13.0 Transportation

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 facilitate the implementation of a multi-year planning process conducted along Atlantic Avenue in northwestern Crown Heights and southern Bedford-Stuyvesant. The Proposed Actions would affect an approximately 21-block area (the Project Area) (refer to **Figure 13-1**), including several frontages along Atlantic Avenue generally bounded by Vanderbilt Avenue to the west, Nostrand Avenue to the east, Herkimer Street to the north, and Bergen Street to the south. In addition, the Proposed Actions would affect four non-contiguous areas located on a portion of four blocks bounded by:

- 6th Avenue to the west, Carlton Avenue to the east, Dean Street to the north, and St. Marks and Flatbush Avenues to the south
- Fulton Street to the north, Atlantic Avenue to the south, Carlton Avenue to the west and Clermont Avenue to the east
- Halsey Street to the north, Macon Street to the south, Nostrand Avenue to the west and Marcy Avenue to the east
- Prospect Place to the north, Park Place to the south, New York Avenue to the west and Brooklyn Avenue to the east

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 condition) and future with the Proposed Actions (With-Action condition) 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 54 projected development sites were



Source: NYC DCP (PLUTO 2023v2); DOITT 2022

Legend

1 Projected Development Site

Atlantic Avenue Mixed-Use Plan

Figure 13-1
Projected Development Sites

identified and are considered for the purposes of the transportation analyses (see **Figure 13-1**).

Table 13-1 shows the total anticipated land uses under the 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 total of 5,143 dwelling units (DU), 705,843 square feet (sf) of commercial space, and 121,716 sf of community facility space on the 54 projected development sites (the Proposed Project). There would also be a net decrease of 160,276 sf of industrial space, which includes wholesale/warehousing and other light industrial uses.

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

Land Use	No-Action Condition (sf)	With-Action Condition (sf)	No-Action to With-Action Increment (sf)
Residential			
Total Residential	**114,682**	**5,320,984**	**5,206,302**
	135 DUs	**5,278 DUs**	**5,143 DUs**
Commercial			
Local Retail	60,625	347,132	286,507
Destination Retail	0	50,410	50,410
Office & Other Commercial (1)	22,648	472,574	449,926
Auto-Related	81,000	0	-81,000
Total Commercial	**164,273**	**870,116**	**705,843**
Industrial			
Warehouse	92,583	0	-92,583
Other (Light) Industrial	144,788	77,095	-67,693
Total Industrial	**237,371**	**77,095**	**-160,276**
Community Facility			
Medical Office	0	48,548	48,548
Other CF(2)	267,686	340,854	73,168
Total Community Facility	267,686	389,402	121,716
Total Floor Area	**784,012**	**6,657,597**	**5,873,585**
Parking			
Parking SF	52,309	0	-52,309
Parking Spaces	209	0	-209

Notes:

(1) Other commercial uses are assumed to include a 3,500 sf cross-fit gym in the No-Action.

(2) Other CF uses are assumed to include 80,192 sf of community center uses in the With-Action, a 2,925 sf senior center in the With-Action, and 15,437 sf of arts and cultural space in the With-Action, as well as 242,300 sf of school uses in both the No-Action and With-Action (no net change).

This chapter describes in detail the existing transportation conditions in proximity to the Project Area. Future conditions in the year 2034 without the Proposed Actions (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 20, Mitigation,** discusses practicable measures to address these impacts.

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 27 intersections, (b) subway line haul conditions on one subway route, and (c) pedestrians at 12 sidewalks, four corners, and four crosswalks.

Traffic

Traffic conditions were evaluated for the weekday 7:45–8:45 a.m., 1:00–2:00 p.m. (midday), 4:30–5:30 p.m., and Saturday 1:00–2:00 p.m. peak hours at 31 intersections in the traffic study area where additional traffic resulting from the Proposed Actions would be most heavily concentrated. As summarized in **Tables 13-2 and 13-3**, the traffic impact analysis indicates the potential for significant adverse impacts at 27 intersections (24 signalized and three unsignalized) during one or more analyzed peak hours. Significant adverse impacts were identified to 41 lane groups at 21 intersections during the weekday AM peak hour, 26 lane groups at 21 intersections in the midday peak hour, 44 lane groups at 25 intersections in the PM peak hour, and 46 lane groups at 25 intersections during the Saturday peak hour. **Chapter 20, Mitigation,** discusses potential measures to mitigate these significant adverse traffic impacts.

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

	Peak Hour			
	Weekday AM	**Weekday Midday**	**Weekday PM**	**Saturday Midday**
Impacted Lane Groups	41	26	44	46
Impacted Intersections	21	21	25	25

Table 13-3: Summary of Significantly Impacted Intersections

Intersection	With-Action Signalized Impact Locations AM	MD	PM	SAT	No. of Impacted Peak Hours
1: Atlantic Av & 4th Av	3	1	3	3	4
2: Atlantic Av & Flatbush Av	1	1	1	1	4
3: Atlantic Av &Fort Greene Pl.	0	0	0	0	0
4: Atlantic Av & S Portland Av	0	0	0	1	1
5: Atlantic Av & Carlton Av	2	1	2	2	4
6: Atlantic Av &Clermont Av.	1	1	1	1	4
7: Atlantic Av & Vanderbilt Av	3	1	1	1	4
8: Atlantic Av & Washington Av	3	2	2	2	4
9: Atlantic Av & Grand Av	2	1	3	3	4
10: Atlantic Av & Classon av	4	3	4	4	4
11: Atlantic Av & Franklin Av	2	1	4	4	4
12: Atlantic Av & Bedford Av	3	1	3	3	4
13: Atlantic Av & Nostrand Av	2	1	2	1	4
14: Atlantic Av & New York Av	2	2	2	2	4
15: Grand Av & Fulton St	1	1	2	2	4
18: Classon av & Fulton St	0	0	1	1	2
19: Classon Av & Pacific Street	1	1	1	1	4
20: Classon Av & Dean St	2	1	1	2	4
21: Franklin Av & Fulton St	1	0	1	0	2
23: Franklin Av & Pacific St	1	1	1	1	4
24: Franklin St/Franklin Av & Dean S	2	1	2	2	4
25: Bedford Av & Fulton St	3	2	2	4	4
27: Bedford Av & Pacific St	0	0	1	1	2
28. Bedford Av/Roger Av & Dean St	1	1	1	1	4
29: Bedford Av & Bergen St	0	0	0	0	0
30: Bergen St & Roger Av	0	1	0	1	2
Intersection	With-Action Unsignalized Impact AM	MD	PM	SAT	No. of Impact Peak Hours
8A: Atlantic Av & Washington Av	0	0	0	0	0
16: Grand Av & Pacific St	0	0	1	0	1
17: Grand Av &Dean St	0	0	1	1	2
22: Franklin Av &Leffert Pl.	1	1	1	1	4
26: Bedford Av &Harkimer st	0	0	0	0	0
Total	41	25	44	45	

Transit

Subway

Subway Stations

The Proposed Actions would generate a net increment of approximately 3,245 and 3,099 new subway trips during the weekday AM and PM commuter peak hours, respectively. The analysis of subway station conditions focuses on three Metropolitan Transportation Authority (MTA) New York City Transit (NYCT) subway stations in proximity to the Project Area where incremental demand from the Proposed Actions would exceed the 200-trip 2021 *CEQR Technical Manual* analysis threshold in one or both peak hours. These include the following stations, all of which are served by A and C trains operating on the IND Fulton Street line, and one of which is served by the Franklin Avenue Shuttle (S): Franklin Avenue (A/C/S), Nostrand Avenue (A/C), and Clinton-Washington-Avenues (A/C). The Proposed Actions are not expected to result in significant adverse impacts in either the AM or PM peak hour at any of the three analyzed subway stations.

Subway Line Haul

The Project Area is served by seven NYCT subway routes within a quarter mile, including the A, C, Franklin Avenue Shuttle, B, Q, 2, and 3 lines. It should be noted that the D, N, R, 4, 5, and LIRR serves the Atlantic-Barclays station on the western periphery of the Project Area.

In the With-Action condition, northbound C trains are expected to be operating over capacity in the AM peak hour and would experience an average incremental increase of 20.81 persons/car during this period, greater than the five persons/car 2021 *CEQR Technical Manual* impact threshold. Similarly, southbound C trains are expected to be operating over capacity in the PM peak hour and would experience an average incremental increase of 18.6 persons/car during this period, greater than the five persons/car 2021 *CEQR Technical Manual* impact threshold. As summarized in **Table 13-4**, the northbound C service in the AM peak hour as well as the southbound C service in the PM peak hour would therefore be considered significantly adversely impacted by the Proposed Actions. All other analyzed subway routes are projected to operate below capacity in the peak direction in both the AM and PM peak hours and would therefore not be significant adversely impacted by the Proposed Actions in either period.

Table 13-4: Summary of Significant Subway Line Haul Impacts

Route	Direction	Impacted Time Period
C	NB	AM
C	SB	PM

Pedestrians

The Proposed Actions would generate a net increment of approximately 3,208 walk-only trips in the weekday AM peak hour, 5,303 in the weekday midday, 6,272 in the weekday PM, and 7,254 in the Saturday peak hours. Persons en route to and from subway station entrances and bus stops would add 3,722, 2,511, 3,662, and 3,835 additional pedestrian trips to Project

Area sidewalks and crosswalks during these same periods, respectively. Peak hour pedestrian conditions were evaluated at a total of 169 pedestrian elements where new trips generated by projected developments are expected to be the most concentrated. These elements—62 sidewalks, 39 crosswalks, and 68 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 13-5**, based on 2021 *CEQR Technical Manual* criteria, 12 sidewalks, four crosswalks, and four corners would be significantly adversely impacted by the Proposed Actions in one or more of the analyzed peak hours. **Chapter 20, Mitigation,** discusses potential measures to mitigate these significant adverse pedestrian impacts.

Table 13-5: Summary of Significant Pedestrian Impacts

Corridor/Intersection	Impacted Element	Peak Hour			
		AM	Mid day	PM	SAT
Pacific St Between Classon Ave & Franklin Ave	South Sidewalk			X	
Classon Ave between Pacific St & Dean St	East Sidewalk		X	X	X
Franklin Ave Between Fulton St & Brevoort Place	East Sidewalk	X	X	X	X
Franklin Ave Between Brevoort Place & Atlantic Ave	East Sidewalk	X	X	X	X
Atlantic Ave between Franklin Ave & Bedford Place	North Sidewalk		X	X	X
Atlantic Ave between Franklin Ave & Bedford Ave	South Sidewalk	X		X	X
Franklin Ave Between Atlantic Ave & Pacific St	West Sidewalk			X	X
Franklin Ave Between Lefferts Place & Atlantic Ave	West Sidewalk	X	X	X	X
Bedford Ave between Fulton St & Herkimer St	East Sidewalk	X		X	X
Bedford Ave between Fulton St & Brevoort Place	West Sidewalk		X		X
Atlantic Ave between Bedford Ave & Nostrand Ave	South Sidewalk	X	X	X	X
Atlantic Ave between Bedford Place & Bedford Ave	North Sidewalk	X	X	X	X
Atlantic Ave at Classon Ave	East Crosswalk			X	X
Atlantic Ave at Franklin Ave	East Crosswalk			X	X
Atlantic Ave at Franklin Ave	West Crosswalk			X	X
Atlantic Ave at Bedford Ave	North Crosswalk		X	X	X
Franklin Ave at Atlantic Ave	Northeast Corner			X	X
Franklin Ave at Atlantic Ave	Southwest Corner			X	X
Franklin Ave at Atlantic Ave	Northwest Corner			X	X
Bedford Ave at Atlantic Ave	Northeast Corner			X	X

Vehicular and Pedestrian Safety

Under the *Vision Zero Brooklyn Pedestrian Safety Action Plan*, much of the northeast zone of the Project Area is located within a “Priority Area,” where safety issues were found to occur systematically at an area-wide level. Atlantic Avenue, Fulton Street, Nostrand Avenue, Franklin Avenue, Rogers Avenue, Clinton Avenue, and Fifth Avenue are identified as Priority Corridors. The intersections of Franklin Avenue at Fulton Street, Fulton Street at Nostrand

Avenue, Nostrand Avenue at Atlantic Avenue, and Atlantic Avenue at Bedford Avenue were identified as Priority Intersections.

Crash data for intersections in the traffic and pedestrian study areas were obtained from the New York City Department of Transportation (NYCDOT) 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 1,666 reportable and non-reportable crashes, 390 pedestrian/bicyclist-related injury crashes, and no fatalities occurred at intersections within a quarter mile of the Project Area.

Under 2021 *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 11 study area intersections as high crash locations. As shown in **Table 13-6**, Atlantic Avenue at Nostrand Avenue experienced 26 total crashes in 2019 (nine of which involved pedestrians or bicyclists), Atlantic Avenue at Vanderbilt Avenue experienced 28 total crashes (six of which involved pedestrians or bicyclists) in 2019, and Fulton Street at Nostrand Avenue experienced 20 total crashes (six of which involved pedestrians or bicyclist crashes) also in 2019. All three intersections were part of New York City's 25mph signal retiming initiative, where signal progression was changed to match the 25-mph speed limit. A Lead Pedestrian Interval (LPI) phase has also been implemented, recently, at Atlantic Avenue and Nostrand Avenue. Additionally, the southbound approach of Atlantic Avenue and Vanderbilt Avenue has been part of NYC Vision Zero and NYCDOT's "Vanderbilt Ave/Clermont Ave" safety improvement plan.

Table 13-6: High Crash Locations

Intersection	Total Pedestrian/Bicycle Injury Crashes			Total Crashes (Reportable +Non-Reportable)		
	2017	2018	2019	2017	2018	2019
Atlantic Avenue & Ft Greene Place	4	1	0	11	19	16
Atlantic Avenue & Vanderbilt Avenue	3	3	6	12	28	28
Atlantic Avenue & Franklin Avenue	3	2	1	13	14	16
Atlantic Avenue & Bedford Avenue	6	7	2	17	19	26
Atlantic Avenue & Nostrand Avenue	9	4	9	21	24	26
Atlantic Avenue & New York Avenue	3	1	1	13	17	17
Atlantic Avenue & Washington Avenue / Underhill Ave	5	3	3	19	18	27
Fulton Street & Washington Avenue	3	4	2	4	8	7
Fulton Street & Franklin Avenue	3	4	5	6	15	11
Fulton Street & Bedford Avenue	3	0	0	8	7	10
Fulton Street & Nostrand Avenue	3	4	6	10	12	20

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 2,133 spaces in the weekday evening period and 2,104 spaces in the 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 Project Area. These projected demand as well as any demand displaced from existing parking facilities on projected development sites would have seek available on-street and off-street parking within a quarter mile of the Project Area. Further, some drivers destined for the Project Area would potentially have to travel a greater distance (e.g., between ¼ and ½-mile) to find available parking. Any potential deficit in parking would not be considered a significant adverse impact based on 2021 *CEQR Technical Manual* criteria due to the magnitude of available alternative modes of transportation. Therefore, the Proposed Actions are not expected to result in significant adverse parking impacts.

Preliminary Analysis Methodology

The 2021 *CEQR Technical Manual* describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine whether 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 2021 *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.

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 2021 *CEQR Technical Manual* analysis thresholds to determine whether a Level 2 screening and/or quantified operational analyses may be warranted. The travel demand assumptions used for the assessment are described in the following sections along with a detailed forecast of the travel demand that would be generated by the RWCDS.

Background

Overall, the Project Area encompasses approximately 23 blocks and includes a total of 54 projected development sites (see **Figure 13-1**). As shown in **Table 13-1**, under the RWCDS, the Proposed Actions would facilitate the incremental development of a net total of 5,143 DUs, 705,843 sf of commercial space, and 121,716 sf of community facility space on the Proposed Project. There would also be a net decrease of 160,276 sf of industrial space that includes warehousing and other light industrial uses.

Transportation Planning Factors

The transportation planning factors used to forecast travel demand for the RWCDS land uses are summarized in **Table 13-7**. 2021 *CEQR Technical Manual*, factors developed for recent environmental reviews in the area, American Community Survey (ACS) journey-to-work 5-year (2015-2019) data for Brooklyn census tracts near the Project Area, American Association of State Highway and Transportation Officials (AASHTO) Census Transportation Planning Products Program (CTPP) reverse journey-to-work 5-year (2012-2016) 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 G.

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 13-1** and the transportation planning factors shown in **Table 13-7**. **Table 13-8** shows an estimate of the net incremental change in peak hour person trips and vehicle trips (versus the No-Action condition) that would occur in 2034 with implementation of the Proposed Actions. As shown in **Table 13-8**, under the RWCDS, the Proposed Actions would generate a net increase of approximately 8,373 person trips in the weekday AM peak hour, 9,048 in the weekday midday, 11,795 in the weekday PM peak hour, and 13,110 in the Saturday peak hour. Peak hour vehicle trips (including auto, truck, and taxi trips balanced to reflect that some taxis arrive or depart empty) would increase by a net total of approximately 1,119, 950, 1,387, and 1,479 (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 3,245, 2,051, 3,099, and 3,254 during these periods, respectively, while bus trips would increase by approximately 477, 460, 563, and 581, respectively. Lastly, walk-only trips would increase by 3,208, 5,303, 6,272, and 7,254 trips during the weekday AM, midday, PM, and Saturday peak hours, respectively.

