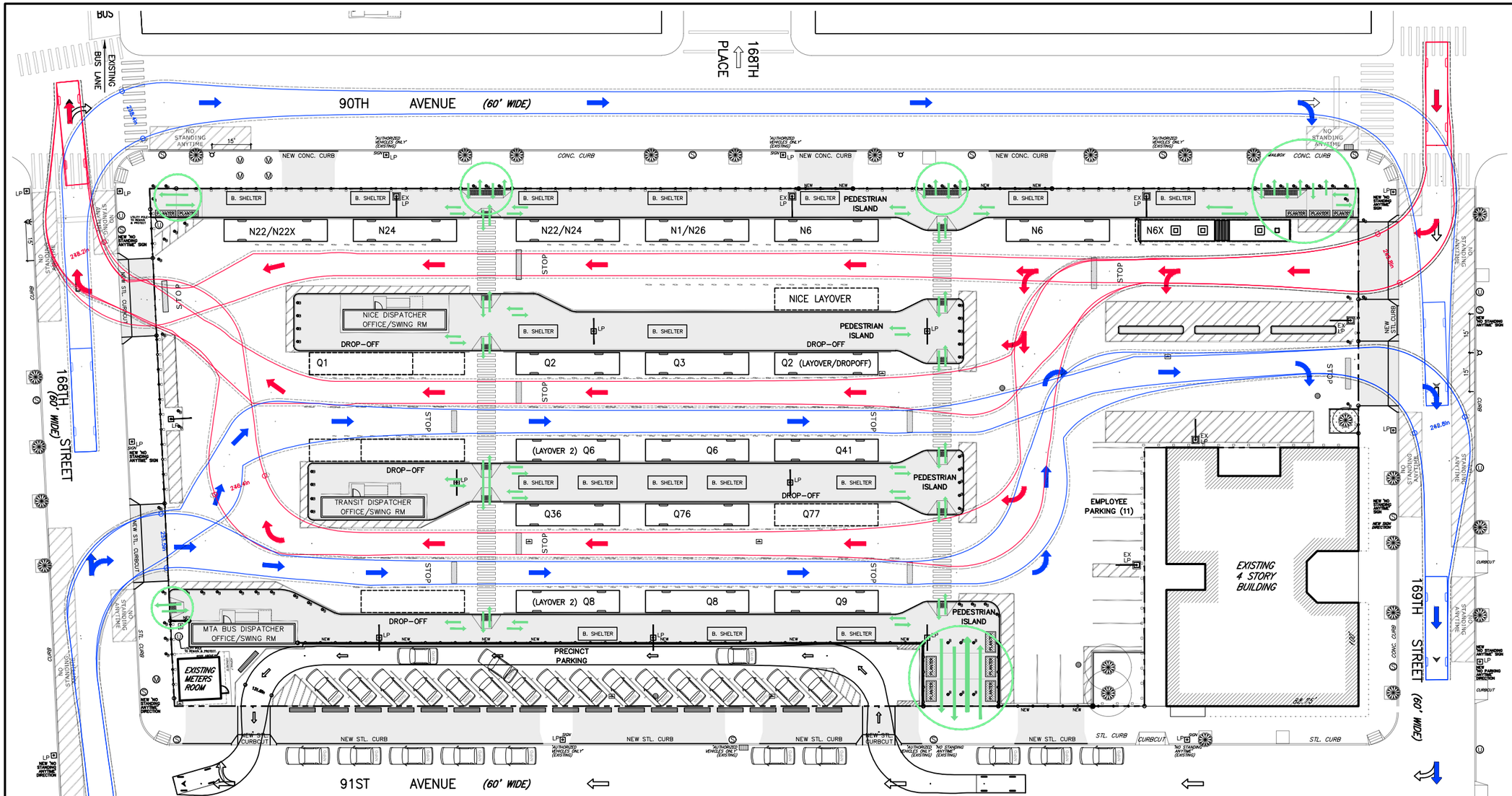
REVISIONS

NEW YORK CITY TRANSIT AUTHORITY
FACILITY DIVISION
OPERATING PROJECTS & ENGINEERING

CONTRACT V-22-0149
REHABILITATION OF JAMAICA BUS TERMINAL AT 168TH STREET IN THE BOROUGH OF QUEENS

PROPOSED (6) CURB CUTS SITE PLAN

DRAWN BY	WAI YUEN (ERIC) LEONG		DATE: 7/26/2023
DESIGNED BY	WAI YUEN (ERIC) LEONG		ARCHITECTURE
CHECKED BY	J. BAKLEH, P.E.		DRAWING NO. CC-1
APPROVED BY	J. BAKLEH, P.E.		REVISION –



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- U — UTILITIES POLE
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- STORM DRAIN
- CHAIN LINK FENCE
- NEW — NEW — CHAIN LINK FENCE (NEW)
- GUARD RAIL
- TREE
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- B. SHELTER — BUS SHELTER (5'x14')
- CONC. PAVEMENT (NEW)
- PEDESTRIAN CROSSWALK
- B — 42" HIGH CONCRETE BOLLARD
- PEDESTRIAN ISLAND TRENCH GRATE
- 10' LONG CONCRETE JERSEY BARRIER

103RD PRECINCT

1 / SUPP1

JAMAICA BUS TERMINAL
40' STANDARD BUS SIMULATION ANALYSIS

SCALE: 0 5 10 20 40 FT

N

CONSTRUCTION NOTES:

