13.0 Transportation

A. Introduction

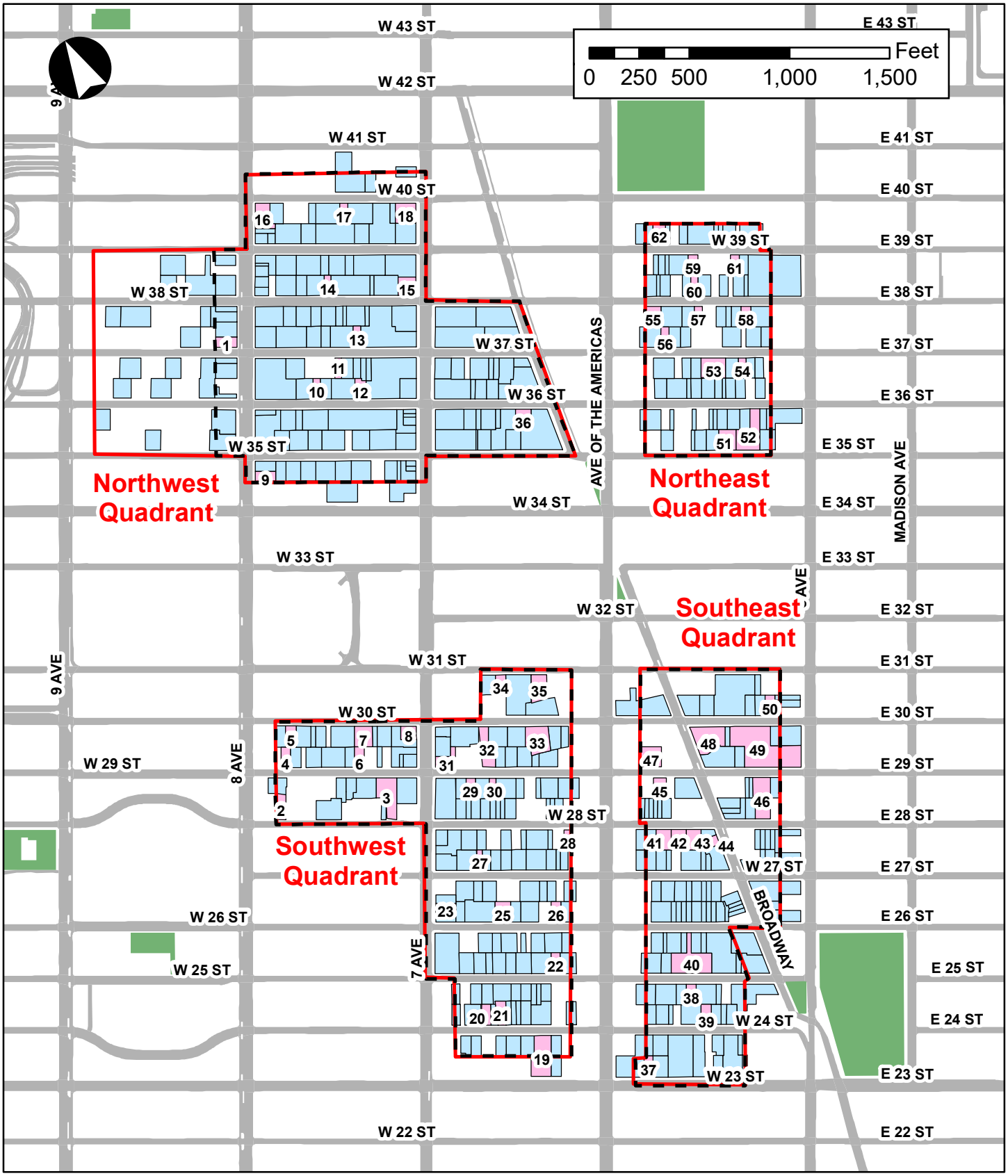
This chapter describes the transportation characteristics and potential impacts associated with the Proposed Actions, which involve zoning map and text amendments (including mapping a special zoning district and Mandatory Inclusionary Housing to ensure affordable housing is part of any future development) (the "Proposed Actions") that would establish mixed-use zoning districts and lift the prohibition on the conversion of existing nonresidential floor area to residential use in existing M1-6 and M1-6D districts located in the Midtown South neighborhood of Manhattan. The Proposed Actions would affect an approximately 42-block area (the "Affected Area") (refer to **Figure 13-1**), including several frontages along Broadway, 23rd Street, 35th Street, and 8th Avenue. The Proposed Actions would affect four non-contiguous quadrants generally bounded by:

- Northwest Quadrant: 9th Avenue to the west, 40th Street to the north, Broadway to the east, 35th Street to the south;
- Northeast Quadrant: 6th Avenue to the west, 39th street to the north, 5th avenue to the east, and 35th street to the south;
- Southwest Quadrant: 8th Avenue to the west, 31st street to the north, 6th avenue to the east, and 24th Street to the south;
- Southeast Quadrant: 6th Avenue to the west, 31st Street to the north, 5th Avenue to the east, and 23rd Street to the south

In order to assess the potential effects of the Proposed Actions, a reasonable worst-case development scenario (RWCDS) for both future without the Proposed Actions (No-Action) and future with the Proposed Actions (With-Action) conditions are analyzed for an analysis year of 2034. To develop a reasonable estimate of future growth, likely development sites were identified and divided into two categories: projected development sites and potential development sites. The projected development sites are those considered more likely to be developed by the 2034 analysis year, while potential sites are considered less likely to be developed over the same period. A total of 61 projected development sites were identified and are considered for the purposes of the transportation analyses (see **Figure 13-1**).

Table 13-1 shows the total anticipated No-Action and With-Action land uses on projected development sites that were considered for the purposes of the transportation analyses. As shown in **Table 13-1**, for the purposes of the transportation analyses it is assumed that the Proposed Actions would facilitate the incremental development of a net addition of approximately 8,692,581 gsf of residential space (8,895 DUs), approximately 462,129 gross

Figure 13-1
Project Location



Legend

Rezoning Area | Affected Area | Potential Conversion Sites | Projected Development Sites

square feet (gsf) of local retail space, and approximately 81,755 gsf of elementary school space (approximately 238 seats). In addition, it is estimated that there would be a decrease of approximately 732,619 gsf of commercial office space, approximately 52,396 gsf of warehouse space, 17,386 gsf of light industrial space, and approximately 69,500 gsf of parking garage space.

Table 13-1: 2034 RWCDS No-Action and With-Action Land Uses Assumed for Transportation Analyses

Land Use	No-Action condition	With-Action condition	Net Increment
Residential			
Total Residential	81,610 gsf	8,774,191 gsf	+ 8,692,581 gsf
	54 DUs	***8,949 DUs***	***+ 8,895 DUs***
Commercial			
Local Retail	431,623 gsf	893,752 gsf	+ 462,129 gsf
Office	799,323 gsf	66,704 gsf	- 732,619 gsf
Total Commercial	***1,230,946 gsf***	***960,456 gsf***	***+ 270,490 gsf***
Community Facility			
House of Worship	13,984 gsf	13,984 gsf	+ 0 gsf
Elementary School	0 gsf	81,755 gsf	+ 81,755 gsf
	0 seats	238 seats	+ 238 seats
Total Community Facility	***13,984 gsf***	***95,739 gsf***	***+ 81,755 gsf***
Industrial			
Light Industrial	17,386 gsf	0 gsf	- 17,386 gsf
Warehouse	52,396 gsf	0 gsf	- 52,396 gsf
Total Industrial	***69,782 gsf***	***0 gsf***	***- 69,782 gsf***
Parking			
Parking Garage	69,500 gsf	0 gsf	- 69,500 gsf
	225 spaces	0 spaces	- 225 spaces

The RWCDS also modeled the potential for the conversion of existing non-residential floor area to residential use in the study area. The non-residential area modeled as eligible residential conversion area was informed by NYCDCP's understanding of historical conversion patterns from 2010 to 2020 and the potential for conversions in the study area under the RWCDS With-Action condition. NYCDCP's model for assumed residential conversions in the Affected Area excluded projected and potential development sites and recent hotel development, which are unlikely to convert to residential use. In addition to the 61 projected development sites, it is estimated that approximately 1,093,808 gsf of existing non-residential space (assumed to be office space) will be converted to residential uses, yielding an additional 782 new DUs within the four Affected Area quadrants (refer to **Table 13-2**).

Table 13-2: 2034 RWCDS No-Action and With-Action Commercial to Residential Conversions Assumed for Transportation Analyses

Land Use by Quadrant	No-Action condition (1)	With-Action condition (1)	Net Increment (1)
Residential			
NE Quadrant	0 gsf	138,128 gsf	+ 138,128 gsf
	0 DUs	99 DUs	+ 99 DUs
SE Quadrant	0 gsf	158,910 gsf	+ 158,910 gsf
	0 DUs	114 DUs	+ 114 DUs
SW Quadrant	0 gsf	232,343 gsf	+ 232,343 gsf
	0 DUs	166 DUs	+ 166 DUs
NW Quadrant	0 gsf	564,427 gsf	+ 564,427 gsf
	0 DUs	403 DUs	+ 403 DUs
Total Residential	***0 gsf***	***1,093,808 gsf***	***+ 1,093,808 gsf***
	0 DUs	***782 DUs***	***+ 782 DUs***
Commercial (Office)			
NE Quadrant	138,128 gsf	0 gsf	- 138,128 gsf
SE Quadrant	158,910 gsf	0 gsf	- 158,910 gsf
SW Quadrant	232,343 gsf	0 gsf	-232,343 gsf
NW Quadrant	564,427 gsf	0 gsf	-564,427 gsf
Total Commercial (Office)	***1,093,808 gsf***	***0 gsf***	***- 1,093,808 gsf***

Notes:

(1) Excludes floor area on projected development sites (**Table 13-1**).

Table 13-3 shows the total anticipated No-Action and With-Action land uses on projected and potential development sites with residential conversions that were considered for the purposes of the transportation analyses. As shown in **Table 13-3**, for the purposes of the transportation analyses, it is assumed that the Proposed Actions would facilitate the incremental development of a net addition of approximately 9,786,389 gsf of residential space (9,676 DUs), approximately 462,129 gsf of local retail space, and approximately 81,755 gsf of elementary school space (approximately 238 seats). In addition, it is estimated that there would be a net decrease of approximately 1,826,427 gsf of commercial office space, approximately 52,396 gsf of warehouse space, and 17,386 gsf of light industrial space. There would also be a net decrease of approximately 69,500 gsf of parking garage space, which is conservatively not included in the travel demand forecast.

This chapter describes in detail the existing transportation conditions in proximity to the Affected Area. Future conditions in the year 2034 without the Proposed Actions (the No-Action condition) are then determined, including additional transportation system demand and any changes expected by the year 2034. The increase in travel demand resulting from the Proposed Actions is then projected and added to the No-Action condition to develop the 2034 future with the Proposed Actions (the With-Action condition). Significant adverse impacts from project-generated trips are then identified and described in detail. Chapter 21, “Mitigation,” discusses practicable measures to address these impacts.

Table 13-3: 2034 RWCDS No-Action and With-Action Land Uses on Projected Development Sites (with Residential Conversion) Assumed for Transportation Analyses

Land Use	No-Action condition [2]	With-Action condition	Net Increment
Residential			
Total Residential [1]	81,610 gsf	9,867,999 gsf	+ 9,786,389 gsf
	54 DUs	***9,730 DUs***	***+ 9,676 DUs***
Commercial			
Local Retail	431,623 gsf	893,752 gsf	+ 462,129 gsf
Office [1]	1,893,131 gsf	66,704 gsf	- 1,826,427 gsf
Total Commercial	***2,324,754 gsf***	***960,456 gsf***	***- 1,364,298 gsf***
Community Facility			
House of Worship	13,984 gsf	13,984 gsf	+ 0 gsf
Elementary School	0 gsf	81,755 gsf	+ 81,755 gsf
	0 seats	238 seats	+ 238 seats
Total Community Facility	***13,984 gsf***	***95,739 gsf***	***+ 81,755 gsf***
Industrial			
Light Industrial	17,386 gsf	0 gsf	- 17,386 gsf
Warehouse	52,396 gsf	0 gsf	- 52,396 gsf
Total Industrial	***69,782 gsf***	***0 gsf***	***- 69,782 gsf***

Notes:
[1] Includes commercial to residential conversion floor area (refer to **Table 13-2**).
[2] The No-Action RWCDS includes a 69,500 gsf parking garage, which is conservatively not included in the travel demand forecast and therefore is not reflected in the table.

B. Principal Conclusions

A detailed transportation analysis was conducted and concludes that the Proposed Actions would result, as detailed below, in significant adverse impacts to: a) vehicular traffic at 28 intersections and b) pedestrians at 19 sidewalks, three corners, and six crosswalks.

Traffic

Traffic conditions were evaluated for the weekday AM, midday, and PM peak hours, and Saturday peak hour at 37 intersections in the traffic study area where additional traffic resulting from the Proposed Actions would be most heavily concentrated. As summarized in **Tables 13-4 and 13-5**, the traffic impact analysis indicates the potential for significant adverse impacts at 28 intersections (all signalized) during one or more analyzed peak hours. Significant adverse impacts were identified to 15 lane groups at 14 intersections during the weekday AM peak hour, 12 lane groups at 11 intersections in the midday peak hour, 26 lane groups at 20 intersections in the PM peak hour, and 24 lane groups at 20 intersections during the Saturday peak hour. Chapter 21, “Mitigation,” discusses potential measures to mitigate these significant adverse traffic impacts.

Table 13-4: Number of Impacted Intersections and Lane Groups by Peak Hour

	Peak Hour			
	Weekday AM	**Weekday Midday**	**Weekday PM**	**Saturday Midday**
Impacted Lane Groups	15	12	26	24
Impacted Intersections	14	11	20	20

Table 13-5: Summary of Significantly Impacted Intersections

	Intersection	With-Action Signalized Impact Locations (lane groups)[1] AM	MD	PM	SAT	No. of Impacted Peak Hours
1	Madison Ave & E 29th St	0	0	1	1	2
2	5th Ave & W 30th St	1	1	1	1	4
3	5th Ave & W 29th St	0	0	1	0	1
4	Broadway & W 30th St	1	0	0	0	1
5	Broadway & W 29th St	0	0	1	1	2
6	6th Ave & 37th St	0	1	1	0	2
7	6th Ave & 36th St	1	0	0	0	1
8	6th Ave & 34th St	0	0	0	0	0
9	6th Ave &W 30th St	1	0	1	1	3
10	6th Ave &W 29th St	1	1	2	2	4
11	6th Ave &W 28th Ave	1	0	1	1	3
12	6th Ave &W 27th St	0	0	0	0	0
13	6th Ave &W 26th St	1	1	2	1	4
14	6th Ave &W 25th St	0	0	1	0	1
15	6th Ave &W 23th Ave	1	1	1	1	4
16	7th Ave & W 38th St	0	0	0	1	1
17	7th Ave & W 37th St	0	0	0	1	1
18	7th Ave & W 36th St	1	1	1	1	4
19	7th Ave & W 35th St	0	1	0	0	1
20	7th Ave & W 33rd St	0	0	0	0	0
21	7th Ave & W 32nd St	0	0	0	0	0
22	7th Ave & W 31st St	0	0	0	0	0
23	7th Ave & W 30th St	1	1	2	2	4
24	7th Ave & W 29th St	0	0	2	1	2
25	7th Ave & W 28th Ave	1	0	0	1	2
26	7th Ave & W 27th St	0	0	1	0	1
27	7th Ave & W 26th St	0	0	0	0	0
28	7th Ave & W 25th St	0	0	1	0	1
29	7th Ave & W 24th St	0	0	0	1	1
30	8th Ave & W 38th St	0	0	1	1	2
31	8th Ave &W 37th St	0	1	0	1	2
32	8th Ave &W34th St	0	0	0	0	0
33	8th Ave & W 30th St	1	1	2	2	4
34	8th Ave & W 29th St	2	2	2	2	4
35	8th Ave & W 24th St	0	0	0	0	0
36	9th Ave & W 30th St	0	0	0	0	0
37	9th Ave & W 29th St	1	0	1	1	3
Total Number of Impacted Lane groups		**15**	**12**	**26**	**24**	
Total Number of Impacted Intersections		**14**	**11**	**20**	**20**	

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

Transit

Subway

Subway Stations

The Proposed Actions would generate a net increment of approximately 987 and 992 new subway trips during the weekday AM and PM commuter peak hours, respectively. The analysis of subway station conditions focuses on the 34th Street-Herald Square Metropolitan Transportation Authority (MTA) New York City Transit (NYCT) subway station complex in proximity to the Affected Area where incremental demand from the Proposed Actions would exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or both peak hours. Based on the results of the analysis, the Proposed Actions are not expected to result in significant adverse impacts in either the AM or PM peak hour at the analyzed subway station.

Subway Line Haul

The Affected Area is served by fourteen NYCT subway stations and seventeen NYCT subway lines including the A, B, C, D, E, F, M, N, Q, R, W, S, and Nos. 1, 2, 3, 6, and 7. As the incremental demand from the Proposed Actions is not anticipated to generate the *CEQR Technical Manual* threshold of 200 or more new peak hour subway trips in any one direction of the 17 routes, an analysis of subway line haul conditions is not warranted and significant adverse impacts to subway line haul are not anticipated.

Pedestrians

The Proposed Actions would generate a net increment of approximately 5,163 walk-only trips in the weekday AM peak hour, 1,649 in the weekday midday, 6,618 in the weekday PM, and 7,7603 in the Saturday peak hours. Persons en route to and from subway station entrances and bus stops would add 173, 1,852, 374, and 2,895 additional pedestrian trips to Affected Area sidewalks and crosswalks during these same periods, respectively. Peak hour pedestrian conditions were evaluated at a total of 220 pedestrian elements where new trips generated by projected developments are expected to be the most concentrated. These elements—63 sidewalks, 41 crosswalks, and 116 corners—are primarily located in the vicinity of major projected development sites and corridors connecting these sites to area subway station entrances and bus routes. As shown in **Table 13-6**, based on *CEQR Technical Manual* criteria, 19 sidewalks, 6 crosswalks, and 3 corners would be significantly adversely impacted by the Proposed Actions in one or more of the analyzed peak hours. Chapter 21, “Mitigation,” discusses potential measures to mitigate these significant adverse pedestrian impacts.

Table 13-6: Summary of Significant Pedestrian Impacts

Corridor/Intersection	Impacted Element		Peak Hour			
			AM	MD	PM	SAT
W 30th St between 5 Ave & Broadway	S7	South Sidewalk	X		X	X
W 36th St between 5 Ave & 6 Ave	S11	South Sidewalk			X	
W 35th St between 5 Ave & 6 Ave	S12	North Sidewalk	X	X	X	X
6 Ave between W 34th St & W 35th St	S13	East Sidewalk				X
6 Ave between W 33rd St & W 34th St	S16	West Sidewalk				X
6 Ave between W 30th St & W 31st St	S18	East Sidewalk	X		X	X
6 Ave between W 30th St & W 31st St	S19	West Sidewalk	X		X	X
W 31st St between 6 Ave & 7 Ave	S20	South Sidewalk	X	X	X	X
6 Ave between W 31st St & W 32nd St	S21	West Sidewalk				X
6 Ave between W 28th St & W 29th St	S26	West Sidewalk			X	
6 Ave between W 29th St & W 30th St	S28	West Sidewalk			X	X
6 Ave between W 27th St & W 28th St	S33	West Sidewalk			X	
6 Ave between W 25th St & W 26th St	S34	East Sidewalk			X	X
W 30th St between 6 Ave & 7 Ave	S46	South Sidewalk	X	X	X	X
7 Ave between W 29th St & W 30th St	S47	West Sidewalk			X	
7 Ave between W 28th St & W 29th St	S49	East Sidewalk			X	
Broadway between W 31st St & W 32nd St	S56	East Sidewalk	X	X	X	X
W 29th St between 5 Ave & Broadway	S59	North Sidewalk			X	
W 28th St between 6 Ave & Broadway	S62	South Sidewalk	X	X	X	X
6 Ave at W 34th St	X10	East Crosswalk				X
6 Ave at W 31st St	X11	West Crosswalk			X	X
6 Ave at W 30th St	X13	West Crosswalk			X	
6 Ave at W 29th St	X16	West Crosswalk			X	
6 Ave at W 24th St	X26	North Crosswalk	X	X	X	X
7 Ave at W 29th St	X31	West Crosswalk			X	
6 Ave at W 33rd St	C034	Northwest Corner				X
6 Ave at W 32nd St	C035	Northeast Corner			X	
7 Ave at W 31st St	C036	Southwest Corner			X	

Vehicular and Pedestrian Safety

Under the *Vision Zero Manhattan Pedestrian Safety Action Plan*, several major streets within a quarter mile of the Affected Area are located within a "Priority Area," where safety issues were found to occur systematically at an area-wide level. The plan identifies Sixth, Seventh, Eighth, and Ninth Avenues and, 23rd, 34th, 40th, and 42nd Streets as "Priority Corridors." In addition, West 23rd and West 34th Streets at Sixth Avenue and West 34th and West 40th Streets at Eighth Avenue were also identified as Priority Intersections within the study area. In addition, the Affected Area is located within a Senior Pedestrian Focus Area and a Vision Zero Priority Area.

Crash data for intersections in the traffic and pedestrian study areas were obtained from the New York City Department of Transportation (DOT) for the three-year period between January 1, 2017, and December 31, 2019 (the most recent three-year period for which data are available). During this period, a total of 2,791 reportable and non-reportable crashes, 1,334

total injuries, 688 pedestrian/bicyclist-related injury crashes, and four fatalities occurred at intersections within quarter mile of the Affected Area.

Under *CEQR Technical Manual* guidance, high crash locations are defined as those along a Vision Zero priority intersection or locations where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. In addition, any location along a Vision Zero priority corridor with three or more pedestrian/bicyclist injury crashes in any consecutive 12 months of the most recent three-year period for which data is available should be identified as a high crash location. A review of the crash data identified 53 study area intersections as high crash locations. Of the 53 study area intersections, 25 intersections were selected for a qualitative assessment for street user safety, which are shown in **Table 13-7**.

Table 13-7: High Crash Locations

Intersection		Total Pedestrian/Bicycle Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
		2017	2018	2019	2017	2018	2019
Sixth Avenue	W. 23 Street	5	6	6	11	22	23
	W. 24 Street	0	4	0	4	5	7
	W. 26 Street	4	1	1	9	10	9
	W. 27 Street	2	3	0	2	11	7
	W. 30 Street	0	1	3	4	7	6
	W. 31 Street	0	1	4	1	7	10
	W. 33 Street	2	2	3	2	10	10
	W. 34 Street	3	3	6	9	15	15
	W. 38 Street	1	0	3	2	5	8
Seventh Avenue	W. 23 Street	3	5	3	5	8	7
	W. 27 Street	3	2	2	6	9	6
	W. 28 Street	4	3	2	5	8	10
	W. 29 Street	2	2	3	3	5	8
	W. 32 Street	3	2	3	8	8	16
	W. 33 Street	0	0	3	1	10	8
	W. 34 Street	5	4	5	11	12	15
	W. 36 Street	2	0	3	6	5	12
	W. 37 Street	2	3	1	6	7	6
	W. 38 Street	0	3	1	4	8	6
Eighth Avenue	W. 23 Street	3	1	2	6	8	6
	W. 29 Street	2	6	1	5	10	4
	W. 30 Street	1	4	3	1	10	8
	W. 34 Street	2	5	2	6	14	8
	W. 38 Street	0	2	3	3	13	12
Ninth Avenue	W. 30 Street	1	3	0	6	8	7

Parking

The parking analysis documents the effects to parking within the study area as a result of the projected development sites. Parking demand generated by the various commercial, retail, light industrial, and community facility uses that would be developed under the Proposed Actions would peak during the midday hour, whereas residential parking demand would peak during the overnight period. While there would be net decreases in auto-related, light

industrial, and warehouse parking demand (as result of net reductions in these land uses), the prominent generator of parking demand would be the residential land use as result of the significant increase of proposed dwelling units under the Proposed Actions. Overall, development associated with the Proposed Actions would generate a peak net parking demand of approximately 1,274 spaces in the weekday overnight period and 1,319 spaces in the Saturday overnight period. As the Proposed Actions' RWCDS does not include any on-site parking on projected development sites, nor any new off-street public parking, the total increase in parking demand under the Proposed Actions' RWCDS would not be accommodated on-site and excess demand would seek parking availability within a quarter-mile radius of the Affected Area. These projected demand as well as any demand displaced from existing parking facilities on projected development sites would have seek available on-street and off-street parking within quarter mile of the Affected Area. Further, some drivers destined for the Affected Area would potentially have to travel a greater distance (e.g., between quarter- and half-mile) to find available parking. Any potential deficit in parking would not be considered a significant adverse impact based on *CEQR Technical Manual* criteria due to the magnitude of available alternative modes of transportation. Therefore, the Proposed Actions are not expected to result in significant adverse parking impacts.

C. Preliminary Analysis Methodology

The CEQR Technical Manual describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed in the following sections, the preliminary analysis begins with a trip generation (Level 1) analysis to estimate the numbers of person and vehicle trips attributable to the Proposed Actions. According to the *CEQR Technical Manual*, if a proposed action is expected to result in fewer than 50 peak hour vehicle trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses are not warranted. When these thresholds are exceeded, detailed trip assignments (Level 2) are to be performed to estimate the incremental trips that could be incurred at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that a proposed action would generate 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a station, 50 or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian trips traversing a sidewalk, corner area or crosswalk, then further quantified operational analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

D. Level 1 Screening Assessment

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the Proposed Actions during the weekday AM, midday, PM, and Saturday peak hours for the RWCDS. These estimates were then compared to the *CEQR Technical Manual* analysis thresholds to determine if a

Level 2 screening and/or quantified operational analyses may be warranted. The travel demand assumptions used for the assessment are described in the following sections along with a detailed forecast of the travel demand that would be generated by the RWCDS.

Background

Overall, the Affected Area encompasses approximately 42 blocks and includes a total of 61 projected development sites (see **Figure 13-1**). As shown in **Table 13-3**, under the RWCDS for Projected Development Sites with residential conversions, the Proposed Actions would facilitate the net addition of approximately 9,786,389 gsf of residential space (9,677 DUs), approximately 462,129 gsf of local retail space, and approximately 81,755 gsf of elementary school space (approximately 238 seats). In addition, it is estimated that there would be a net decrease of approximately 1,826,427 gsf of commercial office space, approximately 52,396 gsf of warehouse space, and 17,386 gsf of light industrial space.

Transportation Planning Factors

The transportation planning factors used to forecast travel demand for the RWCDS land uses are summarized in **Table 13-8**. The trip generation rates, temporal distributions, modal splits, vehicle occupancies, and truck trip factors for each of the land uses were primarily based on those cited in the 2021 *City Environmental Quality Review (CEQR) Technical Manual*, factors developed for recent environmental reviews in the area, American Community Survey (ACS) journey-to-work 5-year (2015-2019) data, census data, and data from other standard professional references. Factors are shown for the weekday AM and PM peak hours (typical peak periods for commuter travel demand) and the weekday midday and Saturday peak hours (typical peak periods for retail demand). Additional details on the transportation planning factors used for the travel demand forecast are presented in the *Transportation Planning Factors and Travel Demand Forecast* technical memorandum provided in Appendix E.

Travel Demand Forecast

The net incremental change in person and vehicle trips expected to result from the Proposed Actions by the 2034 analysis year was derived based on the net change in land uses shown in **Table 13-3** and the transportation planning factors shown in **Table 13-8**. **Table 13-9** shows an estimate of the net incremental change in peak hour person trips and vehicle trips (versus the No-Action condition) that would occur in 2034 with implementation of the Proposed Actions. It should be noted that for travel demand forecasting and trip assignment purposes, the residential conversion sites were grouped in a total of 25 “clusters.” These clusters were defined based on the rezoning area roadway network characteristics and the likely travel routes of vehicle trips to and from the residential conversion sites. As shown in **Table 13-9**, under the RWCDS with the residential conversion, the Proposed Actions would generate a net increase of approximately 5,672 person trips in the weekday AM peak hour, 3,846 in the weekday midday, 7,460 in the weekday PM peak hour, and 11,240 in the Saturday peak hour. Peak hour vehicle trips (including auto, truck, school bus, and taxi trips balanced to reflect that

50 percent of the inbound taxis would not depart empty) would increase by a net total of approximately 360, 351, 436, and 736 (in and out combined) in the weekday AM, midday, PM, and Saturday peak hours, respectively. Peak hour subway trips would increase by a net total of approximately 987, 1,653, 992, and 2,563 trips during these periods, respectively, while bus trips would decrease by approximately 302, 24, and 215 trips during the weekday AM, midday, and PM peak periods, respectively, and increase by approximately 126 trips during the Saturday peak period. Lastly, walk-only trips would increase by 5,163, 1,649, 6,618, and 7,603 trips during the weekday AM, midday, PM, and Saturday peak hours, respectively.

In addition, peak hour rail trips would experience a net incremental change of approximately -512, 223, -403, and 206 during the weekday AM, midday, and PM, and Saturday peak periods, respectively.

Table 13-9 shows the net incremental change in peak hour vehicle trips (auto, taxi, school bus, and truck) that would be generated by each projected development site as well as the anticipated residential conversion sites during the weekday AM, midday, PM, and Saturday peak hours. As shown in **Table 13-10**, Projected Development Site 49 would generate the greatest number of new vehicle trips, with up to 67 incremental vehicle trips per hour. Projected Development Sites 40 and 52 would generate the next highest number of incremental trips, with up to 43 and 32 vehicle trips per hour, respectively. Under the RWCDS, there would be net decreases in vehicle trips during all analyzed peak hours at the four Affected Area quadrants for the residential conversion sites with the exception of the northeast, southeast, and northwest quadrant during the Saturday peak hour, due to the reduction in office space on the conversion sites compared to the No-Action condition.

Table 13-8: Transportation Planning Factors

Land Use:	Office		Residential		Local Retail		Light Industrial		Warehouse		Elementary School Students		School Staff		Elementary School Parents	
Trip Generation:	(1)		(1)		(1)		(2)		(5)		(1)		(1)		(1)(9)	
Weekday	18.0		8.18		329		14.7		2.36		2.0		2.0		4.0	
Saturday	3.9		9.08		358		2.2		0.20		N/A		N/A		N/A	
	per 1,000 sf		per DU		per 1,000 sf		per 1,000 sf		per 1,000 sf		per Student		per Staff		per Parents	
Temporal Distribution:	(1)		(1)		(1)		(2)		(5)		(1)(8)		(1)		(1)(8)	
AM	12.4%		9.3%		4.8%		13.2%		10.0%		49.5%		40.0%		49.5%	
MD	11.0%		5.6%		8.0%		11.0%		9.0%		N/A		N/A		N/A	
PM	10.5%		8.5%		10.9%		14.2%		11.0%		5.0%		40.0%		5.0%	
SAT	14.1%		8.4%		11.7%		10.7%		33.0%		N/A		N/A		N/A	
Modal Splits:	(11)(12)		(11)(12)		(4)		(3)	(2)	(3)		(10)		(3)		(9)	
	AM/PM/SAT	MD	All Periods		All Periods		AM/PM/SAT	MD	All Periods		AM/MD/SAT	PM	All Periods		All Periods	
Auto	4.0%	1.5%	4.0%		4.0%		8.8%	2.0%	8.8%		2.0%	2.0%	8.8%		0.0%	
Taxi	3.0%	3.0%	3.0%		1.0%		0.6%	3.0%	0.6%		0.0%	0.0%	0.6%		0.0%	
Subway	52.0%	6.0%	42.0%		1.0%		55.9%	6.0%	55.9%		9.7%	9.7%	55.9%		10.5%	
Rail	23.0%	1.5%	6.0%		0.0%		16.0%	0.0%	16.0%		0.0%	0.0%	16.0%		0.0%	
Bus	13.0%	5.0%	3.0%		1.0%		12.1%	6.0%	12.1%		2.3%	2.3%	12.1%		2.5%	
Bike	0.0%	0.0%	0.0%		1.0%		0.8%	0.0%	0.8%		3.0%	3.0%	0.8%		0.0%	
School Bus	0.0%	0.0%	0.0%		0.0%		0.0%	0.0%	0.0%		3.0%	3.0%	0.0%		0.0%	
Walk/Other	5.0%	83.0%	42.0%		92.0%		5.8%	83.0%	5.8%		80.0%	80.0%	5.8%		87.0%	
Total	100.0%	100.0%	100.0%		100.0%		100.0%	100.0%	100.0%		100.0%	100.0%	100.0%		100.0%	
In/Out Splits:	(4)		(4)		(4)		(2)		(5)		(1)		(1)		(1)	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	86%	14%	22%	78%	52%	48%	88%	12%	77%	23%	100%	0%	100%	0%	50%	50%
MD	52%	48%	50%	50%	50%	50%	50%	50%	53%	47%	N/A	N/A	N/A	N/A	N/A	N/A
PM	16%	84%	62%	38%	50%	50%	12%	88%	27%	73%	0%	100%	0%	100%	50%	50%
SAT	48%	52%	55%	45%	50%	50%	47%	53%	64%	36%	N/A	N/A	N/A	N/A	N/A	N/A
Vehicle Occupancy:	(11)(12)		(11)(12)		(11)(12)		(3)		(3)		(8)		(3)			
Auto	1.14		1.11		1.65		1.15		1.15		1.30		1.15		N/A	
Taxi	1.40		1.40		1.40		1.15		1.15		1.30		1.15		N/A	
School Bus											35.0					
Truck Trip Generation:	(1)		(1)		(1)		(2)		(5)(6)		(8)					
Weekday	0.32		0.06		0.35		0.67		0.91		0.03		N/A		N/A	
Saturday	0.01		0.02		0.04		0.67		0.08		0.03		N/A		N/A	
	per 1,000 sf		per DU		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf					
Truck Temporal Distribution:	(1)		(1)		(1)		(2)		(5)(7)		(8)					
AM	10.0%		12.0%		8.0%		14.0%		9.9%		9.6%		N/A		N/A	
MD	11.0%		9.0%		11.0%		9.0%		8.0%		11.0%		N/A		N/A	
PM	2.0%		2.0%		2.0%		1.0%		7.0%		1.0%		N/A		N/A	
SAT	11.0%		9.0%		11.0%		0.0%		28.0%		0.0%		N/A		N/A	
Truck In/Out Splits:	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
All Periods	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%			50.0%	50.0%	N/A	N/A	N/A	N/A
AM									67%	33%						
MD									57%	43%						
PM									60%	40%						
SAT									42%	58%						

Notes:

(1) Based on 2021 *City Environmental Quality Review (CEQR) Technical Manual*.

(2) Based on *Soho/Noho Neigbhorhood Plan FEIS* (2021).

(3) Based on data from the 2012-2016 ACS Reverse Journey-to-Work census data for New York (Manhattan) County census tracts 58,76,84,91,95,101,109,111,113, and 115.

(4) Based on data provided by NYCDOT.

(5) Based on data from ITE Trip Generation Manual, 10th Edition, Land Use Code 150 (Warehousing); includes 1.51 adjustment factor based on NYCDOT survey data.

(6) Saturday truck trips adjusted as per the weekday/Saturday ratio from ITE Trip Generation Handbook, 10th Edition, Land Use Code 150, (Warehousing).

(7) Based on NYCDOT survey data.

(8) Based on *Gowannus Neigbhorhood Plan FEIS* (2021).

(9) Assumes a 1:1.3 parent-to-PS student ratio taking subway, rail, bus, and walk modes. Parent modal split adjusted for pedestrian related trips only.

(10) Based on data provided by NYCDCP.

(11) Based on *Pennsylvania Station Area Civic and Land Use Improvement Project FEIS* (2022). Modal split for Rail includes Railroad and PATH.

(12) Assumes the modal splits and vehicle occupancies for Saturday are the same as the weekday.

Table 13-9: RWCDS Travel Demand Forecast

Land Use:	Office		Residential		Local Retail		Light Industrial		Warehouse		Elementary School		School Staff		Elementary School Parents		Total	
Size/Units:	-1,826,427 gsf		9,677 DU		462,129 gsf		-17,386 gsf		-52,396 gsf		238 students 81,755 gsf		24 staff		168 parents			
Peak Hour Trips:																		
AM	-4,114		7,400		1,848		-34		-18		236		20		334		5,672	
Midday	-3,652		4,478		3,064		-30		-14		0		0		0		3,846	
PM	-3,496		6,772		4,164		-38		-20		24		20		34		7,460	
Saturday	-1,030		7,418		4,860		-6		-2		0		0		0		11,240	
Person Trips:																		
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-137	-13	67	228	30	27	-3	0	0	0	5	0	2	0	0	0	-36	242
Taxi	-103	-7	38	168	5	5	0	0	0	0	0	0	0	0	0	0	-60	166
Subway	-1,882	-301	693	2,435	5	5	-18	-3	-17	-1	23	0	12	0	18	18	-1,166	2,153
Rail	-823	-127	99	341	0	0	-5	0	0	0	0	0	3	0	0	0	-726	214
Bus	-460	-71	39	169	5	5	-4	0	0	0	5	0	2	0	4	4	-409	107
Bike	0	0	0	0	5	5	0	0	0	0	7	0	0	0	0	0	12	5
School Bus	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7	0
Walk/Other	-170	-20	690	2,433	900	851	-1	0	0	0	189	0	1	0	145	145	1,754	3,409
Total	-3,575	-539	1,626	5,774	950	898	-31	-3	-17	-1	236	0	20	0	167	167	-624	6,296
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-18	-15	90	90	61	61	0	0	0	0	0	0	0	0	0	0	133	136
Taxi	-50	-50	72	72	8	8	0	0	0	0	0	0	0	0	0	0	30	30
Subway	-114	-103	935	935	8	8	-1	-1	-7	-7	0	0	0	0	0	0	821	832
Rail	-18	-15	128	128	0	0	0	0	0	0	0	0	0	0	0	0	110	113
Bus	-96	-86	72	72	8	8	-1	-1	0	0	0	0	0	0	0	0	-17	-7
Bike	0	0	0	0	8	8	0	0	0	0	0	0	0	0	0	0	8	8
School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk/Other	-1,598	-1,489	942	942	1,439	1,439	-13	-13	0	0	0	0	0	0	0	0	770	879
Total	-1,894	-1,758	2,239	2,239	1,532	1,532	-15	-15	-7	-7	0	0	0	0	0	0	1,855	1,991
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-13	-116	162	102	83	83	0	-3	0	0	0	0	0	2	0	0	232	68
Taxi	-7	-87	122	82	14	14	0	0	0	0	0	0	0	0	0	0	129	9
Subway	-292	-1,562	1,756	1,087	14	14	-3	-20	-1	-19	0	2	0	12	2	2	1,476	-484
Rail	-125	-682	252	155	0	0	-1	-5	0	0	0	0	0	3	0	0	126	-529
Bus	-67	-380	123	82	14	14	0	-4	0	0	0	1	0	2	0	0	70	-285
Bike	0	0	0	0	14	14	0	0	0	0	0	1	0	0	0	0	14	15
School Bus	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Walk/Other	-17	-148	1,755	1,094	1,943	1,943	0	-2	0	0	0	19	0	1	15	15	3,696	2,922
Total	-521	-2,975	4,170	2,602	2,082	2,082	-4	-34	-1	-19	0	24	0	20	17	17	5,743	1,717
SAT	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-7	-8	160	127	97	97	0	0	0	0	0	0	0	0	0	0	250	216
Taxi	-7	-7	119	100	18	18	0	0	0	0	0	0	0	0	0	0	130	111
Subway	-282	-315	1,722	1,410	18	18	-3	-3	-1	-1	0	0	0	0	0	0	1,454	1,109
Rail	-113	-124	245	198	0	0	0	0	0	0	0	0	0	0	0	0	132	74
Bus	-56	-73	119	100	18	18	0	0	0	0	0	0	0	0	0	0	81	45
Bike	0	-1	0	0	18	18	0	0	0	0	0	0	0	0	0	0	18	17
School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk/Other	-16	-21	1,714	1,404	2,261	2,261	0	0	0	0	0	0	0	0	0	0	3,959	3,644
Total	-481	-549	4,079	3,339	2,430	2,430	-3	-3	-1	-1	0	0	0	0	0	0	6,024	5,216

Notes:

75% pass-by trip credit applied to local retail use.

50% of taxis inbound with passengers are assumed to depart with outbound passengers.

Table 13-9 (cont'd): RWCDS Travel Demand Forecast

Land Use:	Office		Residential		Local Retail		Light Industrial		Warehouse		Elementary School		School Staff		Elementary School Parents		Total	
Size/Units:	-1,826,427 gsf		9,677 DU		462,129 gsf		-17,386 gsf		-52,396 gsf		238 students 81,755 gsf		24 staff		168 parents			
Peak Hour Trips:																		
AM	-4,114		7,400		1,848		-34		-18		236		20		334		5,672	
Midday	-3,652		4,478		3,064		-30		-14		0		0		0		3,846	
PM	-3,496		6,772		4,164		-38		-20		24		20		34		7,460	
Saturday	-1,030		7,418		4,860		-6		-2		0		0		0		11,240	
Vehicle Trips :																		
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-130	-13	66	218	23	20	-3	0	0	0	4	4	2	0	0	0	-38	229
Taxi (Balanced)	-79	-79	149	149	10	10	0	0	0	0	0	0	0	0	0	0	80	80
Truck	-19	-19	22	22	2	2	-1	-1	-1	0	0	0	0	0	0	0	3	4
School Bus	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
Total	-228	-111	237	389	35	32	-4	-1	-1	0	5	5	2	0	0	0	46	314
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-18	-15	89	89	46	46	0	0	0	0	0	0	0	0	0	0	117	120
Taxi (Balanced)	-82	-82	130	130	14	14	0	0	0	0	0	0	0	0	0	0	62	62
Truck	-24	-24	14	14	5	5	0	0	0	0	0	0	0	0	0	0	-5	-5
School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	-124	-121	233	233	65	65	0	0	0	0	0	0	0	0	0	0	174	177
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-13	-109	158	101	60	60	0	-3	0	0	0	0	0	2	0	0	205	51
Taxi (Balanced)	-77	-77	143	143	22	22	0	0	0	0	0	0	0	0	0	0	88	88
Truck	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
School Bus	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
Total	-90	-186	302	245	82	82	0	-3	0	0	1	1	0	2	0	0	295	141
SAT	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-7	-8	156	125	67	67	0	0	0	0	0	0	0	0	0	0	216	184
Taxi (Balanced)	-14	-14	156	156	25	25	0	0	0	0	0	0	0	0	0	0	167	167
Truck	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	-21	-22	313	282	92	92	0	0	0	0	0	0	0	0	0	0	384	352

Notes:

75% pass-by trip credit applied to local retail use.

50% of taxis inbound with passengers are assumed to depart with outbound passengers.

Table 13-10: RWCDS Net Incremental Vehicle Trips by Projected Development Site

Location [1]	Weekday Peak Hour			Saturday Peak Hour
	AM	MD	PM	
PD Site 1	3	4	6	9
PD Site 2	5	2	5	10
PD Site 3	6	14	9	21
PD Site 4	7	8	9	8
PD Site 5	7	8	10	13
PD Site 6	6	8	8	13
PD Site 7	13	10	11	11
PD Site 8	7	6	7	7
PD Site 9	5	6	7	7
PD Site 10	0	0	5	8
PD Site 11	1	4	5	8
PD Site 12	3	4	6	9
PD Site 13	2	4	5	8
PD Site 14	4	2	6	6
PD Site 15	3	0	3	9
PD Site 16	19	8	10	6
PD Site 17	5	6	6	6
PD Site 18	10	6	5	10
PD Site 19	27	24	23	25
PD Site 20	1	4	5	8
PD Site 21	6	8	11	12
PD Site 22	4	6	8	8
PD Site 23	4	2	6	6
PD Site 24	0	0	0	0
PD Site 25	7	8	6	10
PD Site 26	2	8	5	8
PD Site 27	2	0	4	6
PD Site 28	3	2	4	8
PD Site 29	4	8	8	8
PD Site 30	3	0	6	8
PD Site 31	5	6	6	10
PD Site 32	15	18	15	19
PD Site 33	16	16	18	29
PD Site 34	2	8	6	9
PD Site 35	12	10	13	18

Location [1]	Weekday Peak Hour			Saturday Peak Hour
	AM	MD	PM	
PD Site 36	9	2	5	9
PD Site 37	3	4	6	8
PD Site 38	5	8	9	9
PD Site 39	7	8	9	9
PD Site 40	43	20	26	25
PD Site 41	7	4	6	10
PD Site 42	11	8	7	10
PD Site 43	9	6	4	8
PD Site 44	3	2	4	8
PD Site 45	10	8	13	16
PD Site 46	27	22	24	26
PD Site 47	3	6	6	15
PD Site 48	15	8	8	12
PD Site 49	67	48	58	67
PD Site 50	2	4	6	9
PD Site 51	5	8	6	10
PD Site 52	31	28	29	32
PD Site 53	16	14	13	17
PD Site 54	4	2	6	6
PD Site 55	9	6	7	11
PD Site 56	5	8	8	8
PD Site 57	2	6	5	8
PD Site 58	2	8	6	9
PD Site 59	2	8	6	9
PD Site 60	1	8	7	8
PD Site 61	3	4	4	4
PD Site 62	10	8	9	10
NE Quadrant [2]	-22	-25	-17	1
SE Quadrant [2]	-25	-29	-22	0
SW Quadrant [2]	-37	-38	-31	-1
NW Quadrant [2]	-86	-51	-58	2
Total Project Area [3]	**360**	**351**	**436**	**736**

Table 13-11 summarizes the number of additional trips that would be generated by the Proposed Actions during the weekday AM, midday, PM, and Saturday peak hours by various modes of travel. Since these numbers of peak hour trips would exceed the *CEQR Technical Manual* analysis thresholds for vehicular traffic, transit and pedestrians, a Level 2 screening assessment was undertaken to identify specific locations where additional detailed analyses would be warranted.

Table 13-11: Summary of Net Incremental Peak Hour Trips Generated Under the RWCDS

Mode/Description	Trip Type	Weekday AM	Weekday Midday	Weekday PM	Saturday
Auto/Taxi/Truck/ School Bus	Vehicle Trips	360	351	436	736
Subway	Person Trips	987	1,653	992	2,563
Rail	Person Trips	-512	223	-403	206
Local Bus	Person Trips	-302	-24	-215	126
Walk/Other	Person Trips	5,163	1,649	6,618	7,603

E. Level 2 Screening Assessment

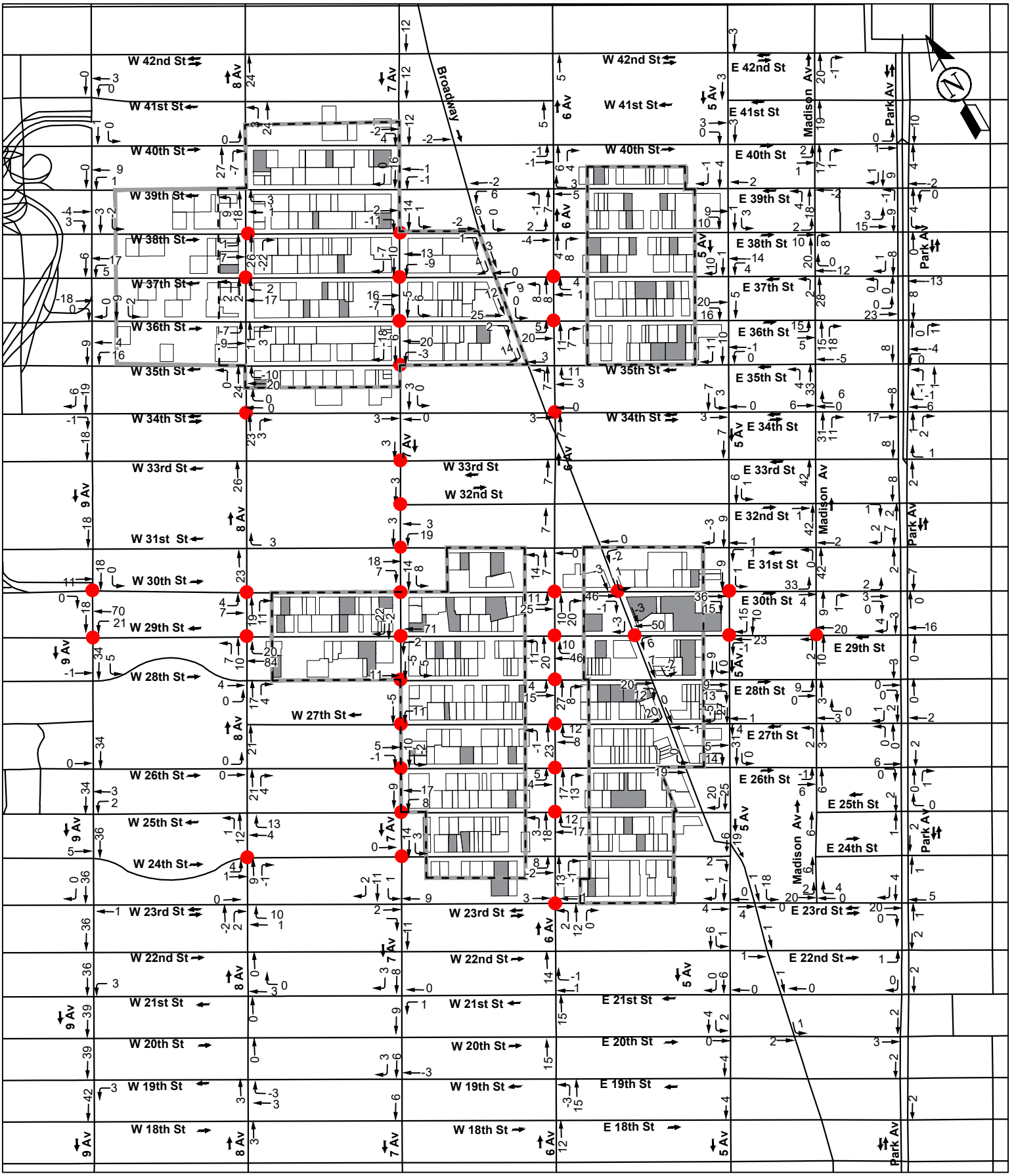
A Level 2 screening assessment involves the assignment of project-generated trips to the study area street network, pedestrian elements, and transit facilities, and the identification of specific locations where the incremental increase in demand may potentially exceed *CEQR Technical Manual* analysis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

Vehicular Traffic

Based on the amount of projected development associated with the Proposed Actions, there would be 360 additional vehicle trips during the weekday AM peak hour, 351 during the midday peak hour, 436 during the PM peak hour, and 736 during the Saturday peak hour. These traffic volumes would exceed the *CEQR Technical Manual* threshold of 50 peak hour vehicle trips for Level 1 screening and, therefore, a Level 2 screening was performed to help identify intersections for detailed analysis.

