Chapter 9: Transportation

A. INTRODUCTION

As described in detail in Chapter 1, "Project Description," Memorial Sloan-Kettering Cancer Center (MSK) and The City University of New York (CUNY) are partnering to build a new ambulatory care center (MSK ACC) and the Hunter College Science and Health Professions Building (CUNY-Hunter Building) adjacent to the Franklin Delano Roosevelt (FDR) Drive between East 73rd and East 74th Streets. In total, the project would introduce ~~1,134,159~~ 1,152,347 square feet (sf) with 749,357 gsf in the MSK ACC and 402,990 gsf in the CUNY-Hunter Building. The MSK ACC would contain ambulatory care facilities, including clinics for dermatological, breast, and prostate cancers; consultation rooms; infusion rooms; a medical/surgical clinic; an interventional radiology clinic; a bone marrow transplant clinic; academic offices; a pharmacy; and conference rooms, as well as up to 250 accessory parking spaces for patients and visitors. The CUNY-Hunter Building would house teaching and research laboratories, class rooms, a learning center, a single 350-seat lecture hall, faculty offices, and a vivarium to house research animals.

This chapter examines the potential effects of the proposed MSK-CUNY project on the study area transportation systems, and compares the probable impacts of the proposed project (the "Build" condition) with the future without the proposed project (the "No Build" condition). The analyses consider the 2019 analysis year to identify potential impacts, and if warranted, determine feasible mitigation measures that would be appropriate to address those impacts (Chapter 17, "Mitigation," presents details on the proposed mitigation measures). The travel demand projections, trip assignments, and capacity analysis contained in this chapter were conducted pursuant to the methodologies outlined in the June 2012 *City Environmental Quality Review (CEQR) Technical Manual*.

PRINCIPAL CONCLUSIONS

TRAFFIC

Traffic conditions were evaluated at 19 intersections for the weekday AM, midday, and PM peak hours. Under the future with the proposed project, there would be the potential for significant adverse impacts at 11 different intersections, 8 intersections each during the weekday AM, midday, and PM peak hours, as follows:

Weekday AM Peak Hour

- York Avenue and East 79th Street – eastbound and northbound approaches;
- York Avenue and East 74th Street – eastbound approach;
- York Avenue and East 73rd Street – northbound approach, southbound *de facto* left-turn, and southbound through/right-turn;
- York Avenue and East 72nd Street – eastbound *de facto* left-turn and northbound approach;

- York Avenue and East 71st Street – northbound approach;
- York Avenue and East 65th Street – eastbound approach;
- York Avenue and East 61st Street – westbound right-turn; and
- First Avenue and East 65th Street – eastbound approach.

Weekday Midday Peak Hour

- York Avenue and East 79th Street – eastbound and northbound approaches;
- York Avenue and East 75th Street – northbound approach;
- York Avenue and East 74th Street – eastbound and westbound approaches;
- York Avenue and East 73rd Street – northbound and southbound approaches;
- York Avenue and East 72nd Street – eastbound *de facto* left-turn and northbound approach;
- York Avenue and East 66th Street – northbound approach;
- York Avenue and East 65th Street – eastbound approach; and
- First Avenue and East 65th Street – eastbound approach.

Weekday PM Peak Hour

- York Avenue and East 79th Street – eastbound approach and northbound through/right-turn;
- York Avenue and East 74th Street – eastbound and westbound approaches;
- York Avenue and East 73rd Street – westbound approach, northbound approach, southbound *de facto* left-turn, and southbound through/right-turn;
- York Avenue and East 72nd Street – eastbound *de facto* left-turn and northbound approach;
- York Avenue and East 66th Street – southbound approach;
- York Avenue and East 65th Street – eastbound approach;
- First Avenue and 72nd Street – eastbound *de facto* left-turn; and
- First Avenue and East 65th Street – eastbound approach.

Table 9-1 provides a summary of the above impacted locations by analysis time periods. Traffic capacity improvements that would be needed to mitigate these significant adverse impacts are addressed in Chapter 17, "Mitigation."

TRANSIT

The preliminary screening assessment summarized below concluded that a bus line-haul analysis of the M66 and M72 bus routes, a line-haul analysis of the future Second Avenue Q subway line, and a detailed analysis of station elements at the 72nd Street/Second Avenue subway station (future Second Avenue Q line), which is currently under Phase 1 construction and planned to open in 2016, were warranted. Based on the results of the transit analyses, the proposed project would not result in any significant adverse impacts on subway line-haul or circulation and control area elements at the future Second Avenue Subway station. In addition, a detailed allocation of incremental bus riders onto specific segments of the M66 and M72 bus routes was performed. This analysis concluded that the proposed project would not have the potential to incur a significant adverse line-haul impact on either of these bus routes.

Table 9-1
Summary of Significant Adverse Traffic Impacts

Intersection		AM	Midday	PM
EB/WB Street	NB/SB Street	Peak Hour	Peak Hour	Peak Hour
East 79th Street	York Avenue	EB-LTR NB-LTR	EB-LTR NB-LTR	EB-LTR NB-TR
East 75th Street	York Avenue		NB-LTR	
East 74th Street	York Avenue	EB-LTR	EB-LTR WB-LR	EB-LTR WB-LR
East 73rd Street	York Avenue	 NB-LTR SB-DefL SB-TR	 NB-LTR SB-LTR	WB-LTR NB-LTR SB-DefL SB-TR
East 72nd Street	York Avenue	EB-DefL NB-LTR	EB-DefL NB-LTR	EB-DefL NB-LTR
East 71st Street	York Avenue	NB-LTR		
East 66th Street	York Avenue		NB-LTR	 SB-LTR
East 65th Street	York Avenue	EB-LR	EB-LR	EB-LR
East 61st Street	York Avenue	WB-R		
East 72nd Street	First Avenue			EB-DefL
East 65th Street	First Avenue	EB-LT	EB-LT	EB-LT

Notes: EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; L = Left Turn; T = Through; R = Right Turn; DefL = *de facto* Left Turn

PEDESTRIANS

Weekday peak period pedestrian conditions were evaluated at key sidewalk, corner reservoir, and crosswalk elements at seven area intersections. It was concluded that the proposed project would not result in any significant adverse pedestrian impacts at any of the analysis locations.

VEHICULAR AND PEDESTRIAN SAFETY

Accident data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the time period between January 1, 2009 and December 31, 2011. During this period, a total of 280 reportable and non-reportable accidents, zero fatalities, 209 injuries, and 68 pedestrian/bicyclist-related accidents occurred at the study area intersections. A rolling total of accident data identifies two study area intersections as high accident locations in the 2009 to 2011 period. These locations are First Avenue at East 72nd Street and York Avenue at East 72nd Street.

With the proposed project, the intersection of First Avenue and East 72nd Street would experience moderate increases in vehicular and pedestrian traffic. The incremental vehicular and pedestrian levels at this intersection would be above the *CEQR* analysis threshold of 50 peak hour vehicle trips while the incremental pedestrian levels would be below the *CEQR* analysis threshold of 200 peak hour pedestrian trips. The intersection of First Avenue and East 72nd Street would be impacted during the weekday PM peak hour. However, as described in Chapter 17, "Mitigation," the predicted impact at this intersection could be fully mitigated with standard traffic engineering measures. Therefore, the proposed project is not anticipated to exacerbate any of the current causes of pedestrian-related accidents. Nonetheless, additional safety measures, such as the installation of countdown timers on all pedestrian crosswalks, the installation of pedestrian safety signs warning turning vehicles to yield to pedestrians in the crosswalk, and restriping both the faded north and south crosswalks, can be implemented to improve pedestrian safety at this intersection.

With the proposed project, the intersection of York Avenue and East 72nd Street would experience noticeable increases in vehicular and pedestrian traffic. The incremental vehicular and pedestrian levels at this intersection would be above the *CEQR* analysis threshold of 50 peak hour vehicle trips and 200 peak hour pedestrian trips. The intersection of York Avenue and East 72nd Street would be impacted during all three analysis peak hours. However, as described in Chapter 17, "Mitigation," the predicted impacts at this intersection could be fully mitigated with standard traffic engineering measures. Therefore, the proposed project is not anticipated to exacerbate any of the current causes of pedestrian-related accidents. Nonetheless, additional safety measures, such as the installation of countdown timers on all pedestrian crosswalks and the installation of pedestrian safety signs warning turning vehicles to yield to pedestrians in the crosswalk, can be implemented to improve pedestrian safety at this intersection.

PARKING

The proposed project would displace existing public parking spaces and include new off-street accessory parking spaces. In the Build condition, anticipated future development projects (including No Build projects and the proposed project) are expected to displace the surface public parking lot on the western portion of the project site, for a total displacement of 128 parking spaces. The proposed project would include a total of up to 250 off-street accessory parking spaces. Accounting for the displacement of the public parking spaces, the addition of the accessory parking spaces, and the parking demand generated from background growth, No Build projects, and the proposed project, the Build public parking supply and utilization analysis shows that there would be a parking shortfall during the weekday midday period within the ¼-mile off-street parking study area. It is anticipated that the excess demand could be accommodated with a slightly longer walking distance beyond the ¼-mile radius. Furthermore, as stated in the *CEQR Technical Manual*, a parking shortfall resulting from a project located in Manhattan does not constitute a significant adverse parking impact, due to the magnitude of available alternative modes of transportation.

SUMMARY OF MITIGATION ANALYSIS

Out of the 11 different impacted traffic intersections summarized above, all projected significant adverse impacts, except for those at one study area intersection, could be fully mitigated with readily implementable measures, such as signal retiming, changes to parking regulations, lane restriping, and prohibition of left-turns. The specific measures that would be feasible to mitigate the significant adverse impacts summarized above are further discussed in Chapter 17, "Mitigation." These measures would be subject to the review and approval by the New York City Department of Transportation (NYCDOT).

B. PRELIMINARY ANALYSIS METHODOLOGY AND SCREENING ASSESSMENT

The *CEQR Technical Manual* recommends a two-tier screening procedure for the preparation of a "preliminary analysis" to determine if quantified analyses of transportation conditions are warranted. As discussed below, 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 50 peak hour vehicle trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses are not warranted. When these thresholds are exceeded, detailed trip assignments (Level 2) are performed to

estimate the incremental trips at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the proposed project would result in 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a station, 200 or more peak hour subway trips in one direction on a subway line, 50 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.

LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the proposed project during the weekday AM, midday, and PM peak hours. These estimates were then compared to the *CEQR Technical Manual* thresholds to determine if a Level 2 screening and/or quantified operational analyses would be warranted. As demonstrated in this section, the Level 1 Screening Assessment indicated the need to undertake a Level 2 screening assessment.

BACKGROUND

As described above, the proposed project would be developed jointly by MSK and CUNY and would result in the development of the MSK ACC and the CUNY-Hunter Building. **Tables 9-2** and **9-3** provide summaries of the projected MSK ACC and CUNY-Hunter Building daily populations.

MSK anticipates that the proposed ACC would primarily be in operation during weekdays, with minimal patient visits during weekends (up to 20 patients per day). In addition, CUNY has indicated that no scheduled classes are currently planned for the CUNY-Hunter Building. Therefore, a weekend analysis for the proposed project is not warranted and the travel demand analyses presented below are for representative weekday conditions.

TRANSPORTATION PLANNING ASSUMPTIONS

Trip generation factors for the proposed project were developed based on information provided by MSK and CUNY-Hunter, other approved Environmental Assessment Statements (EASs) and Environmental Impact Statements (EISs), and assumptions developed in coordination with MSK, CUNY, and NYCDOT. These factors, which have been signed-off by NYCDOT, are detailed below.

MSK ACC Population

For the daily staff person trip rate, it was assumed that each staff member would generate one commuting in trip at the beginning of their shift and one commuting out trip at the end of their shift. Also, approximately 50 percent of the staff during each shift is expected to generate one discretionary roundtrip (one out and one in trip) during the middle of their shift. This resulted in a daily staff person trip rate of three trips per staff and a temporal distribution profile of 33 percent traveling during the commuting in period, 34 percent during the middle of the shift, and 33 percent during the commuting out period. Based on MSK ACC's anticipated shift allocations, the various staff shifts were overlaid over the 24-hour period to develop the overall staff weekday AM, midday, and PM peak hour temporal and directional distributions presented in **Table 9-4**.

Table 9-2
MSK ACC Population

Component	Increment
Staff [1]	1,620
Patients	1,335
Visitors and Family	2,670
Building (gsf)	749,357
Accessory Parking Spaces[2]	Up to 250

Notes: (1) MSK estimates that 95 percent of the staff would work in MSK ACC on a daily basis. Therefore, for trip generation purposes, 1,539 staff (95 percent of 1,620) was utilized.
(2) Access and egress to the accessory garage, which would be valet parking, would be provided on East 74th Street.
Source: MSK, 2012

Table 9-3
CUNY-Hunter Building Population

Component	Increment
Undergraduate Students	1,130
Graduate Students	1,219
Research Staff	209
Faculty	153
Adjunct Faculty	114
Support Staff	71
Visitors	48
Lecture Hall Students [1]	1,784
Building (gsf)	402,990

Notes: (1) Lecture hall students consist of existing Hunter College students from the 68th Street main campus who are anticipated to attend classes at the new 350-seat lecture hall at the 74th Street campus.
Source: CUNY-Hunter, 2012

For the daily patients and visitors trip rate, it was assumed that the patients and visitors would generate one trip arriving for their scheduled appointments and one trip departing at the end of their scheduled appointments. Based on MSK's expectation of appointment scheduling patterns and average duration of each appointment at the new ACC facility, the trip-making of the projected patients and visitors were allocated to a 24-hour period to develop the overall patients and visitors weekday AM, midday, and PM peak hour temporal and directional distributions presented in **Table 9-4**.

The modal splits for both staff and patients and visitors were provided by MSK based on transportation surveys conducted at existing facilities. Applicable trip-making characteristics from the 2001 *MSKCC Rezoning FEIS* were also used in the trip estimates. However, because medical treatment has substantially evolved over the past 10 years, the projected population and travel to/from the proposed building rely primarily on discussions with and information provided by MSK's administrators and facilities personnel. The projected travel profile and trip estimates were then reviewed with MSK to arrive at consensus on their reasonableness and to ensure their consistency with MSK's current practice and expectations for the new ACC facility.

Table 9-4
Travel Demand Assumptions

USE	ACC Staff			ACC Patients/Visitors			Undergraduate Students			Graduate Students		
Daily Person Trip Generation Rate	(1) 3.0 Trips / Person			(1) 2.0 Trips / Person			(4) 3.5 Trips / Person			(4) 3.5 Trips / Person		
Absentee Rate	N/A			N/A			5%			5%		
Link Credit	N/A			N/A			N/A			N/A		
Final Trip Rate	3.0			2.0			3.3			3.3		
Person Trip	(1)	(1)	(1)	(1)	(1)	(1)	(7)	(7)	(7)	(7)	(7)	(7)
Temporal	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Distribution	12.1%	8.1%	12.2%	4.0%	10.0%	7.5%	16.4%	8.0%	7.1%	7.5%	5.7%	12.2%
Directional Distribution	(1)	(1)	(1)	(1)	(1)	(1)	(7)	(7)	(7)	(7)	(7)	(7)
In	97%	52%	12%	100%	60%	20%	99%	49%	13%	99%	82%	60%
Out	3%	48%	88%	0%	40%	80%	1%	51%	87%	1%	18%	40%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(1)	(1)	(1)	(1)	(1)	(1)	(2,4)	(2,4)	(2,4)	(4)	(4)	(4)
Auto	12.0%	12.0%	12.0%	53.0%	53.0%	53.0%	1.0%	1.0%	1.0%	6.0%	5.0%	6.0%
Taxi	4.0%	4.0%	4.0%	14.0%	14.0%	14.0%	2.5%	2.0%	2.5%	2.5%	2.0%	2.5%
Ambulette	0.0%	0.0%	0.0%	4.0%	4.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subway	47.0%	47.0%	47.0%	16.0%	16.0%	16.0%	45.0%	14.0%	45.0%	40.0%	10.0%	40.0%
Bus	16.0%	16.0%	16.0%	6.0%	6.0%	6.0%	4.5%	8.0%	4.5%	4.5%	8.0%	4.5%
Walk	21.0%	21.0%	21.0%	7.0%	7.0%	7.0%	47.0%	75.0%	47.0%	47.0%	75.0%	47.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(3)			(1)			(4)			(4)		
Auto	1.27			3.00			1.20			1.20		
Taxi	1.35			3.00			1.30			1.30		
Ambulette	N/A			3.00			N/A			N/A		
Daily Delivery Trip Generation Rate	(3) 0.20 Delivery Trips / 1,000 SF											
Delivery Trip	(3)	(3)	(3)									
Temporal	AM	MD	PM									
Distribution	10.0%	9.0%	5.0%									
Directional Distribution	(3)	(3)	(3)									
In	50%	50%	50%									
Out	50%	50%	50%									
Total	100%	100%	100%									

USE	Research Staff/Faculty/ Adjunct Faculty			Support Staff			Visitors			Lecture Hall Students		
Daily Person Trip Generation Rate	(4) 3.5 Trips / Person			(4) 3.5 Trips / Person			(8) 0.26 Trips / 1,000 SF			(1) 2.0 Trips / Person		
Absentee Rate	20%			5%			N/A			N/A		
Link Credit	N/A			N/A			N/A			N/A		
Final Trip Rate	2.8			3.3			0.29			2.0		
Person Trip	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(1)	(1)	(1)
Temporal	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Distribution	11.0%	9.0%	11.0%	21.0%	13.0%	5.5%	15.0%	15.0%	1.5%	0.0%	18.2%	8.4%
Directional Distribution	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(1)	(1)	(1)
In	95%	50%	30%	95%	50%	30%	90%	60%	0%	50%	49%	100%
Out	5%	50%	70%	5%	50%	70%	10%	40%	100%	50%	51%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4,6)	(4)	(5)	(5)	(5)
Auto	35.0%	5.0%	35.0%	20.5%	5.0%	20.5%	25.0%	25.0%	25.0%	0.0%	0.0%	0.0%
Taxi	3.5%	2.0%	3.5%	1.5%	2.0%	1.5%	2.0%	2.0%	2.0%	0.0%	0.0%	0.0%
Ambulette	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subway	31.0%	10.0%	31.0%	49.5%	10.0%	49.5%	50.0%	50.0%	50.0%	0.0%	0.0%	0.0%
Bus	6.5%	8.0%	6.5%	12.5%	8.0%	12.5%	13.0%	13.0%	13.0%	25.0%	25.0%	25.0%
Walk	24.0%	75.0%	24.0%	16.0%	75.0%	16.0%	10.0%	10.0%	10.0%	75.0%	75.0%	75.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(4)			(4)			(4)			(4)		
Auto	1.20			1.20			1.20			1.20		
Taxi	1.30			1.30			1.30			1.30		
Ambulette	N/A			N/A			N/A			N/A		

Table 9-4 (cont'd)
Travel Demand Assumptions

USE	Research Staff/Faculty/ Adjunct Faculty	Support Staff	Visitors			Lecture Hall Students
Daily Delivery Trip Generation Rate			(4) 0.03 Delivery Trips / 1,000 SF			
Delivery Trip Temporal Distribution			(4) AM 9.7%	(4) MD 9.1%	(4) PM 5.1%	
Directional Distribution			(4)	(4)	(4)	
In			50%	50%	50%	
Out			50%	50%	50%	
Total			100%	100%	100%	

Sources:
(1) Based on information provided by MSK or CUNY.
(2) The undergraduate student modal splits were further adjusted based on the ratio of the undergraduate and graduate student auto mode shares presented in the *NYU Core FEIS* (2012).
(3) *MSKCC Rezoning FEIS* (2001).
(4) *CUNY Hunter School of Social Work Project EAF* (2008).
(5) Based on the undergraduate student midday modal splits and adjusted by reducing all other modes besides walk and added to the bus share to reflect students traveling from the 68th Street campus.
(6) Adjusted to reflect AM and PM modal splits.
(7) *NYU Core FEIS* (2012). Adjusted based on the anticipated daily peaking characteristics for each of the school's population groups.
(8) Based on information provided by CUNY and adjusted based on the anticipated visitor population and square footage of the proposed CUNY-Hunter Building.

CUNY-Hunter Building Population

Trip generation factors, including the daily person trip rates for the undergraduate and graduate students, research staff, faculty, adjunct faculty, and support staff for the proposed school populations are primarily based on the *CUNY Hunter School of Social Work Project EAF* (2008). The daily visitor trip rate is based on the anticipated total daily visitor trips (assumed two trips per visitor) divided by the proposed square footage[1] of the proposed CUNY-Hunter Building. The daily person trip rate for the lecture hall students is based on the assumption that each student would generate one arriving trip and one departing trip.

The temporal and directional distributions for the CUNY undergraduate and graduate student populations are based on the *NYU Core FEIS* (2012) and adjusted for the anticipated daily peaking characteristics for each of the school's population groups. The temporal and directional distributions for the other CUNY populations (except for the lecture hall students) are based on the *CUNY Hunter School of Social Work Project EAF* and adjusted for the anticipated daily peaking characteristics for each of the school's population groups. The temporal and directional distributions for the lecture hall students are based on CUNY-Hunter's anticipated class scheduling patterns and durations.

The modal splits for the CUNY populations are also primarily based on the *CUNY Hunter School of Social Work Project EAF*. The modal splits for the undergraduate students were further adjusted based on the ratio of the undergraduate and graduate student auto mode shares presented in the *NYU Core FEIS*. The adjusted undergraduate student midday modal splits were also applied to the lecture hall students and further adjusted by reducing all other modes besides walk and adding it to the bus share to reflect students traveling from the 68th Street campus.

[1] A portion of the MSK and CUNY buildings' mechanical spaces were subtracted from the buildings' total gross square footages for trip generation purposes.

Similar to the projected travel profile and trip estimates developed for the proposed MSK ACC, the process undertaken for estimating future trip-making to/from the proposed CUNY-Hunter Building involved a careful review of findings made in several previously approved studies and consultation with CUNY-Hunter's administrators and facilities personnel. The resulting estimates are in line with current practice and expectations for the new proposed building.

TRAVEL DEMAND PROJECTION SUMMARY

As summarized in **Table 9-5**, the proposed project would generate a total of 2,000, 2,516, and 2,381 person trips during the weekday AM, midday, and PM peak hours, respectively. Approximately 316, 329, and 375 vehicle trips would be generated during the same respective time periods.

Table 9-5
Trip Generation Summary

MSK ACC														
Person Trips									Vehicle Trips					
Peak Hour	In/Out	Auto	Taxi	Ambulette	Subway	Bus	Walk	Total	In/Out	Auto	Taxi	Ambulette	Delivery	Total
AM	In	235	67	13	306	106	136	863	In	108	31	4	7	150
	Out	2	1	0	8	3	4	18	Out	2	31	4	7	44
	Total	237	68	13	314	109	140	881	Total	110	62	8	14	194
Midday	In	278	75	19	168	60	75	675	In	103	41	8	7	159
	Out	192	52	13	135	48	60	500	Out	74	41	8	7	130
	Total	470	127	32	303	108	135	1,175	Total	177	82	16	14	289
PM	In	72	20	5	51	18	22	188	In	27	43	7	4	81
	Out	314	87	19	310	108	138	976	Out	131	43	7	4	185
	Total	386	107	24	361	126	160	1,164	Total	158	86	14	8	266
CUNY-Hunter Building														
Person Trips									Vehicle Trips					
Peak Hour	In/Out	Auto	Taxi	Ambulette	Subway	Bus	Walk	Total	In/Out	Auto	Taxi	Ambulette	Delivery	Total
AM	In	86	28	0	464	57	466	1,101	In	72	22	0	1	95
	Out	4	0	0	8	0	6	18	Out	4	22	0	1	27
	Total	90	28	0	472	57	472	1,119	Total	76	44	0	2	122
Midday	In	16	8	0	51	114	547	736	In	15	8	0	0	23
	Out	9	5	0	36	105	450	605	Out	9	8	0	0	17
	Total	25	13	0	87	219	997	1,341	Total	24	16	0	0	40
PM	In	34	10	0	149	93	391	677	In	29	18	0	0	47
	Out	52	15	0	220	27	226	540	Out	44	18	0	0	62
	Total	86	25	0	369	120	617	1,217	Total	73	36	0	0	109
Total														
Person Trips									Vehicle Trips					
Peak Hour	In/Out	Auto	Taxi	Ambulette	Subway	Bus	Walk	Total	In/Out	Auto	Taxi	Ambulette	Delivery	Total
AM	In	321	95	13	770	163	602	1,964	In	180	53	4	8	245
	Out	6	1	0	16	3	10	36	Out	6	53	4	8	71
	Total	327	96	13	786	166	612	2,000	Total	186	106	8	16	316
Midday	In	294	83	19	219	174	622	1,411	In	118	49	8	7	182
	Out	201	57	13	171	153	510	1,105	Out	83	49	8	7	147
	Total	495	140	32	390	327	1,132	2,516	Total	201	98	16	14	329
PM	In	106	30	5	200	111	413	865	In	56	61	7	4	128
	Out	366	102	19	530	135	364	1,516	Out	175	61	7	4	247
	Total	472	132	24	730	246	777	2,381	Total	231	122	14	8	375

As per the criteria established in the *CEQR Technical Manual*, a quantified transportation analysis may be warranted if a proposed project is expected to result in 50 or more vehicle trips, 200 or more transit trips (200 or more peak hour transit riders at any given subway station, 200 or more peak hour transit riders on a particular subway line in one direction, or 50 or more peak hour bus trips on a particular route in one direction), and/or 200 or more pedestrian trips during a given peak hour.

Traffic

Since the projected incremental vehicle trips would be greater than the *CEQR Technical Manual* analysis threshold of 50 peak hour vehicle trips, a Level 2 screening assessment is warranted to determine if there is a need for additional quantified traffic analyses and identify the potential intersections warranting analysis. The Level 2 screening assessment for traffic is provided in the next section, "Level 2 Screening Assessment."

Transit

As shown in **Table 9-5**, the proposed project would generate a total of approximately 786, 390, and 730 person trips by subway and 166, 327, and 246 person trips by bus during the weekday AM, midday, and PM peak hours, respectively. Since the net incremental bus trips would be at or greater than 200 during the midday and PM peak hours, and the net incremental subway trips would be greater than 200 during all three peak hours, a Level 2 screening assessment is warranted to determine if there is a need for additional quantified transit analyses. The Level 2 screening assessment for transit is provided in the next section, "Level 2 Screening Assessment."

Pedestrian

As shown in **Table 9-5**, the proposed project would result in more than 200 pedestrian trips in all three peak hours. Therefore, a Level 2 screening assessment is warranted to determine if there is a need for additional quantified pedestrian analyses. The Level 2 screening assessment for pedestrians is provided in the next section, "Level 2 Screening Assessment."

LEVEL 2 SCREENING ASSESSMENT

As detailed in the previous section, the Level 1 Screening Assessment indicated that a Level 2 Screening Assessment is warranted for traffic, transit, and pedestrians. A Level 2 screening assessment involves the distribution and assignment of projected trips to the transportation network and the determination of whether specific locations are expected to experience incremental trips exceeding *CEQR Technical Manual* thresholds. If the results of this analysis show that the proposed project would result in 50 or more peak hour vehicle trips through an intersection, 50 or more peak hour bus riders on a bus route in a single direction, 200 or more peak hour subway passengers per station, or 200 or more peak hour pedestrian trips per pedestrian element, further quantified analyses may be warranted to evaluate the potential for significant adverse traffic, transit, pedestrian, and parking impacts.

For the proposed MSK/CUNY-Hunter project, trips projected for the 2019 analysis year, representing the maximum number of project-generated trips, were allocated to the area's roadways, transit facilities, and pedestrian elements and the proposed site plan was considered. The project site is bounded by East 74th Street to the north, East 73rd Street to the south, the FDR Drive to the east, and York Avenue to the west. Access and egress to the proposed MSK ACC accessory parking garage for the patients and visitors would be provided on the south side of East 74th Street. The primary entrances for both MSK ACC and CUNY-Hunter Building would be provided on East 74th Street. There would be a secondary entrance on East 73rd Street in the MSK ACC only accessible by its staff. Enclosed loading docks for the MSK ACC and CUNY-Hunter Building would be provided on East 73rd Street.

TRAFFIC

Vehicle trips were assigned to the area intersections based on the most likely routes to and from the project site (primarily FDR Drive, York Avenue, First Avenue, Second Avenue, East 79th Street, East 72nd Street, and East 66th Street), the configuration and direction of the roadway network, prevailing travel patterns, commuter origin-destination summary from the census data, zip-code statistics from student enrollment data provided by CUNY-Hunter, and the expected locations of the site access and egress points. Project-generated vehicle trips to and from the project site were assigned to the area's street network. Auto trips were assigned to and from the proposed MSK ACC accessory garage and to other public parking facilities in the area (Section G, "Parking Conditions Assessment," provides details on the inventory of off-street parking facilities in the study area). Taxi trips were assigned to various project block fronts (including East 74th Street, East 73rd Street, and York Avenue), ambulette trips were assigned to the MSK ACC front entrance on East 74th Street, and delivery vehicles were assigned to the site via NYCDOT-designated truck routes.

MSK ACC Staff

The distribution of vehicle trips generated by MSK ACC staff was based on the origin-destination patterns from the Reverse-Journey-to-Work (RJTW) statistics for the study area obtained from the 2000 U.S. Census. The vehicle trips were distributed to the study area roadways in the following manner: approximately 30 percent of project-generated vehicle trips were assume to approach the project site from the north, 40 percent from the south, 25 percent from the east, and 5 percent from the west.

MSK ACC Patients and Visitors

The distribution of vehicle trips generated by MSK ACC patients and visitors was developed based on a review of the origin-destination patterns from the RJTW statistics for the study area obtained from the 2000 U.S. Census, most likely access routes to and from the project site, population densities surrounding the project site, and adjusted to reflect a more even geographical draw. The vehicle trips were distributed to the study area roadways in the following manner: approximately 30 percent of project-generated vehicle trips were assumed to approach the project site from the north, 40 percent from the south, 15 percent from the east, and 15 percent from the west. The on-site accessory garage would provide a limited amount of parking spaces (up to 250 spaces) to accommodate some of the parking demand generated by the patients and visitors. Vehicle trips related to parking demand that could not be accommodated on-site would result in additional recirculation as drivers would drop off the patients at the MSK ACC first before circulating to find off-site parking. This is further discussed in Section C, "Detailed Traffic Analysis."

CUNY-Hunter Building Research Staff/Faculty/Adjunct Faculty, Support Staff, Visitors

The distribution of vehicle trips generated by the CUNY-Hunter Building research staff, faculty, adjunct faculty, support staff, and visitors was based on the origin-destination patterns from the RJTW statistics for the study area obtained from the 2000 U.S. Census. The vehicle trips were distributed to the study area roadways in the following manner: approximately 30 percent of project-generated vehicle trips were assume to approach the project site from the north, 40 percent from the south, 25 percent from the east, and 5 percent from the west.

CUNY-Hunter Building Students

The distribution of vehicle trips generated by CUNY-Hunter Building undergraduate and graduate students was based on the zip-code statistics from the existing student enrollment data provided by CUNY-Hunter. The vehicle trips were distributed to the study area roadways in the following manner: approximately 25 percent of project-generated vehicle trips were assumed to approach the project site from the north, 35 percent from the south, 35 percent from the east, and 5 percent from the west.

Summary

The project-generated vehicle trip assignments are shown in **Figures 9-1** to **9-3**. As shown in **Figure 9-4**, 19 traffic intersections were identified for detailed analysis. They include:

1. York Avenue and East 79th Street
2. York Avenue and East 76th Street
3. York Avenue and East 75th Street
4. York Avenue and East 74th Street
5. York Avenue and East 73rd Street
6. York Avenue and East 72nd Street
7. York Avenue and East 71st Street
8. York Avenue and East 66th Street
9. York Avenue and East 65th Street
10. York Avenue and East 61st Street
11. First Avenue and East 74th Street
12. First Avenue and East 73rd Street
13. First Avenue and East 72nd Street
14. First Avenue and East 66th Street
15. First Avenue and East 65th Street
16. Second Avenue and East 73rd Street
17. Second Avenue and East 72nd Street
18. Second Avenue and East 66th Street
19. Second Avenue and East 65th Street

The detailed traffic analysis is provided in Section C, "Detailed Traffic Analysis."

TRANSIT

Subway

As presented in **Table 9-5**, the proposed project is expected to result in 786, 390, and 730 project-generated subway trips during the weekday morning, midday, and evening peak hours, respectively. These trips were assigned to the 68th Street-Hunter College (No. 6 line) and 77th Street (No. 6 line) subway stations along Lexington Avenue and the planned 72nd Street subway station (Q line) along Second Avenue.

In consultation with the Metropolitan Transportation Authority (MTA) New York City Transit (NYCT), the project-generated subway trips were distributed to the Lexington Avenue and Second Avenue subway lines, the results of which show that an analysis of station elements at

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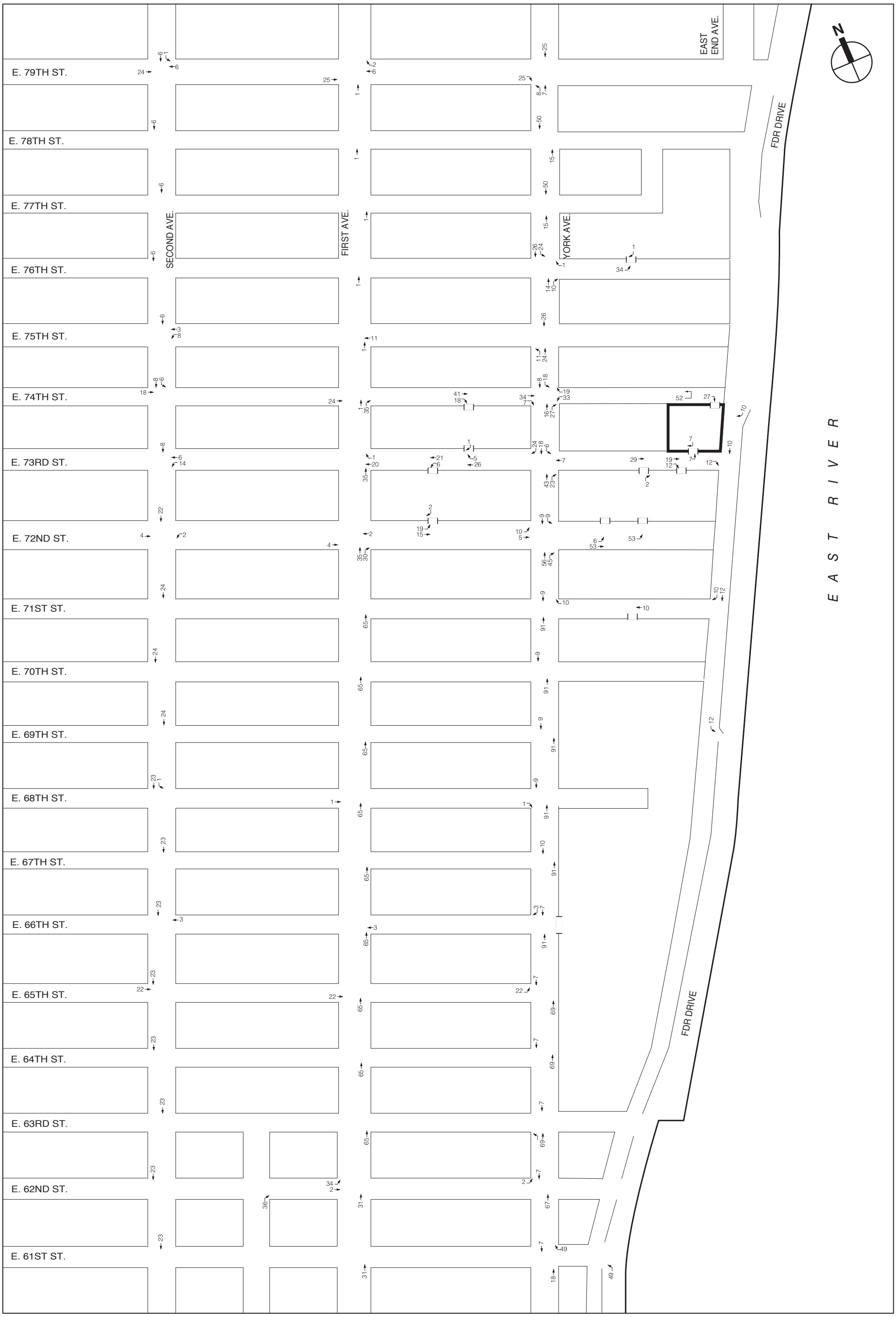