1. ALL DIMENSIONS ARE IN APPROXIMATION. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS IN FIELD.

REVISION	DESCRIPTION	DATE	APPROVED

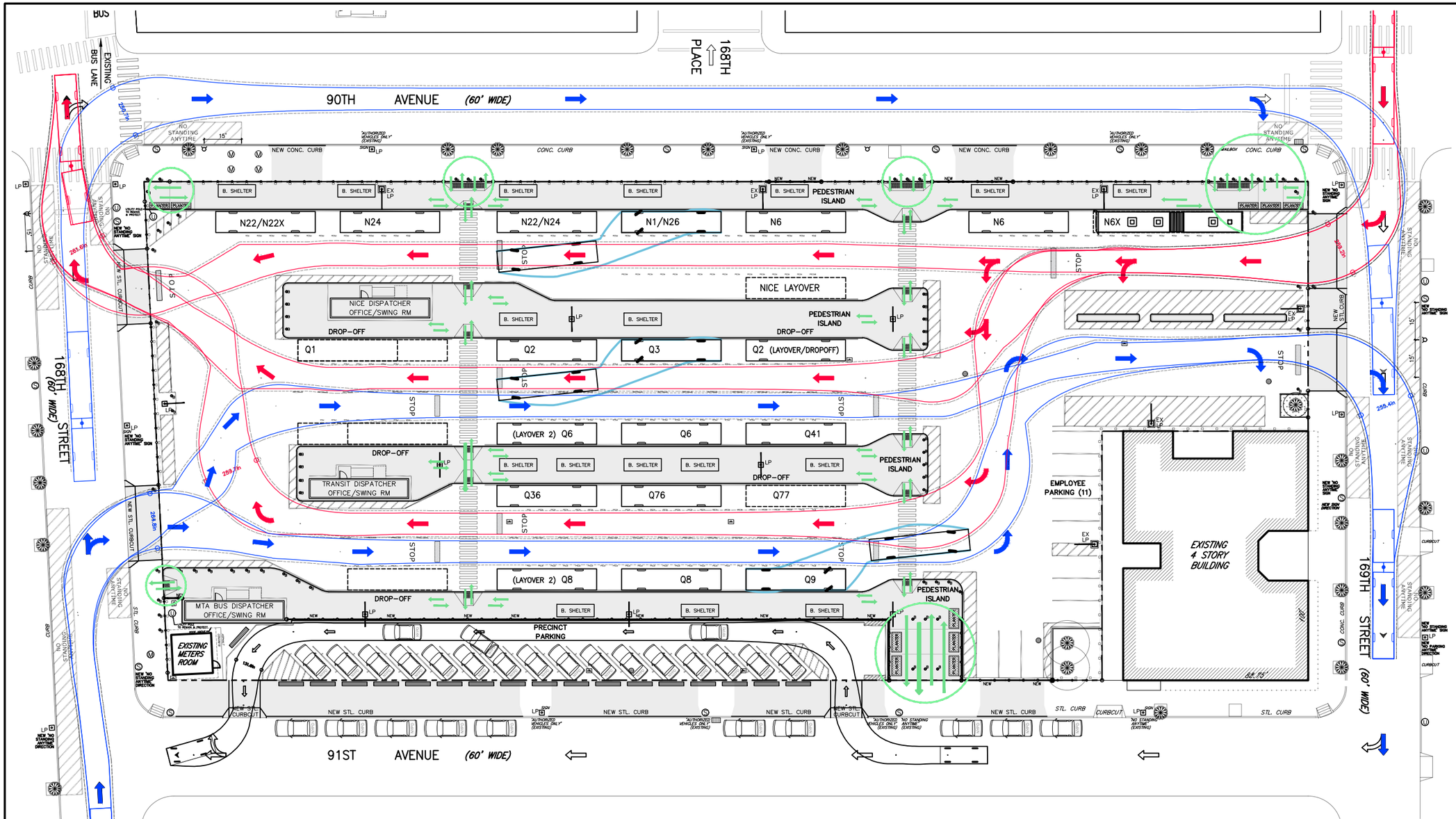
REVISIONS

NEW YORK CITY TRANSIT AUTHORITY
FACILITY DIVISION
OPERATING PROJECTS & ENGINEERING

CONTRACT V-22-0149
REHABILITATION OF JAMAICA BUS TERMINAL AT 168TH STREET IN THE BOROUGH OF QUEENS

JAMAICA BUS TERMINAL
40' STANDARD BUS
SIMULATION ANALYSIS

DRAWN BY	WAI YUEN (ERIC) LEONG		DATE: 7/28/2023
DESIGNED BY	WAI YUEN (ERIC) LEONG		ARCHITECTURE
CHECKED BY	J. BAKLEH, P.E.		DRAWING NO. SUPP-1
APPROVED BY	J. BAKLEH, P.E.		REVISION —



103RD PRECINCT

1 SUPP2

JAMAICA BUS TERMINAL
60' ARTICULATED BUS SIMULATION ANALYSIS

SCALE: 0 5 10 20 40 FT

N

CONSTRUCTION NOTES:

1. ALL DIMENSIONS ARE IN APPROXIMATION. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS IN FIELD.

REVISION	DESCRIPTION	DATE	APPROVED

REVISIONS

NEW YORK CITY TRANSIT AUTHORITY
FACILITY DIVISION
OPERATING PROJECTS & ENGINEERING

CONTRACT V-22-0149
REHABILITATION OF JAMAICA BUS TERMINAL AT 168TH STREET IN THE BOROUGH OF QUEENS

JAMAICA BUS TERMINAL
60' ARTICULATED BUS
SIMULATION ANALYSIS

DRAWN BY	WAI YUEN (ERIC) LEONG		DATE: 7/28/2023
DESIGNED BY	WAI YUEN (ERIC) LEONG		ARCHITECTURE
CHECKED BY	J. BAKLEH, P.E.		DRAWING NO. SUPP-2
APPROVED BY	J. BAKLEH, P.E.		REVISION —