The *CEQR Technical Manual* Level 2 screening threshold for detailed analysis is also 50 vehicles, but this threshold applies to individual intersections during the peak hours (rather than total trips generated). Peak hour project increment traffic volumes were first assigned to the Affected Area street network to identify the intersections that would potentially exceed the 50-trip threshold during one or more periods. In consultation with the Department of City Planning (DCP) and the Department of Transportation (DOT), representative intersections most likely to be used by concentrations of action-generated vehicles traveling to and from the projected development sites were then selected for detailed analysis. Existing bottleneck locations and prevailing travel patterns in the study area were also taken into consideration. **Figures 13-2a through 13-2d** show the locations of the 37 representative intersections (all

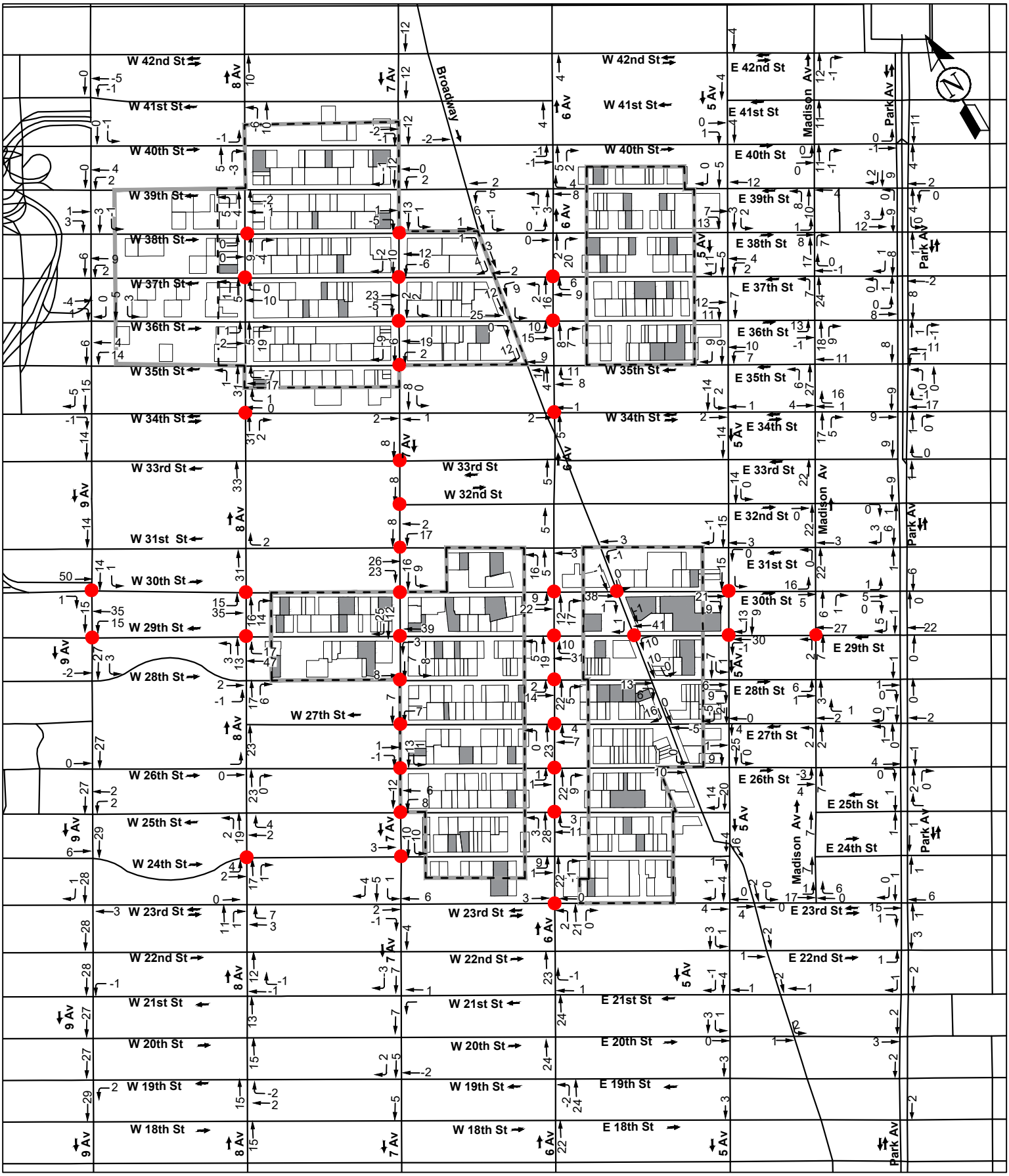
Weekday AM Peak Hour Incremental Project Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Weekday AM Incremental Project Traffic Volume

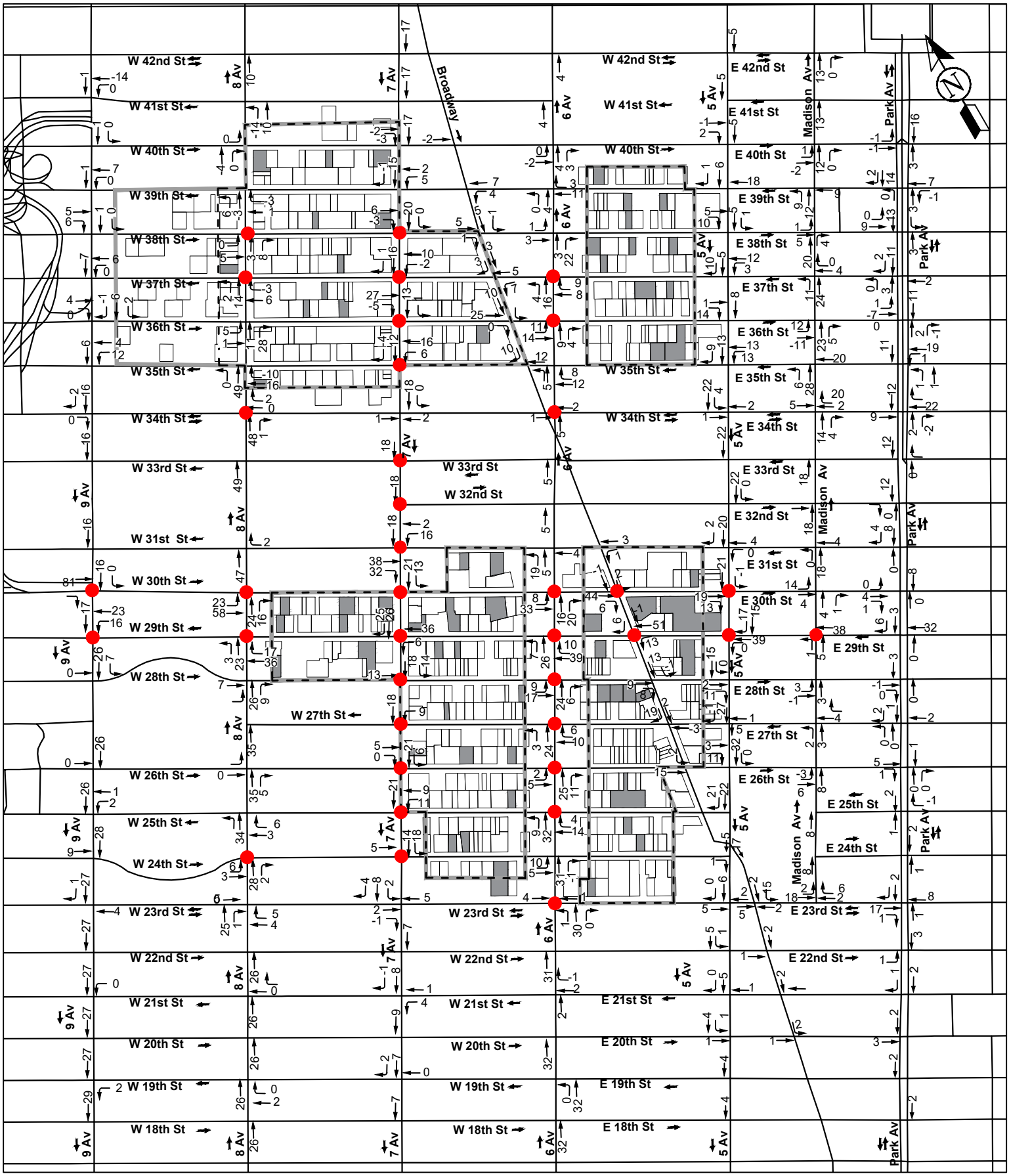
Weekday Midday Peak Hour Incremental Project Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Weekday MD Incremental Project Traffic Volume

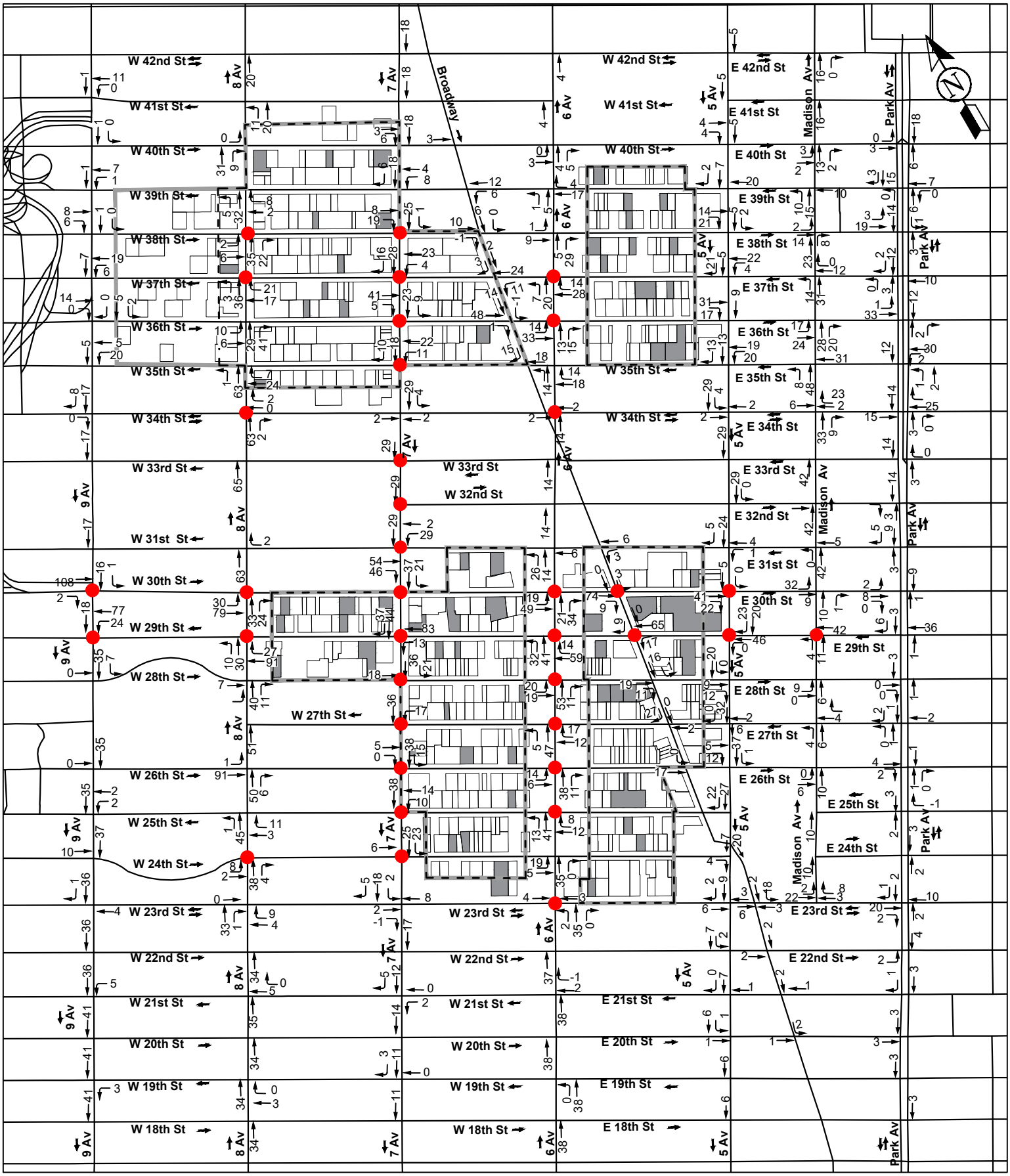
Weekday PM Peak Hour Incremental Project Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Weekday PM Incremental Project Traffic Volume

Saturday Peak Hour Incremental Project Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Saturday Incremental Project Traffic Volume

signalized) that were selected for detailed analysis. Most of the analyzed intersections are located along north–south corridors providing direct access to Projected Development Sites, including Seventh Avenue (14 intersections), Sixth Avenue (10 intersections), and Eighth Avenue (six intersections). There are also two analyzed intersections each along Fifth Avenue, Broadway, and Ninth Avenue, and one intersection on Madison Avenue.

Transit

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

Subway

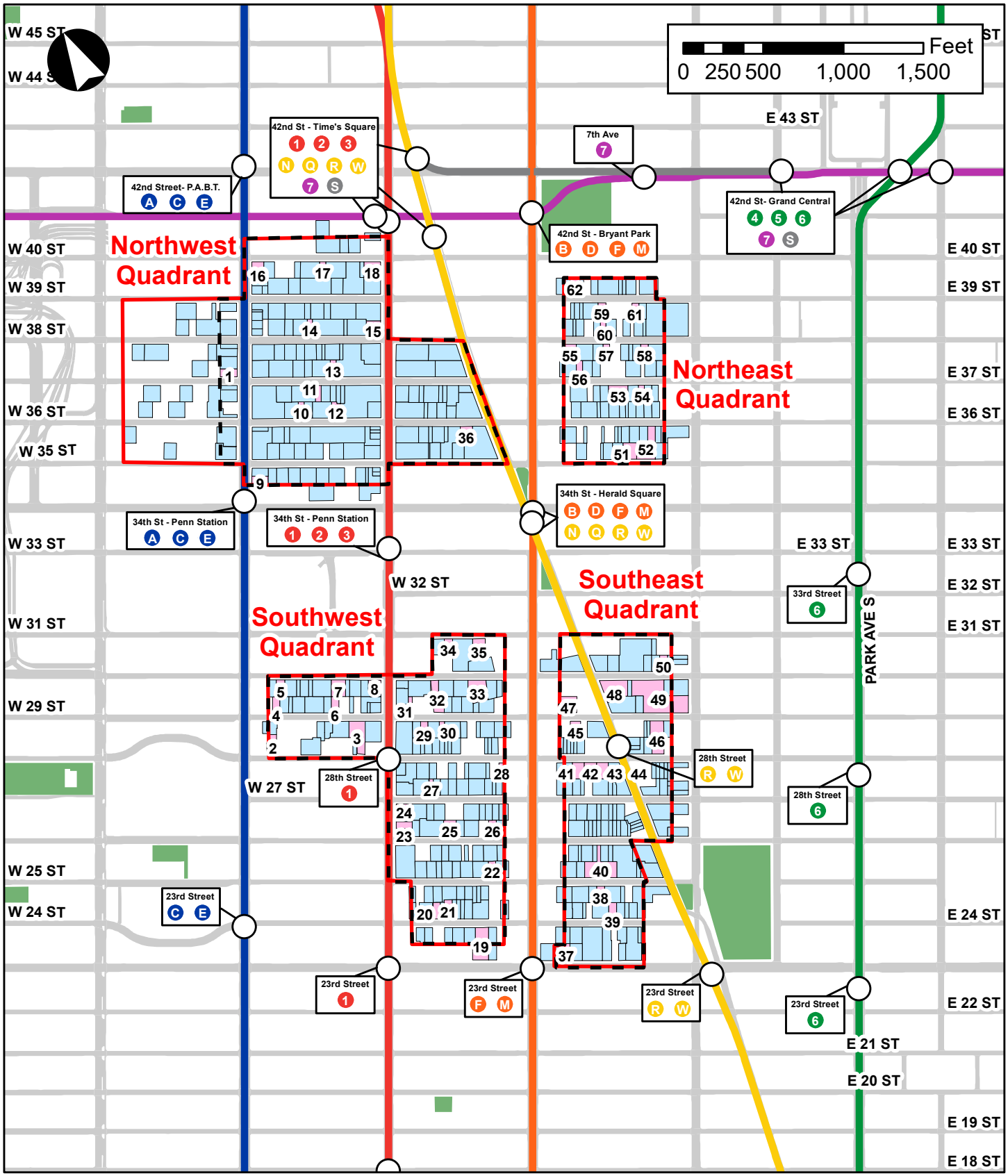
Subway Stations

There are a total of fourteen NYCT subway stations or station complexes in proximity to projected development sites that are expected to experience the largest amount of new demand as a result of the Proposed Actions. These stations are presented in **Figure 13-3** and **Table 13-12**, along with the subway routes serving each facility. As shown in **Figure 13-3**, No. 6 trains operating in local service on the Lexington Avenue Line serve two stations along the east side of the Affected Area. These include the 28th Street and 33rd Street stations, all of which are located beneath Park Avenue South. No. 7 trains operating on the Flushing Line serve two stations along the north side of the Affected Area – 42nd Street-Times Square and Fifth Avenue. Also located along the north side of the Affected Area is the 42nd Street Shuttle, which is located beneath 42nd Street and connects Times Square and Grand Central.

R and W local trains operating on the Broadway Line serve four stations within the Affected Area—23rd Street, 28th Street, 34th Street-Herald Square, and 42nd Street-Times Square—all of which are located beneath Broadway. N and Q trains provide express service along the Broadway Line via the 34th Street-Herald Square and 42nd Street-Times Square stations.

F and M local trains operating on the Sixth Avenue Line serve three stations within the Affected Area— 23rd Street, 34th Street-Herald Square, and 42nd Street-Bryant Park—all of which are located beneath Sixth Avenue. B and D trains provide express service along the Sixth Avenue Line via the 34th Street-Herald Square and 42nd Street-Bryant stations.

No. 1 local trains operating on the Seventh Avenue line serve four stations within the Affected Area – 23rd Street, 28th Street, 34th Street-Penn Station, and 42nd Street-Times Square—all of which are located beneath Seventh Avenue. Nos. 2 and 3 trains provide express service along the Seventh Avenue Line via the 34th Street-Penn Station and 42nd Street-Times Square stations.



Legend

Rezoning Area | Affected Area | Potential Conversion Sites | Projected Development Sites

Subway Stops

C and E local trains operating on the Eighth Avenue line serve three stations within the Affected Area – 23rd Street, 34th Street-Penn Station, and 42nd Street-Port Authority Bus Terminal—all of which are located beneath Eighth Avenue. A trains provide express service along the Eighth Avenue Line via the 34th Street-Penn Station and 42nd Street-Port Authority Bus Terminal stations.

The 34th Street-Herald Square stations on the Broadway (N/Q/R/W) and Sixth Avenue (B/D/F/M) Lines are all linked, and together comprise an interconnected station complex. The 34th Street-Herald Square station complex and 23rd Street (F/M) station provides access to the Hoboken-33rd Street and Journal Square-33rd Street lines on the PATH system, which provides connection between New Jersey and Manhattan. The 42nd Street-Times Square stations on the Broadway Line (N/Q/R/W), Seventh Avenue (1/2/3), Flushing (7), and 42nd Street Shuttle (S) Lines are all linked, and together comprise an interconnected station complex. The 42nd Street-Bryant Park station on the Sixth Avenue (B/D/F/M) line and the Fifth Avenue station on the Flushing (7) Line are also all linked, and together comprise an interconnected station complex.

As shown in **Table 13-12**, under the RWCDS, the Proposed Actions would generate a net increment of approximately 987 and 992 subway trips during the weekday AM and PM commuter peak hours, respectively. Trips from each projected development site were assigned to the individual stations serving the Affected Area based on their proximity, existing ridership patterns, and guidance from NYCT. **Table 13-12** shows the estimated net incremental subway trips expected to be generated by the Proposed Actions during the weekday AM and PM peak hours at each of the subway stations serving the Affected Area. As shown in **Table 13-12**, the highest number of incremental subway trips is expected to occur at the 34th Street-Herald Square (B/D/F/M/N/Q/R/W) station complex which would experience approximately 370 incremental trips in the AM peak hour and 377 in the PM peak hour. All other subway stations serving the Affected Area are expected to experience fewer than 200 incremental trips in the AM and PM peak hours.

The analysis of subway station conditions focuses on one subway station (the 34th Street – Herald Square (B/D/F/M/N/Q/R/W) station complex) at which incremental demand from the Proposed Actions would exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or both peak hours. At this facility, key circulation elements (e.g., stairs and fare arrays) expected to be used by concentrations of new demand from the Proposed Actions are analyzed.

Table 13-12: RWCDS Net Incremental Peak Hour Subway Trips by Station

Subway Station	AM Peak Hour Trips			PM Peak Hour Trips		
	Into Project	Out of Project	Total	Into Project	Out of Project	Total
Project Summary						
Peak Hour Project-Generated Trips:	-624	6,296	5,672	5,743	1,717	7,460
Peak Hour Project-Generated Subway Trips:	-1,116	2,153	987	1,476	-484	992
Subway Station Summary						
23rd Street (1)	-22	49	27	34	-7	27
23rd Street (F/M)	-43	195	152	131	-5	126
23rd Street (C/E)	-62	48	-14	31	-38	-7
23rd Street (R/W)	2	63	65	41	6	47
28th Street (1)	-87	148	61	101	-37	64
28th Street (R/W)	-36	223	187	156	13	169
28th Street (6)	0	55	55	40	12	52
33rd Street (6)	2	26	28	19	7	26
34th Street - Herald Square (B/D/F/M/N/Q/R/W)	-246	616	370	431	-51	377
34th Street - Penn Station (1/2/3)	-213	256	43	174	-111	63
34th Street - Penn Station (A/C/E)	-128	91	-37	58	-83	-25
42nd Street - Bryant Park / Fifth Avenue (B/D/F/M/7)	-80	105	25	72	-41	31
42nd Street - Port Authority Bus Terminal (A/C/E)	-90	86	-4	57	-55	2
Times Square – 42nd Street (1/2/3/7/N/Q/R/W/S)	-163	192	29	131	-91	40
Total	**-1,116**	**2,153**	**987**	**1,476**	**-484**	**992**

Subway Line Haul

As discussed above, the Affected Area is highly accessible and conveniently served by a total of 17 NYCT subway routes including the A, B, C, D, E, F, M, N, Q, R, W, S, and Nos. 1, 2, 3, 6, and 7. **Table 13-13** shows the assignment of net incremental subway trips generated by the Proposed Actions to the 17 subway routes during the weekday AM and PM peak hours. As shown in **Table 13-13**, the Proposed Actions are expected to generate the highest number of subway trips on the F train during the AM peak hour, which would experience an estimated total of 205 net incremental subway trips in both the Brooklyn-bound and Queens-bound directions. As these subway trips would be split between the peak northbound and southbound directions, it is anticipated that there would be fewer than 200 incremental subway

trips in each peak direction on the F train during the AM peak hour. All other routes are expected to experience fewer than 200 incremental trips on any one route during the AM and PM peak hours. As the number of new peak direction trips on any one route in either period would not meet the *CEQR Technical Manual* analysis threshold of 200 trips, significant adverse subway line haul impacts are considered unlikely, and an analysis of subway line haul conditions is not warranted under the Proposed Actions.

Table 13-13: RWCDS Net Incremental Peak Hour Subway Trips by Route

Route	AM Peak Hour Trips			PM Peak Hour Trips		
	Into Project	Out of Project	Total	Into Project	Out of Project	Total
Project Summary						
Peak Hour Project-Generated Trips:	-624	6,296	5,672	5,743	1,717	7,460
Peak Hour Project-Generated Subway Trips:	-1,116	2,153	987	1,476	-484	992
Route Summary						
1	-192	296	104	213	-95	118
2	-96	115	19	70	-46	24
3	-96	115	19	70	-46	24
6	2	81	83	59	19	78
7	-52	63	11	58	-37	21
A	-78	63	-15	38	-46	-8
C	-92	73	-19	49	-58	-9
E	-111	88	-23	59	-71	-12
B	-37	80	43	53	-11	42
D	-44	95	51	56	-11	45
F	-115	320	205	215	-27	188
M	-46	129	83	90	-12	78
N	-55	106	51	70	-17	53
Q	-53	111	58	84	-21	63
R	-59	242	183	196	-3	193
W	-42	176	134	96	-2	94
S	0	0	0	0	0	0
Total	**-1,116**	**2,153**	**987**	**1,476**	**-484**	**992**

Pedestrians

Under *CEQR Technical Manual* criteria, detailed pedestrian analyses are generally warranted if a proposed action is projected to result in 200 or more peak hour pedestrians at any sidewalk, corner area, or crosswalk. As shown in **Table 13-11**, the Proposed Actions are expected to generate approximately 5,163 walk-only trips (in and out combined) in the weekday AM peak hour, 1,649 in the midday, 6,618 in the PM, and 7,603 in the Saturday peak hour. In addition to the walk-only trips, transit trips (subway, bus, and rail trips) also include walk portions of the trip. Therefore, the Proposed Actions would generate a total of 5,336, 3,501, 6,992, and 10,498 pedestrian trips in the weekday AM, weekday midday, weekday PM, and Saturday peak periods, respectively. In the weekday AM and PM peak hours, new pedestrian trips would be most concentrated on sidewalks and crosswalks adjacent to Affected Area as well as along corridors connecting these sites to nearby subway stations and bus stops. In the midday and Saturday periods, pedestrian trips would tend to be more dispersed, as people travel throughout the area for lunch, shopping, and/or errands.

The analysis of pedestrian conditions focuses on representative pedestrian elements where new trips generated by projected developments are expected to be most concentrated. These elements—sidewalks, corner areas, and crosswalks—are primarily located in the vicinity of major projected development sites and along corridors connecting these sites to area subway station entrances and bus routes. As shown in **Figure 13-4**, they include a total of 220 pedestrian elements, including 63 sidewalks, 41 crosswalks, and 116 corners.

Parking

The Proposed Actions' RWCDS does not include any on-site parking on projected development sites or any new off-street public parking. The parking assessment will forecast the parking demand for all proposed uses, including commercial and retail uses that peak in the midday as well as residential use that peaks in the overnight. This parking demand forecast is provided to assess the potential for a significant parking shortfall.

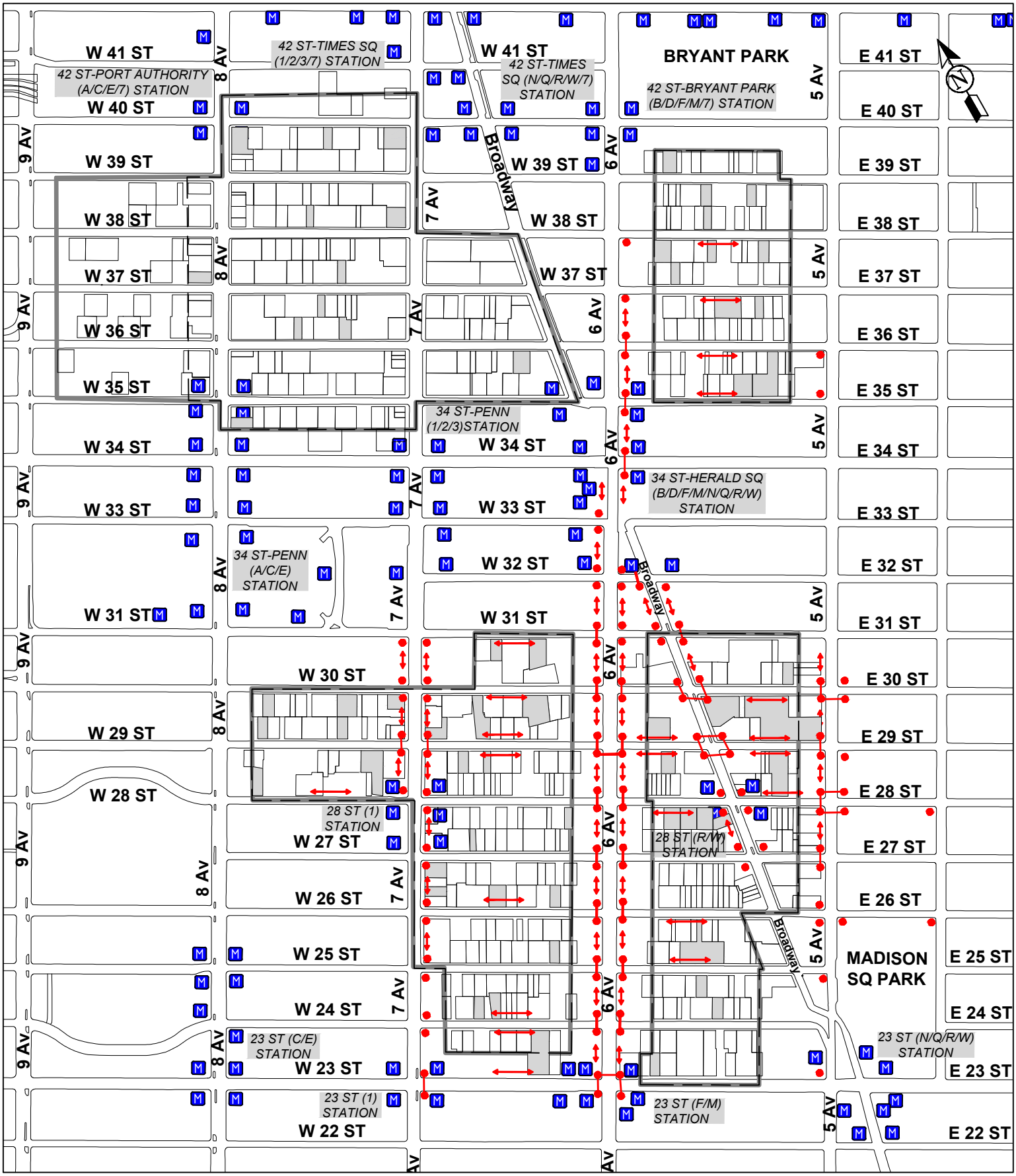
F. Transportation Analyses Methodologies

Traffic

Analysis Methodology

The traffic analysis examines conditions in the weekday AM, midday, PM, and Saturday peak hours when the increased travel demand attributable to the Proposed Actions is expected to be the greatest. Based on the *CEQR Technical Manual*, the Manhattan peak hours are 8:00-9:00 AM, 12:00-1:00 PM, and 5:00-6:00 PM. In addition, the Saturday peak hour selected for analysis is the 1:00–2:00 PM period, which was based on existing traffic volumes in the study area as reflected in automatic traffic recorder (ATR) count data.

Proposed Analyzed Pedestrian Elements



LEGEND

- Projected Development Site
- Potential Conversion Site
- Affected Area
- Rezoning Area
- Corner
- Sidewalk
- Crosswalk
- Pedestrian Analysis Locations
- Subway Station Entrance

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

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

For unsignalized intersections, the HCM methodology generally assumes that traffic on major streets is not affected by traffic flows on minor streets. Left turns from a major street are assumed to be affected by the opposing, or oncoming, traffic flow on that major street. Traffic on minor streets is affected by all conflicting movements. Similar to signalized intersections, the HCM methodology expresses the quality of traffic flow at unsignalized intersections in terms of LOS based on the amount of delay that a driver experiences. Level of service definitions used to characterize traffic flows at unsignalized intersections differ somewhat from those used for signalized intersections, primarily because drivers anticipate different levels of performance from the two different kinds of intersections. For unsignalized intersections, LOS ranges from A, representing minimal delay (10 seconds or less per vehicle, as it is for signalized intersections), to F, which represents long delays (greater than 50 seconds per vehicle, compared to greater than 80 seconds per vehicle for signalized intersections).

Table 13-14 shows the LOS/delay relationship for signalized and unsignalized intersections using the HCM methodology. Levels of service A, B, and C generally represent highly favorable to fair levels of traffic flow. At LOS D, the influence of congestion becomes noticeable. LOS E reflects heavy delay, and LOS F is considered to be unacceptable to most drivers. In these traffic impact analyses, a signalized lane grouping operating at LOS E or F or a v/c ratio of 0.90 or more is identified as congested. For unsignalized intersections, a movement with LOS E or F is also identified as congested.

Table 13-14: Intersection Level of Service Criteria

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

Source: *2000 Highway Capacity Manual*

Significant Impact Criteria

The identification of significant adverse traffic impacts at analyzed intersections is based on criteria presented in the 2021 *CEQR Technical Manual*. If a lane group is LOS A, B, C, or D in the Future With-Action (i.e., delay less than or equal to 55.0 seconds/vehicle for signalized intersections and 35.0 seconds/vehicle for unsignalized intersections), the impact is not considered significant. If the lane-group LOS would deteriorate from LOS A, B, C, or D in the No-Action condition to LOS E or F in the With-Action condition, a significant traffic impact is identified. For a lane group that would operate at LOS E in the With-Action condition, an increase in delay of 5.0 or more seconds compared to the No-Action condition is considered a significant impact. For a lane group that would operate at LOS F in the With-Action condition, a projected No-Action condition increase in delay of 4.0 or more seconds is considered a significant impact.

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

Transit

Analysis Methodology

Subway Stations

To determine existing baseline and future conditions at analyzed subway station elements, the existing volumes were based on 2019 data for elements at the 34th Street – Herald Square (B/D/F/M/N/Q/R/W) subway station complex presented in the 2022 *Pennsylvania Station Area Civic and Land Use Improvement Project FEIS* that were provided by NYCT. Subway count data were collected at additional station elements that were not analyzed in the 2022 *Pennsylvania Station Area Civic and Land Use Improvement Project FEIS.* The methodology for assessing subway station pedestrian circulation elements (stairs, escalators, and passageways), and fare control elements (regular turnstiles, high entry/exit turnstiles [HEETs], and high exit turnstiles [HXTs]) compares existing and projected pedestrian volumes with the element's design capacity to yield a volume-to-capacity (v/c) ratio. All analyses reflect pedestrian flow volumes over a 15-minute interval during each peak hour. Based on existing

pedestrian volumes at area subway stations, the peak hours selected for the analysis of subway station conditions are 8:30-9:30 AM and 5:00-6:00 PM. As noted previously, transit analyses typically focus on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the subway and bus systems is usually highest.

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

By contrast with stairways and passageways, under *CEQR Technical Manual* guidelines the capacity of an escalator or turnstile is determined based on only two factors: the NYCT guideline capacity for a 15-minute interval and a surging factor of up to 25 percent. **Table 13-15** shows the *CEQR Technical Manual* level of service criteria for all subway station elements. As shown in **Table 13-15**, six levels of service are defined with letters A through F. LOS A is representative of free flow conditions without pedestrian conflicts and LOS F depicts severe congestion and queuing.

Table 13-15: Level of Service Criteria for Subway Station Elements

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

Source: 2021 *CEQR Technical Manual*

Significant Impact Criteria

Subway Stations

The *CEQR Technical Manual* identifies a significant impact for stairways and passageways in terms of the minimum width increment threshold (WIT) based on the minimum amount of additional capacity that would be required to restore conditions to either their No-Action v/c ratio or to a v/c ratio of 1.00 (LOS C/D), whichever is greater. Stairways that are substantially

degraded in level of service or which experience the formation of extensive queues are classified as significantly impacted. Significant adverse stairway or passageway impacts are typically considered to have occurred once the thresholds shown in **Table 13-16** are reached or exceeded.

Table 13-16: Significant Impact Thresholds for Stairways and Passageways

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

Source: 2021 *CEQR Technical Manual*

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

Pedestrians

Analysis Methodology

Data on peak period pedestrian flow volumes were collected along analyzed sidewalks, corner areas, and crosswalks in the vicinity of the Affected Area in June 2024. Peak hours were determined by comparing rolling hourly averages, and the highest 15-minute volumes within the selected peak hours were used for analysis.

Peak 15-minute pedestrian flow conditions during the weekday AM, midday and PM peak hours, and Saturday peak hour are analyzed using the *Highway Capacity Manual 2010* methodology and procedures outlined in the *CEQR Technical Manual*. Using this methodology, the congestion level of pedestrian facilities is determined by considering pedestrian volume, measuring the sidewalk or crosswalk width, determining the available pedestrian capacity, and developing a ratio of volume flows to capacity conditions. The resulting ratio is then compared with LOS standards for pedestrian flow, which define a qualitative relationship at a certain pedestrian traffic concentration level. The evaluation of street crosswalks and corners is more complicated as these spaces cannot be treated as corridors due to the time incurred waiting for traffic lights. To effectively evaluate these facilities a “time-space” analysis methodology is employed, which takes into consideration the traffic light cycle at intersections.

LOS standards are based on the average area available per pedestrian during the analysis period, typically expressed as a 15-minute peak period. LOS grades from A to F are assigned, with LOS A representative of free flow conditions without pedestrian conflicts and LOS F depicting significant capacity limitations and inconvenience. **Table 13-17** defines the LOS criteria for pedestrian crosswalk/corner area and sidewalk conditions, as based on *Highway Capacity Manual* methodology.

The analysis of sidewalk conditions includes a "platoon" factor in the calculation of pedestrian flow to more accurately estimate the dynamics of walking. "Platooning" is the tendency of pedestrians to move in bunched groups or "platoons" once they cross a street where cross traffic required them to wait. Platooning generally results in a level of service one level poorer than that determined for average flow rates.

Table 13-17: Pedestrian Crosswalk/Corner Area and Sidewalk Levels of Service Descriptions

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

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

Significant Impact Criteria

Sidewalks

The 2021 *CEQR Technical Manual* impact criteria for a central business district (CBD) location are used to identify significant adverse impacts due to the proposed rezoning. These criteria define a significant adverse sidewalk impact to have occurred under platoon conditions if the average pedestrian space under the No-Action condition is greater than or equal to 34.7 square feet/pedestrian (sf/ped), and the average pedestrian space under the With-Action condition is 31.4 sf/ped or less (LOS D or worse). If the average pedestrian space under the With-Action condition is greater than 31.4 sf/ped (LOS C or better), the impact should not be considered significant. If the pedestrian space under the No-Action condition is between 6.4 and 34.7 sf/ped, a reduction in pedestrian space under the With-Action condition should be considered significant based on **Table 13-18**, which shows a sliding-scale that identifies what decrease in pedestrian space is considered a significant impact for a given pedestrian space value in the No-Action condition. If the reduction in pedestrian space is less than the value in **Table 13-18**, the impact is not considered significant. If the average pedestrian space under

the No-Action condition is less than or equal to 6.3 sf/ped, then a reduction in pedestrian space greater than or equal to 0.3 sf/ped, under the With-Action condition, should be considered significant.

Table 13-18: Significant Impact Criteria for Sidewalks in a CBD Location

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

Source: 2021 CEQR Technical Manual

Corner Areas and Crosswalks

For CBD areas, the 2021 *CEQR Technical Manual* criteria define a significant adverse corner area or crosswalk impact to have occurred if the average pedestrian space under the No-Action condition is greater than or equal to 21.5 sf/ped and, under the With-Action condition, the average pedestrian space decreases to 19.4 sf/ped or less (LOS D or worse). If the pedestrian space under the With-Action condition is greater than 19.4 sf/ped (LOS C or better), the impact should not be considered significant. If the average pedestrian space under the No-Action condition is between 5.1 and 21.4 sf/ped, a decrease in pedestrian space under the With-Action condition should be considered significant based on **Table 13-19,** which shows a sliding-scale that identifies what decrease in pedestrian space is considered a significant impact for a given amount of pedestrian space in the No-Action condition. If the decrease in pedestrian space is less than the value in **Table 13-19**, the impact is not considered significant. If the average pedestrian space under the No-Action condition is less than or equal to 5.0 sf/ped, then a decrease in pedestrian space greater than or equal to 0.2 sf/ped should be considered significant.

Table 13-19: Significant Impact Criteria for Corners and Crosswalks in a CBD Location

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

Source: 2021 *CEQR Technical Manual*

Vehicular and Pedestrian Safety Evaluation

Under *CEQR Technical Manual* guidance, an evaluation of vehicular and pedestrian safety is needed for locations within the traffic and pedestrian study areas that have been identified as high crash locations. These are defined as locations along a Vision Zero priority intersection

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

Parking

Analysis Methodology

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

Significant Impact Criteria

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

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

G. Traffic

Existing Conditions

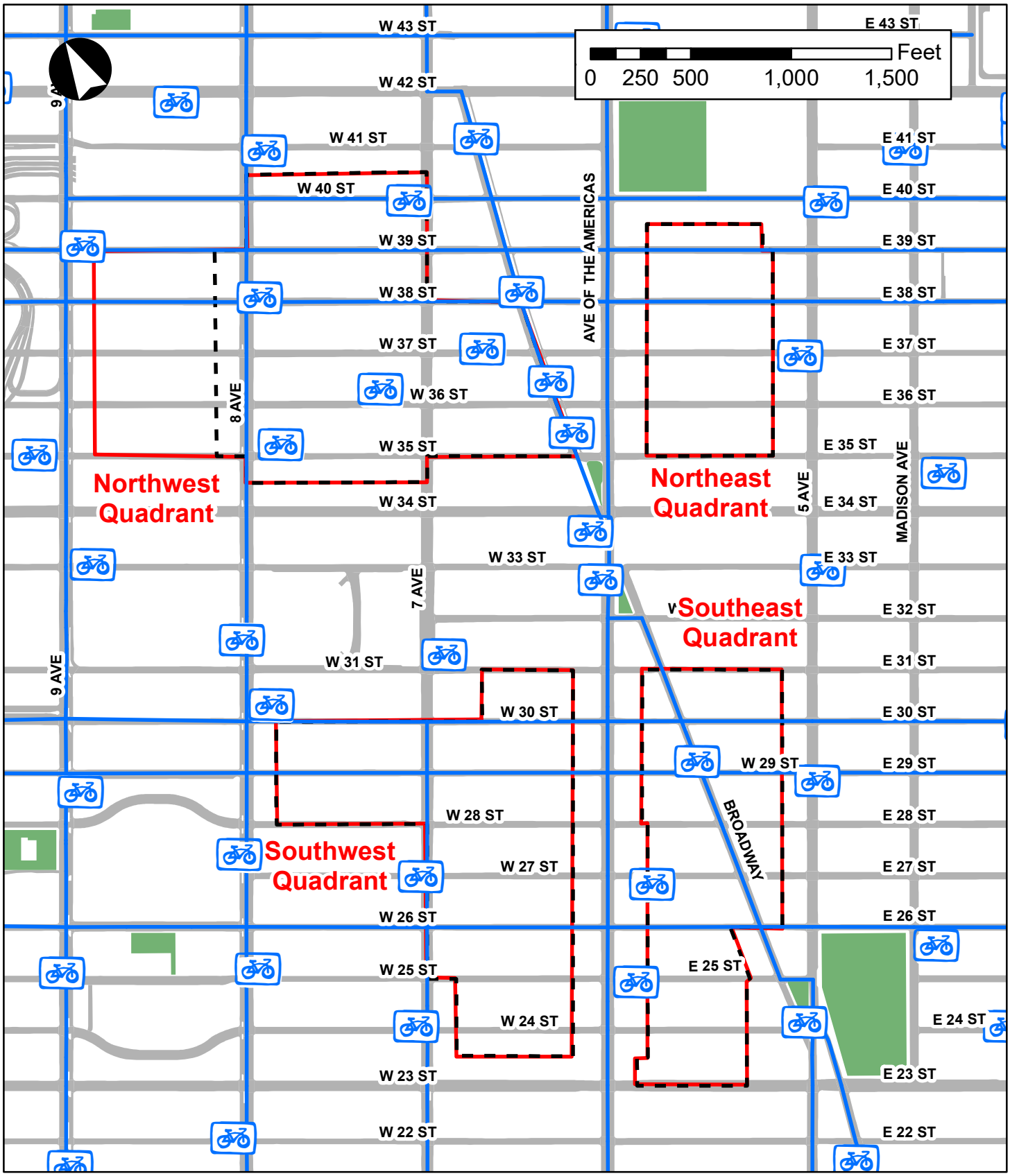
Study Area Street Network

As shown in **Figure 13-1**, the street network serving the Affected Area is comprised of an irregular street grid, typical for this area of Manhattan. As discussed above, the Affected Area

encompasses an approximately 141-acre, 42-block area, consisting of four noncontiguous manufacturing-zoned areas ("quadrants") roughly bounded by 40th Street to the north, Fifth Avenue to the east, 23rd Street to the south, and Ninth Avenue to the west.

Specifically, the northwest quadrant is generally bounded by West 40th Street to the north, Broadway to the east, and West 35th Street to the south, and Eighth And Ninth Avenues to the west for the Rezoning Area and Affected Area, respectively. East/West 40th Street is a one-way eastbound street that extends across Manhattan from West Street/12th Avenue to First Avenue. It typically operates with two moving lanes, a conventional bicycle lane, and curbside parking along one or both curbs. Broadway extends the length of Manhattan from Bowling Green to Inwood where it bridges the Harlem River and continues into The Bronx. It is closed to vehicular traffic for multiple segments within the Affected Area, including between West 24th And West 25th Streets, West 26th And West 27th Streets, West 32nd and West 35th Streets, West 39th And West 40th Streets, and between West 42nd and West 47th Streets. As part of the Broadway Vision project, within the Affected Area, Broadway is a two-way bike boulevard from West 25th Street to West 32nd Street (refer to **Figure 13-5** for the bike network). North of West 35th Street, Broadway typically operates one-way southbound with one moving lane, a conventional or protected bicycle lane, and curbside parking along one or both curbs. It is closed to vehicular traffic for multiple segments within the Affected Area, including between West 24th And West 25th Streets, West 26th And West 27th Streets, West 32nd and West 35th Streets, West 39th And West 40th Streets, and between West 42nd and West 47th Streets. South of East 14th Street, Broadway operates with two moving lanes for general traffic, an exclusive bus lane, a conventional bicycle lane, and curbside parking. At bus stop locations, the west sidewalk has been extended into the parking lane to allow buses to board/discharge passengers from the bus lane. A number of local and express bus services traverse Broadway south of the Affected Area. South of West 31st Street, Broadway is also a designated Local Truck Route. East/West 35th Street is a one-way westbound street that extends across Manhattan from Marginal Street to 11th Avenue. It typically operates with two moving lanes, a conventional bicycle lane, and curbside parking along one or both curbs. Eighth Avenue is a one-way northbound street that branches off Hudson Street in the West Village and extends to West 59th Street/Columbus Circle, where it becomes Central Park West. North of Frederick Douglass Circle, it resumes as Eighth Avenue (also known as Frederick Douglass Boulevard) and ends north of 155th Street where it merges into the Harlem River Drive. In the Affected Area, Eighth Avenue typically operates with two to three moving lanes, a protected bicycle lane, and curbside parking along one or both sides. The NYCT M20 local bus route operates along Eighth Avenue between the West Village and Columbus Circle. Eighth Avenue is also a designated Local Truck Route south of Central Park South. Ninth Avenue is a one-way southbound principal arterial that continues as Columbus Avenue north of West 59th Street and Hudson Street south of West 14th Street. It typically operates with four moving lanes, a protected bicycle lane, and curbside parking along both curbs. The NYCT M11 local bus route operates along Ninth Avenue operates along Ninth Avenue between West 14th Street and West 110th Street. Ninth Avenue is also a designated Local Truck Route.

Figure 13-5
Bike Routes and Citi Bike Stations



Legend

Rezoning Area | Affected Area | Citi Bike Stations | Bike Routes

The northeast quadrant is generally bounded by West 39th Street to the north, Fifth Avenue to the east, West 35th Street to the south, and Sixth Avenue (Avenue of the Americas) to the west. East/West 39th Street is a one-way westbound street that extends across Manhattan from First Avenue to 11th Avenue. It typically operates with two moving lanes, a protected bicycle lane, and curbside parking along one or both curbs.

Fifth Avenue is north-south thoroughfare extending from West 143rd Street in Harlem to Washington Square Park in Greenwich Village. In the Affected Area, Fifth Avenue operates in the southbound direction with two to three moving lanes, one to two dedicated bus lanes, and curbside parking along one or both sides. Multiple local MTA bus routes operate along Fifth Avenue, including the M1, M2, M3, M4, and M5 bus routes. South of West 23rd Street, Fifth Avenue has a protected bicycle lane on the eastern curb. Parallel to Fifth Avenue is northbound Sixth Avenue (also known as Avenue of the Americas), which branches off from Church Street in Tribeca and continues north to West 59th Street in Midtown. Within the Affected Area, it typically operates with three to four moving lanes plus a protected bicycle lane, bus lane, and parking along one or both curbs. Multiple NYCT local and express buses traverse Sixth Avenue through the Affected Area. South of West 31st Street, it is also designated as a Local Truck Route.

The southwest quadrant is generally bounded by West 31st Street to the north, Sixth Avenue to the east, West 23rd Street to the south, and Eighth Avenue to the west while the southeast quadrant is generally bounded by West 31st Street to the north, Fifth Avenue to the east, West 23rd Street to the south, and Sixth Avenue to the west. East/West 31st Street is a one-way westbound street that extends across Manhattan from Second Avenue to 10th Avenue. It typically operates with one moving lane and curbside parking along one or both curbs. Within the Affected Area, it is designated as a Local Truck Route. East/West 23rd Street is a two-way east-west throughfare that runs across Manhattan between the FDR Drive and 11th Avenue. In the Affected Area, West 23rd Street operates with one moving lane for general traffic and one dedicated bus lane in each direction as well as curbside parking along both curbs. It is also designated as a Local Truck Route.

Seventh Avenue runs between the northwest and southwest quadrants within the Affected Area. It begins at West 59th Street in Midtown and operates one-way southbound to Carmine Street where it continues as Varick Street until merging with West Broadway in Tribeca. In the Affected Area, Seventh Avenue typically operates with three moving lanes, a parking lane along the west curb. Within the Affected Area, there is a protected bicycle lane along the east curb of the Seventh Avenue corridor north of West 42nd Street and south of West 30th Street. NYCT M7 and M20 local buses traverse Seventh Avenue. It is also designated as a Local Truck Route south of West 31st Street. East/West 42nd Street is a two-way east-west throughfare that extends across Manhattan between the FDR Drive and West Street/12th Avenue. In the vicinity of the Affected Area, West 42nd Street typically operates with one moving lane for general traffic and one dedicated bus lane in each direction as well as curbside parking along both curbs. Multiple local and express NYCT buses traverse along

42nd Street. It is designated a Local Truck Route east of Ninth Avenue and a Through Truck Route between Ninth And 11th Avenues. East/West 34th Street is another two-way east-west throughfare that runs across Manhattan between the FDR Drive and West Street/12th Avenue. Near the Affected Area, West 34th Street typically operates with one moving lane for general traffic and one dedicated bus lane in each direction as well as curbside parking along one or both curbs. Multiple local and express NYCT buses traverse along 34th Street. It is designated as a Through Truck Route.

Two additional roadways of note that are located outside of the Affected Area are West Street/12th Avenue and the Franklin Delano Roosevelt (FDR) Drive. West Street/12th Avenue (Route 9A) runs along Manhattan's Hudson River waterfront from The Battery to West 57th Street, north of which it continues as the Henry Hudson Parkway. In the vicinity of the Affected Area, it operates with three to four moving lanes in each direction. Route 9A provides access to a number of river crossings including (south to north) the Hugh L. Carey (Brooklyn-Battery) Tunnel to Brooklyn, the Holland and Lincoln tunnels and George Washington Bridge to New Jersey, and the Henry Hudson Bridge to The Bronx. Northbound NYCT M12 buses use West Street/12th Avenue from West 14th Street to West 57th Street, and M50 buses traverse the corridor in both directions between West 42nd Street and West 50th Street. West Street/12th Avenue is designated as a Through Truck Route from The Battery to West 34th Street, and as a Local Truck route from West 34th Street to West 57th Street. Trucks are prohibited from using the Henry Hudson Parkway.

To the east of the Affected Area is the FDR Drive, a limited-access parkway restricted to non-commercial vehicles that runs along Manhattan's East River waterfront from South Ferry in Lower Manhattan to the RFK (Triborough) Bridge. En route it provides direct access to/from the Brooklyn Bridge. North of the RFK Bridge, the parkway becomes the Harlem River Drive which continues along the west bank of the Harlem River to Tenth Avenue and Dyckman Street in Inwood and provides access to and from the George Washington Bridge (I-95) to New Jersey.

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

Bus Routes

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

- Fifth Avenue (M1, M2, M3, M4, M5, M55, Q32)
- Sixth Avenue (M5, M7, M55)
- Seventh Avenue (M7, M20, M104, Q32)
- Eighth Avenue (M20, M34A SBS, M104)

- 23rd Street (M23 SBS)
- 34th Street (M34 SBS, M34A SBS)
- 31st Street (M5)
- 37th Street (Q32)

Truck Routes

The City has established local and through truck routes to manage the flow of trucks and improve the quality of neighborhoods. The City defines a truck as "a vehicle which is designed for transportation of property, which has either of the following characteristics: two axles and six tires or three or more axles." Trucks must generally travel on local truck routes to reach the intersection nearest their destinations. As noted above, in proximity to the Affected Area, local truck routes are designated along 23rd Street, 31st Street, 42nd Street, Ninth Avenue, and Eighth Avenue. South of West 31st Street, Seventh Avenue, Sixth Avenue, and Broadway are also designated as local truck routes. Through trucks are defined as having neither an origin nor a destination within the Borough of Manhattan. Designated through truck routes in proximity to the Affected Area include West 12th Street from the Battery to West 34th Street, West 42nd Street between Ninth Avenue and Eleventh Avenue, and 34th Street. 34th Street is also designated a through truck route with the exception of 53 feet trailers and all through trucks are prohibited from 34th Street between the Queens Midtown Tunnel and Dyer Avenue between 11:00 AM and 6:00 PM.

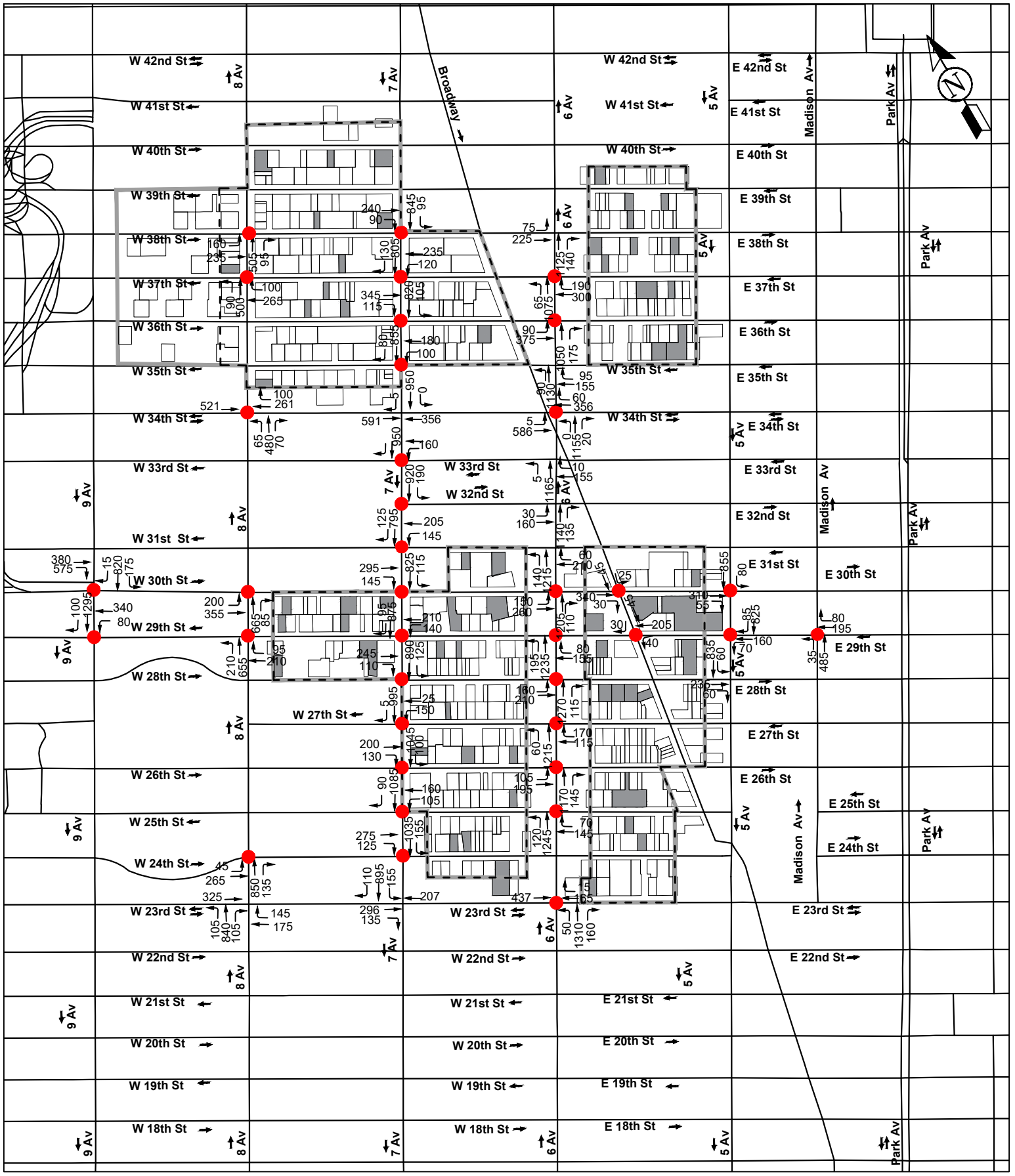
Bicycle Lanes

As shown in **Figure 13-5**, streets within the Affected Area and its proximity host an extensive network of bicycle lanes, the majority of which are conventional bicycle lanes or shared lanes, though protected bicycle lanes are present along Broadway and north-south avenues.

Traffic Conditions

To establish the existing conditions traffic network, an extensive traffic data collection program—including ATR counts, turning movement counts, and vehicle classification counts—was undertaken in June 2024. Physical inventory data needed for operational analysis—e.g., the number of traffic lanes, lane widths, pavement markings, turn prohibitions, bus stops, and typical parking regulations—were collected in June and July 2024. It should be noted that based on DCP and DOT guidance and coordination, the existing conditions traffic network incorporates the existing traffic conditions of the overlapping intersections analyzed in the 2024 *Western Rail Yard Modifications DEIS* (DEIS_24DCP091M). Signal timing plans for signalized intersections within the study area were obtained from DOT. **Figures 13-6a through 13-6d** show existing traffic volumes during weekday AM, midday, PM, and Saturday peak hours.