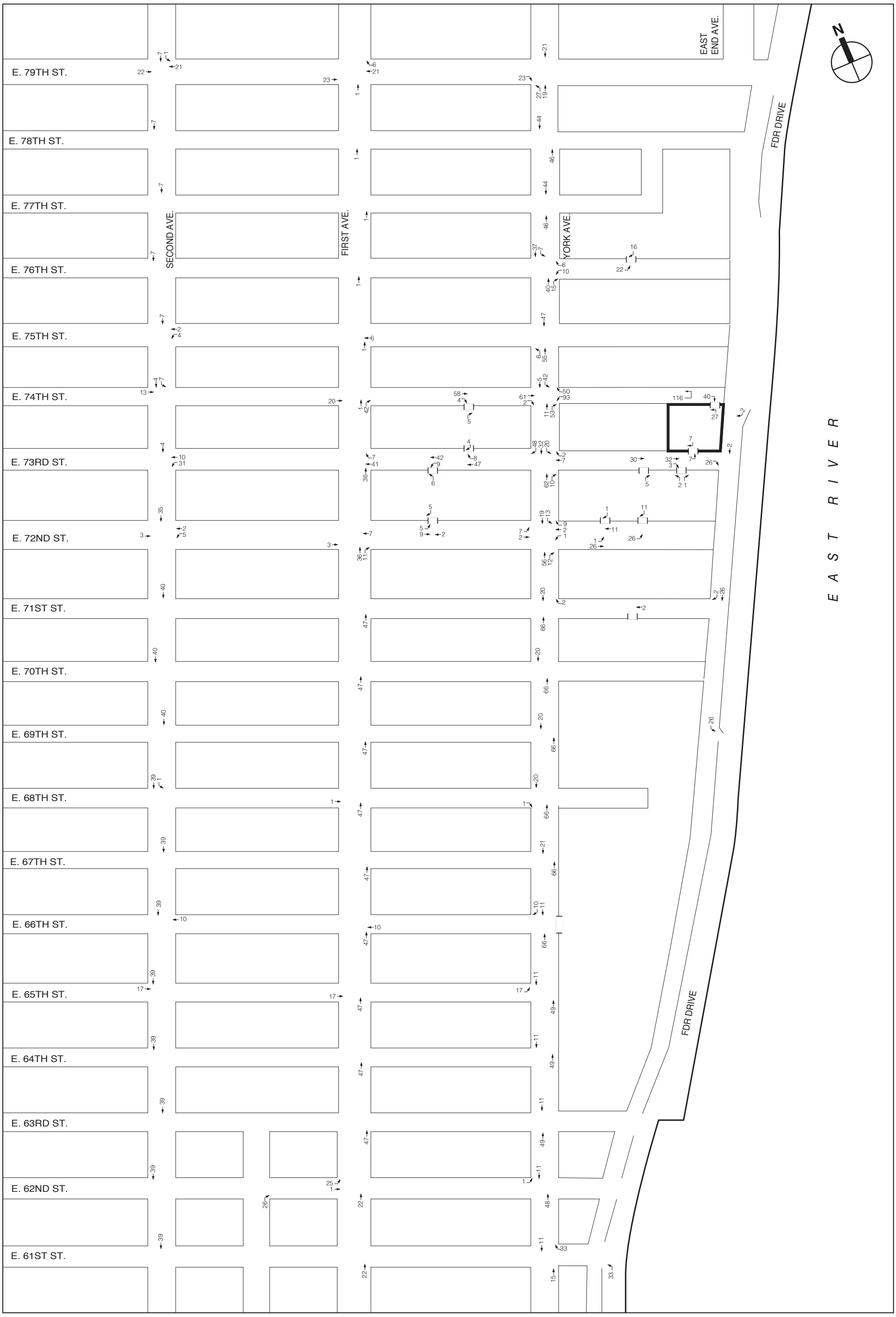
Project Site Boundary

NOT TO SCALE

Proposed Project Generated Vehicle Trips
Weekday AM Peak Hour

Figure 9-1

MSK ACC | CUNY-HUNTER

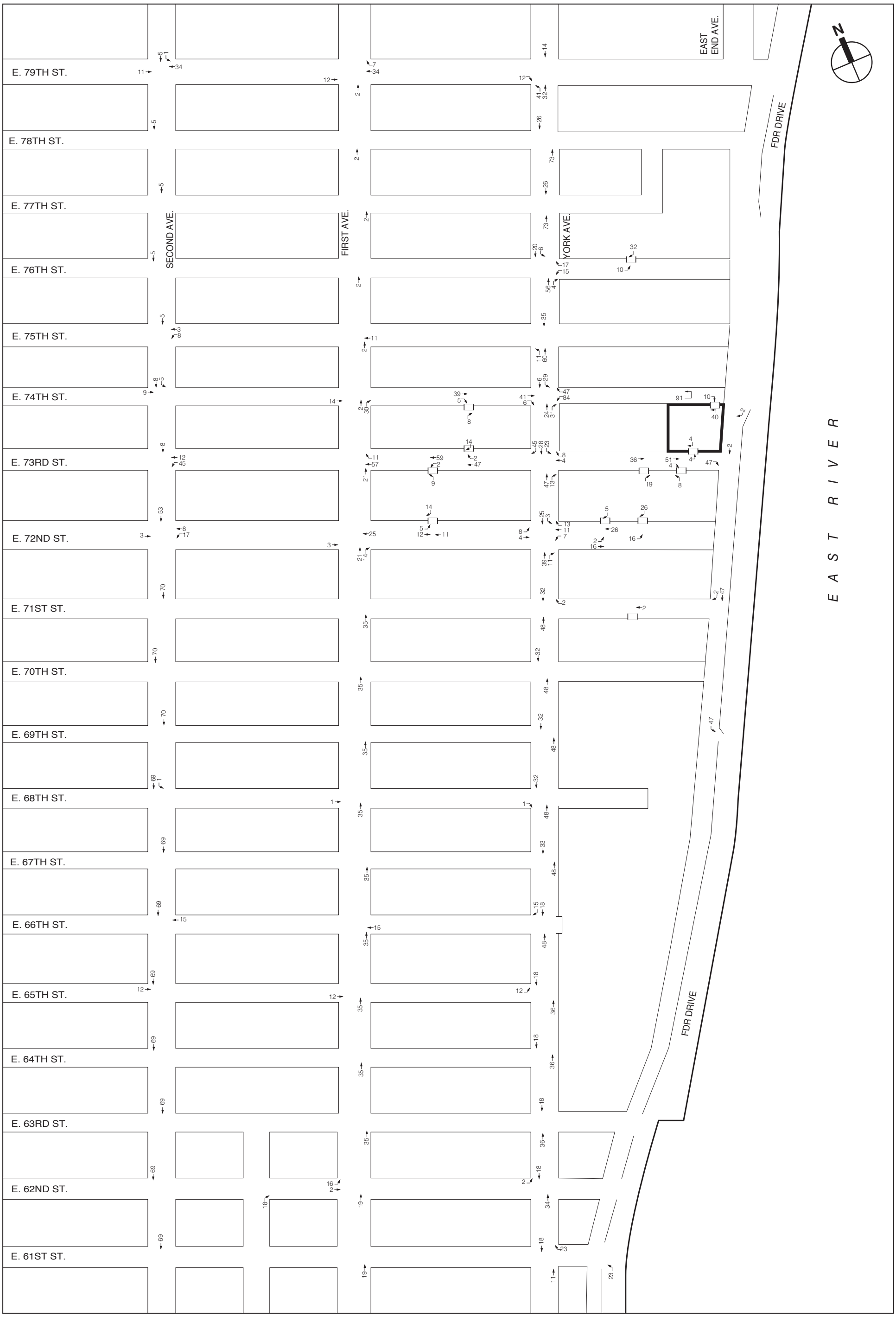


Project Site Boundary

NOT TO SCALE

Proposed Project Generated Vehicle Trips
Weekday Midday Peak Hour

Figure 9-2

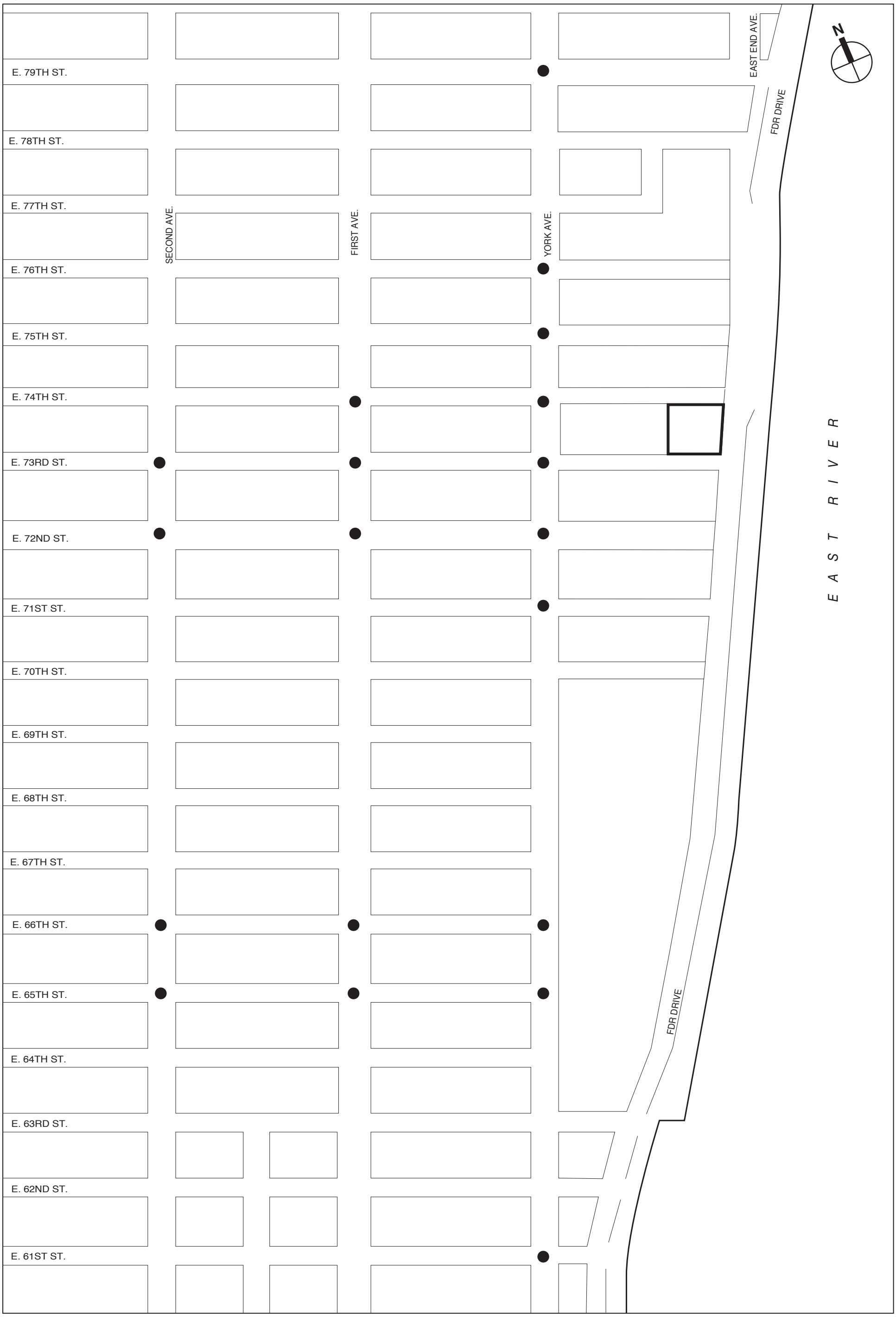


Project Site Boundary

NOT TO SCALE

Proposed Project Generated Vehicle Trips
Weekday PM Peak Hour

Figure 9-3



Traffic Analysis Locations

Figure 9-4

the 68th Street and 77th Street Lexington Avenue subway stations are not warranted, but the planned 72nd Street Second Avenue subway station would require detailed analysis of station elements (i.e., fare control areas and station circulation elements such as escalators and stairways) for the weekday morning and evening peak periods (see transit map shown in **Figure 9-5**), as follows:

- 72nd Street (Q) subway station: control area and associated access elements, including five elevators on the southeast corner of East 72nd Street and Second Avenue, and three escalators on the northwest corner.

The 72nd Street subway station at Second Avenue is currently under Phase 1 construction, and is planned to open in 2016. The detailed subway station analysis is provided in Section D, "Detailed Transit Analysis."

In addition, line haul capacities (i.e., the ability of transit systems to accommodate passenger loads) are evaluated when a proposed action is anticipated to generate a perceptible number of passengers to particular subway and bus routes. For subways, if a subway line is expected to incur 200 or more passengers in one direction of travel during the commuter peak hours, a detailed review of ridership levels at the maximum load point and/or other project-specific load points would be required to determine if the route's guideline (or practical) capacity would be exceeded. Subway trips were distributed to local subway routes serving the project site. In consultation with NYCT, it was determined that the peak load point for the planned Q line extension along Second Avenue would be in the southbound direction during the AM peak hour at the Second Avenue and 63rd Street station. The AM load leaving this station will represent the critical load point, and therefore only the AM southbound peak is analyzed for the Q subway line, as presented in Section D, "Detailed Transit Analysis."

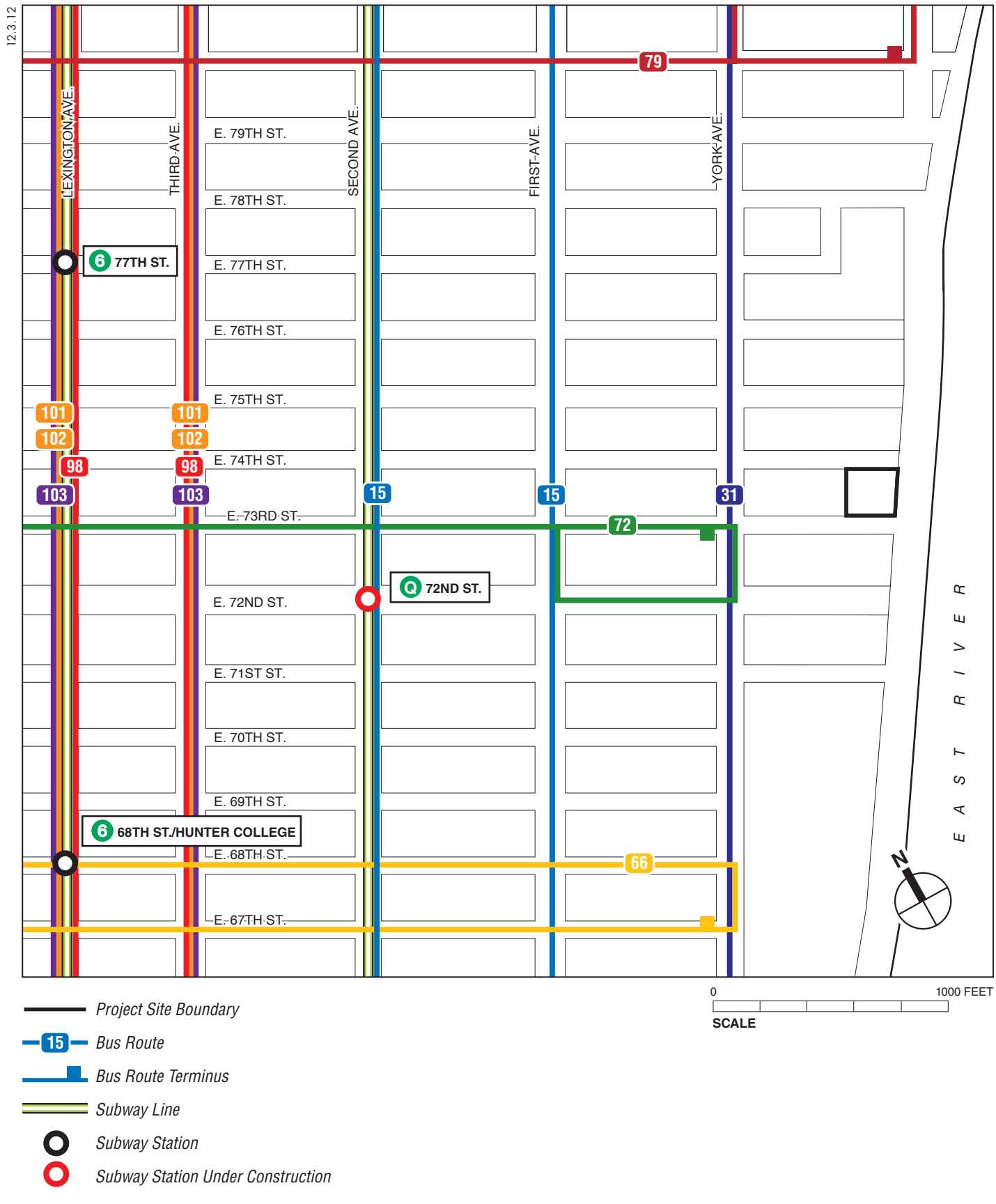
Bus

As presented in **Table 9-5**, the proposed project is expected to result in 166, 327, and 246 project-generated bus trips during the weekday morning, midday, and evening peak hours, respectively. The project-generated bus trips were distributed to the M15, M31, M66, and M72 buses, which serve the study area. It is also anticipated that some subway riders would transfer to nearby buses including the M66 and M72. Based on the preliminary distribution of projected bus trips, the project-generated peak hour bus trips are not expected to add 50 or more peak hour bus trips in one direction on the M15 and M31 bus lines; therefore, a detailed bus line-haul analysis would not be required for the M15 and M31. However, it is anticipated that the project-generated peak hour bus trips would add 50 or more peak hour bus trips in one direction on the M66 and M72 bus lines; therefore, detailed bus line-haul analysis would be prepared for the M66 and M72. The detailed bus line-haul analysis of the M66 and M72 bus lines is provided in Section D, "Detailed Transit Analysis."

PEDESTRIANS

As shown in **Table 9-5**, the projected peak hour pedestrian increments would exceed the CEQR analysis threshold of 200 pedestrians during the weekday morning, midday, and evening peak hours. Level 2 pedestrian trip assignments were developed for all proposed components and are discussed as follows:

- Auto Trips – The majority of motorists would park at the nearest available public parking facilities and would walk to and from the project site; up to 250 accessory parking spaces would be provided on-site for MSK ACC patients and visitors. As described above,


12.3.12
LEXINGTON AVE.
THIRD AVE.
SECOND AVE.
FIRST AVE.
YORK AVE.
E. 79TH ST.
E. 78TH ST.
E. 77TH ST.
E. 76TH ST.
E. 75TH ST.
E. 74TH ST.
E. 73RD ST.
E. 72ND ST.
E. 71ST ST.
E. 70TH ST.
E. 69TH ST.
E. 68TH ST.
E. 67TH ST.
79
6 77TH ST.
101
102
98
103
15
31
72
Q 72ND ST.
6 68TH ST./HUNTER COLLEGE
66
EAST RIVER
N
0
1000 FEET
SCALE
Project Site Boundary
15 Bus Route
Bus Route Terminus
Subway Line
Subway Station
Subway Station Under Construction

motorists dropping off patients at the ACC first and circulating to find off-site parking would also park at the nearest available public parking facilities and would walk to and from the project site.

- Taxi Trips – Taxi patrons would be dropped off and picked up along East 74th Street, East 73rd Street, and York Avenue.
- Ambulette Trips – Ambulette patrons would be dropped off and picked up in front of the MSK ACC main entrance on East 74th Street.
- Bus Trips – Project-generated bus riders would use the M15, M31, M66, and M72 buses and would get on and off at the bus stops nearest to the project site.
- Subway Trips – Project-generated subway riders were assigned to the 68th Street-Hunter College and 77th Street subway stations along the Lexington Avenue line and the planned 72nd Street subway station along the Second Avenue line. It is anticipated that some subway riders would transfer to the nearby buses such as the M66 and M72 to reach the project site. Subsequent to the initial subway pedestrian trip assignments, the allocation of subway pedestrian trips to the nearby subway stations were adjusted in consultation with NYCT. The volumes presented in this analysis reflect these adjustments.
- Walk-Only Trips – Pedestrian walk-only trip assignments were developed by distributing project-generated person trips to surrounding pedestrian facilities, including sidewalks, corner reservoirs, and crosswalks, bordering the project site as well as facilities located in the vicinity of the project site.

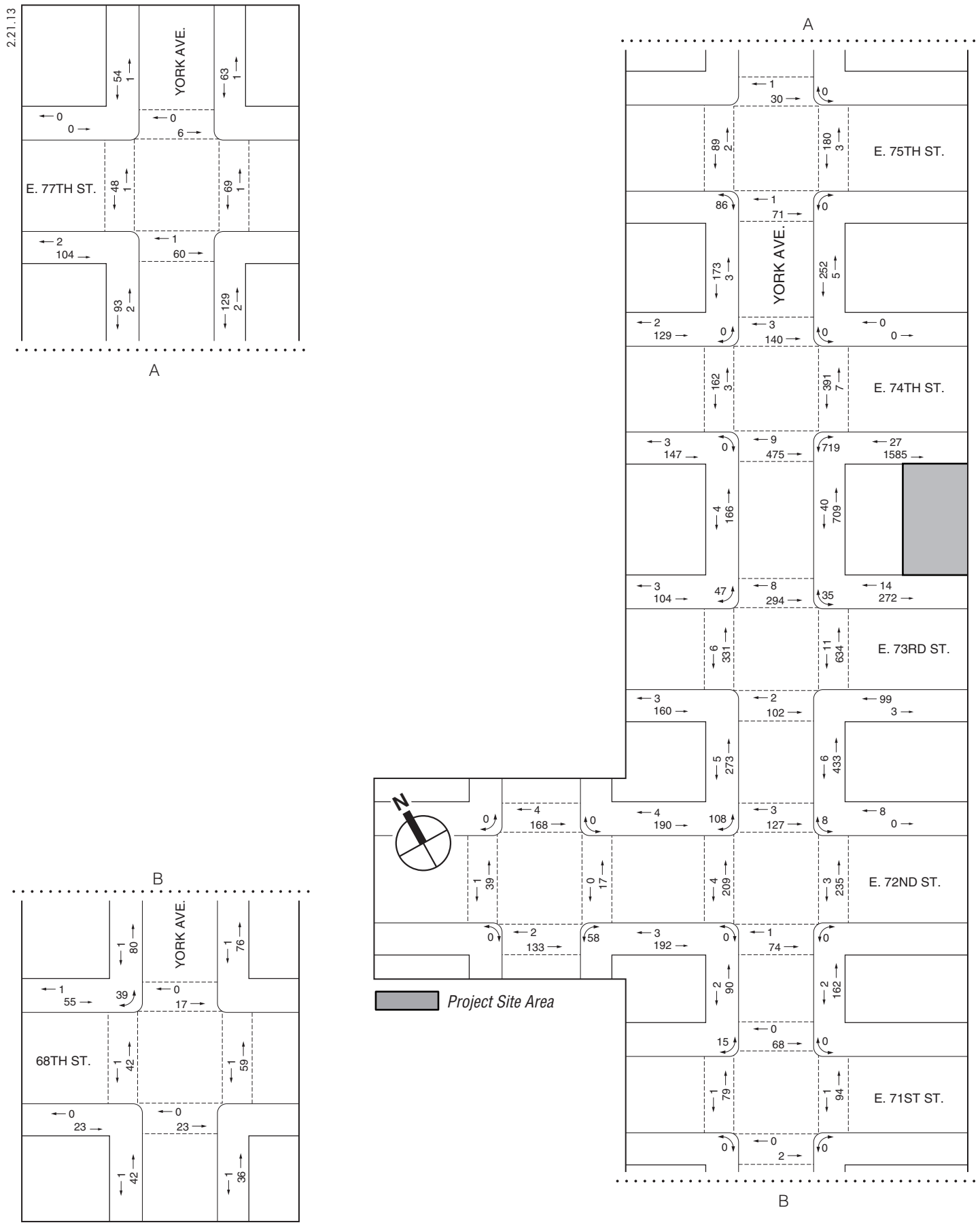
The project-generated pedestrian trip assignments are shown in **Figures 9-6** to **9-8**. Based on the above assignment of pedestrian trips and the Level 2 assessment criteria, 12 sidewalks, 11 crosswalks, and 23 corners are recommended for detailed analysis, as shown in **Figure 9-9** and summarized in **Table 9-6**. The detailed analysis of these sidewalks, crosswalks, and corners is provided in Section E, "Detailed Pedestrian Analysis."

C. DETAILED TRAFFIC ANALYSIS

As described above in Section B, "Preliminary Analysis Methodology and Screening Assessment," the Level 1 and Level 2 screening analyses indicated a need for a detailed analysis of 19 traffic analysis locations in the weekday AM, midday, and PM peak periods. This section begins with an overview of the methodology and impact criteria for traffic analyses, and then provides information on existing conditions and the future without the proposed project. This section ends with a comparison of the future without the proposed project to the future with the proposed project for the purposes of identifying where the project has the potential to result in significant adverse traffic impacts.

METHODOLOGY AND IMPACT CRITERIA

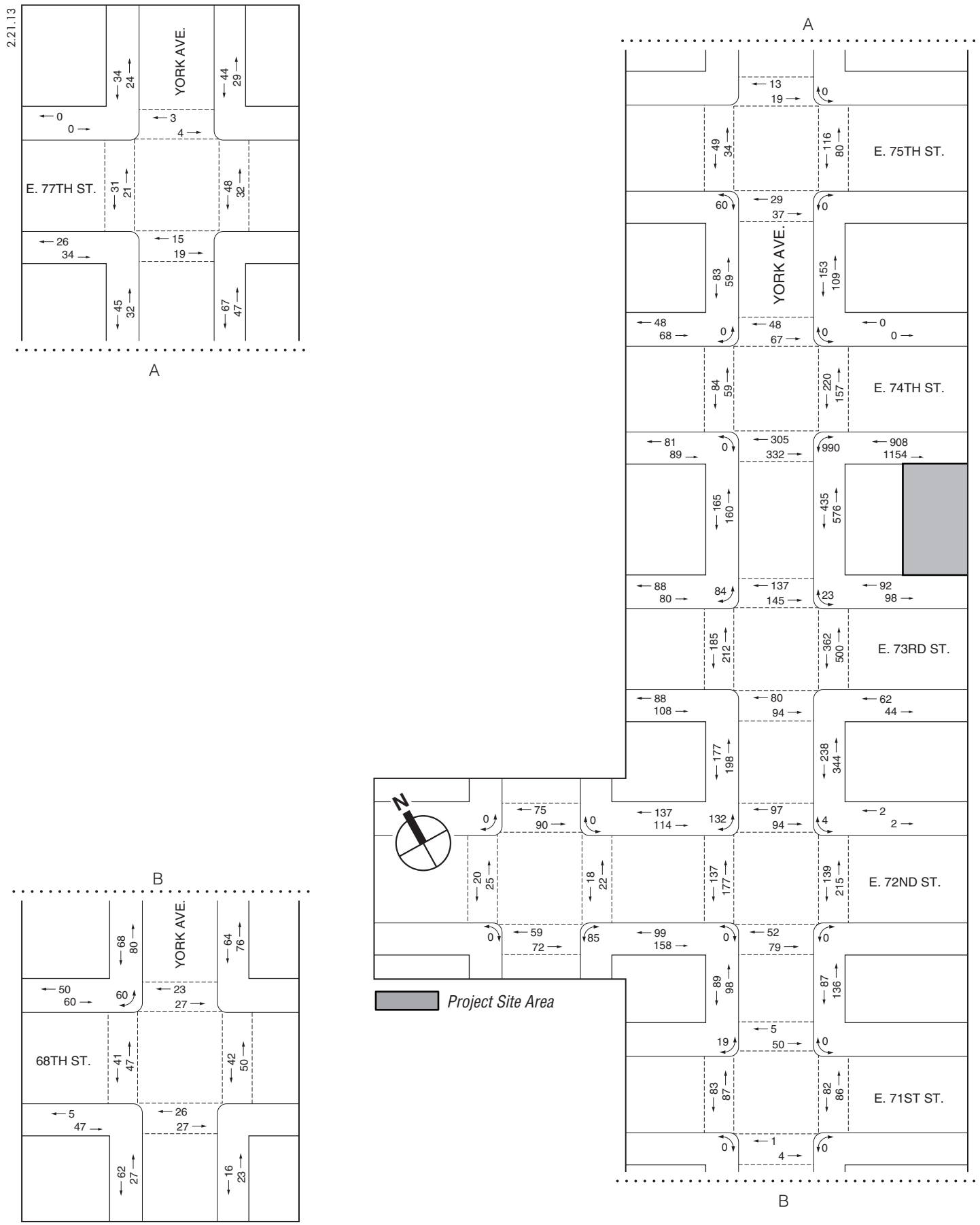
The operation of all of the signalized intersection analysis locations was assessed using methodologies presented in the *2000 Highway Capacity Manual (HCM)* using the *Highway Capacity Software (HCS+ 5.5)*, which is the analysis methodology approved for use by NYCDOT. The *HCM* procedure evaluates the levels of service (LOS) for signalized intersections using average stop control delay, in seconds per vehicle, as described below.



Project Generated Pedestrian Volumes
Weekday AM Peak Hour

MSK ACC | CUNY-HUNTER

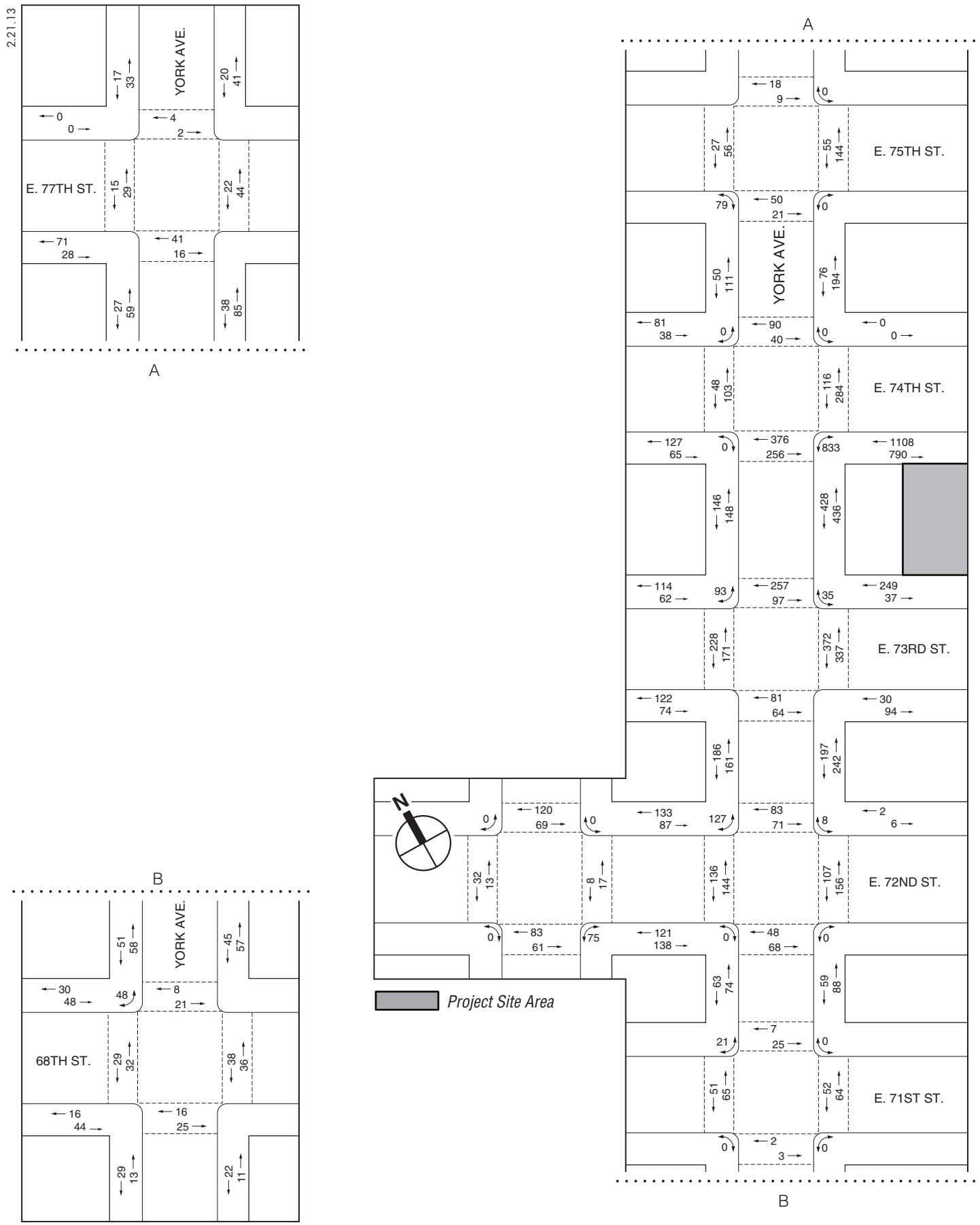
Figure 9-6



Project Generated Pedestrian Volumes
Weekday Midday Peak Hour

MSK ACC | CUNY-HUNTER

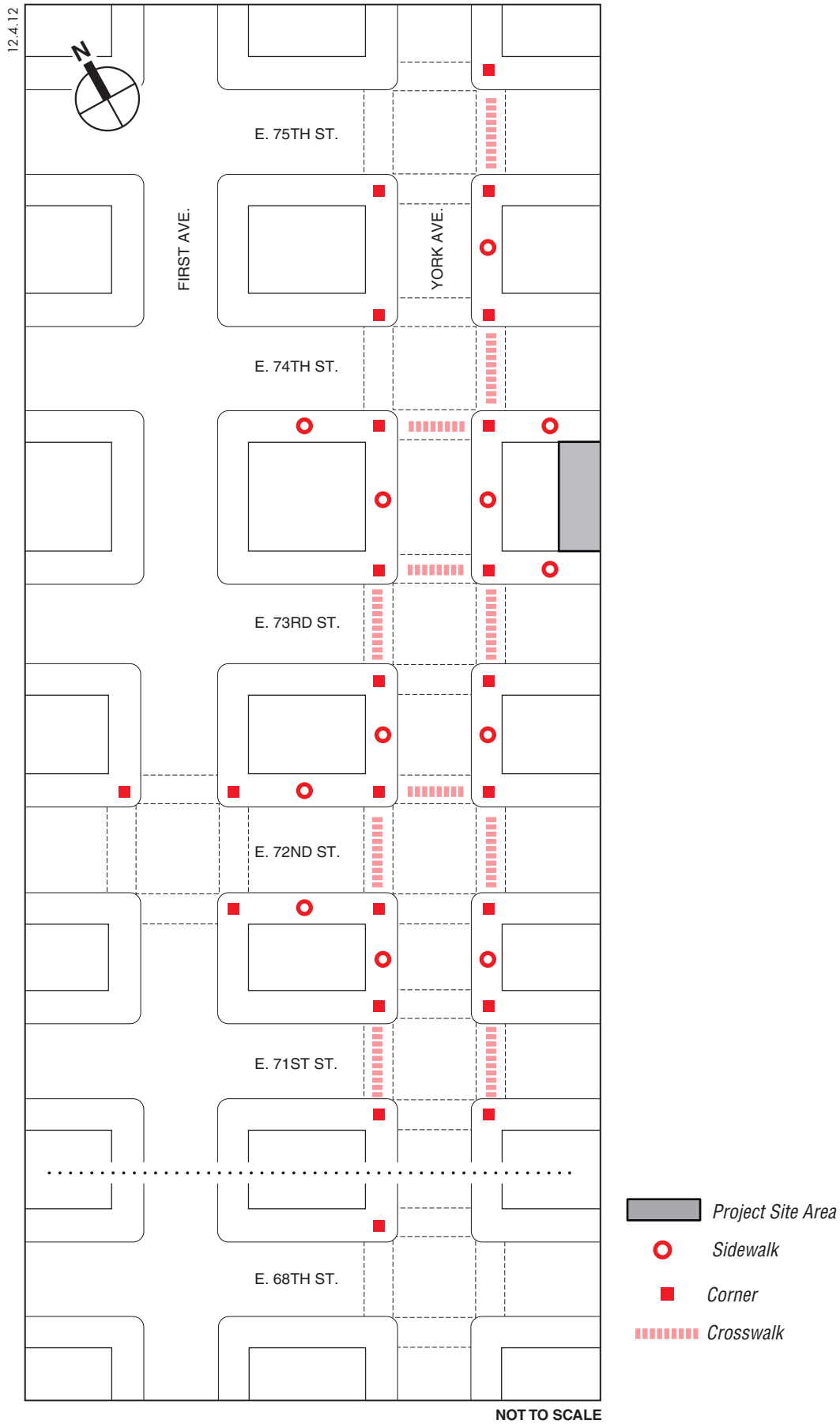
Figure 9-7



Project Generated Pedestrian Volumes
Weekday PM Peak Hour

MSK ACC | CUNY-HUNTER

Figure 9-8



Pedestrian Analysis Locations

MSK ACC | CUNY-HUNTER

Figure 9-9

Table 9-6
Pedestrian Study Locations

No.	Study Location	Sidewalk
Sidewalks		
1	York Avenue between East 75th Street and East 74th Street	East
2	East 74th Street between First Avenue and York Avenue	South
3	East 74th Street between York Avenue and FDR Drive	South
4 5	York Avenue between East 74th Street and East 73rd Street	East West
6	East 73rd Street between York Avenue and FDR Drive	North
7 8	York Avenue between East 73rd Street and East 72nd Street	East West
9 10	East 72nd Street between First Avenue and York Avenue	North South
11 12	York Avenue between East 72nd Street and East 71st Street	East West
Crosswalks		
1	York Avenue and East 75th Street	East
2 3	York Avenue and East 74th Street	South East
4 5 6	York Avenue and East 73rd Street	North East West
7 8 9	York Avenue and East 72nd Street	North East West
10 11	York Avenue and East 71st Street	East West
Corners		
1 2 3	York Avenue and East 75th Street	Northeast Southeast Southwest
4 5 6 7	York Avenue and East 74th Street	Northeast Northwest Southeast Southwest
8 9 10 11	York Avenue and East 73rd Street	Northeast Northwest Southeast Southwest
12 13 14 15	York Avenue and East 72nd Street	Northeast Northwest Southeast Southwest
16 17 18 19	York Avenue and East 71st Street	Northeast Northwest Southeast Southwest
20	York Avenue and East 68th Street	Northwest
21 22 23	First Avenue and East 72nd Street	Northeast Northwest Southeast

The average control delay per vehicle is the basis for LOS determination for individual lane groups (grouping of movements in one or more travel lanes), the approaches, and the overall intersection. The levels of service are defined in **Table 9-7**.

Table 9-7
LOS Criteria for Signalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	>10.0 and ≤ 20.0 seconds
C	>20.0 and ≤ 35.0 seconds
D	>35.0 and ≤ 55.0 seconds
E	>55.0 and ≤ 80.0 seconds
F	>80.0 seconds
Source:	Transportation Research Board. *Highway Capacity Manual*, 2000.

Although the HCM methodology calculates a volume-to-capacity (v/c) ratio, there is no strict relationship between v/c ratios and LOS as defined in the *HCM*. A high v/c ratio indicates substantial traffic passing through an intersection, but a high v/c ratio combined with low average delay actually represents the most efficient condition in terms of traffic engineering standards, where an approach or the whole intersection processes traffic close to its theoretical maximum capacity with minimal delay. However, very high v/c ratios—especially those approaching or greater than 1.0—are often correlated with a deteriorated LOS. Other important variables affecting delay include cycle length, progression, and green time. LOS A and B indicate good operating conditions with minimal delay. At LOS C, the number of vehicles stopping is higher, but congestion is still fairly light. LOS D describes a condition where congestion levels are more noticeable and individual cycle failures (a condition where motorists may have to wait for more than one green phase to clear the intersection) can occur. Conditions at LOS E and F reflect poor service levels, and cycle breakdowns are frequent. The *HCM* methodology also provides for a summary of the total intersection operating conditions. The analysis chooses the two critical movements (the worst case from each roadway) and calculates a summary critical v/c ratio. The overall intersection delay, which determines the intersection's LOS, is based on a weighted average of control delays of the individual lane groups. Within New York City, the midpoint of LOS D (45 seconds of delay) is generally considered as the threshold between acceptable and unacceptable operations.

According to the criteria presented in the *CEQR Technical Manual*, impacts are considered significant and require examination of mitigation if they result in an increase in the Build condition of 5 or more seconds of delay in a lane group over No Build levels beyond mid-LOS D. For No Build LOS E, a 4-second increase in delay is considered significant. For No Build LOS F, a 3-second increase in delay is considered significant. In addition, impacts are considered significant if levels of service deteriorate from acceptable A, B, or C in the No Build condition to marginally unacceptable LOS D (a delay in excess of 45 seconds, the midpoint of LOS D), or unacceptable LOS E or F in the Build condition.

2012 EXISTING CONDITIONS

ROADWAY NETWORK

The traffic study area characterizes the East Midtown grid pattern, with major north-south one-way flows on First and Second Avenues; major two-way north-south flows on York Avenue; major two-way east-west crosstown movements on East 79th and East 72nd Streets; and local east-west circulation on the narrower one-way side streets west of York Avenue.

York Avenue is a major two-way north-south street with three lanes (including a parking lane) in each direction. First Avenue is a major one-way northbound street with seven lanes (including a bus lane, parking lane, and a bicycle lane). Second Avenue is a major one-way southbound street with six lanes (including parking lanes and a bus lane). East 79th and East 72nd Streets are major east-west streets with three lanes (including a parking lane) in each direction. The local east-west streets generally provide two to three lanes (including a parking lane). East of York Avenue, most of these east-west streets operate as two-way streets and terminate at the FDR Drive.