Table 13-7: Transportation Planning Factors

Land Use:	Local Retail	Office	Residential	Destination Retail	Auto Repair	Light Industrial
Trip Generation:	(1)	(1)	(1)	(1)	(8)	(8)
Weekday	329.0	18.0	8.18	78.2	19.42	14.7
Saturday	358.0 per 1,000 sf	3.9 per 1,000 sf	9.08 per DU	92.5 per 1,000 sf	19.42 per 1,000 sf	2.2 per 1,000 sf
Temporal Distribution	(1)	(1)	(1)	(1)	(8)	(8)
AM	4.8%	12.4%	9.3%	3.0%	13.2%	13.2%
MD	8.0%	11.0%	5.6%	9.0%	11.0%	11.0%
PM	10.9%	10.5%	8.5%	9.0%	14.2%	14.2%
SAT	11.7%	14.1%	8.4%	11.0%	10.7%	10.7%
Modal Splits:	(2) All Periods	(5) AM/PM/SAT / (8) MD	(3) All Periods	(8)(9) All Periods	(8)(9) All Periods	(5) AM/PM/SAT / (8) MD
Auto	11.0%	35.5% / 2.0%	12.6%	59.0%	85.0%	35.5% / 2.0%
Taxi	0.0%	0.9% / 1.0%	1.2%	3.0%	5.0%	0.9% / 1.0%
Subway	3.0%	34.3% / 7.0%	69.7%	15.0%	1.0%	34.3% / 7.0%
LIRR	0.0%	2.5% / 0.0%	1.1%	0.0%	0.0%	2.5% / 0.0%
Bus	2.0%	11.7% / 7.0%	4.9%	18.0%	1.0%	11.7% / 7.0%
School Bus	0.0%	0.0% / 0.0%	0.0%	0.0%	0.0%	0.0% / 0.0%
Bike	0.0%	3.3% / 0.0%	3.5%	1.1%	1.7%	3.3% / 0.0%
Walk/Other	84.0%	11.8% / 83.0%	7.0%	3.9%	6.3%	11.8% / 83.0%
Total	100.0%	100% / 100%	100%	100%	100%	100% / 100%
In/Out Splits:	(7)	(7)	(7)	(7)	(8)	(8)
	In / Out	In / Out	In / Out	In / Out	In / Out	In / Out
AM	52% / 48%	86% / 14%	22% / 78%	63% / 37%	65% / 35%	88% / 12%
MD	50% / 50%	52% / 48%	50% / 50%	53% / 47%	50% / 50%	50% / 50%
PM	50% / 50%	16% / 84%	62% / 38%	49% / 51%	50% / 50%	12% / 88%
SAT	50% / 50%	48% / 52%	55% / 45%	52% / 48%	50% / 50%	47% / 53%
Vehicle Occupancy:	(2)	(5,8)	(3,8)	(8) AM/MD/PM / SAT	(8)	(5,(8)
Auto	1.20	1.09	1.11	2.05 / 2.49	1.30	1.11
Taxi	1.20	1.26	1.40	2.05 / 2.49	1.30	1.20
Truck Trip Generation:	(1)	(1)	(1)	(8)	(8)	(8)
Weekday	0.35	0.32	0.06	0.35	0.89	0.67
Saturday	0.04 per 1,000 sf	0.01 per 1,000 sf	0.02 per DU	0.02 per 1,000 sf	0.89 per 1,000 sf	0.67 per 1,000 sf
Truck Temporal Distribution:	(1)	(1)	(1)	(8)	(8)	(8)
AM	8.0%	10.0%	12.0%	7.7%	14.0%	14.0%
MD	11.0%	11.0%	9.0%	11.0%	9.0%	9.0%
PM	2.0%	2.0%	2.0%	1.0%	1.0%	1.0%
SAT	11.0%	11.0%	9.0%	11.0%	0.0%	0.0%
Truck In/Out Splits:	In / Out	In / Out	In / Out	In / Out	In / Out	In / Out
All Periods/AM	50.0% / 50.0%	50.0% / 50.0%	50.0% / 50.0%	50.0% / 50.0%	50.0% / 50.0%	50.0% / 50.0%
MD						
PM						
SAT						

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

Land Use:	Warehouse		Medical Office		Community Center		Senior Center		Arts & Cultural	
Trip Generation:	(7)		(1)		(1)		(1)		(4)	
Weekday	2.36		See note (6)		51.6		34.8		76.00	
Saturday	0.2 per 1,000 sf		37.0 per 1,000 sf		50.4 per 1,000 sf		26.2 per 1,000 sf		50.74 per 1,000 sf	
Temporal Distribution	(7)		(1)		(1)		(1)(7)		(4)	
AM	10.0%		11.0%		9.0%		13.6%		3.0%	
MD	9.0%		12.6%		7.4%		19.3%		10.3%	
PM	11.0%		8.5%		9.0%		4.0%		10.2%	
SAT	33.0%		16.6%		12.6%		26.4%		12.5%	
Modal Splits:	(5)		(2)		(8)		(10)		(4)	
	All Periods		All Periods		All Periods		All Periods		All Periods	
Auto	35.5%		22.0%		16.0%		6.8%		36.0%	
Taxi	0.9%		4.0%		0.0%		0.0%		12.0%	
Subway	34.3%		13.0%		7.0%		2.2%		25.0%	
LIRR	2.5%		0.0%		0.0%		0.0%		0.0%	
Bus	11.7%		13.0%		14.0%		13.5%		25.0%	
School Bus	0.0%		0.0%		0.0%		0.0%		0.0%	
Bike	3.3%		0.0%		4.0%		0.0%		0.0%	
Walk/Other	11.8%		48.0%		59.0%		77.5%		2.0%	
Total	100%		100%		100%		100%		100%	
In/Out Splits:	(7)		(1)		(7)		(7)		(4)	
	In	Out	In	Out	In	Out	In	Out	In	Out
AM	77%	23%	62%	38%	57%	43%	61%	39%	56%	44%
MD	53%	47%	53%	47%	48%	52%	38%	62%	14%	86%
PM	27%	73%	39%	61%	52%	48%	30%	70%	5%	95%
SAT	64%	36%	54%	46%	48%	52%	47%	53%	25%	75%
Vehicle Occupancy:	(8)		(2)		(8)		(10)		(4)	
									Weekday	Saturday
Auto	1.30		1.50		1.20		1.65		2.00	3.00
Taxi	1.30		1.50		1.20		1.40		2.00	3.00
Truck Trip Generation	(7)		(8)		(8)		(10)		(4)	
Weekday	0.91		0.29		0.29		0.29		0.35	
Saturday	0.08 per 1,000 sf		0.29 per 1,000 sf		0.29 per 1,000 sf		0.29 per 1,000 sf		0.02 per 1,000 sf	
Truck Temporal Distribution:	(7)		(8)		(8)		(10)		(4)	
AM	9.9%		3.0%		9.6%		9.6%		7.9%	
MD	8.0%		11.0%		11.0%		11.0%		14.7%	
PM	7.0%		1.0%		1.0%		1.0%		1,1%	
SAT	28.0%		0.0%		0.0%		0.0%		14.7%	
Truck In/Out Splits:	In	Out	In	Out	In	Out	In	Out	In	Out
All Periods/AM	67.0%	33.0%	50%	50%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
MD	57.0%	43.0%								
PM	60.0%	40.0%								
SAT	42.0%	58.0%								

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

Notes:

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

(2) Based on NYCDOT mode split and vehicle occupancy survey data.

(3) Based on American Community Survey journey-to-work 5-Year (2015-2019) data for Brooklyn Census Tracts 129.02, 159, 161, 163, 199, 179, 201, 203, 205, 207, 215, 221, 227, 229, 231, 245, 247, 249, 269, 271, 273, 299, 303, 305, 311, 313, 315, 341, 343.

(4) Based on data from Innovation QNS FEIS.

(5) Based on AASHTO CTPP reverse journey-to-work 5-Year (2012-2016) data for Brooklyn Census Tracts 129.02, 159, 161, 163, 199, 179, 201, 203, 205, 207, 215, 221, 227, 229, 231, 245, 247, 249, 269, 271, 273, 299, 303, 305, 311, 313, 315, 341, 343.

(6) Based on NYCDOT medical office trip generation and mode choice data. Weekday daily trip estimate based on following equation: 147.77 + 66.626 x gross SF (in thousands) for uses over 15,000 sf, or trip rate 74.6 when use less than 15,000 sf.

(7) Based on data provided by NYCDOT.

(8) Based on data from the Gowanus Neighborhood Rezoning FEIS, 2021.

(9) Based on data from RJTW 21%/79% bike.walk share respectively.

(10) Based on data from the Cooper Park Commons EAS

Table 13-8: RWCDS Travel Demand Forecast

Land Use:	Local Retail		Office		Residential		Destination Retail		Auto Repair		Light Industrial	
Size/Units:	286,507 gsf		453,426 gsf		5,143 DU		50,410 gsf		-81,000 gsf		-67,693 gsf	
Peak Hour Trips:												
AM	2,952		1,022		3,946		120		-212		-134	
Midday	4,916		900		2,384		356		-182		-114	
PM	6,686		864		3,602		356		-230		-144	
Saturday	7,812		254		3,958		514		-172		-18	
Person Trips:												
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	166	157	313	51	109	386	44	27	-123	-68	-41	-6
Taxi	0	0	6	0	4	33	2	1	-6	-2	0	0
Subway	46	44	303	49	612	2,159	11	7	0	0	-46	-6
LIRR	0	0	22	3	6	33	0	1	0	0	-3	-1
Bus	32	30	102	17	37	153	13	8	0	0	-13	0
Bike	0	0	29	3	30	108	1	0	0	0	-4	0
Walk/Other	1,286	1,191	105	19	63	213	3	2	-8	-5	-14	0
Total	1,530	1,422	880	142	861	3,085	74	46	-137	-75	-121	-13
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	271	271	10	8	154	154	111	98	-81	-81	0	0
Taxi	0	0	3	3	7	7	6	5	-4	-4	0	0
Subway	72	72	35	31	852	850	29	25	0	0	-4	-4
LIRR	0	0	0	0	5	5	0	0	0	0	0	0
Bus	52	52	35	31	55	55	33	29	0	0	-3	-3
Bike	0	0	0	0	36	36	2	3	0	0	0	0
Walk/Other	2,063	2,063	385	359	84	84	8	7	-6	-6	-50	-50
Total	2458	2458	468	432	1193	1191	189	167	-91	-91	-57	-57
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	367	367	48	259	279	175	103	107	-104	-102	-6	-46
Taxi	0	0	0	5	25	10	5	6	-6	-6	0	0
Subway	99	99	48	252	1,563	965	26	28	0	0	-7	-50
LIRR	0	0	3	20	22	7	0	0	0	0	0	-4
Bus	67	67	16	85	110	65	31	32	0	0	1	-15
Bike	0	0	3	24	78	45	2	2	0	0	1	-4
Walk/Other	2,810	2,810	17	84	158	100	7	7	-6	-6	1	-15
Total	3343	3343	135	729	2235	1367	174	182	-116	-114	-10	-134
SAT	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	429	429	42	46	276	224	158	146	-77	-77	-3	-3
Taxi	0	0	0	0	24	16	8	8	-3	-3	0	0
Subway	117	117	47	47	1,516	1,254	40	37	0	0	-4	-5
LIRR	0	0	5	3	18	19	0	0	0	0	0	0
Bus	78	78	13	13	106	88	48	43	0	0	0	0
Bike	0	0	3	3	76	58	3	2	0	0	0	0
Walk/Other	3,282	3,282	17	15	155	128	11	10	-6	-6	-1	-2
Total	3906	3906	127	127	2171	1787	268	246	-86	-86	-8	-10
Vehicle Trips :												
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	140	131	287	48	105	353	22	13	-94	-50	-37	-6
Taxi	0	0	6	0	4	29	1	0	-6	-2	0	0
Taxi (Balanced)	0	0	6	6	33	33	1	1	-8	-8	0	0
Truck	1	1	5	5	13	13	1	1	-4	-4	-3	-3
Total	141	132	298	59	151	399	24	15	-106	-62	-40	-9
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	226	226	10	8	148	148	54	47	-62	-62	0	0
Taxi	0	0	3	3	7	7	2	2	-4	-4	0	0
Taxi (Balanced)	0	0	6	6	14	14	4	4	-8	-8	0	0
Truck	2	2	6	6	7	7	1	1	-1	-1	0	0
Total	228	228	22	20	169	169	59	52	-71	-71	0	0
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	305	305	45	238	256	165	50	52	-80	-79	-6	-42
Taxi	0	0	0	5	23	9	2	2	-6	-6	0	0
Taxi (Balanced)	0	0	5	5	32	32	4	4	-12	-12	0	0
Truck	0	0	0	0	0	0	0	0	0	0	0	0
Total	305	305	50	243	288	197	54	56	-92	-91	-6	-42
SAT	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	360	360	41	43	253	209	63	59	-58	-58	-3	-3
Taxi	0	0	0	0	22	14	3	3	-3	-3	0	0
Taxi (Balanced)	0	0	0	0	36	36	6	6	-6	-6	0	0
Truck	0	0	0	0	0	0	0	0	0	0	0	0
Total	360	360	41	43	289	245	69	65	-64	-64	-3	-3

Notes:
35% linked trip credit applied to local retail use.

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

Land Use:	Warehouse		Medical Office		Community Center		Senior Center		Art & Cultural		Total	
Size/Units:	-92,583 gsf		48,548 gsf		54,806 gsf		2,925 gsf		15,437 gsf			
Peak Hour Trips:												
AM	-26		399		256		14		36		8,373	
Midday	-22		456		212		20		122		9,048	
PM	-28		309		256		4		120		11,795	
Saturday	-8		302		350		20		98		13,110	
Person Trips:												
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-9	-1	54	34	24	18	1	0	7	6	545	604
Taxi	0	0	10	7	0	0	0	0	2	2	18	41
Subway	-10	-1	32	19	10	7	0	0	5	4	963	2,282
LIRR	-1	0	0	0	0	0	0	0	0	0	24	36
Bus	-2	0	33	19	21	16	1	1	5	4	229	248
Bike	0	0	0	0	5	3	0	0	0	0	61	114
Walk/Other	-2	0	117	74	86	66	7	4	0	1	1,643	1,565
Total	-24	-2	246	153	146	110	9	5	19	17	3,483	4,890
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-5	-6	53	47	17	17	1	1	6	38	537	547
Taxi	0	0	10	9	0	0	0	0	2	13	24	33
Subway	-5	-6	32	28	7	7	0	0	4	26	1,022	1,029
LIRR	0	0	0	0	0	0	0	0	0	0	5	5
Bus	0	0	32	28	15	16	1	2	4	26	224	236
Bike	0	0	0	0	3	3	0	0	0	0	41	42
Walk/Other	0	0	115	102	61	66	6	9	1	2	2,667	2,636
Total	-10	-12	242	214	103	109	8	12	17	105	4,520	4,528
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-3	-9	26	41	21	20	0	0	2	41	733	853
Taxi	0	0	5	8	0	0	0	0	1	14	30	37
Subway	-3	-9	15	24	10	9	0	0	2	28	1,753	1,346
LIRR	0	0	0	0	0	0	0	0	0	0	25	23
Bus	0	-3	16	25	18	17	1	0	2	28	262	301
Bike	0	0	0	0	5	4	0	0	0	0	89	71
Walk/Other	0	-1	58	91	78	74	1	2	0	2	3,124	3,148
Total	-6	-22	120	189	132	124	2	2	7	113	6,016	5,779
SAT	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-5	-3	36	30	27	29	1	1	9	26	893	848
Taxi	0	0	7	7	0	0	0	0	3	9	39	37
Subway	0	0	21	18	11	13	0	0	7	18	1,755	1,499
LIRR	0	0	0	0	0	0	0	0	0	0	23	22
Bus	0	0	21	18	24	25	1	1	6	18	297	284
Bike	0	0	0	0	7	7	0	0	0	0	89	70
Walk/Other	0	0	76	68	100	107	8	8	1	1	3,643	3,611
Total	-5	-3	161	141	169	181	10	10	26	72	6,739	6,371
Vehicle Trips :												
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-9	-1	36	24	21	16	1	0	4	3	476	531
Taxi	0	0	7	5	0	0	0	0	1	1	13	33
Taxi (Balanced)	0	0	12	12	0	0	0	0	2	2	46	46
Truck	-5	-3	0	0	1	1	0	0	0	0	9	11
Total	-14	-4	48	36	22	17	1	0	6	5	531	588
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-5	-6	35	31	15	15	1	1	3	19	425	427
Taxi	0	0	7	6	0	0	0	0	1	7	16	21
Taxi (Balanced)	0	0	13	13	0	0	0	0	8	8	37	37
Truck	-4	-4	0	0	1	1	0	0	0	0	12	12
Total	-9	-10	48	44	16	16	1	1	11	27	474	476
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-3	-9	17	26	19	18	0	0	1	21	604	695
Taxi	0	0	5	5	0	0	0	0	1	7	25	22
Taxi (Balanced)	0	0	10	10	0	0	0	0	8	8	47	47
Truck	-4	-2	0	0	0	0	0	0	0	0	-4	-2
Total	-7	-11	27	36	19	18	0	0	9	29	647	740
SAT	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-5	-3	25	20	24	26	1	1	5	13	706	667
Taxi	0	0	5	5	0	0	0	0	2	5	29	24
Taxi (Balanced)	0	0	10	10	0	0	0	0	7	7	53	53
Truck	0	0	0	0	0	0	0	0	0	0	0	0
Total	-5	-3	35	30	24	26	1	1	12	20	759	720

Notes:
35% linked trip credit applied to local retail use.

The Proposed Actions are not expected to generate substantial numbers of trips by the Long Island Rail Road (LIRR). Peak hour rail trips would increase by a net total of approximately 60, 10, 48 and 45 during these periods.

Table 13-8 shows the net incremental change in peak hour vehicle trips (auto, taxi, and truck) that would be generated by each projected development site during the weekday AM, midday, PM, and Saturday peak hours. As shown in **Table 13-9**, Projected Development Site 15 would generate the greatest number of new vehicle trips, with up to 194 incremental vehicle trips per hour. Projected Development Sites 9 and 14 would generate the next highest number of incremental trips, with up to 147 and 108 vehicle trips per hour, respectively. Under the RWCDS, there would be net decreases in vehicle trips during one or more peak hours at approximately eight sites, primarily due to the reduction in local retail, light industrial, warehouse and auto repair uses on these sites compared to the No-Action condition.

Table 13-10 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 2021 *CEQR Technical Manual* analysis thresholds for vehicular traffic, transit and pedestrians, a Level 2 screening assessment was undertaken to identify specific locations where additional detailed analyses would be warranted.

Table 13-9: RWCDS Net Incremental Vehicle Trips by Projected Development Site

	Weekday Peak Hour			Saturday
	AM	MD	PM	Peak Hour
Site 1	2	10	13	26
Site 2	-2	3	1	7
Site 3	4	-3	-12	-15
Site 4	56	4	35	0
Site 5	9	12	16	24
Site 6	75	32	77	55
Site 7	14	13	11	11
Site 8	1	2	2	2
Site 9	62	118	120	147
Site 10	37	44	56	64
Site 11	6	8	10	12
Site 12	14	10	19	19
Site 13	11	20	22	45
Site 14	84	70	108	102
Site 15	102	120	158	194
Site 16	25	22	34	41
Site 17	0	-2	-4	-3
Site 18	0	0	0	0
Site 19	13	20	28	36
Site 20	24	18	22	23
Site 21	28	36	50	58
Site 22	60	66	72	81
Site 23	0	0	0	0
Site 24	12	16	21	26
Site 25	12	0	9	3
Site 26	12	18	23	28
Site 27	15	4	8	8
Site 28	35	8	33	14
Site 29	5	6	11	13
Site 30	20	1	17	5

	Weekday Peak Hour			Saturday
	AM	MD	PM	Peak Hour
Site 31	1	2	2	2
Site 32	13	32	35	49
Site 33	29	7	25	14
Site 34	9	16	16	29
Site 35	-7	0	2	10
Site 36	25	2	23	15
Site 37	27	28	21	21
Site 38	25	-12	8	-12
Site 39	-1	-8	-4	-4
Site 40	9	10	14	16
Site 41	12	24	26	39
Site 42	0	0	0	0
Site 43	-6	2	7	18
Site 44	32	4	25	8
Site 45	40	10	34	22
Site 46	19	12	17	20
Site 47	23	44	49	44
Site 48	11	6	11	12
Site 49	9	16	15	27
Site 50	5	12	9	17
Site 51	0	-1	0	2
Site 52	5	4	5	7
Site 53	13	8	12	13
Site 54	30	20	26	29
Site 55	60	36	49	55
Total	**1,119**	**950**	**1,387**	**1,479**

Table 13-10: Summary of Net Incremental Peak Hour Trips Generated Under the RWCDS

Mode/Description	Trip Type	Weekday AM	Weekday Midday	Weekday PM	Saturday
Auto/Taxi/Truck	Vehicle Trips	1,119	950	1,387	1,479
Subway	Person Trips	3,245	2,051	3,099	3,254
Local Bus	Person Trips	477	460	563	581
Walk/Other	Person Trips	3,208	5,303	6,272	7,254

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 2021 *CEQR Technical Manual* analysis thresholds and therefore require a quantitative analysis.