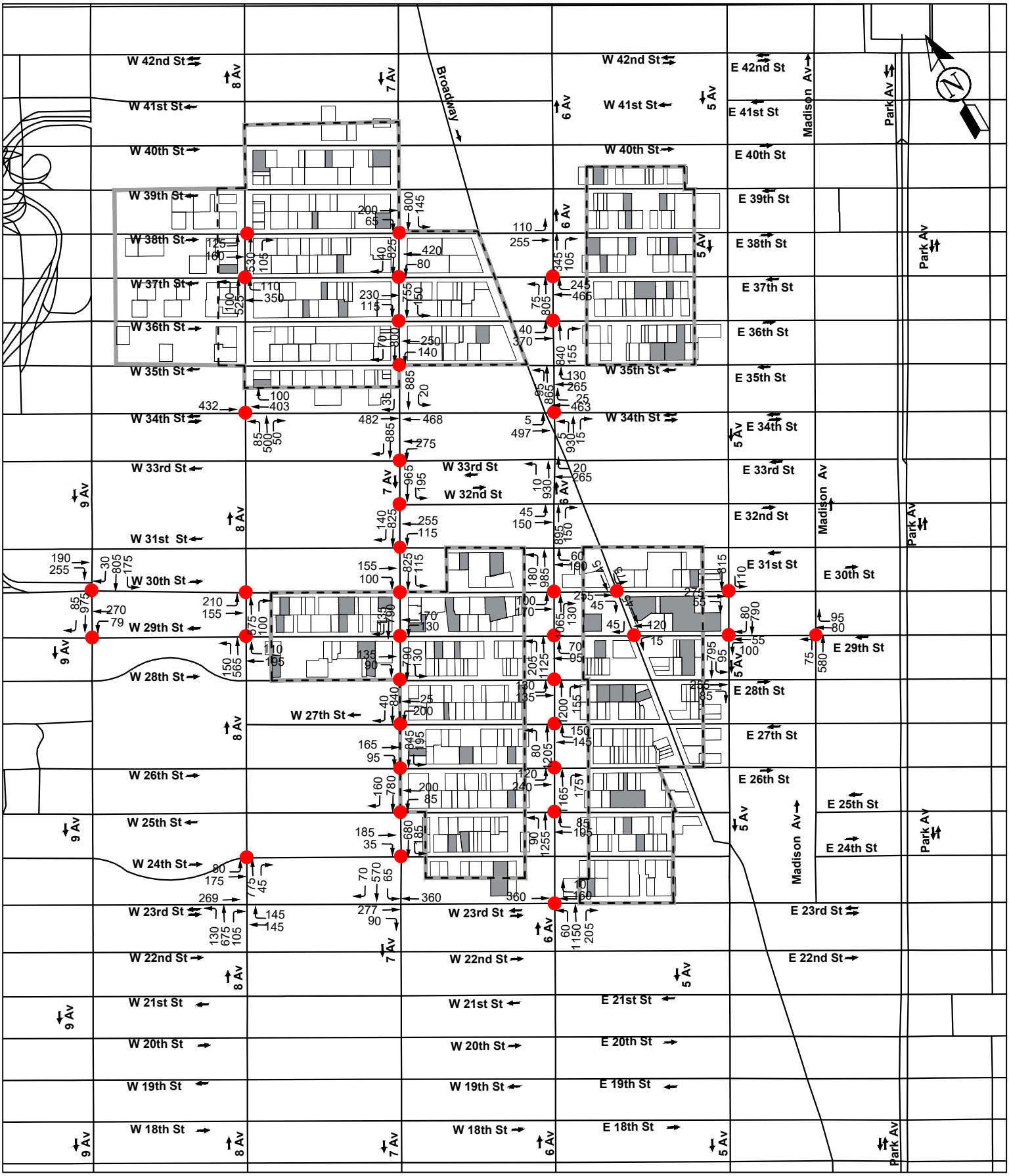
Weekday AM Existing Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Weekday AM Existing Traffic Volume

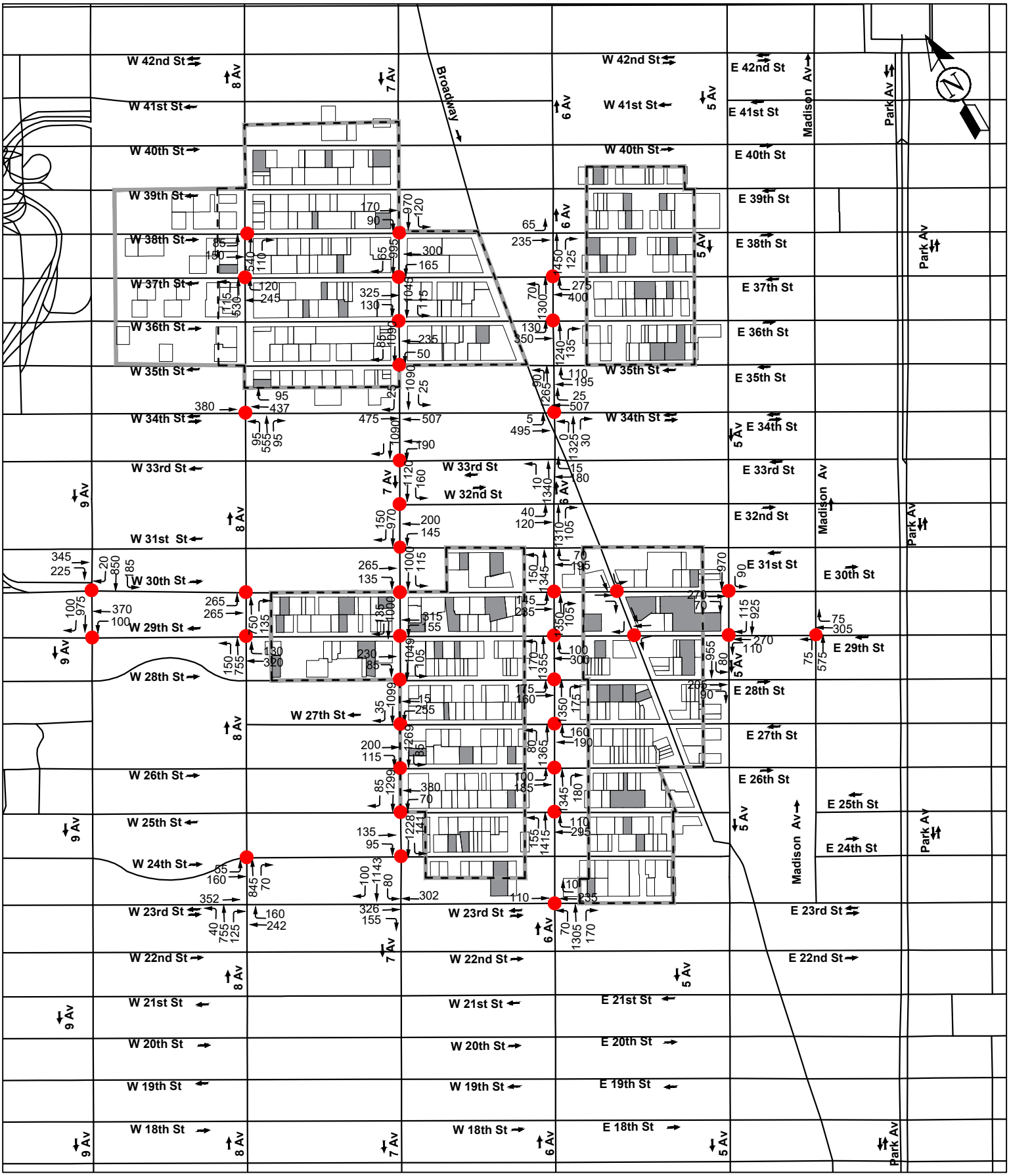
Weekday MD Existing Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Weekday MD Existing Traffic Volume

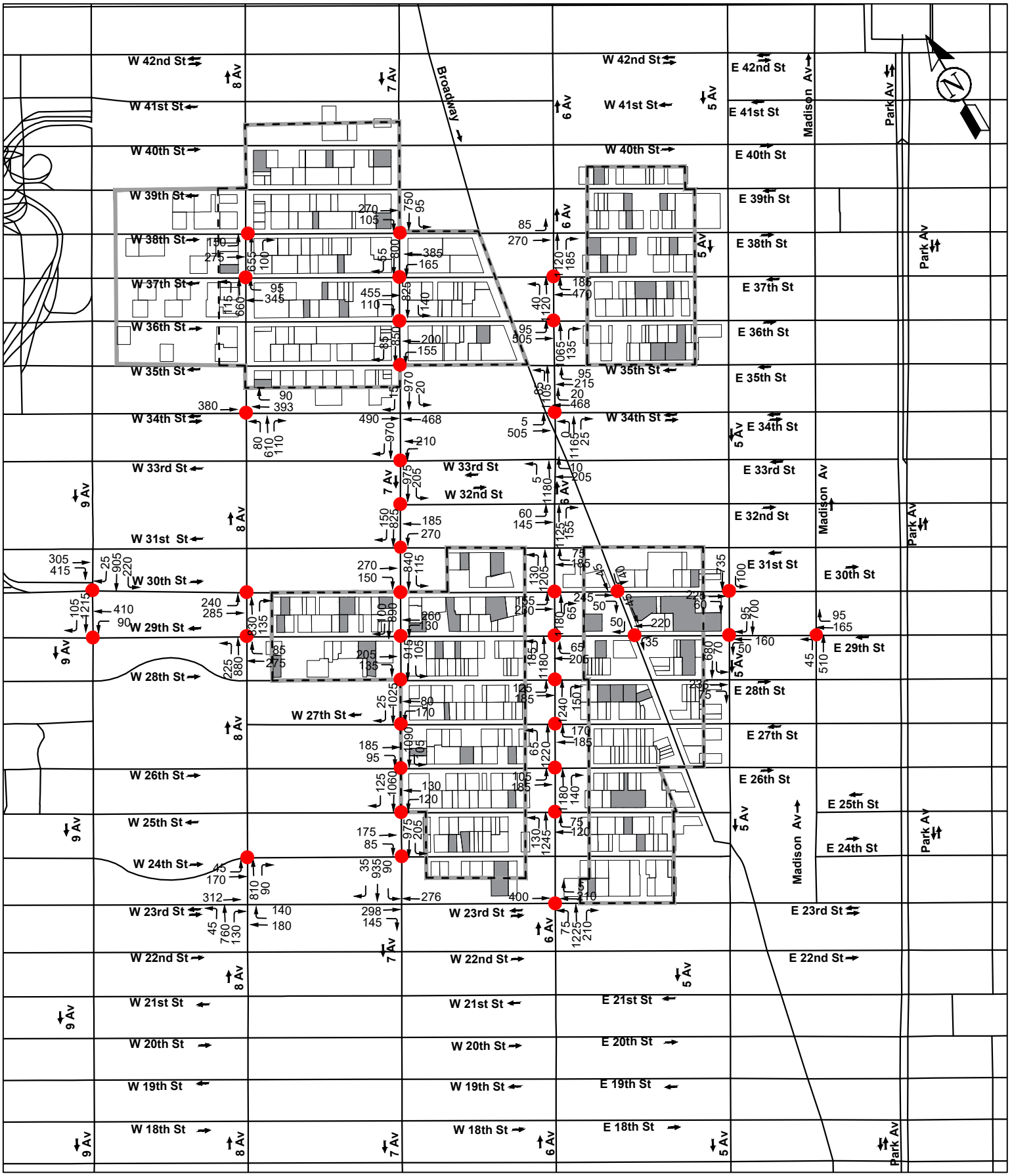
Weekday PM Existing Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Weekday PM Existing Traffic Volume

Saturday Existing Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = SAT Existing Traffic Volume

Intersection Capacity Analysis

The v/c ratios, delays, and levels of service for all lane groups at all analyzed intersections in all peak hours under existing conditions are shown in **Table 13-20**. A lane group is considered congested and is included in **Table 13-20** if it operates at LOS E or F and/or with a v/c ratio of 0.90 or above. A v/c ratio of 1.00 or above reflects capacity conditions. As shown in **Table 13-20**, a total of 26 analyzed intersections (all signalized) currently have at least one congested lane group in one or more peak hours. Sixth Avenue has the greatest number of congested locations with a total of nine intersections. A total of 11 intersections currently have one or more lane groups operating at or over capacity (v/c ratio $\geq$ 1.0) in the weekday AM peak hour, 7 in the midday, 16 in the PM, and 8 in the Saturday peak hour. Overall, the data in **Table 13-20** indicates that congestion at analyzed intersections is most evident during the weekday AM and weekday PM peak periods, and least evident during the weekday midday and Saturday peak periods.

Table 13-20: Existing Level of Service at Analyzed Intersections

				Weekday AM			Weekday Midday			Weekday PM			Saturday Midday		
	Signalized Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
1	Madison Ave &	WB	TR	0.78	44.0	D	0.61	36.7	D	1.01	78.9	E *	0.81	48.1	D
	E 29th St	NB	LT	0.57	22.1	C	0.60	22.5	C	0.70	25.7	C	0.56	21.5	C
2	5th Ave &	EB	TR	1.05	54.6	D *	1.01	59.0	E *	1.03	56.9	E *	0.84	25.6	C
	W 30th St	SB	LT	0.61	17.7	B	0.55	16.6	B	0.64	18.2	B	0.48	15.7	B
3	5th Ave &	WB	L	0.20	23.9	C	0.30	25.5	C	0.35	26.5	C	0.15	23.2	C
	W 29th St	WB	T	0.38	26.4	C	0.14	22.9	C	0.57	30.6	C	0.39	26.6	C
		SB	T	0.50	4.7	A	0.46	5.0	A	0.52	5.1	A	0.37	4.7	A
		SB	R	0.40	7.2	A	0.39	7.7	A	0.75	24.7	C	0.45	9.3	A
4	Broadway &	EB	TR	0.90	37.0	D *	0.73	28.3	C	0.80	28.0	C	0.71	24.8	C
	W 30th St	SB	LT	0.21	19.5	B	0.44	24.4	C	0.26	20.5	C	0.27	20.4	C
5	Broadway &	WB	LT	0.72	28.8	C	0.42	24.8	C	0.98	57.5	E *	0.79	32.4	C
	W 29th St	SB	TR	0.20	12.7	B	0.27	16.7	B	0.21	16.1	B	0.30	18.3	B
6	6th Ave &	WB	T	0.53	26.7	C	0.55	26.2	C	0.77	35.7	D	0.55	26.2	C
	37th St	WB	R	0.72	41.0	D	1.05	97.9	F *	1.05	95.5	F *	0.68	36.8	D
		NB	LT	0.77	5.2	A	0.57	3.6	A	0.86	9.7	A	0.71	4.7	A
7	6th Ave &	EB	L	0.48	40.8	D	0.22	33.9	C	0.65	47.2	D	0.47	39.4	D
	36th St	EB	T	0.36	16.3	B	0.36	16.2	B	0.32	15.7	B	0.42	16.9	B
		NB	T	0.90	35.2	D *	0.52	20.4	C	0.78	26.3	C	0.69	23.4	C
		NB	R	0.86	54.9	D	0.57	27.2	C	0.70	37.3	D	0.53	26.4	C
8	6th Ave &	EB	T	1.04	76.4	E *	0.94	54.2	D *	0.97	60.0	E *	1.03	73.7	E *
	34th St	WB	T	0.83	40.1	D	0.92	49.4	D *	1.05	80.9	F *	0.98	60.7	E *
		WB	R	0.76	80.8	F *	0.30	43.7	D	0.66	98.4	F *	0.24	41.2	D
		NB	T	0.50	15.2	B	0.39	13.9	B	0.56	16.0	B	0.52	15.3	B
9	6th Ave &	EB	LT	1.05	71.8	E *	0.69	28.4	C	1.02	66.0	E *	0.94	48.5	D *
	W 30th St	NB	TR	0.60	4.2	A	0.56	3.2	A	0.72	6.6	A	0.59	3.9	A
10	6th Ave &	WB	T	0.45	44.6	D	0.31	40.8	D	0.96	75.6	E *	0.60	46.3	D
	W 29th St	WB	R	0.37	43.4	D	0.32	41.8	D	0.51	45.4	D	0.28	39.6	D
		NB	L	0.81	26.4	C	1.05	75.6	E *	1.05	77.4	E *	1.05	80.0	E *
		NB	T	0.59	5.0	A	0.62	5.4	A	0.68	5.7	A	0.62	4.6	A
11	6th Ave &	EB	LT	1.02	82.5	F *	0.75	44.9	D	1.00	84.8	F *	0.82	52.4	D
	W 28th Ave	NB	TR	0.63	6.9	A	0.64	5.6	A	0.70	5.3	A	0.66	6.6	A
12	6th Ave &	WB	TR	0.57	29.9	C	0.53	28.7	C	0.60	30.2	C	0.61	30.6	C
	W 27th St	NB	L	0.18	2.5	A	0.24	2.8	A	0.25	2.1	A	0.20	2.4	A
		NB	T	0.52	2.8	A	0.57	2.8	A	0.58	2.1	A	0.58	2.7	A
13	6th Ave &	EB	LT	1.05	83.5	F *	1.05	80.5	F *	1.05	85.0	F *	0.88	45.4	D
	W 26th St	NB	TR	0.67	5.6	A	0.74	7.9	A	0.83	9.7	A	0.67	5.0	A
14	6th Ave &	WB	TR	0.62	33.4	C	0.81	44.6	D	1.05	84.7	F *	0.55	31.2	C
	W 25th St	NB	L	0.55	9.8	A	0.51	10.9	B	0.97	59.4	E *	0.61	16.2	B
		NB	T	0.54	2.1	A	0.56	4.0	A	0.63	3.7	A	0.58	5.8	A
15	6th Ave &	EB	T	0.92	50.0	D *	0.77	34.7	C	0.79	35.5	D	0.78	35.1	D
	W 23th Ave	WB	T	0.41	22.4	C				0.54	25.1	C			
		WB	R	0.12	19.1	B				0.05	17.5	B			
		WB	TR				0.42	22.8	C				0.47	23.6	C
		NB	L	0.32	21.9	C	0.46	29.7	C	0.52	30.3	C	0.53	32.5	C
		NB	T	0.61	17.4	B	0.60	17.4	B	0.67	18.5	B	0.57	16.9	B
		NB	R	0.89	61.9	E *	1.05	103.6	F *	1.05	104.1	F *	1.05	105.2	F *
16	7th Ave &	EB	TR	1.05	79.9	E *	0.88	40.7	D	0.86	43.2	D	1.05	78.7	E *
	W 38th St	SB	LT	0.64	20.3	C	0.66	20.7	C	0.68	21.0	C	0.55	18.5	B

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes a congested movement (LOS E or F, or v/c ratio greater than or equal to 0.9)
Analysis is based on the 2000 Highway Capacity Manual methodology (Synchro 12)

Table 13-20 (cont.): Existing Level of Service at Analyzed Intersections

	Signalized Intersections	Approach	Lane Group	Weekday AM V/C Ratio	Weekday AM Delay (sec/veh)	Weekday AM LOS	Weekday Midday V/C Ratio	Weekday Midday Delay (sec/veh)	Weekday Midday LOS	Weekday PM V/C Ratio	Weekday PM Delay (sec/veh)	Weekday PM LOS	Saturday Midday V/C Ratio	Saturday Midday Delay (sec/veh)	Saturday Midday LOS
17	7th Ave &	WB	LT	0.61	30.3	C	0.69	32.3	C	0.78	36.7	D	0.84	39.8	D
	W 37th St	SB	TR	0.59	4.6	A	0.54	3.1	A	0.61	3.8	A	0.49	4.4	A
18	7th Ave &	EB	T	1.00	75.5	E *	0.67	35.7	D	0.91	55.9	E *	1.05	88.1	F *
	W 36th St	EB	R	0.64	40.2	D	0.52	33.3	C	0.61	37.1	D	0.44	29.5	C
		SB	LT	0.60	6.2	A	0.61	4.8	A	0.73	9.4	A	0.59	8.4	A
19	7th Ave &	WB	L	0.38	27.6	C	0.51	31.1	C	0.18	23.9	C	0.56	32.1	C
	W 35th St	WB	T	0.52	30.1	C	0.70	36.7	D	0.63	33.5	C	0.55	30.5	C
		SB	TR	0.55	5.2	A	0.52	4.6	A	0.72	6.3	A	0.55	4.9	A
20	7th Ave &	WB	L	0.53	33.6	C	1.05	100.5	F *	1.05	109.6	F *	1.05	102.8	F *
	W 33rd St	SB	T	0.40	12.9	B	0.36	12.5	B	0.44	13.3	B	0.37	12.6	B
21	7th Ave &	SB	L	0.30	5.5	A	0.32	7.4	A	0.27	4.4	A	0.30	6.1	A
	W 32nd St	SB	T	0.67	11.2	B	0.69	13.5	B	0.81	14.3	B	0.65	11.6	B
22	7th Ave &	WB	L	0.45	22.5	C	0.34	19.8	B	0.46	22.5	C	0.39	20.8	C
	W 31st St	WB	T	0.39	20.0	B	0.51	22.2	C	0.38	19.7	B	0.38	19.7	B
		SB	TR	0.52	2.8	A	0.51	2.5	A	0.60	3.1	A	0.52	3.1	A
23	7th Ave &	EB	T	0.62	27.1	C	0.36	21.5	C	0.50	19.5	B	0.59	26.5	C
	W 30th St	EB	R	0.50	25.4	C	0.36	22.4	C	0.55	22.9	C	0.49	25.8	C
		SB	L	1.05	100.1	F *	0.77	32.1	C	0.91	54.3	D *	0.55	16.1	B
		SB	T	0.47	7.4	A	0.45	5.8	A	0.54	6.6	A	0.48	7.0	A
24	7th Ave &	WB	L	0.41	31.9	C	0.44	27.5	C	0.51	39.1	D	0.41	35.4	D
	W 29th St	WB	T	0.53	34.2	C	0.45	26.8	C	0.75	44.1	D	0.63	40.3	D
		SB	T							0.73	10.9	B			
		SB	R							1.05	95.3	F *			
		SB	TR	0.68	11.6	B	0.68	10.8	B				0.65	10.6	B
25	7th Ave &	EB	TR	0.89	51.9	D	0.64	34.9	C	0.68	35.1	D	0.80	42.2	D
	W 28th Ave	SB	L	0.54	13.6	B	0.45	9.3	A	0.44	8.6	A	0.39	8.3	A
		SB	T	0.55	7.4	A	0.46	5.9	A	0.56	6.4	A	0.50	6.5	A
26	7th Ave &	WB	L	0.56	27.2	C	0.64	31.9	C	1.05	87.4	F *	0.53	23.2	C
	W 27th St	WB	T	0.08	16.9	B	0.08	18.3	B	0.04	14.3	B	0.26	17.2	B
		SB	T	0.57	5.8	A	0.49	5.1	A	0.59	4.9	A	0.57	7.2	A
27	7th Ave &	EB	T	0.58	31.7	C	0.49	29.0	C	0.54	30.2	C	0.51	29.3	C
	W 26th St	EB	R	0.52	31.6	C	0.43	29.0	C	0.48	30.6	C	0.35	26.4	C
		SB	L	0.54	14.8	B	0.81	31.4	C	0.43	10.3	B	0.35	6.7	A
		SB	T	0.66	9.7	A	0.45	7.2	A	0.69	10.8	B	0.59	7.6	A
28	7th Ave &	WB	LT	0.70	30.9	C	0.74	32.2	C	1.04	52.5	D *	0.65	27.5	C
	W 25th St	SB	T							0.71	6.9	A			
		SB	R							0.49	9.4	A			
		SB	TR	0.76	9.4	A	0.63	10.3	B				0.73	9.2	A
29	7th Ave &	EB	TR	0.80	28.4	C	0.43	27.1	C	0.47	27.8	C	0.50	19.3	B
	W 24th St	SB	L	0.67	12.9	B	0.72	17.1	B	0.69	13.0	B	0.82	22.9	C
		SB	T	0.66	4.8	A	0.41	4.1	A	0.69	3.8	A	0.59	5.2	A
30	8th Ave &	EB	L	0.96	89.4	F *	0.74	56.9	E *	0.44	40.2	D	0.81	63.2	E *
	W 38th St	EB	T	0.51	20.0	B	0.32	16.5	B	0.31	16.3	B	0.48	19.2	B
		NB	T	0.61	13.0	B	0.59	12.2	B	0.69	16.1	B	0.68	12.0	B
		NB	R	1.05	115.3	F *	1.05	112.1	F *	1.03	179.8	F *	0.99	104.4	F *
31	8th Ave &	WB	T	0.62	41.4	D	0.80	57.6	E *	0.50	43.8	D	0.81	54.3	D
	W 37th St	WB	R	0.49	45.4	D	0.62	61.8	E *	0.59	53.9	D	0.49	51.8	D
		NB	L	0.43	37.4	D	0.42	36.9	D	0.47	38.2	D	0.45	37.6	D
		NB	T	0.48	16.8	B	0.47	16.5	B	0.44	16.1	B	0.57	18.1	B

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes a congested movement (LOS E or F, or v/c ratio greater than or equal to 0.9)
Analysis is based on the 2000 Highway Capacity Manual methodology (Synchro 12)

Table 13-20 (cont.): Existing Level of Service at Analyzed Intersections

	Signalized Intersections	Approach	Lane Group	Weekday AM V/C Ratio	Weekday AM Delay (sec/veh)	Weekday AM LOS	Weekday Midday V/C Ratio	Weekday Midday Delay (sec/veh)	Weekday Midday LOS	Weekday PM V/C Ratio	Weekday PM Delay (sec/veh)	Weekday PM LOS	Saturday Midday V/C Ratio	Saturday Midday Delay (sec/veh)	Saturday Midday LOS
32	8th Ave & W 34th St	EB	T	1.05	82.7	F *	0.92	51.8	D *	0.78	37.5	D	0.73	34.5	C
		WB	T	0.54	27.7	C	0.96	59.7	E *	0.99	65.4	E *	0.73	34.2	C
		WB	R	0.45	28.4	C	0.44	27.7	C	0.41	27.1	C	0.40	27.1	C
		NB	L	0.44	43.4	D	0.51	46.2	D	0.60	49.4	D	0.50	45.0	D
		NB	TR	0.60	22.1	C	0.53	20.6	C	0.70	24.7	C	0.73	25.6	C
33	8th Ave & W 30th St	EB	L	0.66	23.2	C	0.67	32.5	C	0.89	51.2	D	0.75	27.4	C
		EB	T	0.72	24.9	C	0.33	17.2	B	0.55	21.5	C	0.59	15.2	B
		NB	T	0.44	9.8	A	0.37	8.8	A	0.50	10.1	B	0.49	6.9	A
34	8th Ave & W 29th St	WB	TR	0.70	30.2	C	0.73	31.7	C	1.02	66.7	E *	0.79	33.1	C
		NB	L	0.92	63.0	E *	0.65	33.9	C	0.84	56.6	E *	1.00	87.4	F *
		NB	T	0.28	13.9	B	0.26	13.8	B	0.32	14.2	B	0.41	15.1	B
35	8th Ave & W 24th St	EB	T	0.87	50.2	D	0.73	39.2	D	0.58	31.6	C	0.58	32.3	C
		NB	TR	0.63	18.2	B	0.52	17.3	B	0.53	16.3	B	0.59	18.5	B
36	9th Ave & W 30th St	EB	T	0.55	30.7	C	0.31	27.5	C	0.52	29.8	C	0.43	29.1	C
		EB	R	1.05	82.8	F *	0.58	33.7	C	0.59	33.7	C	1.00	74.4	E *
		SB	LT	0.68	22.4	C	0.74	26.4	C	0.72	23.4	C	0.79	27.9	C
37	9th Ave & W 29th St	WB	L	0.25	15.9	B	0.23	23.2	C	0.28	22.0	C	0.26	16.8	B
		WB	T	0.82	27.8	C	0.62	29.3	C	0.84	33.3	C	0.95	37.5	D *
		SB	TR	0.90	24.9	C *	0.70	13.4	B	0.65	10.4	B	0.82	17.6	B

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes a congested movement (LOS E or F, or v/c ratio greater than or equal to 0.9)
Analysis is based on the 2000 Highway Capacity Manual methodology (Synchro 12)

The Future without the Proposed Actions (No-Action Condition)

Changes to the Study Area Street Network

The 2024 through 2034 period will likely see the implementation of a number of physical and operational changes to the study area street system associated with DOT's Street Improvement Projects (SIPs), including the Sixth Avenue: West 8th to West 33rd Street Micromobility project; Seventh Avenue: West 42nd to West 34th Streets Protected Bike Lane (PBL) and Safety Upgrades project; Seventh Avenue: West 34th to West 30th Streets PBL; and 38th Street and 39th Street Micromobility Upgrades. Changes associated with these projects are reflected in the No-Action traffic network and are discussed below. Also considered for the No-Action traffic network were operational changes associated with No-Action developments and changes to signal timings implemented by DOT subsequent to the traffic data collection program. These improvements were included and reflected in the No-Action (and With-Action) analyses. It should also be noted that the analysis reflects that the construction in the existing condition is assumed to be completed by 2034.

<u>Sixth Avenue: West 8th to West 33rd Street Micromobility</u>

NYCDOT is redesigning Sixth Avenue between West 8th and West 33rd Streets to bring new protected bicycle lanes, to better accommodate micromobility, and to improve safety along the Vision Zero Corridor/Area/Intersections as part of the SIP. As a result, the lane configurations along Sixth Avenue will include installation of a parking protected bike lane with

mixing zones and turn lanes. The mixing zones would remove left turns from through lanes, which would help process through traffic. Concrete pedestrian safety islands would also be installed. It should be noted that most, if not all, of the intersections along Sixth Avenue SIP have already been implemented.

Seventh Avenue: West 42nd to West 34th Streets PBL and Safety Improvements

NYCDOT is redesigning Seventh Avenue between West 34th and West 42nd Streets to add dedicated bicycle lanes and redesign targeted intersections to improve safety and comfort for cyclists and pedestrians as part of the SIP. As a result, the lane configurations along Seventh Avenue will include installation of a parking protected bike lane and reduction of four travel lanes to three travel lanes (each approximately ten feet wide). There would also be addition of daylighting at intersections, and installation of offset crossings at intersections with lower vehicular volumes.

Seventh Avenue: West 34th to West 30th Streets PBL

In coordination with Vornado and the 34th Street Partnership, NYCDOT is currently in the process of redesigning Seventh Avenue between West 30th and West 34th Streets to add dedicated bicycle lanes and improve safety and comfort for cyclists and pedestrians as part of the SIP. As a result, the lane configurations along Seventh Avenue will include installation of a dedicated bike lane with four travel lanes (each approximately ten feet wide). In addition, along Seventh Avenue, a dedicated southbound right turn lane at West 31st Street and a southbound left-through lane at West 33rd Street are proposed. There would also be dedicated taxi stands along both sides of Seventh Avenue between West 31st and West 33rd Streets. Curb and sidewalk extensions as well as painted pedestrian refuge areas with flexible delineators are also proposed.

38th Street and 39th Street Micromobility Upgrades

NYCDOT is implementing upgrades to the 38th Street and 39th Street corridors to the curbside protected bike lanes along the 38th Street and 39th Street corridors between Ninth Avenue and Madison Avenue to expand micromobility access on commercial corridors, improve road safety for cyclists adjacent to commercial activity, and reduce double parking and congestion at drop-off area as part of the SIP. As a result, the lane configurations along 38th and 39th Streets will include widening the protected bike lane to up to eight feet wide and formalizing one travel lane and curbside parking lane. New no standing zones would also be established for curbside access and emergencies. In addition, new bike corrals would be provided at intersections to meet cycling growth and demand and daylighting would be provided to reduce double parking and lane blockages at pick-up and drop-off zones.

Future No-Action Traffic Growth

Between 2024 and 2034, it is expected that transportation demands in the vicinity of the Affected Area will increase due to long-term background growth as well as development that could occur pursuant to existing zoning. In the future without the Proposed Actions, the

identified projected development sites are assumed to remain unchanged from existing conditions.

In order to forecast future traffic conditions without the Proposed Actions (the No-Action condition), development on projected development sites and others shown in **Figure 13-7** were considered. The Future No-Action traffic volumes also reflect annual background growth rates of 0.25 percent per year for the 2024 through 2029 period and 0.125 percent for the 2029 through 2034 period. These background growth rates, recommended in the *CEQR Technical Manual* for projects in Manhattan, are applied to account for smaller projects and as-of-right developments not reflected in **Figure 13-7**, and general increases in travel demand not attributable to specific development projects. **Figures 13-8a through 13-8d** show total No-Action traffic volumes during weekday AM, midday, PM, and Saturday peak hours.

Intersection Capacity Analysis

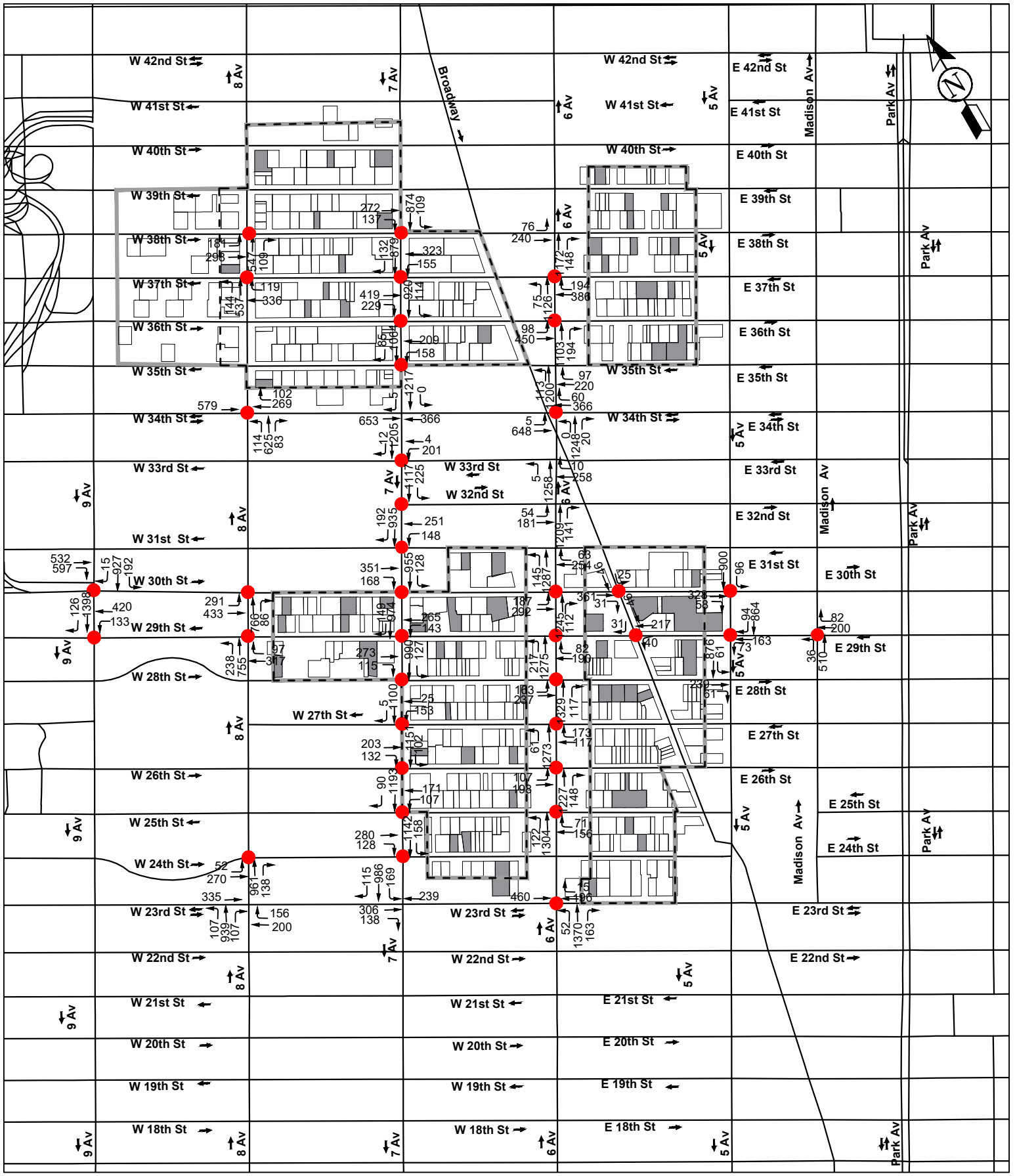
The v/c ratios, delays, and levels of service for all lane groups at all analyzed intersections in all peak hours under No-Action conditions are shown in **Table 13-21**. As shown in **Table 13-21**, a total of 31 intersections (all signalized) would have at least one congested lane group in one or more peak hours in the No-Action condition, compared to 26 intersections (all signalized) under existing conditions. Seventh Avenue would have the most congested intersections with ten (compared to seven under existing conditions), followed by Sixth Avenue with nine intersections each (the same as under existing conditions). A total of 15 intersections would have one or more lane groups operating at or over capacity (v/c > 1.0) in the weekday AM peak hour, 14 in the midday, 26 in the PM, and 15 in the Saturday peak hour. This compares 11, 7, 16, and 8 intersections operating at or over capacity during these same periods, respectively, under existing conditions.



Legend

- Affected Area
- Rezoning Area
- 1/4-Mile Radius
- 1/2-Mile Radius
- 18 No-Build Development Sites

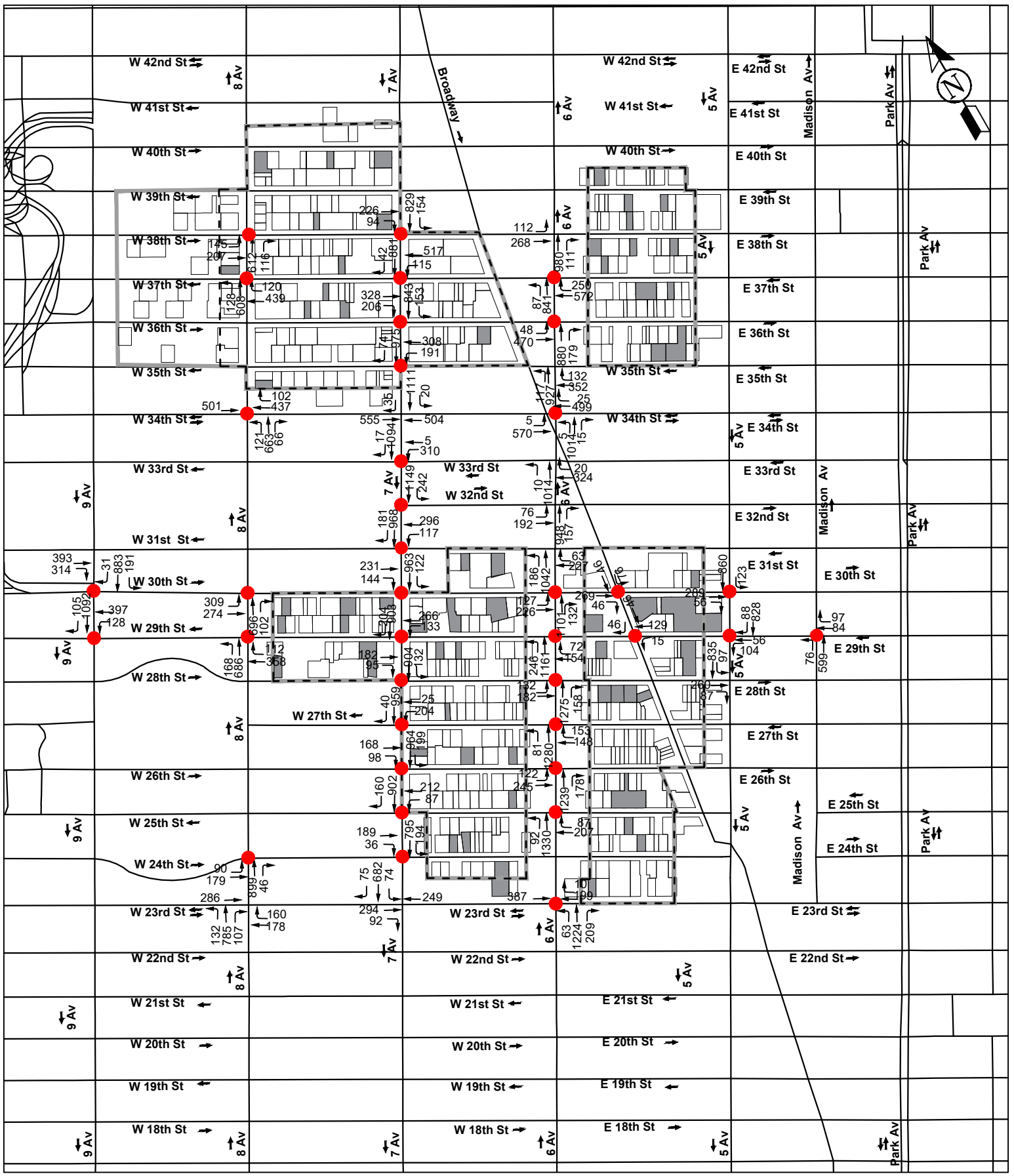
Weekday AM No-Action Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Weekday AM No-Action Traffic Volume

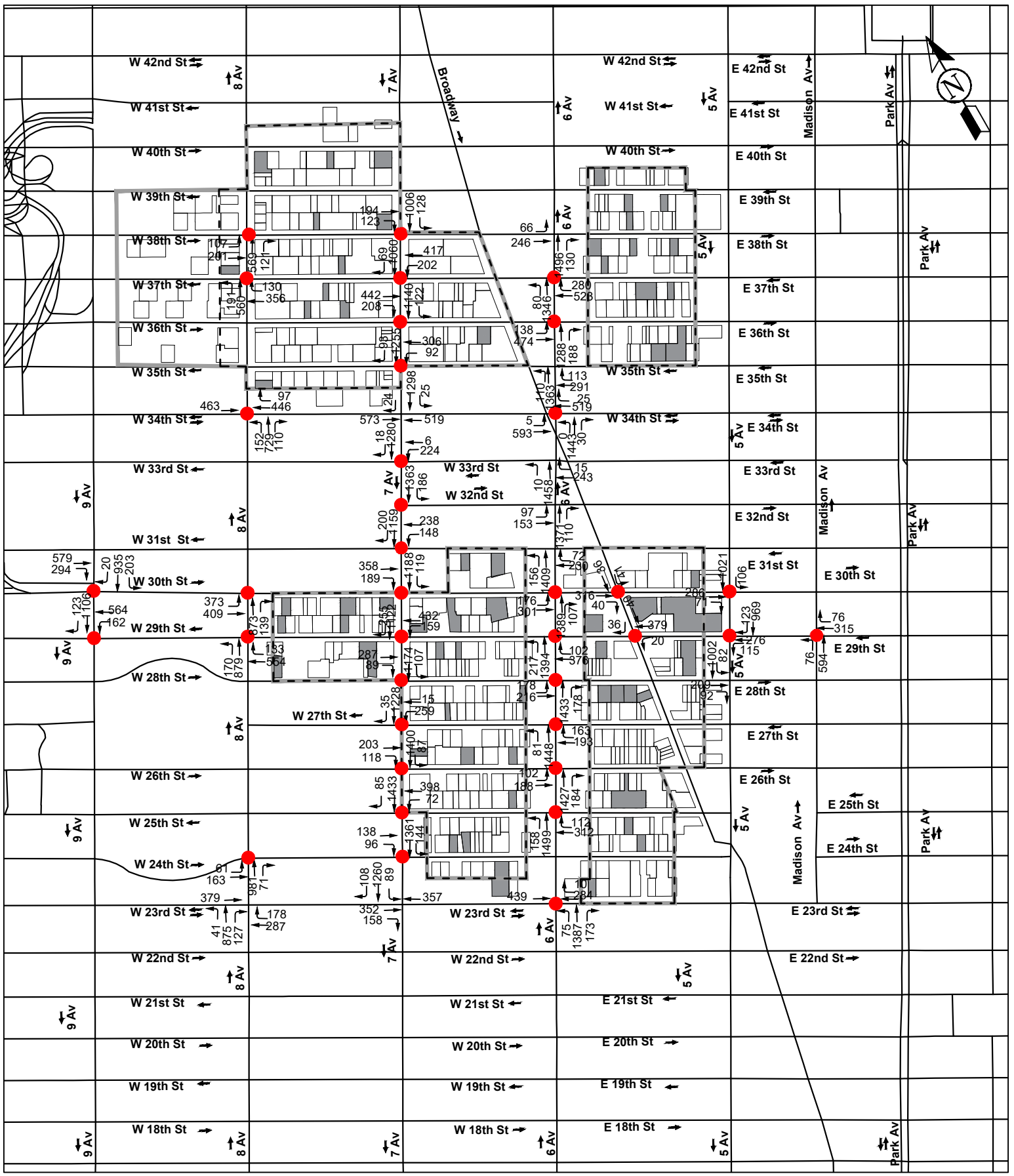
Weekday MD No-Action Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Weekday MD No-Action Traffic Volume

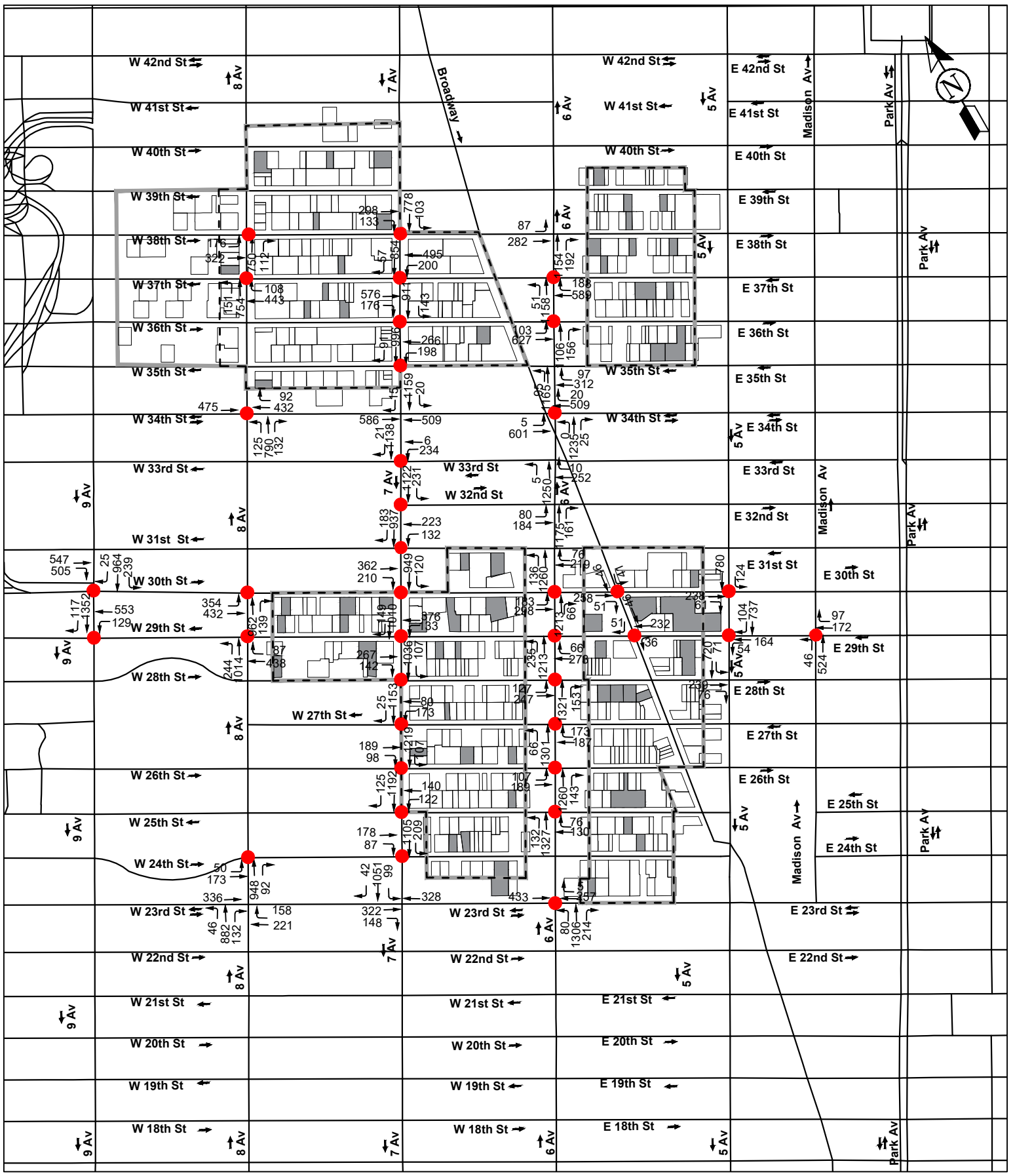
Weekday PM No-Action Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Weekday PM No-Action Traffic Volume

Saturday No-Action Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = SAT No-Action Traffic Volume

Table 13-21: No-Action Level of Service at Analyzed Intersections

	Signalized Intersections	Approach	Lane Group	Existing Weekday AM V/C Ratio	Existing Weekday AM Delay (sec/veh)	Existing Weekday AM LOS	No-Action Weekday AM V/C Ratio	No-Action Weekday AM Delay (sec/veh)	No-Action Weekday AM LOS	Existing Weekday Midday V/C Ratio	Existing Weekday Midday Delay (sec/veh)	Existing Weekday Midday LOS	No-Action Weekday Midday V/C Ratio	No-Action Weekday Midday Delay (sec/veh)	No-Action Weekday Midday LOS	Existing Weekday PM V/C Ratio	Existing Weekday PM Delay (sec/veh)	Existing Weekday PM LOS	No-Action Weekday PM V/C Ratio	No-Action Weekday PM Delay (sec/veh)	No-Action Weekday PM LOS	Existing Saturday Midday V/C Ratio	Existing Saturday Midday Delay (sec/veh)	Existing Saturday Midday LOS	No-Action Saturday Midday V/C Ratio	No-Action Saturday Midday Delay (sec/veh)	No-Action Saturday Midday LOS
1	Madison Ave &	WB	TR	0.78	44.0	D	0.80	45.7	D	0.61	36.7	D	0.63	37.8	D	1.01	78.9	E *	1.04	86.4	F *	0.81	48.1	D	0.88	56.9	E *
	E 29th St	NB	LT	0.57	22.1	C	0.60	22.8	C	0.60	22.5	C	0.62	23.0	C	0.70	25.7	C	0.72	26.4	C	0.56	21.5	C	0.51	20.6	C
2	5th Ave &	EB	TR	1.05	54.6	D *	1.11	73.6	E *	1.01	59.0	E *	1.05	69.7	E *	1.03	56.9	E *	1.08	71.7	E *	0.84	25.6	C	0.92	34.6	C *
	W 30th St	SB	LT	0.61	17.7	B	0.65	18.5	B	0.55	16.6	B	0.58	17.2	B	0.64	18.2	B	0.68	19.1	B	0.48	15.7	B	0.55	16.7	B
3	5th Ave &	WB	L	0.20	23.9	C	0.21	24.0	C	0.30	25.5	C	0.32	25.8	C	0.35	26.5	C	0.37	26.9	C	0.15	23.2	C	0.16	23.3	C
	W 29th St	WB	T	0.38	26.4	C	0.38	26.5	C	0.14	22.9	C	0.14	22.9	C	0.57	30.6	C	0.58	31.1	C	0.39	26.6	C	0.41	27.1	C
		SB	T	0.50	4.7	A	0.53	4.7	A	0.46	5.0	A	0.48	5.0	A	0.52	5.1	A	0.55	5.1	A	0.37	4.7	A	0.42	5.0	A
		SB	R	0.40	7.2	A	0.45	7.8	A	0.39	7.7	A	0.44	8.4	A	0.75	24.7	C	0.83	31.5	C	0.45	9.3	A	0.53	11.5	B
4	Broadway &	EB	TR	0.90	37.0	D *	0.95	30.3	C *	0.73	28.3	C	0.78	29.0	C	0.80	28.0	C	0.83	25.4	C	0.71	24.8	C	0.76	23.6	C
	W 30th St	SB	LT	0.21	19.5	B	0.22	19.6	B	0.44	24.4	C	0.45	24.6	C	0.26	20.5	C	0.27	20.7	C	0.27	20.4	C	0.28	20.6	C
5	Broadway &	WB	LT	0.72	28.8	C	0.76	30.6	C	0.42	24.8	C	0.44	25.4	C	0.98	57.5	E *	1.02	65.8	E *	0.79	32.4	C	0.84	38.0	D
	W 29th St	SB	TR	0.20	12.7	B	0.21	12.9	B	0.27	16.7	B	0.28	16.9	B	0.21	16.1	B	0.21	16.1	B	0.30	18.3	B	0.31	19.1	B
6	6th Ave &	WB	T	0.53	26.7	C	0.69	31.4	C	0.55	26.2	C	0.67	29.2	C	0.77	35.7	D	1.01	69.6	E *	0.55	26.2	C	0.69	29.8	C
	37th St	WB	R	0.72	41.0	D	0.75	43.0	D	1.05	97.9	F *	1.07	106.2	F *	1.05	95.5	F *	1.07	102.1	F *	0.68	36.8	D	0.67	36.0	D
		NB	LT	0.77	5.2	A	0.81	5.7	A	0.57	3.6	A	0.61	4.1	A	0.86	9.7	A	0.90	11.1	B *	0.71	4.7	A	0.77	6.6	A
7	6th Ave &	EB	L	0.48	40.8	D	0.52	42.5	D	0.22	33.9	C	0.26	34.8	C	0.65	47.2	D	0.69	49.7	D	0.47	39.4	D	0.57	44.0	D
	36th St	EB	T	0.36	16.3	B	0.44	17.2	B	0.36	16.2	B	0.46	17.5	B	0.32	15.7	B	0.43	17.0	B	0.42	16.9	B	0.61	20.1	C
		NB	T	0.90	35.2	D *	0.98	46.7	D *	0.52	20.4	C	0.55	20.8	C	0.78	26.3	C	0.81	27.5	C	0.69	23.4	C	0.69	23.5	C
		NB	R	0.86	54.9	D	0.94	67.5	E *	0.57	27.2	C	0.64	30.2	C	0.70	37.3	D	0.94	68.4	E *	0.53	26.4	C	0.63	31.1	C
8	6th Ave &	EB	T	1.04	76.4	E *	1.15	113.8	F *	0.94	54.2	D *	1.08	91.0	F *	0.97	60.0	E *	1.18	128.1	F *	1.03	73.7	E *	1.14	110.6	F *
	34th St	WB	T	0.83	40.1	D	0.85	42.5	D	0.92	49.4	D *	0.99	63.7	E *	1.05	80.9	F *	1.08	88.6	F *	0.98	60.7	E *	1.01	68.7	E *
		WB	R	0.76	80.8	F *	0.76	80.8	F *	0.30	43.7	D	0.30	43.7	D	0.66	98.4	F *	0.66	98.4	F *	0.24	41.2	D	0.24	41.5	D
		NB	T	0.50	15.2	B	0.54	15.8	B	0.39	13.9	B	0.43	14.3	B	0.56	16.0	B	0.61	16.7	B	0.52	15.3	B	0.52	15.5	B
9	6th Ave &	EB	LT	1.05	71.8	E *	1.24	137.8	F *	0.69	28.4	C	0.93	42.6	D *	1.02	66.0	E *	1.25	143.7	F *	0.94	48.5	D *	1.23	136.0	F *
	W 30th St	NB	TR	0.60	4.2	A	0.75	5.8	A	0.56	3.2	A	0.72	4.7	A	0.72	6.6	A	0.91	11.6	B *	0.59	3.9	A	0.72	3.4	A
10	6th Ave &	WB	T	0.45	44.6	D	0.55	46.1	D	0.31	40.8	D	0.50	42.4	D	0.96	75.6	E *	1.21	155.8	F *	0.60	46.3	D	0.79	53.7	D
	W 29th St	WB	R	0.37	43.4	D	0.39	42.9	D	0.32	41.8	D	0.34	39.1	D	0.51	45.4	D	0.57	46.5	D	0.28	39.6	D	0.29	37.9	D
		NB	L	0.81	26.4	C	0.96	40.0	D *	1.05	75.6	E *	1.43	215.5	F *	1.05	77.4	E *	1.47	230.2	F *	1.05	80.0	E *	1.64	305.3	F *
		NB	T	0.59	5.0	A	0.69	4.9	A	0.62	5.4	A	0.72	4.9	A	0.68	5.7	A	0.78	5.0	A	0.62	4.6	A	0.81	6.0	A
11	6th Ave &	EB	LT	1.02	82.5	F *	1.10	104.2	F *	0.75	44.9	D	0.87	54.9	D	1.00	84.8	F *	1.14	125.4	F *	0.82	52.4	D	0.97	68.1	E *
	W 28th Ave	NB	TR	0.63	6.9	A	0.81	9.2	A	0.64	5.6	A	0.84	7.9	A	0.70	5.3	A	0.91	9.6	A *	0.66	6.6	A	0.90	10.9	B *
12	6th Ave &	WB	TR	0.57	29.9	C	0.59	30.3	C	0.53	28.7	C	0.54	29.0	C	0.60	30.2	C	0.61	30.4	C	0.61	30.6	C	0.65	31.9	C
	W 27th St	NB	L	0.18	2.5	A				0.24	2.8	A				0.25	2.1	A				0.20	2.4	A			
		NB	T	0.52	2.8	A				0.57	2.8	A				0.58	2.1	A				0.58	2.7	A			
		NB	LT				0.72	3.5	A				0.82	3.8	A				0.83	2.6	A				0.82	4.2	A