Traffic in the area is also fed by or into the FDR Drive. In the northbound direction, entry to the FDR Drive is available at East 62nd Street and East 96th Street while exit from the FDR Drive is available at East 61st Street and East 96th Street. In the southbound direction, entry to the FDR Drive is available at East 63rd Street, East 73rd Street, East 79th Street, and East 92nd Street while exit from the FDR Drive is available at East 63rd Street, East 71st Street, and East 96th Street.

TRAFFIC CONDITIONS

Existing traffic volumes for the study area intersections, as shown in **Figures 9-10** to **9-12**, are established based on field counts (including manual turning movement counts and Automatic Traffic Recorder [ATR] counts) collected in September 2012. In addition, inventories of roadway geometry, traffic controls, bus stops, and parking regulations/activities were recorded to provide appropriate inputs for the operational analyses. Official signal timings were also obtained from NYCDOT for use in the analysis of the study area signalized intersections.

As per the *CEQR Technical Manual*, the typical weekday analysis peak hours for Manhattan are 8:00 AM to 9:00 AM, 12:00 PM to 1:00 PM, and 5:00 PM to 6:00 PM. For analysis, the highest peak hour traffic volumes (from 7:45 AM to 8:45 AM, 1:00 PM to 2:00 PM, and 5:30 PM to 6:30 PM) during the respective peak periods based on the collected data were used.

During the 2012 data collection, due to ongoing construction of the Second Avenue Subway (Phase 1 expected to be complete by 2016), the number of lanes on Second Avenue was reduced at some of the analyzed study area intersections. Specifically, at the intersections of East 73rd, East 72nd, and East 66th Streets on Second Avenue, four moving traffic lanes were maintained but the parking and bus lanes were temporarily unavailable to accommodate the ongoing construction.

LEVELS OF SERVICE

Table 9-8 provides an overview of the levels of service that characterize existing overall intersection conditions during the weekday AM, midday, and PM peak hours.

The detailed traffic levels of service tables are provided in Section H, "Detailed Analysis Results Tables," at the end of this chapter. The analysis results shown in **Table 9-44** indicate that most of the study area's intersection approaches/lane groups operate acceptably—at mid-LOS D (delays of 45 seconds per vehicle [spv] or less for signalized intersections) or better for the analysis peak hours. Approaches/lane groups operating at worse than mid-LOS D and those with v/c ratios of 0.90 or greater are listed below.

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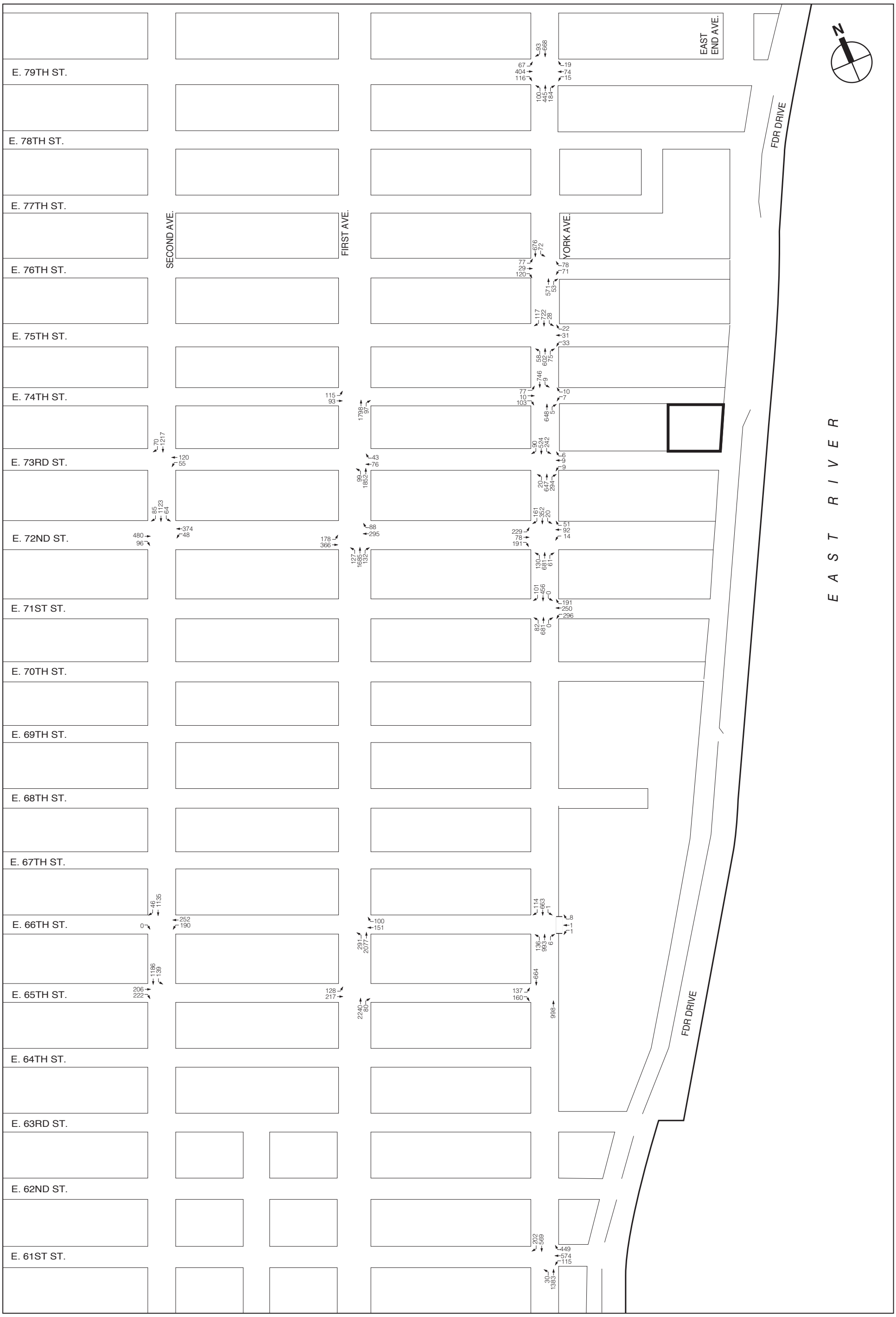

Project Site Boundary

NOT TO SCALE

2012 Existing Traffic Volumes
Weekday AM Peak Hour
Figure 9-10

MSK ACC | CUNY-HUNTER

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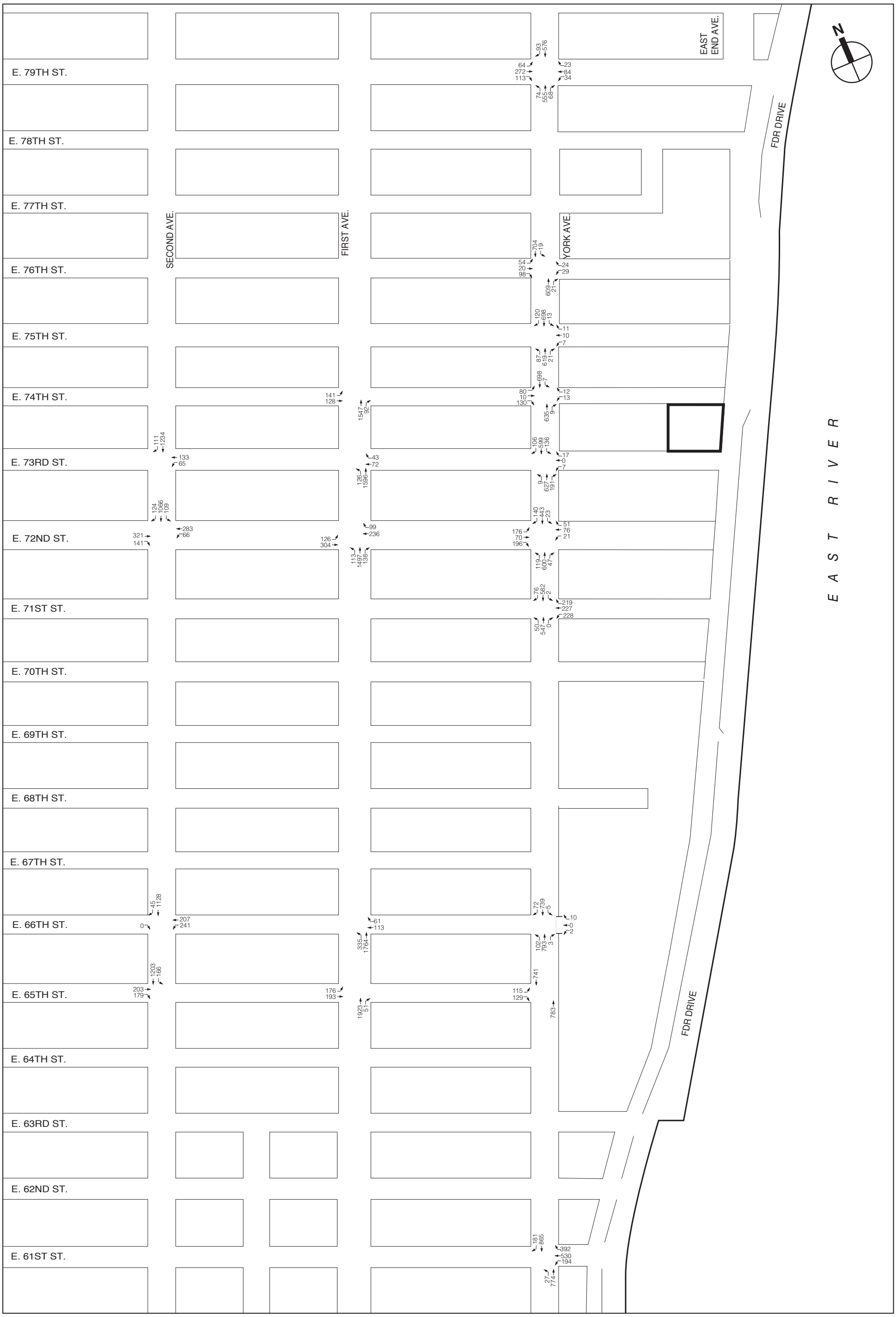

NOT TO SCALE

2012 Existing Traffic Volumes
Weekday Midday Peak Hour

Figure 9-11

MSK ACC | CUNY-HUNTER

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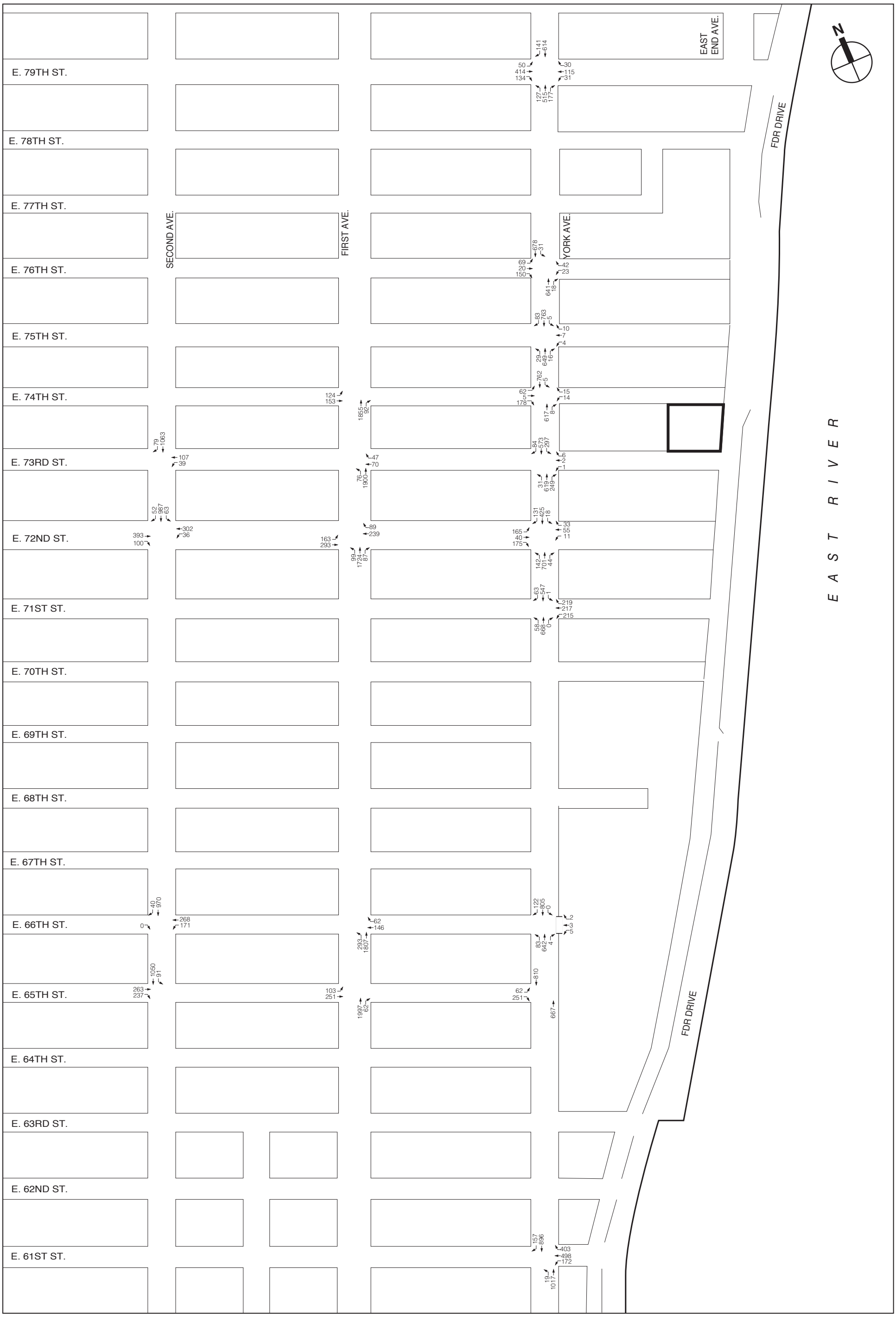


Project Site Boundary

NOT TO SCALE

2012 Existing Traffic Volumes
Weekday PM Peak Hour
Figure 9-12

MSK ACC | CUNY-HUNTER

Table 9-8
Existing Traffic Level of Service Summary

	Weekday		
	AM Peak Hour	**Midday Peak Hour**	**PM Peak Hour**
Intersections at Overall LOS A/B/C	16	17	16
Intersections at Overall LOS D	2	2	1
Intersections at Overall LOS E	1	0	2
Intersections Overall LOS F	0	0	0
Number of individual traffic lane groups at LOS E or F	7	2	7

Notes:
Nineteen intersections were analyzed.
***** The number of individual traffic lane groups at LOS E or F is of 60 movements analyzed during the weekday AM and PM peak hours and 59 movements analyzed during the weekday midday peak hour.

York Avenue

- Eastbound approach at the York Avenue and East 79th Street intersection (LOS E with a v/c ratio of 0.97 during the weekday AM peak hour; LOS D with a delay of 49.0 spv during the weekday midday peak hour; and LOS E with a v/c ratio of 0.96 during the weekday PM peak hour);
- Northbound approach at the York Avenue and East 79th Street intersection (LOS E with a v/c ratio of 1.05 during the weekday AM peak hour; and LOS E with a v/c ratio of 1.05 during the weekday PM peak hour);
- Southbound approach at the York Avenue and East 79th Street intersection (LOS D with a delay of 45.6 spv during the weekday AM peak hour; and LOS D with a delay of 46.6 spv during the weekday PM peak hour);
- Eastbound approach at the York Avenue and East 76th Street intersection (LOS E during the weekday AM peak hour; LOS D with a delay of 45.2 spv during the weekday midday peak hour; and LOS F with a v/c ratio of 1.00 during the weekday PM peak hour);
- Westbound approach at the York Avenue and East 76th Street intersection (LOS D with a delay of 54.6 spv during the weekday AM peak hour);
- Westbound approach at the York Avenue and East 73rd Street intersection (LOS D with a delay of 45.3 spv during the weekday midday peak hour);
- Northbound approach at the York Avenue and East 73rd Street intersection (LOS D with a delay of 51.3 spv and a v/c ratio of 0.97 during the weekday AM peak hour; and LOS E with a v/c ratio of 1.02 during the weekday PM peak hour);
- Southbound *de facto* left-turn at the York Avenue and East 73rd Street intersection (LOS E with a v/c ratio of 0.93 during the weekday AM peak hour; and LOS F with a v/c ratio of 1.05 during the weekday PM peak hour);
- Southbound through/right-turn at the York Avenue and East 73rd Street intersection (LOS D with a v/c ratio of 0.96 during the weekday AM peak hour; and LOS D with a v/c ratio of 0.94 during the weekday PM peak hour);
- Eastbound *de facto* left-turn at the York Avenue and East 72nd Street intersection (LOS F with a v/c ratio of 1.00 during the weekday AM peak hour; LOS D with a delay of 48.3 spv

during the weekday midday peak hour; and LOS D with a delay of 46.2 spv during the weekday PM peak hour);

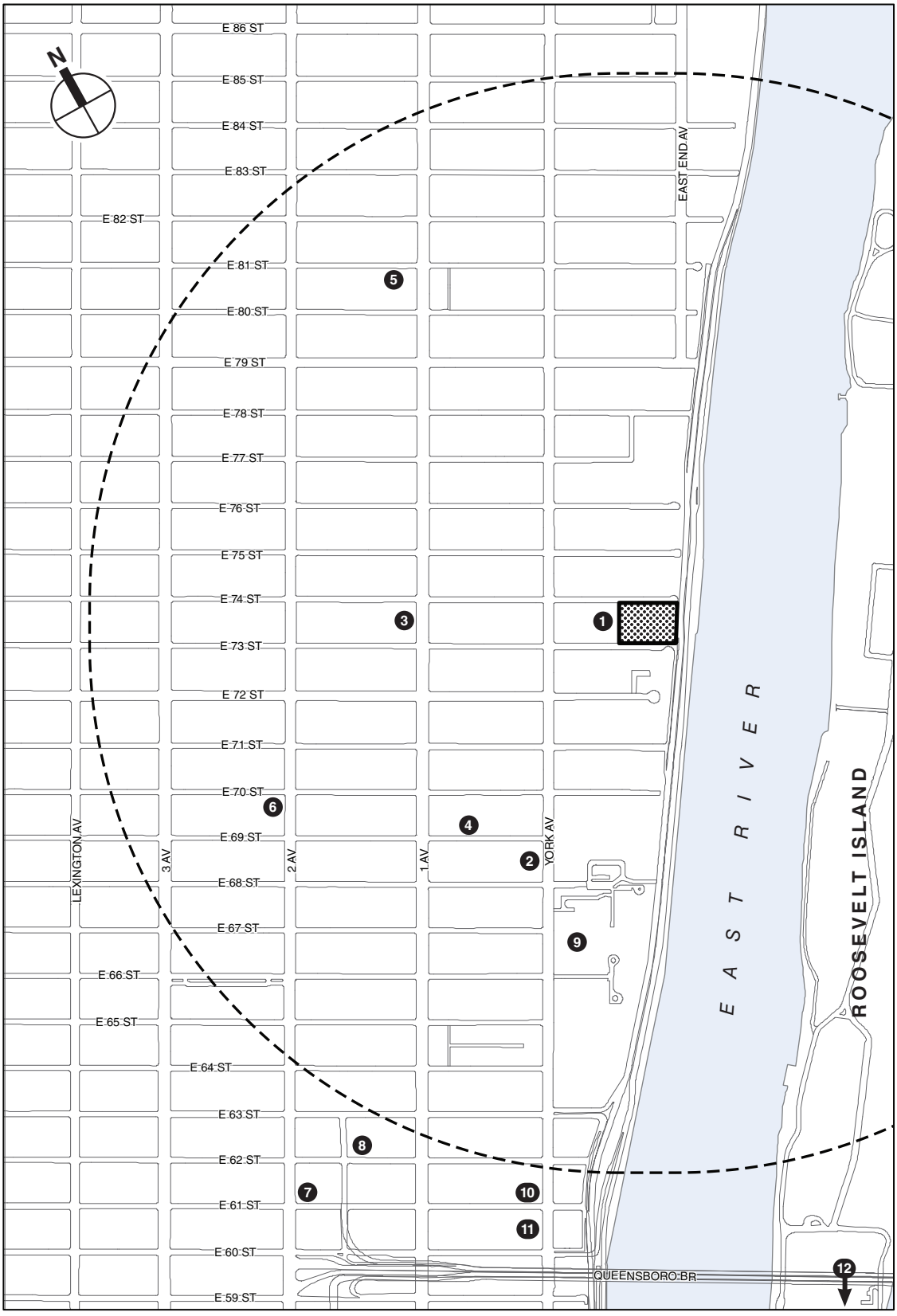
- Northbound approach at the York Avenue and East 72nd Street intersection (LOS D with a delay of 50.5 spv and a v/c ratio of 0.98 during the weekday AM peak hour; and LOS D with a delay of 50.8 spv and a v/c ratio of 0.98 during the weekday PM peak hour);
- Northbound approach at the York Avenue and East 66th Street intersection (LOS D with a v/c ratio of 0.95 during the weekday midday peak hour); and
- Eastbound approach at the York Avenue and East 65th Street intersection (LOS E with a v/c ratio of 0.95 during the weekday AM peak hour; LOS E during the weekday midday peak hour; and LOS F with a v/c ratio of 1.05 during the weekday PM peak hour).

First Avenue

- Eastbound approach at the First Avenue and East 72nd Street intersection (LOS D with a v/c ratio of 0.96 during the weekday AM peak hour);
- Northbound approach at the First Avenue and East 66th Street intersection (LOS C with a v/c ratio of 0.93 during the weekday AM peak hour; and LOS C with a v/c ratio of 0.91 during the weekday midday peak hour); and
- Eastbound approach at the First Avenue and East 65th Street intersection (LOS E with a v/c ratio of 0.92 during the weekday AM peak hour; LOS E with a v/c ratio of 0.94 during the weekday midday peak hour; and LOS F with a v/c ratio of 1.04 during the weekday PM peak hour).

FUTURE WITHOUT THE PROPOSED PROJECT (2019 NO BUILD CONDITION)

The No Build condition was developed by increasing existing (2012) traffic levels by the expected growth in overall travel through and within the study area. As per *CEQR Technical Manual* guidelines, an annual background growth rate of 0.25 percent was assumed for the first five years (year 2012 to year 2017) and then 0.125 percent for the remaining years (year 2017 to year 2019). In addition, a total of 12 development projects expected to occur in the No Build condition (No Build projects) were identified as being planned for the study area (see **Figure 9-13**). However, many of these planned projects are modest in size and would be very modest traffic generators. After reviewing the development programs for each of the planned projects, it was determined that background growth will address the increase in traffic and pedestrian levels for 5 of the small- to moderate-sized projects in the study area. Trips generated by the Cornell NYC Tech project are expected to be part of the background growth in the proposed project's study area. Person and vehicle trips generated by the remaining projects were then determined and incorporated into the No Build traffic analysis. **Table 9-9** and **Figure 9-13** summarize the projects that were accounted for in this future 2019 baseline, including those that were considered as part of the study area background growth.



Project Site

Study Area Boundary (1/2-Mile Perimeter)

1 No Build Project

0 800 FEET

SCALE

Future Development Projects in the No Build Condition

Table 9-9
Planned Projects Within or Near the Study Area by 2019

Map No.	Location	Description	Transportation Assumptions	Build Year
1	HSS East 74th Street (Block 1485, Lots 11, 14, and 40)	13-story, approximately 213,775-sf Ambulatory Surgery Center	Transportation assumptions from Hospital for Special Surgery Ambulatory Surgery Center EAS (2012)	2016
2	NYPH MCF (Block 1463, Lots 21 and 31)	15-story, approximately 733,272-sf Medical Care Facility	Transportation assumptions from 1285 York Avenue – New York-Presbyterian Hospital Medical Care Facility Draft Travel Demand Factors Memorandum (November 26, 2012)	2020
3	The Charles (Block 1447, Lot 27)	Residential development with 51 units	Included in background growth	2013
4	Belfer Research Building (Block 1464, Lot 8)	18-story, approximately 480,000-sf Biomedical Research Building	Transportation assumptions from Weill Cornell Medical College – Biomedical Research Building EAS (2008)	2014
5	350 East 81st Street (Block 1543, Lot 32)	Residential development with 4 units	Included in background growth	2012
6	234 East 70th Street (Block 1424, Lot 128)	Residential development with 8 units	Included in background growth	2019
7	1162 2nd Avenue (Block 1436, Lot 1)	Mixed-use development with 30 residential units and 1,035-sf retail	Included in background growth	2019
8	337 East 62nd Street (Block 1437, Lot 15)	Residential development with 22 units	Included in background growth	2019
9	Rockefeller University (Block 1480, Lot 10)	Approximately 175,000-sf laboratory building and one-story recreation building	Based on current development information, the new laboratory building and new recreation building would better accommodate Rockefeller University's existing needs and would not result in an increase in population at the University. Therefore, the Rockefeller University project would not be expected to result in any additional vehicular or transit trips.	2019
10	MSK – 1133 York Avenue (Block 1456, Lot 21)	15-story, approximately 175,701-sf Outpatient Surgical Center	Transportation assumptions from 1133 York Avenue – Memorial Sloan Kettering Outpatient Surgical Center EAS (2012)	2015
11	1113 York Avenue (Block 1455, Lot 21)	Residential development with 173 units	Assumptions from *CEQR Technical Manual* and *Western Rail Yard FEIS* (2009), with modal splits and auto occupancies based on 2006-2010 ACS Estimates	2015
12	Cornell NYC Tech (Block 1373, Lot 20; Block 1372, Lot 1)	200,000-sf of academic facilities; 100,000-sf of corporate co-location; 170,000-sf of executive education center; 300,000-sf of housing facilities; and 10,000-sf of university retail	Cornell NYC Tech project generated trips expected to be part of the background growth in the proposed project's traffic study area	2018

Sources: AKRF, Inc., New York City Department of City Planning.

TRAFFIC OPERATIONS

The No Build condition traffic volumes are shown in **Figures 9-14** to **9-16** for the weekday AM, midday, and PM peak hours. The No Build condition traffic volumes were projected by layering on top of the existing traffic volumes the following: background growth and trips generated by

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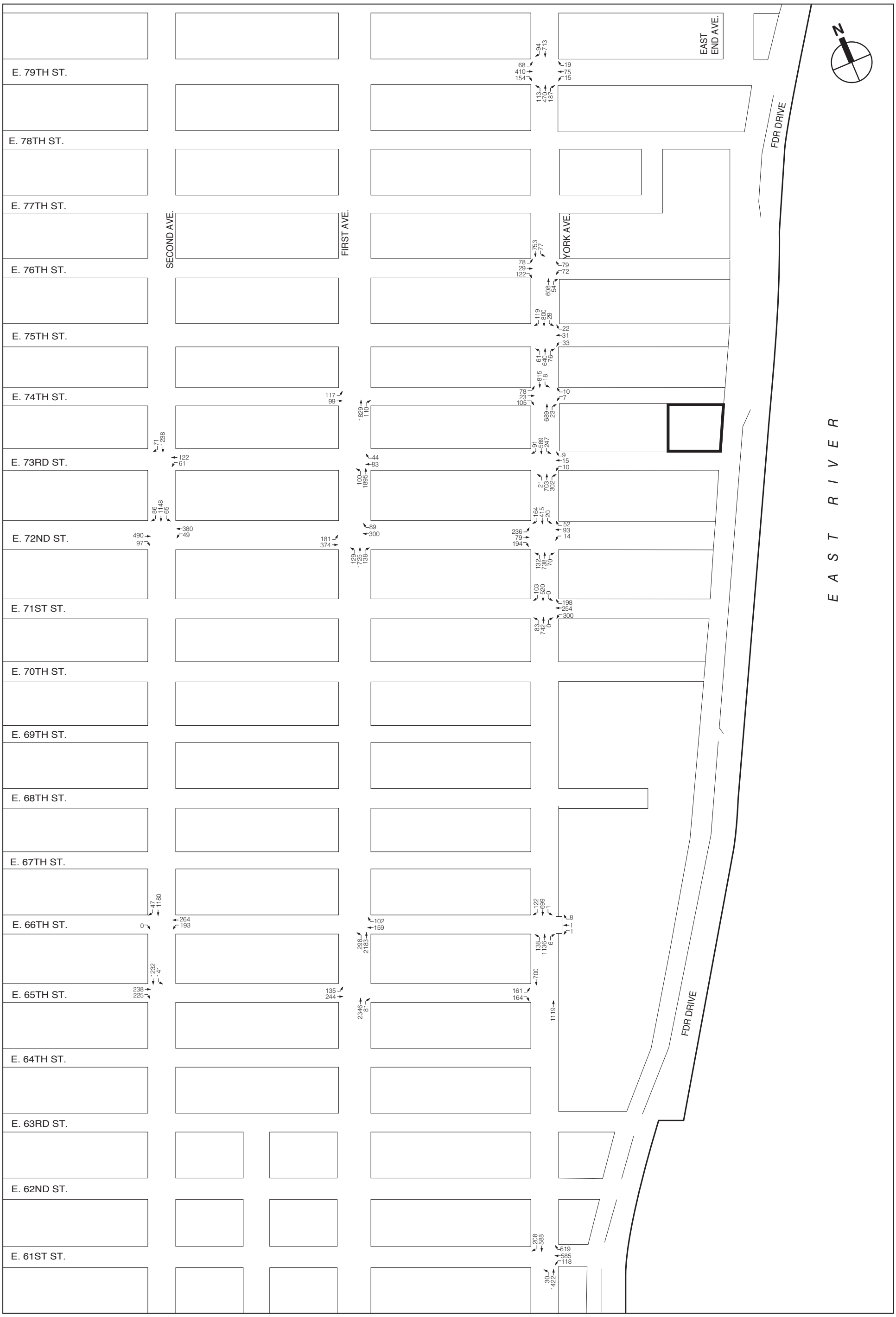

Project Site Boundary

NOT TO SCALE

2019 No Build Traffic Volumes
Weekday AM Peak Hour

MSK ACC | CUNY-HUNTER

Figure 9-14

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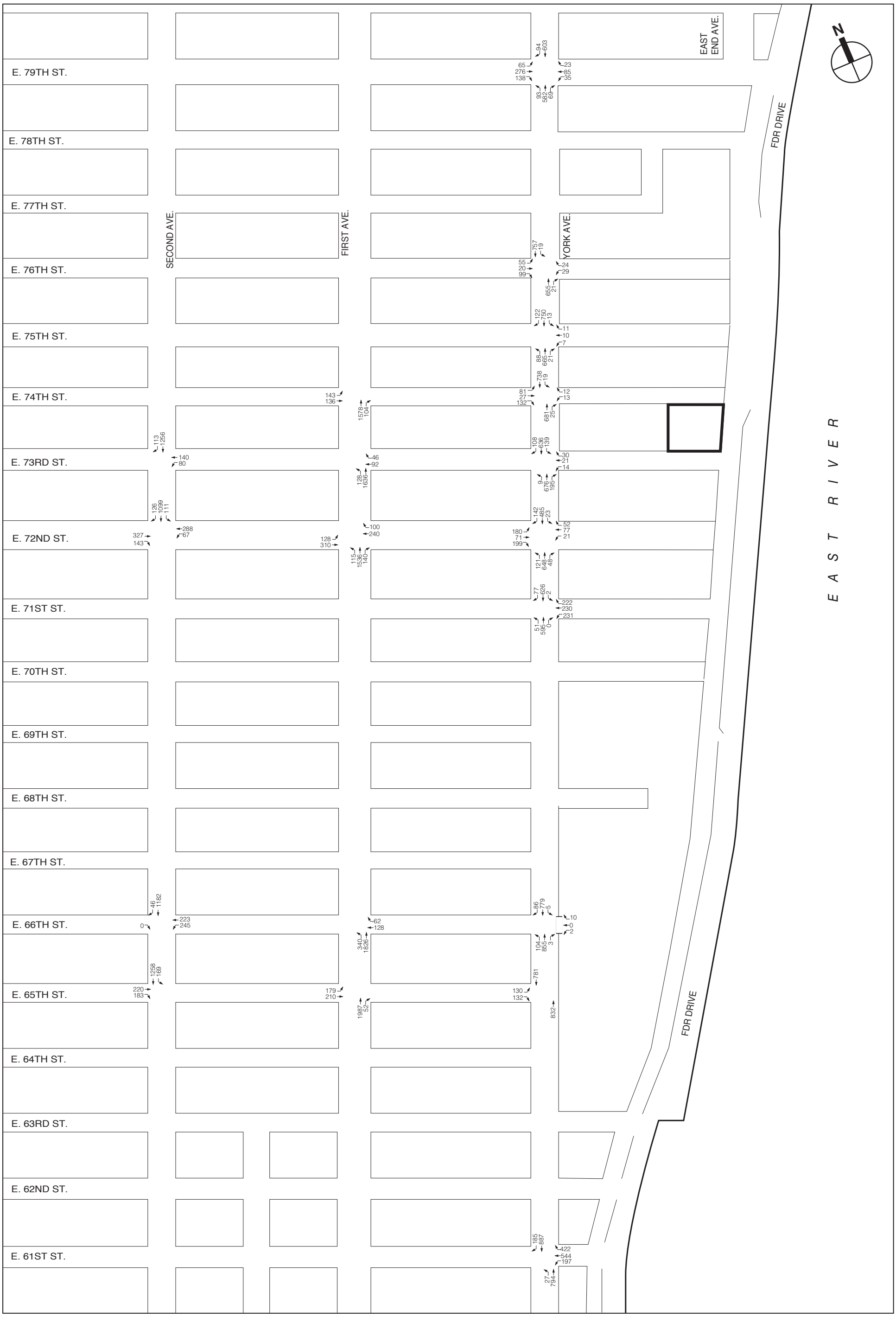

2019 No Build Traffic Volumes
Weekday Midday Peak Hour

Figure 9-15

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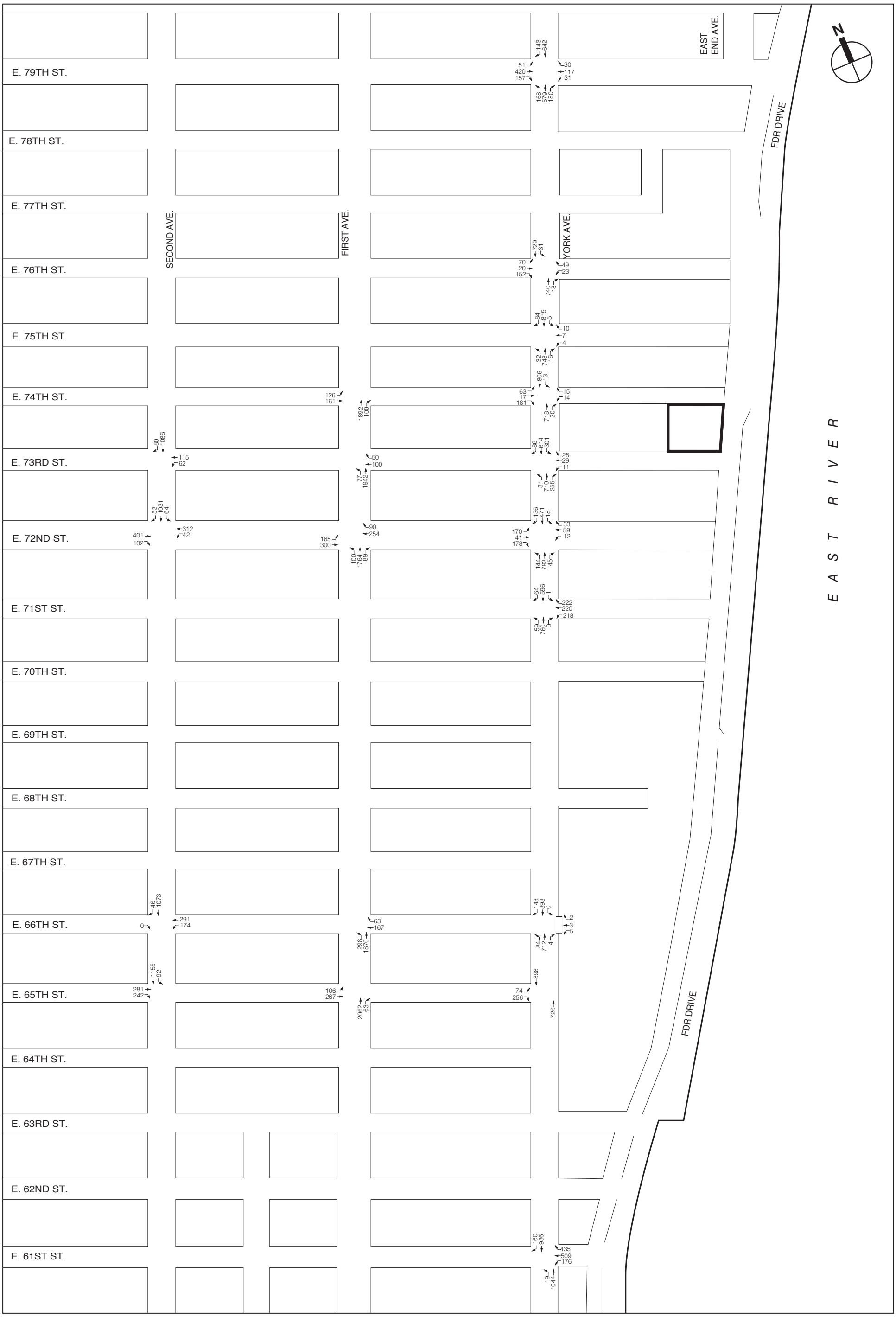

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2019 No Build Traffic Volumes
Weekday PM Peak Hour

Figure 9-16

MSK ACC | CUNY-HUNTER

the discrete No Build projects in the area. **Table 9-10** shows an overall comparison of traffic levels of service for existing and No Build conditions.

Under existing conditions, the number of lanes on Second Avenue at some of the analyzed study area intersections was affected by the ongoing construction of the Second Avenue Subway (see discussion above). Phase 1 of the Second Avenue Subway is expected to be complete by 2016; therefore, in the 2019 No Build condition, the number of lanes on Second Avenue will have reverted back to what exists currently. In addition, the recently approved new signal timing plan at the intersection of York Avenue and East 66th Street has also been incorporated into the No Build analysis.

Based on the analysis results presented in **Table 9-45** in Section H, "Detailed Analysis Results Tables," the majority of the approaches/lane-groups will operate at the same LOS as in existing conditions with the following notable exceptions:

Table 9-10
Traffic Level of Service Summary Comparison:
2012 Existing vs. 2019 No Build Conditions

	Existing			2019 No Build		
	Weekday Peak Hours			Weekday Peak Hours		
	AM	Midday	PM	AM	Midday	PM
Intersections at Overall LOS A/B/C	16	17	16	15	15	16
Intersections at Overall LOS D	2	2	1	1	4	0
Intersections at Overall LOS E	1	0	2	2	0	1
Intersections at Overall LOS F	0	0	0	1	0	2
Number of individual traffic lane groups at LOS E or F	7	2	7	12	4	9

Notes:
Nineteen intersections were analyzed.
***** The number of individual traffic lane groups at LOS E or F is of 60 movements analyzed during the weekday AM and PM peak hours and 59 movements analyzed during the weekday midday peak hour for the 2012 Existing condition. The number of individual traffic lane groups at LOS E or F is 60 movements analyzed during the weekday AM peak hour, 59 movements analyzed during the weekday midday peak hour, and 61 movements analyzed during the weekday PM peak hour for the 2019 No Build condition.