Vehicular Traffic

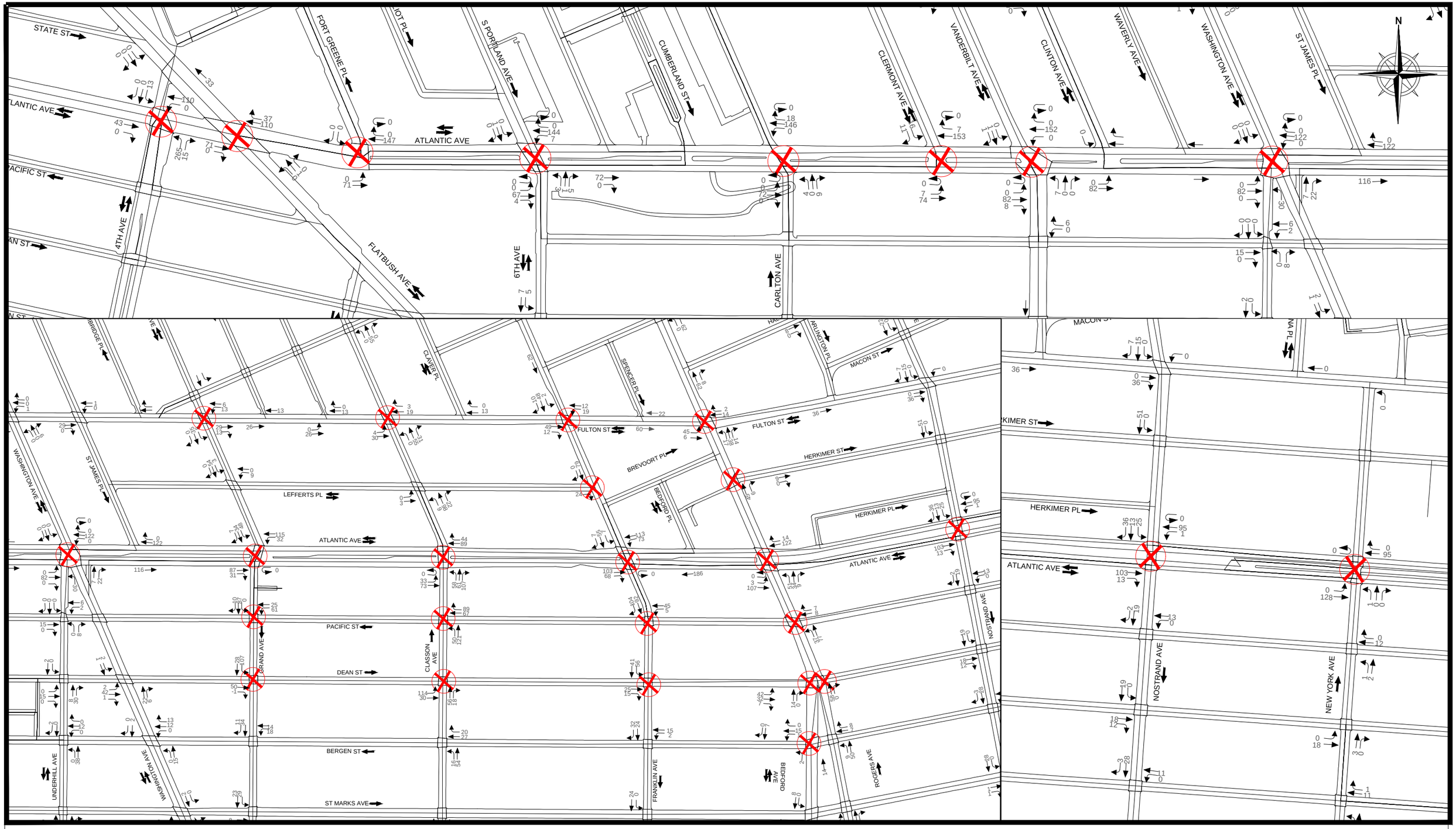
Based on the amount of projected development associated with the Proposed Actions, there would be 1,119 additional vehicle trips during the weekday AM peak hour, 950 during the midday peak hour, 1,387 during the PM peak hour, and 1,479 during the Saturday peak hour. These traffic volumes would exceed the 2021 *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 2021 *CEQR Technical Manual* Level 2 screening threshold for detailed analysis is also 50 vehicles, but this threshold applies to individual intersections during the peak hours (rather than total trips generated). Peak hour project increment traffic volumes were first assigned to the Project Area street network to identify the intersections that would potentially exceed the 50-trip threshold during one or more periods. In consultation with the Department of City Planning (DCP) and the NYCDOT, 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 31 intersections (26 signalized, five unsignalized) that were selected for detailed analysis. Most of the analyzed intersections are located along east–west corridor of Atlantic Avenue (14 intersections) providing direct to projected development sites. Additional north–south corridors with multiple intersections selected for analysis include Bedford Avenue (six intersections), Franklin Avenue (five intersections), and Grand Avenue and Classon Avenue (four intersections each).

Transit

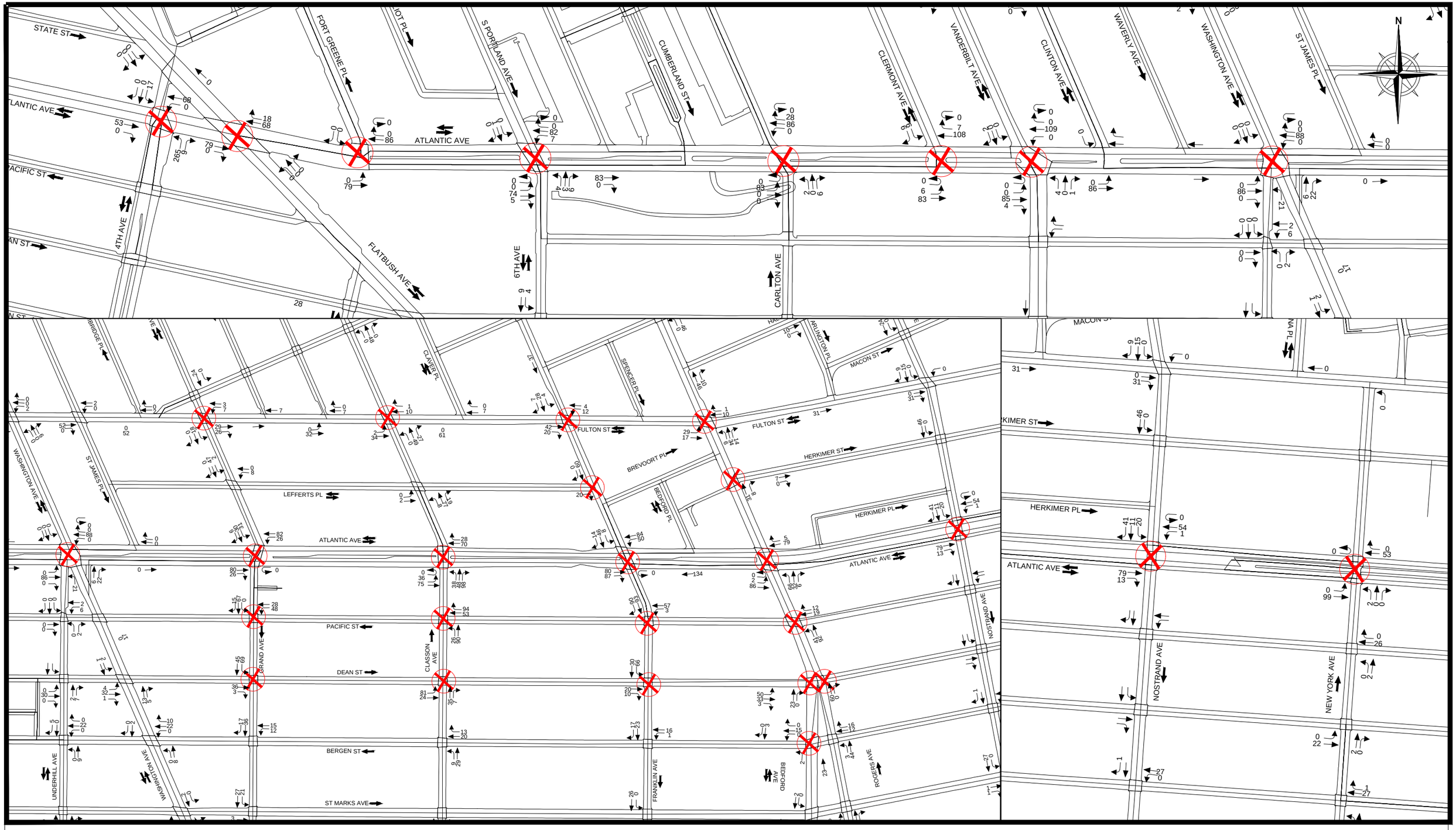
According to the general thresholds used by the MTA and specified in the 2021 *CEQR Technical* Manual, detailed transit analyses are generally not required if a proposed action is projected to result in fewer than 200 peak hour rail or bus transit riders. If a proposed action

AM Peak Hour Incremental Traffic Volumes



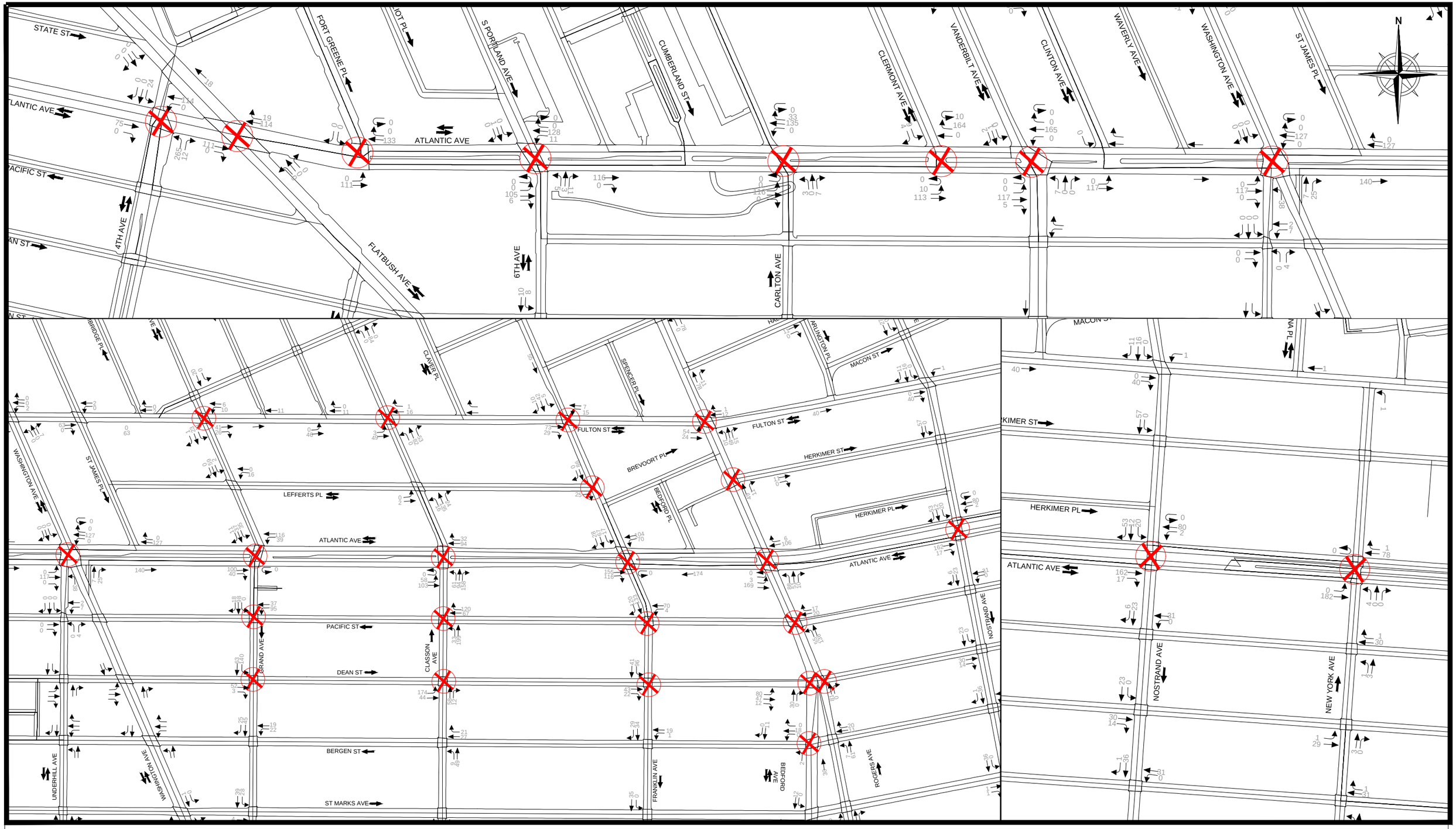
LEGEND: ← 2 = AM Traffic Volume ⊗ Traffic Analysis Locations

MD Peak Hour Incremental Traffic Volumes



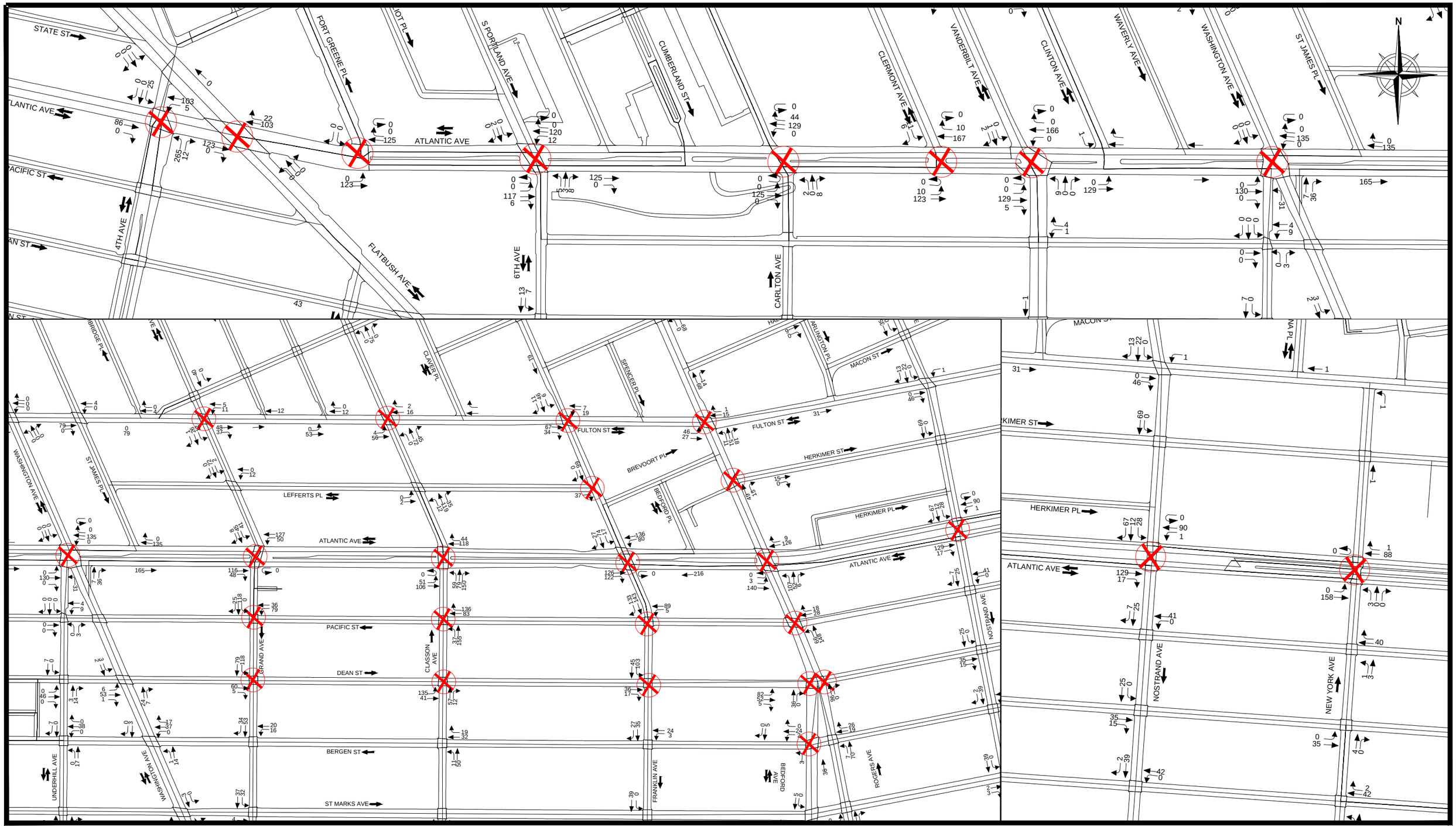
LEGEND: ← 2 = MD Traffic Volume ⊗ Traffic Analysis Locations

PM Peak Hour Incremental Traffic Volumes



LEGEND: ← 2 = PM Traffic Volume ⊗ Traffic Analysis Locations

SAT Peak Hour Incremental Traffic Volumes



LEGEND: ← 2 = SAT Traffic Volume ⊗ Traffic Analysis Locations

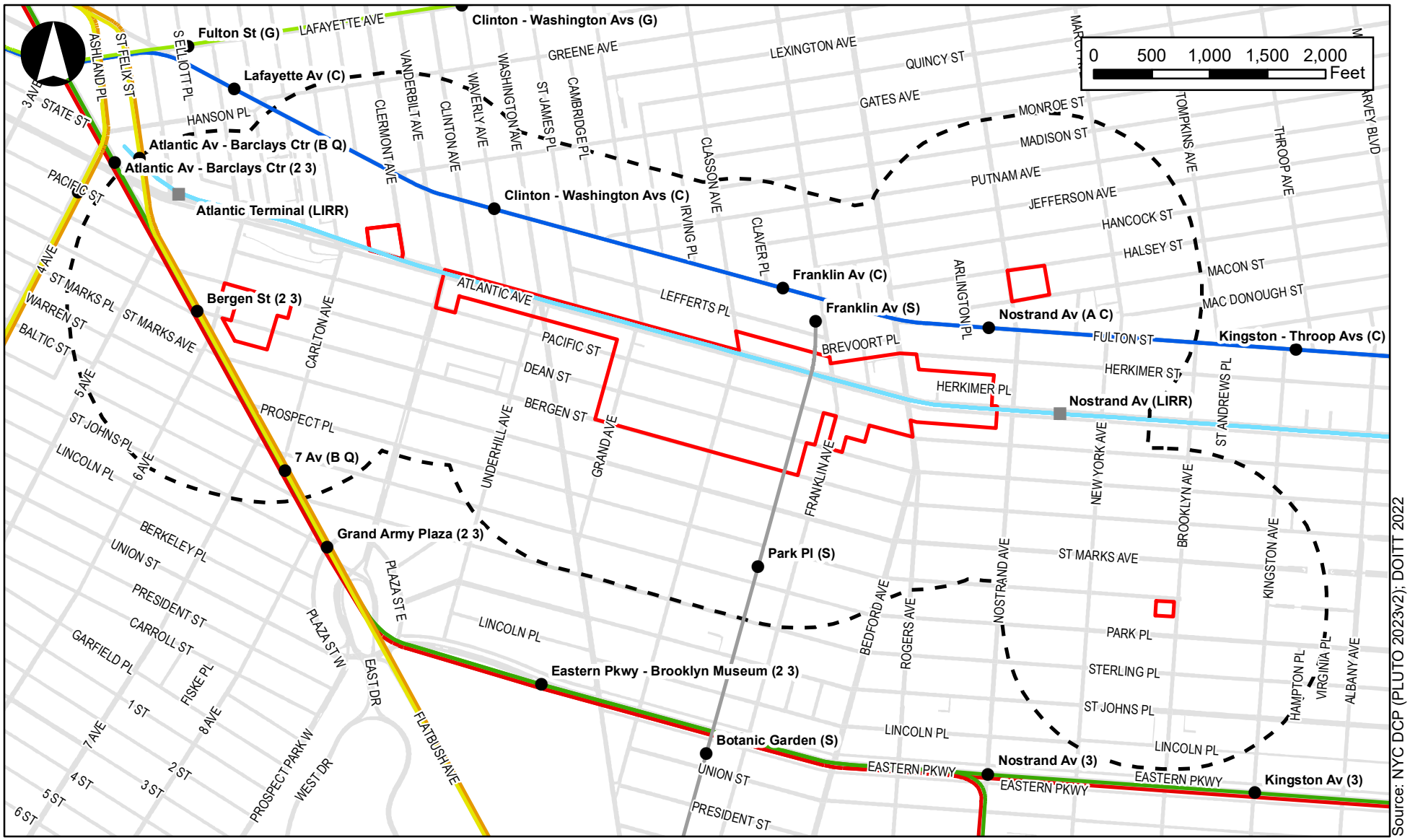
would result in 50 or more bus passengers being assigned to a single bus line (in one direction), or if it would result in an increase of 200 or more passengers at a single subway station or on a single subway line, a detailed bus or subway analysis would be warranted.