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes a congested movement (LOS E or F, or v/c ratio greater than or equal to 0.9)
Analysis is based on the 2000 Highway Capacity Manual methodology (Synchro 12)

Table 13-21 (cont.): No-Action Level of Service at Analyzed Intersections

	Signalized Intersections	Approach	Lane Group	Existing Weekday AM V/C Ratio	Existing Weekday AM Delay (sec/veh)	Existing Weekday AM LOS	No-Action Weekday AM V/C Ratio	No-Action Weekday AM Delay (sec/veh)	No-Action Weekday AM LOS	Existing Weekday Midday V/C Ratio	Existing Weekday Midday Delay (sec/veh)	Existing Weekday Midday LOS	No-Action Weekday Midday V/C Ratio	No-Action Weekday Midday Delay (sec/veh)	No-Action Weekday Midday LOS	Existing Weekday PM V/C Ratio	Existing Weekday PM Delay (sec/veh)	Existing Weekday PM LOS	No-Action Weekday PM V/C Ratio	No-Action Weekday PM Delay (sec/veh)	No-Action Weekday PM LOS	Existing Saturday Midday V/C Ratio	Existing Saturday Midday Delay (sec/veh)	Existing Saturday Midday LOS	No-Action Saturday Midday V/C Ratio	No-Action Saturday Midday Delay (sec/veh)	No-Action Saturday Midday LOS
13	6th Ave &	EB	LT	1.05	83.5	F *	1.07	90.4	F *	1.05	80.5	F *	1.08	87.7	F *	1.05	85.0	F *	1.07	93.5	F *	0.88	45.4	D	0.87	42.1	D
	W 26th St	NB	TR	0.67	5.6	A	0.86	7.1	A	0.74	7.9	A	0.97	16.6	B *	0.83	9.7	A	1.08	45.0	D *	0.67	5.0	A	0.91	9.7	A *
14	6th Ave &	EB	TR	0.62	33.4	C	0.65	34.6	C	0.81	44.6	D	0.85	48.3	D	1.05	84.7	F *	1.09	98.8	F *	0.55	31.2	C	0.63	34.0	C
	W 25th St	NB	L	0.55	9.8	A				0.51	10.9	B			A	0.97	59.4	E *				0.61	16.2	B			
		NB	T	0.54	2.1	A				0.56	4.0	A			A	0.63	3.7	A				0.58	5.8	A			
		NB	LT				0.82	4.0	A				0.84	6.9					0.98	15.3	B *				0.88	9.8	A
15	6th Ave &	EB	T	0.92	50.0	D *	0.97	59.3	E *	0.77	34.7	C	0.83	39.2	D	0.79	35.5	D	0.86	41.6	D	0.78	35.1	D	0.85	40.5	D
	W 23th Ave	WB	T	0.41	22.4	C	0.48	24.0	C							0.54	25.1	C	0.65	28.4	C						
		WB	R	0.12	19.1	B	0.12	19.2	B							0.05	17.5	B	0.05	17.5	B						
		WB	TR							0.42	22.8	C	0.51	24.8								0.47	23.6	C	0.60	26.9	C
		NB	L	0.32	21.9	C	0.35	22.9	C	0.46	29.7	C	0.52	33.5	C	0.52	30.3	C	0.59	35.4	D	0.53	32.5	C	0.61	38.4	D
		NB	T	0.61	17.4	B	0.89	28.2	C	0.60	17.4	B	0.87	26.9	C	0.67	18.5	B	0.99	43.1	D *	0.57	16.9	B	0.85	25.8	C
		NB	R	0.89	61.9	E *	1.25	179.7	F *	1.05	103.6	F *	1.28	190.6	F *	1.05	104.1	F *	2.01	512.2	F *	1.05	105.2	F *	1.44	258.1	F *
16	7th Ave &	EB	TR	1.05	79.9	E *	1.36	200.9	F *	0.88	40.7	D	1.10	94.2	F *	0.86	43.2	D	1.07	92.3	F *	1.05	78.7	E *	1.37	201.3	F *
	W 38th St	SB	LT	0.64	20.3	C	0.68	21.2	C	0.66	20.7	C	0.69	21.2	C	0.68	21.0	C	0.71	21.7	C	0.55	18.5	B	0.59	19.1	B
17	7th Ave &	WB	LT	0.61	30.3	C	0.82	39.1	D	0.69	32.3	C	0.89	43.8	D	0.78	36.7	D	1.03	71.8	E *	0.84	39.8	D	1.00	64.0	E *
	W 37th St	SB	TR	0.59	4.6	A	0.64	6.2	A	0.54	3.1	A	0.57	3.9	A	0.61	3.8	A	0.65	4.9	A	0.49	4.4	A	0.57	6.2	A
18	7th Ave &	EB	T	1.00	75.5	E *	1.21	147.2	F *	0.67	35.7	D	0.95	65.7	E *	0.91	55.9	E *	1.24	156.7	F *	1.05	88.1	F *	1.55	290.9	F *
	W 36th St	EB	R	0.64	40.2	D	1.29	189.7	F *	0.52	33.3	C	0.95	76.9	E *	0.61	37.1	D	0.98	83.9	F *	0.44	29.5	C	0.78	49.2	D
		SB	LT	0.60	6.2	A	0.67	7.6	A	0.61	4.8	A	0.66	6.5	A	0.73	9.4	A	0.79	11.1	B	0.59	8.4	A	0.68	9.4	A
19	7th Ave &	WB	L	0.38	27.6	C	0.61	34.6	C	0.51	31.1	C	0.70	39.2	D	0.18	23.9	C	0.34	26.6	C	0.56	32.1	C	0.72	40.0	D
	W 35th St	WB	T	0.52	30.1	C	0.60	32.7	C	0.70	36.7	D	0.87	49.7	D	0.63	33.5	C	0.82	44.9	D	0.55	30.5	C	0.75	39.3	D
		SB	TR	0.55	5.2	A	0.68	8.9	A	0.52	4.6	A	0.62	7.0	A	0.72	6.3	A	0.82	9.5	A	0.55	4.9	A	0.65	6.4	A
20	7th Ave &	WB	L	0.53	33.6	C	0.68	39.9	D	1.05	100.5	F *	1.74	384.9	F *	1.05	109.6	F *	1.27	186.4	F *	1.05	102.8	F *	1.11	125.4	F *
	W 33rd St	SB	T	0.40	12.9	B	0.51	14.2	B	0.36	12.5	B	0.45	13.4	B	0.44	13.3	B	0.52	14.3	B	0.37	12.6	B	0.47	13.6	B
21	7th Ave &	SB	L	0.30	5.5	A				0.32	7.4	A				0.27	4.4	A				0.30	6.1	A			
	W 32nd St	SB	T	0.67	11.2	B				0.69	13.5	B				0.81	14.3	B				0.65	11.6	B			
		SB	LT				0.59	7.3	A				0.60	9.2	A				0.67	8.6	A				0.59	7.7	A
22	7th Ave &	WB	L	0.45	22.5	C	0.49	23.7	C	0.34	19.8	B	0.36	20.5	C	0.46	22.5	C	0.49	23.7	C	0.39	20.8	C	0.39	21.1	C
	W 31st St	WB	T	0.39	20.0	B	0.48	21.7	C	0.51	22.2	C	0.59	24.2	C	0.38	19.7	B	0.45	21.0	C	0.38	19.7	B	0.44	20.9	C
		SB	T				0.56	3.7	A				0.57	3.2	A				0.67	3.8	A				0.55	3.2	A
		SB	R				1.22	149.1	F *				0.98	67.7	E *				1.12	105.5	F *				1.03	82.6	F *
		SB	TR	0.52	2.8	A				0.51	2.5	A				0.60	3.1	A				0.52	3.1	A			
23	7th Ave &	EB	T	0.62	27.1	C	0.74	21.3	C	0.36	21.5	C	0.54	19.4	B	0.50	19.5	B	0.68	24.2	C	0.59	26.5	C	0.79	28.0	C
	W 30th St	EB	R	0.50	25.4	C	0.60	20.2	C	0.36	22.4	C	0.54	21.8	C	0.55	22.9	C	0.82	35.6	D	0.49	25.8	C	0.73	28.6	C
		SB	L	1.05	100.1	F *	1.39	226.4	F *	0.77	32.1	C	1.01	82.6	F *	0.91	54.3	D *	1.13	118.9	F *	0.55	16.1	B	0.65	22.2	C
		SB	T	0.47	7.4	A	0.55	7.5	A	0.45	5.8	A	0.53	5.8	A	0.54	6.6	A	0.64	6.9	A	0.48	7.0	A	0.54	6.7	A

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes a congested movement (LOS E or F, or v/c ratio greater than or equal to 0.9)
Analysis is based on the 2000 Highway Capacity Manual methodology (Synchro 12)

Table 13-21 (cont.): No-Action Level of Service at Analyzed Intersections

	Signalized Intersections	Approach	Lane Group	Existing Weekday AM V/C Ratio	Existing Weekday AM Delay (sec/veh)	Existing Weekday AM LOS	No-Action Weekday AM V/C Ratio	No-Action Weekday AM Delay (sec/veh)	No-Action Weekday AM LOS	Existing Weekday Midday V/C Ratio	Existing Weekday Midday Delay (sec/veh)	Existing Weekday Midday LOS	No-Action Weekday Midday V/C Ratio	No-Action Weekday Midday Delay (sec/veh)	No-Action Weekday Midday LOS	Existing Weekday PM V/C Ratio	Existing Weekday PM Delay (sec/veh)	Existing Weekday PM LOS	No-Action Weekday PM V/C Ratio	No-Action Weekday PM Delay (sec/veh)	No-Action Weekday PM LOS	Existing Saturday Midday V/C Ratio	Existing Saturday Midday Delay (sec/veh)	Existing Saturday Midday LOS	No-Action Saturday Midday V/C Ratio	No-Action Saturday Midday Delay (sec/veh)	No-Action Saturday Midday LOS
24	7th Ave &	WB	L	0.41	31.9	C	0.43	32.4	C	0.44	27.5	C	0.46	28.8	C	0.51	39.1	D	0.54	37.9	D	0.41	35.4	D	0.43	33.1	C
	W 29th St	WB	T	0.53	34.2	C	0.67	38.2	D	0.45	26.8	C	0.70	32.1	C	0.75	44.1	D	1.03	65.4	E *	0.63	40.3	D	0.91	43.4	D *
		SB	T												A	0.73	10.9	B	0.96	26.1	C *						
		SB	R												A	1.05	95.3	F *	2.88	881.4	F *						
		SB	TR	0.68	11.6	B	0.82	15.9	B	0.68	10.8	B	0.85	17.7	B							0.65	10.6	B	0.80	15.5	B
25	7th Ave &	EB	TR	0.89	51.9	D	0.97	66.4	E *	0.64	34.9	C	0.70	36.5	D	0.68	35.1	D	0.80	41.5	D	0.80	42.2	D	0.97	64.3	E *
	W 28th Ave	SB	L	0.54	13.6	B	0.58	12.7	B	0.45	9.3	A	0.51	8.9	A	0.44	8.6	A	0.49	7.2	A	0.39	8.3	A	0.43	7.5	A
		SB	T	0.55	7.4	A	0.64	7.1	A	0.46	5.9	A	0.53	5.4	A	0.56	6.4	A	0.63	5.5	A	0.50	6.5	A	0.56	5.9	A
26	7th Ave &	WB	L	0.56	27.2	C	0.58	25.5	C	0.64	31.9	C	0.67	30.3	C	1.05	87.4	F *	1.10	99.0	F *	0.53	23.2	C	0.53	20.0	B
	W 27th St	WB	T	0.08	16.9	B	0.08	15.5	B	0.08	18.3	B	0.08	16.7	B	0.04	14.3	B	0.04	13.5	B	0.26	17.2	B	0.26	14.6	B
		SB	T	0.57	5.8	A	0.63	5.3	A	0.49	5.1	A	0.55	4.8	A	0.59	4.9	A	0.65	4.5	A	0.57	7.2	A	0.64	6.8	A
27	7th Ave &	EB	T	0.58	31.7	C	0.59	31.9	C	0.49	29.0	C	0.50	29.2	C	0.54	30.2	C	0.55	30.4	C	0.51	29.3	C	0.56	31.1	C
	W 26th St	EB	R	0.52	31.6	C	0.53	32.2	C	0.43	29.0	C	0.45	29.6	C	0.48	30.6	C	0.51	31.5	C	0.35	26.4	C	0.43	28.8	C
		SB	L	0.54	14.8	B	0.57	15.0	B	0.81	31.4	C	0.85	33.1	C	0.43	10.3	B	0.46	10.0	A	0.35	6.7	A	0.42	6.9	A
		SB	T	0.66	9.7	A	0.73	10.1	B	0.45	7.2	A	0.51	6.9	A	0.69	10.8	B	0.76	10.7	B	0.59	7.6	A	0.65	7.0	A
28	7th Ave &	WB	LT	0.70	30.9	C	0.73	32.8	C	0.74	32.2	C	0.78	33.0	C	1.04	52.5	D *	1.08	71.6	E *	0.65	27.5	C	0.71	29.4	C
	W 25th St	SB	T												A	0.71	6.9	A	0.78	7.4	A						
		SB	R												A	0.49	9.4	A	0.51	9.0	A						
		SB	TR	0.76	9.4	A	0.82	10.1	B	0.63	10.3	B	0.70	10.4								0.73	9.2	A	0.81	11.4	B
29	7th Ave &	EB	TR	0.80	28.4	C	0.82	28.8	C	0.43	27.1	C	0.44	26.7	C	0.47	27.8	C	0.48	27.6	C	0.50	19.3	B	0.56	21.0	C
	W 24th St	SB	L	0.67	12.9	B	0.70	13.3	B	0.72	17.1	B	0.77	18.1	B	0.69	13.0	B	0.72	12.6	B	0.82	22.9	C	0.88	26.2	C
		SB	T	0.66	4.8	A	0.73	5.5	A	0.41	4.1	A	0.48	4.0	A	0.69	3.8	A	0.77	4.1	A	0.59	5.2	A	0.66	5.4	A
30	8th Ave &	EB	L	0.96	89.4	F *	1.08	122.1	F *	0.74	56.9	E *	0.86	71.1	E *	0.44	40.2	D	0.55	44.4	D	0.81	63.2	E *	1.04	111.6	F *
	W 38th St	EB	T	0.51	20.0	B	0.64	23.9	C	0.32	16.5	B	0.41	18.0	B	0.31	16.3	B	0.42	18.0	B	0.48	19.2	B	0.64	23.6	C
		NB	T	0.61	13.0	B	0.77	18.5	B	0.59	12.2	B	0.73	15.2	B	0.69	16.1	B	0.74	17.5	B	0.68	12.0	B	0.94	26.1	C *
		NB	R	1.05	115.3	F *	1.52	295.4	F *	1.05	112.1	F *	1.25	181.5	F *	1.03	179.8	F *	1.19	233.6	F *	0.99	104.4	F *	1.82	425.0	F *
31	8th Ave &	WB	T	0.62	41.4	D	0.79	48.3	D	0.80	57.6	E *	1.00	81.8	F *	0.50	43.8	D	0.73	47.7	D	0.81	54.3	D	1.04	89.4	F *
	W 37th St	WB	R	0.49	45.4	D	0.60	48.3	D	0.62	61.8	E *	0.70	63.1	E *	0.59	53.9	D	0.65	51.9	D	0.49	51.8	D	0.57	52.5	D
		NB	L	0.43	37.4	D	0.69	48.1	D	0.42	36.9	D	0.54	40.5	D	0.47	38.2	D	0.78	54.3	D	0.45	37.6	D	0.60	42.5	D
		NB	T	0.48	16.8	B	0.52	17.4	B	0.47	16.5	B	0.54	17.6	B	0.44	16.1	B	0.47	16.5	B	0.57	18.1	B	0.65	19.8	B
32	8th Ave &	EB	T	1.05	82.7	F *	1.17	123.8	F *	0.92	51.8	D *	1.06	87.1	F *	0.78	37.5	D	0.95	58.1	E *	0.73	34.5	C	0.92	51.4	D *
	W34th St	WB	T	0.54	27.7	C	0.56	28.1	C	0.96	59.7	E *	1.04	80.3	F *	0.99	65.4	E *	1.01	71.1	E *	0.73	34.2	C	0.81	38.6	D
		WB	R	0.45	28.4	C	0.47	29.2	C	0.44	27.7	C	0.47	28.9	C	0.41	27.1	C	0.44	28.0	C	0.40	27.1	C	0.37	26.0	C
		NB	L	0.44	43.4	D	0.77	64.6	E *	0.51	46.2	D	0.73	60.1	E *	0.60	49.4	D	0.95	90.9	F *	0.50	45.0	D	0.78	63.1	E *
		NB	TR	0.60	22.1	C	0.77	27.1	C	0.53	20.6	C	0.72	24.9	C	0.70	24.7	C	0.90	35.2	D *	0.73	25.6	C	0.94	40.3	D *

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes a congested movement (LOS E or F, or v/c ratio greater than or equal to 0.9)
Analysis is based on the 2000 Highway Capacity Manual methodology (Synchro 12)

Table 13-21 (cont.): No-Action Level of Service at Analyzed Intersections

	Signalized Intersections	Approach	Lane Group	Existing Weekday AM V/C Ratio	Existing Weekday AM Delay (sec/veh)	Existing Weekday AM LOS	No-Action Weekday AM V/C Ratio	No-Action Weekday AM Delay (sec/veh)	No-Action Weekday AM LOS	Existing Weekday Midday V/C Ratio	Existing Weekday Midday Delay (sec/veh)	Existing Weekday Midday LOS	No-Action Weekday Midday V/C Ratio	No-Action Weekday Midday Delay (sec/veh)	No-Action Weekday Midday LOS	Existing Weekday PM V/C Ratio	Existing Weekday PM Delay (sec/veh)	Existing Weekday PM LOS	No-Action Weekday PM V/C Ratio	No-Action Weekday PM Delay (sec/veh)	No-Action Weekday PM LOS	Existing Saturday Midday V/C Ratio	Existing Saturday Midday Delay (sec/veh)	Existing Saturday Midday LOS	No-Action Saturday Midday V/C Ratio	No-Action Saturday Midday Delay (sec/veh)	No-Action Saturday Midday LOS
33	8th Ave &	EB	L	0.66	23.2	C	0.99	63.1	E *	0.67	32.5	C	1.11	116.5	F *	0.89	51.2	D	1.30	188.4	F *	0.75	27.4	C	1.15	113.0	F *
	W 30th St	EB	T	0.72	24.9	C	0.88	27.8	C	0.33	17.2	B	0.59	29.4	C	0.55	21.5	C	0.85	41.2	D	0.59	15.2	B	0.89	32.0	C
		NB	TR	0.44	9.8	A	0.49	9.6	A	0.37	8.8	A	0.43	8.0	A	0.50	10.1	B	0.57	10.1	B	0.49	6.9	A	0.56	6.8	A
34	8th Ave &	WB	TR	0.70	30.2	C	0.93	44.8	D *	0.73	31.7	C	1.11	92.7	F *	1.02	66.7	E *	1.52	264.4	F *	0.79	33.1	C	1.14	101.7	F *
	W 29th St	NB	L	0.92	63.0	E *	1.19	146.2	F *	0.65	33.9	C	0.99	86.3	F *	0.84	56.6	E *	1.01	94.2	F *	1.00	87.4	F *	1.16	138.4	F *
		NB	T	0.28	13.9	B	0.32	14.3	B	0.26	13.8	B	0.32	14.3	B	0.32	14.2	B	0.37	14.7	B	0.41	15.1	B	0.47	15.9	B
35	8th Ave &	EB	LT	0.87	50.2	D	0.91	55.9	E *	0.73	39.2	D	0.78	42.5	D	0.58	31.6	C	0.61	32.6	C	0.58	32.3	C	0.63	34.3	C
	W 24th St	NB	TR	0.63	18.2	B	0.70	19.7	B	0.52	17.3	B	0.59	18.6	B	0.53	16.3	B	0.60	17.6	B	0.59	18.5	B	0.69	20.6	C
36	9th Ave &	EB	T	0.55	30.7	C	0.46	17.5	B	0.31	27.5	C	0.37	16.3	B	0.52	29.8	C	0.55	20.8	C	0.43	29.1	C	0.44	17.1	B
	W 30th St	EB	R	1.05	82.8	F *	1.46	257.0	F *	0.58	33.7	C	0.96	74.9	E *	0.59	33.7	C	1.31	202.3	F *	1.00	74.4	E *	1.46	260.5	F *
		SB	LT	0.68	22.4	C	1.01	57.1	E *	0.74	26.4	C	0.93	42.6	D *	0.72	23.4	C	0.91	36.8	D *	0.79	27.9	C	1.01	57.1	E *
37	9th Ave &	WB	L	0.25	15.9	B	0.40	18.7	B	0.23	23.2	C	0.40	24.0	C	0.28	22.0	C	0.46	23.3	C	0.26	16.8	B	0.37	23.9	C
	W 29th St	WB	T	0.82	27.8	C	1.01	45.8	D *	0.62	29.3	C	0.90	32.5	C *	0.84	33.3	C	1.28	158.8	F *	0.95	37.5	D *	1.28	158.2	F *
		SB	TR	0.90	24.9	C *	1.00	24.7	C *	0.70	13.4	B	0.80	13.1	B	0.65	10.4	B	0.76	9.3	A	0.82	17.6	B	0.92	34.6	C *

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes a congested movement (LOS E or F, or v/c ratio greater than or equal to 0.9)
Analysis is based on the 2000 Highway Capacity Manual methodology (Synchro 12)

The Future with the Proposed Actions (With-Action Condition)

Changes to the Study Area Street Network

As discussed in Chapter 1, Project Description," the Proposed Actions would include zoning map and text amendments (including mapping a special zoning district and Mandatory Inclusionary Housing area) which would establish residential zoning districts and lift the prohibition on the conversion of existing nonresidential floor area to residential use in existing M1-6 and M1-6D districts located in the Midtown South neighborhood of Manhattan.

Future With-Action Traffic Growth

As shown in **Table 13-9**, based on projected development associated with the Proposed Actions, there would be a net total of approximately 360, 351, 436, and 736 additional vehicle trips (auto, taxi, school bus, and truck) during the weekday AM, midday, PM, and Saturday peak hours, respectively. The assignments of auto and taxi trips to the street network in proximity to the Affected Area are based on the locations of each projected development site and the anticipated origins and destinations of vehicle trips associated with the different uses projected for each site (e.g., commercial, residential, etc.). The origins/destinations of residential trips are based on 2012-2016 ACS journey-to-work data, while the origins/destinations of office, warehouse and industrial uses are based on 2012-2016 ACS reverse journey-to-work data. Origins/destinations for uses that generate mostly local trips, including local retail and community facility (such as elementary school) were based on population density in proximity to the Affected Area and surrounding neighborhoods within a 0.5-mile radius.

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

Truck trips en route to and from each site were assigned to designated through and local truck routes and then to the most direct paths to and from each projected development site. The majority of truck trips were assigned to Lincoln Tunnel, Hugh L Carey Tunnel, Holland Tunnel, and Route 9A , which is a Through Truck Route, along with the Local Truck Routes along Sixth, Seventh and Ninth Avenues.

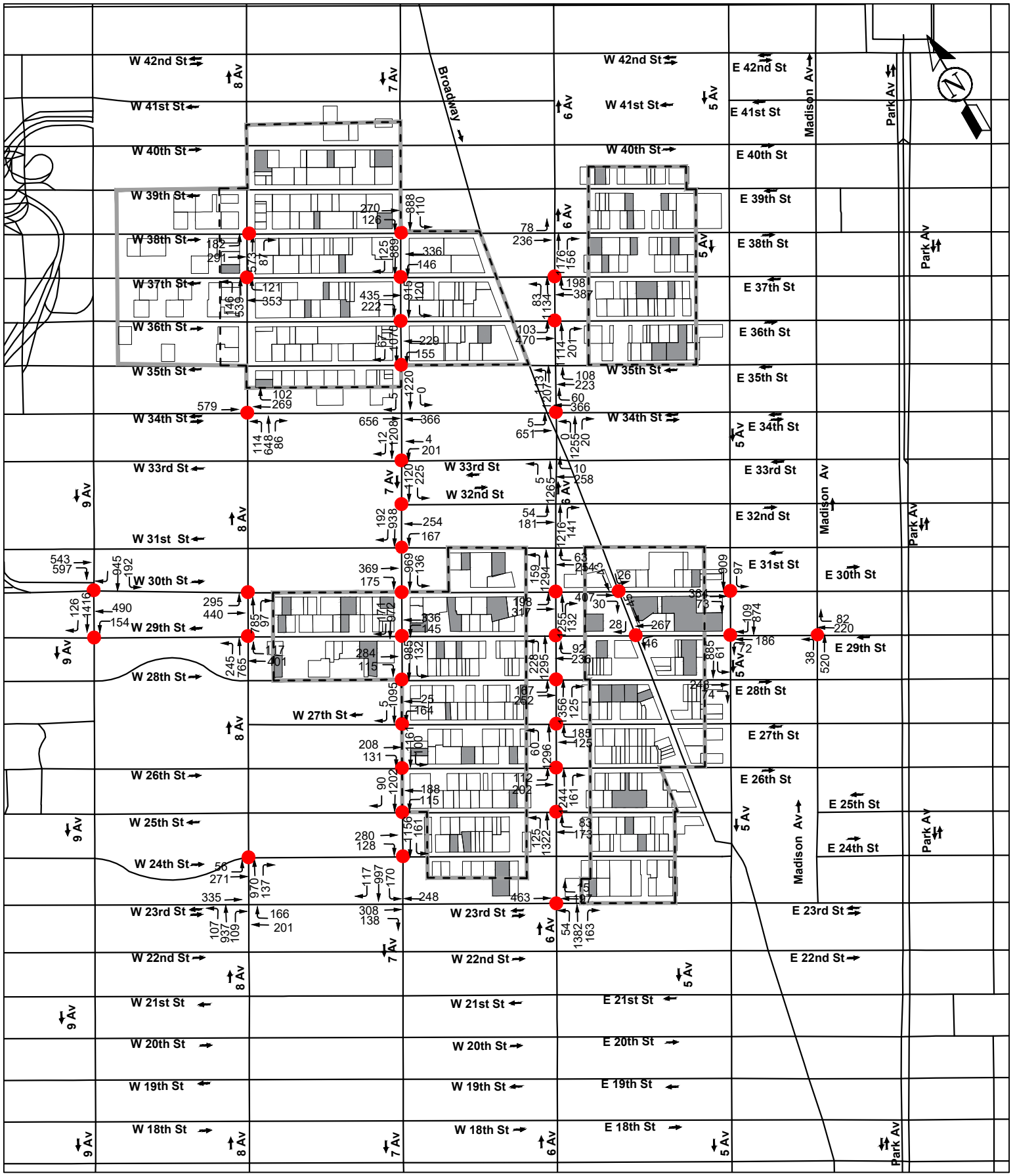
Figures 13-2a through 13-2d show the assignment of incremental vehicle trips (auto, taxi, school bus, and truck) generated during the weekday AM, midday, PM, and Saturday peak hours under the Proposed Actions. **Figures 13-9a through 13-9d** show the total weekday AM, midday, PM, and Saturday traffic volumes in the 2034 With-Action condition. The volumes shown are the combination of the net incremental traffic generated by the Proposed Actions and the No-Action volumes.

Intersection Capacity Analysis

The v/c ratios, delays, and levels of service for all lane groups at all analyzed intersection in all peak hours under With-Action conditions are shown in **Table 13-22**. Lane groups with significant adverse impacts are denoted with an asterisk (*). As shown in **Table 13-22**, a total of 34 intersections (all signalized) would have at least one congested lane group in one or more peak hours in the With-Action condition, compared to 31 (all signalized) in the No-Action condition.

The traffic impact analysis indicates the potential for significant adverse impacts at 28 intersections (all signalized) during one or more analyzed peak hours. Significant adverse impacts were identified to 15 lane groups at 14 intersections during the weekday AM peak hour, 12 lane groups at 11 intersections in the weekday midday peak hour, 26 lane groups at 20 intersections in the weekday PM peak hour, and 24 lane groups at 20 intersections during the Saturday peak hour. Potential measures to mitigate the significant adverse traffic impacts identified in **Table 13-22** are discussed in **Chapter 21, Mitigation**.

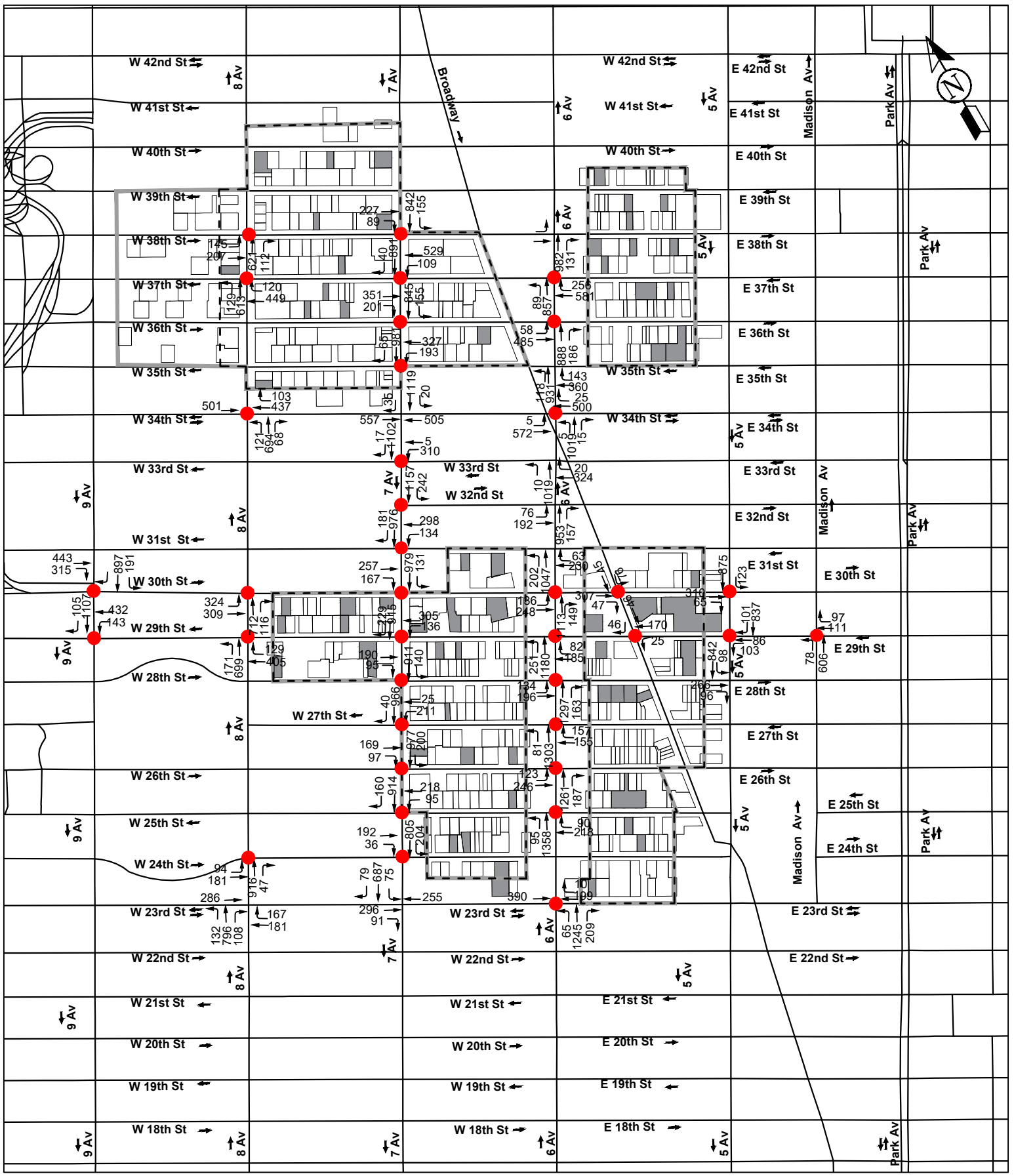
Weekday AM With-Action Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Weekday AM With-Action Traffic Volume

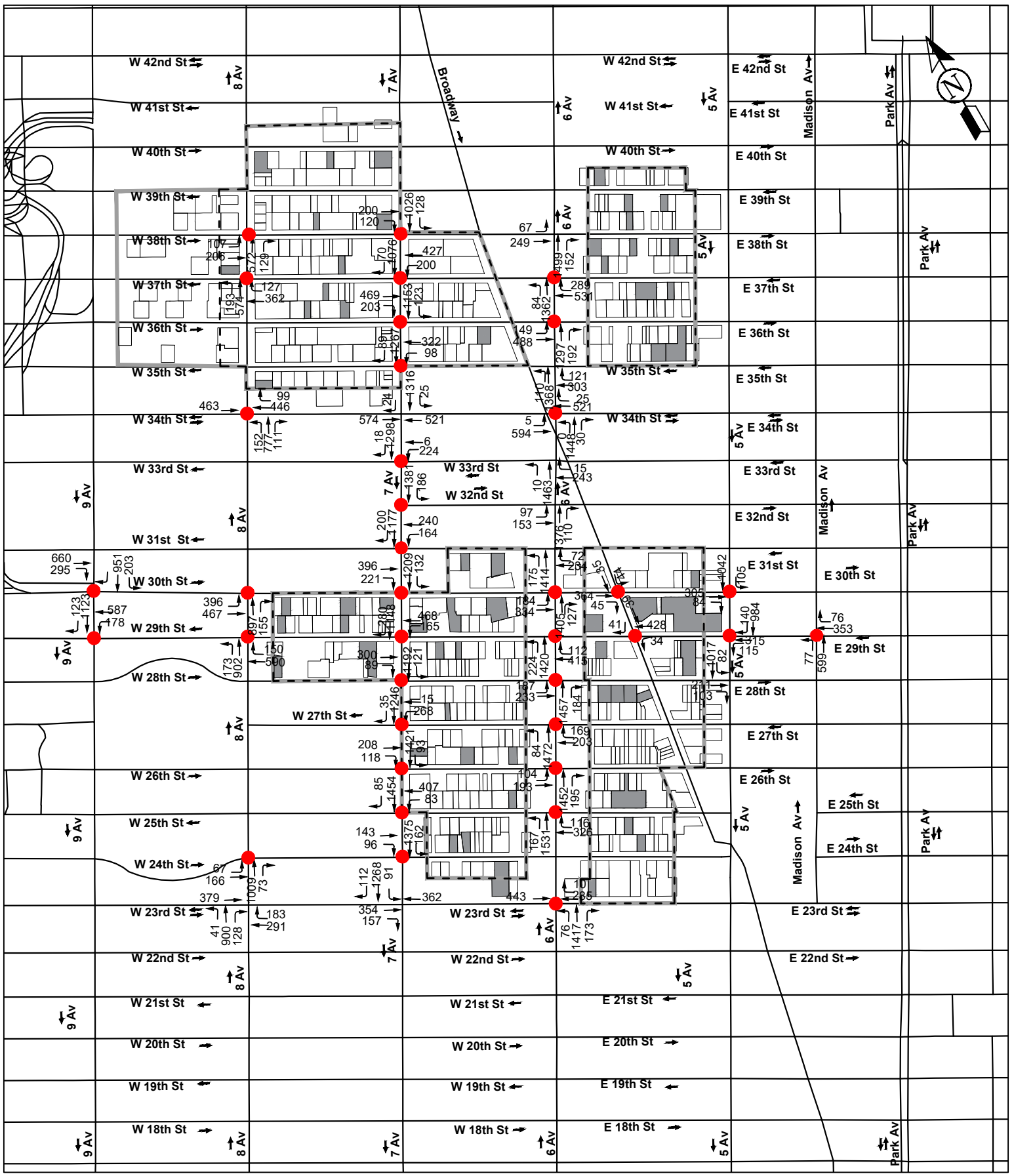
Weekday MD With-Action Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Weekday MD With-Action Traffic Volume

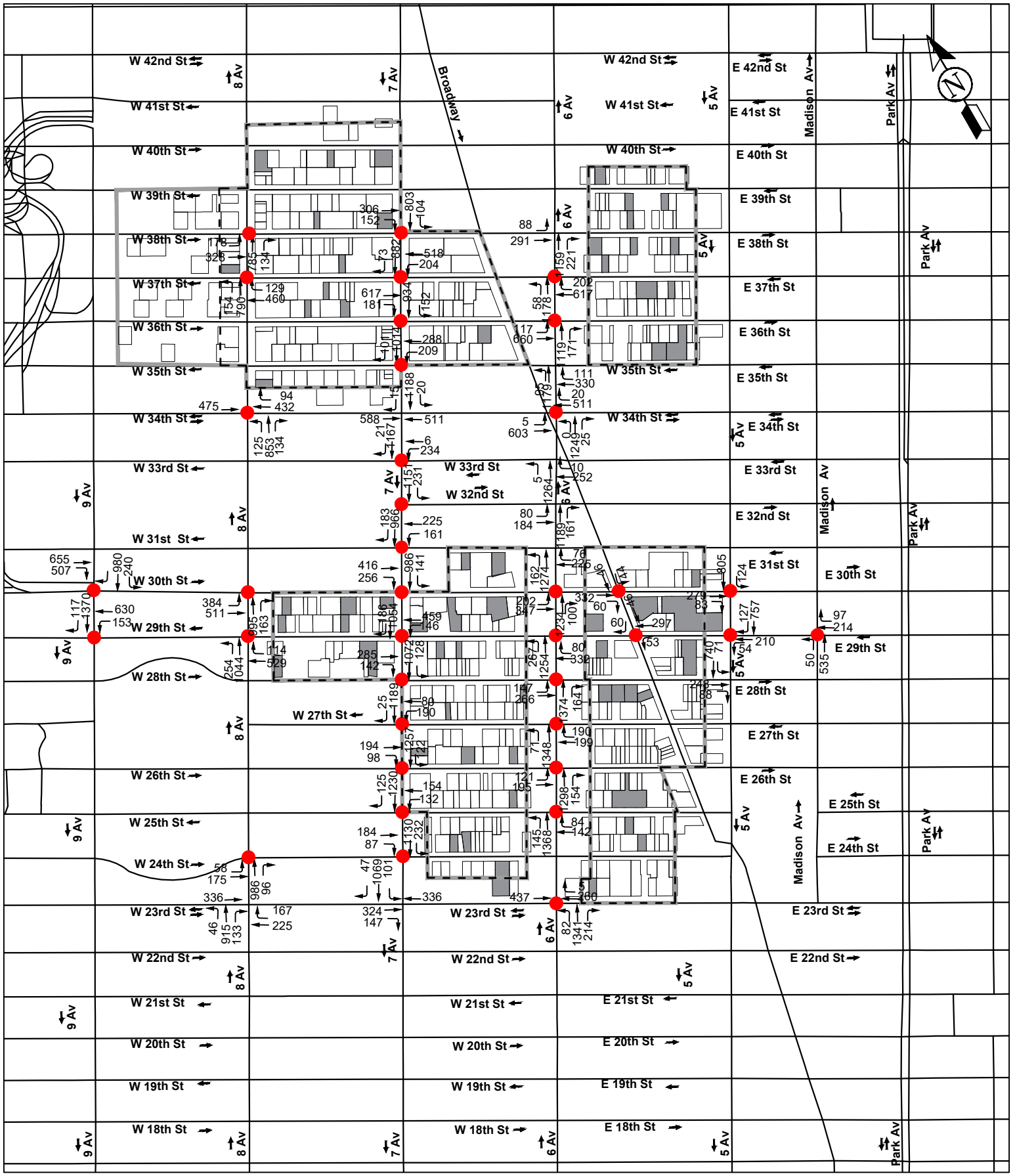
Weekday PM With-Action Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = Weekday PM With-Action Traffic Volume

Saturday With-Action Traffic Volumes



LEGEND

- Affected Area
- Projected Development Sites
- Potential Conversion Sites
- Rezoning Area
- Analyzed Traffic Location
- 2 = SAT With-Action Traffic Volume

Table 13-22: With-Action Levels of Service at Analyzed Intersections

				No-Action Weekday AM			With-Action Weekday AM			No-Action Weekday Midday			With-Action Weekday Midday			No-Action Weekday PM			With-Action Weekday PM			No-Action Saturday Midday			With-Action Saturday Midday		
	Signalized Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
1	Madison Ave &	WB	TR	0.80	45.7	D	0.86	51.2	D	0.63	37.8	D	0.71	42.1	D	1.04	86.4	F	1.14	119.0	F *	0.88	56.9	E	1.01	84.6	F *
	E 29th St	NB	LT	0.60	22.8	C	0.61	23.1	C	0.62	23.0	C	0.63	23.2	C	0.72	26.4	C	0.73	26.7	C	0.51	20.6	C	0.53	20.9	C
2	5th Ave &	EB	TR	1.11	73.6	E	1.29	138.7	F *	1.05	69.7	E	1.16	105.3	F *	1.08	71.7	E	1.21	117.7	F *	0.92	34.6	C	1.16	93.9	F *
	W 30th St	SB	LT	0.65	18.5	B	0.66	18.7	B	0.58	17.2	B	0.59	17.4	B	0.68	19.1	B	0.69	19.4	B	0.55	16.7	B	0.56	17.0	B
3	5th Ave &	WB	L	0.21	24.0	C	0.22	24.2	C	0.32	25.8	C	0.33	26.1	C	0.37	26.9	C	0.40	27.7	C	0.16	23.3	C	0.18	23.7	C
	W 29th St	WB	T	0.38	26.5	C	0.44	27.6	C	0.14	22.9	C	0.22	23.9	C	0.58	31.1	C	0.66	33.8	C	0.41	27.1	C	0.53	29.6	C
		SB	T	0.53	4.7	A	0.53	4.9	A	0.48	5.0	A	0.48	5.0	A	0.55	5.1	A	0.56	5.2	A	0.42	5.0	A	0.44	5.2	A
		SB	R	0.45	7.8	A	0.59	12.2	B	0.44	8.4	A	0.55	11.8	B	0.83	31.5	C	1.17	121.0	F *	0.53	11.5	B	0.80	30.5	C
4	Broadway &	EB	TR	0.95	30.3	C	1.07	60.5	E *	0.78	29.0	C	0.88	34.1	C	0.83	25.4	C	0.97	32.5	C	0.76	23.6	C	0.99	35.3	D
	W 30th St	SB	LT	0.22	19.6	B	0.22	19.7	B	0.45	24.6	C	0.46	25.2	C	0.27	20.7	C	0.30	21.4	C	0.28	20.6	C	0.30	21.2	C
5	Broadway &	WB	LT	0.76	30.6	C	0.95	53.8	D	0.44	25.4	C	0.62	27.7	C	1.02	65.8	E	1.20	129.4	F *	0.84	38.0	D	1.14	108.3	F *
	W 29th St	SB	TR	0.21	12.9	B	0.20	13.0	B	0.28	16.9	B	0.28	17.2	B	0.21	16.1	B	0.24	17.7	B	0.31	19.1	B	0.37	21.8	C
6	6th Ave &	WB	T	0.69	31.4	C	0.70	31.4	C	0.67	29.2	C	0.68	29.5	C	1.01	69.6	E	1.03	73.8	E	0.69	29.8	C	0.73	30.9	C
	37th St	WB	R	0.75	43.0	D	0.78	46.2	D	1.07	106.2	F	1.10	113.7	F *	1.07	102.1	F	1.11	114.9	F *	0.67	36.0	D	0.75	42.1	D
		NB	LT	0.81	5.7	A	0.83	6.0	A	0.61	4.1	A	0.62	4.9	A	0.90	11.1	B	0.91	12.0	B	0.77	6.6	A	0.79	7.3	A
7	6th Ave &	EB	L	0.52	42.5	D	0.54	43.5	D	0.26	34.8	C	0.32	36.1	D	0.69	49.7	D	0.75	54.1	D	0.57	44.0	D	0.65	47.9	D
	36th St	EB	T	0.44	17.2	B	0.46	17.5	B	0.46	17.5	B	0.47	17.7	B	0.43	17.0	B	0.44	17.2	B	0.61	20.1	C	0.64	20.8	C
		NB	T	0.98	46.7	D	0.99	48.8	D	0.55	20.8	C	0.55	20.9	C	0.81	27.5	C	0.82	27.7	C	0.69	23.5	C	0.70	23.7	C
		NB	R	0.94	67.5	E	0.98	79.4	E *	0.64	30.2	C	0.68	32.6	C	0.94	68.4	E	0.96	73.0	E	0.63	31.1	C	0.73	38.5	D
8	6th Ave &	EB	T	1.15	113.8	F	1.16	115.8	F	1.08	91.0	F	1.08	91.5	F	1.18	128.1	F	1.19	131.4	F	1.14	110.6	F	1.14	111.9	F
	34th St	WB	T	0.85	42.5	D	0.85	42.5	D	0.99	63.7	E	0.99	64.1	E	1.08	88.6	F	1.08	89.8	F	1.01	68.7	E	1.01	69.7	E
		WB	R	0.76	80.8	F	0.76	80.8	F	0.30	43.7	D	0.30	43.7	D	0.66	98.4	F	0.66	98.4	F	0.24	41.5	D	0.24	41.5	D
		NB	T	0.54	15.8	B	0.55	15.8	B	0.43	14.3	B	0.43	14.3	B	0.61	16.7	B	0.61	16.8	B	0.52	15.5	B	0.53	15.5	B
9	6th Ave &	EB	LT	1.24	137.8	F	1.34	174.1	F *	0.93	42.6	D	1.01	54.2	D	1.25	143.7	F	1.35	183.5	F *	1.23	136.0	F	1.42	214.1	F *
	W 30th St	NB	TR	0.75	5.8	A	0.78	6.4	A	0.72	4.7	A	0.75	5.4	A	0.91	11.6	B	0.94	14.2	B	0.72	3.4	A	0.77	4.1	A
10	6th Ave &	WB	T	0.55	46.1	D	0.69	49.9	D	0.50	42.4	D	0.60	46.0	D	1.21	155.8	F	1.33	204.2	F *	0.79	53.7	D	0.97	68.3	E *
	W 29th St	WB	R	0.39	42.9	D	0.46	44.4	D	0.34	39.1	D	0.39	41.0	D	0.57	46.5	D	0.64	47.6	D	0.29	37.9	D	0.39	39.3	D
		NB	L	0.96	40.0	D	1.13	92.5	F *	1.43	215.5	F	1.60	288.4	F *	1.47	230.2	F	2.05	488.8	F *	1.64	305.3	F	2.72	788.6	F *
		NB	T	0.69	4.9	A	0.70	4.8	A	0.72	4.9	A	0.73	4.9	A	0.78	5.0	A	0.80	5.0	A	0.81	6.0	A	0.84	6.2	A
11	6th Ave &	EB	LT	1.10	104.2	F	1.15	121.3	F *	0.87	54.9	D	0.91	59.8	E	1.14	125.4	F	1.21	153.2	F *	0.97	68.1	E	1.08	93.7	F *
	W 28th Ave	NB	TR	0.81	9.2	A	0.84	10.0	A	0.84	7.9	A	0.86	8.3	A	0.91	9.6	A	0.93	10.9	B	0.90	10.9	B	0.95	14.2	B
12	6th Ave &	WB	TR	0.59	30.3	C	0.64	32.1	C	0.54	29.0	C	0.57	29.7	C	0.61	30.4	C	0.65	31.8	C	0.65	31.9	C	0.73	35.1	D
	W 27th St	NB	LT	0.72	3.5	A	0.73	3.5	A	0.82	3.8	A	0.83	3.1	A	0.83	2.6	A	0.84	2.7	A	0.82	4.2	A	0.85	4.3	A
13	6th Ave &	EB	LT	1.07	90.4	F	1.12	107.4	F *	1.08	87.7	F	1.09	93.0	F *	1.07	93.5	F	1.11	104.8	F *	0.87	42.1	D	0.96	57.4	E *
	W 26th St	NB	TR	0.86	7.1	A	0.89	8.5	A	0.97	16.6	B	0.99	21.6	C	1.08	45.0	D	1.11	58.2	E *	0.91	9.7	A	0.97	15.4	B

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes an impacted movement (With-Action LOS E with delay 5 sec >= No-Action delay, or With-Action F with delay 4 sec >= No-Action delay)
Analysis is based on the 2000 Highway Capacity Manual methodology (Synchro 12)

Table 13-22 (cont.): With-Action Levels of Service at Analyzed Intersections

	Signalized Intersections	Approach	Lane Group	No-Action Weekday AM V/C Ratio	Delay (sec/veh)	LOS	With-Action Weekday AM V/C Ratio	Delay (sec/veh)	LOS	No-Action Weekday Midday V/C Ratio	Delay (sec/veh)	LOS	With-Action Weekday Midday V/C Ratio	Delay (sec/veh)	LOS	No-Action Weekday PM V/C Ratio	Delay (sec/veh)	LOS	With-Action Weekday PM V/C Ratio	Delay (sec/veh)	LOS	No-Action Saturday Midday V/C Ratio	Delay (sec/veh)	LOS	With-Action Saturday Midday V/C Ratio	Delay (sec/veh)	LOS
14	6th Ave &	WB	TR	0.65	34.6	C	0.75	40.1	D	0.85	48.3	D	0.90	54.2	D	1.09	98.8	F	1.15	121.7	F *	0.63	34.0	C	0.70	37.3	D
	W 25th St	NB	LT	0.82	4.0	A	0.84	4.5	A	0.84	6.9	A	0.86	7.4	A	0.98	15.3	B	1.01	22.7	C	0.88	9.8	A	0.92	12.6	B
15	6th Ave &	EB	T	0.97	59.3	E	0.97	60.6	E	0.83	39.2	D	0.83	39.8	D	0.86	41.6	D	0.87	42.5	D	0.85	40.5	D	0.86	41.2	D
	W 23th Ave	WB	T	0.48	24.0	C	0.48	24.1	C							0.65	28.4	C	0.65	28.5	C						
		WB	R	0.12	19.2	B	0.12	19.2	B							0.05	17.5	B	0.05	17.6	B						
		WB	TR							0.51	24.8	C	0.51	24.8								0.60	26.9	C	0.60	27.1	C
		NB	L	0.35	22.9	C	0.37	24.0	C	0.52	33.5	C	0.54	35.2	D	0.59	35.4	D	0.64	40.0	D	0.61	38.4	D	0.68	45.7	D
		NB	T	0.89	28.2	C	0.90	28.8	C	0.87	26.9	C	0.89	27.9	C	0.99	43.1	D	1.01	48.6	D	0.85	25.8	C	0.88	27.2	C
		NB	R	1.25	179.7	F	1.31	203.7	F *	1.28	190.6	F	1.30	196.7	F *	2.01	512.2	F	2.13	567.3	F *	1.44	258.1	F	1.54	303.1	F *
16	7th Ave &	EB	TR	1.36	200.9	F	1.30	178.0	F	1.10	94.2	F	1.08	87.4	F	1.07	92.3	F	1.07	91.2	F	1.37	201.3	F	1.48	246.0	F *
	W 38th St	SB	LT	0.68	21.2	C	0.69	21.4	C	0.69	21.2	C	0.69	21.4	C	0.71	21.7	C	0.72	22.0	C	0.59	19.1	B	0.60	19.4	B
17	7th Ave &	WB	LT	0.82	39.1	D	0.82	38.9	D	0.89	43.8	D	0.89	44.0	D	1.03	71.8	E	1.04	74.6	E	1.00	64.0	E	1.04	75.8	E *
	W 37th St	SB	TR	0.64	6.2	A	0.64	5.6	A	0.57	3.9	A	0.57	3.7	A	0.65	4.9	A	0.66	4.8	A	0.57	6.2	A	0.60	7.0	A
18	7th Ave &	EB	T	1.21	147.2	F	1.26	165.4	F *	0.95	65.7	E	1.02	81.8	F *	1.24	156.7	F	1.31	187.8	F *	1.55	290.9	F	1.66	338.9	F *
	W 36th St	EB	R	1.29	189.7	F	1.24	171.3	F	0.95	76.9	E	0.90	65.8	E	0.98	83.9	F	0.96	78.0	E	0.78	49.2	D	0.82	54.7	D
		SB	LT	0.67	7.6	A	0.67	7.4	A	0.66	6.5	A	0.67	6.2	A	0.79	11.1	B	0.80	11.1	B	0.68	9.4	A	0.71	9.4	A
19	7th Ave &	WB	L	0.61	34.6	C	0.60	34.2	C	0.70	39.2	D	0.71	39.5	D	0.34	26.6	C	0.36	27.1	C	0.72	40.0	D	0.76	43.0	D
	W 35th St	WB	T	0.60	32.7	C	0.66	34.9	C	0.87	49.7	D	0.92	57.1	E *	0.82	44.9	D	0.87	49.4	D	0.75	39.3	D	0.81	43.8	D
		SB	TR	0.68	8.9	A	0.66	8.1	A	0.62	7.0	A	0.61	6.8	A	0.82	9.5	A	0.83	9.2	A	0.65	6.4	A	0.67	6.6	A
20	7th Ave &	WB	L	0.68	39.9	D	0.68	39.9	D	1.74	384.9	F	1.74	384.9	F	1.27	186.4	F	1.27	186.4	F	1.11	125.4	F	1.12	127.2	F
	W 33rd St	SB	T	0.51	14.2	B	0.51	14.2	B	0.45	13.4	B	0.45	13.5	B	0.52	14.3	B	0.53	14.4	B	0.47	13.6	B	0.48	13.8	B
21	7th Ave &	SB	LT	0.59	7.3	A	0.59	7.3	A	0.60	9.2	A	0.61	9.2	A	0.67	8.6	A	0.68	8.6	A	0.59	7.7	A	0.60	7.7	A
	W 32nd St																										
22	7th Ave &	WB	L	0.49	23.7	C	0.56	26.0	C	0.36	20.5	C	0.42	21.7	C	0.49	23.7	C	0.55	25.8	C	0.39	21.1	C	0.49	23.6	C
	W 31st St	WB	T	0.48	21.7	C	0.48	21.8	C	0.59	24.2	C	0.59	24.4	C	0.45	21.0	C	0.46	21.1	C	0.44	20.9	C	0.45	21.0	C
		SB	T	0.56	3.7	A	0.56	3.8	A	0.57	3.2	A	0.58	3.2	A	0.67	3.8	A	0.68	3.8	A	0.55	3.2	A	0.57	3.3	A
		SB	R	1.22	149.1	F	1.22	149.0	F	0.98	67.7	E	0.98	67.5	E	1.12	105.5	F	1.12	105.1	F	1.03	82.6	F	1.03	82.0	F
23	7th Ave &	EB	T	0.74	21.3	C	0.77	23.0	C	0.54	19.4	B	0.60	21.4	C	0.68	24.2	C	0.76	26.5	C	0.79	28.0	C	0.91	33.4	C
	W 30th St	EB	R	0.60	20.2	C	0.68	23.2	C	0.54	21.8	C	0.65	26.5	C	0.82	35.6	D	0.98	56.4	E *	0.73	28.6	C	1.00	55.3	E *
		SB	L	1.39	226.4	F	1.73	376.9	F *	1.01	82.6	F	1.27	173.3	F *	1.13	118.9	F	1.60	311.8	F *	0.65	22.2	C	1.06	98.7	F *
		SB	T	0.55	7.5	A	0.56	8.1	A	0.53	5.8	A	0.54	6.4	A	0.64	6.9	A	0.65	7.3	A	0.54	6.7	A	0.56	7.6	A
24	7th Ave &	WB	L	0.43	32.4	C	0.45	33.0	C	0.46	28.8	C	0.48	30.2	C	0.54	37.9	D	0.57	38.8	D	0.43	33.1	C	0.51	34.5	C
	W 29th St	WB	T	0.67	38.2	D	0.86	47.2	D	0.70	32.1	C	0.80	35.5	D	1.03	65.4	E	1.11	99.4	F *	0.91	43.4	D	1.12	96.9	F *
		SB	T													0.96	26.1	C	0.98	30.0	C						
		SB	R													2.88	881.4	F	3.98	1374.1	F *						
		SB	TR	0.82	15.9	B	0.85	17.6	B	0.85	17.7	B	0.89	20.9	C							0.80	15.5	B	0.88	19.9	B