York Avenue

- Eastbound approach at the York Avenue and East 79th Street intersection will deteriorate to LOS F with a v/c ratio of 1.06 and a delay of 95.5 spv during the weekday AM peak hour and to LOS F with a v/c ratio of 1.02 and a delay of 82.5 spv during the weekday PM peak hour;
- Northbound approach at the York Avenue and East 79th Street intersection will deteriorate to LOS F with a v/c ratio of 1.13 and a delay of 107.2 spv during the weekday AM peak hour, within LOS D with a v/c ratio of 0.97 and a delay of 54.7 spv during the weekday midday peak hour, and to LOS F with a v/c ratio of 1.21 and a delay of 137.2 spv during the weekday PM peak hour;
- Westbound approach at the York Avenue and East 76th Street intersection will deteriorate to LOS E with a v/c ratio of 0.74 and a delay of 55.7 spv during the weekday AM peak hour;

- Westbound approach at the York Avenue and East 73rd Street intersection will deteriorate within LOS D with a v/c ratio of 0.20 and a delay of 45.9 spv during the weekday AM peak hour and within LOS D with a v/c ratio of 0.43 and a delay of 52.3 spv during the weekday PM peak hour;
- Northbound approach at the York Avenue and East 73rd Street intersection will deteriorate to LOS E with a v/c ratio of 1.04 and a delay of 71.4 spv during the weekday AM peak hour and to LOS F with a v/c ratio of 1.15 and a delay of 111.0 spv during the weekday PM peak hour;
- Southbound *de facto* left-turn at the York Avenue and East 73rd Street intersection will deteriorate to LOS F with a v/c ratio of 1.00 and a delay of 81.9 spv during the weekday AM peak hour;
- Southbound approach at the York Avenue and East 73rd Street intersection will deteriorate to LOS E with a v/c ratio of 1.01 and a delay of 56.7 spv during the weekday midday peak hour;
- Southbound through/right-turn at the York Avenue and East 73rd Street intersection will deteriorate to LOS E with a v/c ratio of 1.06 and a delay of 75.4 spv during the weekday AM peak hour and to LOS E with a v/c ratio of 1.00 and a delay of 58.1 spv during the weekday PM peak hour;
- Northbound approach at the York Avenue and East 72nd Street intersection will deteriorate to LOS F with a v/c ratio of 1.09 and a delay of 83.5 spv during the weekday AM peak hour, to LOS D with a v/c ratio of 0.96 and a delay of 46.3 spv during the weekday midday peak hour, and to LOS F with a v/c ratio of 1.10 and a delay of 86.0 spv during the weekday PM peak hour;
- Northbound approach at the York Avenue and East 66th Street intersection will deteriorate to LOS E with a v/c ratio of 1.07 and a delay of 74.2 spv during the weekday midday peak hour;
- Southbound approach at the York Avenue and East 66th Street intersection will deteriorate to LOS D with a v/c ratio of 0.96 and a delay of 46.2 spv during the weekday PM peak hour; and
- Eastbound approach at the York Avenue and East 65th Street intersection will deteriorate to LOS F with a v/c ratio of 1.03 and a delay of 97.6 spv during the weekday AM peak hour;

First Avenue

- Eastbound approach at the First Avenue and East 72nd Street intersection will deteriorate to LOS E with a v/c ratio of 0.98 and a delay of 57.1 spv during the weekday AM peak hour; and
- Northbound left-turn at the First Avenue and East 72nd Street intersection will deteriorate within LOS D with a v/c ratio of 0.60 and a delay of 45.4 spv during the weekday AM peak hour.

PROBABLE IMPACTS OF THE PROPOSED PROJECT (2019 BUILD CONDITION)

As discussed above in the "Level 2 Screening Assessment" section of Section B, "Preliminary Analysis Methodology and Screening Assessment," the project-generated vehicle trips were assigned to the proposed MSK ACC accessory garage, to other public parking facilities in the study area, and to various project block fronts at or in the immediate vicinity of the project site.

Overall, the 2019 completion of the proposed project would result in approximately 316, 329, and 375 incremental vehicle trips during the weekday AM, midday, and PM peak hours, respectively. The related peak hour traffic assignments are discussed above in Section B and the project-generated peak hour trips are shown in **Figures 9-1** to **9-3**.

The proposed project would displace the existing 128 space surface public parking lot located on the western portion of the project site. In/out counts conducted at this parking lot in October 2012 showed low entering and exiting vehicle trips (up to 16 vehicle trips [total of ins and outs]) during the analysis peak hours. Therefore, for the purposes of a conservative traffic analysis, the trips associated with this displaced parking demand were maintained on the surrounding blocks and were not reassigned to other public parking facilities in the study area.

Based on the parking demand analysis presented in Section G, "Parking Conditions Assessment," the number of permitted accessory parking spaces would be insufficient to accommodate all the parking demand generated by the MSK ACC patients and visitors. Patients and visitors vehicle trips that would not be accommodated by the on-site accessory parking spaces would be required to drop off the patients first, followed by the driver circulating for off-site parking. The reverse trip-making pattern would occur during departure. Although a Special Permit is being requested to increase the number of accessory parking spaces up to 250 spaces, the as-of-right 166 accessory parking spaces were conservatively assumed for the MSK accessory parking garage so that the maximum number of patients would be required to be dropped off first resulting in the maximum amount of re-circulation. The vehicle trips associated with the re-circulation are reflected in the project-generated peak hour trip figures shown in **Figures 9-1** to **9-3**.

TRAFFIC OPERATIONS

The Build condition traffic volumes are shown in **Figures 9-17** to **9-19** for the weekday AM, midday, and PM peak hours. The Build condition traffic volumes were constructed by layering on top of the No Build volumes the project-generated trips shown in **Figures 9-1** to **9-3**. **Table 9-11** shows an overall comparison of traffic levels of service for the No Build and Build conditions.

Based on the criteria presented in the *CEQR Technical Manual* and discussed previously in "Methodology and Impact Criteria," significant adverse traffic impacts were identified and are denoted by the "+" symbol in the analysis summary table—**Table 9-46** in Section H, "Detailed Analysis Results Tables." The following section summarizes the identified significant adverse impacts.

SIGNIFICANT ADVERSE IMPACTS

Significant adverse traffic impacts were identified at 20 approaches/lane groups (of 11 different intersections). Potential measures that can be implemented to mitigate these significant adverse traffic impacts are discussed in Chapter 17, "Mitigation."

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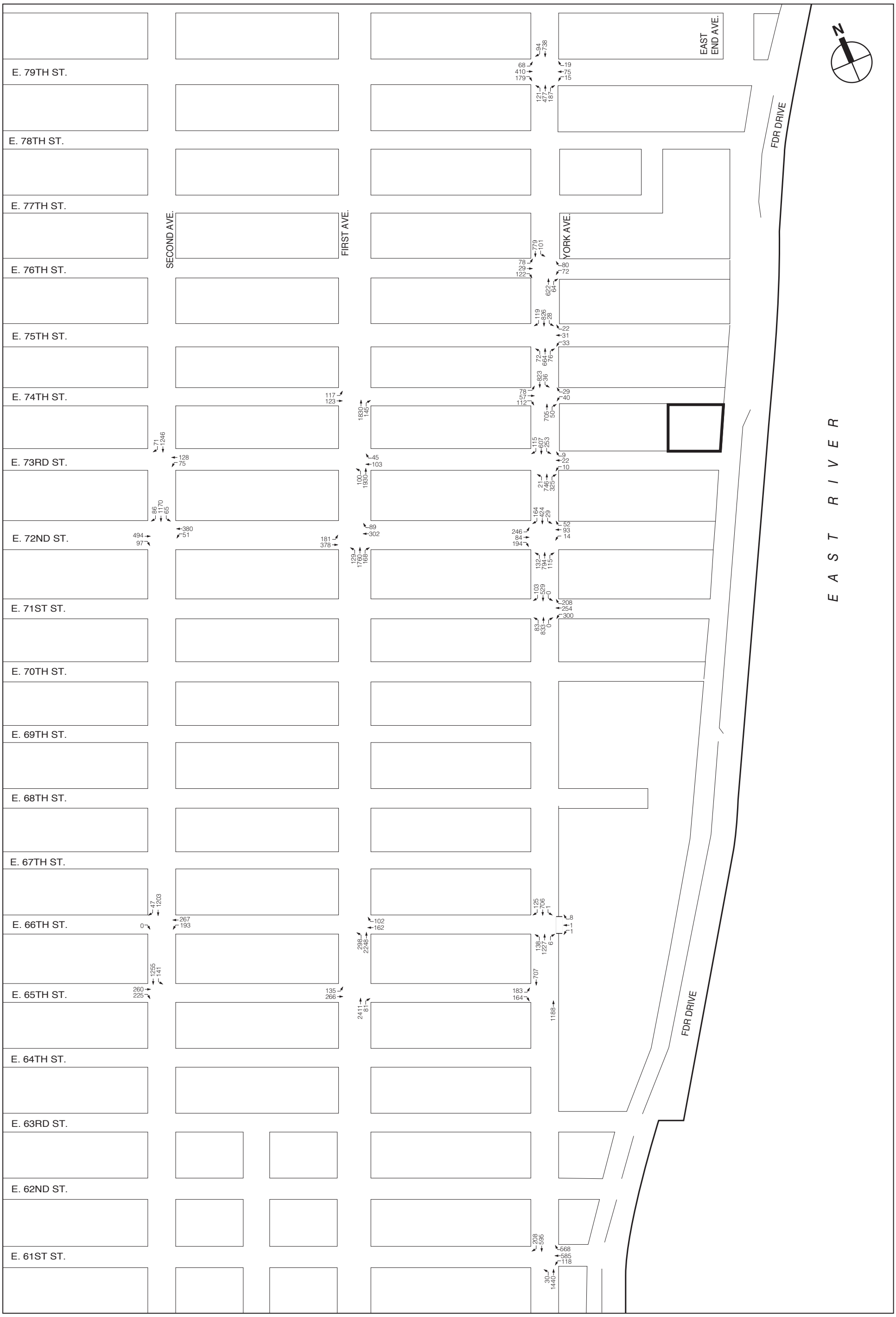

Project Site Boundary

NOT TO SCALE

2019 Build Traffic Volumes
Weekday AM Peak Hour

MSK ACC | CUNY-HUNTER

Figure 9-17

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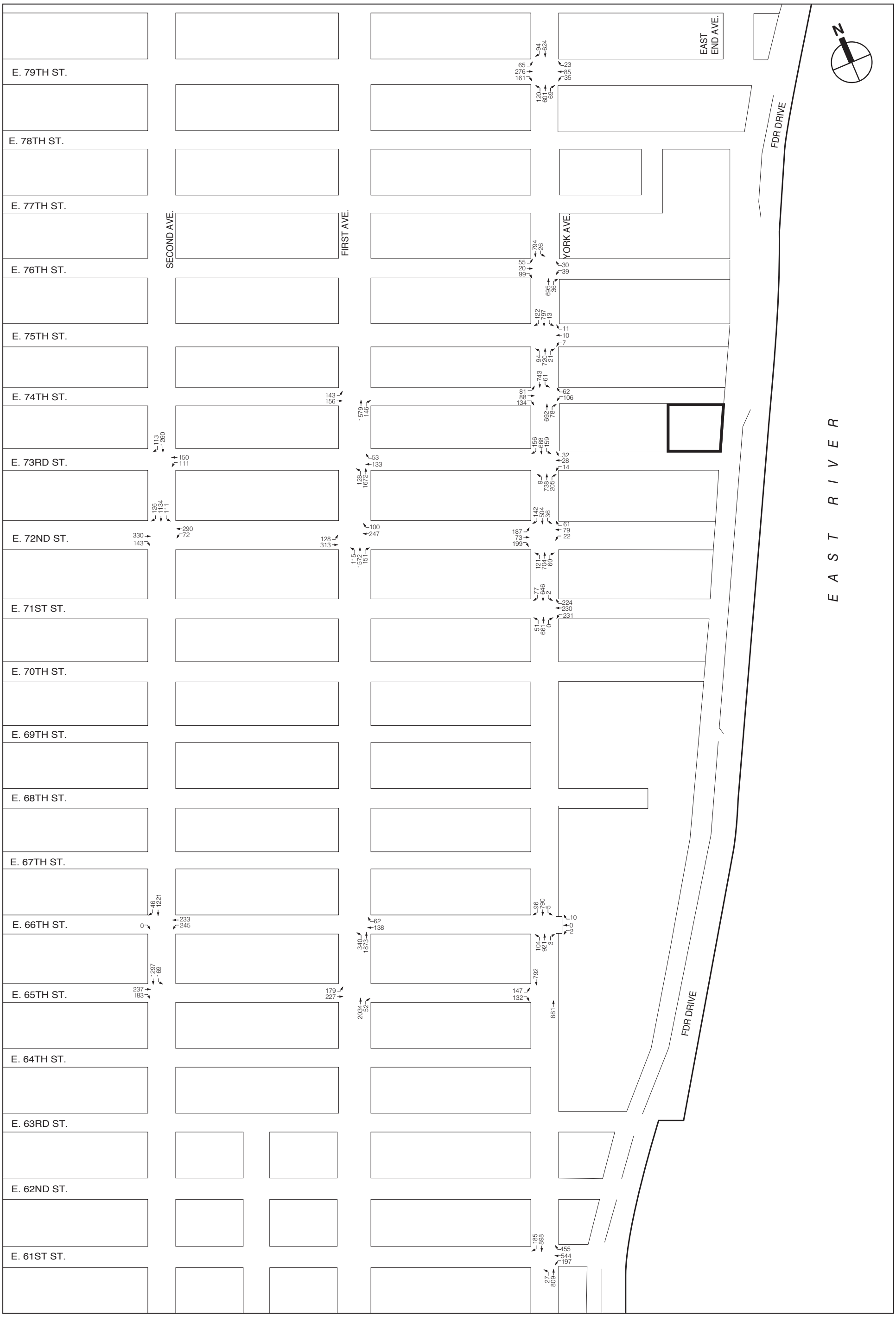

Project Site Boundary

NOT TO SCALE

2019 Build Traffic Volumes
Weekday Midday Peak Hour

MSK ACC | CUNY-HUNTER

Figure 9-18

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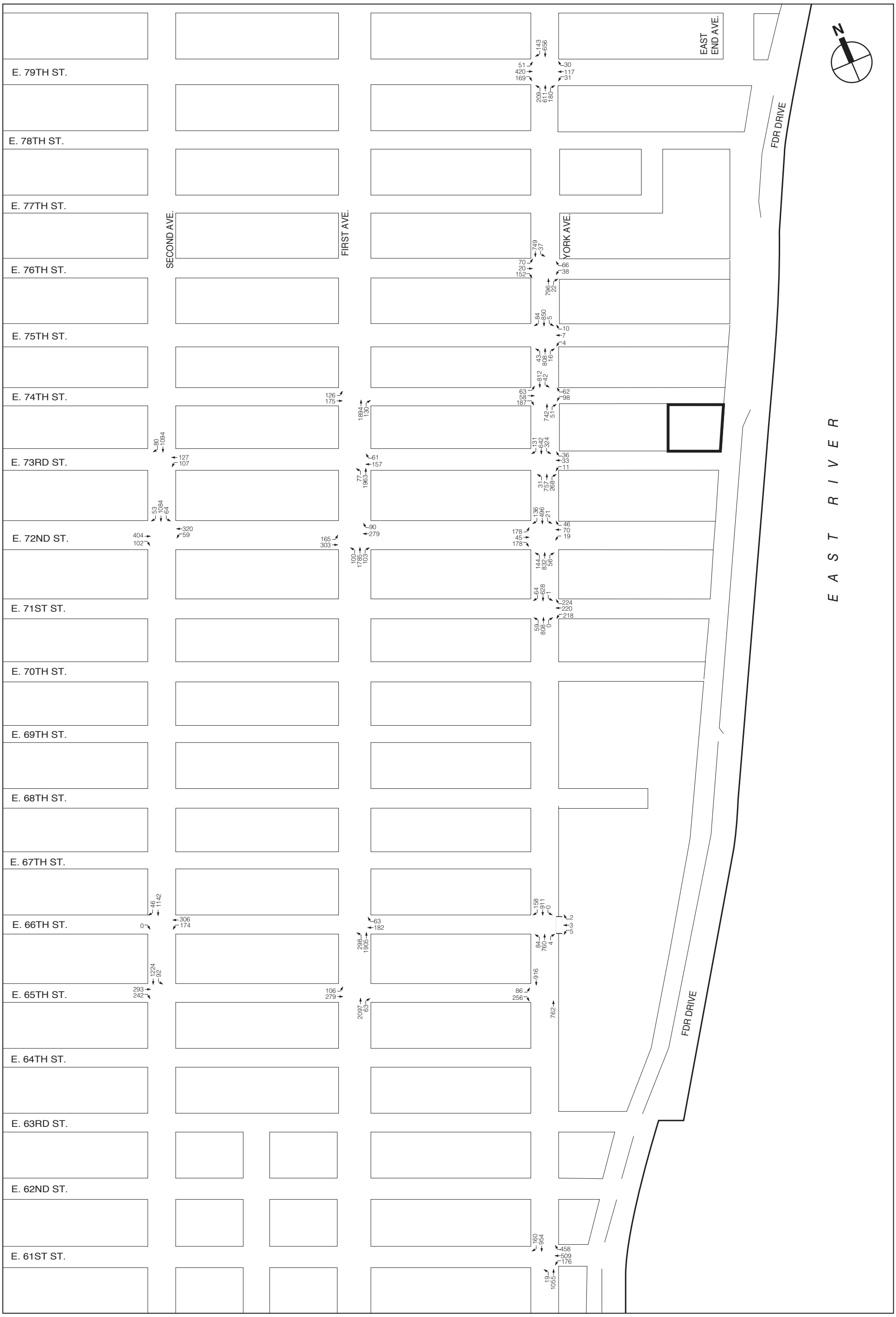


Project Site Boundary

NOT TO SCALE

2019 Build Traffic Volumes
Weekday PM Peak Hour
Figure 9-19

MSK ACC | CUNY-HUNTER

Table 9-11
Traffic Level of Service Summary Comparison:
2019 No Build vs. 2019 Build Conditions

	2019 No Build			2019 Build		
	Weekday Peak Hours			Weekday Peak Hours		
	AM	Midday	PM	AM	Midday	PM
Intersections at Overall LOS A/B/C	15	15	16	13	15	13
Intersections at Overall LOS D	1	4	0	3	1	3
Intersections at Overall LOS E	2	0	1	0	2	1
Intersections at Overall LOS F	1	0	2	3	1	2
Number of intersections with significant impacts	-	-	-	8	8	8
Number of individual traffic lane groups at LOS E or F	12	4	9	13	11	14

Notes:
Nineteen intersections were analyzed.
***** The number of individual traffic lane groups at LOS E or F is of 60 movements analyzed during the weekday AM peak hour, 59 movements analyzed during the weekday midday peak hour, and 61 movements analyzed during the weekday PM peak hour for the 2019 No Build condition. The number of individual traffic lane groups at LOS E or F is of 60 movements analyzed during the weekday AM, 59 movements analyzed during the weekday midday peak hour, and 63 movements analyzed during the weekday PM peak hour for the 2019 Build condition.

York Avenue

- The eastbound approach at the intersection of York Avenue and East 79th Street would deteriorate within LOS F (from a v/c ratio of 1.06 and 95.5 spv of delay to a v/c ratio of 1.12 and 114.3 spv of delay), from LOS D (v/c ratio of 0.86 and 54.1 spv of delay) to LOS E (v/c ratio of 0.91 and 60.1 spv of delay), and within LOS F (from a v/c ratio of 1.02 and 82.5 spv of delay to a v/c ratio of 1.05 and 90.2 spv of delay), increases in delay of more than three, five, and three seconds, during the weekday AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The northbound approach at the intersection of York Avenue and East 79th Street would deteriorate within LOS F (from a v/c ratio of 1.13 and 107.2 spv of delay to a v/c ratio of 1.17 and 121.1 spv of delay), from LOS D (v/c ratio of 0.97 and 54.7 spv of delay) to LOS F (v/c ratio of 1.07 and 81.8 spv of delay), and within LOS F (from the northbound approach with a v/c ratio of 1.21 and 137.2 spv of delay to the northbound through/right-turn with a v/c ratio of 1.39 and 217.5 spv of delay), increases in delay of more than three, five, and three seconds during the weekday AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The northbound approach at the intersection of York Avenue and East 75th Street would deteriorate from LOS C (v/c ratio of 0.87 and 29.5 spv of delay) to LOS D (v/c ratio of 0.98 and 47.0 spv of delay), an increase in delay of more than five seconds, during the weekday midday peak hour. This projected increase in delay constitutes a significant adverse impact.
- The eastbound approach at the intersection of York Avenue and East 74th Street would deteriorate with LOS D (from a v/c ratio of 0.56 and 36.0 spv of delay to a v/c ratio of 0.76 and 46.6 spv of delay, from a v/c ratio of 0.59 and 36.7 spv of delay to a v/c ratio of 0.84 and 52.9 spv of delay, and from a v/c ratio of 0.59 and 36.9 spv of delay to a v/c ratio of 0.81 and 51.1 spv of delay), increases in delay of more than five seconds during the

weekday AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

- The westbound approach at the intersection of York Avenue and East 74th Street would deteriorate from LOS C (v/c ratio of 0.09 and 26.0 spv of delay) to LOS F (v/c ratio of 1.03 and 111.2 spv of delay) and from LOS C (v/c ratio of 0.09 and 26.1 spv of delay) to LOS E (v/c ratio of 0.85 and 68.6 spv of delay), increases in delay of more than five seconds during the weekday midday and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The westbound approach at the intersection of York Avenue and East 73rd Street would deteriorate from LOS D (v/c ratio of 0.43 and 52.3 spv of delay) to LOS E (v/c ratio of 0.56 and 58.4 spv of delay), an increase in delay of more than five seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The northbound approach at the intersection of York Avenue and East 73rd Street would deteriorate from LOS E (v/c ratio of 1.04 and 71.4 spv of delay) to LOS F (v/c ratio of 1.17 and 119.9 spv of delay), from LOS D (v/c ratio of 0.89 and 40.3 spv of delay) to LOS E (v/c ratio of 1.00 and 61.5 spv of delay), and within LOS F (from a v/c ratio of 1.15 and 111.0 spv of delay to a v/c ratio of 1.28 and 164.9 spv of delay), increases in delay of more than four, five, and three seconds during the weekday AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The southbound *de facto* left-turn at the intersection of York Avenue and East 73rd Street would deteriorate within LOS F (from a v/c ratio of 1.00 and 81.9 spv of delay to a v/c ratio of 1.09 and 112.8 spv of delay) and within LOS F (from a v/c ratio of 1.17 and 137.4 spv of delay to a v/c ratio of 1.35 and 211.1 spv of delay), increases in delay of more than three seconds during the weekday AM and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The southbound approach at the intersection of York Avenue and East 73rd Street would deteriorate from LOS E (v/c ratio of 1.01 and 56.7 spv of delay) to LOS F (v/c ratio of 1.23 and 138.3 spv of delay), an increase in delay of more than four seconds during the weekday midday peak hour. This projected increase in delay constitutes a significant adverse impact.
- The southbound through/right-turn at the intersection of York Avenue and East 73rd Street would deteriorate from LOS E (v/c ratio of 1.06 and 75.4 spv of delay) to LOS F (v/c ratio of 1.16 and 113.2 spv of delay) and from LOS E (v/c ratio of 1.00 and 58.1 spv of delay) to LOS F (v/c ratio of 1.17 and 113.6 spv of delay), increases in delay of more than four seconds during the weekday AM and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The eastbound *de facto* left-turn at the intersection of York Avenue and East 72nd Street would deteriorate within LOS F (from a v/c ratio of 1.05 and 109.1 spv of delay to a v/c ratio of 1.13 and 136.1 spv of delay), from LOS D (v/c ratio of 0.73 and 50.7 spv of delay) to LOS E (v/c ratio of 0.81 and 59.9 spv of delay), and from LOS D (v/c ratio of 0.72 and 49.0 spv of delay) to LOS E (v/c ratio of 0.82 and 60.5 spv of delay), increases in delay of more than three, five, and five seconds during the weekday AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The northbound approach at the intersection of York Avenue and East 72nd Street would deteriorate within LOS F (from a v/c ratio of 1.09 and 83.5 spv of delay to a v/c ratio of 1.22 and 137.0 spv of delay), from LOS D (v/c ratio of 0.96 and 46.3 spv of delay) to LOS E (v/c

ratio of 1.06 and 72.2 spv of delay), and within LOS F (from a v/c ratio of 1.10 and 86.0 spv of delay to a v/c ratio of 1.17 and 113.8 spv of delay), increases in delay of more than three, five, and three seconds during the weekday AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

- The northbound approach at the intersection of York Avenue and East 71st Street would deteriorate from LOS D (v/c ratio of 0.89 and 38.2 spv of delay) to LOS E (v/c ratio of 0.98 and 52.4 spv of delay), an increase in delay of more than five seconds during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The northbound approach at the intersection of York Avenue and East 66th Street would deteriorate from LOS E (v/c ratio of 1.07 and 74.2 spv of delay) to LOS F (v/c ratio of 1.15 and 103.8 spv of delay), an increase in delay of more than four seconds during the weekday midday peak hour. This projected increase in delay constitutes a significant adverse impact.
- The southbound approach at the intersection of York Avenue and East 66th Street would deteriorate from LOS D (v/c ratio of 0.96 and 46.2 spv of delay) to LOS E (v/c ratio of 1.01 and 56.4 spv of delay), an increase in delay of more than five seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The eastbound approach at the intersection of York Avenue and East 65th Street would deteriorate within LOS F (from a v/c ratio of 1.03 and 97.6 spv of delay to a v/c ratio of 1.10 and 118.1 spv of delay), from LOS E (v/c ratio of 0.92 and 71.0 spv of delay) to LOS F (v/c ratio of 0.98 and 83.4 spv of delay), and within LOS F (from a v/c ratio of 1.10 and 118.3 spv of delay to a v/c ratio of 1.14 and 131.3 spv of delay), increases in delay of more than three, four, and three seconds during the weekday AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The westbound right-turn at the intersection of York Avenue and East 61st Street would deteriorate within LOS D (from a v/c ratio of 0.80 and 43.1 spv of delay to a v/c ratio of 0.88 and 50.5 spv of delay), an increase in delay of more than five seconds of delay during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact.

First Avenue

- The eastbound approach at the intersection of First Avenue and East 72nd Street would deteriorate from LOS C (eastbound approach with a v/c ratio of 0.73 and 30.5 spv of delay) to LOS D (eastbound *de facto* left-turn with a v/c ratio of 0.77 and 46.8 spv of delay), an increase in delay of more than five seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The eastbound approach at the intersection of First Avenue and East 65th Street would deteriorate from LOS E (v/c ratio of 1.01 and 76.4 spv of delay) to LOS F (v/c ratio of 1.07 and 92.0 spv of delay), from LOS E (v/c ratio of 0.99 and 69.4 spv of delay) to LOS F (v/c ratio of 1.03 and 80.2 spv of delay), and within LOS F (from a v/c ratio of 1.10 and 101.8 spv of delay to a v/c ratio of 1.13 and 113.2 spv of delay), increases in delay of more than four, four, and three seconds during the weekday AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

D. DETAILED TRANSIT ANALYSIS

Mass transit options serving the study area, provided by NYCT, currently include the No. 6 subway line at the 68th Street-Hunter College subway station and the 77th Street subway station,

and will include the Q subway line at the 72nd Street-Second Avenue subway station when Phase 1 construction of the station is complete in 2016. In addition, transit options include the M15, M31, M66, and M72 bus routes. These facilities are illustrated in **Figure 9-5**.

As discussed in Section B, "Preliminary Analysis Methodology and Screening Assessment," an analysis of subway station elements at the planned 72nd Street subway station is warranted as is an analysis of subway line-haul on the Q line, and bus line-haul on the M66 and M72 bus routes. A bus line-haul analysis of the M15 and M31 bus routes is not warranted. The following sections are organized first by the subway line-haul analysis, followed by subway station analysis, and concluding with the bus analysis. It was determined that the peak load point for the planned Q line extension along Second Avenue would be in the southbound direction during the AM peak hour at the Second Avenue and 63rd Street station. The AM load leaving this station will represent the critical load point, and therefore only the AM southbound peak is analyzed for the Q subway line. For the other study area transit facilities, a detailed analysis of transit operations during the critical weekday AM and PM peak periods is presented below. During other time periods, background transit ridership and station utilization, as well as project trip generation, are comparatively lower. Hence, potential transit impacts were evaluated only for the weekday AM and PM peak periods.

SUBWAY LINE-HAUL ANALYSIS

SUBWAY LINE-HAUL ANALYSIS—METHODOLOGY AND IMPACT CRITERIA

As per the *CEQR Technical Manual*, line-haul capacities of a subway line are evaluated at its maximum load point and/or other project-specific load points to determine if the route's guideline (or practical) capacity would be exceeded. NYCT operates six different types of subway cars with different seating and guideline capacities. The peak period guideline capacity of a subway car, which ranges from 110 to 175 passengers, is compared with ridership levels to determine the acceptability of conditions. Projected increases from the No Build condition within guideline capacity to a Build condition that exceeds guideline capacity may be a significant adverse impact if the proposed project is expected to generate five more transit riders per car.

SUBWAY LINE-HAUL ANALYSIS—2012 EXISTING CONDITIONS

The planned Q train extension along Second Avenue was analyzed. This line is currently under construction, and is described below for the future No Build and Build conditions.

SUBWAY LINE-HAUL ANALYSIS—2019 NO BUILD CONDITION

As discussed in Section B, "Preliminary Analysis Methodology and Screening Assessment," it was determined that the peak load point for the planned Q line extension along Second Avenue would be in the southbound direction during the AM peak hour at the Second Avenue and 63rd Street station. The AM load leaving this station will represent the critical load point, and therefore only the AM southbound peak is analyzed for the Q subway line. Projected subway ridership numbers for the Second Avenue subway Q line at its 2016 opening were provided by NYCT. These numbers were adjusted to 2019 levels using an annual background growth rate of 0.25 percent. Furthermore, trips associated with major new developments along the Q subway line were superimposed onto the 2019 background line-haul volumes to generate No Build peak period volumes for the subway line-haul analysis.

As shown in **Table 9-12**, in the No Build condition, the Q train is projected to operate within guideline capacity during the weekday AM peak period for the Manhattan southbound service.

Table 9-12
2019 No Build Condition: AM Peak Hour Subway Line Haul

Q Train Direction of Travel	Station	Trains/ Hour	Cars/ Train	Volume	Leave Load		Available Capacity per Car
					Guideline Capacity	Total Persons per Car	
AM Peak Period							
Southbound Manhattan	Second Avenue and 63rd Street	12	10	16,909	145	140.91	4.09
Sources: New York City Transit							

SUBWAY LINE-HAUL ANALYSIS—BUILD (2019) CONDITION

Trips associated with the proposed project were superimposed onto the No Build line-haul volumes to generate the Build peak period volumes for the subway line-haul analysis. As shown in **Table 9-13**, as with the 2019 No Build condition, the Manhattan southbound Q service would continue to operate within guideline capacity during the weekday AM peak period under the 2019 Build condition. Hence, the proposed project would not result in a significant adverse impact on subway line-haul conditions.

Table 9-13
2019 Build Condition: AM Peak Hour Subway Line Haul

Q Train Direction of Travel	Station	Trains/Hour	Cars/ Train	Volume	Leave Load		Available Capacity per Car
					Guideline Capacity	Total Persons per Car	
AM Peak Period							
Southbound Manhattan	Second Avenue and 63rd Street	12	10	17,039	145	141.99	3.01
Sources: New York City Transit							

SUBWAY STATION ANALYSIS

SUBWAY STATION ANALYSIS—METHODOLOGY AND IMPACT CRITERIA

As detailed in Section B, "Preliminary Analysis Methodology and Screening Assessment," it was determined that an analysis of subway station elements (i.e., fare control areas and station circulation elements such as escalators and elevators) is warranted for the planned 72nd Street subway station. The methodology for assessing station circulation (escalators) and fare control elements (regular turnstiles) compares the user volume with the analyzed element's design capacity, resulting in a volume-to-capacity (v/c) ratio. For elevators, service levels are assessed by their ability to process passengers on a minute-by-minute basis.

For escalators and turnstiles, capacities are measured by the number and width of an element and the NYCT optimum capacity per element, also account for the potential for surging of exiting

pedestrians (up to 25 percent capacity reduction is applied to account for detraining surges near platforms). The estimated v/c ratio is compared with NYCT criteria to determine a LOS for the operation of an element, as summarized in **Table 9-14**. At LOS A ("free flow") and B ("fluid flow"), there is sufficient area to allow pedestrians to freely select their walking speed and bypass slower pedestrians. When cross and reverse flow movement exists, only minor conflicts may occur. At LOS C ("fluid, somewhat restricted"), movement is fluid although somewhat restricted. While there is sufficient room for standing without personal contact, circulation through queuing areas may require adjustments to walking speed. At LOS D ("crowded, walking speed restricted"), walking speed is restricted and reduced. Reverse and cross flow movement is severely restricted because of congestion and the difficult passage of slower moving pedestrians. At LOS E ("congested, some shuffling and queuing") and F ("severely congested, queued"), walking speed is restricted. There is also insufficient area to bypass others, and opposing movement is difficult. Often, forward progress is achievable only through shuffling, with queues forming.

Table 9-14
LOS Criteria for Non-Elevator Subway Station Elements

LOS	V/C Ratio
A	0.00 to 0.45
B	0.45 to 0.70
C	0.70 to 1.00
D	1.00 to 1.33
E	1.33 to 1.67
F	Above 1.67

Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (February 2012).

As per NYCT guidance, for elevators, the design capacity considers the number of elevators available at street level and at platform or mezzanine level for each minute in a 15-minute period, the interior cab size, and maximum capacity of each elevator, travel time to and from the platform or mezzanine, and surging of entering and exiting pedestrians.

The determination of significant impacts for escalators and control area elements is based on the projected v/c ratios. Impacts are significant if the proposed project causes a v/c ratio to increase from below 1.00 to 1.00 or greater. Where a facility is already at or above its capacity (a v/c of 1.00 or greater) in the No Build condition, a 0.01 increase in v/c ratio is also significant.

The impact of the proposed project on elevator capacity is described qualitatively, as per NYCT guidance. The qualitative discussion consists of a comparison of the number of passengers left waiting each minute and the number of elevator cycles and the total time that is required to clear the passenger surges during peak AM 15-minute period in the existing, No Build, and Build conditions.

SUBWAY STATION STUDY AREA

Below is a summary of subway lines that would most likely serve the project site, as shown in **Figure 9-5**.

- The No. 6 subway line (Lexington Avenue Local) operates between Pelham Bay Park, Queens and Brooklyn Bridge – City Hall, Manhattan, at all times.

- The Q subway line, when the Second Avenue Subway phase 1 construction is completed in 2016, will operate between 96th Street and Second Avenue, Manhattan and Coney Island – Stillwell Avenue, Brooklyn, via Broadway in Manhattan.

SUBWAY STATION ANALYSIS—2012 EXISTING CONDITIONS

A planned subway station located at East 72nd Street and Second Avenue was analyzed. This station is currently under construction, and is described below for the future No Build and Build conditions.

SUBWAY STATION ANALYSIS—FUTURE WITHOUT THE PROPOSED PROJECT (2019 NO BUILD CONDITION)

As mentioned above, there is a planned 72nd Street subway station on the Second Avenue Subway that will become operational by 2016, prior to the proposed project's analysis year. At the project's analysis year, the planned station will be served by the Q line along Second Avenue and will have entrances at the intersections of East 69th Street and Second Avenue and East 72nd Street and Second Avenue. The planned station access elements to be analyzed are a bank of five elevators on the southeast corner of Second Avenue and East 72nd Street, three escalators on the northwest corner of the intersection, and corresponding fare control elements. NYCT has designed the station and its access and fare control elements to accommodate their projections of future demand.

Projected subway ridership numbers and station element designs for the 72nd Street subway station at its 2016 opening were provided by NYCT. Ridership volumes were adjusted to 2019 levels using an annual background growth rate of 0.25 percent. In addition, trips associated with major new developments along the Q subway line were incorporated into the No Build station volumes. In accordance with NYCT guidance, in addition to the surging factor for exiting patrons, a surging factor of 0.9 was applied for turnstile entries to account for mini-surges of customers exiting elevators at the mezzanine.

As per NYCT guidance, the elevators at the 72nd Street subway station were assumed to have a capacity of 16 riders each. The elevator analysis assumed all 5 elevators would be operational at the same time. Passenger surges into elevators at street level were determined using previous NYCT station analyses, which showed that 6 percent of entries during peak hours would cross Second Avenue just before reaching the elevators, 22 percent would cross 72nd Street, and 72 percent would not cross either street to access the elevators. Platform level ridership surges into elevators were determined using the projected average number of Q trains per hour.

As shown in **Tables 9-15** through **9-17**, all station escalators and control area elements will operate at acceptable levels during the weekday AM and PM peak periods. Elevators on the street level would clear the street of waiting riders in approximately 1 minute, and would have 9 waiting riders at the end of the AM 15-minute peak. Elevators on the platform level would clear the platform of waiting riders in approximately 2 minutes, and would have zero waiting riders at the end of the AM 15-minute peak.