Subway

Subway Stations

There are a total of three NYCT subway stations or station complexes served by a total of seven NYCT subway routes 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 13-11**, along with the subway routes serving each facility. As shown in **Figure 13-3**, the A and C subway lines run along Fulton Street, two blocks north of the Project Area, with access at the Clinton-Washington, Franklin Avenue, and Nostrand Avenue stations. There is also access to these subway lines at Kingston-Troop Avs Station immediately east of the Project Area. The Franklin Avenue shuttle, an elevated train line serving Central Brooklyn and connecting the neighborhoods of Bedford-Stuyvesant with Prospect Lefferts Gardens, runs north–south directly through the Project Area with stations two blocks from the Project Area at Franklin Avenue and Park Place. Though all sites are not very accessible via walk, Atlantic Terminal is located west of the Project Area. The terminal is a multi-modal transit hub is with access to ten subway lines and the LIRR, and less than a half mile to the south of the Project Area is the Franklin Avenue station at Eastern Parkway, which provides access to the 2, 3, 4 and, 5 subway lines. There is access to the 3 and 4 subway lines at the Nostrand Ave and Kingston Ave subway stations, located near the southeast corner of the Project Area. Additionally, two blocks south and west of the Project Area are the Bergen Street and 7th Avenue stations. The Bergen Street station is served by the 2 and 3 lines, and the 7th Avenue station is served by the B and Q lines. On the eastern end of the Project Area, at the intersection of Atlantic Avenue and Nostrand Avenue, is a newly renovated LIRR station, which provides regional access to Atlantic Terminal, East New York, and various stations in Queens and Long Island.

As shown in **Table 13-11**, under the RWCDS, the Proposed Actions would generate a net increment of approximately 3,245 and 3,099 subway trips during the weekday AM and PM commuter peak hours, respectively. Trips from each projected development site were assigned to the individual stations serving the Project Area based on their proximity, existing ridership patterns, and guidance from NYCT. **Table 13-11** shows the estimated net incremental subway trips expected to be generated by the Proposed Actions during the weekday AM and PM peak hours at each of the subway stations serving the Project Area. As shown in **Table 13-11**, the highest number of incremental subway trips is expected to occur at the Franklin Avenue (C/S) subway station which would experience approximately 1,147 incremental trips in the AM peak hour and 1,108 in the PM peak hour. The next highest number would occur at the Nostrand Avenue (A/C) subway station which would experience approximately 964 incremental trips in the AM peak hour and 926 in the PM peak hour. In addition, the Clinton-Washington Avenues (A/C) subway station would experience approximately 740 incremental trips in the AM peak hour and 685 in the PM peak hour. All



Atlantic Avenue Mixed-Use Plan

Figure 13-3
Subway Services

other subway stations serving the Project Area are expected to experience fewer than 200 incremental trips in the AM and PM peak hours.

Table 13-11: 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:	3,483	4,890	8,373	6,016	5,779	11,795
Peak Hour Project-Generated Subway Trips:	963	2,822	3,245	1,753	1,346	3,099
Subway Station Summary						
Clinton-Washington Avenues (A/C)	249	491	740	370	315	685
Franklin Avenue (C/S)	371	776	1,147	611	497	1,108
Nostrand Avenue (A/C)	252	712	964	553	373	926
Atlantic-Barclays	42	145	187	104	72	176
Bergen Street (2/3)	26	86	112	61	48	109
7th Avenue (B/Q)	13	41	54	29	26	55
Kingston-Troop Avenues (C)	3	10	13	8	5	13
Kingston Avenue (3)	4	11	15	9	5	14
Nostrand Avenue (3)	3	10	13	8	5	13
Total	**963**	**2,282**	**3,245**	**1,753**	**1,346**	**3,099**

The analysis of subway station conditions focuses on the three subway stations at which incremental demand from the Proposed Actions would exceed the 200-trip 2021 *CEQR Technical Manual* analysis threshold in one or both peak hours. At each of these facilities, key circulation elements (e.g., stairs and fare arrays) expected to be used by concentrations of new demand from the Proposed Actions are analyzed.

Subway Line Haul

As discussed above, the Project Area is served by a total of seven NYCT subway routes within a quarter mile, including the A, C, Franklin Avenue shuttle, B, Q, 2, and 3 lines. It should be noted that the D, N, R, 4, 5, and LIRR serves the Atlantic-Barclays station on the western periphery of the Project Area. As the Proposed Actions may potentially generate 200 or more new subway trips in one direction on the A and C routes, an analysis of subway line haul conditions will be conducted. The analysis will use existing maximum load point subway service and ridership data provided by NYCT to assess existing, future No-Action, and future With-Action conditions at the peak load points of the respective subway lines during the weekday AM and PM peak hours.

Bus

A total of 10 NYCT bus services operate within an approximate quarter mile of the Project Area and would primarily serve the future project-generated bus demand. These include the

B25, B26, B41, B45, B48, B49, B65, B67, and B69 as well as both the local and Select Bus Service (SBS) services on the B44 route. The bus routes operating in proximity to the Project Area are shown in **Figure 13-4** and listed in **Table 13-12** with their principal corridors on which they operate.

As shown in **Table 13-10**, projected development sites are expected to generate a total of approximately 477 and 563 incremental trips by local bus during the weekday AM and PM peak hours, respectively. These local bus trips were assigned to each route based on proximity to projected development sites. **Table 13-13** shows the anticipated numbers of new riders expected on each local bus route in the AM and PM peak hours. According to the general thresholds used by the MTA and specified in the 2021 *CEQR Technical Manual*, a detailed analysis of bus conditions is generally not required if a proposed action is projected to result in fewer than 50 peak hour trips being assigned to a single bus route (in one direction), as this level of new demand is considered unlikely to result in significant adverse impacts. As shown in **Table 13-13,** all ten routes are expected to experience fewer than 50 new trips per direction in each peak hour. Therefore, a detailed analysis of bus conditions under the Proposed Actions is not warranted in the EIS.

Table 13-12: Bus Routes Serving the Project Area

Route	Operating Agency	Route Endpoints	Corridors Served in Proximity to the Rezoning Area
B25	NYCT	Downtown Brooklyn & DUMBO - Broadway Junction	Fulton Av
B26	NYCT	Downtown Brooklyn – Ridgewood, Queens	Fulton Av
B41	NYCT	Kings Plaza – Downtown Brooklyn	Flatbush Av
B44 Local/ SBS	NYCT	Sheepshead Bay - Williamsburg	Nostrand Av/New York Av/Rogers Av
B45	NYCT	Downtown Brooklyn - Crown Heights	Washington Av/Atlantic Av
B48	NYCT	Lefferts Gardens - Greenpoint	Classon Av/Franklin Av
B49	NYCT	Manhattan Beach - Bedford-Stuyvesant	Bedford Av/Rogers Av
B65	NYCT	Downtown Brooklyn – Crown Heights	Bergen St/Dean St
B67	NYCT	Kensington – Downtown Brooklyn	Flatbush Av
B69	NYCT	Downtown Brooklyn - Kensington	Vanderbilt Av

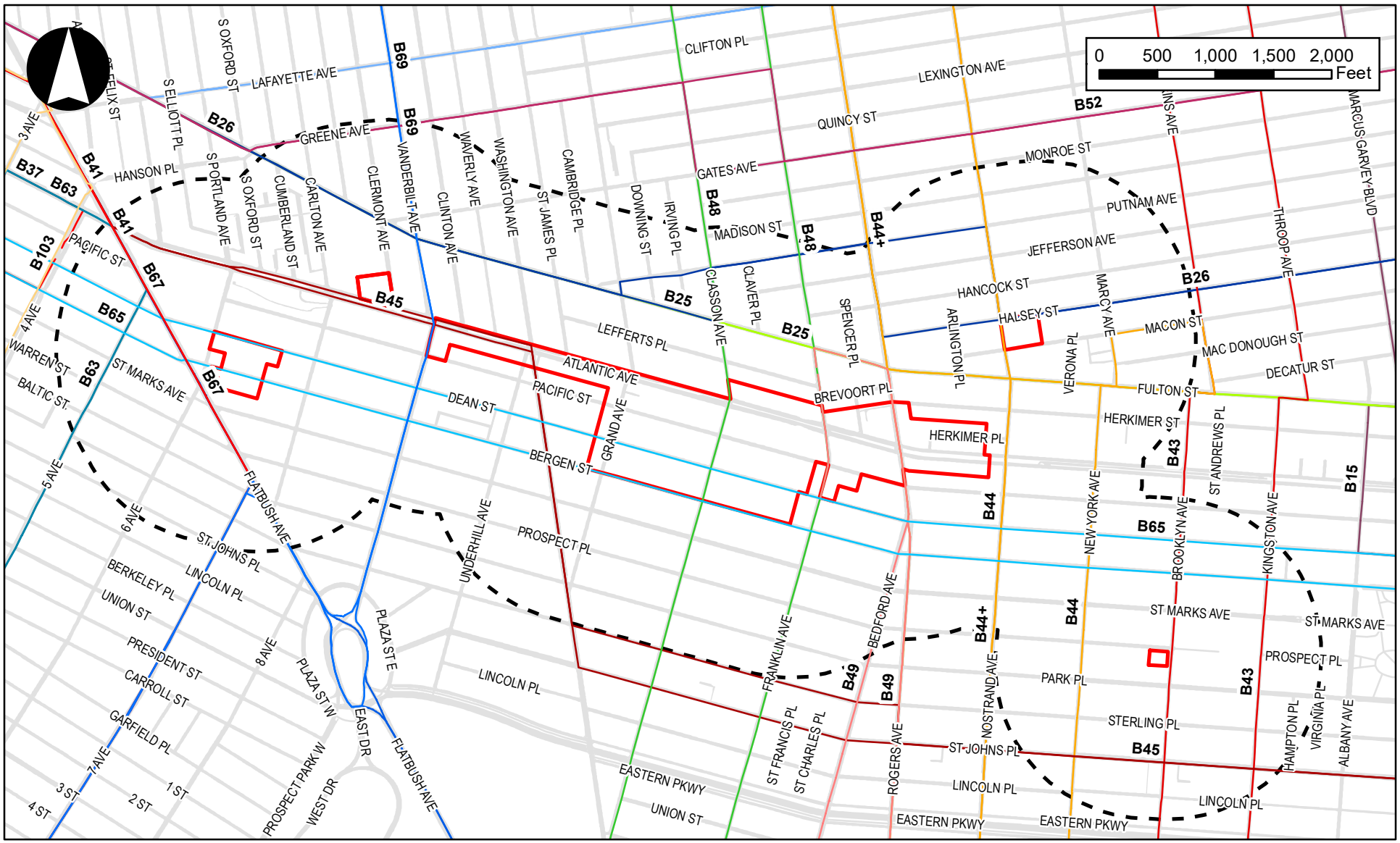

0 500 1,000 1,500 2,000
Feet
Legend
AAMUP Project Area (Primary Study Area)
Quarter-Mile Radius (Secondary Study Area)
MTA Bus Route
B103
B15
B25
B26
B37
B38
B41
B43
B44
B44+
B45
B48
B49
B52
B63
B65
B67
B69

Table 13-13: Net Incremental Bus Trips by Route

Route	Direction	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
B25	EB	8	32	40	8	35	43
	WB	31	8	39	33	11	44
B26	EB	8	34	42	9	38	47
	WB	33	9	42	36	11	47
B41	NB	1	7	8	1	15	16
	SB	4	2	6	5	4	9
B44 Local	NB	10	9	19	17	11	28
	SB	7	13	20	11	15	26
B44 SBS	NB	17	14	31	24	15	38
	SB	11	21	33	16	21	37
B45	EB	5	17	22	4	21	25
	WB	19	4	23	16	7	23
B48	NB	10	6	16	10	8	18
	SB	7	9	16	7	11	18
B49	NB	34	0	34	39	1	40
	SB	0	36	36	0	42	42
B65	EB	4	17	21	4	20	24
	WB	17	4	21	17	6	23
B67	NB	0	1	1	0	3	3
	SB	1	0	1	1	1	2
B69	NB	0	4	4	1	4	5
	SB	2	1	3	3	2	5
Total		229	248	477	262	301	563

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

Pedestrians

Under 2021 *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 13-10**, the Proposed Actions are expected to generate approximately 3,208 walk-only trips (in and out combined) in the weekday AM peak hour, 5,303 in the midday, 6,272 in the PM, and 7,254 in the Saturday peak hour. Persons en route to and from subway station entrances and bus stops would add approximately 3,722, 2,511, 3,662, and 3,835 additional pedestrian trips to sidewalks and crosswalks in the vicinity of the Project Area during these same periods, respectively. In the weekday AM and PM peak hours, new pedestrian trips would be most concentrated on sidewalks and crosswalks adjacent to projected development sites as well as along corridors connecting these sites to area subway station entrances. In the midday and Saturday periods, pedestrian trips would tend to be more dispersed, as people travel throughout the area for lunch, shopping, and/or errands.

The analysis of pedestrian conditions 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 13-5**, they include a total of 169 pedestrian elements, including 62 sidewalks, 39 crosswalks, and 68 corners, primarily located along the Atlantic Avenue, Grand Avenue, Franklin Avenue, and Classon Avenue corridors.

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.

Transportation Analyses Methodologies

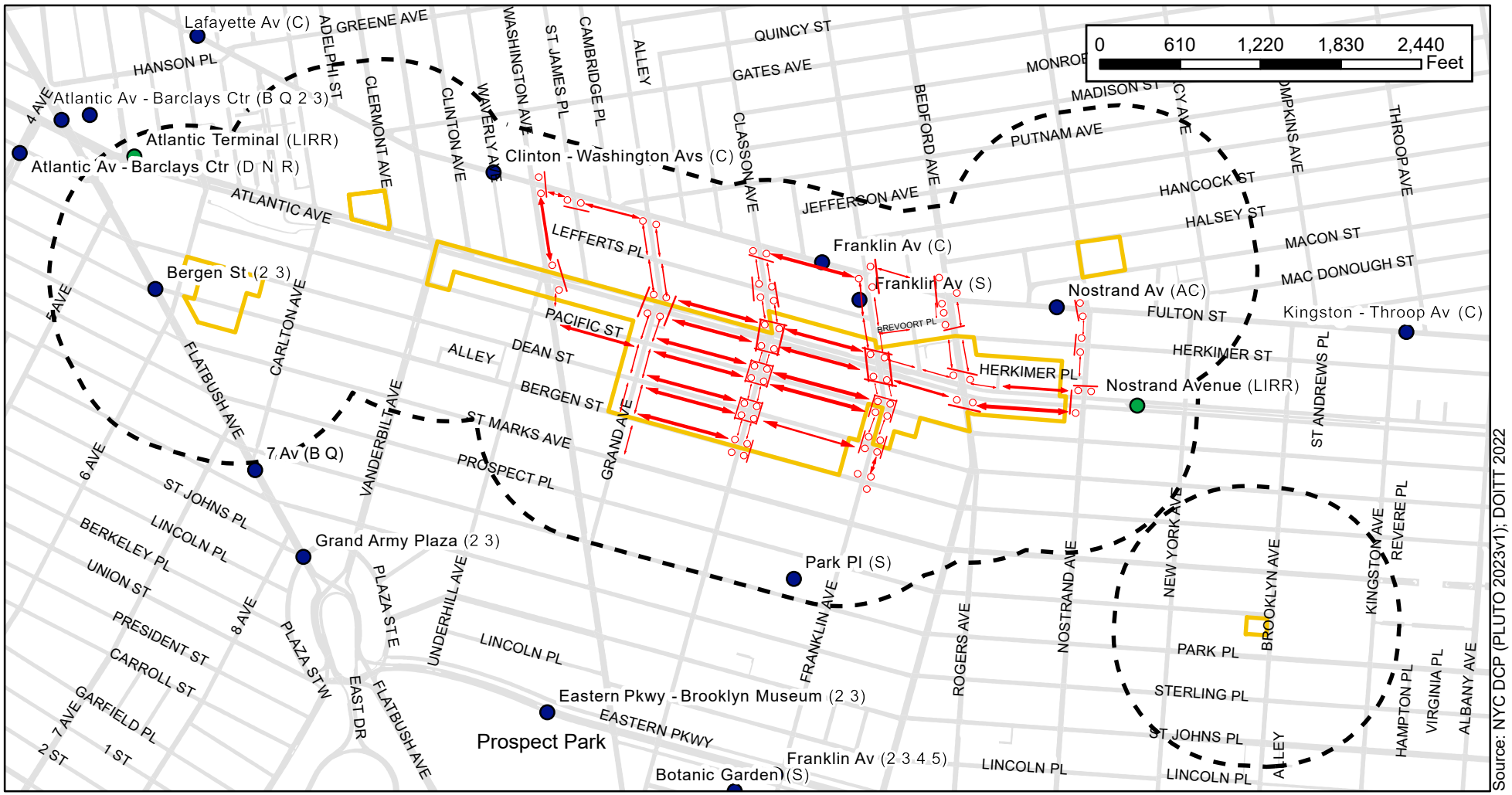
Traffic

Analysis Methodology

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

The capacity analyses at intersections were based on the methodology presented in the *Highway Capacity Manual* (HCM) and utilize Synchro Version 11 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


0 610 1,220 1,830 2,440
Feet
Lafayette Av (C)
HANSON PL
ADELPHI ST
GREENE AVE
CLERMONT AVE
CLINTON AVE
WASHINGTON AVE
ST JAMES PL
CAMBRIDGE PL
ALLEY
QUINCY ST
GATES AVE
CLASSON AVE
BEDFORD AVE
MONROE
MADISON ST
PUTNAM AVE
HANCOCK ST
HALSEY ST
MACON ST
MAC DONOUGH ST
JEFFERSON AVE
ATLANTIC AVE
Atlantic Av - Barclays Ctr (B Q 2 3)
Atlantic Terminal (LIRR)
Atlantic Av - Barclays Ctr (D N R)
Clinton - Washington Avs (C)
LEFFERTS PL
Franklin Av (C)
Franklin Av (S)
Nostrand Av (AC)
Kingston - Throop Av (C)
Bergen St (2 3)
PACIFIC ST
BREVOORT PL
FULTON ST
HERKIMER ST
HERKIMER PL
Nostrand Avenue (LIRR)
ST ANDREWS PL
DEAN ST
BERGEN ST
ST MARKS AVE
PROSPECT PL
FLATBUSH AVE
CARLTON AVE
VANDERBILT AVE
GRAND AVE
7 Av (B Q)
Grand Army Plaza (2 3)
Park Pl (S)
ST JOHNS PL
LINCOLN PL
BERKELEY PL
UNION ST
PRESIDENT ST
CARROLL ST
GARFIELD PL
PLAZA ST E
PLAZA ST W
UNDERHILL AVE
FRANKLIN AVE
ROGERS AVE
NOSTRAND AVE
NEW YORK AVE
BROOKLYN AVE
KINGSTON AVE
REVERE PL
PARK PL
STERLING PL
ST JOHNS PL
LINCOLN PL
ALLEY
HAMPTON PL
VIRGINIA PL
ALBANY AVE
Eastern Pkwy - Brooklyn Museum (2 3)
EASTERN PKWY
EAST DR
Prospect Park
Franklin Av (2 3 4 5)
Botanic Garden (S)
Source: NYC DCP (PLUTO 2023v1); DOITT 2022
Legend
Primary Study Area
Secondary Study Area (Quarter-Mile Radius)
Subway Stops
LIRR Stations
Sidewalk
Crosswalk
Street Corners

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. LOS 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 HCM*

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 conditions at analyzed subway station elements, subway ridership data were collected at analyzed subway stations in December 2023. 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 7:45–8:45 a.m. and 4:45–5:45 p.m. 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 2021 *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 2021 *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 2021 *CEQR Technical Manual* LOS 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*

Subway Line Haul

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

Bus

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

Significant Impact Criteria

Subway Stations

The 2021 *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 LOS 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 2021 *CEQR Technical Manual* defines a significant impact as an increase from a No-Action v/c ratio of below 1.00 to a v/c ratio of 1.00 or greater. Where a facility is already at a v/c ratio of 1.00 or greater, a 0.01 change in v/c ratio is also considered significant.