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes an impacted movement (With-Action LOS E with delay 5 sec >= No-Action delay, or With-Action F with delay 4 sec >= No-Action delay)
Analysis is based on the 2000 Highway Capacity Manual methodology (Synchro 12)

Table 13-22 (cont.): With-Action Levels of Service at Analyzed Intersections

				No-Action Weekday AM			With-Action Weekday AM			No-Action Weekday Midday			With-Action Weekday Midday			No-Action Weekday PM			With-Action Weekday PM			No-Action Saturday Midday			With-Action Saturday Midday		
	Signalized Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
25	7th Ave &	EB	TR	0.97	66.4	E	1.00	72.5	E *	0.70	36.5	D	0.71	37.2	D	0.80	41.5	D	0.82	43.6	D	0.97	64.3	E	1.02	76.9	E *
	W 28th Ave	SB	L	0.58	12.7	B	0.66	16.0	B	0.51	8.9	A	0.57	10.3	B	0.49	7.2	A	0.64	11.1	B	0.43	7.5	A	0.62	12.4	B
		SB	T	0.64	7.1	A	0.63	6.9	A	0.53	5.4	A	0.54	5.3	A	0.63	5.5	A	0.64	5.5	A	0.56	5.9	A	0.58	5.8	A
26	7th Ave &	WB	L	0.58	25.5	C	0.64	26.4	C	0.67	30.3	C	0.70	30.9	C	1.10	99.0	F	1.19	131.8	F *	0.53	20.0	B	0.61	21.3	C
	W 27th St	WB	T	0.08	15.5	B	0.08	14.7	B	0.08	16.7	B	0.08	16.1	B	0.04	13.5	B	0.04	13.1	B	0.26	14.6	B	0.26	14.3	B
		SB	T	0.63	5.3	A	0.62	5.2	A	0.55	4.8	A	0.56	4.7	A	0.65	4.5	A	0.66	4.5	A	0.64	6.8	A	0.66	6.4	A
27	7th Ave &	EB	T	0.59	31.9	C	0.61	32.5	C	0.50	29.2	C	0.50	29.3	C	0.55	30.4	C	0.56	30.8	C	0.56	31.1	C	0.58	31.6	C
	W 26th St	EB	R	0.53	32.2	C	0.54	32.6	C	0.45	29.6	C	0.45	29.6	C	0.51	31.5	C	0.53	32.5	C	0.43	28.8	C	0.45	29.5	C
		SB	L	0.57	15.0	B	0.60	17.6	B	0.85	33.1	C	0.89	38.9	D	0.46	10.0	A	0.56	13.9	B	0.42	6.9	A	0.54	10.5	B
		SB	T	0.73	10.1	B	0.73	10.5	B	0.51	6.9	A	0.52	7.1	A	0.76	10.7	B	0.77	10.8	B	0.65	7.0	A	0.67	7.2	A
28	7th Ave &	WB	LT	0.73	32.8	C	0.80	35.3	D	0.78	33.0	C	0.82	34.3	C	1.08	71.6	E	1.14	96.0	F *	0.71	29.4	C	0.78	32.0	C
	W 25th St	SB	T													0.78	7.4	A	0.80	7.4	A						
		SB	R													0.51	9.0	A	0.54	10.0	A						
		SB	TR	0.82	10.1	B	0.83	10.1	B	0.70	10.4	B	0.71	10.3	B							0.81	11.4	B	0.84	11.8	B
29	7th Ave &	EB	TR	0.82	28.8	C	0.82	28.9	C	0.44	26.7	C	0.45	26.7	C	0.48	27.6	C	0.50	27.4	C	0.56	21.0	C	0.58	21.9	C
	W 24th St	SB	L	0.70	13.3	B	0.75	15.8	B	0.77	18.1	B	0.83	24.0	C	0.72	12.6	B	0.88	25.8	C	0.88	26.2	C	1.09	74.2	E *
		SB	T	0.73	5.5	A	0.73	5.7	A	0.48	4.0	A	0.48	4.1	A	0.77	4.1	A	0.77	4.3	A	0.66	5.4	A	0.68	5.7	A
30	8th Ave &	EB	L	1.08	122.1	F	1.09	125.2	F	0.86	71.1	E	0.86	71.1	E	0.55	44.4	D	0.55	44.4	D	1.04	111.6	F	1.05	114.5	F
	W 38th St	EB	T	0.64	23.9	C	0.63	23.4	C	0.41	18.0	B	0.41	18.0	B	0.42	18.0	B	0.43	18.2	B	0.64	23.6	C	0.65	24.0	C
		NB	T	0.77	18.5	B	0.81	20.2	C	0.73	15.2	B	0.75	15.5	B	0.74	17.5	B	0.75	17.8	B	0.94	26.1	C	0.98	32.9	C
		NB	R	1.52	295.4	F	1.23	182.9	F	1.25	181.5	F	1.18	151.8	F	1.19	233.6	F	1.26	256.0	F *	1.82	425.0	F	2.32	642.2	F *
31	8th Ave &	WB	T	0.79	48.3	D	0.83	51.5	D	1.00	81.8	F	1.02	87.8	F *	0.73	47.7	D	0.74	47.9	D	1.04	89.4	F	1.08	100.6	F *
	W 37th St	WB	R	0.60	48.3	D	0.62	50.1	D	0.70	63.1	E	0.69	62.5	E	0.65	51.9	D	0.63	51.3	D	0.57	52.5	D	0.70	56.5	E
		NB	L	0.69	48.1	D	0.70	48.6	D	0.54	40.5	D	0.54	40.6	D	0.78	54.3	D	0.79	54.9	D	0.60	42.5	D	0.61	43.0	D
		NB	T	0.52	17.4	B	0.52	17.4	B	0.54	17.6	B	0.54	17.7	B	0.47	16.5	B	0.48	16.7	B	0.65	19.8	B	0.69	20.6	C
32	8th Ave &	EB	T	1.17	123.8	F	1.17	123.8	F	1.06	87.1	F	1.06	87.1	F	0.95	58.1	E	0.95	58.1	E	0.92	51.4	D	0.92	51.4	D
	W34th St	WB	T	0.56	28.1	C	0.56	28.1	C	1.04	80.3	F	1.04	80.3	F	1.01	71.1	E	1.01	71.1	E	0.81	38.6	D	0.81	38.6	D
		WB	R	0.47	29.2	C	0.47	29.4	C	0.47	28.9	C	0.47	29.0	C	0.44	28.0	C	0.45	28.4	C	0.37	26.0	C	0.38	26.2	C
		NB	L	0.77	64.6	E	0.77	64.6	E	0.73	60.1	E	0.73	60.1	E	0.95	90.9	F	0.95	90.9	F	0.78	63.1	E	0.78	63.1	E
		NB	TR	0.77	27.1	C	0.80	28.4	C	0.72	24.9	C	0.75	25.9	C	0.90	35.2	D	0.94	40.6	D	0.94	40.3	D	0.99	51.1	D
33	8th Ave &	EB	L	0.99	63.1	E	1.03	72.6	E *	1.11	116.5	F	1.15	132.5	F *	1.30	188.4	F	1.42	237.7	F *	1.15	113.0	F	1.28	164.1	F *
	W 30th St	EB	T	0.88	27.8	C	0.89	28.9	C	0.59	29.4	C	0.66	32.0	C	0.85	41.2	D	0.98	58.0	E *	0.89	32.0	C	1.06	65.2	E *
		NB	T	0.49	9.6	A	0.52	10.3	B	0.43	8.0	A	0.45	8.7	A	0.57	10.1	B	0.60	10.9	B	0.56	6.8	A	0.61	8.0	A
34	8th Ave &	WB	TR	0.93	44.8	D	1.17	112.5	F *	1.11	92.7	F	1.27	157.8	F *	1.52	264.4	F	1.67	330.3	F *	1.14	101.7	F	1.42	218.7	F *
	W 29th St	NB	L	1.19	146.2	F	1.24	166.4	F *	0.99	86.3	F	1.01	94.2	F *	1.01	94.2	F	1.06	109.9	F *	1.16	138.4	F	1.24	170.5	F *
		NB	T	0.32	14.3	B	0.33	14.4	B	0.32	14.3	B	0.33	14.4	B	0.37	14.7	B	0.38	14.8	B	0.47	15.9	B	0.48	16.0	B

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes an impacted movement (With-Action LOS E with delay 5 sec >= No-Action delay, or With-Action F with delay 4 sec >= No-Action delay)
Analysis is based on the 2000 Highway Capacity Manual methodology (Synchro 12)

Table 13-22 (cont.): With-Action Levels of Service at Analyzed Intersections

				No-Action Weekday AM			With-Action Weekday AM			No-Action Weekday Midday			With-Action Weekday Midday			No-Action Weekday PM			With-Action Weekday PM			No-Action Saturday Midday			With-Action Saturday Midday			
	Signalized Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	
35	8th Ave &	EB	T	0.91	55.9	E	0.92	58.3	E	0.78	42.5	D	0.80	44.1	D	0.61	32.6	C	0.64	33.7	C	0.63	34.3	C	0.67	35.8	D	
	W 24th St	NB	TR	0.70	19.7	B	0.71	19.8	B	0.59	18.6	B	0.61	18.8	B	0.60	17.6	B	0.62	17.9	B	0.69	20.6	C	0.72	21.3	C	
36	9th Ave &	EB	T	0.46	17.5	B	0.47	17.7	B	0.37	16.3	B	0.41	16.8	B	0.55	20.8	C	0.63	22.3	C	0.44	17.1	B	0.52	18.4	B	
	W 30th St	EB	R	1.46	257.0	F	1.46	257.0	F	0.96	74.9	E	0.96	75.5	E	1.31	202.3	F	1.31	203.8	F	1.46	260.5	F	1.47	262.8	F	
		SB	LT	1.01	57.1	E	1.02	60.8	E	0.93	42.6	D	0.94	44.0	D	0.91	36.8	D	0.92	38.0	D	1.01	57.1	E	1.02	60.9	E	
37	9th Ave &	WB	L	0.40	18.7	B	0.47	19.9	B	0.40	24.0	C	0.45	24.3	C	0.46	23.3	C	0.51	23.9	C	0.37	23.9	C	0.44	24.4	C	
	W 29th St	WB	T	1.01	45.8	D	1.18	107.6	F *	0.90	32.5	C	0.99	39.9	D	1.28	158.8	F	1.34	182.0	F *	1.28	158.2	F	1.46	238.1	F *	
		SB	TR	1.00	24.7	C	1.01	27.4	C	0.80	13.1	B	0.81	13.2	B	0.76	9.3	A	0.77	9.3	A	0.92	34.6	C	0.93	35.2	D	

Notes:
EB - eastbound, WB - westbound, NB - northbound, SB - southbound
L - left, T - through, R - right, DefL - Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume-to-capacity ratio
Sec/veh - seconds per vehicle
LOS - level of service
* - Denotes an impacted movement (With-Action LOS E with delay 5 sec >= No-Action delay, or With-Action F with delay 4 sec >= No-Action delay)
Analysis is based on the 2000 Highway Capacity Manual methodology (Synchro 12)

H. Transit

Existing Conditions

Subway Service

Subway Stations

As discussed above in Section E, "Level 2 Screening Assessment," project-generated subway trips at the 34th Street- Herald Square station complex (B/D/F/M/N/Q/R/W) are expected to exceed the 200-trip *CEQR Technical Manual* analysis threshold in the weekday AM and/or PM peak hours. The station complex is located below-grade.

34th Street-Herald Square (B/D/F/M/N/Q/R/W) Subway Station Complex

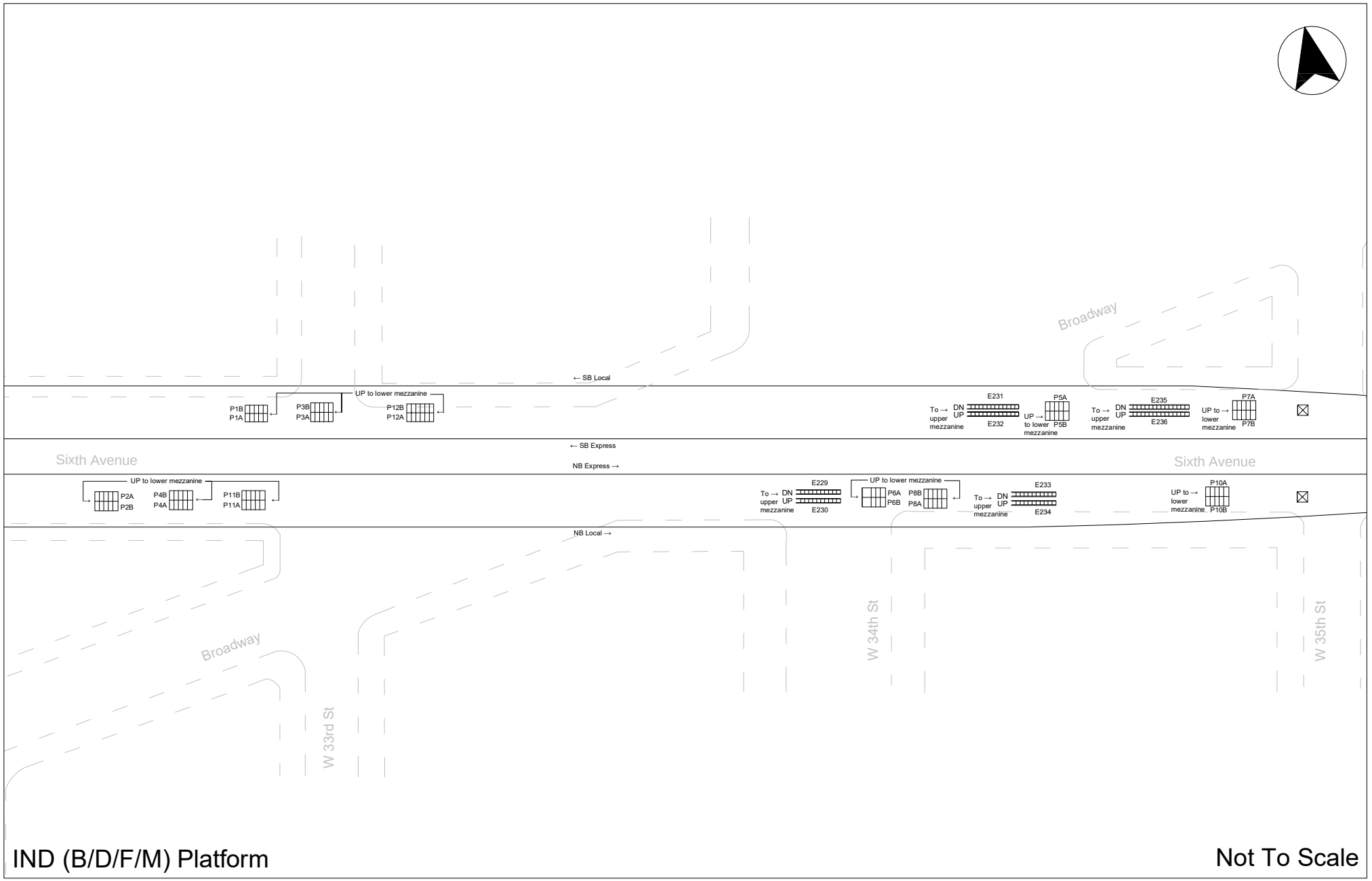
The 34th Street-Herald Square station complex includes the local (F/M) and express (B/D) trains on the IND Sixth Avenue Line, and local (R/W) and express (N/Q) trains on the BMT Broadway Line, all of which are located below-grade. The 34th Street-Herald Square station complex also provides access to the Hoboken-33rd Street and Journal Square-33rd Street lines on the PATH system, which provides connection between New Jersey and Manhattan.

The Broadway and Sixth Avenue Lines each consist of four tracks and two island platforms, with a mezzanine above both sets of platforms. As shown in **Figure 13-10a**, five platform stairs provide access to the southbound platform (P1, P3, P5, P7, and P12 (IND)) and six platform stairs provide access to the northbound platform (P2, P4, P6, P8, P10, and P11 (IND)) on the Sixth Avenue Line. Each platform on the Sixth Avenue Line has four escalators (two in each direction) – E231, E232, E235, and E236 on the southbound platform and E229, E230, E233, and E234 on the northbound platform. As shown in **Figure 13-10b**, on the BMT Broadway Line, four platform stairs provide access to the southbound platform (P1, P3, P5, and P7 (BMT)) and northbound platform (P2, P4, P6, and P8 (BMT)).

Platform stairs P1 to P4, P11, and P12 on the IND Line connect to the lower mezzanine, which provides access to Control Area N507 (see **Figure 13-10c**). Control Area N507 consists of 11 turnstiles and provides connection to the PATH concourse via mezzanine stairs ML7 and ML1 and escalators E223 and E224. From the PATH concourse, stairs HM307 and HM308 as well as escalators E221 and E222 lead to the subway entrance inside the Manhattan Mall on the northwest corner of Sixth Avenue and West 32nd Street (refer to **Figure 13-10d**).

The lower mezzanine also connects to the Broadway Line upper mezzanine level via mezzanine stairs ML2/ML6 (refer to **Figures 13-10c and 13-10d**). As shown in **Figure 13-10d**, the Broadway Line upper mezzanine level provides access to Control Area A025 and the Broadway Line via platform stairs P1 and P2 (BMT). Control Area A025

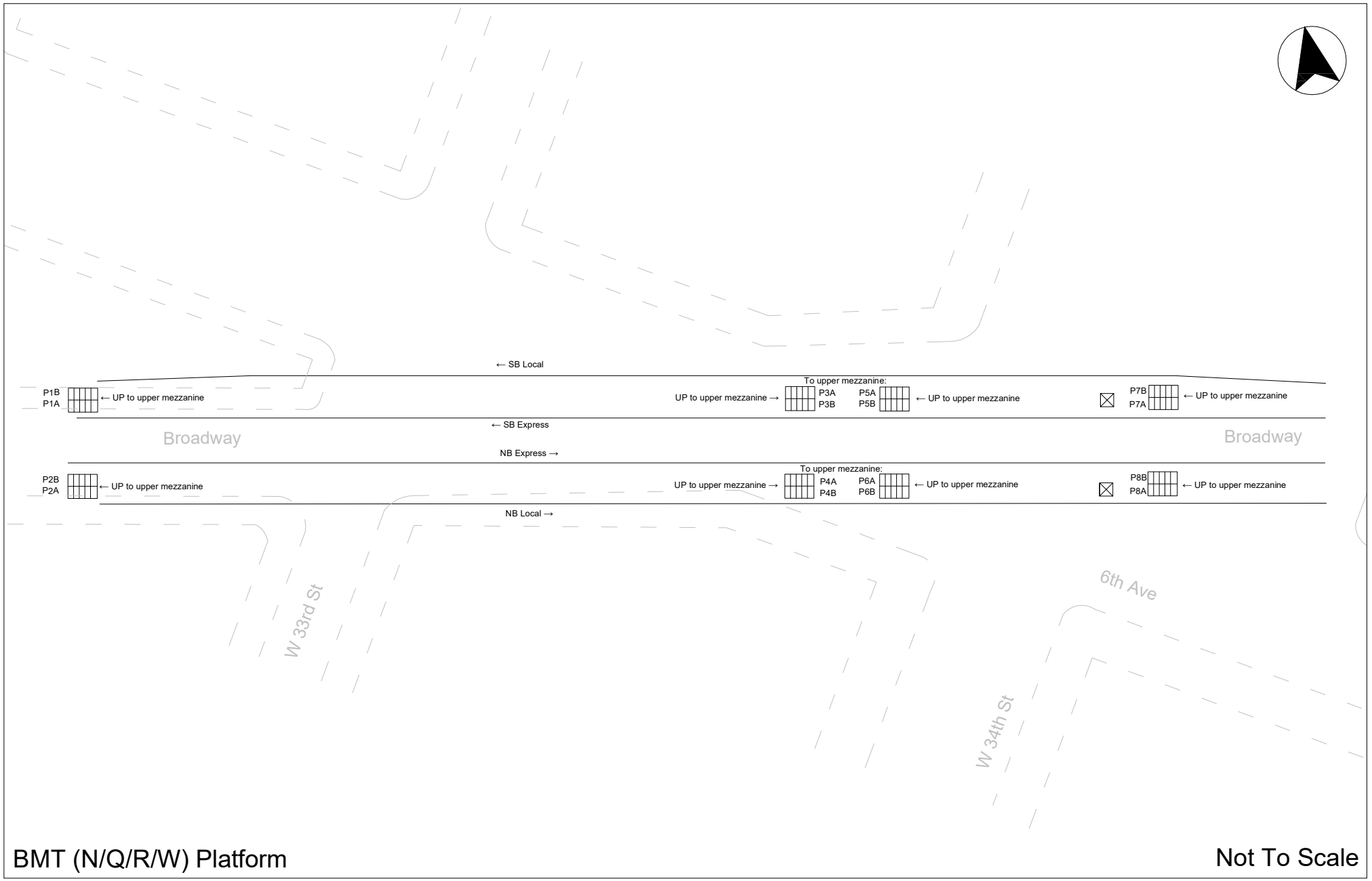
34th St - Herald Square Subway Station - IND (B/D/F/M) Platform



Legend

- Stairs
- Escalator
- Fare Array
- Elevator
- High Entrance/Exit Turnstile (HEET)
- High Exit Turnstile (HXT)
- Emergency Exit

34th St - Herald Square Subway Station - BMT (N/Q/R/W) Platform



Legend

Stairs

Escalator

Fare Array

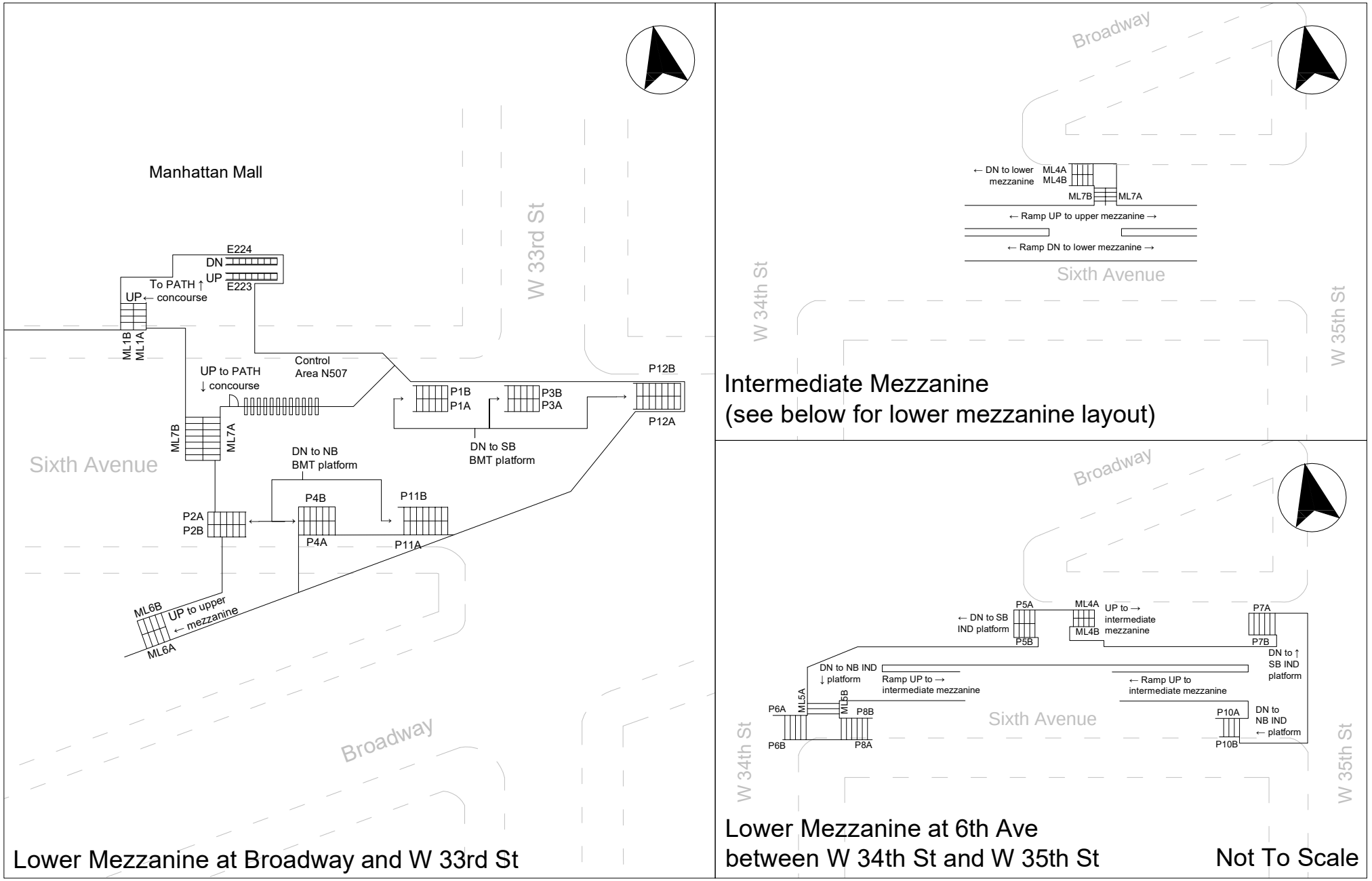
Elevator

High Entrance/Exit Turnstile (HEET)

High Exit Turnstile (HXT)

Emergency Exit

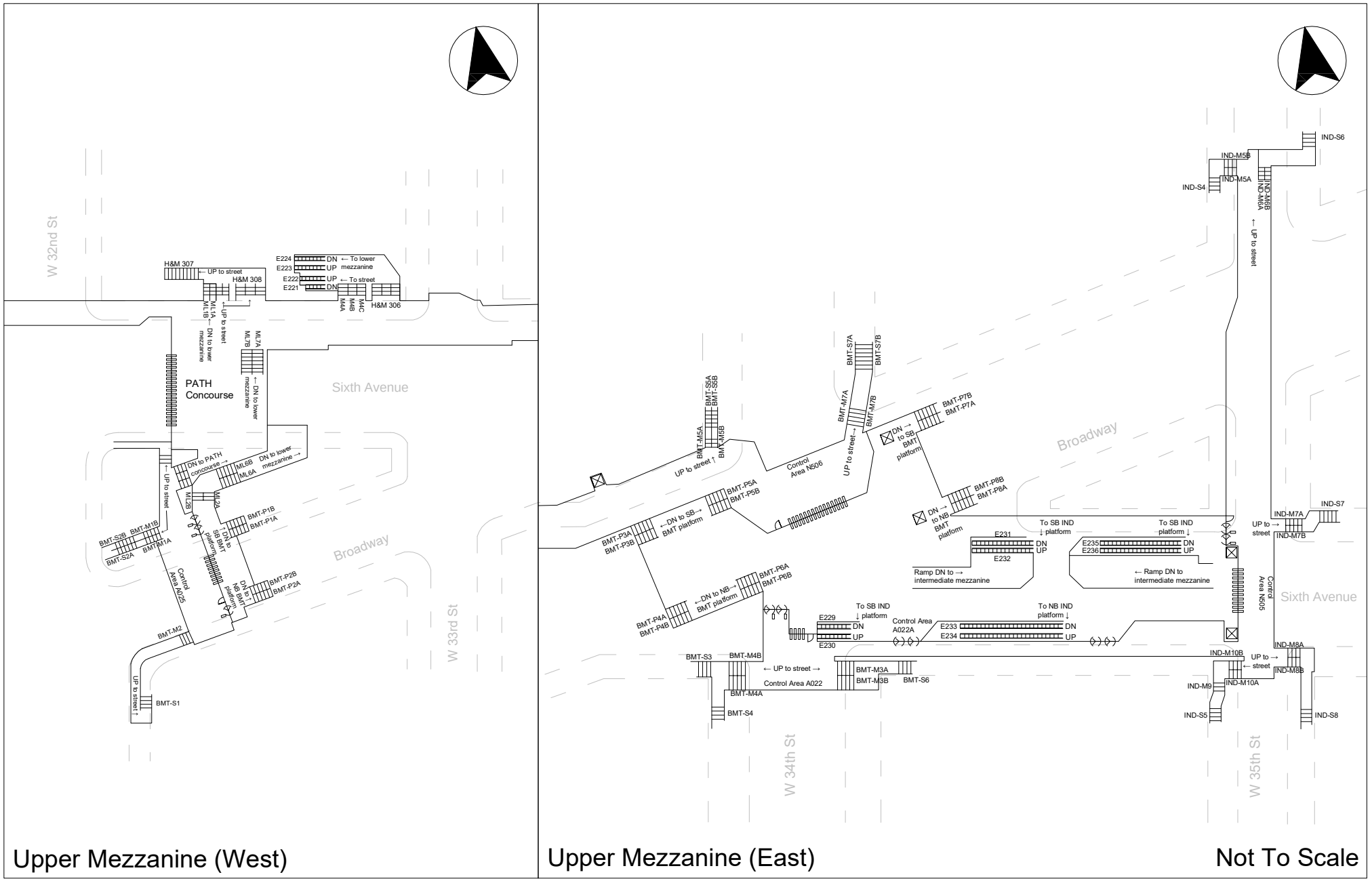
34th St - Herald Square Subway Station - Lower / Intermediate Mezzanine



Legend

Stairs · Escalator · Fare Array · Elevator · High Entrance/Exit Turnstile (HEET) · High Exit Turnstile (HXT) · Emergency Exit

34th St - Herald Square Subway Station - Upper Mezzanine



Legend

Stairs | Escalator | Fare Array | Elevator | High Entrance/Exit Turnstile (HEET) | High Exit Turnstile (HXT) | Emergency Exit

consists of seven turnstiles and three high entry/exit turnstiles (HEETs) and provides connection to the PATH concourse. Street stairs BMT S1/M2 and BMT S2/M1 are located near the northeast and northwest corners of the intersection of Broadway and West 32nd Street, respectively.

As shown in **Figure 13-10d**, platform stairs P3 to P8 on the BMT Line and escalators E229 to E236 connect to the Sixth Avenue upper mezzanine level. In addition, platform stairs P5, P6, P7, P8, and P10 on the IND Line connect to the Sixth Avenue Line upper mezzanine level via ramps to/from the intermediate mezzanine level (refer to **Figure 13-10c**). Nine street stairs provide access from street level to fare control areas on the Sixth Avenue Line upper mezzanine level – BMT S4/M4, BMT S5/M5, BMT S7/M7, BMT S8/M8, IND S4/M5, IND S5/M9/M10, IND S6/M6, IND S7/M7, and IND S8/M8. As shown in **Figure 13-10d**, stairs BMT S4/M4 and BMT S8/M8 are located near the southeast and northeast corners of the intersection of Sixth Avenue at West 34th Street, respectively and lead to Control Area A022, consisting of three turnstiles and 2 HEETs. Stairs BMT S5/M5 and BMT S7/M7 are located near the southwest and northwest corners of the intersection of Broadway at West 34th Street, respectively and lead to Control Area N506, consisting of 14 turnstiles. Stairs IND S4/M5 and IND S6/M6 are located near the southwest and northwest corners of the intersection of Broadway at West 35th Street, respectively. Stairs IND S5/M9/M10, IND S7/M7, and IND S8/M8 are located near the southeast, northwest, and northeast corners of the intersection of Sixth Avenue at West 35th Street, respectively. The street stairs along West 35th Street lead to Control Area N505, which consists of 10 turnstiles and 2 HEETs.

Based on the locations of projected development sites and potential conversion sites, incremental demand from the Proposed Actions is expected to be concentrated at entrance stairs, escalators, and fare arrays at the station's southern end at Broadway at West 32nd Street (stairs BMT S2/M1 and BMT S1/M2 and fare array A025) and Sixth Avenue at West 32nd Street (stairs HM307, escalators E221 to E224, and fare array N507) as well as the station's northern end at West 35th Street at Broadway and Sixth Avenue (stairs IND S6/M6 and IND S8/M8 and fare array N505). These station elements, shown in **Figures 13-11a through 13-11d**, have therefore been selected for analysis, along with the various stairs and escalators connecting the mezzanine levels and four platforms.

As shown in **Table 13-23**, all analyzed stairs at the 34th Street-Herald Square station complex operates at an acceptable LOS C or better in both the AM and PM peak hours with the exception of eight stairs, of which four and seven operate at LOS D or worse during the AM and PM peak hours, respectively. During the AM peak hour, platform stairs P1 and P7 on the BMT line and street stairs S8/M8 operate at LOS D, and platform stairs P2 on the BMT line operates at LOS E under existing conditions. During the PM peak hour, platform stair P7 on the BMT line operates at LOS E and six stairs operate

at LOS D under existing conditions – platform stairs P12/M12 on the IND line, mezzanine stairs ML2/ML6, platform stairs P1, P2, and P6 on the BMT line, and street stairs S2/M1.

As shown in **Table 13-24**, all analyzed fare arrays at the 34th Street-Herald Square station complex operate at an acceptable LOS A or B in both the AM and PM peak hours under existing conditions.

As shown in **Table 13-25**, all analyzed escalators at the 34th Street-Herald Square subway station complex currently operate at an uncongested LOS C or better in both the AM and PM peak hours with the exception of nine escalators, of which six and four operate at LOS D or worse during the AM and PM peak hours, respectively. During the AM peak hour, escalators E222, E223, and E236 operate at LOS D, escalators E230 and E232 operate at LOS E, and escalator E234 operates at LOS F under existing conditions. During the PM peak hour, escalators E229, E232, E233, and E235 operate at LOS D under existing conditions.

Table 13-23: Existing Conditions Subway Station Stair Analysis

Peak Hour	Station	Stair	Location	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
						Up	Down	Up	Down			
AM	34th Street-Herald Square (B/D/F/M/N/Q/R/W)	P1 (IND)	Platform Stair to SB B/D/F/M Platform	9.75	8.50	1,137	363	0.75	0.90	0.90	0.52	B
		P2 (IND)	Platform Stair to NB B/D/F/M Platform	9.83	8.58	652	721	0.75	0.90	0.90	0.45	A
		P3 (IND)	Platform Stair to SB B/D/F/M Platform	8.33	7.08	783	11	0.75	0.90	1.00	0.31	A
		P4 (IND)	Platform Stair to NB B/D/F/M Platform	9.42	8.17	615	1,870	0.75	0.90	0.90	0.82	C
		P5 (IND)	Platform Stair to SB B/D/F/M Platform	9.67	8.42	493	343	0.75	1.00	0.90	0.27	A
		P6 (IND)	Platform Stair to NB B/D/F/M Platform	9.67	8.42	307	10	0.75	1.00	1.00	0.10	A
		P7 (IND)	Platform Stair to SB B/D/F/M Platform	8.00	6.75	712	59	0.75	1.00	0.90	0.35	A
		P8 (IND)	Platform Stair to NB B/D/F/M Platform	9.83	8.58	318	155	0.75	1.00	0.90	0.16	A
		P10 (IND)	Platform Stair to NB B/D/F/M Platform	9.00	7.75	134	120	0.75	1.00	0.90	0.09	A
		P11/M11 (IND)	Platform Stair to NB B/D/F/M Platform	8.50	7.25	1,232	718	0.75	0.90	0.90	0.78	C
		P12/M12 (IND)	Platform Stair to SB B/D/F/M Platform	8.50	7.25	1,826	20	0.75	0.90	1.00	0.71	C
		ML1	Stair between Control Area N507 and PATH Concourse	7.00	5.75	902	425	0.85	0.85	0.90	0.63	B
		ML2/ML6	Stair between N507 Mezzanine and A025 Mezzanine	10.00	8.75	2,696	696	0.90	0.90	0.90	1.00	C
		ML3/ML4	Stair between SB B/D/F/M Platform and Intermediate Mezzanine	8.25	7.00	473	327	0.80	1.00	0.90	0.30	A
		ML5	Stair between NB B/D/F/M Platform and Intermediate Mezzanine	13.67	12.42	625	165	0.75	0.90	0.90	0.19	A
		ML7	Stair between Control Area N507 and PATH Concourse	11.50	12.75	488	2,126	0.85	0.80	0.90	0.59	B
		HM307	Street Stair at NW corner of 6 Ave and W. 32 St	5.67	4.67	1,303	203	0.80	1.00	0.90	0.91	C
		HM308	Stair between Stair HM307 and PATH Concourse	26.00	23.25	1,303	203	0.80	1.00	0.90	0.18	A
		P1 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.25	8.00	2,177	980	0.75	0.90	0.90	1.15	D
		P2 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.58	8.33	1,981	2,018	0.75	0.90	0.90	1.36	E
		P3 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.83	8.58	1,433	211	0.75	0.95	0.90	0.58	B
		P4 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.83	8.58	2,185	143	0.75	0.95	0.90	0.83	C
		P5 (BMT)	Platform Stair to SB N/Q/R/W Platform	8.42	7.17	1,037	297	0.75	0.95	0.90	0.55	B
		P6 (BMT)	Platform Stair to NB N/Q/R/W Platform	8.42	7.17	1,554	372	0.75	0.95	0.90	0.80	C
		P7 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.92	8.67	1,927	1,558	0.75	0.95	0.90	1.12	D
		P8 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.83	8.58	1,383	1,021	0.75	0.95	0.90	0.79	C
		BMT S1/M2	Street Stair at NE corner of Broadway and W. 32 St	5.25	4.25	583	108	0.90	1.00	0.90	0.41	A
		BMT S2/M1	Street Stair at NW corner of Broadway and W. 32 St	7.75	6.50	1,935	562	0.90	1.00	0.90	0.97	C
		IND S6/M6	Street Stair at NW corner of Broadway and W. 35 St	4.50	3.50	850	30	0.75	0.90	1.00	0.69	B
		IND S8/M8	Street Stair at NW corner of 6 Ave and W. 35 St	4.50	3.50	1,222	229	0.75	0.90	0.90	1.25	D

Table 13-23 (continued): Existing Conditions Subway Station Stair Analysis

Peak Hour	Station	Stair	Location	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
						Up	Down	Up	Down			
PM	34th Street-Herald Square (B/D/F/M/N/Q/R/W)	P1 (IND)	Platform Stair to SB B/D/F/M Platform	9.75	8.50	814	2,115	0.75	0.90	0.90	0.94	C
		P2 (IND)	Platform Stair to NB B/D/F/M Platform	9.83	8.58	219	649	0.75	0.90	0.90	0.27	A
		P3 (IND)	Platform Stair to SB B/D/F/M Platform	8.33	7.08	1,102	54	0.75	0.90	1.00	0.45	A
		P4 (IND)	Platform Stair to NB B/D/F/M Platform	9.42	8.17	214	1,499	0.75	0.90	0.90	0.55	B
		P5 (IND)	Platform Stair to SB B/D/F/M Platform	9.67	8.42	209	2,180	0.75	1.00	0.90	0.68	B
		P6 (IND)	Platform Stair to NB B/D/F/M Platform	9.67	8.42	294	48	0.75	1.00	0.90	0.12	A
		P7 (IND)	Platform Stair to SB B/D/F/M Platform	8.00	6.75	98	278	0.75	1.00	0.90	0.14	A
		P8 (IND)	Platform Stair to NB B/D/F/M Platform	9.83	8.58	58	331	0.75	1.00	0.90	0.11	A
		P10 (IND)	Platform Stair to NB B/D/F/M Platform	9.00	7.75	51	420	0.75	1.00	0.90	0.15	A
		P11/M11 (IND)	Platform Stair to NB B/D/F/M Platform	8.50	7.25	453	277	0.75	0.90	0.90	0.29	A
		P12/M12 (IND)	Platform Stair to SB B/D/F/M Platform	8.50	7.25	3,357	67	0.75	0.90	1.00	1.31	D
		ML1	Stair between Control Area N507 and PATH Concourse	7.00	5.75	343	764	0.85	0.85	0.90	0.52	B
		ML2/ML6	Stair between N507 Mezzanine and A025 Mezzanine	10.00	8.75	1,553	1,877	0.90	0.90	0.90	1.01	D
		ML3/ML4	Stair between SB B/D/F/M Platform and Intermediate Mezzanine	8.25	7.00	128	2,042	0.80	1.00	0.90	0.73	C
		ML5	Stair between NB B/D/F/M Platform and Intermediate Mezzanine	13.67	12.42	352	379	0.75	0.90	0.90	0.17	A
		ML7	Stair between Control Area N507 and PATH Concourse	11.50	12.75	1,274	724	0.85	0.80	0.90	0.44	A
		HM307	Street Stair at NW corner of 6 Ave and W. 32 St	5.67	4.67	569	680	0.80	1.00	0.90	0.69	B
		HM308	Stair between Stair HM307 and PATH Concourse	26.00	23.25	626	748	0.80	1.00	0.90	0.15	A
		P1 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.25	8.00	1,678	1,796	0.75	0.90	0.90	1.22	D
		P2 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.58	8.33	1,218	2,036	0.75	0.90	0.90	1.08	D
		P3 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.83	8.58	804	981	0.75	0.95	0.90	0.57	B
		P4 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.83	8.58	1,504	390	0.75	0.95	0.90	0.65	B
		P5 (BMT)	Platform Stair to SB N/Q/R/W Platform	8.42	7.17	691	784	0.75	0.95	0.90	0.56	B
		P6 (BMT)	Platform Stair to NB N/Q/R/W Platform	8.42	7.17	1,325	1,449	0.75	0.95	0.90	1.06	D
		P7 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.92	8.67	1,355	3,823	0.75	0.95	0.90	1.56	E
		P8 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.83	8.58	439	2,000	0.75	0.95	0.90	0.73	C
		BMT S1/M2	Street Stair at NE corner of Broadway and W. 32 St	5.25	4.25	533	832	0.90	1.00	0.90	0.78	C
		BMT S2/M1	Street Stair at NW corner of Broadway and W. 32 St	7.75	6.50	1,019	2,193	0.90	1.00	0.90	1.18	D
		IND S6/M6	Street Stair at NW corner of Broadway and W. 35 St	4.50	3.50	110	833	0.75	0.90	0.90	0.71	C
		IND S8/M8	Street Stair at NW corner of 6 Ave and W. 35 St	4.50	3.50	361	790	0.75	0.90	0.90	0.90	C

Table 13-24: Existing Conditions Subway Station Fare Array Analysis

Peak Hour	Station	Control Area	Control Elements			Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits			
AM	34th Street-Herald Square (B/D/F/M/N/Q/R/W)	N505	10	2	0	403	3,566	0.90	0.75	0.90	0.25	A
		N507	11	0	0	3,201	3,220	0.90	0.75	0.90	0.48	B
		A025	7	3	0	2,131	5,503	0.90	0.75	0.90	0.64	B
PM	34th Street-Herald Square (B/D/F/M/N/Q/R/W)	N505	10	2	0	2,793	826	0.90	0.75	0.90	0.28	A
		N507	11	0	0	2,834	2,721	0.90	0.75	0.90	0.41	A
		A025	7	3	0	3,983	2,215	0.90	0.75	0.90	0.58	B

Table 13-25: Existing Conditions Escalator Analysis at the 34th Street-Herald Square Station Complex

Peak Period	Escalator	Tread Width	Feet per Minute	Guideline Capacity	Peak Hour Volumes	Surging Factor	V/C Ratio	LOS
AM	E221 (Down)	24"	90	480	105	0.80	0.09	A
	E222 (Up)	24"	90	480	1,335	0.80	1.09	D
	E223 (Up)	24"	90	480	1,830	0.90	1.32	D
	E224 (Down)	24"	90	480	725	0.90	0.53	B
	E229 (Down)	24"	90	480	1,057	0.85	0.81	C
	E230 (Up)	24"	90	480	1,748	0.75	1.52	E
	E231 (Down)	24"	90	480	181	0.85	0.14	A
	E232 (Up)	24"	90	480	1,617	0.75	1.40	E
	E233 (Down)	24"	90	480	166	1.00	0.11	A
	E234 (Up)	24"	90	480	2,622	0.75	2.28	F
	E235 (Down)	24"	90	480	125	1.00	0.08	A
	E236 (Up)	24"	90	480	1,271	0.75	1.10	D
PM	E221 (Down)	24"	90	480	596	0.80	0.48	B
	E222 (Up)	24"	90	480	589	0.80	0.48	B
	E223 (Up)	24"	90	480	884	0.90	0.64	B
	E224 (Down)	24"	90	480	624	0.90	0.45	A
	E229 (Down)	24"	90	480	1,594	0.85	1.22	D
	E230 (Up)	24"	90	480	902	0.75	0.78	C
	E231 (Down)	24"	90	480	705	0.85	0.54	B
	E232 (Up)	24"	90	480	1,163	0.75	1.01	D
	E233 (Down)	24"	90	480	1,683	1.00	1.10	D
	E234 (Up)	24"	90	480	488	0.75	0.43	A
	E235 (Down)	24"	90	480	1,588	1.00	1.03	D
	E236 (Up)	24"	90	480	780	0.75	0.68	B

The Future without the Proposed Actions (No-Action Condition)

Between existing analysis year and 2034, it is expected that subway and bus demands in the vicinity of the Affected Area will increase due to long-term background growth as well as development that could occur pursuant to existing zoning. In order to forecast

future transit conditions without the Proposed Actions (the No-Action condition), development on projected development sites and developments shown in **Figure 13-7** were considered.

Subway Service

Subway Stations

The Future No-Action subway station volumes reflect annual background growth rates of 0.25 percent per year for the 2024 through 2029 period and 0.125 percent for the 2029 through 2034 period. These background growth rates, recommended in the *CEQR Technical Manual* for projects in Manhattan, are applied to account for smaller projects and as-of-right developments not shown in **Figure 13-7** and general increases in travel demand not attributable to specific development projects.

Under No-Action conditions, demand at all analyzed subway stations is expected to increase as a result of new development and/or background growth. The results of the analysis of No-Action AM and PM peak hour conditions at the 34th Street-Herald Square Station on the Broadway and Sixth Avenue subway lines are shown in **Tables 13-26 through 13-28** and discussed below.

34th Street-Herald Square (B/D/F/M/N/Q/R/W) Subway Station Complex

It should be noted that the Proposed Project in the 2022 *Pennsylvania Station Area Civic and Land Use Improvement Project FEIS* would include public transportation improvements consisting of improvements to passenger rail and subway station facilities at and adjacent to Penn Station and new entrances and improvements to existing entrances to the station complex and subway stations that would be built outside the footprint of the existing Penn Station. It is anticipated that transit improvements would be implemented at the 34th Street-Herald Square subway station complex. The improvements would include the following: new subway entrances at West 32nd and West 33rd Street and Sixth Avenue, plus additional escalators and/or other vertical circulation elements as needed in consultation with MTA and NYCT; reconstructing two mezzanine stairs connecting the Broadway and Sixth Avenue Lines; reconfiguring the fare control area at the Sixth Avenue mezzanine level; and replacing the PATH-related elevator in the Manhattan Mall if the existing Manhattan Mall building is demolished. However, it should be noted that these station improvements would occur after the Midtown South Mixed-Use Plan's Proposed Actions' 2034 build year as part of Phase 2 of the project in the 2022 *Pennsylvania Station Area Civic and Land Use Improvement Project FEIS*. Another improvement would be establishing an east-west connector, connecting the 34th Street-Herald Square and 34th Street (Seventh Avenue)-Penn Station subway station complexes either below West 32nd Street or West 33rd Street, which would be implemented as part of Phase 1 and Phase 2, respectively. Therefore, these station improvements outlined in the 2022 *Pennsylvania Station Area Civic and*

Land Use Improvement Project FEIS would not affect the key circulation element at the analyzed subway station that are expected to be used by new demand from the Proposed Actions by the 2034 build year.

As shown in **Table 13-26**, in the No-Action condition, all analyzed stairs at the 34th Street-Herald Square station Complex are expected to operate at an acceptable LOS C or better in both the AM and PM peak hours with the exception of ten stairs, of which seven and eight are expected to operate with LOS D or worse during the AM and PM peak hours, respectively. During the AM peak hour, mezzanine stairs ML2/ML6, street stair HM307, platform stairs P1 and P7 on the BMT line, street stairs S2/M1, and street stairs S8/M8 are expected to operate at LOS D; and platform stair P2 on the BMT line operates at LOS E under the No-Action condition. During the PM peak hour, four stairs are expected to operate at LOS D under No-Action condition – platform stairs P1 on the IND line, mezzanine stairs ML2/ML6, and platform stairs P2 and P6 on the BMT line; and four stairs are expected to operate at LOS E under No-Action condition – platform stairs P12/M12 on the IND line, platform stairs P1 and P7 on the BMT line, and street stairs S2/M1.

As shown in **Table 13-27**, all analyzed fare arrays at the 34th Street-Herald Square station complex are expected to continue to operate at LOS C or better in both the AM and PM peak hours under the No-Action condition.

As shown in **Table 13-28**, all analyzed escalators at the 34th Street-Herald Square subway station complex are expected to operate at an uncongested LOS C or better in both the AM and PM peak hours with the exception of nine escalators, of which six and four operate at LOS D or worse during the AM and PM peak hours, respectively under the No-Action condition. During the AM peak hour, escalator E236 is expected to operate at LOS D; escalators E222, E223, E230, and E232 is expected to operate at LOS E; and escalator E234 is expected to operate at LOS F under No-Action conditions. During the PM peak hour, escalators E229, E232, E233, and E235 are expected to continue to operate at LOS D under No-Action condition.