Table 9-15
2019 No Build Condition: Subway Escalator Analysis

Second Avenue – 72nd Street (Q Line) Station	Quantity	Tread Width (in.)	Capacity (people/ minute)	Surge Factor Exiting	1-Hour Pedestrian Volume		Peak 15-Min. Capacity (w/o Surge)	V/C ratio	LOS
					Up	Down			
AM Peak Period									
Escalator - Down	1	40	70	0.80	0	1,049	1,050	0.39	A
Escalator - Up	2	40	70	0.80	2,286	0	2,100	0.43	A
PM Peak Period									
Escalator - Down	1	40	70	0.80	0	1,673	1,050	0.62	B
Escalator - Up	2	40	70	0.80	621	0	2,100	0.12	A

Notes:
Capacities were calculated based on rates presented in the 2012 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2012 *CEQR Technical Manual*).
V/C = V/ GCap* Sf
Where
V = Peak 15-minute passenger volume
GCap = Guideline Capacity for the escalator
Sf = Surging factor (if applicable)

Table 9-16
2019 No Build Condition: AM Peak Hour Subway Elevator Analysis

Minute	Arrival Surge Volumes	Elevator Capacity	Waiting Pedestrians
Second Avenue – 72nd Street Station (Q Line) – Street Level Elevators			
1	41	32	9
2	39	48	0
3	41	32	9
4	39	48	0
5	41	32	9
6	39	48	0
7	41	32	9
8	39	48	0
9	41	32	9
10	39	48	0
11	41	32	9
12	39	48	0
13	41	32	9
14	39	48	0
15	41	32	9
Second Avenue – 72nd Street Station (Q Line) – Mezzanine Level Elevators			
1	80	48	32
2	0	32	0
3	0	48	0
4	0	32	0
5	0	48	0
6	0	32	0
7	104	48	56
8	0	32	24
9	0	48	0
10	0	32	0
11	0	48	0
12	0	32	0
13	0	48	0
14	67	32	35
15	0	48	0

Table 9-17
2019 No Build Condition: Subway Control Area Analysis

Station Elements	Qty.	1-Hour Pedestrian Volumes		Surging Factor – Entering	Surging Factor - Exiting	Friction Factor	V/C Ratio	LOS
		Into Control Area	Out from Control Area					
AM Peak Hour								
Second Avenue – 72nd Street Station (Q Line)								
Two-Way Turnstiles	8	2,760	3,089	0.90	0.80	0.90	0.58	B
PM Peak Hour								
Second Avenue – 72nd Street Station (Q Line)								
Two-Way Turnstiles	8	2,261	1,636	0.90	0.80	0.90	0.40	A

Notes: Capacities were calculated based on rates presented in the *CEQR Technical Manual.*
V/C =Vin / (Cin x Sfin x Ff)+ Vx / (Cx x Sfout x Ff), where
Vin = Peak 15 Min Entering Passenger Volume
Cin= Total 15-Minute Capacity of all turnstiles for entering Passengers
Vx = Peak 15- Minute Exiting Passenger
Cx = Total 15-minute Capacity of all turnstile for exiting Passengers
Sfin = Surging Factor Entering Passenger
Sfout = Surging Factor Exiting Passenger
Ff = Friction Factor

SUBWAY STATION ANALYSIS—PROBABLE IMPACTS OF THE PROPOSED PROJECT (2019 BUILD CONDITION)

As shown in **Table 9-5**, the incremental subway trips with the proposed project were projected to be 786 (770 in and 16 out) during the weekday AM peak hour and 730 (200 in and 530 out) during the weekday PM peak hour. As discussed above in Section B, all of the total project-generated subway trips are expected to be served by the three nearest subway stations—the 68th Street (No. 6) subway station, the 77th Street (No. 6) subway station, and the planned 72nd Street (Q) subway station. The planned subway station located at East 72nd Street and Second Avenue was analyzed. The combination of the project-generated subway trips with the 2019 No Build volumes would result in the 2019 Build condition. As in the No Build analysis, in addition to the surging factor for exiting patrons, a surging factor of 0.9 was applied for turnstile entries to account for mini-surges of customers exiting elevators at the mezzanine.

As shown in **Tables 9-18** through **9-20**, all station escalators and control elements would continue to operate at acceptable levels during the weekday AM and PM peak periods. Elevators on the street level would clear the street of waiting riders in approximately 1 minute, and would have 10 waiting riders at the end of the AM 15-minute peak. Elevators on the platform level would clear the platform of waiting riders in approximately 2 minutes, and would have zero waiting riders at the end of the AM 15-minute peak. These operating conditions are similar to those in the No Build condition. Therefore, the proposed project would not result in any significant adverse impacts to the analyzed subway station elements.

Table 9-18
2019 Build Condition: Subway Escalator Analysis

Second Avenue – 72nd Street (Q Line) Station	Quantity	Tread Width (in.)	Capacity (people/ minute)	Surge Factor Exiting	1-Hour Pedestrian Volume		Peak 15-Min. Capacity (w/o Surge)	V/C ratio	LOS
					Up	Down			
AM Peak Period									
Escalator - Down	1	40	70	0.80	0	1,053	1,050	0.39	A
Escalator - Up	2	40	70	0.80	2,656	0	2,100	0.49	B
PM Peak Period									
Escalator - Down	1	40	70	0.80	0	1,927	1,050	0.72	C
Escalator - Up	2	40	70	0.80	671	0	2,100	0.13	A

Notes:
Capacities were calculated based on rates presented in the 2012 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2012 *CEQR Technical Manual*).
V/C = V/ GCap* Sf
Where
V = Peak 15-minute passenger volume
GCap = Guideline Capacity for the escalator
Sf = Surging factor (if applicable)

Table 9-19
2019 Build Condition: AM Peak Hour Subway Elevator Analysis

Minute	Arrival Surge Volumes	Elevator Capacity	Waiting Pedestrians
Second Avenue – 72nd Street Station (Q Line) – Street Level Elevators			
1	42	32	10
2	40	48	0
3	42	32	10
4	40	48	0
5	42	32	10
6	40	48	0
7	42	32	10
8	40	48	0
9	42	32	10
10	40	48	0
11	42	32	10
12	40	48	0
13	42	32	10
14	40	48	0
15	42	32	10
Second Avenue – 72nd Street Station (Q Line) – Mezzanine Level Elevators			
1	93	48	45
2	0	32	13
3	0	48	0
4	0	32	0
5	0	48	0
6	0	32	0
7	121	48	73
8	0	32	41
9	0	48	0
10	0	32	0
11	0	48	0
12	0	32	0
13	0	48	0
14	78	32	46
15	0	48	0

Table 9-20
2019 Build Condition: Subway Control Area Analysis

Station Elements	Qty.	1-Hour Pedestrian Volumes		Surging Factor – Entering	Surging Factor - Exiting	Friction Factor	V/C Ratio	LOS
		Into Control Area	Out from Control Area					
AM Peak Hour								
Second Avenue – 72nd Street Station (Q Line)								
Two-Way Turnstiles	8	2,770	3,590	0.90	0.80	0.90	0.62	B
PM Peak Hour								
Second Avenue – 72nd Street Station (Q Line)								
Two-Way Turnstiles	8	2,605	1,766	0.90	0.80	0.90	0.45	A

Notes: Capacities were calculated based on rates presented in the *CEQR Technical Manual.*
V/C =Vin / (Cin x Sfin x Ff)+ Vx / (Cx x Sfout x Ff), where
Vin = Peak 15 Min Entering Passenger Volume
Cin= Total 15-Minute Capacity of all turnstiles for entering Passengers
Vx = Peak 15- Minute Exiting Passenger
Cx = Total 15-minute Capacity of all turnstile for exiting Passengers
Sfin = Surging Factor Entering Passenger
Sfout = Surging Factor Exiting Passenger
Ff = Friction Factor

BUS LINE-HAUL ANALYSIS

BUS LINE-HAUL ANALYSIS—METHODOLOGY AND IMPACT CRITERIA

As detailed in Section B, "Preliminary Analysis Methodology and Screening Assessment," it was determined that a bus line-haul analysis of the M66 and M72 bus routes is warranted. The assessment of bus line-haul conditions involves analyzing bus routes at their peak load points and, if necessary, also their bus stops closest to the project site to identify the potential for the analyzed routes to exceed their guideline (or practical) capacities. NYCT and the MTA Bus Company operate three types of buses: standard and articulated buses, and over-the-road coaches. During peak hours, standard buses operate with up to 54 passengers per bus, articulated buses operate with up to 85 passengers per bus, and over-the-road coaches operate with up to 55 passengers per bus.

An increase in bus load levels greater than the maximum capacity at any load point is defined as a significant adverse impact. While subject to operational and fiscal constraints, bus impacts can typically be mitigated by increasing service frequency. Therefore, mitigation of bus line-haul capacity impacts, where appropriate, would be recommended for NYCT's approval.

BUS LINE-HAUL ANALYSIS—2012 EXISTING CONDITIONS

As stated above, a bus line-haul analysis is provided for the M66 and M72 bus routes but is not warranted for the M15 and M31 bus routes. The M15 and M31 bus routes are described in this section for informational purposes only. **Table 9-21** provides information on the NYCT local bus routes that serve the study area. **Table 9-22** provides existing operating characteristics and peak load point and local ridership volumes on the M66 and M72 bus routes.

For both the M66 and M72 bus routes, a detailed allocation of incremental bus riders onto specific segments of each bus route was performed to determine the appropriate bus stop locations for the line-haul analysis. The M66 peak load points correspond well with where the project-generated trips would traverse, while the M72 peak load points are recorded at bus stops

west of where project-generated trips would have an effect on ridership levels. Therefore, original bus ridership data were collected at bus stops closer to the project site in January 2013 to more accurately reflect the proposed project's effects on the M72 bus route. As shown, both routes currently operate within the guideline capacity during the weekday AM and PM peak periods.

Table 9-21
NYCT Local Bus Routes Serving The Study Area

Bus Route	Start Point	End Point	Routing in Study Area	Freq. of Bus Service (Headway in Minutes)	
				AM	PM
M15/SBS (NB/SB)	Second Avenue and E. 126th Street	South Ferry	First Avenue/Second Avenue	(14/8): M15 (7/4): SBS	(17/10): M15 (5/7): SBS
M31 (NB/SB)	E. 92nd Street and York Avenue	Eleventh Avenue and W. 54th Street	York Avenue	(9/6)	(9/9)
M66 (EB/WB)	E. 67th Street and York Avenue	W. 66th Street and West End Avenue	York Avenue/E. 68th Street	(5/20)	(5/8)
M72 (EB/WB)	E. 72nd Street and York Avenue	W. 66th Street and Freedom Place	York Avenue/E. 72nd Street	(8/7)	(10/9)

Source: MTA Bus Timetables (2012).

Table 9-22
2012 Existing Conditions: Bus Line-Haul Analysis

Route	Direction	Load Point	Hourly Volumes	Buses/ Hour	AP
AM Peak Hour					
M66	East	East 68th Street and Lexington Avenue	788	16	49
	West	East 67th Street and Lexington Avenue	423	12	35
M72	East	West 72nd Street East of Second Avenue	174	6	29
	West	East 72nd Street West of First Avenue	372	8	47
PM Peak Hour					
M66	East	East 68th Street and Lexington Avenue	346	9	39
	West	East 67th Street and Lexington Avenue	712	17	42
M72	East	West 72nd Street East of Second Avenue	93	6	16
	West	East 72nd Street West of First Avenue	276	7	40

Notes: AP=average passengers per bus
Sources: M66 and M72 Maximum Load Point data from NYCT; M72 ridership data collected in January 2013 by AKRF, Inc.

BUS LINE-HAUL ANALYSIS—FUTURE WITHOUT THE PROPOSED PROJECT (2019 NO BUILD CONDITION)

Estimates of peak hour bus volumes in the No Build condition were developed by applying the *CEQR Technical Manual* recommended annual background growth rates as previously described. In addition, trips associated with No Build projects were incorporated into the future No Build bus volumes.

As shown in **Table 9-23,** the M66 and M72 bus routes would continue to operate within their guideline capacities during the weekday AM and PM peak periods, though the eastbound M66 route is nearing guideline capacity

Table 9-23
2019 No Build Condition: Bus Line-Haul Analysis

Route	Direction	Load Point	Hourly Volumes	Buses/ Hour	AP	Bus Demand at Guideline Capacity
AM Peak Hour						
M66	East	East 68th Street and Lexington Avenue	839	16	52	16
	West	East 67th Street and Lexington Avenue	430	12	36	8
M72	East	West 72nd Street East of Second Avenue	197	6	33	4
	West	East 72nd Street West of First Avenue	379	8	47	8
PM Peak Hour						
M66	East	East 68th Street and Lexington Avenue	358	9	40	7
	West	East 67th Street and Lexington Avenue	765	17	45	15
M72	East	West 72nd Street East of Second Avenue	101	6	17	2
	West	East 72nd Street West of First Avenue	305	7	44	6

Notes: AP=average passengers per bus
Sources: M66 and M72 Maximum Load Point data from NYCT; M72 ridership data collected in January 2013 by AKRF, Inc.

BUS LINE-HAUL ANALYSIS—PROBABLE IMPACTS OF THE PROPOSED PROJECT (2019 BUILD CONDITION)

Peak period bus ridership for the Build condition was generated by adding the incremental trips associated with the proposed project to the No Build bus line-haul volumes. As described above, impacts on bus line-haul levels are considered significant if a proposed project would result in operating conditions above guideline capacities. As shown in **Table 9-24**, the M66 and M72 bus routes would continue to operate within the guideline capacity, and therefore the proposed project would not result in any significant adverse impacts to bus line-haul capacities.

Table 9-24
2019 Build Condition: Bus Line-Haul Analysis

Route	Direction	Load Point	Hourly Volumes	Buses/ Hour	AP	Bus Demand at Guideline Capacity
AM Peak Hour						
M66	East	East 68th Street and Lexington Avenue	851	16	54	16
	West	East 67th Street and Lexington Avenue	430	12	36	8
M72	East	West 72nd Street East of Second Avenue	242	6	41	5
	West	East 72nd Street West of First Avenue	379	8	48	8
PM Peak Hour						
M66	East	East 68th Street and Lexington Avenue	397	9	45	8
	West	East 67th Street and Lexington Avenue	774	17	46	15
M72	East	West 72nd Street East of Second Avenue	151	6	26	3
	West	East 72nd Street West of First Avenue	337	7	49	7

Notes: AP=average passengers per bus
Sources: M66 and M72 Maximum Load Point data from NYCT; M72 ridership data collected in January 2013 by AKRF, Inc.

E. DETAILED PEDESTRIAN ANALYSIS

As described above in Section B, "Preliminary Analysis Methodology and Screening Assessment," the Level 1 and Level 2 screening analyses indicated a need for a detailed analysis of 12 sidewalk, 23 corner reservoir, and 11 crosswalk locations in the weekday AM, midday,

and PM peak periods. This section begins with an overview of the methodology and impact criteria for pedestrian analyses, and then provides information on existing conditions and the future without the proposed project. This section ends with a comparison of the future without the proposed project to the future with the proposed project for the purposes of identifying where the project has the potential to result in significant adverse pedestrian impacts.

METHODOLOGY AND IMPACT CRITERIA

The adequacy of the study area's sidewalks, crosswalks, and corner reservoir capacities in relation to the demand imposed on them is evaluated based on the methodologies presented in the 2010 *HCM*, pursuant to procedures detailed in the *CEQR Technical Manual*.

Sidewalks are analyzed in terms of pedestrian flow. The calculation of the average pedestrians per minute per foot (PMF) of effective walkway width is the basis for a sidewalk LOS analysis. The determination of walkway LOS is also dependent on whether the pedestrian flow being analyzed is best described as "non-platoon" or "platoon." Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform, whereas, platoon flow occurs when pedestrian volumes vary significantly with the peak 15-minute period. Such variation typically occurs near bus stops, subway stations, and/or where adjacent crosswalks account for much of the walkway's pedestrian volume.

Crosswalks and street corners are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Street corners must be able to provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the street or moving around the corner). The *HCM* methodologies apply a measure of time and space availability based on the area of the corner, the timing of the intersection signal, and the estimated space used by circulating pedestrians.

The total "time-space" available for these activities, expressed in sf-second, is calculated by multiplying the net area of the corner (in sf) by the signal's cycle length. The analysis then determines the total circulation time for all pedestrian movements at the corner per signal cycle (expressed as pedestrians per second). The ratio of net time-space divided by the total pedestrian circulation volume per signal cycle provides the LOS measurement of sf per pedestrian (SFP).

Crosswalk LOS is also a function of time and space. Similar to the street corner analysis, crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in sf-second. The average time required for a pedestrian to cross the street is calculated based on the width of the street and an assumed walking speed. The ratio of time-space available in the crosswalk to the total crosswalk pedestrian occupancy time is the LOS measurement of available sf per pedestrian. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk. The LOS standards for sidewalks, corner reservoirs, and crosswalks are summarized in **Table 9-25**. The *CEQR Technical Manual* specifies acceptable LOS in Central Business District (CBD) areas is mid-LOS D or better.

The determination of significant pedestrian impacts considers the level of predicted deterioration in pedestrian flow or decrease in pedestrian space between the No Build and Build conditions. For different pedestrian elements, flow conditions, and area types, the CEQR procedure for impact determination corresponds with various sliding-scale formulas, as further detailed below.

Table 9-25
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks		Corner Reservoirs and Crosswalks
	Non-Platoon Flow	Platoon Flow	
A	≤ 5 PMF	≤ 0.5 PMF	> 60 SFP
B	> 5 and ≤ 7 PMF	> 0.5 and ≤ 3 PMF	> 40 and ≤ 60 SFP
C	> 7 and ≤ 10 PMF	> 3 and ≤ 6 PMF	> 24 and ≤ 40 SFP
D	> 10 and ≤ 15 PMF	> 6 and ≤ 11 PMF	> 15 and ≤ 24 SFP
E	> 15 and ≤ 23 PMF	> 11 and ≤ 18 PMF	> 8 and ≤ 15 SFP
F	> 23 PMF	> 18 PMF	≤ 8 SFP

Notes: PMF = pedestrians per minute per foot; SFP = square feet per pedestrian.
Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*.

There are two sliding-scale formulas for determining significant sidewalk impacts. For non-platoon flow, the increase in average pedestrian flow rate (Y) in PMF needs to be greater or equal to 3.5 minus X divided by 8.0 (where X is the No Build pedestrian flow rate in PMF [$Y \geq 3.5 - X/8.0$]) for it to be a significant impact. For platoon flow, the sliding-scale formula is $Y \geq 3.0 - X/8.0$. Since deterioration in pedestrian flow within acceptable levels would not constitute a significant impact, these formulas would apply only if the Build pedestrian flow exceeds LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table 9-26** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant sidewalk impacts.

Table 9-26
Significant Impact Guidance for Sidewalks

Non-Platoon Flow				Platoon Flow			
Sliding Scale Formula: *Y ≥ 3.5 – X/8.0*				Sliding Scale Formula: *Y ≥ 3.0 – X/8.0*			
Non-CBD Areas		CBD Areas		Non-CBD Areas		CBD Areas	
No Build Ped. Flow (X, PMF)	Build Ped. Flow Incr. (Y, PMF)	No Build Ped. Flow (X, PMF)	Build Ped. Flow Incr. (Y, PMF)	No Build Ped. Flow (X, PMF)	Build Ped. Flow Incr. (Y, PMF)	No Build Ped. Flow (X, PMF)	Build Ped. Flow Incr. (Y, PMF)
7.4 to 7.8	≥ 2.6	–	–	3.4 to 3.8	≥ 2.6	–	–
7.9 to 8.6	≥ 2.5	–	–	3.9 to 4.6	≥ 2.5	–	–
8.7 to 9.4	≥ 2.4	–	–	4.7 to 5.4	≥ 2.4	–	–
9.5 to 10.2	≥ 2.3	–	–	5.5 to 6.2	≥ 2.3	–	–
10.3 to 11.0	≥ 2.2	10.3 to 11.0	≥ 2.2	6.3 to 7.0	≥ 2.2	6.3 to 7.0	≥ 2.2
11.1 to 11.8	≥ 2.1	11.1 to 11.8	≥ 2.1	7.1 to 7.8	≥ 2.1	7.1 to 7.8	≥ 2.1
11.9 to 12.6	≥ 2.0	11.9 to 12.6	≥ 2.0	7.9 to 8.6	≥ 2.0	7.9 to 8.6	≥ 2.0
12.7 to 13.4	≥ 1.9	12.7 to 13.4	≥ 1.9	8.7 to 9.4	≥ 1.9	8.7 to 9.4	≥ 1.9
13.5 to 14.2	≥ 1.8	13.5 to 14.2	≥ 1.8	9.5 to 10.2	≥ 1.8	9.5 to 10.2	≥ 1.8
14.3 to 15.0	≥ 1.7	14.3 to 15.0	≥ 1.7	10.3 to 11.0	≥ 1.7	10.3 to 11.0	≥ 1.7
15.1 to 15.8	≥ 1.6	15.1 to 15.8	≥ 1.6	11.1 to 11.8	≥ 1.6	11.1 to 11.8	≥ 1.6
15.9 to 16.6	≥ 1.5	15.9 to 16.6	≥ 1.5	11.9 to 12.6	≥ 1.5	11.9 to 12.6	≥ 1.5
16.7 to 17.4	≥ 1.4	16.7 to 17.4	≥ 1.4	12.7 to 13.4	≥ 1.4	12.7 to 13.4	≥ 1.4
17.5 to 18.2	≥ 1.3	17.5 to 18.2	≥ 1.3	13.5 to 14.2	≥ 1.3	13.5 to 14.2	≥ 1.3
18.3 to 19.0	≥ 1.2	18.3 to 19.0	≥ 1.2	14.3 to 15.0	≥ 1.2	14.3 to 15.0	≥ 1.2
19.1 to 19.8	≥ 1.1	19.1 to 19.8	≥ 1.1	15.1 to 15.8	≥ 1.1	15.1 to 15.8	≥ 1.1
19.9 to 20.6	≥ 1.0	19.9 to 20.6	≥ 1.0	15.9 to 16.6	≥ 1.0	15.9 to 16.6	≥ 1.0
20.7 to 21.4	≥ 0.9	20.7 to 21.4	≥ 0.9	16.7 to 17.4	≥ 0.9	16.7 to 17.4	≥ 0.9
21.5 to 22.2	≥ 0.8	21.5 to 22.2	≥ 0.8	17.5 to 18.2	≥ 0.8	17.5 to 18.2	≥ 0.8
22.3 to 23.0	≥ 0.7	22.3 to 23.0	≥ 0.7	18.3 to 19.0	≥ 0.7	18.3 to 19.0	≥ 0.7
> 23.0	≥ 0.6	> 23.0	≥ 0.6	> 19.0	≥ 0.6	> 19.0	≥ 0.6

Notes: PMF = pedestrians per minute per foot; Y = increase in average pedestrian flow rate in PMF; X = No Build pedestrian flow rate in PMF.
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*.

The determination of significant corner and crosswalk impacts is also based on a sliding scale using the following formula: $Y \geq X/9.0 - 0.3$, where Y is the decrease in pedestrian space in SFP and X is the No Build pedestrian space in SFP. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, this formula would apply only if the Build pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table 9-27** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant corner reservoir and crosswalk impacts.

The proposed project is located in a CBD area. Therefore, the above CBD area significant impact guidelines for pedestrian elements would be applicable.

2012 EXISTING CONDITIONS

Pedestrian data were collected in September and October 2012 in accordance with procedures outlined in the *CEQR Technical Manual*.

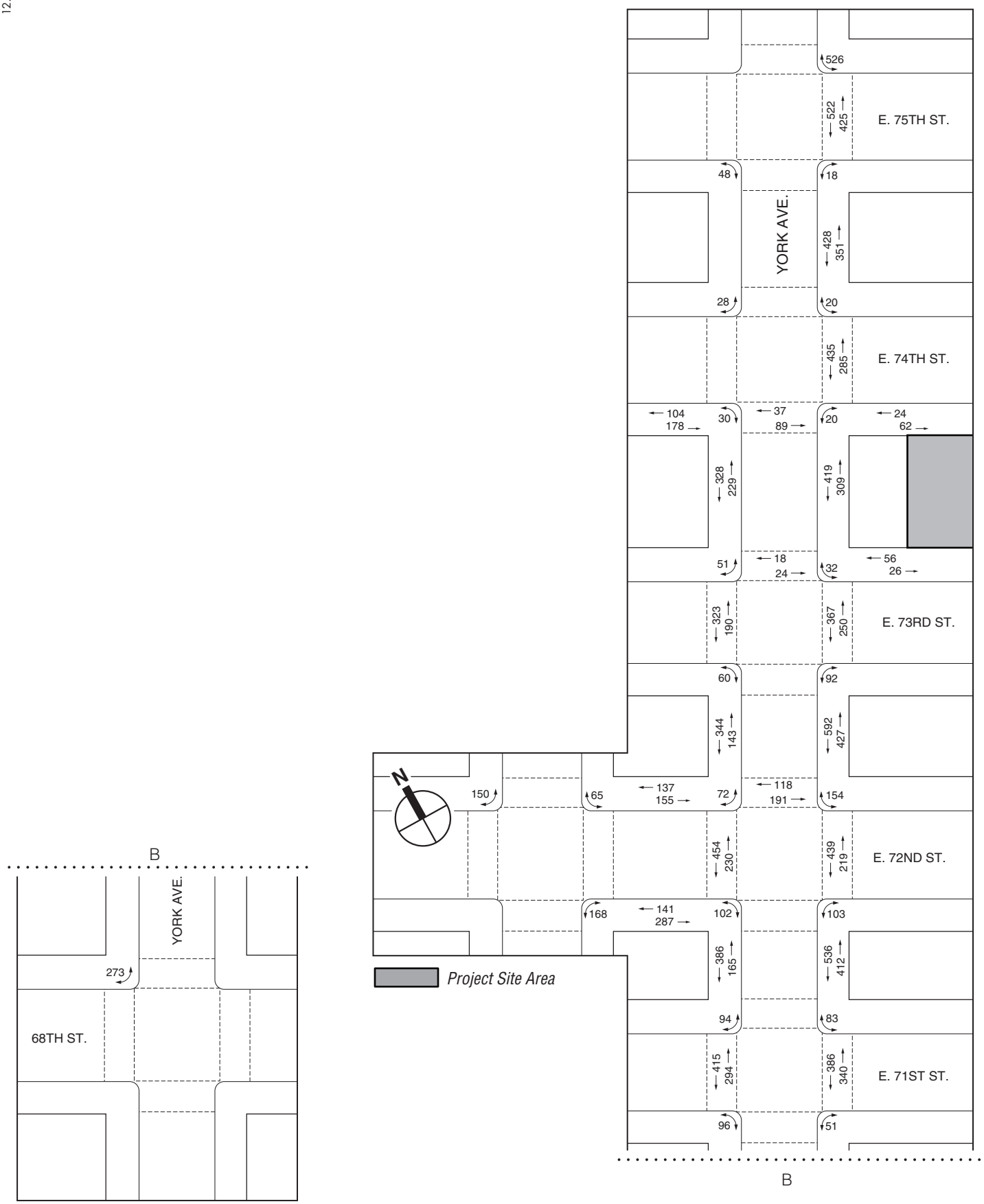
Peak hours were determined by comparing rolling hourly averages; peak 15-minute pedestrian volumes were developed by dividing the hourly incremental volumes by four and accounting for peaking characteristics within the peak hours for each pedestrian element. The existing peak 1-Hour weekday AM, midday, and PM pedestrian volumes are presented in **Figures 9-20** to **9-22**. **Tables 9-28** to **9-30** provide overall summaries of pedestrian levels of service under 2012 existing conditions. As shown in **Tables 9-47** to **9-49** in Section H, "Detailed Analysis Results Tables," all sidewalks, corner reservoirs, and crosswalk analysis locations operate at acceptable mid-LOS D or better (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks).

Table 9-27
Significant Impact Guidance for Corners and Crosswalks

Sliding Scale Formula: $Y \geq X/9.0 - 0.3$			
Non-CBD Areas		**CBD Areas**	
No Build Pedestrian Space (X, SFP)	**Build Pedestrian Space Reduction (Y, SFP)**	**No Build Pedestrian Space (X, SFP)**	**Build Pedestrian Space Reduction (Y, SFP)**
25.8 to 26.6	≥ 2.6	–	–
24.9 to 25.7	≥ 2.5	–	–
24.0 to 24.8	≥ 2.4	–	–
23.1 to 23.9	≥ 2.3	–	–
22.2 to 23.0	≥ 2.2	–	–
21.3 to 22.1	≥ 2.1	21.3 to 21.5	≥ 2.1
20.4 to 21.2	≥ 2.0	20.4 to 21.2	≥ 2.0
19.5 to 20.3	≥ 1.9	19.5 to 20.3	≥ 1.9
18.6 to 19.4	≥ 1.8	18.6 to 19.4	≥ 1.8
17.7 to 18.5	≥ 1.7	17.7 to 18.5	≥ 1.7
16.8 to 17.6	≥ 1.6	16.8 to 17.6	≥ 1.6
15.9 to 16.7	≥ 1.5	15.9 to 16.7	≥ 1.5
15.0 to 15.8	≥ 1.4	15.0 to 15.8	≥ 1.4
14.1 to 14.9	≥ 1.3	14.1 to 14.9	≥ 1.3
13.2 to 14.0	≥ 1.2	13.2 to 14.0	≥ 1.2
12.3 to 13.1	≥ 1.1	12.3 to 13.1	≥ 1.1
11.4 to 12.2	≥ 1.0	11.4 to 12.2	≥ 1.0
10.5 to 11.3	≥ 0.9	10.5 to 11.3	≥ 0.9
9.6 to 10.4	≥ 0.8	9.6 to 10.4	≥ 0.8
8.7 to 9.5	≥ 0.7	8.7 to 9.5	≥ 0.7
7.8 to 8.6	≥ 0.6	7.8 to 8.6	≥ 0.6
6.9 to 7.7	≥ 0.5	6.9 to 7.7	≥ 0.5
6.0 to 6.8	≥ 0.4	6.0 to 6.8	≥ 0.4
5.1 to 5.9	≥ 0.3	5.1 to 5.9	≥ 0.3
< 5.1	≥ 0.2	< 5.1	≥ 0.2

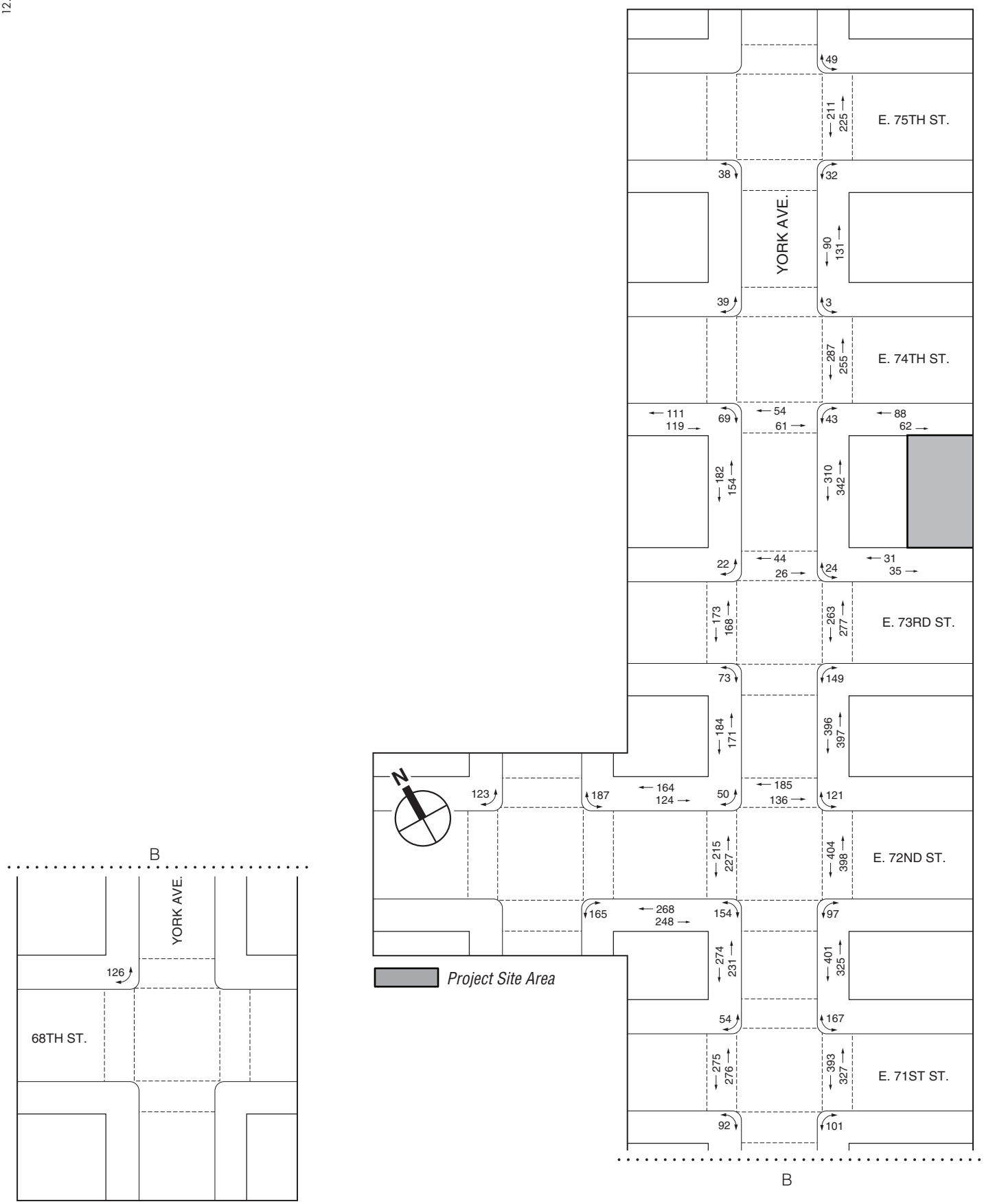
Notes: SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Build pedestrian space in SFP.
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*.

12.4.12



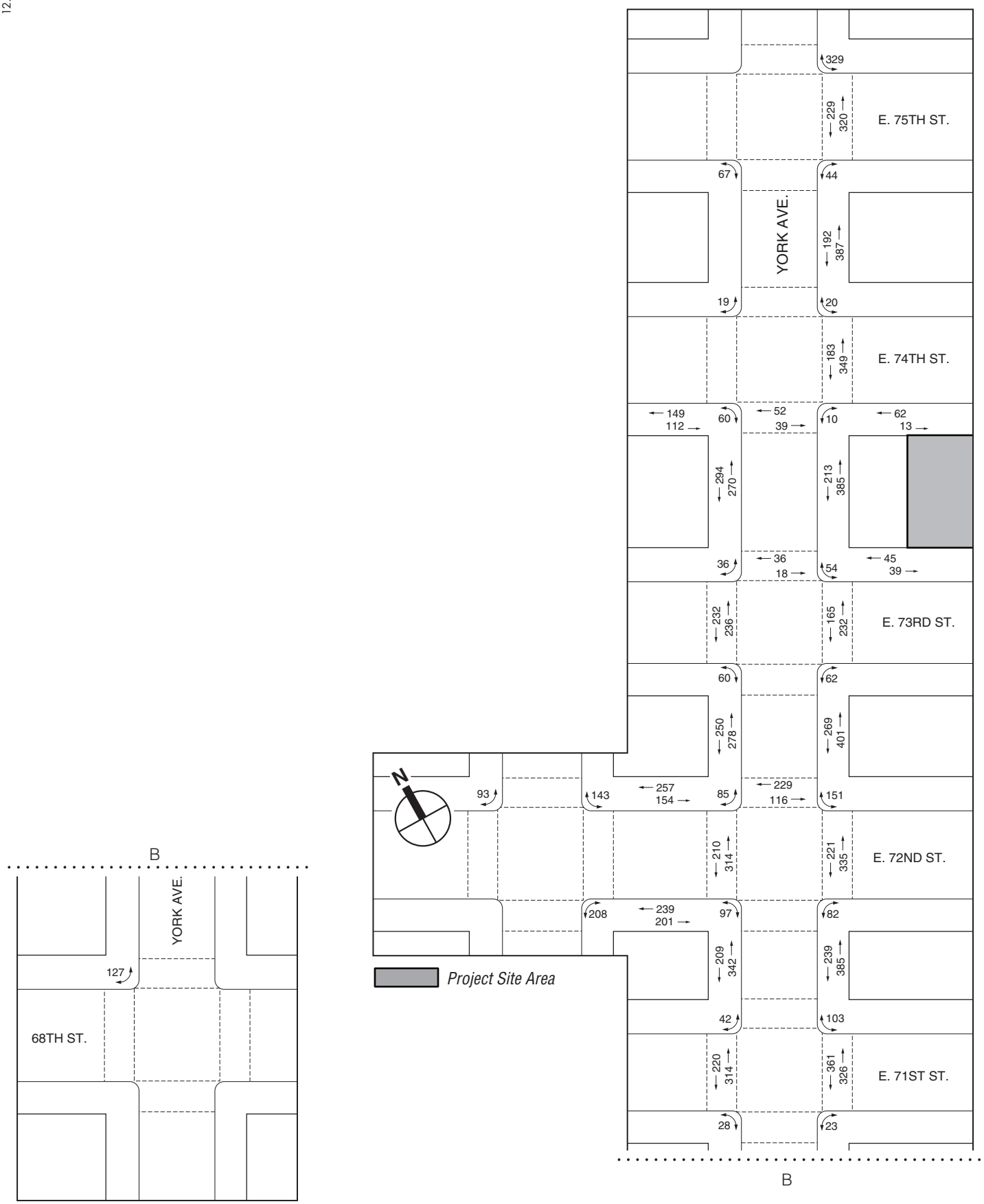
Existing Pedestrian Volumes
Weekday AM Peak Hour
Figure 9-20

12.4.12



Existing Pedestrian Volumes
Weekday Midday Peak Hour
Figure 9-21

12.4.12



Existing Pedestrian Volumes
Weekday PM Peak Hour

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Figure 9-22

Table 9-28
2012 Existing Conditions Pedestrian Sidewalk Level of Service Summary

	Weekday		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Overall LOS A/B/C	12	12	12
Overall LOS D	0	0	0
Overall LOS E	0	0	0
Overall LOS F	0	0	0
Note: Includes 12 sidewalk analysis locations.			

Table 9-29
2012 Existing Conditions Pedestrian Corner Level of Service Summary

	Weekday		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Overall LOS A/B/C	23	23	23
Overall LOS D	0	0	0
Overall LOS E	0	0	0
Overall LOS F	0	0	0
Note: Includes 23 corner analysis locations.			

Table 9-30
2012 Existing Conditions Pedestrian Crosswalk Level of Service Summary

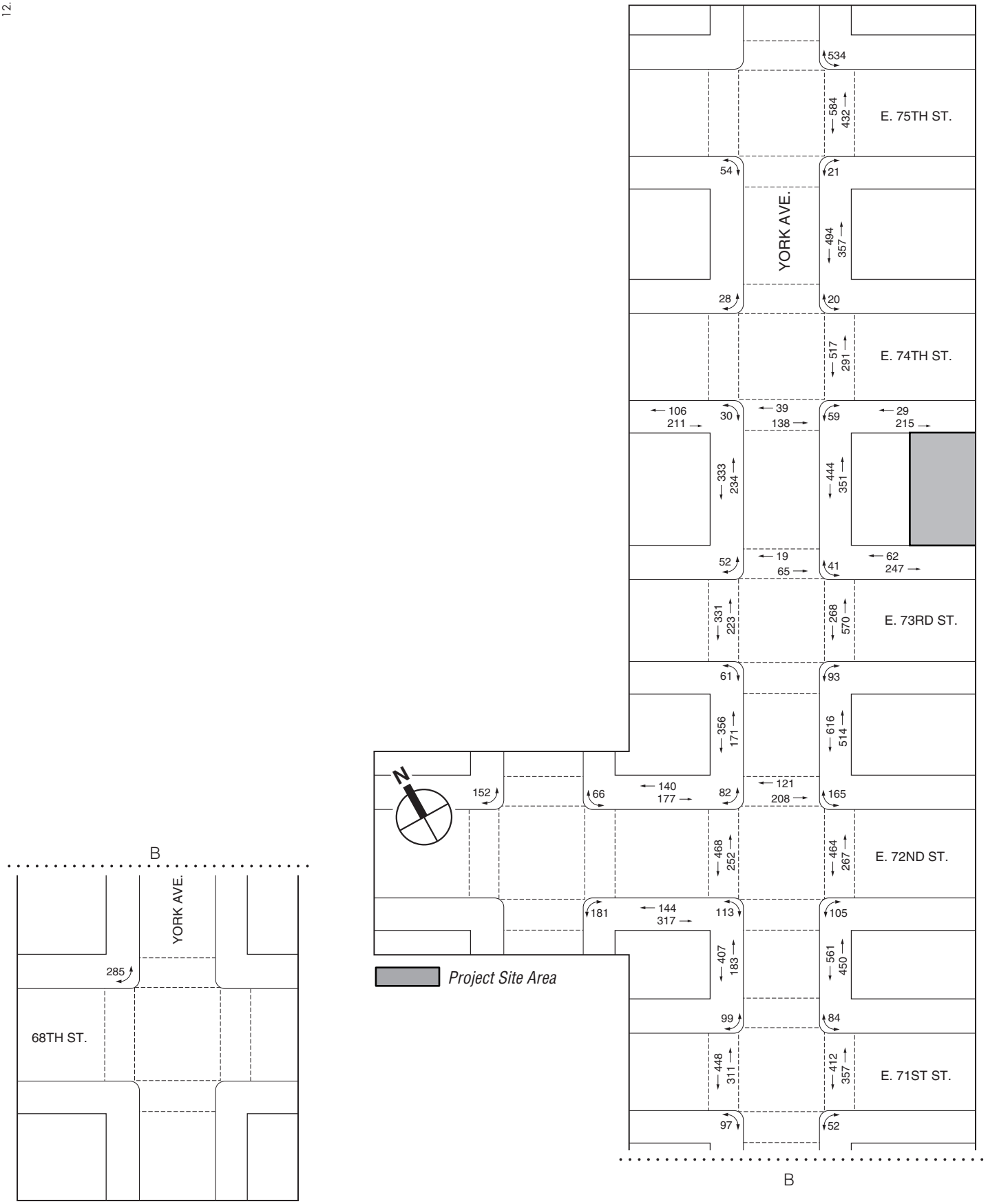
	Weekday		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Overall LOS A/B/C	11	11	11
Overall LOS D	0	0	0
Overall LOS E	0	0	0
Overall LOS F	0	0	0
Note: Includes 11 crosswalk analysis locations.			