Subway Line Haul

For subway line haul conditions, 2021 *CEQR Technical Manual* criteria specify that any increases in load levels that remain within practical capacity limits are generally not considered significant. However, significant adverse subway line haul impacts can occur if a proposed action is expected to generate an incremental increase averaging five or more riders per subway car on lines projected to carry loads exceeding guideline capacity. This is based on the general assumption that when subways are at or above practical capacity, the addition of even five or more riders per car is perceptible.

Bus

According to the 2021 *CEQR Technical Manual* and NYCT guidelines, additional bus service along a route is recommended when load levels exceed maximum capacity at the route's maximum load point. A significant impact is considered at the route's maximum load point where an increase in bus load levels would exceed the maximum capacity. NYCT's general policy is to provide additional bus service where demand warrants increased service, taking into account fiscal and operational constraints.

Pedestrians

Analysis Methodology

Data on peak period pedestrian flow volumes were collected along analyzed sidewalks, corner areas, and crosswalks in the vicinity of the Project Area in December 2023. Peak hours were determined by comparing rolling hourly averages, and the highest 15-minute volumes within the selected peak hours were used for analysis. Based on existing peak pedestrian volumes

along major corridors in the study area, the peak hours selected for analysis include the weekday 8:00–9:00 a.m., 12:00–1:00 p.m. (midday), and 5:15–6:15 p.m. and Saturday 12:15–1:15 p.m. periods.

Peak 15-minute pedestrian flow conditions during the weekday AM, midday and PM peak hours, and Saturday peak hour are analyzed using the *HCM 2010* methodology and procedures outlined in the 2021 *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 *HCM* 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 LOS 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 Project. 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 with Platooned Flow 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 2021 *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 are available should be identified as a high crash location. For these locations, crash trends would be identified to determine whether projected vehicular and

pedestrian traffic would further impact safety, or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic and pedestrian volumes, crash types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety should be identified and coordinated with NYCDOT.

Parking

Analysis Methodology

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

Significant Impact Criteria

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

Under 2021 *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 2021 *CEQR Technical Manual*. As the Project Area is located within Zone 2 as shown in Map 16-2, the inability of the Proposed Actions or the surrounding area to accommodate future parking demands would be considered a parking shortfall but would generally not be considered significant due to the magnitude of available alternative modes of transportation.

Traffic

Existing Conditions

Study Area Street Network

As shown in **Figure 13-1**, the Project Area street network is primarily a grid system with several Proposed Development Site frontages along Atlantic Avenue, the primary east–west corridor, generally bounded by Vanderbilt Avenue to the west, Nostrand Avenue to the east, Herkimer Street to the north, and Bergen Street to the south. Additional east–west streets include Pacific Street and Dean Street to the south of Atlantic Avenue. The primarily north–south corridors include Grand Avenue, Clason Avenue, Franklin Avenue, and Bedford Avenue. The Brooklyn Queens Expressway (BQE) is located to the north of the Project Area, and the Eastern Parkway is located to the south.

Atlantic Avenue, a prominent east–west corridor that extends the entire length of the Project Area, is a 120-foot-wide corridor that runs east–west and traverses several neighborhoods, connecting Brooklyn's waterfront with Jamaica, Queens. Within the Project Area, Atlantic Avenue is a NYCDOT-designated truck route with three to four lanes of traffic in each direction separated by a median, and narrow sidewalks.

Vanderbilt Avenue is a 100-foot-wide street that serves as a local retail and service-based corridor for the Prospect Heights neighborhood. One block to the east is Underhill Avenue, which terminates at Atlantic Avenue, and Washington Avenue, an 80-foot-wide street with retail uses that serves as a connection to the Clinton-Washington Avenue subway station, which provides access to the C subway line. Further to the east are Grand Avenue and Classon Avenue, both 70 feet in width, which are primarily residential with pockets of commercial and community facility uses. Franklin Avenue, a 70-foot-wide corridor, and Nostrand Avenue, an 80-foot-wide corridor, serve as more neighborhood-based commercial thoroughfares and both have access to subway stations two blocks to the north along Fulton Street. Bedford Avenue, an 80-foot-wide street, serves as another important connection with a bicycle lane and the B44 SBS.

The interior mid-blocks within the Project Area located south of Atlantic Avenue cover streets running east–west – Bergen Street, Dean Street, Pacific Street, and Herkimer Place. Bergen Street, Dean Street, and Pacific Street are 70 feet in width, while Herkimer Place is 50 feet wide. Frontages at isolated sites are located Clermont Avenue in the west and Brooklyn Avenue in the far east. Clermont Avenue is 80 feet in width, while Brooklyn Avenue is 70 feet wide.

Another north–south corridor of note is Flatbush Avenue (which becomes Flatbush Avenue Extension north of Fulton Street). This arterial roadway is located to the southwest of the Project Area and operates in a generally northwest–southeast direction from the Manhattan Bridge, through Brooklyn, to the Rockaways in Queens. It also serves as a secondary route to the Brooklyn Bridge. In the vicinity of the Project Area, it typically operates with two to three moving lanes in each direction, plus left-turn lanes at key intersections. Curbside regulations typically prohibit parking along both sides of Flatbush Avenue, primarily during the peak periods, and left turns are prohibited at some critical intersections in order to maximize roadway capacity. Flatbush Avenue traverses several complex intersections where one or more intersecting streets cross at oblique angles, a pattern characteristic of much of the downtown area. (The intersection of Flatbush Avenue with Atlantic Avenue is one such example.) Bus routes utilizing Flatbush Avenue in the vicinity of the Project Area include the B41, B45, B63, and B67, operated by NYCT, and the B103, operated by MTA Bus. Flatbush Avenue is a designated Through Truck Route north of Atlantic Avenue.

To the north of the Project Area is Fulton Street which provides access from Downtown Brooklyn through Fort Greene, Clinton Hill, and Bedford-Stuyvesant to the Brooklyn/Queens border in Woodhaven, Queens. Near the Project Area, Fulton Street is an 80-foot-wide, east–west corridor primarily surrounded by residential uses. From Flatbush Avenue to Adams Street, Fulton Street becomes the Fulton Mall, which is an eastbound pedestrian street and

transit mall in Downtown Brooklyn. Along this section, only buses, commercial vehicles, local truck deliveries, and emergency vehicles are allowed to use the street.

A major arterial located to the south of the Project Area is the Eastern Parkway. It runs parallel to Atlantic Avenue in the east–west direction beginning at Grand Army Plaza and terminating at Bushwick Avenue. Near the Project Area, Eastern Parkway generally consists of six lanes, two to three in each direction, separated by a median. Flanking the Eastern Parkway to the north and the south is a pedestrian mall and service road generally traversing in each direction within this area. To the north of the Project Area is the BQE (I-278) which in its entirety runs from US Route 1/9 in Linden, New Jersey northeast to the Bruckner Interchange in the Bronx. Near the Project Area, the BQE runs along the East River in Downtown Brooklyn/Brooklyn Heights and becomes an interchange serving the Brooklyn Bridge and then the Manhattan Bridge further east. The BQE roadway between Atlantic Avenue and the Brooklyn Bridge was reduced to two lanes in each direction in October 2021.

Bus Routes

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

- Fulton Avenue (B25, B26)
- Flatbush Avenue (B41, B67)
- Nostrand Avenue/New York Avenue/Rogers Avenue (B44/44+)
- Washington Avenue/Atlantic Avenue (B45)
- Classon Avenue/Franklin Avenue (B48)
- Bedford Avenue/Rogers Avenue (B49)
- Bergen Street/Dean Street (B65)
- Vanderbilt Avenue (B69)
- These bus routes are described in more detail below in Section H, “Transit.”

Truck Routes

The City has established local and through truck routes to manage the flow of trucks and improve the quality of neighborhoods. The City defines a truck as “a vehicle which is designed for transportation of property, which has either of the following characteristics: two axles and six tires or three or more axles.” Trucks must generally travel on local truck routes to reach the intersection nearest their destinations. In proximity to the Project Area, local truck routes have been designated along Nostrand Avenue, Bedford Avenue, and Flatbush Avenue (south of Atlantic Avenue). Through trucks are defined as having neither an origin nor a destination within the Borough of Brooklyn. Designated through truck routes in proximity to the Project Area include Atlantic Avenue, Flatbush Avenue (north of Atlantic Avenue), and I-278 / BQE.

Bicycle Lanes

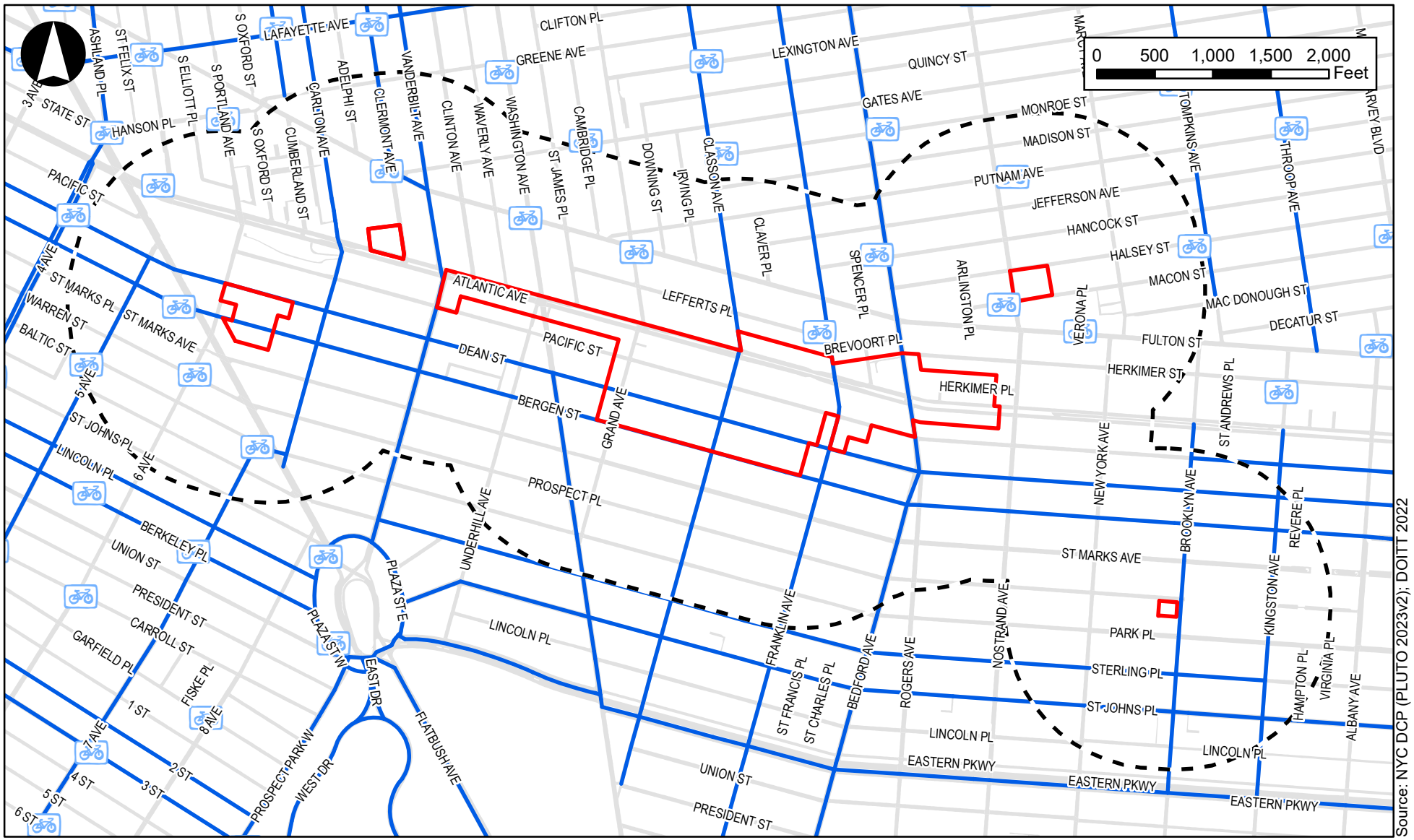
As shown in **Figure 13-6**, streets within the Project Area and its proximity host an extensive network of bicycle lanes, the majority of which are conventional bicycle lanes or shared lanes. A protected bicycle path has also been installed along Eastern Parkway.

Traffic Conditions

To establish the existing conditions traffic network, an extensive traffic data collection program—including ATR counts, turning movement counts, and vehicle classification counts—was undertaken in December 2023. 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 also collected in December 2023. Signal timing plans for signalized intersections within the study area were obtained from the NYCDOT. **Figures 13-7a through 13-7d** show existing traffic volumes during weekday AM, midday, PM, and Saturday peak hours.

Intersection Capacity Analysis

The v/c ratios, delays, and levels of service for 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 20 analyzed intersections (all signalized) currently have at least one congested lane group in one or more peak hours. Atlantic Avenue has the greatest number of congested locations with a total of thirteen intersections. A total of seven 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, two in the midday, nine in the PM, and eight 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, weekday PM peak and the Saturday peak periods, and least evident during the weekday midday period.

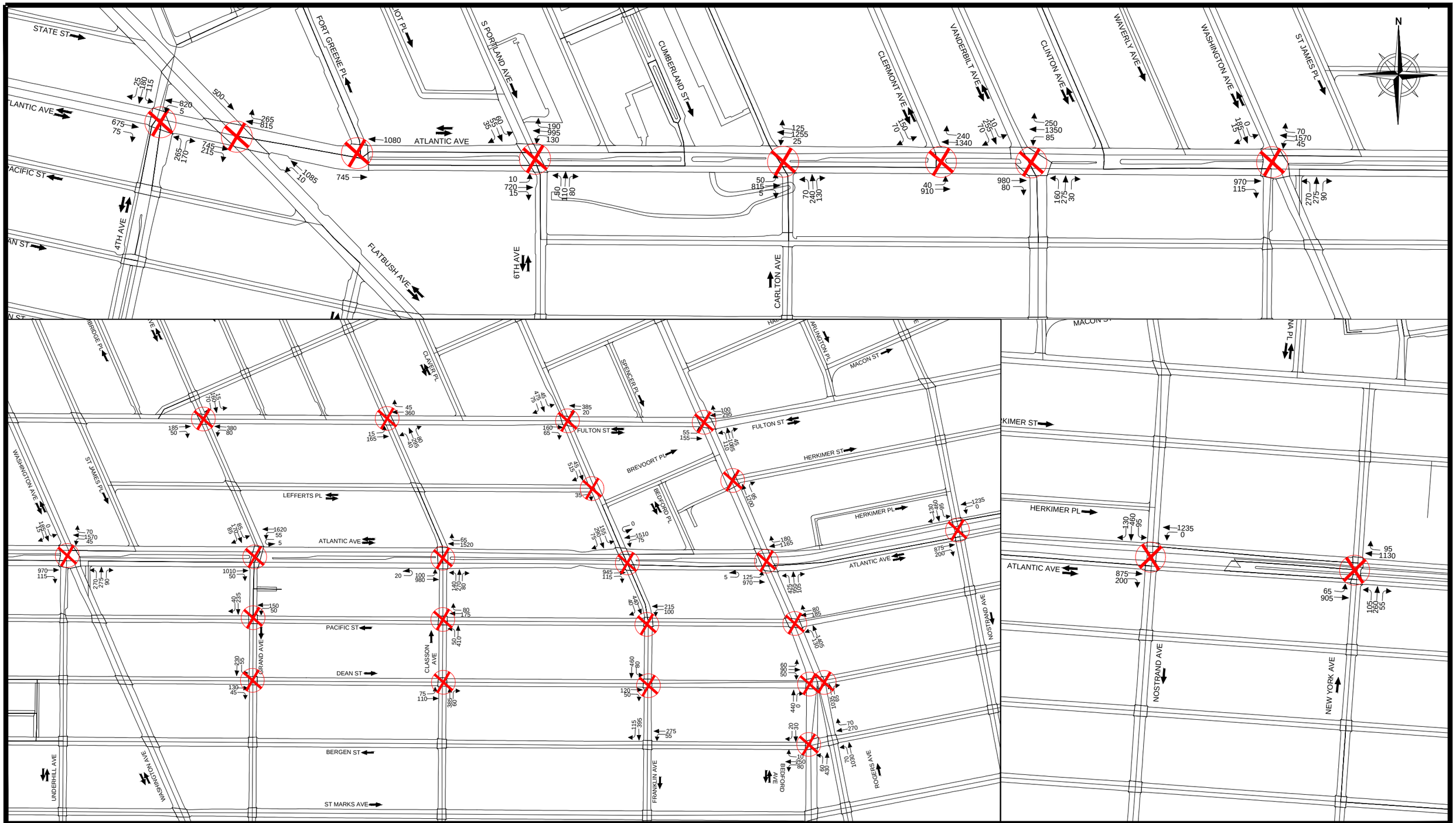


Legend

- Quarter-Mile Radius (Secondary Study Area)
- AAMUP Project Area (Primary Study Area)
- Bike Routes
- Citi Bike Stations