Table 13-26: No-Action Subway Station Stair Analysis

Peak Hour	Station	Stair	Location	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
						Up	Down	Up	Down			
AM	34th Street-Herald Square (B/D/F/M/N/Q/R/W)	P1 (IND)	Platform Stair to SB B/D/F/M Platform	9.75	8.50	1,278	386	0.75	0.90	0.90	0.58	B
		P2 (IND)	Platform Stair to NB B/D/F/M Platform	9.83	8.58	733	767	0.75	0.90	0.90	0.49	B
		P3 (IND)	Platform Stair to SB B/D/F/M Platform	8.33	7.08	880	11	0.75	0.90	1.00	0.35	A
		P4 (IND)	Platform Stair to NB B/D/F/M Platform	9.42	8.17	692	1,988	0.75	0.90	0.90	0.89	C
		P5 (IND)	Platform Stair to SB B/D/F/M Platform	9.67	8.42	503	354	0.75	1.00	0.90	0.28	A
		P6 (IND)	Platform Stair to NB B/D/F/M Platform	9.67	8.42	314	10	0.75	1.00	1.00	0.11	A
		P7 (IND)	Platform Stair to SB B/D/F/M Platform	8.00	6.75	727	61	0.75	1.00	0.90	0.35	A
		P8 (IND)	Platform Stair to NB B/D/F/M Platform	9.83	8.58	325	160	0.75	1.00	0.90	0.16	A
		P10 (IND)	Platform Stair to NB B/D/F/M Platform	9.00	7.75	137	124	0.75	1.00	0.90	0.09	A
		P11/M11 (IND)	Platform Stair to NB B/D/F/M Platform	8.50	7.25	1,385	764	0.75	0.90	0.90	0.86	C
		P12/M12 (IND)	Platform Stair to SB B/D/F/M Platform	8.50	7.25	2,053	21	0.75	0.90	1.00	0.79	C
		ML1	Stair between Control Area N507 and PATH Concourse	7.00	5.75	1,002	455	0.85	0.85	0.90	0.69	B
		ML2/ML6	Stair between N507 Mezzanine and A025 Mezzanine	10.00	8.75	3,066	947	0.90	0.90	0.90	1.18	D
		ML3/ML4	Stair between SB B/D/F/M Platform and Intermediate Mezzanine	8.25	7.00	483	338	0.80	1.00	0.90	0.31	A
		ML5	Stair between NB B/D/F/M Platform and Intermediate Mezzanine	13.67	12.42	638	170	0.75	0.90	0.90	0.19	A
		ML7	Stair between Control Area N507 and PATH Concourse	11.50	12.75	524	2,173	0.85	0.80	0.90	0.61	B
		HM307	Street Stair at NW corner of 6 Ave and W. 32 St	5.67	4.67	1,438	237	0.80	1.00	0.90	1.01	D
		HM308	Stair between Stair HM307 and PATH Concourse	26.00	23.25	1,438	237	0.80	1.00	0.90	0.20	A
		P1 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.25	8.00	2,447	1,041	0.75	0.90	0.90	1.28	D
		P2 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.58	8.33	2,226	2,145	0.75	0.90	0.90	1.49	E
		P3 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.83	8.58	1,463	218	0.75	0.95	0.90	0.59	B
		P4 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.83	8.58	2,231	148	0.75	0.95	0.90	0.84	C
		P5 (BMT)	Platform Stair to SB N/Q/R/W Platform	8.42	7.17	1,059	307	0.75	0.95	0.90	0.56	B
		P6 (BMT)	Platform Stair to NB N/Q/R/W Platform	8.42	7.17	1,587	385	0.75	0.95	0.90	0.81	C
		P7 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.92	8.67	1,967	1,610	0.75	0.95	0.90	1.15	D
		P8 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.83	8.58	1,412	1,055	0.75	0.95	0.90	0.81	C
		BMT S1/M2	Street Stair at NE corner of Broadway and W. 32 St	5.25	4.25	596	119	0.90	1.00	0.90	0.42	A
		BMT S2/M1	Street Stair at NW corner of Broadway and W. 32 St	7.75	6.50	2,518	716	0.90	1.00	0.90	1.25	D
		IND S6/M6	Street Stair at NW corner of Broadway and W. 35 St	4.50	3.50	866	31	0.75	0.90	1.00	0.71	C
		IND S8/M8	Street Stair at NW corner of 6 Ave and W. 35 St	4.50	3.50	1,245	233	0.75	0.90	0.90	1.27	D

Table 13-26 (continued): No-Action Subway Station Stair Analysis

Peak Hour	Station	Stair	Location	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
						Up	Down	Up	Down			
PM	34th Street-Herald Square (B/D/F/M/N/Q/R/W)	P1 (IND)	Platform Stair to SB B/D/F/M Platform	9.75	8.50	859	2,401	0.75	0.90	0.90	1.04	D
		P2 (IND)	Platform Stair to NB B/D/F/M Platform	9.83	8.58	231	737	0.75	0.90	0.90	0.30	A
		P3 (IND)	Platform Stair to SB B/D/F/M Platform	8.33	7.08	1,163	61	0.75	0.90	1.00	0.48	B
		P4 (IND)	Platform Stair to NB B/D/F/M Platform	9.42	8.17	226	1,701	0.75	0.90	0.90	0.62	B
		P5 (IND)	Platform Stair to SB B/D/F/M Platform	9.67	8.42	215	2,230	0.75	1.00	0.90	0.69	B
		P6 (IND)	Platform Stair to NB B/D/F/M Platform	9.67	8.42	302	49	0.75	1.00	0.90	0.12	A
		P7 (IND)	Platform Stair to SB B/D/F/M Platform	8.00	6.75	101	284	0.75	1.00	0.90	0.14	A
		P8 (IND)	Platform Stair to NB B/D/F/M Platform	9.83	8.58	59	338	0.75	1.00	0.90	0.11	A
		P10 (IND)	Platform Stair to NB B/D/F/M Platform	9.00	7.75	52	430	0.75	1.00	0.90	0.15	A
		P11/M11 (IND)	Platform Stair to NB B/D/F/M Platform	8.50	7.25	478	314	0.75	0.90	0.90	0.31	A
		P12/M12 (IND)	Platform Stair to SB B/D/F/M Platform	8.50	7.25	3,542	76	0.75	0.90	1.00	1.38	E
		ML1	Stair between Control Area N507 and PATH Concourse	7.00	5.75	374	853	0.85	0.85	0.90	0.58	B
		ML2/ML6	Stair between N507 Mezzanine and A025 Mezzanine	10.00	8.75	1,854	2,169	0.90	0.90	0.90	1.18	D
		ML3/ML4	Stair between SB B/D/F/M Platform and Intermediate Mezzanine	8.25	7.00	132	2,089	0.80	1.00	0.90	0.75	C
		ML5	Stair between NB B/D/F/M Platform and Intermediate Mezzanine	13.67	12.42	362	387	0.75	0.90	0.90	0.17	A
		ML7	Stair between Control Area N507 and PATH Concourse	11.50	12.75	1,305	763	0.85	0.80	0.90	0.45	A
		HM307	Street Stair at NW corner of 6 Ave and W. 32 St	5.67	4.67	612	793	0.80	1.00	0.90	0.77	C
		HM308	Stair between Stair HM307 and PATH Concourse	26.00	23.25	670	862	0.80	1.00	0.90	0.17	A
		P1 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.25	8.00	1,771	2,039	0.75	0.90	0.90	1.34	E
		P2 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.58	8.33	1,285	2,311	0.75	0.90	0.90	1.19	D
		P3 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.83	8.58	826	1,004	0.75	0.95	0.90	0.58	B
		P4 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.83	8.58	1,545	399	0.75	0.95	0.90	0.67	B
		P5 (BMT)	Platform Stair to SB N/Q/R/W Platform	8.42	7.17	710	802	0.75	0.95	0.90	0.58	B
		P6 (BMT)	Platform Stair to NB N/Q/R/W Platform	8.42	7.17	1,361	1,482	0.75	0.95	0.90	1.09	D
		P7 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.92	8.67	1,392	3,910	0.75	0.95	0.90	1.60	E
		P8 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.83	8.58	451	2,046	0.75	0.95	0.90	0.74	C
		BMT S1/M2	Street Stair at NE corner of Broadway and W. 32 St	5.25	4.25	550	852	0.90	1.00	0.90	0.80	C
		BMT S2/M1	Street Stair at NW corner of Broadway and W. 32 St	7.75	6.50	1,199	2,726	0.90	1.00	0.90	1.45	E
		IND S6/M6	Street Stair at NW corner of Broadway and W. 35 St	4.50	3.50	112	849	0.75	0.90	0.90	0.72	C
		IND S8/M8	Street Stair at NW corner of 6 Ave and W. 35 St	4.50	3.50	368	805	0.75	0.90	0.90	0.92	C

Table 13-27: No-Action Subway Station Fare Array Analysis

Peak Hour	Station	Fare Array	Control Elements			Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits			
AM	34th Street-Herald Square (B/D/F/M/N/Q/R/W)	N505	10	2	0	364	817	0.90	0.75	0.90	0.08	A
		N507	11	0	0	61	727	0.90	0.75	0.90	0.05	A
		A025	7	3	0	2,323	6,155	0.90	0.75	0.90	0.71	C
PM	34th Street-Herald Square (B/D/F/M/N/Q/R/W)	N505	10	2	0	2,279	517	0.90	0.75	0.90	0.22	A
		N507	11	0	0	284	101	0.90	0.75	0.90	0.03	A
		A025	7	3	0	4,554	2,425	0.90	0.75	0.90	0.66	B

Table 13-28: No-Action Escalator Analysis at the 34th Street-Herald Square Station Complex

Peak Period	Escalator	Tread Width	Feet per Minute	Guideline Capacity	Peak Hour Volumes	Surging Factor	V/C Ratio	LOS
AM	E221 (Down)	24"	90	480	226	0.80	0.18	A
	E222 (Up)	24"	90	480	1,800	0.80	1.47	E
	E223 (Up)	24"	90	480	2,307	0.90	1.67	E
	E224 (Down)	24"	90	480	856	0.90	0.62	B
	E229 (Down)	24"	90	480	1,087	0.85	0.83	C
	E230 (Up)	24"	90	480	1,786	0.75	1.55	E
	E231 (Down)	24"	90	480	187	0.85	0.14	A
	E232 (Up)	24"	90	480	1,652	0.75	1.43	E
	E233 (Down)	24"	90	480	177	1.00	0.11	A
	E234 (Up)	24"	90	480	2,676	0.75	2.32	F
	E235 (Down)	24"	90	480	129	1.00	0.08	A
	E236 (Up)	24"	90	480	1,298	0.75	1.13	D
PM	E221 (Down)	24"	90	480	1,005	0.80	0.82	C
	E222 (Up)	24"	90	480	733	0.80	0.60	B
	E223 (Up)	24"	90	480	1,034	0.90	0.75	C
	E224 (Down)	24"	90	480	1,034	0.90	0.75	C
	E229 (Down)	24"	90	480	1,632	0.85	1.25	D
	E230 (Up)	24"	90	480	926	0.75	0.80	C
	E231 (Down)	24"	90	480	723	0.85	0.55	B
	E232 (Up)	24"	90	480	1,195	0.75	1.04	D
	E233 (Down)	24"	90	480	1,720	1.00	1.12	D
	E234 (Up)	24"	90	480	502	0.75	0.44	A
	E235 (Down)	24"	90	480	1,622	1.00	1.06	D
	E236 (Up)	24"	90	480	801	0.75	0.69	B

The Future with the Proposed Actions (With-Action Condition)

Subway Service

Subway Stations

As shown in **Table 13-9**, the Proposed Actions are expected to generate a net total of approximately 987 and 992 new subway trips in the weekday AM and PM peak hours, respectively. Based on proximity to projected development sites, the highest number of incremental subway trips is expected to occur at the 34th Street-Herald Square subway station complex which would experience approximately 370 incremental trips in the AM peak hour and 377 in the PM peak hour. All other subway stations/station complexes in proximity to the Affected Area are expected to experience fewer than 200 new trips in both the AM and PM peak hours.

AM and PM peak hour conditions at 34th Street-Herald Square in the With-Action condition are shown in **Tables 13-29 through 13-31** and discussed below.

34th Street-Herald Square (B/D/F/M/N/Q/R/W) Subway Station Complex

In the With-Action condition, as shown in **Table 13-29**, all analyzed stairs at the 34th Street-Herald Square station are expected to operate at an acceptable LOS C or better in both the AM and PM peak hours with the exception of nine stairs, of which six and nine are expected to operate with LOS D or worse during the AM and PM peak hours, respectively. During the AM peak hour, mezzanine stairs ML2/ML6, platform stairs P1 and P7 on the BMT line, and street stairs S2/M1 are expected to operate at LOS D; and street stair P2 on the BMT line and street stairs S8/M8 are expected to operate at LOS E under the With-Action condition (same as under the No-Action condition with the exception of street stairs S8/M8, which operate at LOS D under the No-Action condition). During the PM peak hour, platform stairs P1 on the IND line, mezzanine stairs ML2/ML6, and platform stairs P2 and P6 on the BMT line, street stairs S8/M8 are expected to operate at LOS D; and platform stairs P12/M12 on the IND line, platform stairs P1 and P7 on the BMT line, and street stairs S2/M1 are expected to operate at LOS E under the With-Action condition (same as under the No-Action condition with the exception of street stairs S8/M8, which operate at LOS C under the No-Action condition). However, all stairs would not be considered significantly adversely impacted by the Proposed Actions based on the *CEQR Technical Manual* impact criteria previously described in Section F, "Transportation Analyses Methodologies." Therefore, no significant adverse stair impacts are anticipated to occur at the 34th Street-Herald Square subway station complex as a result of the Proposed Actions.

As shown in **Table 13-30**, all analyzed fare arrays at the 34th Street-Herald Square station are expected to operate at an acceptable LOS C or better in both the AM and PM peak hours under the With-Action condition. Therefore, no significant adverse fare

array impacts are anticipated to occur at the 34th Street—Herald Square subway station complex as a result of the Proposed Actions.

As shown in **Table 13-31**, all analyzed escalators at the 34th Street-Herald Square station are expected to operate at an acceptable LOS C or better with the exception of nine escalators, of which six and four operate at LOS D or worse during the AM and PM peak hours, respectively under the With-Action conditions. During the AM peak hour, escalator E236 is expected to operate at LOS D; escalators E222, E223, E230, and E232 are expected to operate at LOS E; and escalator E234 is expected to operate at LOS F under With-Action conditions (same as under No-Action conditions). During the PM peak hour, escalators E229, E232, E233, and E235 are expected to operate at LOS D under With-Action conditions (same as under No-Actions conditions). However, the v/c ratios for these escalators would not increase by greater than 0.01 from the No-Action conditions during both the AM and PM peak hours. Therefore, no significant adverse escalator impacts are anticipated to occur at the 34th Street—Herald Square subway station complex as a result of the Proposed Actions.

Table 13-29: With-Action Subway Station Stair Analysis

Peak Hour	Station	Stair	Location	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS	WIT	Impact Threshold
						Up	Down	Up	Down	Up	Down					
AM	34th Street-Herald Square (B/D/F/M/N/Q/R/W)	P1 (IND)	Platform Stair to SB B/D/F/M Platform	9.75	8.50	-8	22	1,270	408	0.75	0.90	0.90	0.59	B	- - -	- - -
		P2 (IND)	Platform Stair to NB B/D/F/M Platform	9.83	8.58	-4	44	729	811	0.75	0.90	0.90	0.50	B	- - -	- - -
		P3 (IND)	Platform Stair to SB B/D/F/M Platform	8.33	7.08	-5	1	875	12	0.75	0.90	1.00	0.35	A	- - -	- - -
		P4 (IND)	Platform Stair to NB B/D/F/M Platform	9.42	8.17	-4	114	688	2,102	0.75	0.90	0.90	0.92	C	- - -	- - -
		P5 (IND)	Platform Stair to SB B/D/F/M Platform	9.67	8.42	-5	12	498	366	0.75	1.00	0.90	0.28	A	- - -	- - -
		P6 (IND)	Platform Stair to NB B/D/F/M Platform	9.67	8.42	-3	0	311	10	0.75	1.00	1.00	0.10	A	- - -	- - -
		P7 (IND)	Platform Stair to SB B/D/F/M Platform	8.00	6.75	-7	2	720	63	0.75	1.00	0.90	0.35	A	- - -	- - -
		P8 (IND)	Platform Stair to NB B/D/F/M Platform	9.83	8.58	-3	6	322	166	0.75	1.00	0.90	0.16	A	- - -	- - -
		P10 (IND)	Platform Stair to NB B/D/F/M Platform	9.00	7.75	-1	4	136	128	0.75	1.00	0.90	0.09	A	- - -	- - -
		P11/M11 (IND)	Platform Stair to NB B/D/F/M Platform	8.50	7.25	-8	44	1,377	808	0.75	0.90	0.90	0.87	C	- - -	- - -
		P12/M12 (IND)	Platform Stair to SB B/D/F/M Platform	8.50	7.25	-13	1	2,040	22	0.75	0.90	1.00	0.79	C	- - -	- - -
		ML1	Stair between Control Area N507 and PATH Concourse	7.00	5.75	-3	-3	999	452	0.85	0.85	0.90	0.69	B	- - -	- - -
		ML2/ML6	Stair between N507 Mezzanine and A025 Mezzanine	10.00	8.75	-7	188	3,059	1,135	0.90	0.90	0.90	1.23	D	4.77	6.00
		ML3/ML4	Stair between SB B/D/F/M Platform and Intermediate Mezzanine	8.25	7.00	-5	12	478	350	0.80	1.00	0.90	0.31	A	- - -	- - -
		ML5	Stair between NB B/D/F/M Platform and Intermediate Mezzanine	13.67	12.42	-6	6	632	176	0.75	0.90	0.90	0.19	A	- - -	- - -
		ML7	Stair between Control Area N507 and PATH Concourse	11.50	12.75	-1	-2	523	2,171	0.85	0.80	0.90	0.60	B	- - -	- - -
		HM307	Street Stair at NW corner of 6 Ave and W. 32 St	5.67	4.67	-4	-5	1,434	232	0.80	1.00	0.90	1.00	C	-0.21	8.00
		HM308	Stair between Stair HM307 and PATH Concourse	26.00	23.25	-4	-5	1,434	232	0.80	1.00	0.90	0.20	A	- - -	- - -
		P1 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.25	8.00	-15	59	2,432	1,100	0.75	0.90	0.90	1.29	D	1.23	6.00
		P2 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.58	8.33	-14	123	2,212	2,268	0.75	0.90	0.90	1.52	E	2.49	3.00
		P3 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.83	8.58	-13	8	1,450	226	0.75	0.95	0.90	0.59	B	- - -	- - -
		P4 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.83	8.58	-20	5	2,211	153	0.75	0.95	0.90	0.84	C	- - -	- - -
		P5 (BMT)	Platform Stair to SB N/Q/R/W Platform	8.42	7.17	-10	11	1,049	318	0.75	0.95	0.90	0.56	B	- - -	- - -
		P6 (BMT)	Platform Stair to NB N/Q/R/W Platform	8.42	7.17	-14	13	1,573	398	0.75	0.95	0.90	0.81	C	- - -	- - -
		P7 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.92	8.67	-18	56	1,949	1,666	0.75	0.95	0.90	1.16	D	1.12	7.00
		P8 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.83	8.58	-13	36	1,399	1,091	0.75	0.95	0.90	0.81	C	- - -	- - -
		BMT S1/M2	Street Stair at NE corner of Broadway and W. 32 St	5.25	4.25	29	234	625	353	0.90	1.00	0.90	0.57	B	- - -	- - -
		BMT S2/M1	Street Stair at NW corner of Broadway and W. 32 St	7.75	6.50	-72	130	2,446	846	0.90	1.00	0.90	1.27	D	1.31	6.00
		IND S6/M6	Street Stair at NW corner of Broadway and W. 35 St	4.50	3.50	-138	26	728	57	0.75	0.90	0.90	0.69	B	- - -	- - -
		IND S8/M8	Street Stair at NW corner of 6 Ave and W. 35 St	4.50	3.50	-37	182	1,208	415	0.75	0.90	0.90	1.37	E	4.18	5.00

Table 13-29 (continued): With-Action Subway Station Stair Analysis

Peak Hour	Station	Stair	Location	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS	WIT	Impact Threshold
						Up	Down	Up	Down	Up	Down					
PM	34th Street-Herald Square (B/D/F/M/N/Q/R/W)	P1 (IND)	Platform Stair to SB B/D/F/M Platform	9.75	8.50	26	8	885	2,409	0.75	0.90	0.90	1.05	D	1.20	8.00
		P2 (IND)	Platform Stair to NB B/D/F/M Platform	9.83	8.58	7	3	238	740	0.75	0.90	0.90	0.31	A	- - -	- - -
		P3 (IND)	Platform Stair to SB B/D/F/M Platform	8.33	7.08	35	0	1,198	61	0.75	0.90	1.00	0.49	B	- - -	- - -
		P4 (IND)	Platform Stair to NB B/D/F/M Platform	9.42	8.17	7	6	233	1,707	0.75	0.90	0.90	0.63	B	- - -	- - -
		P5 (IND)	Platform Stair to SB B/D/F/M Platform	9.67	8.42	3	-11	218	2,219	0.75	1.00	0.90	0.69	B	- - -	- - -
		P6 (IND)	Platform Stair to NB B/D/F/M Platform	9.67	8.42	4	0	306	49	0.75	1.00	0.90	0.13	A	- - -	- - -
		P7 (IND)	Platform Stair to SB B/D/F/M Platform	8.00	6.75	1	-1	102	283	0.75	1.00	0.90	0.14	A	- - -	- - -
		P8 (IND)	Platform Stair to NB B/D/F/M Platform	9.83	8.58	1	-2	60	336	0.75	1.00	0.90	0.11	A	- - -	- - -
		P10 (IND)	Platform Stair to NB B/D/F/M Platform	9.00	7.75	1	-2	53	428	0.75	1.00	0.90	0.15	A	- - -	- - -
		P11/M11 (IND)	Platform Stair to NB B/D/F/M Platform	8.50	7.25	15	1	493	315	0.75	0.90	0.90	0.32	A	- - -	- - -
		P12/M12 (IND)	Platform Stair to SB B/D/F/M Platform	8.50	7.25	108	0	3,650	76	0.75	0.90	1.00	1.42	E	2.62	4.00
		ML1	Stair between Control Area N507 and PATH Concourse	7.00	5.75	-3	-1	371	852	0.85	0.85	0.90	0.58	B	- - -	- - -
		ML2/ML6	Stair between N507 Mezzanine and A025 Mezzanine	10.00	8.75	168	35	2,022	2,204	0.90	0.90	0.90	1.24	D	5.35	6.00
		ML3/ML4	Stair between SB B/D/F/M Platform and Intermediate Mezzanine	8.25	7.00	3	-11	135	2,078	0.80	1.00	0.90	0.74	C	- - -	- - -
		ML5	Stair between NB B/D/F/M Platform and Intermediate Mezzanine	13.67	12.42	5	-2	367	385	0.75	0.90	0.90	0.17	A	- - -	- - -
		ML7	Stair between Control Area N507 and PATH Concourse	11.50	12.75	-1	-1	1,304	762	0.85	0.80	0.90	0.45	A	- - -	- - -
		HM307	Street Stair at NW corner of 6 Ave and W. 32 St	5.67	4.67	-4	-2	608	791	0.80	1.00	0.90	0.77	C	- - -	- - -
		HM308	Stair between Stair HM307 and PATH Concourse	26.00	23.25	-4	-2	666	860	0.80	1.00	0.90	0.17	A	- - -	- - -
		P1 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.25	8.00	54	7	1,825	2,046	0.75	0.90	0.90	1.36	E	1.53	5.00
		P2 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.58	8.33	39	8	1,324	2,319	0.75	0.90	0.90	1.21	D	1.33	6.00
		P3 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.83	8.58	11	-5	837	999	0.75	0.95	0.90	0.58	B	- - -	- - -
		P4 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.83	8.58	21	-2	1,566	397	0.75	0.95	0.90	0.68	B	- - -	- - -
		P5 (BMT)	Platform Stair to SB N/Q/R/W Platform	8.42	7.17	10	-4	720	798	0.75	0.95	0.90	0.58	B	- - -	- - -
		P6 (BMT)	Platform Stair to NB N/Q/R/W Platform	8.42	7.17	18	-7	1,379	1,475	0.75	0.95	0.90	1.10	D	0.39	7.00
		P7 (BMT)	Platform Stair to SB N/Q/R/W Platform	9.92	8.67	19	-19	1,411	3,891	0.75	0.95	0.90	1.60	E	0.00	2.00
		P8 (BMT)	Platform Stair to NB N/Q/R/W Platform	9.83	8.58	6	-10	457	2,036	0.75	0.95	0.90	0.74	C	- - -	- - -
		BMT S1/M2	Street Stair at NE corner of Broadway and W. 32 St	5.25	4.25	169	75	719	927	0.90	1.00	0.90	0.94	C	- - -	- - -
		BMT S2/M1	Street Stair at NW corner of Broadway and W. 32 St	7.75	6.50	91	-28	1,290	2,698	0.90	1.00	0.90	1.47	E	1.21	4.00
		IND S6/M6	Street Stair at NW corner of Broadway and W. 35 St	4.50	3.50	12	-103	124	746	0.75	0.90	0.90	0.66	B	- - -	- - -
		IND S8/M8	Street Stair at NW corner of 6 Ave and W. 35 St	4.50	3.50	128	15	496	820	0.75	0.90	0.90	1.04	D	1.65	8.00

Table 13-30: With-Action Subway Station Fare Array Analysis

Peak Hour	Station	Fare Array	Control Elements			Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits	System Entries	System Exits			
AM	34th Street-Herald Square (B/D/F/M/N/Q/R/W)	N505	10	2	0	208	-175	572	642	0.90	0.75	0.90	0.09	A
		N507	11	0	0	44	-28	105	699	0.90	0.75	0.90	0.05	A
		A025	7	3	0	364	-43	2,687	6,112	0.90	0.75	0.90	0.74	C
PM	34th Street-Herald Square (B/D/F/M/N/Q/R/W)	N505	10	2	0	-88	140	2,191	657	0.90	0.75	0.90	0.22	A
		N507	11	0	0	-13	31	271	132	0.90	0.75	0.90	0.03	A
		A025	7	3	0	47	260	4,601	2,685	0.90	0.75	0.90	0.68	B

Table 13-31: With-Action Escalator Analysis at the 34th Street-Herald Square Station Complex

Peak Period	Escalator	Tread Width	Feet per Minute	Guideline Capacity	Project Increment	Peak Hour Volumes	Surging Factor	V/C Ratio	LOS
AM	E221 (Down)	24"	90	480	43	269	0.80	0.22	A
	E222 (Up)	24"	90	480	-80	1,720	0.80	1.40	E
	E223 (Up)	24"	90	480	-14	2,293	0.90	1.66	E
	E224 (Down)	24"	90	480	-23	833	0.90	0.60	B
	E229 (Down)	24"	90	480	11	1,098	0.85	0.84	C
	E230 (Up)	24"	90	480	-10	1,776	0.75	1.54	E
	E231 (Down)	24"	90	480	3	190	0.85	0.14	A
	E232 (Up)	24"	90	480	-7	1,645	0.75	1.43	E
	E233 (Down)	24"	90	480	33	210	1.00	0.14	A
	E234 (Up)	24"	90	480	-31	2,645	0.75	2.30	F
	E235 (Down)	24"	90	480	8	137	1.00	0.09	A
	E236 (Up)	24"	90	480	-20	1,278	0.75	1.11	D
PM	E221 (Down)	24"	90	480	-54	951	0.80	0.77	C
	E222 (Up)	24"	90	480	28	761	0.80	0.62	B
	E223 (Up)	24"	90	480	-20	1,014	0.90	0.73	C
	E224 (Down)	24"	90	480	-6	1,028	0.90	0.74	C
	E229 (Down)	24"	90	480	-4	1,628	0.85	1.25	D
	E230 (Up)	24"	90	480	5	931	0.75	0.81	C
	E231 (Down)	24"	90	480	-3	720	0.85	0.55	B
	E232 (Up)	24"	90	480	7	1,202	0.75	1.04	D
	E233 (Down)	24"	90	480	-12	1,708	1.00	1.11	D
	E234 (Up)	24"	90	480	14	516	0.75	0.45	A
	E235 (Down)	24"	90	480	-8	1,614	1.00	1.05	D
	E236 (Up)	24"	90	480	20	821	0.75	0.71	C

I. Pedestrians

Existing Conditions

Much of the Affected Area is characterized by relatively moderate pedestrian flows during peak periods with the exception of major retail corridors and corridors providing

access to area subway stations and bus routes. As discussed previously in Section E, "Level 2 Screening Assessment," the analysis of pedestrian conditions focuses on representative pedestrian elements where new trips generated by projected developments are expected to be most concentrated. These elements—sidewalks, corner areas and crosswalks—are primarily located in the vicinity of major projected development sites and along corridors connecting these sites to area transit services. As shown in **Figure 13-4**, they include a total of 63 sidewalks, 41 crosswalks, and 116 corner areas primarily located along the Broadway, Fifth Avenue, Sixth Avenue and Seventh Avenue corridors.

Sidewalks

Data from pedestrian counts conducted in June 2024 indicate that the highest pedestrian flows at analyzed sidewalks within the study area are generally found along corridors providing access to subway station entrances, including along Sixth Avenue and Broadway in the vicinity of the 34th Street-Herald Square subway station, along 7th Avenue in the vicinity of the 28th Street (No. 1 line) station and along Sixth Avenue in the vicinity of the 23rd Street (F/M lines) station. As shown in **Table 13-32**, analyzed sidewalks typically range from three to eight feet in effective width, with some wider sidewalks (i.e., up to 15.5 feet in effective width) present along Fifth, Sixth, and Seventh Avenues, and some more narrow (i.e., two feet or less in effective width) present along West 28th Street, West 31st Street, and West 38th Street. Features typically present along study area sidewalks that can reduce the effective width available for pedestrian flow include street furniture such as sign posts, traffic signal and lamp posts, fire hydrants and tree pits, as well as larger installations such as subway stairs.

Table 13-32 shows the existing peak hour pedestrian volumes, average pedestrian space in square feet per pedestrian (sf/ped), and platoon-adjusted levels of service at analyzed sidewalks. As shown in **Table 13-32**, all analyzed sidewalks currently operate at an acceptable LOS C or better in all peak hours with the exception of 27 sidewalks in one or more peak hours.

Crosswalks

Study area intersections are signalized and generally include pedestrian signals. The majority of crosswalks in the area feature high visibility striping and analyzed crosswalks generally range from 10 to 24 feet in width. **Table 13-33** shows the peak hour volumes, average pedestrian space (in sf/ped), and levels of service at analyzed crosswalks. As shown in **Table 13-33**, all analyzed crosswalks currently operate at an acceptable LOS C or better in all peak hours, with the exception of six crosswalks in one or more peak hours.

Table 13-32: Existing Sidewalk Conditions

No.	Location	Effective Width (ft)	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
S1	West sidewalk along 5 Ave btw E 29 St & E 30 St	14.0	721	561	990	640	207.5	272.6	149.3	220.8	B	B	B	B
S2	South sidewalk along W 30 St between 5 Ave and Broadway	2.0	236	235	327	157	73.1	75.4	59.8	104.1	C	C	C	B
S3	West sidewalk along 5 Ave btw E 30 St & E 31 St	15.5	661	599	1,075	855	233.9	267.3	157.4	208.8	B	B	B	B
S4	West sidewalk along 5 Ave btw E 27 St & E 28 St	5.0	712	646	1,109	660	78.9	75.0	45.4	76.1	C	C	C	C
S5	West sidewalk along 5 Ave btw E 28 St & E 29 St	2.5	658	663	829	388	39.4	38.2	33.5	53.0	D	D	D	C
S6	North sidewalk along W 28 St between 5 Ave and Broadway	4.0	644	508	982	815	69.7	81.0	39.4	56.0	C	C	D	C
S7	South sidewalk along W 38 St between 5 Ave and 6 Ave	1.5	679	809	763	350	21.5	17.6	19.8	48.8	E	E	E	C
S8	East sidewalk along 6 Ave btw W 36 St & W 37 St	8.0	1,137	910	1,234	1,519	75.7	84.2	71.2	60.2	C	C	C	C
S9	South sidewalk along W 37 St between 5 Ave and 6 Ave	3.0	590	662	762	296	48.3	47.3	41.4	94.8	C	C	C	B
S10	East sidewalk along 6 Ave btw W 35 St & W 36 St	7.0	2,387	1,128	2,178	1,105	22.4	53.2	29.5	68.0	E	C	D	C
S11	South sidewalk along W 36 St between 5 Ave and 6 Ave	2.5	605	602	866	415	44.0	38.7	28.8	51.7	C	D	D	C
S12	North sidewalk along W 35 St between 5 Ave and 6 Ave	2.0	1,265	965	1,911	1,049	15.3	18.7	8.6	18.4	E	E	F	E
S13	East sidewalk along 6 Ave btw W 34 St & W 35 St	5.5	2,229	2,049	2,755	1,669	24.6	29.0	18.6	36.4	D	D	E	D
S14	East sidewalk along 6 Ave btw W 33 St & W 34 St	7.5	1,736	1,167	1,416	1,531	47.6	65.2	45.9	48.8	C	C	C	C
S15	West sidewalk along 6 Ave btw W 32 St & W 33 St	8.5	3,549	1,690	2,758	3,082	23.5	52.6	31.6	28.1	D	C	D	D
S16	West sidewalk along 6 Ave btw W 33 St & W 34 St	5.0	1,843	1,978	3,269	2,285	27.6	17.0	12.6	16.8	D	E	E	E
S17	East sidewalk along 6 Ave btw W 31 St & W 32 St	3.5	971	1,025	1,427	901	35.1	31.9	26.0	41.7	D	D	D	C
S18	East sidewalk along 6 Ave btw W 30 St & W 31 St	3.0	781	850	1,178	760	36.1	35.2	28.3	40.5	D	D	D	C
S19	West sidewalk along 6 Ave btw W 30 St & W 31 St	3.5	2,354	1,651	2,802	1,803	14.6	21.9	12.1	21.2	E	E	E	E
S20	South sidewalk along W 31 St between 6 Ave and 7 Ave	1.0	922	729	1,374	639	9.6	13.1	4.5	13.7	F	E	F	E
S21	West sidewalk along 6 Ave btw W 31 St & W 32 St	3.5	2,252	1,564	2,622	1,958	16.2	24.6	13.4	17.3	E	D	E	E
S22	East sidewalk along 6 Ave btw W 29 St & W 30 St	3.5	532	592	742	565	67.5	62.7	49.3	61.3	C	C	C	C
S23	North sidewalk along W 29 St between 6 Ave and Broadway	4.0	269	189	320	237	162.3	228.7	100.7	160.2	B	B	B	B
S24	East sidewalk along 6 Ave btw W 28 St & W 29 St	4.0	495	597	847	551	92.8	72.8	47.6	79.8	B	C	C	C
S25	South sidewalk along W 29 St between 6 Ave and Broadway	4.0	280	318	357	295	152.5	126.8	110.2	133.5	B	B	B	B
S26	West sidewalk along 6 Ave btw W 28 St & W 29 St	5.0	1,050	848	1,433	1,006	50.3	64.0	39.4	51.4	C	C	D	C
S27	South sidewalk along W 29 St between 6 Ave and 7 Ave	1.5	432	397	502	252	35.9	41.0	29.5	58.2	D	C	D	C
S28	West sidewalk along 6 Ave btw W 29 St & W 30 St	4.0	890	819	1,335	999	47.4	53.4	29.6	38.7	C	C	D	D
S29	North sidewalk along W 29 St between 6 Ave and 7 Ave	2.5	231	259	372	258	102.6	93.7	65.0	86.0	B	B	C	C
S30	East sidewalk along 6 Ave btw W 27 St & W 28 St	8.5	618	777	944	713	143.6	116.7	100.2	127.2	B	B	B	B
S31	East sidewalk along 6 Ave btw W 26 St & W 27 St	8.0	695	729	1,045	634	124.2	123.6	85.1	128.7	B	B	C	B

Table 13-32 (cont'd): Existing Sidewalk Conditions

No.	Location	Effective Width (ft)	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
S32	West sidewalk along 6 Ave btw W 26 St & W 27 St	7.5	860	942	897	904	98.1	84.8	73.1	92.3	B	C	C	B
S33	West sidewalk along 6 Ave btw W 27 St & W 28 St	5.0	911	826	1,371	1,044	57.5	67.1	34.7	52.9	C	C	D	C
S34	East sidewalk along 6 Ave btw W 25 St & W 26 St	3.5	824	624	1,007	811	45.8	61.5	36.8	45.5	C	C	D	C
S35	South sidewalk along W 26 St between 6 Ave and Broadway	3.0	240	388	520	411	121.5	86.9	56.3	76.8	B	C	C	C
S36	West sidewalk along 6 Ave btw W 25 St & W 26 St	4.5	1,038	1,108	1,673	907	46.2	41.2	28.4	52.5	C	C	D	C
S37	North sidewalk along W 26 St between 6 Ave and 7 Ave	3.5	347	383	339	279	105.2	97.4	105.2	120.5	B	B	B	B
S38	North sidewalk along W 25 St between 6 Ave and Broadway	5.5	248	236	327	605	229.1	240.7	183.7	92.6	B	B	B	B
S39	East sidewalk along 6 Ave btw W 24 St & W 25 St	7.0	903	668	976	684	80.7	104.3	78.0	110.4	C	B	C	B
S40	West sidewalk along 6 Ave btw W 24 St & W 25 St	8.0	841	931	1,511	1,089	108.2	79.2	58.6	73.8	B	C	C	C
S41	East sidewalk along 6 Ave btw W 23 St & W 24 St	6.0	988	1,106	775	875	69.5	59.4	83.3	72.1	C	C	C	C
S42	West sidewalk along 6 Ave btw W 23 St & W 24 St	5.5	761	846	1,726	1,134	73.4	73.0	32.0	55.3	C	C	D	C
S43	North sidewalk along W 23 St between 6 Ave and 7 Ave	3.5	644	767	1,455	770	56.9	49.8	21.5	45.2	C	C	E	C
S44	East sidewalk along 7 Ave btw W 30 St & W 31 St	5.0	1,447	1,710	1,607	832	37.8	32.1	33.9	62.3	D	D	D	C
S45	East sidewalk along 7 Ave btw W 29 St & W 30 St	10.5	1,171	1,508	1,364	784	99.8	74.0	81.0	152.5	B	C	C	B
S46	South sidewalk along W 30 St between 6 Ave and 7 Ave	1.5	366	462	624	262	44.6	34.2	25.1	60.0	C	D	D	C
S47	West sidewalk along 7 Ave btw W 29 St & W 30 St	4.5	1,069	1,314	1,867	814	42.8	34.9	25.5	59.9	C	D	D	C
S48	West sidewalk along 7 Ave btw W 30 St & W 31 St	8.0	1,246	1,571	2,109	920	67.4	53.9	39.8	85.4	C	C	D	C
S49	East sidewalk along 7 Ave btw W 28 St & W 29 St	3.0	848	1,442	1,349	683	34.4	19.8	23.6	47.4	D	E	D	C
S50	East sidewalk along 7 Ave btw W 27 St & W 28 St	7.0	1,248	1,348	1,111	649	60.1	54.3	62.4	113.8	C	C	C	B
S51	West sidewalk along 7 Ave btw W 28 St & W 29 St	6.0	666	828	1,219	720	97.1	73.6	56.8	80.8	B	C	C	C
S52	North sidewalk along W 28 St between 7 Ave and 8 Ave	3.5	1,262	648	628	567	29.6	54.0	62.4	64.8	D	C	C	C
S53	East sidewalk along 7 Ave btw W 26 St & W 27 St	10.5	1,088	1,628	1,464	727	87.9	66.2	76.3	155.9	C	C	C	B
S54	North sidewalk along W 24 St between 6 Ave and 7 Ave	3.0	425	338	373	326	74.2	95.6	78.9	81.6	C	B	C	C
S55	South sidewalk along W 24 St between 6 Ave and 7 Ave	2.5	461	337	548	391	57.5	80.7	46.5	68.7	C	C	C	C
S56	East sidewalk along Broadway between W 31 St and W 32 St	4.0	1,268	1,343	1,945	1,260	32.4	30.9	19.6	33.8	D	D	E	D
S57	East sidewalk along Broadway between W 30 St and W 31 St	8.0	924	969	1,354	939	88.1	86.0	65.5	91.8	C	C	C	B
S58	West sidewalk along Broadway between W 31 St and W 32 St	8.0	685	611	984	701	123.2	130.4	89.5	116.3	B	B	C	B
S59	North sidewalk along W 29 St between 5 Ave and Broadway	2.5	263	252	587	244	79.8	78.6	31.4	106.8	C	C	D	B
S60	South sidewalk along W 29 St between 5 Ave and Broadway	2.5	299	291	418	335	89.1	79.2	64.2	77.6	C	C	C	C
S61	West sidewalk along Broadway between W 27 St and W 28 St	6.0	1,048	1,018	1,745	1,131	52.5	68.2	34.7	46.0	C	C	D	C
S62	South sidewalk along W 28 St between 6 Ave and Broadway	2.5	1,002	914	1,181	640	24.3	27.5	20.7	35.8	D	D	E	D
S63	East sidewalk along 7 Ave btw W 25 St & W 26 St	10.5	1,067	1,319	1,114	625	108.4	82.9	106.1	159.5	B	C	B	B

Table 13-33: Existing Crosswalk Conditions

Intersection	Crosswalk		Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
5 Ave & E 30 St	X1	South	225	224	299	156	138.4	129.1	92.8	180.1	A	A	A	A
5 Ave & E 30 St	X2	West	545	491	1,025	725	119.0	127.4	65.0	92.6	A	A	A	A
5 Ave & E 29 St	X3	West	636	545	1,181	830	120.6	125.5	61.6	81.6	A	A	A	A
5 Ave & E 28 St	X4	North	447	389	570	376	63.0	63.5	44.7	66.1	A	A	B	A
5 Ave & E 28 St	X5	South	563	489	670	409	39.7	48.3	36.3	60.1	C	B	C	A
5 Ave & E 28 St	X6	West	546	525	884	683	119.1	118.4	66.5	86.4	A	A	A	A
5 Ave & E 27 St	X7	West	689	592	915	745	101.5	110.5	71.1	90.4	A	A	A	A
6 Ave & W 36 St	X8	East	1,639	1,448	1,770	1,053	19.2	19.5	17.9	31.5	D	D	D	C
6 Ave & W 35 St	X9	East	2,023	1,821	2,421	1,637	19.5	21.9	15.6	24.1	D	D	D	C
6 Ave & W 34 St	X10	East	2,317	2,416	3,725	2,224	18.9	16.6	10.8	20.4	D	D	E	D
6 Ave & W 31 St	X11	West	1,718	1,491	2,391	1,597	24.3	24.6	15.4	21.8	C	C	D	D
6 Ave & W 30 St	X12	East	582	670	905	528	58.2	46.9	38.9	62.9	B	B	C	A
6 Ave & W 30 St	X13	West	1,388	1,036	1,849	599	26.1	32.5	21.0	64.8	C	C	D	A
6 Ave & W 29 St	X14	East	741	797	988	751	46.6	44.7	35.8	42.6	B	B	C	B
6 Ave & W 29 St	X15	South	245	281	357	195	93.6	103.5	66.0	135.6	A	A	A	A
6 Ave & W 29 St	X16	West	790	743	1,445	997	47.1	46.3	25.2	34.1	B	B	C	C
6 Ave & W 28 St	X17	East	580	602	840	564	74.4	52.5	46.0	61.7	A	B	B	A
6 Ave & W 28 St	X18	West	797	738	1,049	961	59.8	55.1	46.5	47.4	B	B	B	B
6 Ave & W 27 St	X19	East	631	748	735	581	74.6	58.0	61.3	71.7	A	B	A	A
6 Ave & W 27 St	X20	West	817	781	1,292	882	56.2	49.7	36.0	47.0	B	B	C	B
6 Ave & W 26 St	X21	East	683	753	868	807	57.5	50.0	41.5	48.3	B	B	B	B
6 Ave & W 26 St	X22	West	829	745	1,096	884	55.8	54.9	39.5	46.6	B	B	C	B
6 Ave & W 25 St	X23	East	921	829	838	806	55.9	55.9	63.0	57.8	B	B	A	B
6 Ave & W 25 St	X24	West	791	840	1,466	885	59.1	48.6	27.8	45.7	B	B	C	B
6 Ave & W 24 St	X25	East	1,307	1,013	1,158	988	32.3	37.6	36.5	38.5	C	C	C	C
6 Ave & W 24 St	X26	West	1,072	728	1,581	940	41.1	52.4	27.9	46.6	B	B	C	B
6 Ave & W 23 St	X27	North	1,106	738	1,164	835	31.7	50.7	33.5	43.3	C	B	C	B
6 Ave & W 23 St	X28	East	825	1,009	846	806	43.8	35.7	44.4	46.0	B	C	B	B
6 Ave & W 23 St	X29	West	632	947	1,339	939	81.5	49.2	31.5	54.3	A	B	C	B
7 Ave & W 29 St	X30	East	1,184	1,378	1,272	670	36.1	33.5	34.2	65.0	C	C	C	A
7 Ave & W 29 St	X31	West	941	995	1,538	682	45.3	41.7	26.8	64.0	B	B	C	A
7 Ave & W 23 St	X32	East	554	666	666	499	29.9	32.2	30.1	40.6	C	C	C	B
Broadway & W 32 St	X33	West	737	676	1,488	938	54.4	62.2	26.3	41.5	B	A	C	B
Broadway & W 31 St	X34	East	1,014	1,125	1,391	1,077	45.7	40.4	32.2	39.5	B	B	C	C
Broadway & W 30 St	X35	East	868	1,061	1,392	998	73.8	63.4	45.7	60.2	A	A	B	A
Broadway & W 30 St	X36	South	263	262	325	232	146.7	131.6	122.5	157.2	A	A	A	A
Broadway & W 30 St	X37	West	845	633	1,250	958	79.1	99.8	50.9	68.2	A	A	B	A
Broadway & W 29 St	X38	North	254	237	382	190	116.7	137.5	74.6	144.6	A	A	A	A
Broadway & W 29 St	X39	East	939	1,117	1,416	985	34.5	27.6	22.9	29.2	C	C	D	C
Broadway & W 29 St	X40	South	223	251	366	219	99.0	101.3	60.9	94.9	A	A	A	A
Broadway & W 29 St	X41	West	804	730	1,639	1,196	87.5	94.3	42.1	56.8	A	A	B	B

Corner Areas

Table 13-34 shows the peak hour volumes, average pedestrian space (in sf/ped) and levels of service at analyzed corner areas. As shown in **Table 13-34**, all of the analyzed corner areas currently operate at an acceptable LOS C or better in all peak hours, with the exception of five corners in one or more peak hours.

Table 13-34: Existing Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
Madison Ave & E 28 St	C001	SW	65.3	64.3	45.4	96.1	A	A	B	A
Madison Ave & E 26 St	C002	SW	103.4	88.3	93.9	134.6	A	A	A	A
5 Ave & E 36 St	C003	SW	101.9	106.2	65.7	98.4	A	A	A	A
5 Ave & E 35 St	C004	NW	89.6	108.4	60.3	93.2	A	A	A	A
5 Ave & E 30 St	C005	NE	207.9	131.8	121.1	176.8	A	A	A	A
5 Ave & E 30 St	C006	SE	218.4	124.7	117.3	206.8	A	A	A	A
5 Ave & E 30 St	C007	SW	234.7	240.5	135.7	221.8	A	A	A	A
5 Ave & E 30 St	C008	NW	213.3	206.2	119.0	186.7	A	A	A	A
5 Ave & E 29 St	C009	SE	230.0	201.7	154.5	238.4	A	A	A	A
5 Ave & E 29 St	C010	SW	136.5	140.4	72.0	95.1	A	A	A	A
5 Ave & E 29 St	C011	NW	182.5	196.2	106.8	153.2	A	A	A	A
5 Ave & E 28 St	C012	NE	147.4	100.2	91.5	137.2	A	A	A	A
5 Ave & E 28 St	C013	SE	129.5	95.4	84.4	138.9	A	A	A	A
5 Ave & E 28 St	C014	SW	127.3	142.5	98.6	139.9	A	A	A	A
5 Ave & E 28 St	C015	NW	146.1	154.3	88.9	127.7	A	A	A	A
5 Ave & E 27 St	C016	SW	133.8	150.8	121.5	173.6	A	A	A	A
5 Ave & E 27 St	C017	NW	160.8	149.7	111.8	158.5	A	A	A	A
5 Ave & E 26 St	C018	SE	293.7	130.3	132.5	148.0	A	A	A	A
5 Ave & E 26 St	C019	SW	174.1	150.0	105.7	140.8	A	A	A	A
5 Ave & E 26 St	C020	NW	123.4	125.0	86.0	108.1	A	A	A	A
5 Ave & E 25 St	C021	SW	379.2	344.5	262.9	310.8	A	A	A	A
5 Ave & E 23 St	C022	NW	154.7	148.2	123.0	130.5	A	A	A	A
6 Ave & W 38 St	C023	SE	64.6	61.2	62.4	124.4	A	A	A	A
6 Ave & W 37 St	C024	SE	80.2	89.4	80.2	104.1	A	A	A	A
6 Ave & W 36 St	C025	NE	84.9	67.7	62.7	122.7	A	A	A	A
6 Ave & W 36 St	C026	SE	32.4	37.0	28.9	59.6	C	C	C	B
6 Ave & W 35 St	C027	NE	31.6	34.9	18.7	38.7	C	C	D	C
6 Ave & W 35 St	C028	SE	41.6	48.6	34.4	58.4	B	B	C	B
6 Ave & W 34 St	C029	NE	71.6	52.6	37.9	59.1	A	B	C	B
6 Ave & W 34 St	C030	SE	72.7	68.0	46.5	69.0	A	A	B	A
6 Ave & W 33 St	C033	SW	10.0	24.0	8.3	15.7	E	C	E	D
6 Ave & W 33 St	C034	NW	19.0	32.6	8.1	17.2	D	C	E	D
6 Ave & W 32 St	C035	NE	25.1	51.0	20.6	44.6	C	B	D	B
6 Ave & W 32 St	C036	SE	75.3	86.7	45.3	83.4	A	A	B	A
6 Ave & W 32 St	C037	SW	135.3	127.2	96.2	142.5	A	A	A	A
6 Ave & W 32 St	C038	NW	51.9	80.9	45.3	73.6	B	A	B	A
6 Ave & W 31 St	C039	NE	80.2	79.8	58.0	78.1	A	A	B	A
6 Ave & W 31 St	C040	SE	87.9	83.5	56.4	82.0	A	A	B	A
6 Ave & W 31 St	C041	SW	47.6	53.4	28.9	54.6	B	B	C	B
6 Ave & W 31 St	C042	NW	53.0	64.8	38.1	56.3	B	A	C	B
6 Ave & W 30 St	C043	NE	98.4	108.2	75.7	142.7	A	A	A	A
6 Ave & W 30 St	C044	SE	148.1	132.8	95.5	162.7	A	A	A	A
6 Ave & W 30 St	C045	SW	86.7	104.6	65.4	173.8	A	A	A	A
6 Ave & W 30 St	C046	NW	50.8	73.1	46.2	152.7	B	A	B	A
6 Ave & W 29 St	C047	NE	112.8	127.3	84.5	120.6	A	A	A	A
6 Ave & W 29 St	C048	SE	117.1	116.0	84.6	114.6	A	A	A	A
6 Ave & W 29 St	C049	SW	105.0	109.8	59.7	99.8	A	A	B	A
6 Ave & W 29 St	C050	NW	108.6	123.2	67.0	96.4	A	A	A	A
6 Ave & W 28 St	C051	NE	134.3	126.9	95.4	135.1	A	A	A	A
6 Ave & W 28 St	C052	SE	107.9	107.5	76.2	114.1	A	A	A	A
6 Ave & W 28 St	C053	SW	85.1	95.8	77.1	88.3	A	A	A	A
6 Ave & W 28 St	C054	NW	81.3	89.2	63.1	77.4	A	A	A	A
6 Ave & W 27 St	C055	NE	124.4	116.9	95.4	129.3	A	A	A	A
6 Ave & W 27 St	C056	SE	120.4	95.9	86.8	124.6	A	A	A	A
6 Ave & W 27 St	C057	SW	97.1	93.3	64.7	105.9	A	A	A	A
6 Ave & W 27 St	C058	NW	82.5	93.5	57.5	91.1	A	A	B	A
6 Ave & W 26 St	C059	NE	108.5	103.6	84.5	102.0	A	A	A	A
6 Ave & W 26 St	C060	SE	155.6	129.0	98.4	113.5	A	A	A	A

Table 13-34(continued): Existing Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
6 Ave & W 26 St	C061	SW	99.5	89.4	72.0	83.9	A	A	A	A
6 Ave & W 26 St	C062	NW	109.1	111.3	84.3	104.9	A	A	A	A
6 Ave & W 25 St	C063	NE	160.1	148.8	136.2	125.4	A	A	A	A
6 Ave & W 25 St	C064	SE	101.0	95.5	98.0	99.0	A	A	A	A
6 Ave & W 25 St	C065	SW	100.8	90.0	65.4	76.2	A	A	A	A
6 Ave & W 25 St	C066	NW	131.8	93.8	61.8	89.4	A	A	A	A
6 Ave & W 24 St	C067	NE	76.7	90.5	77.5	93.8	A	A	A	A
6 Ave & W 24 St	C068	SE	60.5	83.1	68.5	87.8	A	A	A	A
6 Ave & W 24 St	C069	SW	77.0	112.5	62.3	97.9	A	A	A	A
6 Ave & W 24 St	C070	NW	90.7	111.3	61.5	106.8	A	A	A	A
6 Ave & W 23 St	C071	NE	105.2	129.4	114.1	137.1	A	A	A	A
6 Ave & W 23 St	C072	SE	109.0	92.8	71.8	96.9	A	A	A	A
6 Ave & W 23 St	C073	SW	130.1	99.6	57.8	110.6	A	A	B	A
6 Ave & W 23 St	C074	NW	119.9	128.5	76.4	126.8	A	A	A	A
7 Ave & W 31 St	C075	SE	67.2	51.2	55.8	91.2	A	B	B	A
7 Ave & W 31 St	C076	SW	46.8	42.1	15.6	56.1	B	B	D	B
7 Ave & W 30 St	C077	NE	64.7	59.8	58.5	127.1	A	B	B	A
7 Ave & W 30 St	C078	SE	86.8	67.2	65.2	141.0	A	A	A	A
7 Ave & W 30 St	C079	SW	88.2	65.5	46.4	108.3	A	A	B	A
7 Ave & W 30 St	C080	NW	86.6	74.8	57.3	121.5	A	A	B	A
7 Ave & W 29 St	C081	NE	87.8	78.3	83.1	156.4	A	A	A	A
7 Ave & W 29 St	C082	SE	82.4	75.2	67.4	133.8	A	A	A	A
7 Ave & W 29 St	C083	SW	114.2	93.0	70.1	153.2	A	A	A	A
7 Ave & W 29 St	C084	NW	110.7	97.2	81.7	171.7	A	A	A	A
7 Ave & W 28 St	C085	NE	85.0	72.4	62.5	115.7	A	A	A	A
7 Ave & W 28 St	C086	SE	122.8	99.5	90.2	171.0	A	A	A	A
7 Ave & W 28 St	C087	NW	87.2	120.6	82.8	123.3	A	A	A	A
7 Ave & W 27 St	C088	NE	85.7	71.1	82.2	181.8	A	A	A	A
7 Ave & W 27 St	C089	SE	78.1	56.0	65.0	151.2	A	B	A	A
7 Ave & W 26 St	C090	NE	93.4	72.1	68.3	149.5	A	A	A	A
7 Ave & W 26 St	C091	SE	97.7	76.5	88.0	152.6	A	A	A	A
7 Ave & W 25 St	C092	NE	115.4	96.2	107.9	158.0	A	A	A	A
7 Ave & W 25 St	C093	SE	94.9	91.3	107.5	138.9	A	A	A	A
7 Ave & W 24 St	C094	NE	97.3	96.4	88.5	116.0	A	A	A	A
7 Ave & W 24 St	C095	SE	95.6	105.7	89.8	123.1	A	A	A	A
7 Ave & W 23 St	C096	NE	136.1	147.2	114.8	175.9	A	A	A	A
7 Ave & W 23 St	C097	SE	163.5	187.9	161.3	182.5	A	A	A	A
Broadway & W 32 St	C098	SE	66.8	49.1	30.1	51.5	A	B	C	B
Broadway & W 32 St	C099	SW	72.5	63.8	32.1	55.0	A	A	C	B
Broadway & W 31 St	C100	NE	94.2	93.2	65.2	104.5	A	A	A	A
Broadway & W 31 St	C101	SE	85.5	81.3	54.6	73.3	A	A	B	A
Broadway & W 31 St	C102	SW	122.8	136.8	74.9	118.1	A	A	A	A
Broadway & W 31 St	C103	NW	96.5	118.0	65.6	103.4	A	A	A	A
Broadway & W 30 St	C104	NE	84.7	83.7	56.7	79.0	A	A	B	A
Broadway & W 30 St	C105	SE	74.0	64.1	44.5	62.1	A	A	B	A
Broadway & W 30 St	C106	SW	176.2	192.3	116.3	158.7	A	A	A	A
Broadway & W 30 St	C107	NW	101.1	134.3	73.6	103.6	A	A	A	A
Broadway & W 29 St	C108	NE	75.6	65.5	40.1	70.8	A	A	B	A
Broadway & W 29 St	C109	SE	83.0	70.6	54.1	70.9	A	A	B	A
Broadway & W 29 St	C110	SW	68.5	77.3	35.7	46.6	A	A	C	B
Broadway & W 29 St	C111	NW	105.1	108.7	55.5	72.4	A	A	B	A
Broadway & W 28 St	C112	NE	74.8	83.0	39.2	83.4	A	A	C	A
Broadway & W 28 St	C113	SE	85.4	77.9	49.4	85.8	A	A	B	A
Broadway & W 28 St	C114	SW	56.8	63.5	33.7	51.2	B	A	C	B
Broadway & W 28 St	C115	NW	80.3	106.8	45.8	68.1	A	A	B	A
Broadway & W 27 St	C116	NE	74.1	43.9	45.4	70.7	A	B	B	A
Broadway & W 27 St	C117	SW	82.4	68.6	52.9	70.2	A	A	B	A
Broadway & W 27 St	C118	NW	71.9	68.8	52.6	59.3	A	A	B	B

The Future without the Proposed Actions (No-Action Condition)

Pedestrian volumes along analyzed sidewalks, crosswalks, and corner areas are expected to increase during the 2024 through 2034 period as a result of background growth as well as demand from new development. In determining future No-Action pedestrian volumes, development on projected development sites pursuant to existing zoning was considered, as was demand from other No-Action development projects shown in **Figure 13-7**. It should be noted that as part Phase 1 of the project in the 2022 *Pennsylvania Station Area Civic and Land Use Improvement Project FEIS*, sidewalks adjacent to the Development Sites would be widened, ranging from five to fifteen feet. However, the Phase 1 sidewalk widenings that would occur by the Midtown South Mixed-Use Plan's Proposed Actions' 2034 build year would not be along the analyzed pedestrian elements. It should also be noted that the analysis reflects that the construction in the existing condition is assumed to be completed by 2034. Conditions on analyzed sidewalks, crosswalks, and corner areas in the No-Action condition are discussed below.