FUTURE WITHOUT THE PROPOSED PROJECT (2019 NO BUILD CONDITION)

No Build condition pedestrian volumes were estimated by increasing existing pedestrian levels to reflect expected growth in overall travel through and within the study area. As per *CEQR Technical Manual* guidelines, an annual background growth rate of 0.25 percent was assumed for the first five years (year 2012 to year 2017) and then 0.125 percent for the remaining years (year 2017 to year 2019). Pedestrian volumes from projects that are anticipated to be completed in the study area, absent the proposed project, were also added to arrive at the No Build condition pedestrian volumes. The total No Build peak 1-Hour pedestrian volumes for the weekday AM, midday, and PM peak periods are presented in **Figures 9-23** to **9-25**.

Tables 9-31 to **9-33** show comparisons of pedestrian levels of service for the existing and No Build conditions. As summarized in **Tables 9-50** to **9-52** in Section H, "Detailed Analysis Results Tables," all sidewalk, corner reservoir, and crosswalk analysis locations will continue to operate at acceptable mid-LOS D or better (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks).

12.17.12



2019 No Build Pedestrian Volumes
Weekday AM Peak Hour

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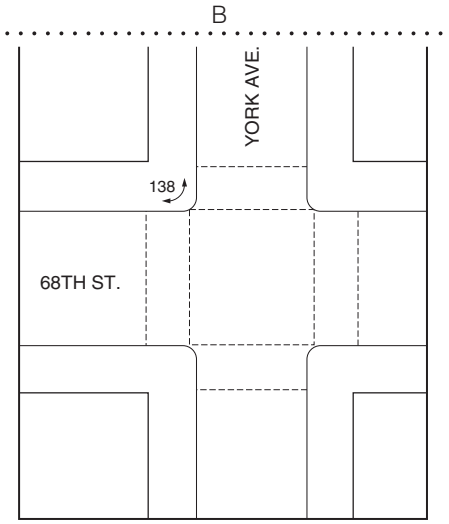
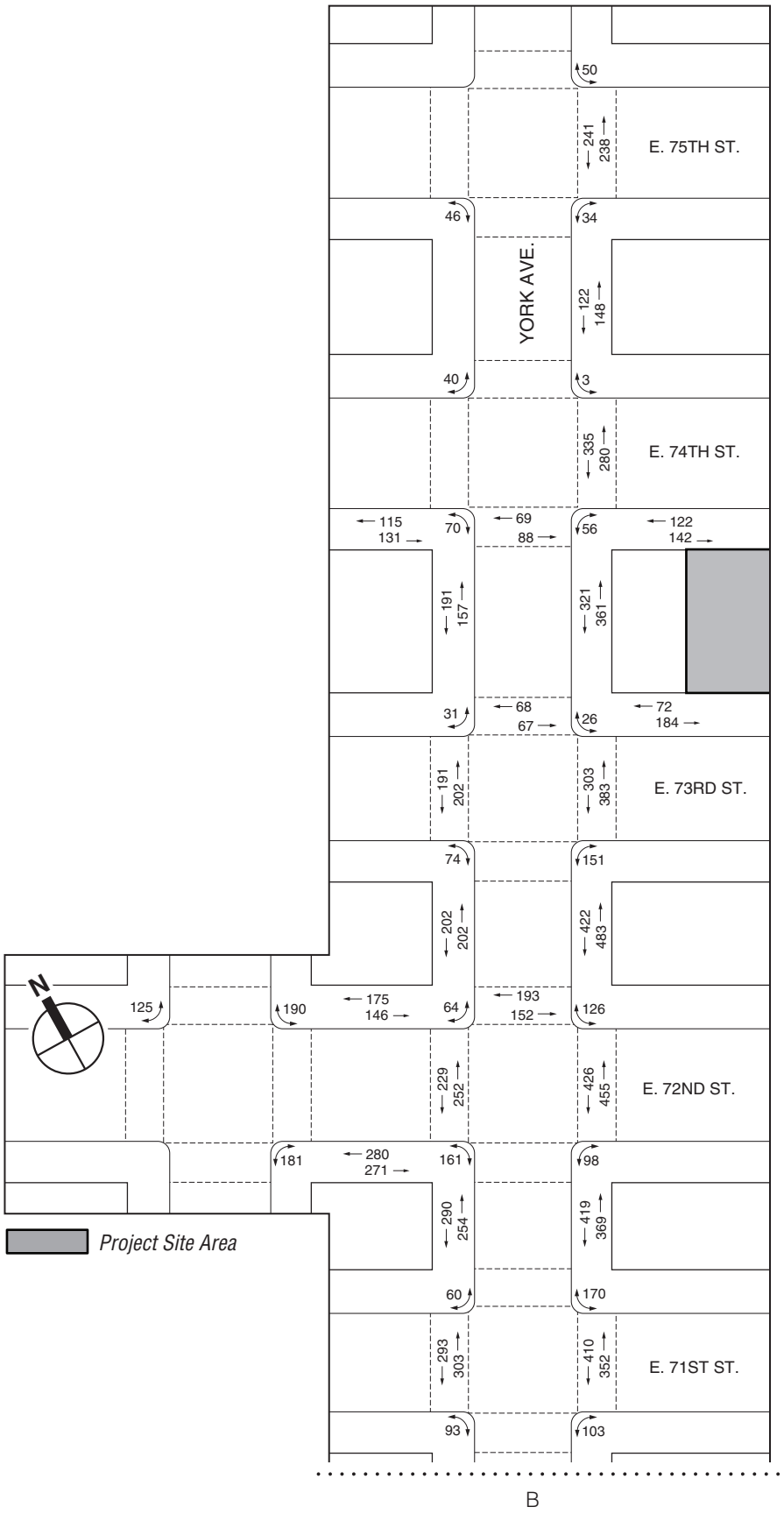
Figure 9-23

12.17.12

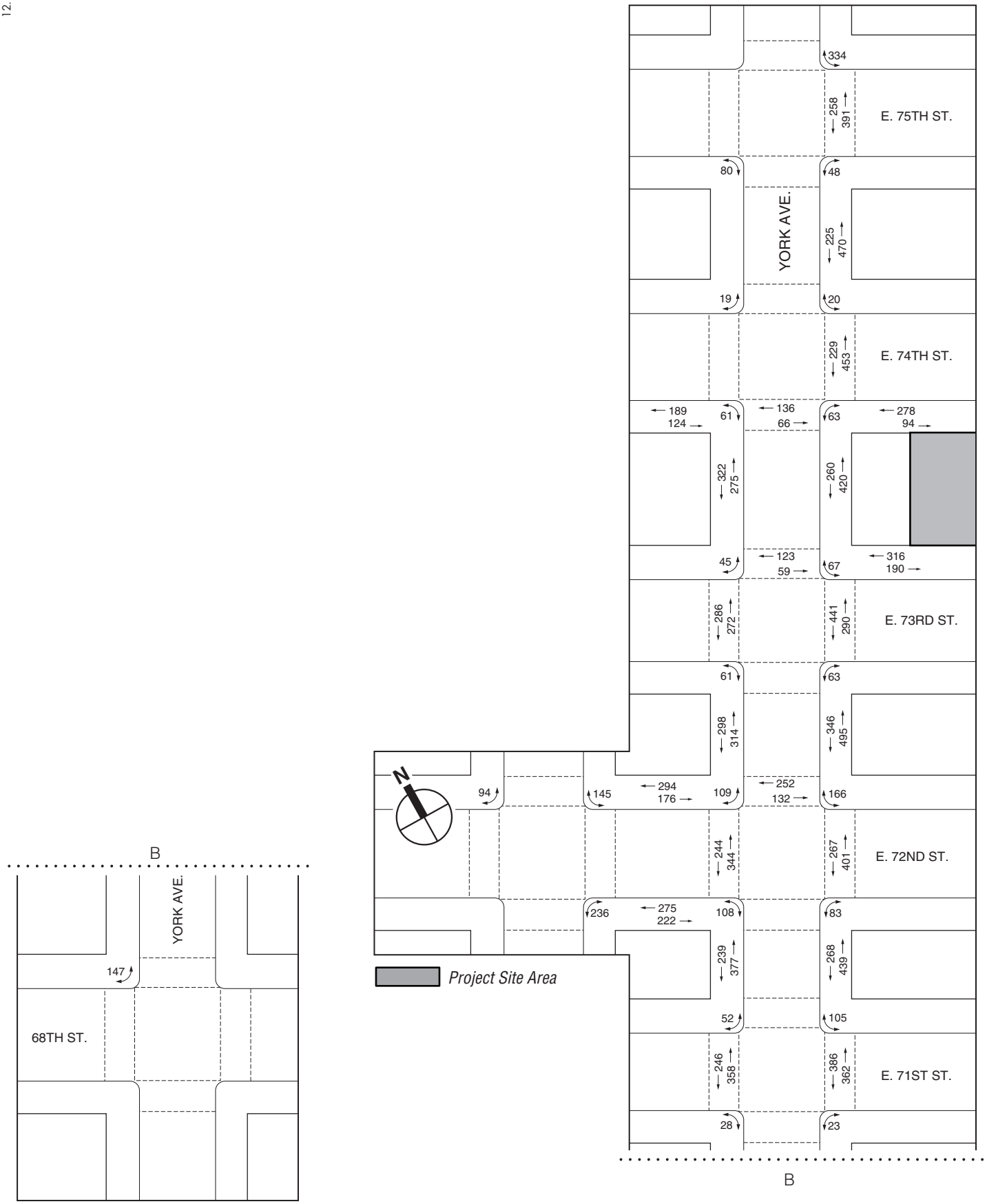




2019 No Build Pedestrian Volumes
Weekday Midday Peak Hour

MSK ACC | CUNY-HUNTER

Figure 9-24



2019 No Build Pedestrian Volumes
Weekday PM Peak Hour

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Figure 9-25

Table 9-31
2019 No Build Condition Pedestrian Sidewalk Level of Service Summary

	Weekday		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Overall LOS A/B/C	12	12	12
Overall LOS D	0	0	0
Overall LOS E	0	0	0
Overall LOS F	0	0	0
Note: Includes 12 sidewalk analysis locations.			

Table 9-32
2019 No Build Condition Pedestrian Corner Level of Service Summary

	Weekday		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Overall LOS A/B/C	23	23	23
Overall LOS D	0	0	0
Overall LOS E	0	0	0
Overall LOS F	0	0	0
Note: Includes 23 corner analysis locations.			

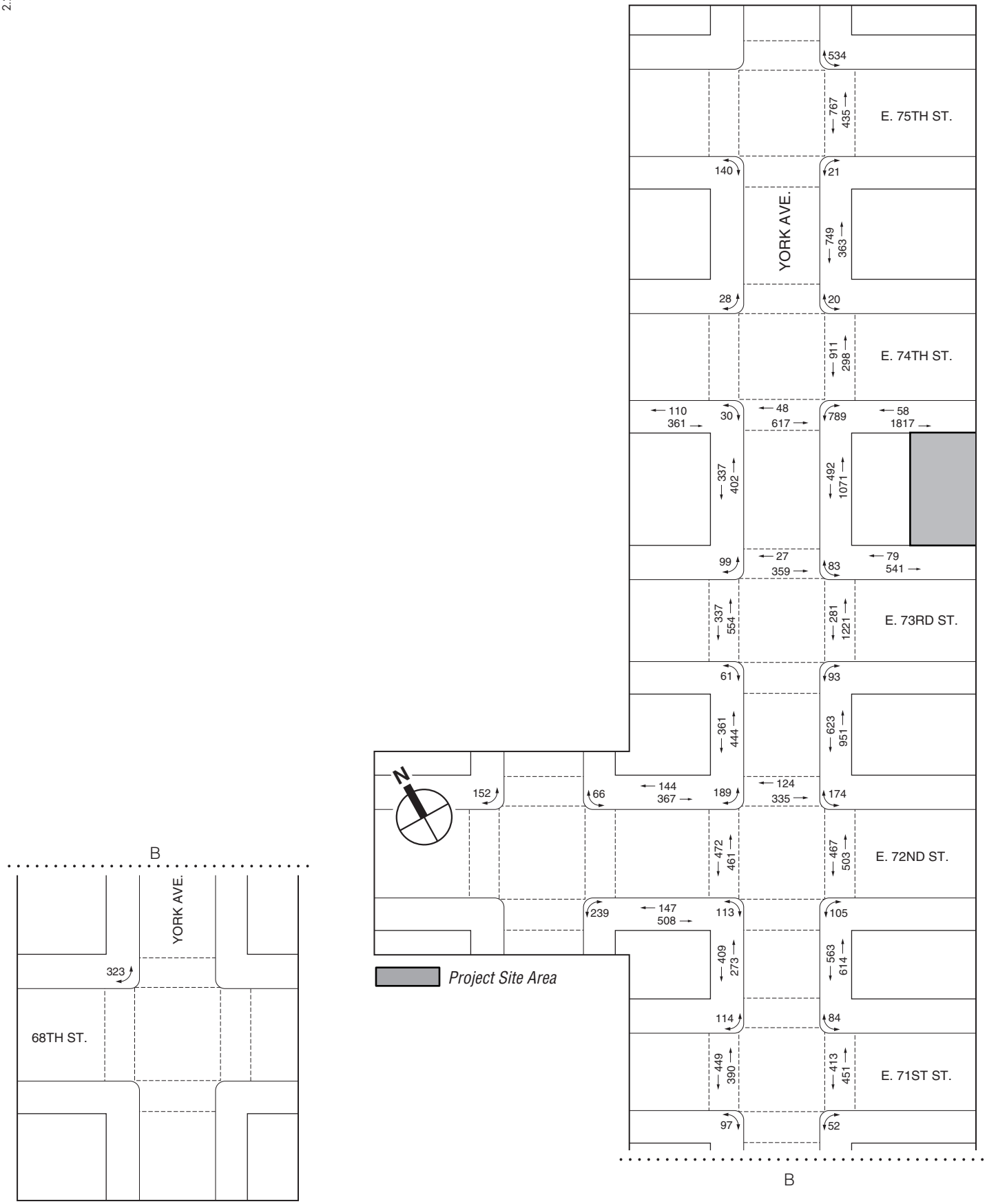
Table 9-33
2019 No Build Condition Pedestrian Crosswalk Level of Service Summary

	Weekday		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Overall LOS A/B/C	11	11	11
Overall LOS D	0	0	0
Overall LOS E	0	0	0
Overall LOS F	0	0	0
Note: Includes 11 crosswalk analysis locations.			

PROBABLE IMPACTS OF THE PROPOSED PROJECT (2019 BUILD CONDITION)

The project-generated pedestrian volumes were assigned to the pedestrian network considering current land uses in the area, nearby parking locations, available transit services, and pedestrian pathways connecting to/from the project site. Based on the incremental peak hour pedestrian trips presented on **Figures 9-6** to **9-8** in Section B, "Preliminary Analysis Methodology and Screening Assessment," peak 15-minute incremental pedestrian volumes were developed by dividing the hourly incremental volumes by four and accounting for peaking characteristics within the peak hours. These pedestrian volumes were added to the No Build volumes to arrive at the Build pedestrian volumes for analysis. The total Build peak 1-Hour pedestrian volumes are presented in **Figures 9-26** to **9-28**.

The pedestrian analyses conducted for the Build condition accounted for the project-generated pedestrian volumes and anticipated physical changes to the pedestrian environment. **Tables 9-34** to **9-36** show pedestrian levels of service for the Build condition.



2019 Build Pedestrian Volumes
Weekday AM Peak Hour

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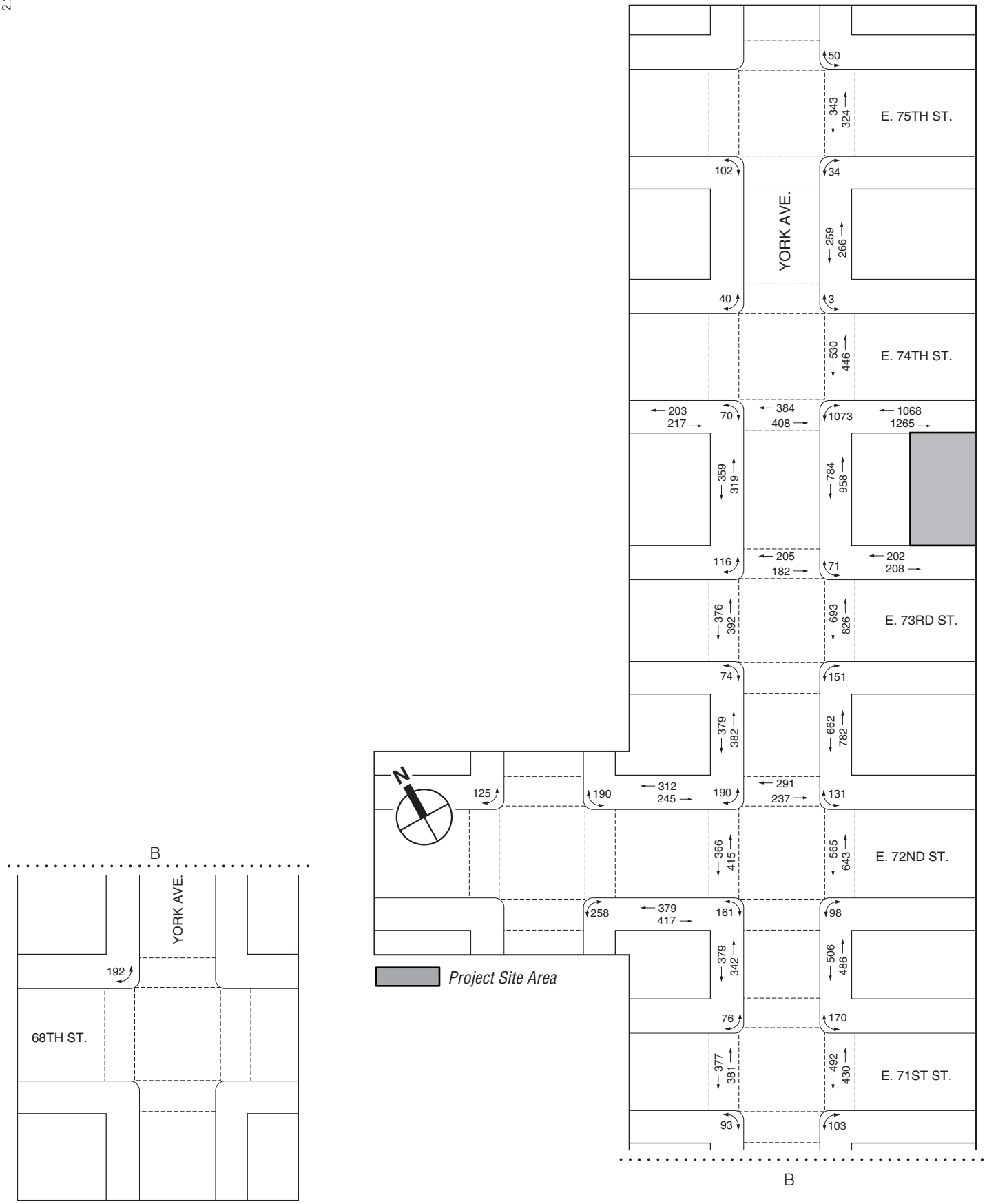
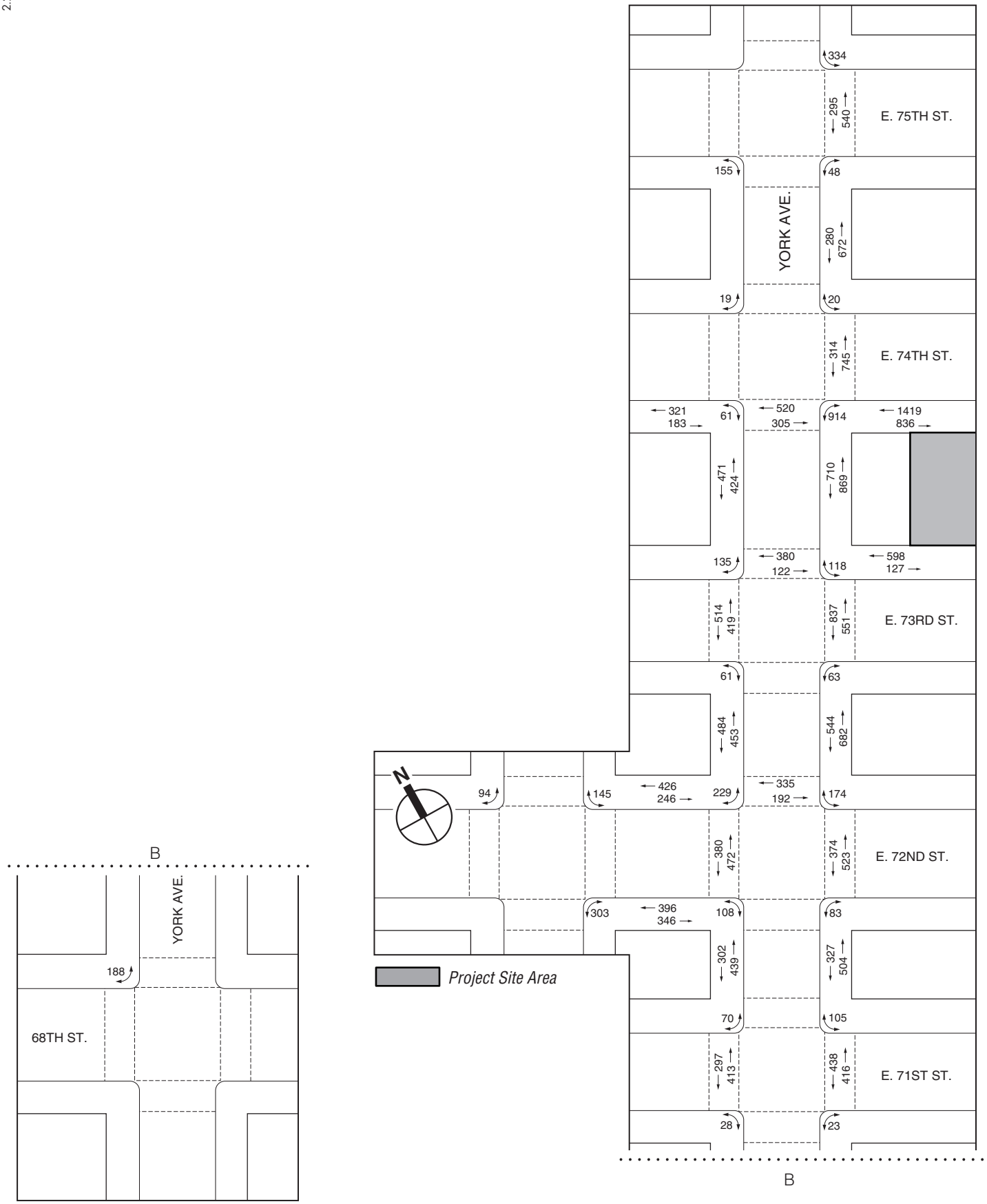
Figure 9-26



2019 Build Pedestrian Volumes
Weekday Midday Peak Hour

Figure 9-27



2019 Build Pedestrian Volumes
Weekday PM Peak Hour

MSK ACC | CUNY-HUNTER

Figure 9-28

Table 9-34
2019 Build Condition Pedestrian Sidewalk Level of Service Summary

	Weekday		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Overall LOS A/B/C	11	11	10
Overall LOS D	1	1	2
Overall LOS E	0	0	0
Overall LOS F	0	0	0
Note: Includes 12 sidewalk analysis locations.			

Table 9-35
2019 Build Condition Pedestrian Corner Level of Service Summary

	Weekday		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Overall LOS A/B/C	23	23	23
Overall LOS D	0	0	0
Overall LOS E	0	0	0
Overall LOS F	0	0	0
Note: Includes 23 corner analysis locations.			

Table 9-36
2019 Build Condition Pedestrian Crosswalk Level of Service Summary

	Weekday		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Overall LOS A/B/C	11	10	10
Overall LOS D	0	1	1
Overall LOS E	0	0	0
Overall LOS F	0	0	0
Note: Includes 11 crosswalk analysis locations.			

As summarized in **Tables 9-53** to **9-55** in Section H, "Detailed Analysis Results Tables," all sidewalk, corner reservoir, and crosswalk locations would continue to operate at acceptable levels (within mid-LOS D, with a maximum of 8.5 PMF in sidewalk platoon flows or a minimum of 19.5 SFP for corners and crosswalks) during all peak hours. Therefore, the proposed project is not expected to result in any significant adverse pedestrian impacts.

F. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

METHODOLOGY

An evaluation of vehicular and pedestrian safety is necessary for locations within the traffic and pedestrian study areas that have been identified as high accident locations, where 48 or more total reportable and non-reportable crashes or five or more vehicular-pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent 3-year period for which data are available. For these locations, accident trends are identified to determine whether projected

vehicular and pedestrian traffic would further impact safety at these locations. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, accident types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety are identified and coordinated with NYCDOT.

ACCIDENT DATA

Crash data for the study area intersections were obtained from NYSDOT for the time period between January 1, 2009 and December 31, 2011. The data obtained quantify the total number of reportable accidents (involving fatality, injury, or more than $1,000 in property damage), fatalities, and injuries during the study period, as well as a yearly breakdown of vehicular crashes with pedestrians and bicycles at each location.

During the January 1, 2009 to December 31, 2011 three-year period, a total of 280 reportable and non-reportable accidents, zero fatalities, 209 injuries, and 68 pedestrian/bicyclist-related accidents occurred at the study area intersections. A rolling total of accident data identifies two study area intersections as high accident locations in the 2009 to 2011 period. These locations are First Avenue at East 72nd Street and York Avenue at East 72nd Street. **Table 9-37** depicts total accident characteristics by intersection during the study period, as well as a breakdown of pedestrian and bicycle accidents by year and location. **Table 9-38** shows a detailed description of each accident at the intersections of First Avenue at East 72nd Street and York Avenue at East 72nd Street during the three-year period.

Table 9-37
Accident Summary

Intersection		Study Period					Accidents by Year					
		All Accidents by Year					Pedestrian			Bicycle		
North-South Roadway	East-West Roadway	2009	2010	2011	Total Fatalities	Total Injuries	2009	2010	2011	2009	2010	2011
Second Avenue	E. 65th Street	7	9	5	0	8	1	1			1	
Second Avenue	E. 66th Street	8	3	8	0	14		1	3			1
Second Avenue	E. 72nd Street	4	6	9	0	21		1		1	1	
Second Avenue	E. 73rd Street	4	4	4	0	12	1		2		2	1
First Avenue	E. 65th Street	5	6	6	0	16	2	1	1	1	1	1
First Avenue	E. 66th Street	5	5	3	0	6		1			1	
First Avenue	**E. 72nd Street**	4	13	6	0	18	1	3	2	2	2	
First Avenue	E. 73rd Street	1	2	1	0	3					1	1
First Avenue	E. 74th Street	4	3	1	0	9	1	1		1		1
York Avenue	E. 61st Street	13	6	19	0	26			2	1		1
York Avenue	E. 65th Street	3	2	4	0	4	1					
York Avenue	E. 66th Street	2	7	7	0	9						
York Avenue	E. 68th Street	2	0	1	0	1						
York Avenue	**E. 72nd Street**	8	8	13	0	33	1	2	5	1		
York Avenue	E. 73rd Street	6	3	2	0	10	2	2				1
York Avenue	E. 74th Street	4	0	4	0	3				1		
York Avenue	E. 75th Street	3	3	0	0	1						
York Avenue	E. 76th Street	5	4	0	0	4	1				1	
York Avenue	E. 79th Street	7	4	4	0	11	2		1			1

Note: **Bold** intersections are high accident locations.
Source: NYSDOT January 1, 2009 to December 31, 2011 accident data.

Table 9-38
Vehicle and Pedestrian Accident Details

Intersection	Year	Date	Time	Accident Class		Action of Vehicle	Action of Pedestrian	Cause of Accident			
				Injured	Killed			Left / Right Turns	Pedestrian Error/ Confusion	Driver Inattention	Other
First Avenue @ East 72nd Street	2009	2/14	20:00 PM	X		Making left turn – Northwest	Going straight – (Bike)	X		X	Turning Improper
		4/7	9:15 AM	X		Making left turn – East	Crossing with signal	X	X		
		12/7	15:00 PM	X		Other – East	Going straight – (Bike)				Unknown
	2010	3/19	19:45 PM	X		Going straight – West	Going straight – North (Bike)				Unknown
		7/6	13:00 PM	X		Unknown	Unknown				Unknown
		8/2	14:54 PM	X		Making left turn – North	Crossing with signal	X			
		11/21	15:30 PM	X		Going straight – East	Stopped in traffic – East (Bike)				Failure to yield R.O.W., Aggressive Driving/Road Rage
		12/10	15:25 PM	X		Making left turn – Northeast	Crossing with signal	X			Driver Inexperience
	2011	1/24	14:40 PM	X		Making left turn – Northwest	Crossing with signal	X		X	Failure to yield R.O.W.
		7/5	15:38 PM	X		Making left turn – Northeast	Crossing with signal	X		X	Failure to yield R.O.W.
York Avenue @ East 72nd Street	2009	5/13	18:45 PM	X		Going straight – North	Going straight – North (Bike)		X	X	
		12/5	N/A	X		Making left turn – Northeast	Crossing with signal	X			
	2010	6/12	16:15 PM	X		Making left turn – Northeast	Crossing with signal	X		X	
		12/6	16:10 PM	X		Going straight – North	Crossing against signal		X		
	2011	1/18	8:00 AM	X		Making left turn – Northwest	Crossing with signal	X			Failure to yield R.O.W.
		2/1	22:27 PM	X		Making right turn – East	Crossing with signal	X		X	Failure to yield R.O.W.
		4/26	8:15 AM	X		Unknown	Unknown				Unknown
		8/15	16:20 PM	x		Going straight – South	Crossing against signal		X		
		10/6	22:30 PM	X		Making left turn – Northeast	Crossing with signal	X			Reaction to other uninvolved vehicle

Source: NYSDOT January 1, 2009 to December 31, 2011 accident data.

FIRST AVENUE AND EAST 72ND STREET

Based on the review of the accident history at the intersection of First Avenue and East 72nd Street, no prevailing trends with regard to geometric deficiencies were identified as the primary cause of recorded accidents. It is worth noting that 6 of the 10 accidents at this location involved turning vehicles. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of First Avenue and East 72nd Street is signalized and provides three school crosswalks and one high visibility crosswalk to the South. In terms of project-generated activity, the intersection would experience incremental peak-hour volume increases of approximately 70 or fewer vehicle trips and 190 or fewer pedestrian trips at any crosswalks at this intersection during each of the three analysis peak hours. As discussed above in Section C, "Detailed Traffic Analysis," this intersection would be impacted during the weekday PM peak hour under the 2019 Build condition.

However, as described in Chapter 17, "Mitigation," the predicted impact at this intersection could be fully mitigated with standard traffic engineering measures. Therefore, the proposed project is not anticipated to exacerbate any of the current causes of pedestrian-related accidents. Nonetheless, additional safety measures, such as the installation of countdown timers on all pedestrian crosswalks, the installation of pedestrian safety signs warning turning vehicles to yield to pedestrians in the crosswalk, and restriping both the faded north and south crosswalks, can be implemented to improve pedestrian safety at this intersection.

YORK AVENUE AND EAST 72ND STREET

Based on the review of the accident history at the intersection of York Avenue and East 72nd Street, no prevailing trends with regard to geometric deficiencies were identified as the primary cause of recorded accidents. It is worth noting that two thirds (6 of 9) of the accidents coded for this intersection involve turning movements. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of York Avenue and East 72nd Street is signalized and provides two school crosswalks and two high visibility crosswalks. In terms of project-generated activity, the intersection would experience incremental peak-hour volume increases of approximately 130 or fewer vehicle trips and 360 or fewer pedestrian trips at any crosswalks at this intersection during each of the three analysis peak hours. As discussed above in Section C, "Detailed Traffic Analysis," this intersection would be impacted during all three analysis peak hours under the 2019 Build condition.

However, as described in Chapter 17, "Mitigation," the predicted impacts at this intersection could be fully mitigated with standard traffic engineering measures. Therefore, the proposed project is not anticipated to exacerbate any of the current causes of pedestrian-related accidents. Nonetheless, additional safety measures, such as the installation of countdown timers on all pedestrian crosswalks and the installation of pedestrian safety signs warning turning vehicles to yield to pedestrians in the crosswalk, can be implemented to improve pedestrian safety at this intersection.

G. PARKING CONDITIONS ASSESSMENT

METHODOLOGY

The parking analysis identifies the extent to which off-street parking is available and utilized under existing and future conditions. It takes into consideration anticipated changes in area parking supply and provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from parking displacement attributable to or additional demand generated by a proposed project. Typically, this analysis encompasses a study area within a ¼-mile of the project site. If the analysis concludes a shortfall in parking within the ¼-mile study area, the study area could be extended to a ½-mile to identify additional parking supply.

For proposed projects located in Manhattan or other CBD areas, the inability of the proposed project or the surrounding area to accommodate the project's future parking demand is considered a parking shortfall, but is generally not considered significant due to the magnitude of available alternative modes of transportation. Additional factors, such as the availability and extent of transit in the area, proximity of the project to such transit, and patterns of automobile usage by area residents, could be considered to determine the significance of the identified parking shortfall.

2012 EXISTING CONDITIONS

An inventory of on- and off-street parking within a ¼-mile of the project site was conducted in July 2012. The on-street survey involved recording curbside regulations and performing general observations of daytime utilization. The off-street survey provided an inventory of the area's public parking facilities and their legal capacities and daytime utilization.

ON-STREET PARKING

Curbside parking regulations within a ¼-mile of the project site are illustrated in **Figure 9-29** and summarized in **Table 9-39**. The curbside regulations in the area generally include limited one-hour metered parking, no standing or no parking anytime except authorized vehicles, and alternate-side parking to accommodate street-cleaning. Based on field observations, on-street parking in the area is generally at or near full utilization during weekday daytime hours.

Table 9-39
On-Street Parking Regulations

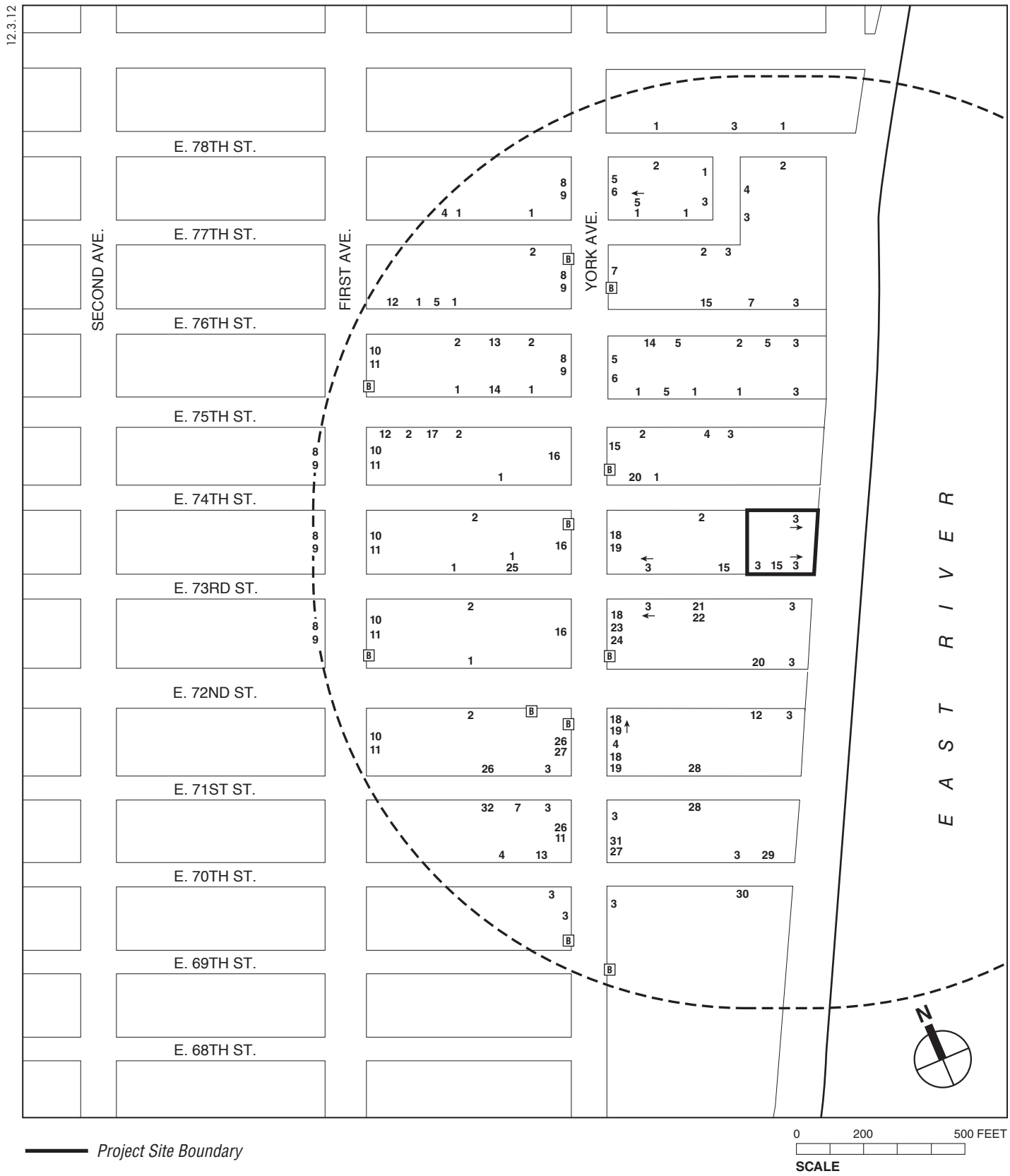
No.	Regulation	No.	Regulation
1	NP 9AM-10:30PM Mon & Thurs.	17	NS Ex. Authorized Veh. (Consul & Diplomat Plates)
2	NP 9AM-10:30PM Tue & Fri.	18	NP 7:30AM-8PM Except Sun.
3	NS Anytime	19	1-Hr Parking 8AM-7PM Except Sun.
4	NP Anytime	20	NS Ex. Trucks Loading & Unloading 8AM-6PM Mon-Fri.
5	NS 7AM-4PM School Days	21	NS 7AM-10AM Mon-Fri.
6	NP 7:30AM-8AM Tue & Fri.	22	NS Ex Trucks Loading & Unloading 10AM-7PM Mon-Fri
7	NP 7AM-7PM Except Sun.	23	NS Ex Trucks Loading & Unloading 8AM-10AM Ex Sun
8	NP 8AM-8:30PM Except Sun.	24	1-Hr Parking 10AM-7PM Except Sun.
9	1-Hr Parking 8:30AM-7PM Except Sun.	25	NS Ex Trucks Loading & Unloading 8AM-5PM Tue & Fri
10	NS 7AM-10AM, 2PM-7PM Mon-Fri, 3 HR Limit Commercial Vehicles	26	NP 11AM-12:30PM Mon & Thurs.
		27	NS Ex. Authorized Veh. (Ambulette)
11	1-Hr Parking 9AM-7PM Sat.	28	No Stopping Anytime
12	NS Ex. Trucks Loading & Unloading 7AM-7PM Mon-Fri.	29	NS Ex. Emergency Veh. (H.S.S.)
13	NS Ex. Authorized Veh. (Ambulance)		
14	NS 7AM-7PM Mon-Fri.	30	NS 7AM-7PM Passenger Loading & Unloading Zone (NYPH)
15	NP 8AM-6PM Mon-Fri.	31	NS Ex. Taxis 7AM-10AM Mon-Fri.
16	NP 8AM-8:30PM Mon & Thur.	32	NP 11AM-12:30PM Tue & Fri.