Figure 13-6
Bike Routes and Stations

AM Peak Hour Existing Traffic Volumes


STATE ST
ATLANTIC AVE
PACIFIC ST
AN ST
4TH AVE
FORT GREENE PL
IOT PL
S PORTLAND AVE
CUMBERLAND ST
CLERMONT AVE
VANDERBILT AVE
CLINTON AVE
WAVERLY AVE
WASHINGTON AVE
ST JAMES PL
FLATBUSH AVE
6TH AVE
CARLTON AVE
MACON ST
ARLINGTON PL
CLASSON PL
SPENCER PL
FULTON ST
BREVOORT PL
HERKIMER ST
HERKIMER PL
BERGEN PL
LEFFERTS PL
PACIFIC ST
DEAN ST
BERGEN ST
ST MARKS AVE
GRAND AVE
CLASSON AVE
FRANKLIN AVE
BEDFORD AVE
NOSTRAND AVE
ROGERS AVE
NEW YORK AVE
UNDERHILL AVE
WASHINGTON AVE
BRIDGE PL
N
1080
1085
745
675
820
500
265
1010
970
1620
1570
1235
1130
1255
1350
1540
1510
1165
1405
1060
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1005
1105
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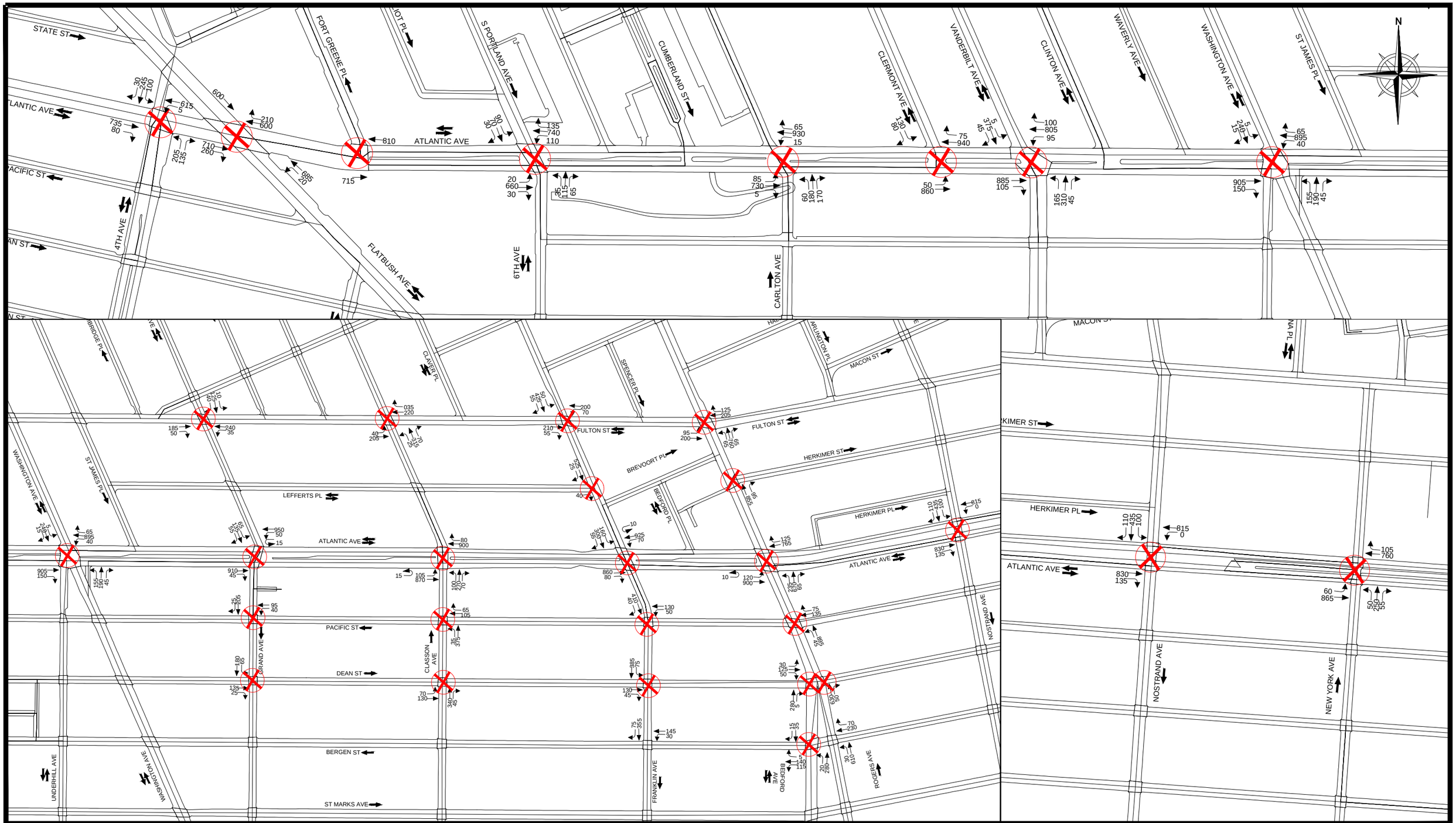
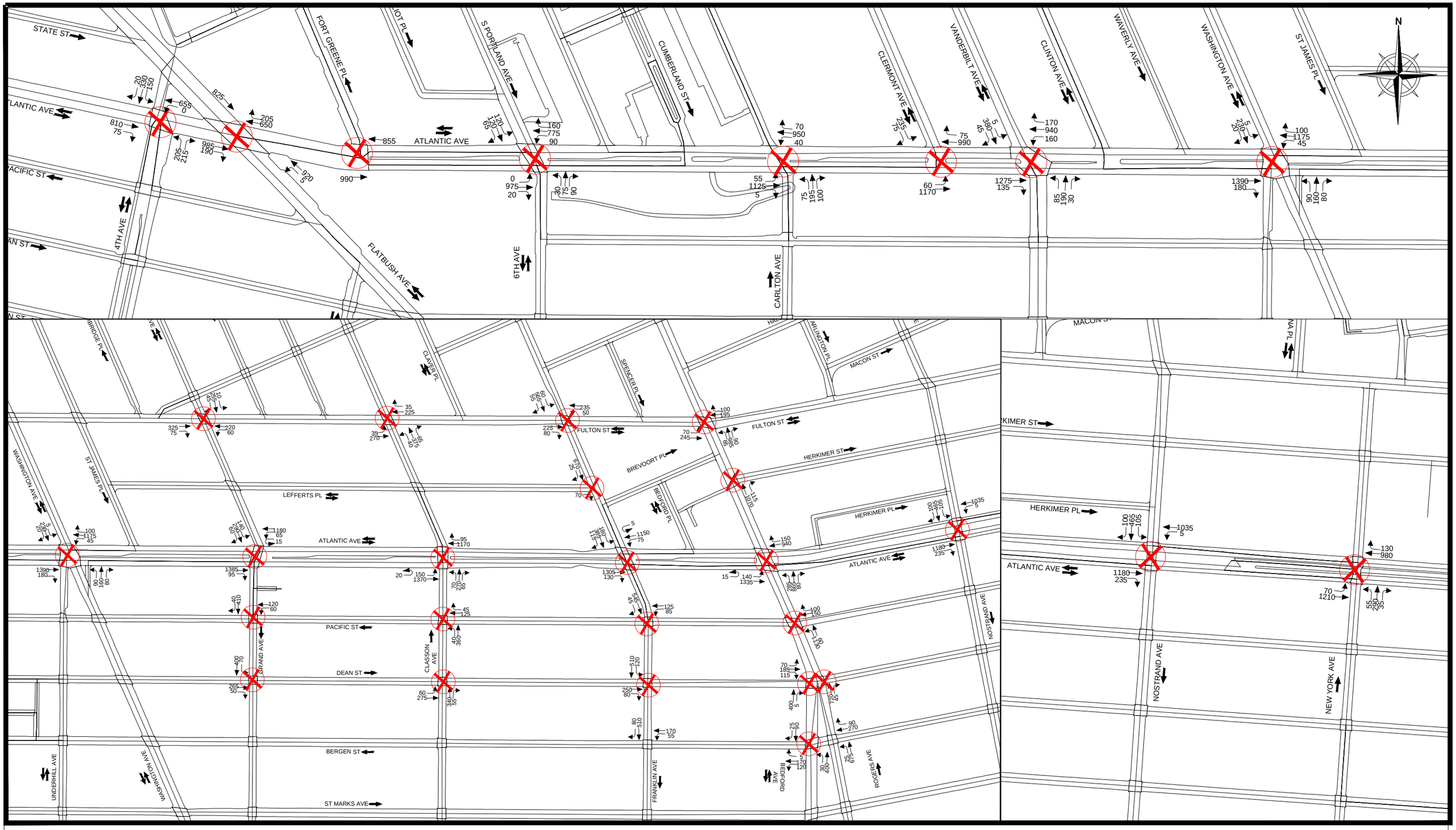
1235
1130

MD Peak Hour Existing Traffic Volumes

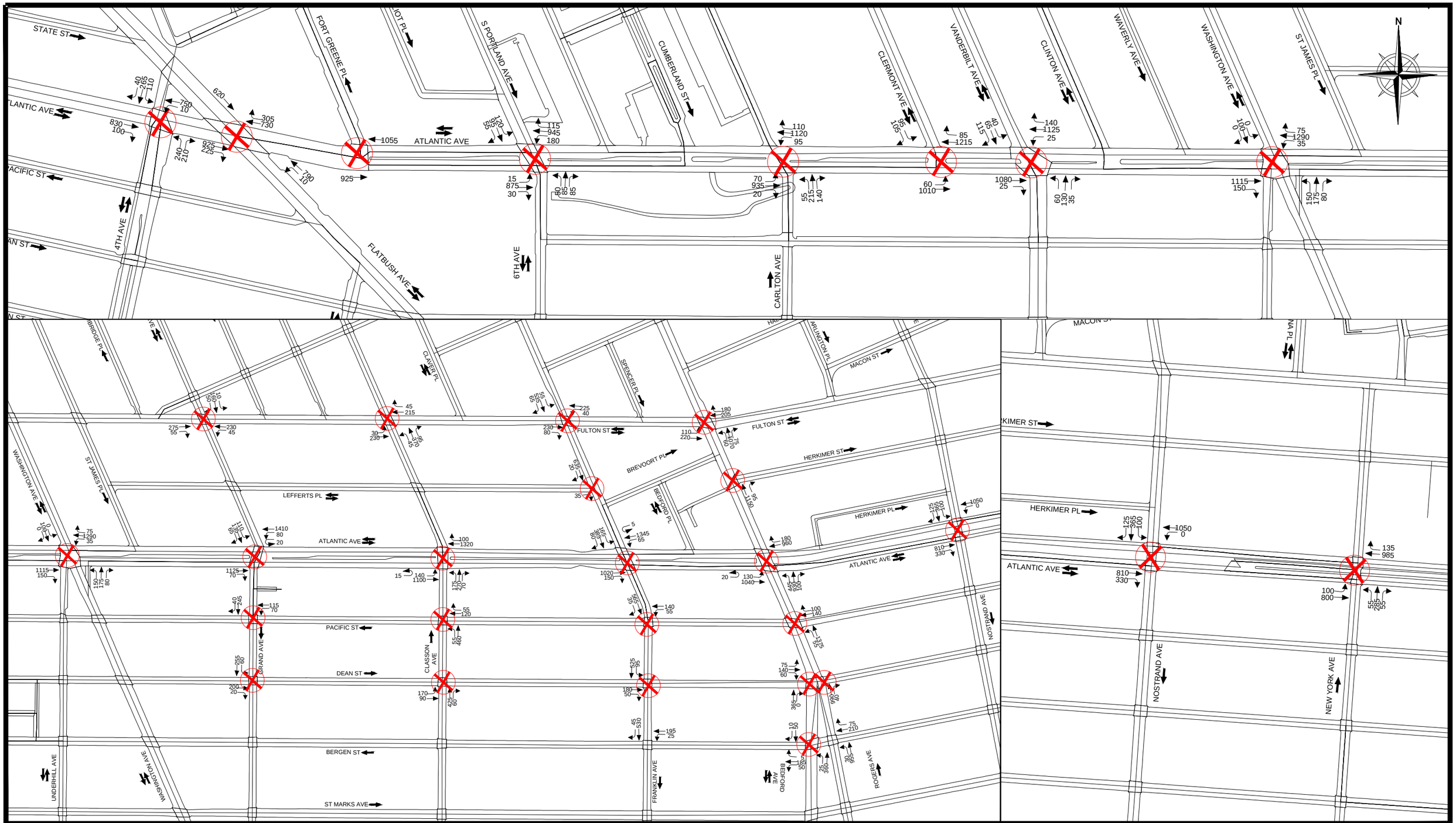


LEGEND: ← 2 = MD Traffic Volume ⊗ Traffic Analysis Locations

PM Peak Hour Existing Traffic Volumes



SAT Peak Hour Existing Traffic Volumes



LEGEND: ← 2 = SAT Traffic Volume ⊗ Traffic Analysis Locations

Table 13-20: 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
1: Atlantic Av &	EB	T	0.69	31.0	C	0.76	36.2	D	0.89	48.8	D	0.84	40.3	D
4th Av	EB	R	0.25	27.5	C	0.29	31.9	C	0.33	36.3	D	0.47	38.8	D
	WB	T	0.76	6.7	A	0.68	6.8	A	0.73	26.8	C	0.70	9.7	A
	NB	L	0.63	53.5	D	0.48	45.9	D	0.60	51.9	D	0.53	46.9	D
	NB	LTR	0.73	62.8	E *	0.54	49.0	D	0.84	78.1	E *	0.68	57.5	E *
	NB	R	0.66	57.2	E *	0.49	46.9	D	0.63	54.6	D	0.56	49.1	D
	SB	LTR	0.92	73.7	E *	0.85	58.5	E *	0.86	51.5	D	0.92	65.9	E *
2: Atlantic Av &	EB	T	0.63	15.3	B	0.58	14.4	B	0.74	14.8	B	0.73	17.2	B
Flatbush Av	EB	R	0.72	29.7	C	0.75	28.5	C	0.54	20.8	C	0.69	27.8	C
	WB	T	0.66	17.7	B	0.55	15.1	B	0.53	29.2	C	0.62	34.2	C
	WB	R	1.05	84.7	F *	0.94	61.2	E *	0.89	66.8	E *	1.04	106.2	F *
	NB	T	0.67	26.9	C	0.54	24.2	C	0.59	24.9	C	0.54	24.1	C
	SB	T	0.49	23.6	C	0.51	23.9	C	0.74	30.1	C	0.58	25.5	C
3: Atlantic Av &	EB	T	0.55	2.1	A	0.47	0.9	A	0.60	9.6	A	0.63	1.8	A
Fort Greene Pl.	WB	T	0.54	6.7	A	0.50	17.2	B	0.48	8.9	A	0.57	12.5	B
4: Atlantic Av &	EB	TR	0.49	10.0	A	0.61	24.8	C	0.58	8.0	A	0.59	3.9	A
S Portland Av	WB	L	0.48	18.2	B	0.59	25.4	C	0.42	17.4	B	0.85	41.6	D
	WB	T	0.58	16.8	B	0.62	19.1	B	0.46	13.4	B	0.48	14.7	B
	NB	LT	0.54	30.6	C	0.38	25.1	C	0.39	32.6	C	0.50	42.2	D
	NB	R	0.31	25.9	C	0.19	22.3	C	0.33	31.5	C	0.33	37.4	D
	SB	L	0.36	39.7	D	0.33	25.6	C	0.61	51.1	D	0.69	57.9	E *
	SB	TR	0.30	36.6	D	0.26	23.3	C	1.05	120.1	F *	0.81	68.8	E *
5: Atlantic Av &	EB	L	0.56	57.4	E *	0.58	38.2	D	0.38	30.2	C	0.66	56.8	E *
Carlton Av	EB	T	0.61	28.6	C	0.56	23.1	C	0.68	27.1	C	0.61	26.5	C
	WB	L	0.29	22.8	C	0.14	5.4	A	0.50	33.2	C	0.57	22.7	C
	WB	TR	0.93	31.3	C *	0.77	9.7	A	0.63	22.0	C	0.80	10.4	B
	NB	LTR	1.01	77.3	E *	0.97	61.3	E *	0.92	63.1	E *	0.87	52.0	D
6: Atlantic Av &	EB	L	0.81	64.7	E *	0.61	45.2	D	0.43	9.4	A	0.78	49.2	D
Clermont Av.	EB	T	0.48	3.0	A	0.57	25.3	C	0.50	3.5	A	0.50	6.2	A
	WB	TR	0.82	8.1	A	0.69	9.4	A	0.56	5.6	A	0.65	16.6	B
	SB	LR	0.62	44.8	D	0.48	26.8	C	0.75	50.6	D	0.60	44.5	D
7: Atlantic Av &	EB	T	0.74	16.5	B	0.93	37.2	D *	0.78	16.0	B	0.76	53.0	D
Vanderbilt Av	EB	R	0.27	13.4	B	0.48	24.0	C	0.35	9.5	A	0.07	39.0	D
	WB	L	0.64	34.1	C	0.79	52.8	D	1.04	102.5	F *	0.28	21.1	C
	WB	TR	0.91	33.9	C *	0.70	25.4	C	0.62	21.0	C	0.73	24.7	C
	NB	L	0.71	44.2	D	0.61	24.6	C	0.65	47.2	D	0.19	24.1	C
	NB	T	0.49	29.7	C	0.50	18.0	B	0.36	28.2	C	0.25	24.9	C
	NB	R	0.10	23.1	C	0.11	12.8	B	0.08	24.0	C	0.10	23.0	C
	SB	T	0.73	49.7	D	0.70	31.5	C	1.05	99.7	F *	0.38	36.9	D
	SB	R	0.31	36.2	D	0.14	19.7	B	0.22	35.4	D	0.45	39.5	D
8: Atlantic Av &	EB	TR	0.82	36.7	D	0.96	46.6	D *	0.92	40.0	D *	0.77	30.5	C
Washington Av	WB	L	0.51	68.5	E *	0.43	51.3	D	0.46	62.5	E *	0.31	56.6	E *
	WB	TR	0.82	26.9	C	0.62	20.4	C	0.60	16.6	B	0.65	17.6	B
	NB	L	1.05	112.2	F *	0.78	53.4	D	0.56	55.8	E *	0.94	97.2	F *
	NB	T	0.57	33.2	C	0.36	18.7	B	0.40	33.8	C	0.43	34.4	C
	SB	TR	0.43	29.6	C	0.43	19.8	B	0.64	41.0	D	0.25	30.9	C
9: Atlantic Av &	EB	TR	0.56	17.1	B	0.59	18.5	B	0.73	21.3	C	0.61	19.6	B
Grand Av	WB	L	0.48	6.5	A	0.55	24.1	C	1.05	122.1	F *	1.02	80.7	F *
	WB	TR	0.72	2.7	A	0.55	11.6	B	0.57	19.9	B	0.68	6.0	A
	SB	L	0.29	35.5	D	0.20	20.5	C	0.47	39.1	D	0.36	37.1	D
	SB	TR	0.73	50.5	D	0.51	25.0	C	0.97	79.5	E *	0.58	42.9	D
10: Atlantic Av &	EB	L	0.71	38.4	D	0.59	19.3	B	0.75	31.0	C	0.76	36.7	D
Classon av	EB	T	0.46	8.2	A	0.47	7.5	A	0.61	4.1	A	0.48	6.2	A
	WB	TR	0.89	14.0	B	0.75	24.8	C	0.71	19.9	B	0.80	26.7	C
	NB	L	0.59	43.4	D	0.35	28.7	C	0.29	33.3	C	0.63	56.4	E *
	NB	TR	0.98	78.4	E *	0.54	30.3	C	0.68	40.5	D	1.03	102.9	F *

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 11)