Sidewalks

Table 13-35 shows the No-Action peak hour pedestrian volumes, average pedestrian space, and platoon-adjusted levels of service at analyzed sidewalks. As shown in **Table 13-35**, all analyzed sidewalks are projected to operate at an acceptable LOS C or better in all peak hours, with the exception of 24 sidewalks in one or more peak hours.

Crosswalks

Table 13-36 shows the peak hour volumes, average pedestrian space, and levels of service at analyzed crosswalks in the No-Action condition. As shown in **Table 13-36**, all analyzed crosswalks are expected to operate at an acceptable LOS C or better in all peak hours in the No-Action condition, with the exception of nine crosswalks in one or more peak hours.

Corner Areas

Table 13-37 shows the peak hour volumes, average pedestrian space, and levels of service at analyzed corner areas in the No-Action condition. As shown in **Table 13-37**, all analyzed corner areas are expected to operate at an acceptable LOS C or better, with the exception of three corners in one or more peak hours.

Table 13-35: No-Action Sidewalk Conditions

No.	Location	Effective Width (ft)	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
S1	West sidewalk along 5 Ave btw E 29 St & E 30 St	14.0	743	576	1,013	656	201.3	265.5	145.9	215.4	B	B	B	B
S2	South sidewalk along W 30 St between 5 Ave and Broadway	2.5	262	332	394	195	82.4	66.6	62.1	104.8	C	C	C	B
S3	West sidewalk along 5 Ave btw E 30 St & E 31 St	15.5	677	615	1,105	876	228.3	260.4	153.1	203.7	B	B	B	B
S4	West sidewalk along 5 Ave btw E 27 St & E 28 St	5.0	727	662	1,134	676	77.2	73.2	44.4	74.3	C	C	C	C
S5	West sidewalk along 5 Ave btw E 28 St & E 29 St	11.0	695	704	873	433	167.2	161.3	143.5	211.1	B	B	B	B
S6	North sidewalk along W 28 St between 5 Ave and Broadway	4.0	659	520	1,003	834	68.1	79.1	38.5	54.7	C	C	D	C
S7	South sidewalk along W 38 St between 5 Ave and 6 Ave	1.5	693	826	779	359	21.0	17.1	19.3	47.5	E	E	E	C
S8	East sidewalk along 6 Ave btw W 36 St & W 37 St	8.0	1,168	937	1,266	1,559	73.6	81.8	69.4	58.6	C	C	C	C
S9	South sidewalk along W 37 St between 5 Ave and 6 Ave	3.0	622	700	802	330	45.8	44.6	39.2	85.0	C	C	D	C
S10	East sidewalk along 6 Ave btw W 35 St & W 36 St	7.0	2,462	1,171	2,249	1,157	21.6	51.3	28.5	64.9	E	C	D	C
S11	South sidewalk along W 36 St between 5 Ave and 6 Ave	2.5	634	621	892	432	41.9	37.5	27.9	49.6	C	D	D	C
S12	North sidewalk along W 35 St between 5 Ave and 6 Ave	2.0	1,312	987	1,951	1,074	14.6	18.2	8.3	17.9	E	E	F	E
S13	East sidewalk along 6 Ave btw W 34 St & W 35 St	5.5	2,318	2,112	2,838	1,731	23.6	28.0	18.0	35.0	D	D	E	D
S14	East sidewalk along 6 Ave btw W 33 St & W 34 St	7.5	1,791	1,205	1,464	1,582	46.1	63.1	44.4	47.2	C	C	C	C
S15	West sidewalk along 6 Ave btw W 32 St & W 33 St	8.5	4,042	1,849	3,216	3,377	20.3	48.0	26.9	25.4	E	C	D	D
S16	West sidewalk along 6 Ave btw W 33 St & W 34 St	5.0	1,904	2,032	3,357	2,354	26.7	16.4	12.2	16.2	D	E	E	E
S17	East sidewalk along 6 Ave btw W 31 St & W 32 St	9.5	1,049	1,191	1,523	987	90.0	76.4	68.5	104.9	B	C	C	B
S18	East sidewalk along 6 Ave btw W 30 St & W 31 St	3.0	828	1,013	1,254	841	34.0	29.2	26.5	36.5	D	D	D	D
S19	West sidewalk along 6 Ave btw W 30 St & W 31 St	3.5	2,448	1,993	2,946	1,949	13.9	17.6	11.3	19.4	E	E	E	E
S20	South sidewalk along W 31 St between 6 Ave and 7 Ave	2.0	1,078	922	1,547	800	19.1	22.8	12.5	23.6	E	E	E	D
S21	West sidewalk along 6 Ave btw W 31 St & W 32 St	7.5	2,428	1,937	2,833	2,160	34.7	44.0	29.5	35.8	D	C	D	D
S22	East sidewalk along 6 Ave btw W 29 St & W 30 St	8.0	571	737	799	626	144.6	115.8	105.6	127.3	B	B	B	B
S23	North sidewalk along W 29 St between 6 Ave and Broadway	4.0	278	196	331	247	157.1	220.5	97.3	153.7	B	B	B	B
S24	East sidewalk along 6 Ave btw W 28 St & W 29 St	4.0	533	742	906	612	86.1	58.4	44.4	71.8	C	C	C	C
S25	South sidewalk along W 29 St between 6 Ave and Broadway	4.5	310	350	391	337	155.0	129.6	113.2	131.4	B	B	B	B
S26	West sidewalk along 6 Ave btw W 28 St & W 29 St	5.0	1,099	997	1,503	1,076	48.0	54.3	37.5	48.0	C	C	D	C
S27	South sidewalk along W 29 St between 6 Ave and 7 Ave	4.5	474	435	544	301	100.1	114.0	84.2	147.2	B	B	C	B
S28	West sidewalk along 6 Ave btw W 29 St & W 30 St	4.0	936	967	1,403	1,069	45.0	45.0	28.1	36.1	C	C	D	D
S29	North sidewalk along W 29 St between 6 Ave and 7 Ave	2.5	248	270	388	273	95.5	89.9	62.3	81.2	B	C	C	C
S30	East sidewalk along 6 Ave btw W 27 St & W 28 St	8.5	644	802	976	744	137.8	113.0	96.9	121.9	B	B	B	B
S31	East sidewalk along 6 Ave btw W 26 St & W 27 St	8.0	721	751	1,075	659	119.7	120.0	82.7	123.8	B	B	C	B

Table 13-35 (cont'd): No-Action Sidewalk Conditions

No.	Location	Effective Width (ft)	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
S32	West sidewalk along 6 Ave btw W 26 St & W 27 St	7.5	889	968	925	935	94.9	82.5	70.9	89.2	B	C	C	C
S33	West sidewalk along 6 Ave btw W 27 St & W 28 St	5.0	943	851	1,412	1,081	55.5	65.1	33.6	51.1	C	C	D	C
S34	East sidewalk along 6 Ave btw W 25 St & W 26 St	3.5	852	643	1,037	839	44.2	59.6	35.6	43.9	C	C	D	C
S35	South sidewalk along W 26 St between 6 Ave and Broadway	3.0	245	396	529	419	119.0	85.1	55.4	75.3	B	C	C	C
S36	West sidewalk along 6 Ave btw W 25 St & W 26 St	7.0	1,071	1,137	1,716	937	70.2	63.2	43.9	79.5	C	C	C	C
S37	North sidewalk along W 26 St between 6 Ave and 7 Ave	4.5	362	402	363	305	129.7	119.4	126.4	141.8	B	B	B	B
S38	North sidewalk along W 25 St between 6 Ave and Broadway	5.5	253	241	333	617	224.6	235.7	180.3	90.7	B	B	B	B
S39	East sidewalk along 6 Ave btw W 24 St & W 25 St	7.0	920	681	994	697	79.2	102.3	76.6	108.3	C	B	C	B
S40	West sidewalk along 6 Ave btw W 24 St & W 25 St	8.0	857	949	1,539	1,110	106.2	77.7	57.5	72.4	B	C	C	C
S41	East sidewalk along 6 Ave btw W 23 St & W 24 St	6.0	1,009	1,129	794	896	68.1	58.2	81.3	70.4	C	C	C	C
S42	West sidewalk along 6 Ave btw W 23 St & W 24 St	5.5	776	862	1,759	1,155	72.0	71.6	31.4	54.3	C	C	D	C
S43	North sidewalk along W 23 St between 6 Ave and 7 Ave	3.5	675	795	1,502	807	54.3	48.0	20.8	43.1	C	C	E	C
S44	East sidewalk along 7 Ave btw W 30 St & W 31 St	8.0	1,969	2,182	2,145	1,392	44.7	40.6	40.9	59.6	C	C	C	C
S45	East sidewalk along 7 Ave btw W 29 St & W 30 St	10.5	1,303	1,777	1,528	961	89.6	62.7	72.2	124.4	C	C	C	B
S46	South sidewalk along W 30 St between 6 Ave and 7 Ave	1.5	387	485	682	284	42.1	32.5	22.8	55.3	C	D	E	C
S47	West sidewalk along 7 Ave btw W 29 St & W 30 St	4.5	1,165	1,552	2,010	952	39.2	29.3	23.5	51.1	D	D	D	C
S48	West sidewalk along 7 Ave btw W 30 St & W 31 St	8.0	1,313	1,760	2,224	1,028	63.9	48.0	37.7	76.3	C	C	D	C
S49	East sidewalk along 7 Ave btw W 28 St & W 29 St	5.0	942	1,681	1,480	816	52.4	29.4	36.9	66.5	C	D	D	C
S50	East sidewalk along 7 Ave btw W 27 St & W 28 St	9.0	1,344	1,579	1,231	775	72.0	59.8	72.5	122.5	C	C	C	B
S51	West sidewalk along 7 Ave btw W 28 St & W 29 St	8.5	745	1,048	1,337	843	123.1	82.5	73.6	97.9	B	C	C	B
S52	North sidewalk along W 28 St between 7 Ave and 8 Ave	3.5	1,299	688	657	595	28.7	50.8	59.6	61.7	D	C	C	C
S53	East sidewalk along 7 Ave btw W 26 St & W 27 St	10.5	1,133	1,681	1,521	775	84.4	64.1	73.4	146.3	C	C	C	B
S54	North sidewalk along W 24 St between 6 Ave and 7 Ave	3.5	440	353	392	346	83.7	106.9	87.7	89.8	C	B	C	C
S55	South sidewalk along W 24 St between 6 Ave and 7 Ave	4.5	478	355	574	417	100.4	138.3	80.7	116.4	B	B	C	B
S56	East sidewalk along Broadway between W 31 St and W 32 St	4.0	1,292	1,368	1,982	1,284	31.8	30.3	19.1	33.2	D	D	E	D
S57	East sidewalk along Broadway between W 30 St and W 31 St	8.0	942	987	1,380	957	86.4	84.4	64.3	90.0	C	C	C	B
S58	West sidewalk along Broadway between W 31 St and W 32 St	8.0	698	622	1,003	715	120.9	128.1	87.8	114.0	B	B	C	B
S59	North sidewalk along W 29 St between 5 Ave and Broadway	3.0	272	261	603	255	92.7	91.2	37.0	122.7	B	B	D	B
S60	South sidewalk along W 29 St between 5 Ave and Broadway	2.5	330	322	453	378	80.6	71.5	59.1	68.7	C	C	C	C
S61	West sidewalk along Broadway between W 27 St and W 28 St	6.0	1,068	1,037	1,778	1,152	51.5	66.9	34.0	45.1	C	C	D	C
S62	South sidewalk along W 28 St between 6 Ave and Broadway	2.5	1,024	933	1,206	655	23.7	26.9	20.3	35.0	D	D	E	D
S63	East sidewalk along 7 Ave btw W 25 St & W 26 St	10.5	1,122	1,378	1,183	691	103.1	79.3	99.9	144.2	B	C	B	B

Table 13-36: No-Action Crosswalk Conditions

Intersection	Crosswalk		Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
5 Ave & E 30 St	X1	South	233	232	314	163	133.3	124.4	88.4	171.9	A	A	A	A
5 Ave & E 30 St	X2	West	558	505	1,049	743	116.1	123.8	63.4	90.2	A	A	A	A
5 Ave & E 29 St	X3	West	650	559	1,207	849	105.2	108.9	53.5	70.9	A	A	B	A
5 Ave & E 28 St	X4	North	455	397	581	383	61.8	62.1	43.9	64.8	A	A	B	A
5 Ave & E 28 St	X5	South	573	498	682	417	38.9	47.3	35.5	58.8	C	B	C	B
5 Ave & E 28 St	X6	West	559	539	905	700	116.2	115.2	64.9	84.2	A	A	A	A
5 Ave & E 27 St	X7	West	702	603	932	759	99.4	108.4	69.7	88.6	A	A	A	A
6 Ave & W 36 St	X8	East	1,689	1,489	1,823	1,092	18.2	18.5	16.5	29.7	D	D	D	C
6 Ave & W 35 St	X9	East	2,091	1,877	2,497	1,699	18.8	21.1	15.0	23.1	D	D	D	D
6 Ave & W 34 St	X10	East	2,385	2,481	3,821	2,294	18.3	16.1	10.4	19.7	D	D	E	D
6 Ave & W 31 St	X11	West	1,882	1,873	2,605	1,809	21.8	18.9	13.9	18.8	D	D	E	D
6 Ave & W 30 St	X12	East	622	816	965	589	54.2	37.8	36.2	56.0	B	C	C	B
6 Ave & W 30 St	X13	West	1,453	1,271	1,946	684	24.8	25.9	19.8	56.3	C	C	D	B
6 Ave & W 29 St	X14	East	784	945	1,049	816	43.8	37.1	33.5	38.9	B	C	C	C
6 Ave & W 29 St	X15	South	275	312	390	235	83.5	92.4	60.1	111.4	A	A	A	A
6 Ave & W 29 St	X16	West	834	890	1,515	1,067	43.6	36.7	22.9	30.1	B	C	D	C
6 Ave & W 28 St	X17	East	606	623	871	592	70.9	50.4	44.1	58.5	A	B	B	B
6 Ave & W 28 St	X18	West	827	762	1,084	996	57.5	53.2	44.8	45.6	B	B	B	B
6 Ave & W 27 St	X19	East	656	770	760	605	71.6	56.2	59.1	68.7	A	B	B	A
6 Ave & W 27 St	X20	West	846	804	1,327	911	54.1	48.1	35.0	45.4	B	B	C	B
6 Ave & W 26 St	X21	East	709	775	896	835	55.1	48.4	40.0	46.4	B	B	C	B
6 Ave & W 26 St	X22	West	858	767	1,128	914	53.8	53.2	38.3	44.9	B	B	C	B
6 Ave & W 25 St	X23	East	938	845	854	821	54.8	54.8	61.7	56.7	B	B	A	B
6 Ave & W 25 St	X24	West	806	856	1,494	902	57.9	47.6	27.2	44.7	B	B	C	B
6 Ave & W 24 St	X25	East	1,332	1,032	1,180	1,007	29.7	38.0	33.6	38.8	C	C	C	C
6 Ave & W 24 St	X26	West	1,092	742	1,610	958	11.1	15.6	7.4	13.8	E	D	F	E
6 Ave & W 23 St	X27	North	1,130	756	1,194	860	31.3	49.5	32.6	42.1	C	B	C	B
6 Ave & W 23 St	X28	East	841	1,028	862	822	42.9	34.9	43.4	45.0	B	C	B	B
6 Ave & W 23 St	X29	West	644	965	1,365	957	79.8	48.1	30.7	53.1	A	B	C	B
7 Ave & W 29 St	X30	East	1,296	1,622	1,408	812	32.7	28.0	30.5	52.8	C	C	C	B
7 Ave & W 29 St	X31	West	1,018	1,207	1,650	789	39.5	31.7	21.9	52.3	C	C	D	B
7 Ave & W 23 St	X32	East	581	703	710	545	27.8	30.0	27.8	36.6	C	C	C	C
Broadway & W 32 St	X33	West	751	689	1,516	956	53.3	60.9	25.8	40.7	B	A	C	B
Broadway & W 31 St	X34	East	1,033	1,146	1,417	1,098	44.7	39.6	31.5	38.7	B	C	C	C
Broadway & W 30 St	X35	East	884	1,081	1,418	1,017	72.4	62.2	44.8	59.0	A	A	B	B
Broadway & W 30 St	X36	South	289	360	392	271	133.0	94.9	100.7	134.2	A	A	A	A
Broadway & W 30 St	X37	West	861	645	1,273	976	77.5	97.8	49.9	66.9	A	A	B	A
Broadway & W 29 St	X38	North	263	245	394	200	112.6	132.9	72.2	137.2	A	A	A	A
Broadway & W 29 St	X39	East	957	1,138	1,442	1,004	33.8	27.0	22.4	28.6	C	C	D	C
Broadway & W 29 St	X40	South	252	281	400	259	86.7	90.0	55.2	80.3	A	A	B	A
Broadway & W 29 St	X41	West	819	744	1,670	1,219	85.7	92.4	41.3	55.7	A	A	B	B

Table 13-37: No-Action Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
Madison Ave & E 28 St	C001	SW	63.8	62.8	44.3	93.6	A	A	B	A
Madison Ave & E 26 St	C002	SW	101.3	86.4	92.0	131.9	A	A	A	A
5 Ave & E 36 St	C003	SW	95.3	102.4	62.8	94.1	A	A	A	A
5 Ave & E 35 St	C004	NW	85.5	105.0	57.5	90.0	A	A	B	A
5 Ave & E 30 St	C005	NE	199.6	127.5	116.9	169.0	A	A	A	A
5 Ave & E 30 St	C006	SE	212.1	121.5	113.8	199.8	A	A	A	A
5 Ave & E 30 St	C007	SW	226.5	231.0	129.2	214.1	A	A	A	A
5 Ave & E 30 St	C008	NW	205.3	198.3	114.8	179.1	A	A	A	A
5 Ave & E 29 St	C009	SE	224.4	195.8	150.4	232.4	A	A	A	A
5 Ave & E 29 St	C010	SW	128.5	131.4	68.0	89.1	A	A	A	A
5 Ave & E 29 St	C011	NW	177.3	190.4	103.2	148.2	A	A	A	A
5 Ave & E 28 St	C012	NE	144.2	97.9	89.4	133.9	A	A	A	A
5 Ave & E 28 St	C013	SE	126.8	93.2	82.6	135.6	A	A	A	A
5 Ave & E 28 St	C014	SW	124.5	139.2	96.4	136.6	A	A	A	A
5 Ave & E 28 St	C015	NW	142.9	150.6	86.9	124.7	A	A	A	A
5 Ave & E 27 St	C016	SW	131.1	147.8	119.1	170.0	A	A	A	A
5 Ave & E 27 St	C017	NW	157.6	146.8	109.5	155.4	A	A	A	A
5 Ave & E 26 St	C018	SE	287.8	127.6	129.6	145.0	A	A	A	A
5 Ave & E 26 St	C019	SW	172.0	148.5	104.5	139.3	A	A	A	A
5 Ave & E 26 St	C020	NW	120.9	122.6	84.2	105.9	A	A	A	A
5 Ave & E 25 St	C021	SW	371.8	338.2	258.0	304.8	A	A	A	A
5 Ave & E 23 St	C022	NW	152.5	146.2	121.6	128.9	A	A	A	A
6 Ave & W 38 St	C023	SE	62.9	59.7	60.9	121.3	A	B	A	A
6 Ave & W 37 St	C024	SE	77.1	85.3	77.2	99.1	A	A	A	A
6 Ave & W 36 St	C025	NE	89.2	71.8	66.4	126.3	A	A	A	A
6 Ave & W 36 St	C026	SE	30.8	35.3	27.5	56.1	C	C	C	B
6 Ave & W 35 St	C027	NE	30.1	31.9	17.6	36.0	C	C	D	C
6 Ave & W 35 St	C028	SE	39.3	44.4	32.5	54.1	C	B	C	B
6 Ave & W 34 St	C029	NE	65.5	49.0	35.6	55.8	A	B	C	B
6 Ave & W 34 St	C030	SE	70.1	64.5	44.8	66.1	A	A	B	A
6 Ave & W 33 St	C033	SW	9.0	22.0	7.6	14.3	E	D	F	E
6 Ave & W 33 St	C034	NW	18.2	30.1	7.5	16.1	D	C	F	D
6 Ave & W 32 St	C035	NE	12.6	31.8	14.9	29.5	E	C	E	C
6 Ave & W 32 St	C036	SE	67.9	69.5	40.8	72.6	A	A	B	A
6 Ave & W 32 St	C037	SW	115.7	90.2	82.2	112.4	A	A	A	A
6 Ave & W 32 St	C038	NW	29.8	45.1	24.5	40.1	C	B	C	B
6 Ave & W 31 St	C039	NE	72.2	64.1	51.8	66.8	A	A	B	A
6 Ave & W 31 St	C040	SE	79.3	67.1	50.6	71.2	A	A	B	A
6 Ave & W 31 St	C041	SW	42.8	41.7	25.9	47.1	B	B	C	B
6 Ave & W 31 St	C042	NW	47.7	50.6	34.1	48.1	B	B	C	B
6 Ave & W 30 St	C043	NE	90.6	85.3	69.6	123.9	A	A	A	A
6 Ave & W 30 St	C044	SE	137.3	104.8	86.7	144.0	A	A	A	A
6 Ave & W 30 St	C045	SW	81.8	82.8	59.9	152.0	A	A	B	A
6 Ave & W 30 St	C046	NW	47.5	58.2	42.9	129.9	B	B	B	A
6 Ave & W 29 St	C047	NE	107.2	110.3	80.1	112.0	A	A	A	A
6 Ave & W 29 St	C048	SE	108.5	98.6	78.3	102.3	A	A	A	A
6 Ave & W 29 St	C049	SW	98.2	93.8	56.3	91.0	A	A	B	A
6 Ave & W 29 St	C050	NW	103.3	106.3	63.8	90.5	A	A	A	A
6 Ave & W 28 St	C051	NE	129.6	123.1	92.3	129.9	A	A	A	A
6 Ave & W 28 St	C052	SE	104.1	104.0	73.7	109.5	A	A	A	A
6 Ave & W 28 St	C053	SW	82.3	92.9	74.7	85.3	A	A	A	A
6 Ave & W 28 St	C054	NW	78.4	86.5	61.1	74.7	A	A	A	A
6 Ave & W 27 St	C055	NE	119.9	113.4	92.3	124.6	A	A	A	A
6 Ave & W 27 St	C056	SE	116.2	93.2	84.0	120.1	A	A	A	A
6 Ave & W 27 St	C057	SW	94.0	90.7	62.8	102.4	A	A	A	A
6 Ave & W 27 St	C058	NW	79.6	90.7	55.8	88.0	A	A	B	A
6 Ave & W 26 St	C059	NE	104.6	100.5	81.7	98.2	A	A	A	A
6 Ave & W 26 St	C060	SE	150.6	125.6	95.6	110.2	A	A	A	A

Table 13-37 (continued): No-Action Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
6 Ave & W 26 St	C061	SW	96.6	87.0	70.0	81.3	A	A	A	A
6 Ave & W 26 St	C062	NW	105.4	107.9	81.6	100.9	A	A	A	A
6 Ave & W 25 St	C063	NE	157.1	145.7	133.4	123.0	A	A	A	A
6 Ave & W 25 St	C064	SE	99.0	93.5	96.0	97.0	A	A	A	A
6 Ave & W 25 St	C065	SW	98.8	88.2	64.0	74.6	A	A	A	A
6 Ave & W 25 St	C066	NW	129.2	91.8	60.5	87.5	A	A	A	A
6 Ave & W 24 St	C067	NE	75.0	88.9	75.5	91.9	A	A	A	A
6 Ave & W 24 St	C068	SE	58.7	81.5	66.6	85.8	B	A	A	A
6 Ave & W 24 St	C069	SW	64.9	102.9	54.3	88.9	A	A	B	A
6 Ave & W 24 St	C070	NW	83.7	101.4	49.1	95.9	A	A	B	A
6 Ave & W 23 St	C071	NE	102.9	126.5	111.2	133.5	A	A	A	A
6 Ave & W 23 St	C072	SE	106.7	90.9	70.3	94.8	A	A	A	A
6 Ave & W 23 St	C073	SW	127.4	97.5	56.5	108.3	A	A	B	A
6 Ave & W 23 St	C074	NW	117.2	125.6	74.5	123.7	A	A	A	A
7 Ave & W 31 St	C075	SE	50.6	36.5	42.7	62.9	B	C	B	A
7 Ave & W 31 St	C076	SW	32.9	28.5	9.4	37.3	C	C	E	C
7 Ave & W 30 St	C077	NE	61.7	54.0	55.0	107.1	A	B	B	A
7 Ave & W 30 St	C078	SE	78.1	57.1	57.6	115.9	A	B	B	A
7 Ave & W 30 St	C079	SW	81.1	56.2	42.4	93.3	A	B	B	A
7 Ave & W 30 St	C080	NW	78.3	62.4	51.9	101.5	A	A	B	A
7 Ave & W 29 St	C081	NE	80.3	67.4	75.5	132.1	A	A	A	A
7 Ave & W 29 St	C082	SE	75.3	63.7	60.9	111.5	A	A	A	A
7 Ave & W 29 St	C083	SW	106.0	78.6	65.0	133.8	A	A	A	A
7 Ave & W 29 St	C084	NW	103.0	82.8	75.9	150.5	A	A	A	A
7 Ave & W 28 St	C085	NE	79.1	62.6	58.1	102.0	A	A	B	A
7 Ave & W 28 St	C086	SE	111.8	84.4	81.9	145.8	A	A	A	A
7 Ave & W 28 St	C087	NW	81.4	98.7	76.3	108.3	A	A	A	A
7 Ave & W 27 St	C088	NE	85.7	71.5	81.4	170.6	A	A	A	A
7 Ave & W 27 St	C089	SE	73.8	53.0	60.3	133.6	A	B	A	A
7 Ave & W 26 St	C090	NE	87.8	68.3	63.3	132.6	A	A	A	A
7 Ave & W 26 St	C091	SE	92.5	73.1	82.8	139.4	A	A	A	A
7 Ave & W 25 St	C092	NE	110.7	91.9	101.8	144.9	A	A	A	A
7 Ave & W 25 St	C093	SE	90.6	86.7	100.6	126.8	A	A	A	A
7 Ave & W 24 St	C094	NE	93.4	91.9	83.6	107.9	A	A	A	A
7 Ave & W 24 St	C095	SE	90.8	99.2	84.0	112.2	A	A	A	A
7 Ave & W 23 St	C096	NE	128.4	138.1	107.0	159.5	A	A	A	A
7 Ave & W 23 St	C097	SE	157.2	179.1	153.2	171.9	A	A	A	A
Broadway & W 32 St	C098	SE	64.1	45.8	28.9	49.2	A	B	C	B
Broadway & W 32 St	C099	SW	69.6	59.2	30.9	52.7	A	B	C	B
Broadway & W 31 St	C100	NE	91.5	86.6	63.2	100.2	A	A	A	A
Broadway & W 31 St	C101	SE	82.5	74.6	52.6	69.8	A	A	B	A
Broadway & W 31 St	C102	SW	118.4	123.4	72.0	112.0	A	A	A	A
Broadway & W 31 St	C103	NW	95.9	108.5	65.0	101.1	A	A	A	A
Broadway & W 30 St	C104	NE	81.4	76.4	54.3	74.8	A	A	B	A
Broadway & W 30 St	C105	SE	71.2	57.6	42.0	59.0	A	B	B	B
Broadway & W 30 St	C106	SW	169.6	171.7	109.7	151.2	A	A	A	A
Broadway & W 30 St	C107	NW	96.8	119.5	70.2	97.3	A	A	A	A
Broadway & W 29 St	C108	NE	73.7	64.0	39.0	68.9	A	A	C	A
Broadway & W 29 St	C109	SE	79.3	67.8	51.9	67.0	A	A	B	A
Broadway & W 29 St	C110	SW	65.9	74.3	34.4	44.7	A	A	C	B
Broadway & W 29 St	C111	NW	102.8	106.4	54.3	70.7	A	A	B	A
Broadway & W 28 St	C112	NE	73.1	81.1	38.2	81.3	A	A	C	A
Broadway & W 28 St	C113	SE	83.6	76.2	48.3	83.9	A	A	B	A
Broadway & W 28 St	C114	SW	55.5	62.0	32.8	50.0	B	A	C	B
Broadway & W 28 St	C115	NW	78.4	104.4	44.7	66.5	A	A	B	A
Broadway & W 27 St	C116	NE	72.4	42.9	44.2	69.0	A	B	B	A
Broadway & W 27 St	C117	SW	80.4	67.0	51.6	68.6	A	A	B	A
Broadway & W 27 St	C118	NW	70.2	67.2	51.3	57.9	A	A	B	B

The Future with the Proposed Actions (With-Action Condition)

As discussed in Chapter 1, "Project Description," the Proposed Actions would involve zoning map and text amendments that would establish residential zoning districts and lift the prohibition on the conversion of existing nonresidential floor area to residential use in existing M1-6 and M1-6D districts located in the Midtown South neighborhood of Manhattan.

Incremental pedestrian demand generated by the Proposed Actions by 2034 would include trips made solely by walking, as well as pedestrian trips en route to and from subway station entrances and bus stops. Pedestrian trips generated by the Proposed Actions are expected to be most concentrated in proximity to projected development sites and along corridors connecting these sites to area transit services.

As shown in **Table 13-11**, the Proposed Actions are expected to generate approximately 5,163 walk-only trips (in and out combined) in the weekday AM peak hour, 1,649 in the midday, 6,618 in the PM, and 7,603 in the Saturday peak hour. In addition to the walk-only trips, transit trips (subway, bus, and rail trips) also include walk portions of the trip. Therefore, the Proposed Actions would generate a total of 5,336, 3,501, 6,992, and 10,498 pedestrian trips in the weekday AM, weekday midday, weekday PM, and Saturday peak periods, respectively. These pedestrian volumes were added to the projected No-Action volumes to generate the With-Action pedestrian volumes for analysis.

Anticipated conditions and significant adverse impacts at analyzed sidewalks, crosswalks, and corner areas in the With-Action condition are shown in **Tables 13-38 through 13-40**. As discussed below, a total of 19 sidewalks, six crosswalks, and three corners would be impacted in one or more peak hours. Potential mitigation for these sidewalk and crosswalk impacts are discussed in Chapter 21, "Mitigation".

Sidewalks

Table 13-38 shows the incremental change in peak hour pedestrian volumes attributable to the Proposed Actions and the total With-Action pedestrian volumes, average pedestrian space, and platoon-adjusted levels of service at analyzed sidewalks. In addition, **Table 13-38** identifies the sidewalks that would be significantly adversely impacted in one or more peak hours based on the *CEQR Technical Manual* criteria shown in **Table 13-18**. As shown in **Table 13-38**, there would be significant adverse impacts at 19 of the 63 analyzed sidewalks in one or more peak hours. These would include:

- South sidewalk along West 38th Street between Fifth Avenue and Sixth Avenue in the AM, PM, and Saturday peak hours;

- South sidewalk along West 36th Street between Fifth Avenue and Sixth Avenue in the PM peak hour;
- North sidewalk along West 35th Street between Fifth Avenue and Sixth Avenue in all analyzed peak hours;
- East sidewalk along Sixth Avenue between West 34th Street & West 35th Street in the Saturday peak hour;
- West sidewalk along Sixth Avenue between West 33rd Street & West 34th Street in the Saturday peak hour;
- East sidewalk along Sixth Avenue between West 30th Street & West 31st Street in the AM, PM, and Saturday peak hours;
- West sidewalk along Sixth Avenue between West 30th Street & West 31st Street in the AM, PM, and Saturday peak hours;
- South sidewalk along West 31st Street between Sixth Avenue and 7 Avenue in all analyzed peak hours;
- West sidewalk along Sixth Avenue between West 31st Street & West 32nd Street in the Saturday peak hour;
- West sidewalk along Sixth Avenue between West 28th Street & West 29th Street in the PM peak hour;
- West sidewalk along Sixth Avenue between West 29th Street & West 30th Street in the PM and Saturday peak hours;
- West sidewalk along Sixth Avenue between West 27th Street & West 28th Street in the PM peak hour;
- East sidewalk along Sixth Avenue between West 25th Street & West 26th Street in PM and Saturday peak hours;
- South sidewalk along West 30th Street between Sixth Avenue and Seventh Avenue in all analyzed peak hours;
- West sidewalk along Seventh Avenue between West 29th Street & West 30th Street in the PM peak hour;
- East sidewalk along Seventh Avenue between West 28th Street & West 29th Street in the PM peak hour;
- East sidewalk along Broadway between West 31st Street and West 32nd Street in all analyzed peak hours;
- North sidewalk along West 29th Street between Fifth Avenue and Broadway in the PM peak hour; and

- South sidewalk along West 28th Street between Sixth Avenue and Broadway in all analyzed peak hours.

Table 13-38: With-Action Sidewalk Conditions

No.	Location	Effective Width (ft)	Project Increment				Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
S1	West sidewalk along 5 Ave btw E 29 St & E 30 St	14.0	187	127	241	292	930	703	1,254	948	160.8	217.5	117.8	148.9	B	B	B	B
S2	South sidewalk along W 30 St between 5 Ave and Broadway	2.5	316	243	362	437	578	575	756	632	36.7	37.9	31.7	31.5	D	D	D	D
S3	West sidewalk along 5 Ave btw E 30 St & E 31 St	15.5	97	63	114	158	774	678	1,219	1,034	199.7	236.2	138.8	172.6	B	B	B	B
S4	West sidewalk along 5 Ave btw E 27 St & E 28 St	5.0	97	66	119	159	824	728	1,253	835	68.0	66.4	40.0	60.0	C	C	C	C
S5	West sidewalk along 5 Ave btw E 28 St & E 29 St	11.0	250	134	270	311	945	838	1,143	744	122.8	135.4	109.5	122.7	B	B	B	B
S6	North sidewalk along W 28 St between 5 Ave and Broadway	4.0	127	115	169	224	786	635	1,172	1,058	56.9	64.6	32.7	42.9	C	C	D	C
S7	South sidewalk along W 38 St between 5 Ave and 6 Ave	1.5	90	64	126	236	783	890	905	595	18.3	15.7	16.2	28.0	E *	E	E *	D *
S8	East sidewalk along 6 Ave btw W 36 St & W 37 St	8.0	126	88	170	303	1,294	1,025	1,436	1,862	66.4	74.7	61.1	48.9	C	C	C	C
S9	South sidewalk along W 37 St between 5 Ave and 6 Ave	3.0	145	91	166	228	767	791	968	558	36.8	39.3	32.2	49.9	D	D	D	C
S10	East sidewalk along 6 Ave btw W 35 St & W 36 St	7.0	66	70	103	269	2,528	1,241	2,352	1,426	21.0	48.3	27.2	52.5	E	C	D	C
S11	South sidewalk along W 36 St between 5 Ave and 6 Ave	2.5	58	40	100	121	692	661	992	553	38.3	35.1	24.9	38.4	D	D	D *	D
S12	North sidewalk along W 35 St between 5 Ave and 6 Ave	2.0	227	167	268	337	1,539	1,154	2,219	1,411	11.9	15.1	6.6	12.8	E *	E *	F *	E *
S13	East sidewalk along 6 Ave btw W 34 St & W 35 St	5.5	65	73	140	262	2,383	2,185	2,978	1,993	22.9	27.0	17.0	30.2	E	D	E	D *
S14	East sidewalk along 6 Ave btw W 33 St & W 34 St	7.5	49	76	132	257	1,840	1,281	1,596	1,839	44.8	59.3	40.6	40.4	C	C	C	C
S15	West sidewalk along 6 Ave btw W 32 St & W 33 St	8.5	129	90	200	290	4,171	1,939	3,416	3,667	19.6	45.7	25.1	23.2	E	C	D	D
S16	West sidewalk along 6 Ave btw W 33 St & W 34 St	5.0	96	35	158	235	2,000	2,067	3,515	2,589	25.3	16.1	11.5	14.4	D	E	E	E *
S17	East sidewalk along 6 Ave btw W 31 St & W 32 St	9.5	104	121	178	306	1,153	1,312	1,701	1,293	81.9	69.2	61.2	79.9	C	C	C	C
S18	East sidewalk along 6 Ave btw W 30 St & W 31 St	3.0	112	99	163	292	940	1,112	1,417	1,133	29.7	26.5	23.1	26.6	D *	D	D *	D *
S19	West sidewalk along 6 Ave btw W 30 St & W 31 St	3.5	167	107	246	339	2,615	2,100	3,192	2,288	12.7	16.5	10.1	16.1	E *	E	F *	E *
S20	South sidewalk along W 31 St between 6 Ave and 7 Ave	2.0	133	113	196	256	1,211	1,035	1,743	1,056	16.7	20.0	10.6	17.2	E *	E *	F *	E *
S21	West sidewalk along 6 Ave btw W 31 St & W 32 St	7.5	143	103	227	322	2,571	2,040	3,060	2,482	32.6	41.7	27.2	30.9	D	C	D	D *
S22	East sidewalk along 6 Ave btw W 29 St & W 30 St	8.0	87	72	134	248	658	809	933	874	125.4	105.4	90.3	91.0	B	B	B	B
S23	North sidewalk along W 29 St between 6 Ave and Broadway	4.0	146	93	219	300	424	289	550	547	102.8	149.4	58.2	69.1	B	B	C	C
S24	East sidewalk along 6 Ave btw W 28 St & W 29 St	4.0	238	136	302	384	771	878	1,208	996	59.3	49.2	32.9	43.7	C	C	D	C
S25	South sidewalk along W 29 St between 6 Ave and Broadway	4.5	140	121	198	230	450	471	589	567	106.6	96.2	74.9	97.0	B	B	C	B
S26	West sidewalk along 6 Ave btw W 28 St & W 29 St	5.0	252	135	337	406	1,351	1,132	1,840	1,482	38.8	47.6	30.3	34.4	D	C	D *	D
S27	South sidewalk along W 29 St between 6 Ave and 7 Ave	4.5	98	67	135	196	572	502	679	497	82.8	98.7	67.3	88.9	C	B	C	C
S28	West sidewalk along 6 Ave btw W 29 St & W 30 St	4.0	166	74	240	308	1,102	1,041	1,643	1,377	38.0	41.7	23.6	27.6	D	C	D *	D *
S29	North sidewalk along W 29 St between 6 Ave and 7 Ave	2.5	77	52	115	168	325	322	503	441	72.7	75.2	47.8	49.9	C	C	C	C
S30	East sidewalk along 6 Ave btw W 27 St & W 28 St	8.5	276	158	348	428	920	960	1,324	1,172	96.3	94.3	71.3	77.2	B	B	C	C
S31	East sidewalk along 6 Ave btw W 26 St & W 27 St	8.0	269	153	330	414	990	904	1,405	1,073	87.0	99.6	63.1	75.8	C	B	C	C

Table 13-38 (cont'd): With-Action Sidewalk Conditions

No.	Location	Effective Width (ft)	Project Increment				Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
S32	West sidewalk along 6 Ave btw W 26 St & W 27 St	7.5	196	129	283	372	1,085	1,097	1,208	1,307	77.6	72.7	54.0	63.6	C	C	C	C
S33	West sidewalk along 6 Ave btw W 27 St & W 28 St	5.0	206	119	295	378	1,149	970	1,707	1,459	45.3	57.0	27.5	37.5	C	C	D *	D
S34	East sidewalk along 6 Ave btw W 25 St & W 26 St	3.5	152	115	255	342	1,004	758	1,292	1,181	37.3	50.4	28.2	30.7	D	C	D *	D *
S35	South sidewalk along W 26 St between 6 Ave and Broadway	3.0	290	56	130	131	535	452	659	550	54.1	74.5	44.2	57.1	C	C	C	C
S36	West sidewalk along 6 Ave btw W 25 St & W 26 St	7.0	200	149	282	386	1,271	1,286	1,998	1,323	59.0	55.7	37.5	56.0	C	C	D	C
S37	North sidewalk along W 26 St between 6 Ave and 7 Ave	4.5	114	79	163	209	476	481	526	514	98.5	99.7	87.1	83.9	B	B	C	C
S38	North sidewalk along W 25 St between 6 Ave and Broadway	5.5	229	52	112	119	482	293	445	736	117.7	193.9	134.9	75.9	B	B	B	C
S39	East sidewalk along 6 Ave btw W 24 St & W 25 St	7.0	244	133	253	340	1,164	814	1,247	1,037	62.4	85.5	60.9	72.6	C	C	C	C
S40	West sidewalk along 6 Ave btw W 24 St & W 25 St	8.0	183	133	235	337	1,040	1,082	1,774	1,447	87.4	68.1	49.8	55.3	C	C	C	C
S41	East sidewalk along 6 Ave btw W 23 St & W 24 St	6.0	162	111	171	276	1,171	1,240	965	1,172	58.5	52.9	66.8	53.6	C	C	C	C
S42	West sidewalk along 6 Ave btw W 23 St & W 24 St	5.5	141	96	144	249	917	958	1,903	1,404	60.8	64.3	28.8	44.5	C	C	D	C
S43	North sidewalk along W 23 St between 6 Ave and 7 Ave	3.5	160	161	130	252	835	956	1,632	1,059	43.6	39.7	18.9	32.5	C	D	E	D
S44	East sidewalk along 7 Ave btw W 30 St & W 31 St	8.0	102	152	186	363	2,071	2,334	2,331	1,755	42.4	37.9	37.5	47.0	C	D	D	C
S45	East sidewalk along 7 Ave btw W 29 St & W 30 St	10.5	116	128	200	344	1,419	1,905	1,728	1,305	82.3	58.4	63.8	91.4	C	C	C	B
S46	South sidewalk along W 30 St between 6 Ave and 7 Ave	1.5	228	199	331	432	615	684	1,013	716	25.8	22.4	14.3	20.8	D *	E *	E *	E *
S47	West sidewalk along 7 Ave btw W 29 St & W 30 St	4.5	117	150	200	350	1,282	1,702	2,210	1,302	35.4	26.5	21.1	37.0	D	D	E *	D
S48	West sidewalk along 7 Ave btw W 30 St & W 31 St	8.0	132	177	220	395	1,445	1,937	2,444	1,423	58.0	43.5	34.1	54.9	C	C	D	C
S49	East sidewalk along 7 Ave btw W 28 St & W 29 St	5.0	172	138	252	363	1,114	1,819	1,732	1,179	44.1	27.0	31.3	45.7	C	D	D *	C
S50	East sidewalk along 7 Ave btw W 27 St & W 28 St	9.0	154	85	205	294	1,498	1,664	1,436	1,069	64.5	56.7	62.1	88.7	C	C	C	C
S51	West sidewalk along 7 Ave btw W 28 St & W 29 St	8.5	109	96	172	233	854	1,144	1,509	1,076	107.3	75.5	65.1	76.6	B	C	C	C
S52	North sidewalk along W 28 St between 7 Ave and 8 Ave	3.5	102	61	165	251	1,401	749	822	846	26.5	46.5	47.4	43.0	D	C	C	C
S53	East sidewalk along 7 Ave btw W 26 St & W 27 St	10.5	159	94	223	305	1,292	1,775	1,744	1,080	73.9	60.6	63.9	104.8	C	C	C	B
S54	North sidewalk along W 24 St between 6 Ave and 7 Ave	3.5	77	61	117	157	517	414	509	503	71.2	91.1	67.4	61.5	C	B	C	C
S55	South sidewalk along W 24 St between 6 Ave and 7 Ave	4.5	83	81	123	148	561	436	697	565	85.4	112.5	66.3	85.7	C	B	C	C
S56	East sidewalk along Broadway between W 31 St and W 32 St	4.0	195	146	215	248	1,487	1,514	2,197	1,532	27.4	27.2	17.0	27.5	D *	D *	E *	D *
S57	East sidewalk along Broadway between W 30 St and W 31 St	8.0	257	194	288	329	1,199	1,181	1,668	1,286	67.7	70.4	53.0	66.8	C	C	C	C
S58	West sidewalk along Broadway between W 31 St and W 32 St	8.0	252	213	262	369	950	835	1,265	1,084	88.7	95.3	69.4	75.0	C	B	C	C
S59	North sidewalk along W 29 St between 5 Ave and Broadway	3.0	217	163	276	330	489	424	879	585	51.2	55.8	24.8	53.0	C	C	D *	C
S60	South sidewalk along W 29 St between 5 Ave and Broadway	2.5	154	124	202	236	484	446	655	614	54.7	51.4	40.5	41.8	C	C	C	C
S61	West sidewalk along Broadway between W 27 St and W 28 St	6.0	141	81	153	186	1,209	1,118	1,931	1,338	45.3	62.0	31.2	38.6	C	C	D	D
S62	South sidewalk along W 28 St between 6 Ave and Broadway	2.5	242	170	299	390	1,266	1,103	1,505	1,045	18.7	22.4	15.6	21.1	E *	E *	E *	E *
S63	East sidewalk along 7 Ave btw W 25 St & W 26 St	10.5	98	67	166	232	1,220	1,445	1,349	923	94.8	75.6	87.5	107.8	B	C	C	B

Table 13-39: With-Action Crosswalk Conditions

Intersection	Crosswalk		Project Increment				Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
5 Ave & E 30 St	X1	South	121	97	153	181	354	329	467	344	85.7	86.3	57.9	78.7	A	A	B	A
5 Ave & E 30 St	X2	West	129	84	162	202	687	589	1,211	945	92.5	105.5	54.4	69.9	A	A	B	A
5 Ave & E 29 St	X3	West	268	184	323	374	918	743	1,530	1,223	72.7	80.3	41.0	47.3	A	A	B	B
5 Ave & E 28 St	X4	North	136	96	142	177	591	493	723	560	47.1	49.6	34.7	43.6	B	B	C	B
5 Ave & E 28 St	X5	South	115	69	155	184	688	567	837	601	31.6	40.9	28.3	39.8	C	B	C	C
5 Ave & E 28 St	X6	West	213	121	238	285	772	660	1,143	985	82.9	93.2	50.5	58.6	A	A	B	B
5 Ave & E 27 St	X7	West	84	61	108	139	786	664	1,040	898	88.7	98.4	62.1	74.3	A	A	A	A
6 Ave & W 36 St	X8	East	99	103	146	291	1,788	1,592	1,969	1,383	17.2	17.0	15.1	22.5	D	D	D	D
6 Ave & W 35 St	X9	East	17	43	81	219	2,108	1,920	2,578	1,918	18.9	20.6	14.6	20.1	D	D	E	D
6 Ave & W 34 St	X10	East	37	71	114	239	2,422	2,552	3,935	2,533	18.0	15.6	10.1	17.6	D	D	E	D *
6 Ave & W 31 St	X11	West	136	109	221	314	2,018	1,982	2,826	2,123	19.9	17.4	12.4	15.2	D	D	E *	D *
6 Ave & W 30 St	X12	East	113	111	166	295	735	927	1,131	884	45.7	32.2	29.9	35.2	B	C	C	C
6 Ave & W 30 St	X13	West	180	117	260	342	1,633	1,388	2,206	1,026	22.0	23.5	17.1	36.3	D	D	D *	C
6 Ave & W 29 St	X14	East	236	143	303	399	1,020	1,088	1,352	1,215	32.8	31.8	25.2	25.0	C	C	C	C
6 Ave & W 29 St	X15	South	122	88	164	210	397	400	554	445	57.2	71.5	41.7	57.9	B	A	B	B
6 Ave & W 29 St	X16	West	224	134	308	382	1,058	1,024	1,823	1,449	33.3	31.3	18.4	20.7	C	C	D *	D
6 Ave & W 28 St	X17	East	254	161	330	410	860	784	1,201	1,002	48.5	39.2	30.9	32.8	B	C	C	C
6 Ave & W 28 St	X18	West	202	107	286	343	1,029	869	1,370	1,339	45.4	46.2	34.7	32.9	B	B	C	C
6 Ave & W 27 St	X19	East	276	160	334	410	932	930	1,094	1,015	49.0	45.9	39.9	39.4	B	B	C	C
6 Ave & W 27 St	X20	West	214	142	306	393	1,060	946	1,633	1,304	42.4	40.4	27.7	30.5	B	B	C	C
6 Ave & W 26 St	X21	East	249	143	299	379	958	918	1,195	1,214	39.0	40.0	28.8	30.5	C	C	C	C
6 Ave & W 26 St	X22	West	200	144	281	380	1,058	911	1,409	1,294	42.9	44.2	30.0	30.6	B	B	C	C
6 Ave & W 25 St	X23	East	258	140	262	338	1,196	985	1,116	1,159	42.2	46.4	46.2	39.0	B	B	B	C
6 Ave & W 25 St	X24	West	194	143	244	338	1,000	999	1,738	1,240	45.7	40.2	22.9	31.3	B	B	D	C
6 Ave & W 24 St	X25	East	207	138	215	313	1,539	1,170	1,395	1,320	25.6	33.1	28.0	28.8	C	C	C	C
6 Ave & W 24 St	X26	West	164	140	203	320	1,256	882	1,813	1,278	9.5	12.9	6.5	10.0	E *	E *	F *	E *
6 Ave & W 23 St	X27	North	54	92	60	150	1,184	848	1,254	1,010	29.7	43.9	31.0	35.5	C	B	C	C
6 Ave & W 23 St	X28	East	117	32	109	128	958	1,060	971	950	37.4	33.8	38.2	38.6	C	C	C	C
6 Ave & W 23 St	X29	West	95	42	119	139	739	1,007	1,484	1,096	69.1	45.9	28.1	46.0	A	B	C	B
7 Ave & W 29 St	X30	East	144	140	236	360	1,440	1,762	1,644	1,172	29.1	25.5	25.6	35.4	C	C	C	C
7 Ave & W 29 St	X31	West	103	134	185	322	1,121	1,341	1,835	1,111	35.3	27.5	18.9	34.8	C	C	D *	C
7 Ave & W 23 St	X32	East	98	58	128	151	679	761	838	696	23.6	27.3	22.8	28.3	D	C	D	C
Broadway & W 32 St	X33	West	248	208	265	360	999	897	1,781	1,316	39.2	45.8	21.6	28.4	C	B	D	C
Broadway & W 31 St	X34	East	219	172	253	291	1,252	1,318	1,670	1,389	36.7	33.9	26.1	29.8	C	C	C	C
Broadway & W 30 St	X35	East	277	206	309	362	1,161	1,287	1,727	1,379	54.5	51.7	36.2	42.5	B	B	C	B
Broadway & W 30 St	X36	South	213	155	226	280	502	515	618	551	73.3	65.4	62.4	64.2	A	A	A	A
Broadway & W 30 St	X37	West	247	182	234	313	1,108	827	1,507	1,289	59.0	75.4	41.4	49.6	B	A	B	B
Broadway & W 29 St	X38	North	152	95	204	251	415	340	598	451	70.3	94.8	46.5	59.0	A	A	B	B
Broadway & W 29 St	X39	East	174	113	186	215	1,131	1,251	1,628	1,219	28.1	24.3	19.5	22.9	C	C	D	D
Broadway & W 29 St	X40	South	136	109	188	221	388	390	588	480	54.9	63.6	36.4	41.3	B	A	C	B
Broadway & W 29 St	X41	West	164	102	173	225	983	846	1,843	1,444	70.8	80.9	37.0	46.1	A	A	C	B