Notes: NP = No Parking; NS = No Standing; Sun = Sunday; Mon = Monday; Tue = Tuesday; Wed = Wednesday; Thu = Thursday; Fri = Friday; Sat = Saturday
Sources: Surveys conducted by AKRF, Inc.; July, 2012

OFF-STREET PARKING

Off-street publicly accessible parking lots and garages (see **Figure 9-30**) within ¼-mile of the project site were surveyed in July 2012. Each facility's operating license and legal capacity were noted. Based on responses given by parking attendants and visual inspections, where possible, estimates were made on the parking occupancy or utilization at each facility for the weekday morning, midday, evening, and overnight time periods. A summary of the recorded information and the area's overall off-street public parking supply and utilization is presented in **Table 9-40**.

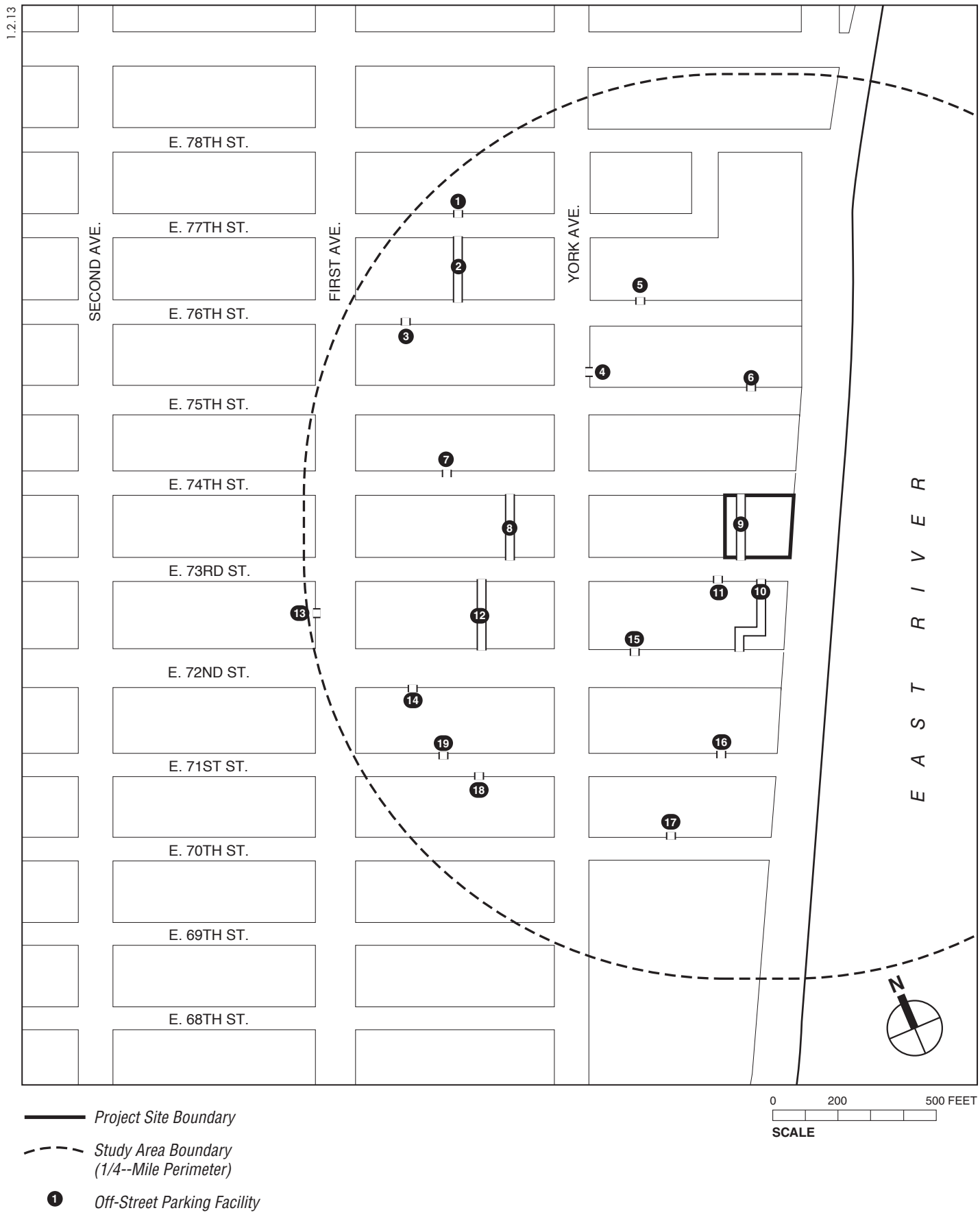
Within the ¼-mile parking study area, 19 public parking facilities were inventoried. The combined capacity of these facilities totals 2,364 parking spaces. Overall, they were 46, 80, 59, and 24-percent utilized, with 1,268, 470, 976, and 1,762 parking spaces available during the weekday morning, midday, evening, and overnight time periods, respectively.



On-Street Parking Regulations

MSK ACC | CUNY-HUNTER

Figure 9-29



Off-Street Parking Facilities

MSK ACC | CUNY-HUNTER

Figure 9-30

Table 9-40
2012 Existing Off-Street Parking - ¼-Mile
Weekday Utilization

Map #	Name/Operator and Address/Location	License Number	Licensed Capacity	Utilization Rate				Utilized Spaces				Available Spaces			
				AM	MD	PM	ON	AM	MD	PM	ON	AM	MD	PM	ON
1	Surrey Garage Corp. - 439 E. 77th Street	138694	96	50%	90%	45%	25%	48	86	43	24	48	10	53	72
2	STA Parking Corp. - 434 E. 77th Street	427101	131	40%	80%	60%	20%	52	105	79	26	79	26	52	105
3	Alliance Impala Parking - 402 E. 76th Street	1286774	58	50%	70%	50%	50%	29	41	29	29	29	17	29	29
4	Capital Car Park - 1420 York Avenue	1243101	28	50%	95%	60%	50%	14	27	17	14	14	1	11	14
5	East 77th Realty LLC - 500 E. 77th Street	1071280	300	25%	75%	50%	20%	75	225	150	60	225	75	150	240
6	Kinney Parking System - 530 E. 76th Street	1201685	23	90%	90%	90%	50%	21	21	21	12	2	2	2	11
7	Samo Parking LLC - 401 E. 74th Street	1423764	61	65%	85%	85%	20%	40	52	52	12	21	9	9	49
8	River York Stratford LLC - 1385 York Avenue	1070442	150	50%	75%	80%	30%	75	113	120	45	75	37	30	105
9	73 Operating LLC - 525-545 E. 73rd Street	1382879	128	70%	95%	75%	10%	90	122	96	13	38	6	32	115
10	Quik Park East 72 LLC - 525 E. 72nd Street	1330577	146	65%	65%	65%	15%	95	95	95	22	51	51	51	124
11	Quik Park E. 73rd St. LLC - 524 E. 73rd Street	1376342	320	40%	70%	60%	25%	128	224	192	80	192	96	128	240
12	E. 72nd Realty LLC - 1353-1367 York Avenue	1070441	235	25%	85%	50%	10%	59	200	118	24	176	35	117	211
13	355 E. 72nd Garage Corp. - 355 E. 72nd Street	1184091	31	66%	100%	66%	CLD	20	31	20	CLD	11	0	11	CLD
14	420 E. 72nd Garage Corp. - 420 E. 72nd Street	1412461	51	50%	90%	50%	20%	26	46	26	10	25	5	25	41
15	E. River 72nd Garage LLC - 515 E. 72nd Street	813280	130	25%	90%	40%	15%	33	117	52	20	97	13	78	110
16	72nd Street LLC - 517 E. 71st Street	1152232	50	50%	75%	75%	50%	25	38	38	25	25	12	12	25
17	Helmsley Medical Tower Garage - 507 E. 70th Street	831026	175	85%	85%	85%	50%	149	149	149	88	26	26	26	87
18	The NY Hospital Laurence G. Payson House - 426-438 E. 71st Street	369314	174	45%	85%	30%	30%	78	148	52	52	96	26	122	122
19	Independent Parking LLC - 417 E. 71st Street	897040	77	50%	70%	50%	20%	39	54	39	15	38	23	38	62
			2,364	**46%**	**80%**	**59%**	**24%**	**1,096**	**1,894**	**1,388**	**571**	**1,268**	**470**	**976**	**1,762**

Notes: MD = Midday; ON = Overnight; CLD = Closed
Sources: Survey conducted by AKRF Inc. July 2012.

FUTURE WITHOUT THE PROPOSED PROJECT (2019 NO BUILD CONDITION)

Overall off-street public parking utilization is expected to experience the same growth as projected for traffic. No Build projects within the ¼-mile parking study area are expected to include a total of up to 322 off-street accessory parking spaces. As presented in **Table 9-41**, the addition of the accessory parking spaces, and the parking demand generated from background growth and discrete projects that would advance absent the proposed project, the No Build condition public parking utilization is expected to increase to 52, 88, 62, and 25 percent during the weekday morning, midday, evening, and overnight peak periods, respectively, in the ¼-mile off-street parking study area.

Table 9-41
2012 Existing and 2019 No Build Parking Supply and Utilization

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight
2012 Public Parking Supply	2,364	2,364	2,364	2,333
2012 Public Parking Demand	1,096	1,894	1,388	571
2012 Public Parking Utilization	46%	80%	59%	24%
2019 No Build Public Parking Supply Total	2,364	2,364	2,364	2,333
2019 No Build Background Incremental Demand	17	29	21	9
Discrete No Build Projects Total Parking Demand	342	461	228	51
Discrete No Build Projects Accessory Parking Spaces	322	322	322	322
Discrete No Build Parking Demand Accommodated by Accessory Parking	234	314	166	51
Discrete No Build Parking Demand Accommodated by Public Parking	108	147	62	0
No Build Incremental Public Parking Demand	125	176	83	9
2019 No Build Public Parking Demand Total	1,221	2,070	1,471	580
2019 No Build Public Parking Utilization	52%	88%	62%	25%
2019 No Build Available Spaces (Shortfall)	1,143	294	893	1,753

Sample Calculation: No Build Incremental Public Parking Demand = No Build Background Incremental Demand + Discrete No Build Parking Demand Accommodated by Public Parking
Weekday AM No Build Incremental Public Parking Demand = 17 + 108 = 125

PROBABLE IMPACTS OF THE PROPOSED PROJECT (2019 BUILD CONDITION)

In the Build condition, expected future development projects (including No Build projects and the proposed project) are expected to displace the surface public parking lot on the western portion of the project site, for a total displacement of 128 parking spaces. The proposed project would include a total of up to 250 off-street accessory parking spaces; however, this analysis conservatively accounts for only the 166 spaces permitted as-of-right at the project site. The weekday incremental parking demand generated by the proposed project is presented in **Table 9-42**. As presented in **Table 9-43**, accounting for the displacement of public parking spaces, the addition of accessory parking spaces, and the parking demand generated from background growth, No Build projects and the proposed project, the Build public parking utilization is expected to increase to 63, 113, 77, and 26 percent during the weekday morning, midday, evening, and overnight peak periods, respectively. This represents a parking shortfall of 298 spaces during the weekday midday peak period.

Most of this excess demand is expected to be accommodated by parking facilities outside of the ¼-mile parking study area radius. However, some may seek parking on-street or choose alternate modes of transportation.

As stated in the *CEQR Technical Manual* and discussed in the above parking analysis methodology, a parking shortfall resulting from a project located in Manhattan and other CBD neighborhoods, does not constitute a significant adverse parking impact, due to the magnitude of available alternative modes of transportation.

Table 9-42
Proposed Project Incremental Parking Demand

	MSK ACC		CUNY-Hunter Building						
Hour	Staff	Patients and Visitors	Undergraduate Students	Graduate Students	Research Staff/Faculty/ Adjunct Faculty	Support Staff	Visitors	Lecture Hall Students	Total
12 AM - 01 AM	9	0	0	0	0	0	0	0	9
01 AM - 02 AM	5	0	0	0	0	0	0	0	5
02 AM - 03 AM	0	0	0	0	0	0	0	0	0
03 AM - 04 AM	0	0	0	0	0	0	0	0	0
04 AM - 05 AM	0	0	0	0	0	0	0	0	0
05 AM - 06 AM	2	0	0	0	0	0	0	0	2
06 AM - 07 AM	6	0	0	0	0	0	0	0	6
07 AM - 08 AM	28	14	2	2	7	0	0	0	53
08 AM - 09 AM	77	71	4	4	45	7	3	0	211
09 AM - 10 AM	113	156	9	19	74	9	4	0	384
10 AM - 11 AM	122	241	9	20	97	11	5	0	505
11 AM - 12 PM	121	326	9	22	100	11	6	0	595
12 PM - 01 PM	122	354	8	28	100	11	7	0	630
01 PM - 02 PM	125	354	7	29	100	11	9	0	635
02 PM - 03 PM	128	340	6	30	100	11	10	0	625
03 PM - 04 PM	125	312	5	34	67	8	2	0	553
04 PM - 05 PM	108	284	4	36	34	2	0	0	468
05 PM - 06 PM	68	220	2	41	17	1	0	0	349
06 PM - 07 PM	35	135	2	42	13	0	0	0	227
07 PM - 08 PM	20	78	2	42	9	0	0	0	151
08 PM - 09 PM	15	21	1	23	6	0	0	0	66
09 PM - 10 PM	11	0	0	0	4	0	0	0	15
10 PM - 11 PM	9	0	0	0	2	0	0	0	11
11 PM - 12 AM	9	0	0	0	0	0	0	0	9

Table 9-43
2019 No Build and Build Parking Supply and Utilization

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight
2019 No Build Public Parking Supply	2,364	2,364	2,364	2,333
2019 No Build Public Parking Demand	1,221	2,070	1,471	580
2019 No Build Public Parking Utilization	52%	88%	62%	25%
2019 No Build Public Parking Supply	2,364	2,364	2,364	2,333
Displaced Public Parking Supply Total	-128	-128	-128	-128
2019 Build Public Parking Supply Total	2,236	2,236	2,236	2,205
Proposed Project Parking Demand	211	630	349	0
Proposed Project Accessory Parking Spaces [(1)]	166	166	166	166
Proposed Project Parking Demand Accommodated by Accessory Parking	33	166	104	0
Proposed Project Parking Demand Accommodated by Public Parking	178	464	245	0
2019 Build Public Parking Demand Total	1,399	2,534	1,716	580
2019 Build Public Parking Utilization	63%	113%	77%	26%
2019 Build Available Spaces (Shortfall)	837	(298)	520	1,625

Note: (1) As described in Section C, "Detailed Traffic Analysis," for conservative traffic analysis, the as-of-right 166 accessory spaces was assumed that would result in the maximum number of patients being dropped off first resulting in the maximum amount of re-circulation. A Special Permit is being requested that would increase the number of maximum parking spaces up to 250. With 250 accessory parking spaces, the projected weekday midday shortfall would be 214 spaces.

Sample Calculation: 2019 Build Public Parking Demand Total = 2019 No Build Public Parking Demand + Proposed Project Parking Demand Accommodated by Public Parking 2019 Weekday AM Build Public Parking Demand Total = 1,221 + 178 = 1,399

H. DETAILED ANALYSIS RESULTS TABLES

Table 9-44
2012 Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM				Weekday Midday				Weekday PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
York Avenue & East 79th Street												
Eastbound	LTR	0.97	70.5	E	LTR	0.80	49.0	D	LTR	0.96	68.0	E
Westbound	LTR	0.22	32.3	C	LTR	0.32	34.1	C	LTR	0.41	35.8	D
Northbound	LTR	1.05	77.1	E	LTR	0.85	37.4	D	LTR	1.05	78.2	E
Southbound	LTR	0.88	45.6	D	LTR	0.76	38.0	D	LTR	0.89	46.6	D
	Intersection		61.9	E	Intersection		40.0	D	Intersection		61.5	E
York Avenue & East 76th Street												
Eastbound	LTR	0.79	57.1	E	LTR	0.64	45.2	D	LTR	1.00	94.6	F
Westbound	LR	0.73	54.6	D	LR	0.23	32.9	C	LR	0.29	34.0	C
Northbound	TR	0.43	13.3	B	TR	0.42	13.1	B	TR	0.45	13.6	B
Southbound	LT	0.64	17.5	B	LT	0.53	14.9	B	LT	0.53	15.0	B
	Intersection		24.3	C	Intersection		18.4	B	Intersection		27.8	C
York Avenue & East 75th Street												
Westbound	LTR	0.30	33.9	C	LTR	0.10	30.2	C	LTR	0.08	29.8	C
Northbound	LTR	0.78	22.5	C	LTR	0.80	24.3	C	LTR	0.55	15.3	B
Southbound	LTR	0.72	19.9	B	LTR	0.63	17.0	B	LTR	0.67	18.0	B
	Intersection		21.8	C	Intersection		20.8	C	Intersection		17.0	B
York Avenue & East 74th Street												
Eastbound	LTR	0.51	34.2	C	LTR	0.54	35.0-	C	LTR	0.52	34.4	C
Westbound	LR	0.06	25.5	C	LR	0.09	26.0	C	LR	0.09	26.0	C
Northbound	TR	0.52	17.7	B	TR	0.51	17.5	B	TR	0.46	16.7	B
Southbound	LT	0.65	20.7	C	LT	0.52	17.8	B	LT	0.65	20.7	C
	Intersection		21.2	C	Intersection		20.3	C	Intersection		21.1	C
York Avenue & East 73rd Street												
Westbound	LTR	0.13	44.6	D	LTR	0.16	45.3	D	LTR	0.05	43.3	D
Northbound	LTR	0.97	51.3	D	LTR	0.84	35.6	D	LTR	1.02	64.3	E
Southbound	DefL	0.93	59.6	E	-	-	-	-	DefL	1.05	89.2	F
	-		-	-	LTR	0.95	41.3	D	-		-	-
	TR	0.96	48.4	D	-	-	-	-	TR	0.94	42.9	D
	Intersection		51.3	D	Intersection		38.7	D	Intersection		60.7	E
York Avenue & East 72nd Street												
Eastbound	DefL	1.00	95.2	F	DefL	0.71	48.3	D	DefL	0.69	46.2	D
	TR	0.51	35.4	D	TR	0.50	35.3	D	TR	0.46	34.4	C
	R	0.45	35.6	D	R	0.47	36.7	D	R	0.45	36.1	D
Westbound	LTR	0.45	32.8	C	LTR	0.47	33.7	C	LTR	0.29	29.4	C
Northbound	LTR	0.98	50.5	D	LTR	0.89	34.8	C	LTR	0.98	50.8	D
Southbound	LTR	0.58	19.5	B	LTR	0.53	18.3	B	LTR	0.49	17.6	B
	Intersection		43.7	D	Intersection		31.1	C	Intersection		38.2	D
York Avenue & East 71st Street												
Westbound	LTR	0.81	38.2	D	LTR	0.67	32.2	C	LTR	0.70	33.4	C
Northbound	LTR	0.80	30.9	C	LTR	0.58	22.7	C	LTR	0.67	25.2	C
Southbound	LTR	0.55	22.0	C	LTR	0.57	22.4	C	LTR	0.57	22.3	C
	Intersection		31.1	C	Intersection		25.8	C	Intersection		27.0	C
York Avenue & East 66th Street												
Westbound	LTR	0.03	29.1	C	LTR	0.04	29.2	C	LTR	0.03	29.1	C
Northbound	LTR	0.77	20.4	C	LTR	0.95	38.9	D	LTR	0.45	13.5	B
Southbound	LTR	0.57	15.6	B	LTR	0.63	16.7	B	LTR	0.69	18.2	B
	Intersection		18.6	B	Intersection		27.8	C	Intersection		16.3	B

Table 9-44 (cont'd)
2012 Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM				Weekday Midday				Weekday PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
York Avenue & East 65th Street												
Eastbound	LR	0.95	76.3	E	LR	0.86	61.4	E	LR	1.05	100.4	F
Northbound	T	0.47	13.5	B	T	0.57	15.5	B	T	0.29	11.4	B
Southbound	T	0.43	13.3	B	T	0.49	14.2	B	T	0.54	15.0	B
	Intersection		23.0	C	Intersection		21.7	C	Intersection		30.2	C
York Avenue & East 61st Street												
Westbound	L	0.23	24.0	C	L	0.36	29.0	C	L	0.34	28.6	C
	LTR	0.71	33.4	C	LTR	0.62	33.3	C	LTR	0.60	32.7	C
	R	0.69	36.5	D	R	0.59	35.3	D	R	0.62	36.3	D
Northbound	LT	0.81	28.6	C	LT	0.42	17.0	B	LT	0.55	19.0	B
Southbound	TR	0.45	19.6	B	TR	0.84	29.1	C	TR	0.52	18.5	B
	Intersection		28.1	C	Intersection		27.4	C	Intersection		23.4	C
First Avenue & East 74th Street												
Eastbound	LT	0.53	27.6	C	LT	0.66	31.8	C	LT	0.59	29.0	C
Northbound	TR	0.76	18.1	B	TR	0.65	15.8	B	TR	0.78	18.3	B
	Intersection		19.1	B	Intersection		18.3	B	Intersection		19.6	B
First Avenue & East 73rd Street												
Westbound	TR	0.31	23.3	C	TR	0.30	23.2	C	TR	0.35	24.2	C
Northbound	LT	0.77	18.3	B	LT	0.69	16.6	B	LT	0.78	18.5	B
	Intersection		18.6	B	Intersection		17.1	B	Intersection		18.8	B
First Avenue & East 72nd Street												
Eastbound	LT	0.96	52.0	D	LT	0.73	30.2	C	LT	0.71	29.5	C
Westbound	TR	0.44	21.8	C	TR	0.39	21.0	C	TR	0.40	21.2	C
Northbound	L	0.59	45.0	D	L	0.57	44.4	D	L	0.47	39.9	D
	TR	0.74	19.8	B	TR	0.73	19.7	B	TR	0.74	19.7	B
	Intersection		27.8	C	Intersection		22.9	C	Intersection		22.2	C
First Avenue & East 66th Street												
Westbound	TR	0.67	33.5	C	TR	0.57	30.1	C	TR	0.51	27.5	C
Northbound	LT	0.93	26.4	C	LT	0.91	24.5	C	LT	0.83	20.0+	C
	Intersection		27.1	C	Intersection		25.0	C	Intersection		20.7	C
First Avenue & East 65th Street												
Eastbound	LT	0.92	56.8	E	LT	0.94	58.8	E	LT	1.04	85.4	F
Northbound	TR	0.87	21.8	C	TR	0.79	19.0	B	TR	0.80	18.9	B
	Intersection		26.7	C	Intersection		25.3	C	Intersection		29.8	C
Second Avenue & East 73rd Street												
Westbound	LT	0.51	27.6	C	LT	0.53	28.0	C	LT	0.33	23.8	C
Southbound	TR	0.47	13.0	B	TR	0.47	13.1	B	TR	0.46	13.0	B
	Intersection		14.9	B	Intersection		15.3	B	Intersection		14.0	B
Second Avenue & East 72nd Street												
Eastbound	TR	0.63	24.4	C	TR	0.47	21.6	C	TR	0.58	23.5	C
Westbound	LT	0.63	25.1	C	LT	0.47	21.8	C	LT	0.44	21.2	C
Southbound	LTR	0.52	16.4	B	LTR	0.53	16.6	B	LTR	0.52	16.5	B
	Intersection		20.3	C	Intersection		18.6	B	Intersection		19.1	B
Second Avenue & East 66th Street												
Westbound	LT	0.48	21.1	C	LT	0.60	23.5	C	LT	0.49	21.2	C
Southbound	TR	0.49	16.7	B	TR	0.49	16.6	B	TR	0.47	16.4	B
	Intersection		17.9	B	Intersection		18.7	B	Intersection		17.7	B
Second Avenue & East 65th Street												
Eastbound	TR	0.60	26.2	C	TR	0.47	23.5	C	TR	0.67	27.7	C
Southbound	LT	0.60	20.0+	C	LT	0.61	20.3	C	LT	0.57	19.6	B
	Intersection		21.7	C	Intersection		21.0	C	Intersection		22.0	C

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = *de facto* Left Turn, LOS = Level of Service

Table 9-45
2012 Existing and 2019 No Build Conditions Level of Service Analysis
Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM							
	2012 Existing				2019 No Build				2012 Existing				2019 No Build				2012 Existing				2019 No Build			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
York Avenue & East 79th Street																								
Eastbound	LTR	0.97	70.5	E	LTR	1.06	95.5	F	LTR	0.80	49.0	D	LTR	0.86	54.1	D	LTR	0.96	68.0	E	LTR	1.02	82.5	F
Westbound	LTR	0.22	32.3	C	LTR	0.23	32.4	C	LTR	0.32	34.1	C	LTR	0.34	34.5	C	LTR	0.41	35.8	D	LTR	0.42	36.1	D
Northbound	LTR	1.05	77.1	E	LTR	1.13	107.2	F	LTR	0.85	37.4	D	LTR	0.97	54.7	D	LTR	1.05	78.2	E	LTR	1.21	137.2	F
Southbound	TR	0.88	45.6	D	TR	0.93	51.7	D	TR	0.76	38.0	D	TR	0.79	39.5	D	TR	0.89	46.6	D	TR	0.92	50.5	D
	Intersection		61.9	E	Intersection		80.8	F	Intersection		40.0	D	Intersection		47.9	D	Intersection		61.5	E	Intersection		87.5	F
York Avenue & East 76th Street																								
Eastbound	LTR	0.79	57.1	E	LTR	0.80	58.5	E	LTR	0.64	45.2	D	LTR	0.65	45.6	D	LTR	1.00	94.6	F	LTR	1.02	98.1	F
Westbound	LR	0.73	54.6	D	LR	0.74	55.7	E	LR	0.23	32.9	C	LR	0.23	32.9	C	LR	0.29	34.0	C	LR	0.32	34.8	C
Northbound	TR	0.43	13.3	B	TR	0.45	13.6	B	TR	0.42	13.1	B	TR	0.45	13.6	B	TR	0.45	13.6	B	TR	0.52	14.7	B
Southbound	LT	0.64	17.5	B	LT	0.72	20.0-	B	LT	0.53	14.9	B	LT	0.57	15.6	B	LT	0.53	15.0	B	LT	0.57	15.8	B
	Intersection		24.3	C	Intersection		25.3	C	Intersection		18.4	B	Intersection		18.7	B	Intersection		27.8	C	Intersection		28.1	C
York Avenue & East 75th Street																								
Westbound	LTR	0.30	33.9	C	LTR	0.30	33.9	C	LTR	0.10	30.2	C	LTR	0.10	30.2	C	LTR	0.08	29.8	C	LTR	0.08	29.8	C
Northbound	LTR	0.78	22.5	C	LTR	0.85	27.3	C	LTR	0.80	24.3	C	LTR	0.87	29.5	C	LTR	0.55	15.3	B	LTR	0.64	17.2	B
Southbound	LTR	0.72	19.9	B	LTR	0.79	22.4	C	LTR	0.63	17.0	B	LTR	0.67	18.0	B	LTR	0.67	18.0	B	LTR	0.71	19.0	B
	Intersection		21.8	C	Intersection		25.2	C	Intersection		20.8	C	Intersection		23.8	C	Intersection		17.0	B	Intersection		18.3	B
York Avenue & East 74th Street																								
Eastbound	LTR	0.51	34.2	C	LTR	0.56	36.0	D	LTR	0.54	35.0-	C	LTR	0.59	36.7	D	LTR	0.52	34.4	C	LTR	0.59	36.9	D
Westbound	LR	0.06	25.5	C	LR	0.06	25.6	C	LR	0.09	26.0	C	LR	0.09	26.0	C	LR	0.09	26.0	C	LR	0.09	26.1	C
Northbound	TR	0.52	17.7	B	TR	0.57	18.8	B	TR	0.51	17.5	B	TR	0.56	18.6	B	TR	0.46	16.7	B	TR	0.55	18.3	B
Southbound	LT	0.65	20.7	C	LT	0.74	23.4	C	LT	0.52	17.8	B	LT	0.57	18.9	B	LT	0.65	20.7	C	LT	0.71	22.3	C
	Intersection		21.2	C	Intersection		23.1	C	Intersection		20.3	C	Intersection		21.4	C	Intersection		21.1	C	Intersection		22.7	C
York Avenue & East 73rd Street																								
Westbound	LTR	0.13	44.6	D	LTR	0.20	45.9	D	LTR	0.16	45.3	D	LTR	0.40	51.3	D	LTR	0.05	43.3	D	LTR	0.43	52.3	D
Northbound	LTR	0.97	51.3	D	LTR	1.04	71.4	E	LTR	0.84	35.6	D	LTR	0.89	40.3	D	LTR	1.02	64.3	E	LTR	1.15	111.0	F
Southbound	DefL	0.93	59.6	E	DefL	1.00	81.9	F	-	-	-	-	-	-	-	-	DefL	1.05	89.2	F	DefL	1.17	137.4	F
	-	-	-	-	-	-	-	-	LTR	0.95	41.3	D	LTR	1.01	56.7	E	-	-	-	-	-	-	-	-
	TR	0.96	48.4	D	TR	1.06	75.4	E	-	-	-	-	-	-	-	-	TR	0.94	42.9	D	TR	1.00	58.1	E
	Intersection		51.3	D	Intersection		73.7	E	Intersection		38.7	D	Intersection		48.7	D	Intersection		60.7	E	Intersection		95.1	F
York Avenue & East 72nd Street																								
Eastbound	DefL	1.00	95.2	F	DefL	1.05	109.1	F	DefL	0.71	48.3	D	DefL	0.73	50.7	D	DefL	0.69	46.2	D	DefL	0.72	49.0	D
	TR	0.51	35.4	D	TR	0.54	36.3	D	TR	0.50	35.3	D	TR	0.51	35.6	D	TR	0.46	34.4	C	TR	0.47	34.8	C
	R	0.45	35.6	D	R	0.47	36.7	D	R	0.47	36.7	D	R	0.48	37.3	D	R	0.45	36.1	D	R	0.47	36.8	D
Westbound	LTR	0.45	32.8	C	LTR	0.46	33.1	C	LTR	0.47	33.8	C	LTR	0.48	34.1	C	LTR	0.29	29.4	C	LTR	0.31	29.7	C
Northbound	LTR	0.98	50.5	D	LTR	1.09	83.5	F	LTR	0.89	34.8	C	LTR	0.96	46.3	D	LTR	0.98	50.8	D	LTR	1.10	86.0	F
Southbound	LTR	0.58	19.5	B	LTR	0.64	20.9	C	LTR	0.53	18.3	B	LTR	0.57	19.1	B	LTR	0.49	17.6	B	LTR	0.54	18.4	B
	Intersection		43.7	D	Intersection		59.1	E	Intersection		31.1	C	Intersection		36.2	D	Intersection		38.2	D	Intersection		55.5	E
York Avenue & East 71st Street																								
Westbound	LTR	0.81	38.2	D	LTR	0.83	39.3	D	LTR	0.67	32.2	C	LTR	0.68	32.7	C	LTR	0.70	33.4	C	LTR	0.72	34.1	C
Northbound	LTR	0.80	30.9	C	LTR	0.89	38.2	D	LTR	0.58	22.7	C	LTR	0.64	24.2	C	LTR	0.67	25.2	C	LTR	0.77	28.9	C
Southbound	LTR	0.55	22.0	C	LTR	0.61	23.4	C	LTR	0.57	22.4	C	LTR	0.61	23.3	C	LTR	0.57	22.3	C	LTR	0.61	23.3	C
	Intersection		31.1	C	Intersection		34.3	D	Intersection		25.8	C	Intersection		26.6	C	Intersection		27.0	C	Intersection		28.8	C
York Avenue & East 66th Street																								
Westbound	LTR	0.03	29.1	C	LTR	0.03	29.1	C	LTR	0.04	29.2	C	LTR	0.04	29.2	C	LTR	0.03	29.1	C	LTR	0.03	29.1	C
Northbound	LTR	0.77	20.4	C	LTR	0.85	24.5	C	LTR	0.95	38.9	D	LTR	1.07	74.2	E	LTR	0.45	13.5	B	DefL	0.54	29.7	C
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TR	0.43	13.3	B
Southbound	LTR	0.57	15.6	B	LTR	0.74	27.8	C	LTR	0.63	16.7	B	LTR	0.82	31.6	C	LTR	0.69	18.2	B	LTR	0.96	46.2	D
	Intersection		18.6	B	Intersection		25.7	C	Intersection		27.8	C	Intersection		52.7	D	Intersection		16.3	B	Intersection		33.6	C
York Avenue & East 65th Street																								
Eastbound	LR	0.95	76.3	E	LR	1.03	97.6	F	LR	0.86	61.4	E	LR	0.92	71.0	E	LR	1.05	100.4	F	LR	1.10	118.3	F
Northbound	T	0.47	13.5	B	T	0.53	14.4	B	T	0.57	15.5	B	T	0.61	16.2	B	T	0.29	11.4	B	T	0.31	11.7	B
Southbound	T	0.43	13.3	B	T	0.45	13.6	B	T	0.49	14.2	B	T	0.52	14.6	B	T	0.54	15.0	B	T	0.60	16.1	B
	Intersection		23.0	C	Intersection		26.8	C	Intersection		21.7	C	Intersection		23.7	C	Intersection		30.2	C	Intersection		33.6	C
York Avenue & East 61st Street																								
Westbound	L	0.23	24.0	C	L	0.23	24.1	C	L	0.36	29.0	C	L	0.37	29.1	C	L	0.34	28.6	C	L	0.35	28.8	C
	LTR	0.71	33.4	C	LTR	0.75	34.6	C	LTR	0.62	33.3	C	LTR	0.65	34.0	C	LTR	0.60	32.7	C	LTR	0.62	33.3	C
	R	0.69	36.5	D	R	0.80	43.1	D	R	0.59	35.3	D	R	0.64	37.0	D	R	0.62	36.3	D	R	0.66	38.4	D
Northbound	LT	0.81	28.6	C	LT	0.84	29.7	C	LT	0.42	17.0	B	LT	0.43	17.1	B	LT	0.55	19.0	B	LT	0.57	19.3	B
Southbound	TR	0.45	19.6	B	TR	0.47	19.8	B	TR	0.84	29.1	C	TR	0.57	19.3	B	TR	0.52	18.5	B	TR	0.55	18.9	B
	Intersection		28.1	C	Intersection		29.7	C	Intersection		27.4	C	Intersection		24.1	C	Intersection		23.4	C	Intersection		24.0	C
First Avenue & East 74th Street																								
Eastbound	LT	0.53	27.6	C	LT	0.55	28.2	C	LT	0.66	31.8	C	LT	0.69	32.9	C	LT	0.59	29.0	C	LT	0.61	29.8	C
Northbound	TR	0.76	18.1	B	TR	0.78	18.6	B	TR	0.65	15.8	B	TR	0.67	16.2	B	TR	0.78	18.3	B	TR	0.80	18.9	B
	Intersection		19.1	B	Intersection		19.7	B	Intersection		18.3	B	Intersection		18.9	B	Intersection		19.6	B	Intersection		20.2	C
First Avenue & East 73rd Street																								
Westbound	TR	0.31	23.3	C	TR	0.33	23.6	C	TR	0.30	23.2	C	TR	0.36	24.3	C	TR	0.35	24.2	C	TR	0.44	26.1	C
Northbound	LT	0.77	18.3	B	LT	0.79	18.7	B	LT	0.69	16.6	B	LT	0.71	16.9	B	LT	0.78	18.5	B	LT	0.80	19.0	B
	Intersection		18.6	B	Intersection		19.1	B	Intersection		17.1	B	Intersection		17.6	B	Intersection		18.8	B	Intersection		19.5	B
First Avenue & East 72nd Street																								
Eastbound	LT	0.96	52.0	D	LT	0.98	57.1	E	LT	0.73	30.2	C	LT	0.75	30.9	C	LT	0.71	29.5	C	LT	0.73	30.5	C
Westbound	TR	0.44	21.8	C	TR	0.45	21.9	C	TR	0.39	21.0	C	TR	0.40	21.1	C	TR	0.40	21.2	C	TR	0.42	21.4	C
Northbound	L	0.59	45.0	D	L	0.60	45.4	D	L	0.57	44.4	D	L	0.58	44.8	D	L	0.47	39.9	D	L	0.48	40.1	D
	TR	0.74	19.8	B	TR	0.76	20.3	C	TR	0.73	19.7	B	TR	0.75	20.1	C	TR	0.74	19.7	B	TR	0.76	20.1	C
	Intersection		27.8	C	Intersection		29.1	C	Intersection		22.9	C	Intersection		23.3	C	Intersection		22.2	C	Intersection		22.7	C