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
11: Atlantic Av &	EB	TR	0.65	31.8	C	0.77	13.4	B	0.79	16.0	B	0.71	26.0	C
Franklin Av	WB	L	0.32	14.9	B	0.38	31.7	C	0.50	35.3	D	0.40	18.8	B
	WB	T	0.69	10.5	B	0.51	21.4	C	0.51	15.3	B	0.58	10.6	B
	SB	LT	0.71	44.7	D	0.66	32.4	C	1.05	93.8	F *	0.90	59.6	E *
	SB	R	0.25	35.7	D	0.18	25.1	C	0.51	46.4	D	0.30	38.0	D
12: Atlantic Av &	EB	L	0.97	120.2	F *	0.89	86.6	F *	1.04	127.8	F *	1.05	145.0	F *
Bedford Av	EB	T	0.45	19.1	B	0.46	4.8	A	0.66	4.3	A	0.57	4.7	A
	WB	TR	0.86	39.3	D	0.84	37.7	D	0.84	40.6	D	0.80	37.0	D
	NB	L	1.01	51.9	D *	0.56	20.2	C	0.61	18.2	B	0.94	39.0	D *
	NB	T	1.05	54.1	D *	0.79	22.6	C	1.05	61.3	E *	1.05	59.0	E *
	NB	R	0.30	12.8	B	0.19	17.7	B	0.47	18.9	B	0.29	13.3	B
13: Atlantic Av &	EB	TR	0.56	19.7	B	0.66	24.7	C	0.84	34.0	C	0.56	17.4	B
Nostrand Av	WB	T	0.85	4.9	A	0.80	24.2	C	0.93	60.8	E *	0.67	29.2	C
	SB	LT	0.90	57.1	E *	1.05	79.9	E *	0.69	34.9	C			
	SB	R	0.52	41.6	D	0.36	22.1	C	0.35	29.2	C			
	SB	LTR										1.05	94.2	F *
14: Atlantic Av &	EB	L	0.61	70.1	E *	0.63	58.0	E *	0.67	94.6	F *	0.92	125.2	F *
New York Av	EB	T	0.62	22.8	C	0.64	27.2	C	0.78	6.2	A	0.58	6.5	A
	WB	T	0.98	52.2	D *	0.83	32.8	C	0.94	47.7	D *	0.86	37.7	D
	WB	R	0.20	20.1	C	0.28	20.4	C	0.26	22.2	C	0.28	22.7	C
	NB	LT	1.05	105.5	F *									
	NB	R	0.24	35.8	D									
	NB	LTR				1.05	93.7	F *	1.05	104.8	F *	1.05	103.0	F *
15: Grand Av &	EB	TR	0.62	26.2	C	0.65	29.8	C	0.95	55.5	E *	0.85	44.1	D
Fulton St	WB	LT	1.05	80.6	F *	0.64	28.9	C	0.87	46.3	D	0.70	32.1	C
	SB	LT	0.28	19.8	B	0.22	19.0	B	0.44	22.2	C	0.29	19.9	B
	SB	R	0.17	18.7	B	0.10	17.8	B	0.12	18.2	B	0.13	18.3	B
18: Classon av &	EB	LT	0.33	14.3	B	0.46	18.4	B	0.57	18.9	B	0.51	19.3	B
Fulton St	WB	TR	0.64	8.3	A	0.44	19.3	B	0.39	12.2	B	0.46	20.6	C
	NB	LTR	0.61	30.6	C	0.61	25.4	C	0.68	32.2	C	0.70	33.0	C
19: Classon Av &	WB	TR	0.90	53.2	D *	0.62	38.2	D	0.58	19.6	B	0.61	15.7	B
Pacific Street	NB	LT	0.42	3.7	A	0.37	3.2	A	0.38	3.2	A	0.44	3.8	A
20: Classon Av &	EB	LT	0.79	40.7	D	0.77	38.1	D	1.05	86.4	F *	0.95	62.4	E *
Dean St	NB	TR	0.80	13.6	B	0.71	22.9	C	0.69	20.9	C	0.80	24.9	C
21: Franklin Av &	EB	T	0.31	25.6	C	0.41	20.1	C	0.50	18.7	B	0.48	22.6	C
Fulton St	EB	R	0.20	24.7	C	0.16	15.3	B	0.25	17.0	B	0.23	17.5	B
	WB	LT	0.80	33.3	C	0.72	30.1	C	0.65	26.0	C	0.65	25.9	C
	SB	LTR	0.62	21.9	C	0.55	20.3	C	0.65	22.3	C	0.65	22.2	C
23: Franklin Av &	WB	LT	0.74	19.4	B	0.42	18.7	B	0.56	29.1	C	0.47	25.4	C
Pacific St	SB	TR	0.81	16.6	B	0.78	20.5	C	0.86	17.9	B	0.99	40.2	D *
24: Franklin St/Franklin	EB	TR	0.55	23.0	C	0.53	32.6	C	0.89	23.7	C	0.64	20.1	C
Dean St	SB	LT	0.78	10.2	B	0.68	6.5	A	0.85	13.3	B	0.85	7.3	A
25: Bedford Av &	EB	L	0.54	47.1	D	0.54	29.5	C	0.38	31.0	C	0.69	40.2	D
Fulton St	EB	T	0.43	33.4	C	0.65	30.0	C	0.48	30.3	C	0.45	21.9	C
	WB	TR	0.97	74.7	E *	0.77	33.6	C	0.70	38.5	D	0.90	46.0	D *
	NB	LT	0.98	49.5	D *	0.90	40.5	D *	0.96	51.2	D *	1.05	70.5	E *
	NB	R	0.11	16.8	B	0.23	21.4	C	0.25	22.6	C	0.35	24.6	C
27: Bedford Av &	WB	TR	0.67	43.3	D	0.58	31.9	C	0.66	43.0	D	0.72	51.5	D
Pacific St	NB	LT	0.83	7.7	A	0.62	5.2	A	0.61	5.6	A	0.65	6.0	A
28. Bedford Av/	EB	LTR	0.67	43.0	D	0.62	33.6	C	1.05	77.0	E *	0.95	78.7	E *
Roger Av & Dean St	NB	T	0.71	8.2	A	0.56	8.0	A	0.51	8.8	A	0.61	6.0	A
	NB	R	0.13	5.0	A	0.10	6.3	A	0.09	7.2	A	0.07	2.5	A
Bedford Av ->	NEB	TR	0.66	6.9	A	0.55	9.0	A	0.62	8.8	A	0.48	4.7	A
29: Bedford Av &	WB	L	0.22	16.7	B	0.33	10.4	B	0.36	13.9	B	0.17	12.3	B
Bergen St	WB	TR	0.86	26.2	C	0.44	11.4	B	0.64	16.7	B	0.69	14.8	B
	NB	LT	0.69	23.5	C	0.47	18.2	B	0.62	20.9	C	0.50	17.4	B
	SB	TR	0.08	15.4	B	0.09	16.7	B	0.16	21.6	C	0.08	5.9	A
30: Bergen St &	WB	TR	1.05	103.5	F *	0.86	50.5	D	1.05	104.5	F *	1.04	103.2	F *
Roger Av	NB	LT	0.73	22.2	C	0.57	18.8	B	0.47	16.4	B	0.69	20.4	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 11)

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

Unsignalized 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
8A: Atlantic Av & Washington Av	NB	R	0.14	10.5	B	0.07	10.0	A	0.15	11.3	B	0.13	10.3	B
16: Grand Av & Pacific St (All Way Stop)	WB	LT	0.33	10.2	B	0.22	9.0	A	0.30	10.6	B	0.30	9.8	A
	SB	TR	0.43	10.9	B	0.33	9.5	A	0.64	15.1	C	0.39	10.2	B
17: Grand Av & Dean St (All Way Stop)	EB	TR	0.25	9.3	A	0.25	9.0	A	0.52	14.0	B	0.35	10.4	B
	SB	LT	0.39	10.4	B	0.35	9.9	A	0.78	23.2	C	0.46	11.5	B
22: Franklin Av & Leffert Pl.	EB	R	0.07	12.6	B	0.09	12.3	B	0.12	11.5	B	0.06	10.6	B
26: Bedford Av & Harkimer st	NB	T	0.40	0.0	A	0.27	0.0	A	0.33	0.0	A	0.35	0.0	A
		R	0.07	0.0	A	0.07	0.0	A	0.08	0.0	A	0.07	0.0	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 11)

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

Changes to the Study Area Street Network

The 2023 through 2034 period will likely see the implementation of a number of physical and operational changes to the study area street system associated with the NYCDOT's 4th Avenue Safety Improvements project. Changes associated with this project that are reflected in the No-Action traffic network 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 the NYCDOT subsequent to the traffic data collection program.

No-Action Street Network Changes and Improvements

In the future without the Proposed Actions, as part of capital improvements, the NYCDOT expects to implement a number of street improvements in proximity to the traffic study area that would affect traffic flow, most notably in the area of Atlantic Avenue and Flatbush Avenue (Project ID HWK1674, plans provided by the NYCDOT) as well as Bedford Avenue (pavement marking plans for Bedford Avenue intersections between Monroe and Pacific Streets, provided by the NYCDOT). These improvements include changes to lane configurations and striping at the intersections of Atlantic Avenue with 4th Avenue and Bedford Avenue as well as the intersection of Fulton Street at Bedford Avenue. In addition, changes to signal timing at along Atlantic Avenue with intersecting corridors of 4th Avenue, Clermont Avenue, Grand Avenue, Classon Avenue, Franklin Avenue, and New York Avenue. The NYCDOT is also implementing "Washington Avenue Safety Improvements" plan (Project ID HWK1672), with locations at the intersections of Washington Avenue and Atlantic Avenue, Pacific Street and Underhill Avenue. This initiative will include intersection safety improvements like pavement markings and traffic/pedestrian signals. It should be noted that these improvements were included and reflected in the No-Action (and With-Action) analyses.

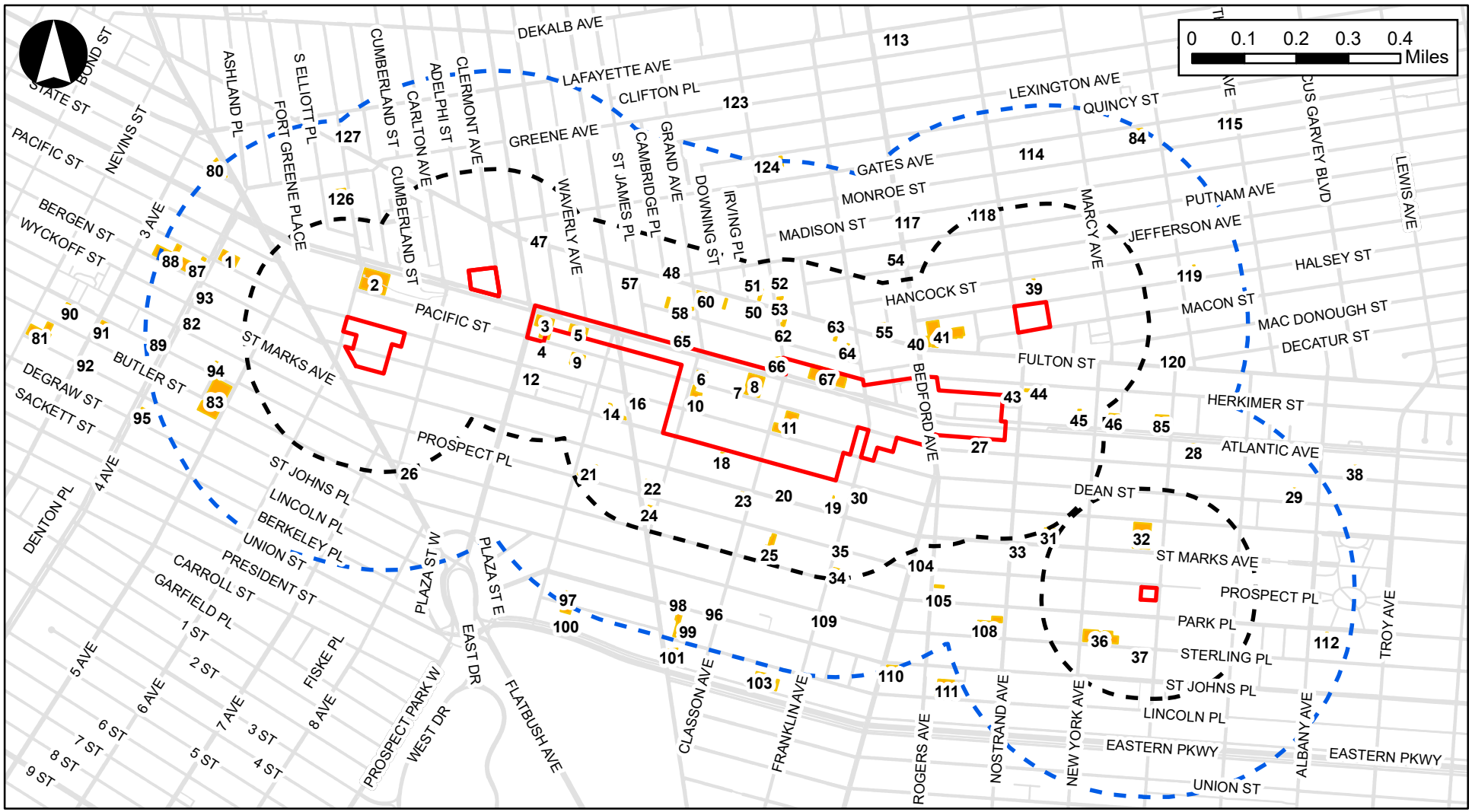
Future No-Action Traffic Growth

Between 2023 and 2034, it is expected that transportation demands in the vicinity of the Project Area will increase due to long-term background growth as well as development that could occur pursuant to existing zoning. Four of the 54 projected development sites (including Sites 23, 31, 42, and part of Site 24) are zoned for mixed-use development and are expected to undergo some redevelopment by 2034 in the absence of the Proposed Actions. All four sites are located in Crown Heights either along Classon Avenue between Pacific and Dean Streets (Sites 23, 24, and 31) or on the north side of Pacific Street between Grand and Classon Avenues (Site 42) and would be redeveloped with residential uses and ground-floor local retail. Combined, these four sites are anticipated to introduce 126 DUs and 26,334 sf of commercial local retail space to the primary Study Area.

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 13-8** were considered. The Future No-Action traffic volumes also reflect annual background growth rates of 0.5 percent per year for the 2023 through 2028 period and 0.25 percent for the 2028 through 2034 period. These background growth rates, recommended in the 2021 *CEQR Technical Manual* for projects in Brooklyn outside the downtown area, are applied to account for smaller projects and as-of-right developments not reflected in **Figure 13-8**, and general increases in travel demand not attributable to specific development projects. **Figures 13-9a through 13-9d** 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 24 intersections (23 signalized and one unsignalized) would have at least one congested lane group in one or more peak hours in the No-Action condition, compared to 20 intersections (all signalized) under existing conditions. Atlantic Avenue would continue to have the most congested intersections with thirteen (the same as under existing conditions), followed by Franklin Avenue, Grand Avenue, and Pacific with three intersections each (compared to two under existing conditions). A total of fourteen intersections would have one or more lane groups operating at or over capacity (v/c > 1.0) in the weekday AM peak hour, eleven in the midday, 17 in the PM, and 18 in the Saturday peak hour. This compares to seven, two, nine, and eight intersections operating at or over capacity during these same periods, respectively, under existing conditions.



Legend

- Primary Study Area
- Secondary Study Area (1/4-Mile Radius)
- 1/2 Mile Radius
- 109 No-Build Development Sites