Table 13-40: With-Action Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
Madison Ave & E 28 St	C001	SW	56.9	58.8	39.9	76.1	B	B	C	A
Madison Ave & E 26 St	C002	SW	92.6	83.2	85.2	117.0	A	A	A	A
5 Ave & E 36 St	C003	SW	87.9	97.4	57.8	80.5	A	A	B	A
5 Ave & E 35 St	C004	NW	80.4	100.2	53.6	80.6	A	A	B	A
5 Ave & E 30 St	C005	NE	173.9	120.3	105.1	142.7	A	A	A	A
5 Ave & E 30 St	C006	SE	171.0	109.7	96.6	148.9	A	A	A	A
5 Ave & E 30 St	C007	SW	172.3	190.4	106.0	148.2	A	A	A	A
5 Ave & E 30 St	C008	NW	171.7	176.0	100.7	140.4	A	A	A	A
5 Ave & E 29 St	C009	SE	190.8	176.6	132.4	184.4	A	A	A	A
5 Ave & E 29 St	C010	SW	88.5	96.4	51.2	58.1	A	A	B	B
5 Ave & E 29 St	C011	NW	129.3	149.4	80.1	99.2	A	A	A	A
5 Ave & E 28 St	C012	NE	122.5	89.2	77.7	107.0	A	A	A	A
5 Ave & E 28 St	C013	SE	109.7	87.1	72.4	108.9	A	A	A	A
5 Ave & E 28 St	C014	SW	99.6	120.5	78.4	98.4	A	A	A	A
5 Ave & E 28 St	C015	NW	107.4	123.1	70.1	88.0	A	A	A	A
5 Ave & E 27 St	C016	SW	118.2	139.1	106.6	142.0	A	A	A	A
5 Ave & E 27 St	C017	NW	139.3	138.7	98.4	130.9	A	A	A	A
5 Ave & E 26 St	C018	SE	211.3	119.7	115.4	124.2	A	A	A	A
5 Ave & E 26 St	C019	SW	141.4	138.9	95.3	120.1	A	A	A	A
5 Ave & E 26 St	C020	NW	107.8	116.3	76.8	93.2	A	A	A	A
5 Ave & E 25 St	C021	SW	275.9	305.3	221.9	246.3	A	A	A	A
5 Ave & E 23 St	C022	NW	144.5	143.8	116.6	122.5	A	A	A	A
6 Ave & W 38 St	C023	SE	57.3	57.2	55.2	93.9	B	B	B	A
6 Ave & W 37 St	C024	SE	67.0	79.5	67.3	73.9	A	A	A	A
6 Ave & W 36 St	C025	NE	82.6	68.6	61.7	100.4	A	A	A	A
6 Ave & W 36 St	C026	SE	29.3	32.8	23.9	42.3	C	C	D	B
6 Ave & W 35 St	C027	NE	29.5	31.1	16.8	30.1	C	C	D	C
6 Ave & W 35 St	C028	SE	38.4	43.9	30.7	46.5	C	B	C	B
6 Ave & W 34 St	C029	NE	64.1	48.1	34.7	52.0	A	B	C	B
6 Ave & W 34 St	C030	SE	69.3	63.4	43.5	62.1	A	A	B	A
6 Ave & W 33 St	C033	SW	8.8	21.6	7.1	13.1	E	D	F	E
6 Ave & W 33 St	C034	NW	17.7	29.4	7.0	14.5	D	C	F	E *
6 Ave & W 32 St	C035	NE	12.3	28.7	13.4	23.6	E	C	E *	D
6 Ave & W 32 St	C036	SE	61.4	63.3	37.6	57.9	A	A	C	B
6 Ave & W 32 St	C037	SW	105.5	83.4	73.9	86.9	A	A	A	A
6 Ave & W 32 St	C038	NW	28.2	42.1	22.3	32.0	C	B	D	C
6 Ave & W 31 St	C039	NE	67.2	58.8	45.6	52.3	A	B	B	B
6 Ave & W 31 St	C040	SE	70.2	60.7	44.7	54.3	A	A	B	B
6 Ave & W 31 St	C041	SW	38.1	38.5	23.1	38.0	C	C	D	C
6 Ave & W 31 St	C042	NW	44.8	47.8	30.8	40.6	B	B	C	B
6 Ave & W 30 St	C043	NE	82.9	77.0	59.9	87.3	A	A	B	A
6 Ave & W 30 St	C044	SE	108.1	88.4	69.2	88.6	A	A	A	A
6 Ave & W 30 St	C045	SW	65.8	70.9	48.3	88.5	A	A	B	A
6 Ave & W 30 St	C046	NW	43.7	53.8	37.8	91.2	B	B	C	A
6 Ave & W 29 St	C047	NE	84.6	94.4	62.1	70.4	A	A	A	A
6 Ave & W 29 St	C048	SE	78.5	81.4	56.4	61.7	A	A	B	A
6 Ave & W 29 St	C049	SW	73.9	78.8	43.5	59.1	A	A	B	B
6 Ave & W 29 St	C050	NW	82.7	93.0	51.8	63.7	A	A	B	A
6 Ave & W 28 St	C051	NE	102.5	101.2	71.9	85.0	A	A	A	A
6 Ave & W 28 St	C052	SE	73.2	80.9	52.7	61.0	A	A	B	A
6 Ave & W 28 St	C053	SW	66.0	79.0	57.4	57.9	A	A	B	B
6 Ave & W 28 St	C054	NW	64.5	75.2	49.8	54.7	A	A	B	B
6 Ave & W 27 St	C055	NE	89.4	96.5	68.2	80.3	A	A	A	A
6 Ave & W 27 St	C056	SE	87.9	80.5	62.8	75.6	A	A	A	A
6 Ave & W 27 St	C057	SW	78.7	80.9	52.0	72.2	A	A	B	A
6 Ave & W 27 St	C058	NW	64.6	78.2	44.4	60.7	A	A	B	A
6 Ave & W 26 St	C059	NE	78.9	86.8	62.0	67.4	A	A	A	A
6 Ave & W 26 St	C060	SE	109.7	109.0	74.4	79.3	A	A	A	A

Table 13-40 (continued): With-Action Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
6 Ave & W 26 St	C061	SW	78.4	76.2	56.3	58.9	A	A	B	B
6 Ave & W 26 St	C062	NW	84.7	92.3	63.9	69.4	A	A	A	A
6 Ave & W 25 St	C063	NE	118.7	127.4	106.4	93.6	A	A	A	A
6 Ave & W 25 St	C064	SE	77.1	81.3	74.4	70.0	A	A	A	A
6 Ave & W 25 St	C065	SW	84.6	79.1	55.0	59.0	A	A	B	B
6 Ave & W 25 St	C066	NW	98.7	81.3	51.3	65.9	A	A	B	A
6 Ave & W 24 St	C067	NE	63.8	78.8	63.6	69.4	A	A	A	A
6 Ave & W 24 St	C068	SE	52.0	72.1	55.9	64.4	B	A	B	A
6 Ave & W 24 St	C069	SW	56.9	86.3	45.0	65.0	B	A	B	A
6 Ave & W 24 St	C070	NW	69.0	85.9	42.5	69.6	A	A	B	A
6 Ave & W 23 St	C071	NE	92.7	114.8	99.1	109.9	A	A	A	A
6 Ave & W 23 St	C072	SE	99.8	89.3	67.0	88.6	A	A	A	A
6 Ave & W 23 St	C073	SW	120.2	95.4	54.2	100.8	A	A	B	A
6 Ave & W 23 St	C074	NW	104.3	113.1	69.1	101.8	A	A	A	A
7 Ave & W 31 St	C075	SE	46.2	33.6	38.8	49.6	B	C	C	B
7 Ave & W 31 St	C076	SW	27.8	25.4	8.4	28.0	C	C	E *	C
7 Ave & W 30 St	C077	NE	58.6	50.0	48.5	80.0	B	B	B	A
7 Ave & W 30 St	C078	SE	64.9	50.6	47.9	72.4	A	B	B	A
7 Ave & W 30 St	C079	SW	65.8	48.9	35.8	58.9	A	B	C	B
7 Ave & W 30 St	C080	NW	72.2	56.6	45.5	73.0	A	B	B	A
7 Ave & W 29 St	C081	NE	72.4	62.4	64.1	91.7	A	A	A	A
7 Ave & W 29 St	C082	SE	66.6	58.7	51.1	74.2	A	B	B	A
7 Ave & W 29 St	C083	SW	95.2	72.1	57.3	94.0	A	A	B	A
7 Ave & W 29 St	C084	NW	92.4	74.0	64.7	101.8	A	A	A	A
7 Ave & W 28 St	C085	NE	69.8	57.8	49.9	72.5	A	B	B	A
7 Ave & W 28 St	C086	SE	96.3	78.3	69.4	103.7	A	A	A	A
7 Ave & W 28 St	C087	NW	73.1	89.6	65.0	78.8	A	A	A	A
7 Ave & W 27 St	C088	NE	78.0	68.1	71.0	125.3	A	A	A	A
7 Ave & W 27 St	C089	SE	66.2	50.4	52.5	97.3	A	B	B	A
7 Ave & W 26 St	C090	NE	74.2	63.5	52.9	93.2	A	A	B	A
7 Ave & W 26 St	C091	SE	81.6	69.6	71.5	104.8	A	A	A	A
7 Ave & W 25 St	C092	NE	100.4	88.0	90.6	112.9	A	A	A	A
7 Ave & W 25 St	C093	SE	85.2	83.6	90.7	102.6	A	A	A	A
7 Ave & W 24 St	C094	NE	85.8	86.0	75.2	88.1	A	A	A	A
7 Ave & W 24 St	C095	SE	83.9	91.5	74.9	91.1	A	A	A	A
7 Ave & W 23 St	C096	NE	117.5	127.2	97.1	132.2	A	A	A	A
7 Ave & W 23 St	C097	SE	144.7	170.0	137.9	151.1	A	A	A	A
Broadway & W 32 St	C098	SE	56.2	42.9	26.8	43.2	B	B	C	B
Broadway & W 32 St	C099	SW	57.4	52.5	27.9	43.1	B	B	C	B
Broadway & W 31 St	C100	NE	79.6	77.7	55.1	80.4	A	A	B	A
Broadway & W 31 St	C101	SE	69.0	65.7	45.4	56.0	A	A	B	B
Broadway & W 31 St	C102	SW	95.5	102.2	61.7	83.6	A	A	A	A
Broadway & W 31 St	C103	NW	78.5	87.9	53.6	72.2	A	A	B	A
Broadway & W 30 St	C104	NE	66.5	66.1	45.3	55.1	A	A	B	B
Broadway & W 30 St	C105	SE	46.3	44.3	31.4	37.0	B	B	C	C
Broadway & W 30 St	C106	SW	120.3	130.6	86.2	102.9	A	A	A	A
Broadway & W 30 St	C107	NW	80.3	99.1	58.9	72.1	A	A	B	A
Broadway & W 29 St	C108	NE	55.5	54.4	31.5	47.0	B	B	C	B
Broadway & W 29 St	C109	SE	62.4	58.0	41.8	48.2	A	B	B	B
Broadway & W 29 St	C110	SW	51.4	61.0	28.0	33.0	B	A	C	C
Broadway & W 29 St	C111	NW	80.6	90.0	45.2	52.4	A	A	B	B
Broadway & W 28 St	C112	NE	65.5	74.0	34.9	67.6	A	A	C	A
Broadway & W 28 St	C113	SE	70.2	68.8	41.8	65.0	A	A	B	A
Broadway & W 28 St	C114	SW	45.2	54.5	28.0	37.9	B	B	C	C
Broadway & W 28 St	C115	NW	67.3	91.1	39.8	53.9	A	A	C	B
Broadway & W 27 St	C116	NE	63.8	41.0	40.5	60.0	A	B	B	A
Broadway & W 27 St	C117	SW	70.3	63.9	46.6	59.7	A	A	B	B
Broadway & W 27 St	C118	NW	59.8	62.3	45.2	48.9	B	A	B	B

Crosswalks

Table 13-39 shows the incremental change in peak hour pedestrian volumes attributable to the Proposed Actions and the total With-Action pedestrian volumes, average pedestrian space, and levels of service at analyzed crosswalks. As shown in **Table 13-39**, based on the *CEQR Technical Manual* criteria shown in **Table 13-19**, there would be significant adverse impacts at six of the 41 analyzed crosswalks in one or more peak hours as result of the Proposed Actions. These would include:

- The east crosswalk on Sixth Avenue at West 34th Street in the Saturday peak hour;
- The west crosswalk on Sixth Avenue at West 31st Street in the PM and Saturday peak hours;
- The west crosswalk on Sixth Avenue at West 30th Street in the PM peak hour;
- The east crosswalk on Sixth Avenue at West 29th Street in the PM peak hour;
- The west crosswalk on Sixth Avenue at West 24th Street in all analyzed peak hours; and
- The west crosswalk on Seventh Avenue at West 29th Street in the PM peak hour.

Corner Areas

Table 13-40 shows the total With-Action pedestrian volumes, average pedestrian space, and levels of service at analyzed corner areas. As shown in **Table 13-40**, based on the *CEQR Technical Manual* criteria shown in **Table 13-19**, there would significant adverse impacts at three of the 116 analyzed corners in one or more peak hours as result of the Proposed Actions. These would include:

- The northwest corner on Sixth Avenue at West 33rd Street in the Saturday peak hour;
- The northeast corner on Sixth Avenue at West 32nd Street in the PM peak hour; and
- The southwest corner on Seventh Avenue at West 31st Street in the PM peak hour.

J. Vehicular and Pedestrian Safety Evaluation

Recent DOT Initiatives

Vision Zero Manhattan Pedestrian Safety Action Plan

The City's Vision Zero initiative seeks to eliminate all deaths from traffic crashes regardless of whether on foot, bicycle, or inside a motor vehicle. In an effort to drive these fatalities down, DOT and the New York City Police Department (NYPD) developed

a set of five plans, each of which analyzes the unique conditions of one New York City borough and recommends actions to address the borough's specific challenges to pedestrian safety. These plans pinpoint the conditions and characteristics of pedestrian fatalities and severe injuries; they also identify priority corridors, intersections, and areas that disproportionately account for pedestrian fatalities and severe injuries, prioritizing them for safety interventions. The plans outline a series of recommended actions comprised of engineering, enforcement, and education measures that intend to alter the physical and behavioral conditions on City streets that lead to pedestrian fatality and injury.

Consistent with the city's Vision Zero initiative, the *Vision Zero Manhattan Pedestrian Safety Action Plan* was released in 2015 and updated in 2019. The plan identifies a series of engineering/planning, enforcement, and education/awareness campaign strategies to enhance pedestrian safety along the borough's Priority Corridors and Priority Intersections. These strategies include measures such as reducing the speed limit to 25 miles per hour, expanding exclusive pedestrian crossing time, installing additional lighting around key transit stops, expanding the bicycle network, prioritizing targeted enforcement and deploying speed cameras, and targeting intensive street-level outreach. Within a quarter-mile of the Affected Area, the plan identifies Sixth, Seventh, Eighth, and Ninth Avenues and, 23rd, 34th, 40th, and 42nd Streets as "Priority Corridors." In addition, West 23rd and West 34th Streets at Sixth Avenue and West 34th And West 40th Streets at Eighth Avenue were also identified as Priority Intersections within the study area. In addition, the Affected Area is located within a Senior Pedestrian Focus Area and a Priority Area.

Study Area High Crash Locations

Crash data for analyzed intersections in the traffic and pedestrian study areas were obtained from DOT for the three-year period between January 1, 2017, and December 31, 2019 (the most recent three-year period for which data are available). The data quantify the total number of reportable crashes (involving a fatality, injury, or more than $1,000 in property damage) and non-reportable crashes as well as the total number of crashes involving injuries to pedestrians or bicyclists. During the three-year period, a total of 2,791 reportable and non-reportable crashes, four fatalities, 1,334 total injuries, and 688 pedestrian/bicyclist injury crashes occurred at intersections within the quarter-mile study area.

According to the *CEQR Technical Manual*, a high crash location is defined as those along a Vision Zero priority intersection where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. In addition, any location along a Vision Zero priority corridor with three or more pedestrian/bicyclist injury crashes in any consecutive 12

months of the most recent three-year period for which data is available should be identified as a high crash location. As shown in **Table 13-41**, 25 traffic and pedestrian analysis intersections, all of which are located along a Vision Zero Priority Corridor, were found to have experienced a total of three or more pedestrian/bicyclist injury crashes in any more year. As such, these intersections have been selected for the safety assessment.

Sixth Avenue at West 23rd Street

This intersection is located along a priority corridor and at a priority intersection. At this intersection, a total of four pedestrian injury crashes and one bike injury crash occurred in 2017, five pedestrian injury crashes and one bike injury crash occurred in 2018, and two pedestrian injury crashes and four bike injury crashes occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. There is a northbound parking protected bike lane on Sixth Avenue and designated bus lanes running east- and westbound on West 23rd Street. Of the seventeen injury crashes, fourteen occurred in daylight, three occurred at dusk, and five occurred during a rainy day on a wet road surface. Both Sixth Avenue and West 23rd Street are local truck routes which may contribute to more congested roadways and higher numbers of injury crashes at this intersection. In 2018, turn traffic calming treatments were implemented at this intersection.

Sixth Avenue at West 24th Street

This intersection is located along a priority corridor. At this intersection, a total of two pedestrian injury crashes and two bicycle injury crashes occurred in 2018. No injury crashes occurred in 2017 or 2019. The intersection is signalized and includes pedestrian signals with countdown clocks, a Leading Pedestrian Interval (LPI) and striped crosswalks at each approach. Additionally, there is a northbound parking protected bike lane on Sixth Avenue. In 2017, turn traffic calming treatments were implemented at this intersection. Three of the four injury crashes during the three-year period occurred in daylight. One pedestrian crash occurred during a snowy weather day with a slushy road surface.

Table 13-41: Crash Data Summary 2017–2019

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicyclist Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
		2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
PARK AVENUE SOUTH	E. 26 STREET	2	2	2	0	1	2	2	3	4	4	5	10
	E. 27 STREET	1	0	2	0	1	0	1	1	2	1	5	7
	E. 28 STREET	1	0	1	1	0	1	2	0	2	2	3	5
	E. 29 STREET	1	1	0	0	1	0	1	2	0	2	5	5
	E. 30 STREET	0	0	1	1	0	0	1	0	1	2	5	5
	E. 31 STREET	0	1	0	1	0	1	1	1	1	2	3	2
	E. 32 STREET	0	2	1	0	0	1	0	2	2	1	5	4
	E. 33 STREET	0	2	0	0	1	0	0	3	0	2	8	2
	E. 34 STREET	1	2	2	0	1	0	1	**3**	2	7	14	14
	E. 35 STREET	1	3	4	0	1	0	1	4	4	3	10	18
	E. 36 STREET	1	2	4	0	1	0	1	3	4	3	12	10
	E. 37 STREET	1	2	0	1	0	0	2	2	0	9	14	14
MADISON AVENUE	E. 23 STREET	1	0	0	0	0	0	1	0	0	2	0	2
	E. 24 STREET	0	0	0	0	0	1	0	0	1	1	4	3
	E. 25 STREET	0	0	0	0	0	0	0	0	0	1	0	1
	E. 26 STREET	0	1	0	0	1	0	0	2	0	0	5	4
	E. 27 STREET	2	0	0	0	0	0	2	0	0	3	1	2
	E. 28 STREET	0	1	0	1	0	0	1	1	0	2	3	1
	E. 29 STREET	0	1	0	0	0	0	0	1	0	1	2	1
	E. 30 STREET	1	2	1	0	0	0	1	2	1	4	6	3
	E. 31 STREET	0	0	0	0	0	0	0	0	0	0	0	2
	E. 32 STREET	0	1	1	0	0	0	0	1	1	1	3	2
	E. 33 STREET	0	0	0	0	0	0	0	0	0	1	0	1
	E. 34 STREET	0	0	0	1	0	0	1	0	0	4	6	3
	E. 35 STREET	0	0	0	0	0	0	0	0	0	4	0	2
	E. 36 STREET	1	1	1	0	0	1	1	1	2	1	5	9
	E. 37 STREET	0	2	1	0	0	1	0	2	2	1	4	6
	E. 38 STREET	1	0	0	0	0	0	1	0	0	4	6	3
	E. 39 STREET	1	1	0	0	1	2	1	2	2	5	5	4
	E. 40 STREET	0	0	1	0	0	0	0	0	1	0	3	4
5 AVENUE	E./W. 19 STREET	0	0	0	0	0	0	0	0	0	1	3	0
	E./W. 20 STREET	1	0	0	0	2	1	1	2	1	2	5	6
	E./W. 21 STREET	0	1	1	0	1	0	0	2	1	0	5	1
	E./W. 22 STREET	1	1	1	0	0	0	1	1	1	2	3	3
	E./W. 23 STREET	1	1	1	1	0	1	2	1	2	5	7	8
	E./W. 25 STREET	0	0	0	0	1	2	0	1	2	1	2	5
	E./W. 26 STREET	1	1	0	0	1	0	1	2	0	2	5	5
	E./W. 27 STREET	3	2	2	0	1	0	3	3	2	5	12	3
	E./W. 28 STREET	2	0	0	0	1	1	2	1	1	4	4	6
	E./W. 29 STREET	2	1	0	1	0	0	3	1	0	3	7	2
	E./W. 30 STREET	0	1	0	0	1	0	0	2	0	1	3	0
	E./W. 31 STREET	0	0	0	0	1	0	0	1	0	0	5	2
	E./W. 32 STREET	3	2	1	0	1	0	3	3	1	6	12	6
	E./W. 33 STREET	1	1	3	0	0	0	1	1	3	3	7	7
	E./W. 34 STREET	0	1	3	0	1	0	0	2	**3**	8	14	10
	E./W. 35 STREET	0	1	0	1	1	0	1	2	0	4	9	4
	E./W. 36 STREET	0	0	1	0	1	0	0	1	1	2	14	7
	E./W. 37 STREET	1	1	0	0	1	0	1	2	0	10	13	6
	E./W. 38 STREET	1	0	0	0	1	0	1	1	0	1	5	6
	E./W. 39 STREET	0	0	0	1	0	0	1	0	0	1	4	1
	E./W. 40 STREET	0	1	0	0	0	1	0	1	1	2	3	4
	E./W. 41 STREET	0	0	0	0	0	0	0	0	0	2	2	2
	E./W. 42 STREET	2	4	5	0	1	1	2	**5**	**6**	9	15	12

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicyclist Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
		2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
BROADWAY	W. 21 STREET	0	0	0	2	0	1	2	0	1	2	1	5
	W. 22 STREET	1	0	0	0	0	0	1	0	0	3	1	1
	W. 23 STREET	1	3	0	1	1	0	2	**4**	0	3	7	1
	W. 24 STREET / 5 AVENUE	0	0	0	2	0	1	2	0	1	2	3	1
	W. 25 STREET	0	0	0	0	0	0	0	0	0	0	1	0
	W. 26 STREET	0	0	0	0	2	1	0	2	1	0	4	1
	W. 27 STREET	0	0	1	0	0	0	0	0	1	3	0	2
	W. 28 STREET	0	1	1	0	0	1	0	1	2	0	1	4
	W. 29 STREET	0	1	0	0	1	0	0	2	0	0	3	1
	W. 30 STREET	0	0	0	0	0	0	0	0	0	0	1	1
	W. 31 STREET	0	1	0	0	0	0	0	1	0	0	2	0
	W. 32 STREET	0	0	0	0	0	0	0	0	0	0	2	2
	W. 35 STREET	1	1	0	0	0	0	1	1	0	1	4	1
	W. 36 STREET	0	0	1	0	0	0	0	0	1	0	0	4
	W. 37 STREET	0	0	1	0	0	0	0	0	1	2	3	1
	W. 38 STREET	0	0	1	0	0	0	0	0	1	2	1	2
	W. 39 STREET	2	0	0	0	2	0	2	2	0	3	3	1
	W. 40 STREET	0	0	2	0	0	0	0	0	2	3	1	4
	W. 41 STREET	0	0	2	0	0	0	0	0	2	1	1	5
	W. 42 STREET	1	4	0	2	2	0	**3**	**6**	0	5	14	3
6 AVENUE (AVENUE OF THE AMERICAS)	W. 18 STREET	1	2	0	1	0	1	2	2	1	4	9	6
	W. 19 STREET	0	0	1	1	1	0	1	1	1	4	5	4
	W. 20 STREET	0	2	1	1	0	0	1	2	1	2	9	6
	W. 21 STREET	0	3	1	3	1	2	**3**	**4**	**3**	11	9	8
	W. 22 STREET	2	0	1	1	0	0	**3**	0	1	5	9	11
	W. 23 STREET	4	5	2	1	1	4	**5**	**6**	**6**	11	22	23
	W. 24 STREET	0	2	0	0	2	0	0	**4**	0	4	5	7
	W. 25 STREET	0	0	1	0	0	1	0	0	2	2	5	9
	W. 26 STREET	3	1	1	1	0	0	**4**	1	1	9	10	9
	W. 27 STREET	1	2	0	1	1	0	2	**3**	0	2	11	7
	W. 28 STREET	0	1	1	0	0	1	0	1	2	0	6	12
	W. 29 STREET	0	1	0	0	1	1	0	2	1	0	11	7
	W. 30 STREET	0	1	2	0	0	1	0	1	**3**	4	7	6
	W. 31 STREET	0	0	3	0	1	1	0	1	**4**	1	7	10
	W. 32 STREET	0	1	1	1	1	0	1	2	1	4	10	5
	W. 33 STREET	0	1	1	2	1	2	2	2	**3**	2	10	10
	W. 34 STREET	3	2	6	0	1	0	**3**	**3**	**6**	9	15	15
	W. 35 STREET	0	0	0	1	0	0	1	0	0	6	5	6
	W. 36 STREET	2	2	2	0	0	0	2	2	2	3	6	13
	W. 37 STREET	0	0	2	0	0	0	0	0	2	3	16	8
	W. 38 STREET	1	0	3	0	0	0	1	0	**3**	2	5	8
	W. 39 STREET	1	0	0	0	0	0	1	0	0	4	6	7
	W. 40 STREET	2	0	1	1	1	2	**3**	1	**3**	3	9	8
	W. 41 STREET	0	0	0	0	2	0	0	2	0	2	5	6
	W. 42 STREET	1	1	1	2	2	2	**3**	**3**	**3**	5	22	14
7 AVENUE	W. 19 STREET	0	0	0	0	0	0	0	0	0	0	3	4
	W. 20 STREET	0	1	1	1	0	0	1	1	1	3	7	3
	W. 21 STREET	1	1	0	0	0	0	1	1	0	4	3	6
	W. 22 STREET	2	2	2	1	0	0	**3**	2	2	3	5	3
	W. 23 STREET	2	4	1	1	1	2	**3**	**5**	**3**	5	8	7
	W. 24 STREET	1	0	2	0	0	0	1	0	2	4	4	6
	W. 25 STREET	2	2	0	0	0	0	2	2	0	4	6	0
	W. 26 STREET	1	0	1	0	2	0	1	2	1	4	8	5
	W. 27 STREET	3	2	1	0	0	1	**3**	2	2	6	9	6
	W. 28 STREET	3	3	2	1	0	0	**4**	**3**	2	5	8	10
	W. 29 STREET	0	2	2	2	0	1	2	2	**3**	3	5	8

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicyclist Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
		2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
7 AVENUE	W. 30 STREET	0	0	0	1	0	1	1	0	1	2	8	9
	W. 31 STREET	2	2	1	0	0	0	2	2	1	7	27	9
	W. 32 STREET	1	1	2	2	1	1	**3**	2	**3**	8	8	16
	W. 33 STREET	0	0	2	0	0	1	0	0	**3**	1	10	8
	W. 34 STREET	3	4	2	2	0	3	**5**	**4**	**5**	11	12	15
	W. 35 STREET	2	1	1	0	1	0	2	2	1	7	10	5
	W. 36 STREET	2	0	2	0	0	1	2	0	**3**	6	5	12
	W. 37 STREET	2	3	1	0	0	0	2	**3**	1	6	7	6
	W. 38 STREET	0	2	1	0	1	0	0	**3**	1	4	8	6
	W. 39 STREET	3	1	2	0	2	0	**3**	**3**	2	7	7	6
	W. 40 STREET	2	1	1	0	0	1	2	1	2	4	5	5
	W. 41 STREET	0	4	1	0	0	0	0	**4**	1	0	9	4
	W. 42 STREET	4	3	0	2	0	1	**6**	**3**	1	11	16	15
	W. 43 STREET	1	1	0	0	0	0	1	1	0	1	12	5
8 AVENUE	W. 23 STREET	2	0	2	1	1	0	**3**	1	2	6	8	6
	W. 24 STREET	0	0	0	0	0	0	0	0	0	4	0	0
	W. 25 STREET	2	0	2	2	0	0	**4**	0	2	11	2	3
	W. 26 STREET	2	1	1	1	0	0	**3**	1	1	7	3	6
	W. 27 STREET	1	0	0	0	0	0	1	0	0	1	1	2
	W. 28 STREET	0	0	1	0	0	0	0	0	1	3	7	5
	W. 29 STREET	1	2	1	1	4	0	2	**6**	1	5	10	4
	W. 30 STREET	1	4	2	0	0	1	1	**4**	**3**	1	10	8
	W. 31 STREET	0	3	1	0	1	0	0	**4**	1	11	17	20
	W. 33 STREET	0	1	0	0	0	2	0	1	2	4	12	13
	W. 34 STREET	2	4	1	0	1	1	2	**5**	2	6	14	8
	W. 35 STREET	0	3	1	0	1	0	0	**4**	1	4	10	7
	W. 36 STREET	1	1	2	0	0	0	1	1	2	5	5	10
	W. 37 STREET	2	0	2	0	0	0	2	0	2	3	8	11
	W. 38 STREET	0	2	3	0	0	0	0	2	**3**	3	13	12
	W. 39 STREET	2	3	1	1	0	2	**3**	**3**	**3**	7	13	9
	W. 40 STREET	0	3	3	0	1	0	0	**4**	**3**	2	13	21
	W. 41 STREET	0	2	1	0	0	2	0	2	**3**	2	8	10
	W. 42 STREET	3	5	5	0	1	2	**3**	**6**	**7**	7	28	20
	W. 43 STREET	2	2	1	1	0	0	**3**	2	1	8	5	7
	W. 44 STREET	1	3	2	2	0	0	**3**	**3**	2	6	15	7
9 AVENUE	W. 28 STREET	0	1	0	1	1	1	1	2	1	5	4	3
	W. 29 STREET	1	1	0	0	0	0	1	1	0	4	3	1
	W. 30 STREET	1	2	0	0	1	0	1	**3**	0	6	8	7
	W. 31 STREET	0	1	4	0	0	1	0	1	**5**	2	8	11
	W. 33 STREET	1	1	2	0	0	0	1	1	2	1	4	6
	W. 34 STREET	1	1	3	0	0	0	1	1	**3**	5	14	7
	W. 35 STREET	1	0	0	0	0	0	1	0	0	3	4	10
	W. 36 STREET	1	2	2	0	0	0	1	2	2	3	13	8
	W. 37 STREET	2	4	0	0	0	0	2	**4**	0	9	15	8
	W. 38 STREET	0	2	2	0	0	0	0	2	2	4	12	7
	W. 39 STREET	1	1	2	0	0	0	1	1	2	4	11	6
	W. 40 STREET	2	1	1	0	0	0	2	1	1	8	16	14
	W. 41 STREET	3	1	1	0	0	0	**3**	1	1	15	19	12
	W. 42 STREET	3	4	2	2	3	2	**5**	**7**	**4**	12	31	22
	W. 43 STREET	2	2	2	0	0	0	2	2	2	5	11	10
DYER AVENUE	LINCOLN TUNNEL EXIT	0	2	0	0	0	1	0	2	1	0	7	4

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

Sixth Avenue at West 26th Street

This intersection is located along a priority corridor. At this intersection, a total of three pedestrian injury crashes and one bicycle injury crash occurred in 2017. In both 2018 and 2019, there was one pedestrian injury crash. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. Additionally, there is a northbound parking protected bike lane along Sixth Avenue. In 2019, turn traffic calming treatments were implemented at this intersection. Four of the six injury crashes occurred in daylight on a clear weather day on a dry road surface. One crash occurred on a cloudy day and one crash occurred on a rainy weather day on a wet road surface.

Sixth Avenue at West 27th Street

This intersection is located along a priority corridor. At this intersection, there was one pedestrian injury crash and one bicycle injury crash that occurred in 2017. There were two pedestrian injury crashes, and one bicycle injury crash occurred in 2018 and no reported injury crashes in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks, a LPI and striped crosswalks at each approach. There is also a northbound parking protected bike lane along Sixth Avenue. Three of the five injury crashes occurred in daylight on a dry road surface. One crash occurred during the night on a lighted road and one occurred during rainy weather on a wet road surface.

Sixth Avenue at West 30th Street

This intersection is located along a priority corridor. At this intersection, there were no injury crashes that occurred in 2017. One pedestrian injury crash occurred in 2018, and two pedestrian injury crashes and one bicycle injury crash occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks, a LPI and striped crosswalks at each approach. In addition, the intersection has a northbound parking protected bike lane along Sixth Avenue and a pedestrian island on the southeastern approach that divides northbound bike traffic and east-west bound pedestrians. Further, in 2017, turn traffic calming treatments were implemented at this intersection. All three pedestrian injury crashes occurred in daylight, one in cloudy conditions and two in rainy conditions on a wet road surface. The one reported bicycle injury crash occurred at dusk on a dry road surface.

Sixth Avenue at West 31st Street

This intersection is located along a priority corridor. At this intersection, there were no injury crashes that occurred in 2017. One bicycle injury crash occurred in 2018, and three pedestrian injury crashes and one bicycle injury crash occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks, a LPI and striped crosswalks at each approach. In addition, the intersection has a northbound parking protected bike lane along Sixth Avenue and a pedestrian island on the

northeastern approach that divides northbound bike traffic and east-west bound pedestrians. Two of the injury crashes occurred in daylight in dry road conditions. One of the injury crashes occurred at dusk on a dry road surface. Road and weather conditions were not recorded for the other two crashes.

Sixth Avenue at West 33rd Street

This intersection is located along a priority corridor. At this intersection, there were seven injury crashes over a three-year period. There were two bicycle injury crashes that occurred in 2017, one that occurred in 2018, and two that occurred in 2019. There was one pedestrian injury crash that occurred in 2018 and one in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. In addition, the prior intersection at Sixth Avenue and 32nd Street switches from a northbound bicycle lane to a two-way north-southbound lane. There are CitiBike stations located on the western side of Sixth Avenue at both the northern and southern approaches. On the eastern side of Sixth Avenue, there are extended pedestrian crosswalks that are protected by concrete stones. Four of the injury crashes occurred in daylight on a dry road surface. Three of the crashes occurred at night on a lighted road, with one of those crashes occurring on a wet road surface.

Sixth Avenue at West 34th Street

This intersection is located along a priority corridor and at a priority intersection. At this intersection, three pedestrian injury crashes and zero bike injury crashes occurred in 2017, two pedestrian injury crashes and one bike injury crash occurred in 2018, and six pedestrian injury crashes and no bike injury crashes occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. There is a two-way protected bike lane on Sixth Avenue that branches into a northbound-only protected bike lane at the intersection of Broadway, 34th Street, and Sixth Avenue. There are also designated bus lanes running both east- and westbound on West 34th Street. Of twelve injury crashes, six occurred in daylight and six occurred at either dusk or at night. Ten of the crashes were in clear weather conditions on a dry road surface. The remaining two crashes were in cloudy weather conditions on a dry road surface. West 34th Street is a designated truck through route from 6 PM and 11 AM, which may contribute to higher numbers of injury crashes in nighttime conditions.

Sixth Avenue at West 38th Street

This intersection is located along a priority corridor. At this intersection, there were four injury crashes over a three-year period. There was one pedestrian injury crash that occurred in 2017, none that occurred in 2018, and three that occurred in 2019. There were no bicycle injury crashes over the three-year period. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each

approach. In addition, there is a northbound parking protected bike lane located on Sixth Avenue. The pedestrian crash in 2017 occurred on a clear night on a dry road surface. Two of the pedestrian crashes in 2019 occurred in daylight on a dry road surface. The remaining pedestrian crash in 2019 occurred at dawn on a dry surface road.

Seventh Avenue at West 23rd Street

This intersection is located along a priority corridor. At this intersection, two pedestrian injury crashes and one bike injury crash occurred in 2017, five pedestrian injury crashes and one bike injury crash occurred in 2018, and one pedestrian injury crash and two bike injury crashes occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. There is a southbound parking protected bicycle lane on Seventh Avenue and a pedestrian median located between the bike lane and Seventh Avenue on the southeastern corner of West 23rd Street. There are also designated bus lanes running both east- and westbound on West 23rd Street. Of the twelve injury crashes, nine occurred in daylight in clear weather conditions. Two of the injury crashes were on a wet road surface in rainy weather. One crash occurred at night on a dry road surface. Both Seventh Avenue and West 23rd Street are local truck routes which may contribute to more congested roadways and higher numbers of injury crashes at this intersection.

Seventh Avenue at West 27th Street

This intersection is located along a priority corridor. At this intersection, there were two pedestrian injury crashes that occurred in 2017, two that occurred in 2018, and two that occurred in 2019. No bike injury crashes occurred in 2017 or 2018, but one bike injury crash occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. There is a southbound parking protected bicycle lane on Seventh Avenue and pedestrian medians located between the bike lane and Seventh Avenue on both the southeastern and northeastern corners of West 27th Street. West 27th Street is closed to all traffic except local deliveries between 7 AM and 7 PM from Monday through Friday. As such, cars moving westbound can only make a left turn at this intersection. Three of the seven injury crashes occurred at night on a lighted road. The other four crashes occurred in daylight. The six pedestrian injury crashes occurred on a dry road surface in clear weather conditions. The bicycle injury crash in 2019 occurred in cloudy conditions on a wet road surface.

Seventh Avenue at West 28th Street

This intersection is located along a priority corridor. At this intersection, three pedestrian injury crashes and one bicycle injury crash occurred in 2017. Three pedestrian injury crashes occurred in 2018, and two pedestrian injury crashes and one bicycle injury crash occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks, a Leading Pedestrian Interval (LPI) and striped crosswalks at each

approach. There is a southbound parking protected bicycle lane on Seventh Avenue and a pedestrian median located between the bike lane and Seventh Avenue on the southeastern corner of West 28th Street. Five of the injury crashes occurred at night on a lighted road, three of which occurred on a wet road surface. The remaining four crashes occurred in daylight, two on a dry road surface and two on a wet road surface.

Seventh Avenue at West 29th Street

This intersection is located along a priority corridor. At this intersection, there were seven injury crashes over a three-year period. There were no pedestrian injury crashes that occurred in 2017, two that occurred in 2018, and two that occurred in 2019. There were two bicycle injury crashes in 2017 and one bicycle crash in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks, a LPI and striped crosswalks at each approach. There is a southbound parking protected bicycle lane on Seventh Avenue and pedestrian medians located between the bike lane and Seventh Avenue on both the southeastern and northeastern corners of West 29th Street. Additionally, there is a westbound parking protected bike lane on West 29th Street. Five of the seven injury crashes occurred in daylight on a dry road surface. One injury crash occurred at night on a lighted road and one crash occurred in rainy weather conditions.

Seventh Avenue at West 32nd Street

This intersection is located along a priority corridor. At this intersection, there was one pedestrian injury crash that occurred in 2017, one that occurred in 2018, and two that occurred in 2019. Two bike injury crashes occurred in 2017, one occurred in 2018, and two bike injury crashes occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks, a LPI and striped crosswalks at each approach. West 32nd Street ends at its intersection with Seventh Avenue at Penn Station and Madison Square Garden which occupies West 31st Street to West 33rd Street between Seventh Avenue and Eighth Avenue. As West 32nd Street is oriented eastbound, cars moving southbound along Seventh Avenue can only make a left turn or continue southbound at this intersection. Three of the injury crashes occurred at night on a lighted road and the remaining four crashes occurred in daylight. Two of the injury crashes occurred on a wet road surface.

Seventh Avenue at West 33rd Street

This intersection is located along a priority corridor. At this intersection, there were three injury crashes over a three-year period. All three crashes occurred in 2019, two were pedestrian injury crashes and one was a bicycle injury crash. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. West 33rd Street ends at its intersection with Seventh Avenue at Penn Station and Madison Square Garden which occupies West 31st Street to West 33rd Street between Seventh Avenue and Eighth Avenue. As such, cars moving

westbound can only make a left turn to merge into southbound traffic on Seventh Avenue. All three reported injury crashes occurred at night on a lighted road.

Seventh Avenue at West 34th Street

This intersection is located along a priority corridor. At this intersection, there were fourteen injury crashes over a three-year period. At this intersection, three pedestrian injury crashes and two bicycle injury crashes occurred in 2017. Four pedestrian injury crashes occurred in 2018, and two pedestrian injury crashes and three bicycle injury crashes occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks, and striped crosswalks at each approach. There is a southbound parking protected bicycle lane located on Seventh Avenue that ends at the intersection of West 34th Street and Seventh Avenue, and a pedestrian median located between the bike lane and Seventh Avenue on the northeastern corner of West 34th Street. There are bus-only lanes running east and west bound on West 34th Street. Nine of the fourteen crashes occurred in daylight and on a dry road surface. The other five crashes occurred at night. Two of the crashes that occurred at night on a wet road surface in rainy conditions. West 34th Street is a designated truck through route from 6 PM and 11 AM, which may contribute to higher numbers of injury crashes in nighttime conditions.

Seventh Avenue at West 36th Street

This intersection is located along a priority corridor. At this intersection, two pedestrian injury crashes occurred in 2017. Three pedestrian injury crashes and one bicycle injury crash in 2019. No injury crashes occurred in 2018. The intersection is signalized and includes pedestrian signals with countdown clocks, a LPI and striped crosswalks at each approach. There is a southbound parking protected bicycle lane located on Seventh Avenue, a pedestrian median located between the bike lane and Seventh Avenue on the north and south eastern corners of West 34th Street. Additionally, there is a Turn Calming treatment located at this intersection. The two pedestrian injury crashes that occurred in 2017 occurred in daylight on a dry road surface. All four crashes that occurred in 2019 happened at night on a lighted road, with one of these crashes occurring on a wet road condition in rainy weather.

Seventh Avenue at West 37th Street

This intersection is located along a priority corridor. At this intersection, two pedestrian injury crashes occurred in 2018, three pedestrian injury crashes occurred in 2018, and two pedestrian injury crashes occurred in 2019. No bicycle injury crashes occurred during the three-year period at this intersection. The intersection is signalized and includes pedestrian signals with countdown clocks, a LPI and striped crosswalks at each approach. There is a southbound parking protected bicycle lane located on Seventh Avenue and pedestrian islands at all approaches. Five of the six injury crashes occurred

in daylight, of which four occurred in clear weather on a dry road surface. One crash occurred at night on a lighted road in rainy weather on a wet road surface.

Seventh Avenue at West 38th Street

This intersection is located along a priority corridor. At this intersection, two pedestrian injury crashes and one bicycle injury crash occurred in 2018. One pedestrian injury crash occurred in 2019. No injury crashes occurred in 2017. The intersection is signalized and includes pedestrian signals with countdown clocks, and striped crosswalks at each approach. There is a southbound parking protected bicycle lane located on Seventh Avenue and pedestrian islands at all approaches. Additionally, there is a parking protected eastbound bicycle lane on West 38th Street as well as a turn traffic calming treatment at this intersection. Two of the pedestrian injury crashes occurred in clear weather conditions on a dry road surface. One pedestrian injury occurred at night, in rainy conditions, on a wet road surface. The bicycle injury crash occurred in daylight on a dry road surface. Two of the injury crashes occurred in rainy weather on a west road surface. One injury crash occurred at night. The remaining crashes occurred in daylight on a dry road surface.

Eighth Avenue at West 23rd Street

This intersection is located along a priority corridor. At this intersection, two pedestrian injury crashes and one bike injury crash occurred in 2017, one bicycle injury crash occurred in 2018, and two pedestrian injury crashes occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. There is a northbound parking protected bicycle lane on Eighth Avenue and pedestrian medians located between the bike lane and Eighth Avenue on the south- and northwestern corners of West 23rd Street. There are also designated bus-only lanes running both east- and westbound on West 23rd Street. Of the six injury crashes, three occurred at night and three occurred in daylight. Two of the crashes occurred in rainy weather on a wet road surface while the other four crashes occurred on a dry road surface in clear weather conditions. Both Eighth Avenue and West 23rd Street are local truck routes which may contribute to more congested roadways and higher numbers of injury crashes at this intersection.

Eighth Avenue at West 29th Street

This intersection is located along a priority corridor. During the three-year period, there were nine injury crashes. There was one pedestrian injury crash and one bicycle crash that occurred in 2017, three bicycle crashes and two pedestrian crashes that occurred in 2018 and one pedestrian crash and one bicycle crash that occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks, a LPI and striped crosswalks at each approach. There is a northbound parking protected bicycle lane on Eighth Avenue and a pedestrian median located between the bike lane

and Eighth Avenue on the northwestern corner of West 29th Street. There is also a turn-only lane directing westbound traffic from Eighth Avenue to West 29th Street, as well as a parking protected westbound bike lane on West 29th Street. Six of the nine crashes occurred at night on a lighted road and two of these crashes occurred on a wet road surface. Of the three crashes that occurred in daylight, one occurred on a wet road surface.

Eighth Avenue at West 30th Street

This intersection is located along a priority corridor. During the three-year period, there were eight injury crashes. One pedestrian crash occurred in 2017, four occurred in 2018, and two occurred in 2019. One bicycle crash occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks, a LPI, a split LPI installed in 2017, and striped crosswalks at each approach. There is a northbound parking protected bicycle lane on Eighth Avenue and a pedestrian median located between the bike lane and Eighth Avenue on the north and southwestern corners of West 30th Street. There is an eastbound unprotected bike lane on West 30th Street. Six of the eight injury crashes occurred at night, and two of those crashes occurred on a wet road surface. The other two crashes occurred in daylight in clear weather conditions on a dry road surface.

Eighth Avenue at West 34th Street

This intersection is a priority intersection and is located along a priority corridor. There were two pedestrian injury crashes that occurred in 2017, four that occurred in 2018, and one that occurred in 2019. One bicycle crash occurred in 2018, and one occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. There is a northbound parking protected bicycle lane on Eighth Avenue and a pedestrian median located between the bike lane and Eighth Avenue on the northwestern corner of West 34th Street. There are also designated bus-only lanes running both east- and westbound on West 34th Street. turn traffic calming treatments were installed in 2016 at this intersection. Five of the crashes occurred in daylight and four occurred in low-light conditions (dawn or dusk) on a lighted road. Three crashes occurred on a wet road surface and five occurred on a dry road surface. West 34th Street is a designated truck through route from 6 PM and 11 AM, which may contribute to higher numbers of injury crashes in nighttime conditions.

Eighth Avenue at West 38th Street

This intersection is located along a priority corridor. At this intersection, there were two pedestrian injury crashes that occurred in 2018 and three pedestrian injury crashes that occurred in 2019. There were no reported bicycle injury crashes that occurred during the three-year period. The intersection is signalized and includes pedestrian signals with countdown clocks, a LPI, and striped crosswalks at each approach. The intersection has

a northbound protected bike lane along Eight Avenue and CitiBike station on Eight Avenue between West 37th Street and West 38th Street. Additionally, there is an eastbound parking protected bike lane on West 38th Street. Of the five crashes, three occurred in low light conditions (dawn) or at night and two occurred in daylight. All of the pedestrian injury crashes occurred in clear weather conditions on a dry road surface.

Ninth Avenue at West 30th Street

A total of one pedestrian injury crash and zero bicycle injury crashes occurred at this intersection in 2017, two pedestrian injury crashes and one bicycle injury crash occurred in 2018, and zero pedestrian and bicycle injury crashes occurred in 2019. This intersection is signalized and includes pedestrian signals and crosswalks striped at each approach. Two of the three pedestrian injury crashes and one bicycle injury crash occurred in the dark with the road lighted. Based on historical imagery of this intersection, most of the crashes occurred as a result of faded crosswalk markings and construction for the installation of the W. 30th Street trunk water main during the three-year period. It is expected that pedestrian safety would improve at this intersection as the crosswalks have been restriped at each approach and the signal timing was adjusted to match the 25 MPH speed limit.

K. Parking

Tables 13-42 and 13-43 shows the hourly net incremental change in parking demand for each land use under the Proposed Actions compared to the No-Action condition on a weekday and Saturday, respectively. The forecast of overnight parking demand generated by the Proposed Actions' residential component is based on 2015–2019 five-year ACS data on average vehicles per household for Manhattan Census Tracts 58, 76, 84, 91, 95, 101, 109, 111, 113, and 115 which encompass the Affected Area. Parking demands from all other uses are derived from the forecasts of daily auto trips from these uses.

Parking demand generated by the various commercial and community facility uses that would be developed under the Proposed Actions would typically peak during the midday hour, whereas residential parking demand would peak during the overnight period. The net decreases in commercial office, warehouse, and light industrial parking demand reflect net reductions in these land uses within the Affected Area under the With-Action condition. Overall, as shown in **Table 13-42**, development associated with the Proposed Actions would generate a peak net parking demand of approximately 1,274 spaces in the overnight period during a typical weekday. In addition, as shown in **Table 13-43**, development associated with the Proposed Actions would generate a peak net parking demand of approximately 1,319 spaces in the overnight period during a typical Saturday. These net totals should be considered conservative as they do not reflect any credit for

parking demand from existing uses on projected development sites that would be eliminated under the With-Action condition.

As the Proposed Actions' RWCDS does not include any on-site parking on projected development sites, nor any new off-street public parking, the total increase in parking demand under the Proposed Actions' RWCDS would not be accommodated on-site and excess demand would seek parking availability within a quarter-mile radius of the Affected Area.

As discussed in Section F, "Transportation Analyses Methodologies," the Affected Area is located within Parking Zone 1 and the inability of a proposed project or the surrounding area to accommodate future parking demands would be considered a parking shortfall but would generally not be considered significant under *CEQR Technical Manual guidance* due to the magnitude of available alternative modes of transportation.

In addition, under 2021 *CEQR Technical Manual* guidance, one of the factors to be considered in determining significance of a parking shortfall is the availability of alternative modes of transportation. The Affected Area is well served by alternate modes of transportation within walking distance of the Affected Area, including a considerable amount of subway stations and bus routes, as well as bicycle infrastructure.

For subway transit, there are fourteen subway stations located within a quarter-mile radius of the Affected Area. These include the 23rd Street (1) station, the 23rd Street (F/M) station, the 23rd Street (C/E) station, the 23rd Street (R/W) station, the 28th Street (1) station, the 28th Street (R/W) station, the 28th Street (6) station, the 33rd Street (6) station, the 34th Street - Penn Station (1/2/3) station complex, the 34th Street - Herald Square (B/D/F/M/N/Q/R/W) station complex, the 34th Street - Penn Station (A/C/E) station complex, the 42nd Street - Bryant Park (B/D/F/M/7) station complex, the 42nd Street - Port Authority Bus Terminal (A/C/E) station complex, and the Times Square – 42nd Street (1/2/3/7/N/Q/R/W/S) station complex. In addition, the 34th Street - Herald Square station complex and 23rd Street (F/M) station provide access to the Hoboken-33rd Street and Journal Square-33rd Street lines on the PATH system, both of which provide connections between New Jersey and Manhattan.

For bus transit, approximately 14 local NYC Transit bus routes (the M1, M2, M3, M4, M5, M7, M11, M20, M23 SBS, M34A SBS, M42, M55, M104, and Q32) and 50 NYC express bus routes are located within a quarter-mile radius of the Affected Area.

Lastly, streets within the Affected Area and within a quarter-mile radius of the Affected Area host an extensive network of bicycle lanes, the majority of which are conventional bicycle lanes or shared lanes, though protected bicycle lanes are present along Broadway and the north-south avenues. Moreover, there are numerous Citi Bike dock

stations located within the Affected Area and within a quarter-mile radius of the Affected Area.

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

Table 13-42: With-Action Net Incremental Weekday Hourly Parking Demand by Land Use

	Local Retail	Office	Residential	Light Industrial	Warehouse	School	Total Demand
12-1 AM	2	-1	1,269	0	0	0	1,270
1-2	2	0	1,271	0	0	0	1,273
2-3	2	0	1,272	0	0	0	1,274
3-4	2	0	1,272	0	0	0	1,274
4-5	2	-1	1,271	0	0	0	1,272
5-6	2	-2	1,255	0	0	0	1,255
6-7	2	-7	1,221	0	0	0	1,216
7-8	3	-25	1,123	0	0	0	1,101
8-9	8	-91	966	-3	-1	2	881
9-10	7	-217	894	-4	-6	2	676
10-11	6	-237	863	-4	-6	2	624
11-12	4	-246	866	-4	-6	2	616
12-1 PM	-8	-243	865	-4	-6	2	606
1-2	-8	-244	873	-4	-6	2	613
2-3	-25	-244	876	-5	-6	0	596
3-4	-26	-241	886	-5	-6	0	608
4-5	-25	-209	896	-4	-1	0	657
5-6	-15	-122	933	-1	-1	0	794
6-7	-11	-54	975	0	0	0	910
7-8	6	-20	1,012	0	0	0	998
8-9	-1	-10	1,073	0	0	0	1,062
9-10	1	-5	1,138	0	0	0	1,134
10-11	1	-3	1,199	0	0	0	1,197
11-12	0	-2	1,235	0	0	0	1,233

Table 13-43: With-Action Net Incremental Saturday Hourly Parking Demand by Land Use

	Local Retail	Office	Residential	Light Industrial	Warehouse	School	Total Demand
12-1 AM	4	-1	1,275	0	0	0	1,278
1-2	4	0	1,288	0	0	0	1,292
2-3	4	0	1,310	0	0	0	1,314
3-4	4	0	1,315	0	0	0	1,319
4-5	4	-1	1,315	0	0	0	1,318
5-6	4	-2	1,313	0	0	0	1,315
6-7	4	-5	1,306	0	0	0	1,305
7-8	4	-10	1,279	0	0	0	1,273
8-9	6	-29	1,235	-2	0	0	1,210
9-10	15	-32	1,183	-2	0	0	1,164
10-11	16	-33	1,144	-2	0	0	1,125
11-12	19	-34	1,114	-2	0	0	1,097
12-1 PM	17	-33	1,102	-2	0	0	1,084
1-2	17	-31	1,094	-2	0	0	1,078
2-3	17	-15	1,100	-2	0	0	1,100
3-4	17	-13	1,100	-2	0	0	1,102
4-5	17	-9	1,117	-2	0	0	1,123
5-6	17	-6	1,131	0	0	0	1,142
6-7	18	-6	1,154	0	0	0	1,166
7-8	15	-5	1,170	0	0	0	1,180
8-9	15	-5	1,191	0	0	0	1,201
9-10	8	-5	1,223	0	0	0	1,226
10-11	4	-4	1,246	0	0	0	1,246
11-12	4	-3	1,259	0	0	0	1,260