Table 9-45 (cont'd)
2012 Existing and 2019 No Build Conditions Level of Service Analysis
Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM							
	2012 Existing				2019 No Build				2012 Existing				2019 No Build				2012 Existing				2019 No Build			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
First Avenue & East 66th Street																								
Westbound	TR	0.67	33.5	C	TR	0.69	34.7	C	TR	0.57	30.1	C	TR	0.62	31.9	C	TR	0.51	27.5	C	TR	0.56	28.9	C
Northbound	LT	0.93	26.4	C	LT	0.97	32.4	C	LT	0.91	24.5	C	LT	0.93	27.1	C	LT	0.83	20.0+	C	LT	0.85	21.1	C
	Intersection		27.1	C	Intersection		32.6	C	Intersection		25.0	C	Intersection		27.5	C	Intersection		20.7	C	Intersection		21.9	C
First Avenue & East 65th Street																								
Eastbound	LT	0.92	56.8	E	LT	1.01	76.4	E	LT	0.94	58.8	E	LT	0.99	69.4	E	LT	1.04	85.4	F	LT	1.10	101.8	F
Northbound	TR	0.87	21.8	C	TR	0.91	24.2	C	TR	0.79	19.0	B	TR	0.82	19.8	B	TR	0.80	18.9	B	TR	0.82	19.8	B
	Intersection		26.7	C	Intersection		31.8	C	Intersection		25.3	C	Intersection		27.9	C	Intersection		29.8	C	Intersection		33.4	C
Second Avenue & East 73rd Street																								
Westbound	LT	0.51	27.6	C	LT	0.54	28.6	C	LT	0.53	28.0	C	LT	0.60	30.1	C	LT	0.33	23.8	C	LT	0.42	25.5	C
Southbound	TR	0.47	13.0	B	TR	0.51	13.6	B	TR	0.47	13.1	B	TR	0.51	13.6	B	TR	0.46	13.0	B	TR	0.51	13.6	B
	Intersection		14.9	B	Intersection		15.6	B	Intersection		15.3	B	Intersection		16.2	B	Intersection		14.0	B	Intersection		14.9	B
Second Avenue & East 72nd Street																								
Eastbound	TR	0.63	24.4	C	TR	0.64	24.7	C	TR	0.47	21.6	C	TR	0.49	21.8	C	TR	0.58	23.5	C	TR	0.60	23.7	C
Westbound	LT	0.63	25.1	C	LT	0.64	25.6	C	LT	0.47	21.8	C	LT	0.48	22.0	C	LT	0.44	21.2	C	LT	0.47	21.8	C
Southbound	LTR	0.52	16.4	B	LTR	0.55	16.9	B	LTR	0.53	16.6	B	LTR	0.56	17.1	B	LTR	0.52	16.5	B	LTR	0.56	17.1	B
	Intersection		20.3	C	Intersection		20.7	C	Intersection		18.6	B	Intersection		19.0	B	Intersection		19.1	B	Intersection		19.6	B
Second Avenue & East 66th Street																								
Westbound	LT	0.48	21.1	C	LT	0.50	21.4	C	LT	0.60	23.5	C	LT	0.62	24.0	C	LT	0.49	21.2	C	LT	0.52	21.7	C
Southbound	TR	0.49	16.7	B	TR	0.54	17.4	B	TR	0.49	16.6	B	TR	0.54	17.3	B	TR	0.47	16.4	B	TR	0.55	17.4	B
	Intersection		17.9	B	Intersection		18.4	B	Intersection		18.7	B	Intersection		19.3	B	Intersection		17.7	B	Intersection		18.6	B
Second Avenue & East 65th Street																								
Eastbound	TR	0.60	26.2	C	TR	0.64	27.2	C	TR	0.47	23.5	C	TR	0.49	23.8	C	TR	0.67	27.7	C	TR	0.70	28.6	C
Southbound	LT	0.60	20.0+	C	LT	0.62	20.4	C	LT	0.61	20.3	C	LT	0.64	20.7	C	LT	0.57	19.6	B	LT	0.62	20.4	C
	Intersection		21.7	C	Intersection		22.3	C	Intersection		21.0	C	Intersection		21.4	C	Intersection		22.0	C	Intersection		22.8	C

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = *de facto* Left Turn, LOS = Level of Service

Table 9-46
2019 No Build and Build Conditions Level of Service Analysis
Signalized Intersections

	Weekday AM									Weekday Midday									Weekday PM								
	2019 No Build					2019 Build				2019 No Build					2019 Build				2019 No Build					2019 Build			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS	
York Avenue & East 79th Street																											
Eastbound	LTR	1.06	95.5	F		LTR	1.12	114.3	F	+	LTR	0.86	54.1	D		LTR	0.91	60.1	E	+	LTR	1.02	82.5	F		LTR	1.05	90.2	F	+
Westbound	LTR	0.23	32.4	C		LTR	0.23	32.5	C		LTR	0.34	34.5	C		LTR	0.34	34.6	C		LTR	0.42	36.1	D		LTR	0.42	36.2	D	
Northbound	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-		DefL	0.89	81.3	F	
	LTR	1.13	107.2	F		LTR	1.17	121.1	F	+	LTR	0.97	54.7	D		LTR	1.07	81.8	F	+	LTR	1.21	137.2	F		-	-	-	-	
	-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-		-	-	-	-		TR	1.39	217.5	F	+
Southbound	TR	0.93	51.7	D		TR	0.96	56.2	E		TR	0.79	39.5	D		TR	0.82	40.7	D		TR	0.92	50.5	D		TR	0.93	52.7	D	
	Intersection		80.8	F		Intersection		92.0	F		Intersection		47.9	D		Intersection		59.7	E		Intersection		87.5	F		Intersection		110.0	F	
York Avenue & East 76th Street																											
Eastbound	LTR	0.80	58.5	E		LTR	0.80	58.5	E		LTR	0.65	45.6	D		LTR	0.65	45.6	D		LTR	1.02	98.1	F		LTR	1.02	98.1	F	
Westbound	LR	0.74	55.7	E		LR	0.74	56.0	E		LR	0.23	32.9	C		LR	0.31	34.6	C		LR	0.32	34.8	C		LR	0.49	40.4	D	
Northbound	TR	0.45	13.6	B		TR	0.47	14.0	B		TR	0.45	13.6	B		TR	0.49	14.2	B		TR	0.52	14.7	B		TR	0.56	15.4	B	
Southbound	LT	0.72	20.0-	B		LT	0.84	26.3	C		LT	0.57	15.6	B		LT	0.62	16.6	B		LT	0.57	15.8	B		LT	0.61	16.6	B	
	Intersection		25.3	C		Intersection		28.0	C		Intersection		18.7	B		Intersection		19.4	B		Intersection		28.1	C		Intersection		28.6	C	
York Avenue & East 75th Street																											
Westbound	LTR	0.30	33.9	C		LTR	0.30	33.9	C		LTR	0.10	30.2	C		LTR	0.10	30.2	C		LTR	0.08	29.8	C		LTR	0.08	29.9	C	
Northbound	LTR	0.85	27.3	C		LTR	0.95	40.7	D		LTR	0.87	29.5	C		LTR	0.98	47.0	D	+	LTR	0.64	17.2	B		LTR	0.73	20.1	C	
Southbound	LTR	0.79	22.4	C		LTR	0.82	23.9	C		LTR	0.67	18.0	B		LTR	0.71	19.3	B		LTR	0.71	19.0	B		LTR	0.74	20.0+	C	
	Intersection		25.2	C		Intersection		32.1	C		Intersection		23.8	C		Intersection		33.0	C		Intersection		18.3	B		Intersection		20.2	C	
York Avenue & East 74th Street																											
Eastbound	LTR	0.56	36.0	D		LTR	0.76	46.6	D	+	LTR	0.59	36.7	D		LTR	0.84	52.9	D	+	LTR	0.59	36.9	D		LTR	0.81	51.1	D	+
Westbound	LR	0.06	25.6	C		LR	0.33	31.5	C		LR	0.09	26.0	C		LR	1.03	111.2	F	+	LR	0.09	26.1	C		LR	0.85	68.6	E	+
Northbound	TR	0.57	18.8	B		TR	0.63	20.1	C		TR	0.56	18.6	B		TR	0.65	20.6	C		TR	0.55	18.3	B		TR	0.60	19.6	B	
Southbound	LT	0.74	23.4	C		LT	0.81	27.1	C		LT	0.57	18.9	B		LT	0.74	24.1	C		LT	0.71	22.3	C		LT	0.82	27.4	C	
	Intersection		23.1	C		Intersection		27.1	C		Intersection		21.4	C		Intersection		35.0-	C		Intersection		22.7	C		Intersection		30.7	C	
York Avenue & East 73rd Street																											
Westbound	LTR	0.20	45.9	D		LTR	0.24	46.9	D		LTR	0.40	51.3	D		LTR	0.50	55.5	E		LTR	0.43	52.3	D		LTR	0.56	58.4	E	+
Northbound	LTR	1.04	71.4	E		LTR	1.17	119.9	F	+	LTR	0.89	40.3	D		LTR	1.01	61.5	E	+	LTR	1.15	111.0	F		LTR	1.28	164.9	F	+
Southbound	DefL	1.00	81.9	F		DefL	1.09	112.8	F	+	-	-	-	-		-	-	-	-		DefL	1.17	137.4	F		DefL	1.35	211.1	F	+
	-	-	-	-		-	-	-	-		LTR	1.01	56.7	E		LTR	1.23	138.3	F	+	-	-	-	-		-	-	-	-	
	TR	1.06	75.4	E		TR	1.16	113.2	F	+	-	-	-	-		-	-	-	-		TR	1.00	58.1	E		TR	1.17	113.6	F	+
	Intersection		73.7	E		Intersection		115.1	F		Intersection		48.7	D		Intersection		99.2	F		Intersection		95.1	F		Intersection		149.8	F	
York Avenue & East 72nd Street																											
Eastbound	DefL	1.05	109.1	F		DefL	1.13	136.1	F	+	DefL	0.73	50.7	D		DefL	0.81	59.9	E	+	DefL	0.72	49.0	D		DefL	0.82	60.5	E	+
	TR	0.54	36.3	D		TR	0.56	37.1	D		TR	0.51	35.6	D		TR	0.53	36.4	D		TR	0.47	34.8	C		TR	0.50	35.6	D	
	R	0.47	36.7	D		R	0.50	38.2	D		R	0.48	37.3	D		R	0.52	39.7	D		R	0.47	36.8	D		R	0.50	38.8	D	
Westbound	LTR	0.46	33.1	C		LTR	0.47	33.3	C		LTR	0.48	34.1	C		LTR	0.54	35.9	D		LTR	0.31	29.7	C		LTR	0.42	32.3	C	
Northbound	LTR	1.09	83.5	F		LTR	1.22	137.0	F	+	LTR	0.96	46.3	D		LTR	1.06	72.2	E	+	LTR	1.10	86.0	F		LTR	1.17	113.8	F	+
Southbound	LTR	0.64	20.9	C		LTR	0.71	23.4	C		LTR	0.57	19.1	B		LTR	0.65	21.3	C		LTR	0.54	18.4	B		LTR	0.57	19.2	B	
	Intersection		59.1	E		Intersection		86.9	F		Intersection		36.2	D		Intersection		48.9	D		Intersection		55.5	E		Intersection		69.8	E	
York Avenue & East 71st Street																											
Westbound	LTR	0.83	39.3	D		LTR	0.85	40.6	D		LTR	0.68	32.7	C		LTR	0.68	32.9	C		LTR	0.72	34.1	C		LTR	0.73	34.6	C	
Northbound	LTR	0.89	38.2	D		LTR	0.98	52.4	D	+	LTR	0.64	24.2	C		LTR	0.70	26.1	C		LTR	0.77	28.9	C		LTR	0.82	31.7	C	
Southbound	LTR	0.61	23.4	C		LTR	0.62	23.6	C		LTR	0.61	23.3	C		LTR	0.63	23.7	C		LTR	0.61	23.3	C		LTR	0.64	24.0	C	
	Intersection		34.3	D		Intersection		40.4	D		Intersection		26.6	C		Intersection		27.4	C		Intersection		28.8	C		Intersection		30.1	C	
York Avenue & East 66th Street																											
Westbound	LTR	0.03	29.1	C		LTR	0.03	29.1	C		LTR	0.04	29.2	C		LTR	0.04	29.2	C		LTR	0.03	29.1	C		LTR	0.03	29.1	C	
Northbound	LTR	0.85	24.5	C		LTR	0.91	29.1	C		LTR	1.07	74.2	E		LTR	1.15	103.8	F	+	DefL	0.54	29.7	C		DefL	0.57	32.3	C	
																					TR	0.43	13.3	B		TR	0.46	13.7	B	
Southbound	LTR	0.74	27.8	C		LTR	0.75	28.5	C		LTR	0.82	31.6	C		LTR	0.86	33.9	C		LTR	0.96	46.2	D		LTR	1.01	56.4	E	+
	Intersection		25.7	C		Intersection		28.9	C		Intersection		52.7	D		Intersection		69.2	E		Intersection		33.6	C		Intersection		39.5	D	
York Avenue & East 65th Street																											
Eastbound	LR	1.03	97.6	F		LR	1.10	118.1	F	+	LR	0.92	71.0	E		LR	0.98	83.4	F	+	LR	1.10	118.3	F		LR	1.14	131.3	F	+
Northbound	T	0.53	14.4	B		T	0.56	14.9	B		T	0.61	16.2	B		T	0.64	17.0	B		T	0.31	11.7	B		T	0.33	11.9	B	
Southbound	T	0.45	13.6	B		T	0.45	13.6	B		T	0.52	14.6	B		T	0.53	14.7	B		T	0.60	16.1	B		T	0.61	16.3	B	
	Intersection		26.8	C		Intersection		30.5	C		Intersection		23.7	C		Intersection		26.2	C		Intersection		33.6	C		Intersection		36.2	D	
York Avenue & East 61st Street																											
Westbound	L	0.23	24.1	C		L	0.23	24.1	C		L	0.37	29.1	C		L	0.37	29.1	C		L	0.35	28.8	C		L	0.35	28.8	C	
	LTR	0.75	34.6	C		LTR	0.77	35.4	D		LTR	0.65	34.0	C		LTR	0.66	34.3	C		LTR	0.62	33.3	C		LTR	0.63	33.5	C	
	R	0.80	43.1	D		R	0.88	50.5	D	+	R	0.64	37.0	D		R	0.68	39.2	D		R	0.66	38.4	D		R	0.70	40.1	D	
Northbound	LT	0.84	29.7	C		LT	0.85	30.2	C		LT	0.43	17.1	B		LT	0.44	17.2	B		LT	0.57	19.3	B		LT	0.57	19.4	B	
Southbound	TR	0.47	19.8	B		TR	0.47	19.9	B		TR	0.57	19.3	B		TR	0.57	19.4	B		TR	0.55	18.9	B		TR	0.55	19.0	B	
	Intersection		29.7	C		Intersection		31.1	C		Intersection		24.1	C		Intersection		24.5	C		Intersection		24.0	C		Intersection		24.3	C	
First Avenue & East 74th Street																											
Eastbound	LT	0.55	28.2	C		LT	0.64	31.5	C		LT	0.69	32.9	C		LT	0.77	37.8	D		LT	0.61	29.8	C		LT	0.67	32.1	C	
Northbound	TR	0.78	18.6	B		TR	0.81	19.3	B		TR	0.67	16.2	B		TR	0.70	16.7	B		TR	0.80	18.9	B		TR	0.81	19.5	B	
	Intersection		19.7	B		Intersection		20.8	C		Intersection		18.9	B		Intersection		20.3	C		Intersection		20.2	C		Intersection		21.1	C	
First Avenue & East 73rd Street																											
Westbound	TR	0.33	23.6	C		TR	0.39	24.8	C		TR	0.36	24.3	C		TR	0.51	27.4	C		TR	0.44	26.1	C		TR	0.66	33.2	C	
Northbound	LT	0.79	18.7	B		LT	0.80	19.2	B		LT	0.71	16.9	B		LT	0.72	17.2	B		LT	0.80	19.0	B		LT	0.81	19.2	B	
	Intersection		19.1	B		Intersection		19.6	B		Intersection		17.6	B		Intersection		18.4	B		Intersection		19.5	B		Intersection		20.7	C	

Table 9-46 (cont'd)
2019 No Build and Build Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM									Weekday Midday									Weekday PM								
	2019 No Build				2019 Build					2019 No Build				2019 Build					2019 No Build				2019 Build				
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
First Avenue & East 72nd Street																											
Eastbound	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-		-	-	-	-	DefL	0.77	46.8	D	+
	LT	0.98	57.1	E	LT	0.99	59.6	E		LT	0.75	30.9	C	LT	0.76	31.5	C		LT	0.73	30.5	C	-	-	-	-	
	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-		-	-	-	-	T	0.62	27.8	C	
Westbound	TR	0.45	21.9	C	TR	0.46	22.0	C		TR	0.40	21.1	C	TR	0.41	21.3	C		TR	0.42	21.4	C	TR	0.45	21.9	C	
Northbound	L	0.60	45.4	D	L	0.60	45.4	D		L	0.58	44.8	D	L	0.58	44.8	D		L	0.48	40.1	D	L	0.48	40.1	D	
	TR	0.76	20.3	C	TR	0.79	21.1	C		TR	0.75	20.1	C	TR	0.77	20.8	C		TR	0.76	20.1	C	TR	0.77	20.5	C	
	Intersection		29.1	C	Intersection		30.1	C		Intersection		23.3	C	Intersection		23.8	C		Intersection		22.7	C	Intersection		23.6	C	
First Avenue & East 66th Street																											
Westbound	TR	0.69	34.7	C	TR	0.70	35.1	D		TR	0.62	31.9	C	TR	0.65	33.1	C		TR	0.56	28.9	C	TR	0.59	30.0	C	
Northbound	LT	0.97	32.4	C	LT	1.00	37.6	D		LT	0.93	27.1	C	LT	0.95	29.3	C		LT	0.85	21.1	C	LT	0.87	21.7	C	
	Intersection		32.6	C	Intersection		37.3	D		Intersection		27.5	C	Intersection		29.7	C		Intersection		21.9	C	Intersection		22.5	C	
First Avenue & East 65th Street																											
Eastbound	LT	1.01	76.4	E	LT	1.07	92.0	F	+	LT	0.99	69.4	E	LT	1.03	80.2	F	+	LT	1.10	101.8	F	LT	1.13	113.2	F	+
Northbound	TR	0.91	24.2	C	TR	0.93	26.3	C		TR	0.82	19.8	B	TR	0.84	20.5	C		TR	0.82	19.8	B	TR	0.84	20.2	C	
	Intersection		31.8	C	Intersection		36.1	D		Intersection		27.9	C	Intersection		30.4	C		Intersection		33.4	C	Intersection		35.9	D	
Second Avenue & East 73rd Street																											
Westbound	LT	0.54	28.6	C	LT	0.64	32.5	C		LT	0.60	30.1	C	LT	0.78	39.7	D		LT	0.42	25.5	C	LT	0.61	30.9	C	
Southbound	TR	0.51	13.6	B	TR	0.51	13.6	B		TR	0.51	13.6	B	TR	0.51	13.6	B		TR	0.51	13.6	B	TR	0.51	13.6	B	
	Intersection		15.6	B	Intersection		16.3	B		Intersection		16.2	B	Intersection		18.4	B		Intersection		14.9	B	Intersection		16.1	B	
Second Avenue & East 72nd Street																											
Eastbound	TR	0.64	24.7	C	TR	0.64	24.8	C		TR	0.49	21.8	C	TR	0.50	22.0	C		TR	0.60	23.7	C	TR	0.60	23.9	C	
Westbound	LT	0.64	25.6	C	LT	0.66	26.1	C		LT	0.48	22.0	C	LT	0.50	22.6	C		LT	0.47	21.8	C	LT	0.56	23.7	C	
Southbound	LTR	0.55	16.9	B	LTR	0.56	17.0	B		LTR	0.56	17.1	B	LTR	0.58	17.3	B		LTR	0.56	17.1	B	LTR	0.58	17.4	B	
	Intersection		20.7	C	Intersection		20.9	C		Intersection		19.0	B	Intersection		19.2	B		Intersection		19.6	B	Intersection		20.1	C	
Second Avenue & East 66th Street																											
Westbound	LT	0.50	21.4	C	LT	0.50	21.4	C		LT	0.62	24.0	C	LT	0.63	24.3	C		LT	0.52	21.7	C	LT	0.53	21.9	C	
Southbound	TR	0.54	17.4	B	TR	0.55	17.5	B		TR	0.54	17.3	B	TR	0.55	17.6	B		TR	0.55	17.4	B	TR	0.58	17.9	B	
	Intersection		18.4	B	Intersection		18.5	B		Intersection		19.3	B	Intersection		19.5	B		Intersection		18.6	B	Intersection		19.0	B	
Second Avenue & East 65th Street																											
Eastbound	TR	0.64	27.2	C	TR	0.67	27.8	C		TR	0.49	23.8	C	TR	0.50	24.1	C		TR	0.70	28.6	C	TR	0.71	29.0	C	
Southbound	LT	0.62	20.4	C	LT	0.63	20.5	C		LT	0.64	20.7	C	LT	0.66	21.0	C		LT	0.62	20.4	C	LT	0.66	21.0	C	
	Intersection		22.3	C	Intersection		22.6	C		Intersection		21.4	C	Intersection		21.7	C		Intersection		22.8	C	Intersection		23.3	C	

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = *de facto* Left Turn, LOS = Level of Service
+ Denotes a significant adverse traffic impact

Table 9-47
2012 Existing Conditions Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	1 Hour Two-Way Volume	Platoon Flow	
					PMF	LOS
AM Peak Period						
2	York Avenue between East 74th Street and East 75th Street	East	10.0	779	1.50	B
	East 74th Street between York Avenue and the FDR	South	6.0	86	0.30	A
	York Avenue between East 73rd Street and East 74th Street	West	9.0	557	1.29	B
	East 74th Street between York Avenue and First Avenue	South	4.0	282	1.37	B
3	York Avenue between East 73rd Street and East 74th Street	East	9.0	728	1.52	B
	East 73rd Street between York Avenue and the FDR	North	2.0	82	0.73	B
	York Avenue between East 73rd Street and East 72nd Street	East	9.0	1019	2.20	B
		West	10.0	487	0.86	B
4	York Avenue between East 72nd Street and East 71st Street	East	14.0	948	1.41	B
		West	10.0	551	1.06	B
	East 72nd Street between York Avenue and First Avenue	South	13.0	428	0.67	B
		North	13.0	292	0.47	A
Midday Peak Period						
2	York Avenue between East 74th Street and East 75th Street	East	10.0	221	0.46	A
	East 74th Street between York Avenue and the FDR	South	6.0	150	0.44	A
	York Avenue between East 73rd Street and East 74th Street	West	9.0	336	0.78	B
	East 74th Street between York Avenue and First Avenue	South	4.0	230	1.20	B
3	York Avenue between East 73rd Street and East 74th Street	East	9.0	652	1.32	B
	East 73rd Street between York Avenue and the FDR	North	2.0	66	0.63	B
	York Avenue between East 73rd Street and East 72nd Street	East	9.0	793	1.64	B
		West	10.0	355	0.71	B
4	York Avenue between East 72nd Street and East 71st Street	East	14.0	726	0.90	B
		West	10.0	505	0.97	B
	East 72nd Street between York Avenue and First Avenue	South	13.0	516	0.74	B
		North	13.0	288	0.46	A
PM Peak Period						
2	York Avenue between East 74th Street and East 75th Street	East	10.0	579	1.11	B
	East 74th Street between York Avenue and the FDR	South	6.0	75	0.26	A
	York Avenue between East 73rd Street and East 74th Street	West	9.0	564	1.12	B
	East 74th Street between York Avenue and First Avenue	South	4.0	261	1.25	B
3	York Avenue between East 73rd Street and East 74th Street	East	9.0	598	1.19	B
	East 73rd Street between York Avenue and the FDR	North	2.0	84	0.88	B
	York Avenue between East 73rd Street and East 72nd Street	East	9.0	670	1.31	B
		West	10.0	528	1.10	B
4	York Avenue between East 72nd Street and East 71st Street	East	14.0	624	0.92	B
		West	10.0	551	0.97	B
	East 72nd Street between York Avenue and First Avenue	South	13.0	440	0.68	B
		North	13.0	411	0.65	B

Table 9-48
2012 Existing Conditions Corner Analysis

Intersection No.	Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
			SFP	LOS	SFP	LOS	SFP	LOS
1	York Avenue and East 75th Street	Northeast	65.8	A	179.4	A	113.4	A
		Southwest	230.0	A	486.1	A	314.7	A
		Southeast	91.4	A	193.8	A	149.8	A
2	York Avenue and East 74th Street	Northwest	213.6	A	423.6	A	351.7	A
		Northeast	179.4	A	272.6	A	227.1	A
		Southwest	140.4	A	223.9	A	226.0	A
		Southeast	186.7	A	236.6	A	241.7	A
3	York Avenue and East 73rd Street	Northwest	230.8	A	322.4	A	243.8	A
		Northeast	171.1	A	177.1	A	216.5	A
		Southwest	218.3	A	289.9	A	225.8	A
		Southeast	122.7	A	124.4	A	162.6	A
4	York Avenue and East 72nd Street	Northwest	203.1	A	280.6	A	225.9	A
		Northeast	359.3	A	355.7	A	376.8	A
		Southeast	365.9	A	335.7	A	381.5	A
5	York Avenue and East 71st Street	Northwest	118.7	A	154.2	A	183.9	A
		Northeast	114.3	A	115.5	A	119.5	A
		Southwest	141.8	A	144.0	A	173.0	A
		Southeast	137.8	A	125.0	A	127.5	A
6	York Avenue and East 68th Street	Northwest	76.1	A	131.1	A	89.0	A
7	First Avenue and East 72nd Street	Northwest	169.5	A	175.2	A	156.0	A
		Northeast	176.3	A	265.9	A	176.0	A
		Southwest	180.4	A	187.0	A	144.6	A
		Southeast	154.1	A	259.0	A	142.8	A

Note: SFP = square feet per pedestrian

Table 9-49
2012 Existing Conditions Crosswalk Analysis

Intersection No.	Location	Crosswalk	Street Width (feet)	Cross-walk Width (feet)	Conditions with conflicting vehicles								
					AM			Midday			PM		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	York Avenue and East 75th Street	East	34.0	20.0	946	75.6	A	436	168.4	A	548	133.5	A
2	York Avenue and East 74th Street	East	34.0	18.0	720	91.0	A	542	127.3	A	532	117.1	A
		South	60.0	12.0	126	181.2	A	115	199.6	A	91	249.2	A
3	York Avenue and East 73rd Street	North	60.0	12.0	42	544.5	A	70	318.8	A	54	471.0	A
		East	40.0	17.0	617	108.3	A	540	136.1	A	397	157.7	A
		West	30.0	16.0	513	171.3	A	341	262.9	A	468	179.2	A
4	York Avenue and East 72nd Street	North	60.0	15.0	309	83.8	A	321	96.4	A	345	77.8	A
		East	40.0	20.0	658	94.1	A	802	84.4	A	556	110.9	A
		West	55.0	17.0	684	82.6	A	442	128.0	A	524	108.1	A
5	York Avenue and East 71st Street	East	34.0	19.0	726	96.7	A	720	111.7	A	687	95.4	A
		West	34.0	18.0	709	90.5	A	551	120.1	A	534	128.4	A

Note: SFP = square feet per pedestrian

Table 9-50
2019 No Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	1 Hour Two-Way Volume	Platoon Flow	
					PMF	LOS
AM Peak Period						
2	York Avenue between East 74th Street and East 75th Street	East	10.0	851	1.64	B
	East 74th Street between York Avenue and the FDR	South	6.0	244	0.85	B
	York Avenue between East 73rd Street and East 74th Street	West	9.0	567	1.31	B
	East 74th Street between York Avenue and First Avenue	South	4.0	317	1.54	B
3	York Avenue between East 73rd Street and East 74th Street	East	9.0	795	1.15	B
	East 73rd Street between York Avenue and the FDR	North	2.0	309	2.76	B
	York Avenue between East 73rd Street and East 72nd Street	East	9.0	1130	2.44	B
		West	10.0	527	0.93	B
4	York Avenue between East 72nd Street and East 71st Street	East	14.0	1011	1.50	B
		West	10.0	590	1.14	B
	East 72nd Street between York Avenue and First Avenue	South	13.0	461	0.72	B
		North	13.0	317	0.51	B
Midday Peak Period						
2	York Avenue between East 74th Street and East 75th Street	East	10.0	270	0.56	B
	East 74th Street between York Avenue and the FDR	South	6.0	264	0.78	B
	York Avenue between East 73rd Street and East 74th Street	West	9.0	348	0.81	B
	East 74th Street between York Avenue and First Avenue	South	4.0	246	1.28	B
3	York Avenue between East 73rd Street and East 74th Street	East	9.0	682	0.95	B
	East 73rd Street between York Avenue and the FDR	North	2.0	256	2.46	B
	York Avenue between East 73rd Street and East 72nd Street	East	9.0	905	1.87	B
		West	10.0	404	0.81	B
4	York Avenue between East 72nd Street and East 71st Street	East	14.0	788	0.98	B
		West	10.0	544	1.05	B
	East 72nd Street between York Avenue and First Avenue	South	13.0	551	0.79	B
		North	13.0	321	0.51	B
PM Peak Period						
2	York Avenue between East 74th Street and East 75th Street	East	10.0	695	1.33	B
	East 74th Street between York Avenue and the FDR	South	6.0	372	1.29	B
	York Avenue between East 73rd Street and East 74th Street	West	9.0	597	1.18	B
	East 74th Street between York Avenue and First Avenue	South	4.0	313	1.50	B
3	York Avenue between East 73rd Street and East 74th Street	East	9.0	680	0.94	B
	East 73rd Street between York Avenue and the FDR	North	2.0	506	5.27	C
	York Avenue between East 73rd Street and East 72nd Street	East	9.0	841	1.65	B
		West	10.0	612	1.28	B
4	York Avenue between East 72nd Street and East 71st Street	East	14.0	707	1.04	B
		West	10.0	616	1.09	B
	East 72nd Street between York Avenue and First Avenue	South	13.0	497	0.76	B
		North	13.0	470	0.74	B

Table 9-51
2019 No Build Condition Corner Analysis

Intersection No.	Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
			SFP	LOS	SFP	LOS	SFP	LOS
1	York Avenue and East 75th Street	Northeast	89.4	A	245.5	A	131.9	A
		Southwest	2915.4	A	2464.8	A	1546.3	A
		Southeast	105.0	A	203.2	A	145.6	A
2	York Avenue and East 74th Street	Northwest	2920.3	A	2196.2	A	1989.3	A
		Northeast	177.5	A	246.1	A	195.3	A
		Southwest	491.2	A	455.6	A	405.9	A
		Southeast	153.9	A	198.1	A	156.5	A
3	York Avenue and East 73rd Street	Northwest	198.3	A	243.1	A	171.4	A
		Northeast	118.2	A	128.8	A	107.7	A
		Southwest	244.2	A	325.3	A	219.6	A
		Southeast	108.6	A	119.6	A	111.4	A
4	York Avenue and East 72nd Street	Northwest	190.4	A	255.2	A	198.0	A
		Northeast	328.4	A	326.8	A	323.9	A
		Southeast	483.5	A	446.8	A	508.2	A
5	York Avenue and East 71st Street	Northwest	183.9	A	239.0	A	236.6	A
		Northeast	168.0	A	166.6	A	150.3	A
		Southwest	188.7	A	228.2	A	255.1	A
		Southeast	178.3	A	189.2	A	177.4	A
6	York Avenue and East 68th Street	Northwest	533.1	A	1017.2	A	675.8	A
7	First Avenue and East 72nd Street	Northwest	1046.0	A	1314.6	A	1205.6	A
		Northeast	2625.8	A	1157.5	A	1138.0	A
		Southwest	1389.1	A	1543.2	A	1855.2	A
		Southeast	1069.7	A	1141.1	A	899.6	A

Note: SFP = square feet per pedestrian

Table 9-52
2019 No Build Condition Crosswalk Analysis

Intersection No.	Location	Crosswalk	Street Width (feet)	Cross-walk Width (feet)	Conditions with conflicting vehicles								
					AM			Midday			PM		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	York Avenue and East 75th Street	East	34.0	20.0	1016	70.0	A	479	152.6	A	649	111.7	A
2	York Avenue and East 74th Street	East	34.0	18.0	808	78.9	A	615	109.5	A	682	88.8	A
		South	60.0	12.0	177	126.9	A	157	144.9	A	202	109.6	A
3	York Avenue and East 73rd Street	North	60.0	12.0	84	268.4	A	135	161.8	A	182	134.1	A
		East	40.0	17.0	838	77.3	A	686	105.5	A	731	82.7	A
		West	30.0	16.0	554	158.2	A	393	227.0	A	558	149.1	A
4	York Avenue and East 72nd Street	North	60.0	15.0	329	77.9	A	345	89.1	A	384	69.3	A
		East	40.0	20.0	731	83.9	A	881	76.4	A	668	91.4	A
		West	55.0	17.0	720	78.1	A	481	117.1	A	588	95.6	A
5	York Avenue and East 71st Street	East	34.0	19.0	769	90.9	A	762	105.2	A	748	87.0	A
		West	34.0	18.0	759	83.9	A	596	110.4	A	604	112.5	A

Note: SFP = square feet per pedestrian

Table 9-53
2019 Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	1 Hour Two-Way Volume	Platoon Flow	
					PMF	LOS
AM Peak Period						
2	York Avenue between East 74th Street and East 75th Street	East	10.0	1111	2.14	B
	East 74th Street between York Avenue and the FDR	South	6.0	1875	6.51	D
	York Avenue between East 73rd Street and East 74th Street	West	9.0	739	1.71	B
	East 74th Street between York Avenue and First Avenue	South	4.0	471	2.28	B
3	York Avenue between East 73rd Street and East 74th Street	East	9.0	1563	2.26	B
	East 73rd Street between York Avenue and the FDR	North	2.0	620	5.54	C
	York Avenue between East 73rd Street and East 72nd Street	East	9.0	1574	3.40	C
		West	10.0	805	1.42	B
4	York Avenue between East 72nd Street and East 71st Street	East	14.0	1176	1.75	B
		West	10.0	682	1.31	B
	East 72nd Street between York Avenue and First Avenue	South	13.0	656	1.02	B
		North	13.0	511	0.82	B
Midday Peak Period						
2	York Avenue between East 74th Street and East 75th Street	East	10.0	525	1.09	B
	East 74th Street between York Avenue and the FDR	South	6.0	2333	6.91	D
	York Avenue between East 73rd Street and East 74th Street	West	9.0	679	1.57	B
	East 74th Street between York Avenue and First Avenue	South	4.0	420	2.19	B
3	York Avenue between East 73rd Street and East 74th Street	East	9.0	1741	2.44	B
	East 73rd Street between York Avenue and the FDR	North	2.0	409	3.93	C
	York Avenue between East 73rd Street and East 72nd Street	East	9.0	1445	2.98	B
		West	10.0	761	1.53	B
4	York Avenue between East 72nd Street and East 71st Street	East	14.0	992	1.23	B
		West	10.0	721	1.39	B
	East 72nd Street between York Avenue and First Avenue	South	13.0	796	1.15	B
		North	13.0	557	0.89	B
PM Peak Period						
2	York Avenue between East 74th Street and East 75th Street	East	10.0	952	1.82	B
	East 74th Street between York Avenue and the FDR	South	6.0	2256	7.83	D
	York Avenue between East 73rd Street and East 74th Street	West	9.0	894	1.77	B
	East 74th Street between York Avenue and First Avenue	South	4.0	503	2.41	B
3	York Avenue between East 73rd Street and East 74th Street	East	9.0	1579	2.18	B
	East 73rd Street between York Avenue and the FDR	North	2.0	725	7.55	D
	York Avenue between East 73rd Street and East 72nd Street	East	9.0	1225	2.40	B
		West	10.0	937	1.95	B
4	York Avenue between East 72nd Street and East 71st Street	East	14.0	831	1.22	B
		West	10.0	741	1.31	B
	East 72nd Street between York Avenue and First Avenue	South	13.0	742	1.14	B
		North	13.0	672	1.06	B

Table 9-54
2019 Build Condition Corner Analysis

Intersection No.	Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
			SFP	LOS	SFP	LOS	SFP	LOS
1	York Avenue and East 75th Street	Northeast	76.4	A	170.6	A	107.5	A
		Southwest	578.7	A	644.1	A	553.7	A
		Southeast	83.7	A	133.5	A	103.3	A
2	York Avenue and East 74th Street	Northwest	411.2	A	507.4	A	494.6	A
		Northeast	101.9	A	135.3	A	111.8	A
		Southwest	100.4	A	97.5	A	101.9	A
		Southeast	58.4	B	49.4	B	45.9	B
3	York Avenue and East 73rd Street	Northwest	86.8	A	100.7	A	83.5	A
		Northeast	53.7	B	48.9	B	45.6	B
		Southwest	141.4	A	148.2	A	119.7	A
		Southeast	57.2	B	50.2	B	53.2	B
4	York Avenue and East 72nd Street	Northwest	132.8	A	147.2	A	129.8	A
		Northeast	251.0	A	233.6	A	243.0	A
		Southeast	348.5	A	304.9	A	351.7	A
5	York Avenue and East 71st Street	Northwest	150.4	A	175.5	A	194.5	A
		Northeast	140.2	A	135.6	A	130.8	A
		Southwest	170.8	A	182.3	A	216.0	A
		Southeast	157.8	A	158.5	A	154.3	A
6	York Avenue and East 68th Street	Northwest	415.5	A	510.5	A	459.9	A
7	First Avenue and East 72nd Street	Northwest	488.6	A	567.2	A	527.3	A
		Northeast	875.2	A	601.8	A	592.7	A
		Southwest	615.8	A	666.1	A	707.5	A
		Southeast	548.8	A	510.5	A	472.2	A

Note: SFP = square feet per pedestrian

Table 9-55
2019 Build Condition Crosswalk Analysis

Intersection No.	Location	Crosswalk	Street Width (feet)	Cross-walk Width (feet)	Conditions with conflicting vehicles								
					AM			Midday			PM		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	York Avenue and East 75th Street	East	34.0	20.0	1203	58.0	B	667	108.0	A	835	85.4	A
2	York Avenue and East 74th Street	East	34.0	18.0	1210	48.5	B	976	62.9	A	1059	52.8	B
		South	60.0	12.0	666	28.3	C	792	24.0	D	825	22.4	D
3	York Avenue and East 73rd Street	North	60.0	12.0	386	53.3	B	387	53.9	B	503	45.3	B
		East	40.0	17.0	1502	41.7	B	1519	44.0	B	1387	40.4	B
		West	30.0	16.0	891	90.6	A	768	110.2	A	932	84.7	A
4	York Avenue and East 72nd Street	North	60.0	15.0	459	54.0	B	527	56.4	B	526	48.7	B
		East	40.0	20.0	970	60.2	A	1208	53.5	B	897	66.2	A
		West	55.0	17.0	933	59.7	B	781	70.6	A	852	64.9	A
5	York Avenue and East 71st Street	East	34.0	19.0	864	80.2	A	922	85.7	A	854	75.4	A
		West	34.0	18.0	839	75.5	A	759	85.3	A	711	94.7	A

Note: SFP = square feet per pedestrian

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