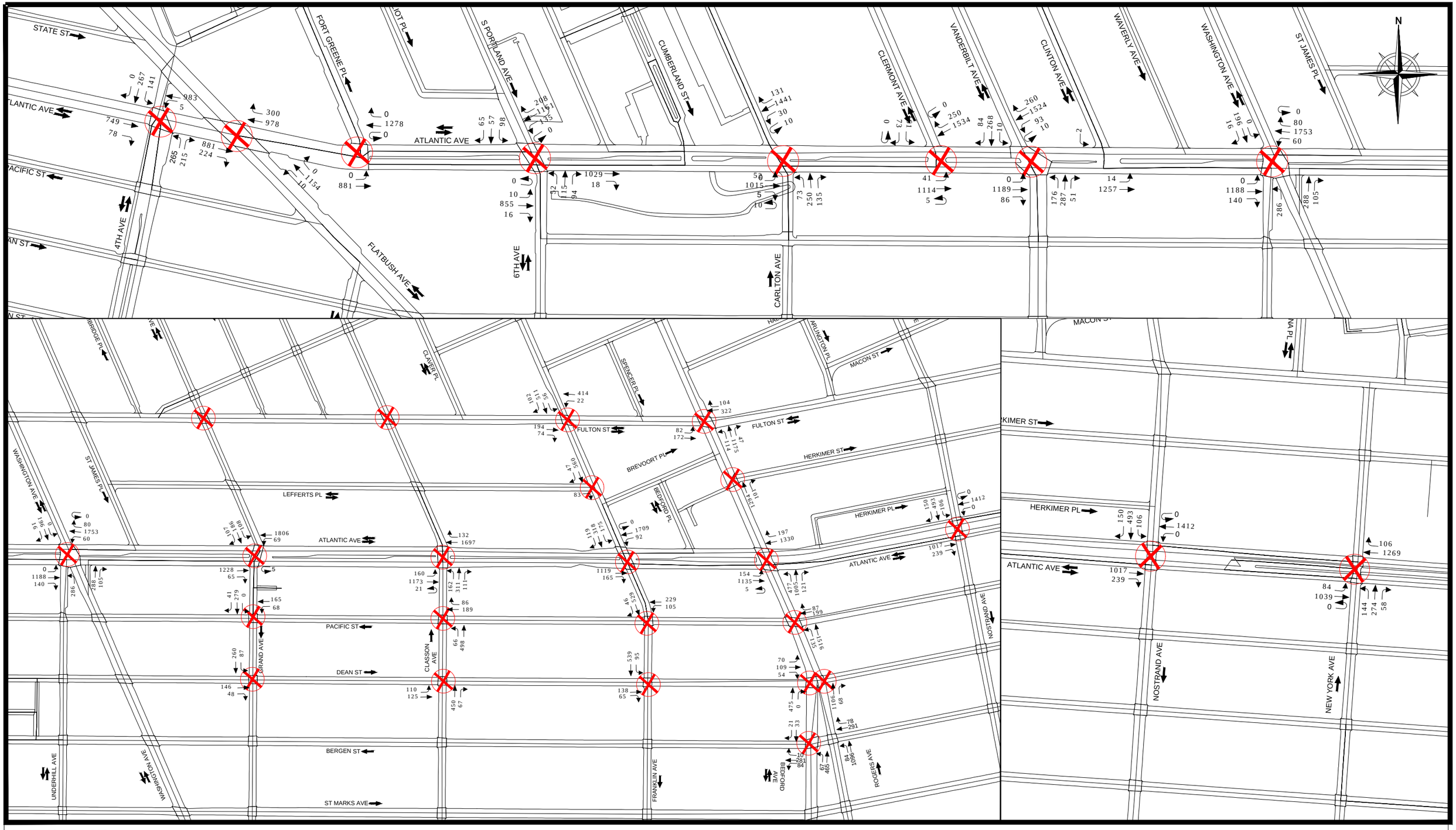


Atlantic Avenue Mixed-Use Plan

Figure 13-8
No-Build Soft Sites

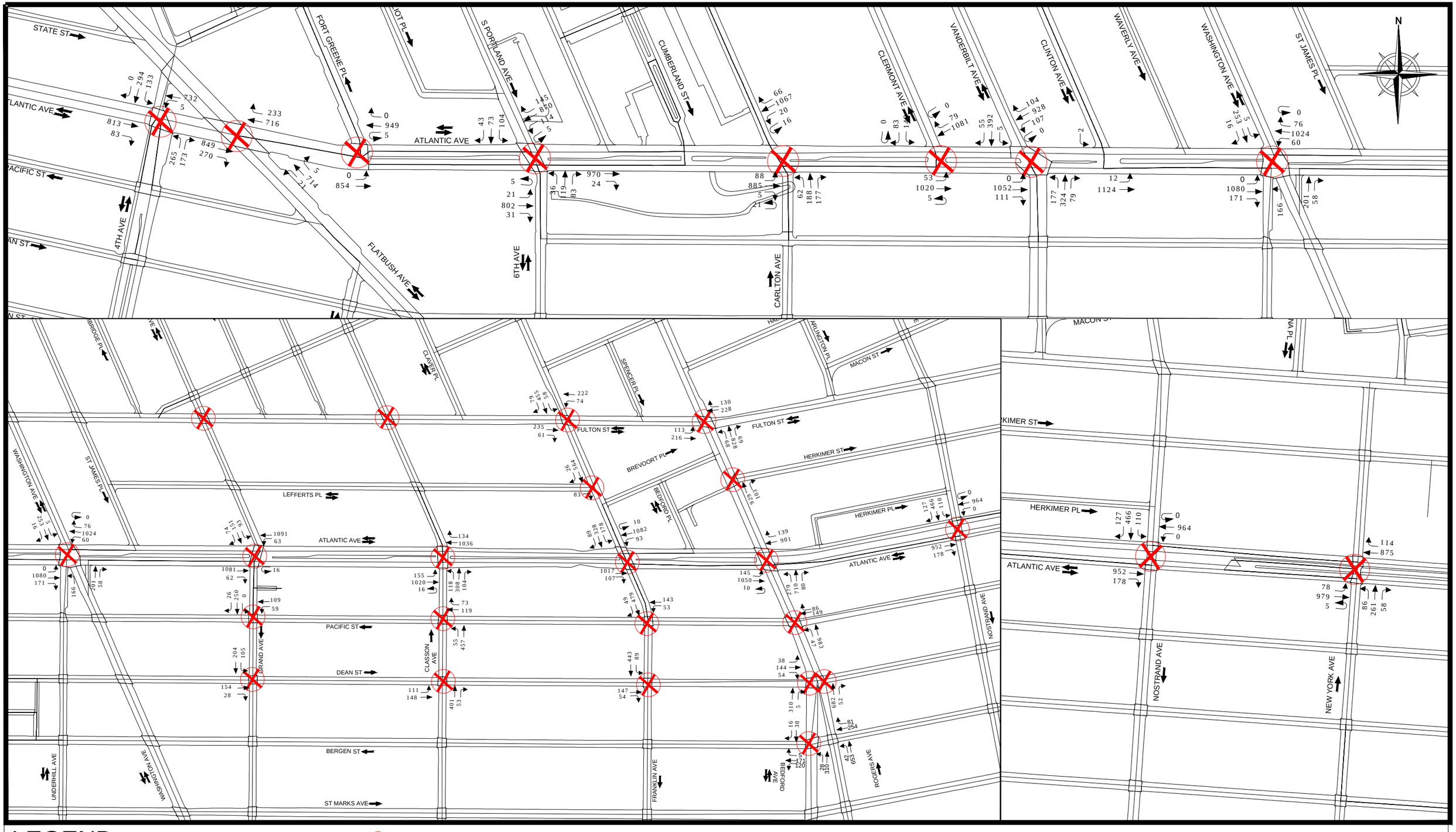
Figure 13-9a

AM Peak Hour No-Action Traffic Volumes



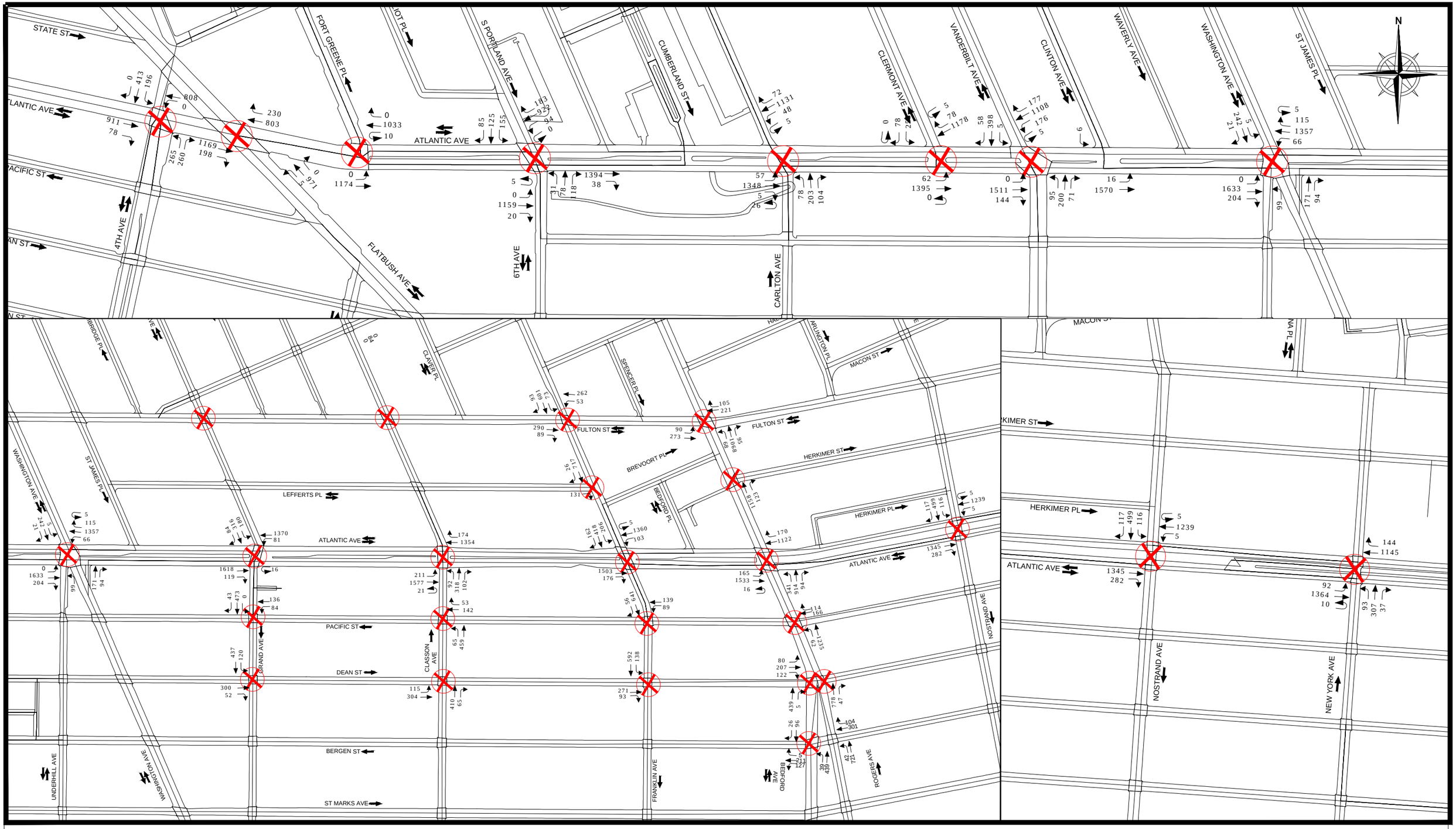
LEGEND: ← 2 = AM Traffic Volume ⊗ Traffic Analysis Locations

MD Peak Hour No-Action Traffic Volumes



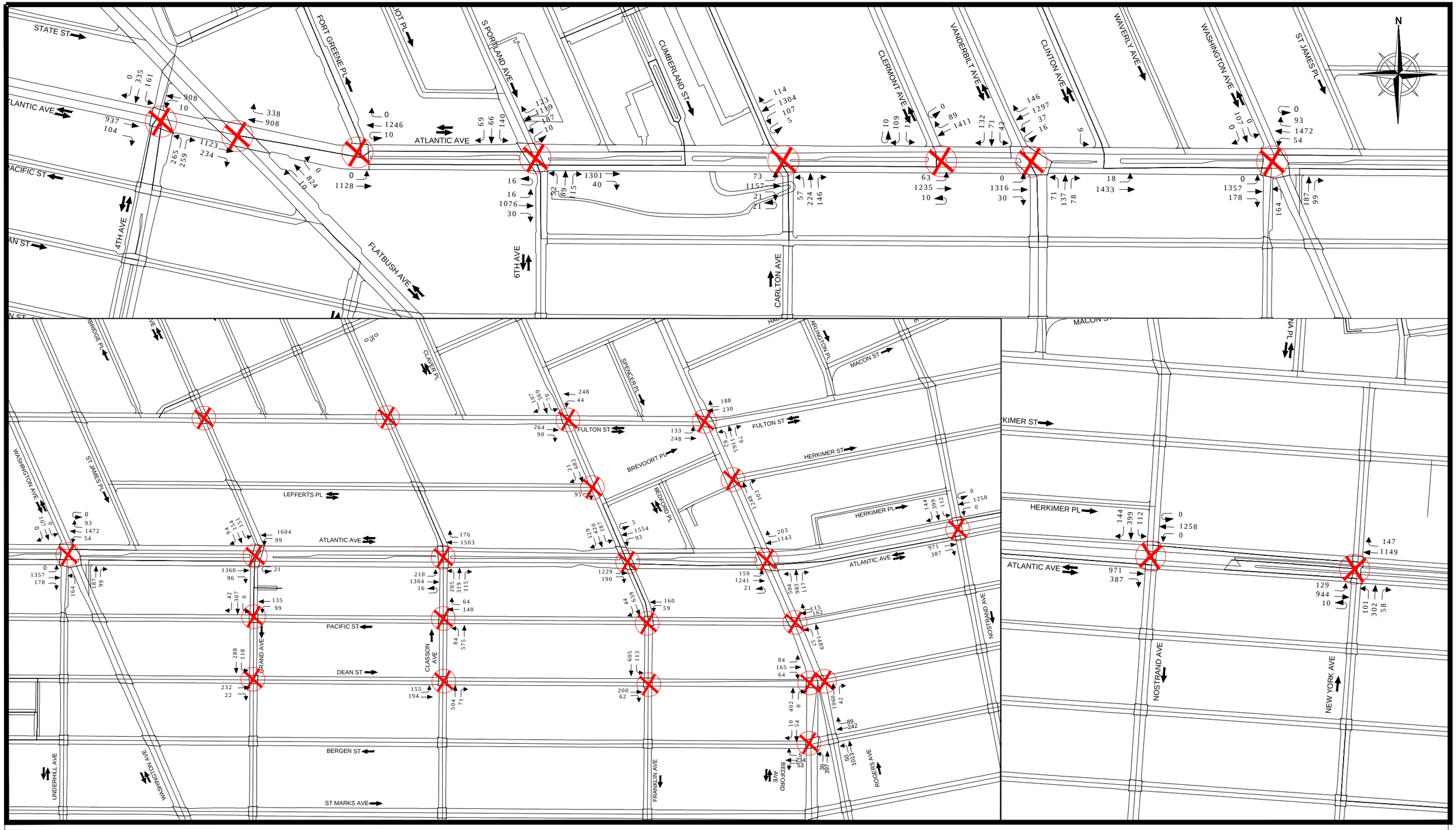
LEGEND: ← 2 = MD Traffic Volume ⊗ Traffic Analysis Locations

PM Peak Hour No-Action Traffic Volumes



LEGEND: ← 2 = PM Traffic Volume ⊗ Traffic Analysis Locations

SAT Peak Hour No-Action Traffic Volumes



LEGEND: ← 2 = SAT Traffic Volume ⊗ Traffic Analysis Locations

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

Signalized Intersection	Approach	Lane Group	Weekday AM V/C Ratio	Weekday AM Delay (sec/veh)	Weekday AM LOS	No-Action Weekday AM V/C Ratio	No-Action Weekday AM Delay (sec/veh)	No-Action Weekday AM LOS	Weekday Midday V/C Ratio	Weekday Midday Delay (sec/veh)	Weekday Midday LOS	No-Action Weekday Midday V/C Ratio	No-Action Weekday Midday Delay (sec/veh)	No-Action Weekday Midday LOS	Weekday PM V/C Ratio	Weekday PM Delay (sec/veh)	Weekday PM LOS	No-Action Weekday PM V/C Ratio	No-Action Weekday PM Delay (sec/veh)	No-Action Weekday PM LOS	Saturday Midday V/C Ratio	Saturday Midday Delay (sec/veh)	Saturday Midday LOS	No-Action Saturday Midday V/C Ratio	No-Action Saturday Midday Delay (sec/veh)	No-Action Saturday Midday LOS
1: Atlantic Av &	EB	T	0.69	31.0	C	0.72	30.3	C	0.76	36.2	D	0.84	40.6	D	0.89	48.8	D	0.94	52.0	D *	0.84	40.3	D	0.95	52.2	D *
4th Av	EB	R	0.25	27.5	C	0.28	28.1	C	0.29	31.9	C	0.32	32.9	C	0.33	36.3	D	0.37	37.6	D	0.47	38.8	D	0.53	42.0	D
	WB	T	0.76	6.4	A	0.89	9.6	A	0.68	8.0	A	0.84	10.4	B	0.73	26.8	C	0.87	27.6	C	0.70	9.7	A	0.89	15.7	B
	NB	L	0.63	53.5	D	0.79	68.9	E *	0.48	45.9	D	0.61	50.9	D	0.60	51.9	D	0.84	74.7	E *	0.53	46.9	D	0.62	50.4	D
	NB	LTR	0.73	62.8	E *	0.99	113.6	F *	0.54	49.0	D	0.70	57.2	E *	0.84	78.1	E *	1.17	168.1	F *	0.68	57.5	E *	0.86	76.8	E *
	NB	R	0.66	57.2	E *	0.83	77.0	E *	0.49	46.9	D	0.64	53.3	D	0.63	54.6	D	0.90	88.1	F *	0.56	49.1	D	0.65	53.3	D
	SB	LTR	0.92	73.7	E *				0.85	58.5	E *				0.86	51.5	D				0.92	65.9	E *			
	SB	LT				1.18	149.6	F *				1.04	97.4	F *				1.13	118.3	F *				1.18	143.0	F *
2: Atlantic Av &	EB	T	0.63	15.3	B	0.77	17.8	B	0.56	12.6	B	0.72	17.6	B	0.74	14.8	B	0.91	18.9	B *	0.73	17.2	B	0.91	24.4	C *
Flatbush Av	EB	R	0.72	29.7	C	0.78	33.0	C	0.75	28.5	C	0.80	32.7	C	0.54	20.8	C	0.59	21.9	C	0.69	27.8	C	0.74	30.8	C
	WB	T	0.66	17.7	B	0.80	22.8	C	0.53	13.8	B	0.65	15.9	B	0.53	29.2	C	0.65	36.6	D	0.62	34.2	C	0.75	37.3	D
	WB	R	1.05	84.7	F *	1.21	142.0	F *	0.94	61.2	E *	1.06	89.1	F *	0.89	66.8	E *	1.00	94.0	F *	1.04	106.2	F *	1.16	143.4	F *
	NB	T	0.67	26.9	C	0.71	28.1	C	0.54	24.2	C	0.57	24.7	C	0.59	24.9	C	0.62	25.6	C	0.54	24.1	C	0.56	24.5	C
	SB	T	0.49	23.6	C	0.51	24.1	C	0.51	23.9	C	0.53	24.3	C	0.74	30.1	C	0.78	31.9	C	0.58	25.5	C	0.61	26.1	C
3: Atlantic Av &	EB	T	0.55	2.1	A	0.64	2.4	A	0.47	0.9	A	0.56	1.0	A	0.60	9.6	A	0.71	12.8	B	0.63	1.8	A	0.76	2.7	A
Fort Greene Pl.	WB	T	0.54	6.7	A	0.64	7.3	A	0.50	17.2	B	0.59	18.8	B	0.48	8.9	A	0.58	10.0	A	0.57	12.5	B	0.68	13.3	B
4: Atlantic Av &	EB	TR	0.49	10.0	A	0.59	10.1	B	0.61	24.8	C	0.75	28.3	C	0.58	8.0	A	0.70	14.3	B	0.59	3.9	A	0.73	5.0	A
S Portland Av	WB	L	0.48	18.2	B	0.57	22.0	C	0.59	25.4	C	0.72	36.0	D	0.42	17.4	B	0.52	22.6	C	0.85	41.6	D	1.04	91.6	F *
	WB	T	0.58	16.8	B	0.67	18.6	B	0.62	19.1	B	0.71	21.2	C	0.46	13.4	B	0.54	14.7	B	0.48	14.7	B	0.56	15.9	B
	NB	LT	0.54	30.6	C	0.57	32.2	C	0.38	25.1	C	0.39	25.4	C	0.39	32.6	C	0.44	34.1	C	0.50	42.2	D	0.56	44.5	D
	NB	R	0.31	25.9	C	0.37	27.7	C	0.19	22.3	C	0.24	23.2	C	0.33	31.5	C	0.44	33.9	C	0.33	37.4	D	0.45	40.8	D
	SB	L	0.36	39.7	D	0.60	50.2	D	0.33	25.6	C	0.39	27.0	C	0.61	51.1	D	0.80	67.2	E *	0.69	57.9	E *	0.83	73.4	E *
	SB	TR	0.30	36.6	D	0.43	39.8	D	0.26	23.3	C	0.31	24.1	C	1.05	120.1	F *	1.23	181.8	F *	0.81	68.8	E *	0.93	89.7	F *
5: Atlantic Av &	EB	L	0.56	57.4	E *	0.59	62.6	E *	0.58	38.2	D	0.68	46.8	D	0.38	30.2	C	0.46	39.1	D	0.66	56.8	E *	0.80	78.5	E *
Carlton Av	EB	T	0.61	28.6	C	0.76	32.8	C	0.56	23.1	C	0.68	25.4	C	0.68	27.1	C	0.82	31.7	C	0.61	26.5	C	0.75	30.4	C
	WB	L	0.29	22.8	C	0.51	27.2	C	0.14	5.4	A	0.19	6.2	A	0.50	33.2	C	0.94	104.1	F *	0.57	22.7	C	0.82	43.7	D
	WB	TR	0.93	31.3	C *	1.06	59.5	E *	0.77	9.7	A	0.87	12.0	B	0.63	22.0	C	0.74	26.1	C	0.80	10.4	B	0.92	16.0	B *
	NB	LTR	1.01	77.3	E *	1.05	90.6	F *	0.97	61.3	E *	1.02	72.5	E *	0.92	63.1	E *	0.96	70.4	E *	0.87	52.0	D	0.90	57.0	E *
6: Atlantic Av &	EB	L	0.81	64.7	E *	1.16	166.6	F *	0.61	45.2	D	0.83	75.3	E *	0.43	9.4	A	0.64	18.3	B	0.78	49.2	D	1.17	153.5	F *
Clermont Av.	EB	T	0.48	3.0	A	0.61	4.3	A	0.57	25.3	C	0.67	29.8	C	0.50	3.5	A	0.62	3.4	A	0.50	6.2	A	0.62	6.9	A
	WB	TR	0.82	8.1	A	0.97	16.5	B *	0.69	9.4	A	0.78	10.3	B	0.56	5.6	A	0.69	7.4	A	0.65	16.6	B	0.76	18.3	B
	SB	LR	0.62	44.8	D	0.66	46.5	D	0.48	26.8	C	0.52	27.7	C	0.75	50.6	D	0.80	54.6	D	0.60	44.5	D	0.66	46.8	D
7: Atlantic Av &	EB	T	0.74	16.5	B	0.90	23.7	C *	0.93	37.2	D *	1.10	80.0	E *	0.78	16.0	B	0.92	21.0	C *	0.76	53.0	D	0.92	61.9	E *
Vanderbilt Av	EB	R	0.27	13.4	B	0.43	18.9	B	0.48	24.0	C	0.85	54.6	D	0.35	9.5	A	0.57	14.6	B	0.07	39.0	D	0.15	39.3	D
	WB	L	0.64	34.1	C	0.86	65.1	E *	0.79	52.8	D	0.89	70.8	E *	1.04	102.5	F *	1.31	208.3	F *	0.28	21.1	C	0.44	29.2	C
	WB	TR	0.91	33.9	C *	1.01	51.6	D *	0.70	25.4	C	0.80	28.4	C	0.62	21.0	C	0.72	23.4	C	0.73	24.7	C	0.83	28.6	C
	NB	L	0.71	44.2	D	0.81	54.8	D	0.61	24.6	C	0.68	29.4	C	0.65	47.2	D	0.73	55.2	E *	0.19	24.1	C	0.24	24.8	C
	NB	T	0.49	29.7	C	0.52	30.3	C	0.50	18.0	B	0.53	18.5	B	0.36	28.2	C	0.38	28.5	C	0.25	24.9	C	0.26	25.2	C
	NB	R	0.10	23.1	C	0.18	24.3	C	0.11	12.8	B	0.19	13.8	B	0.08	24.0	C	0.20	25.9	C	0.10	23.0	C	0.23	25.2	C
	SB	T	0.73	49.7	D	0.77	52.2	D	0.70	31.5	C	0.73	32.9	C	1.05	99.7	F *	1.10	115.9	F *	0.38	36.9	D	0.41	37.9	D
	SB	R	0.31	36.2	D	0.40	39.0	D	0.14	19.7	B	0.18	20.3	C	0.22	35.4	D	0.30	37.6	D	0.45	39.5	D	0.57	44.7	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 11)

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

Signalized Intersection	Approach	Lane Group	Weekday AM V/C Ratio	Weekday AM Delay (sec/veh)	Weekday AM LOS		No-Action Weekday AM V/C Ratio	No-Action Weekday AM Delay (sec/veh)	No-Action Weekday AM LOS		Weekday Midday V/C Ratio	Weekday Midday Delay (sec/veh)	Weekday Midday LOS		No-Action Weekday Midday V/C Ratio	No-Action Weekday Midday Delay (sec/veh)	No-Action Weekday Midday LOS		Weekday PM V/C Ratio	Weekday PM Delay (sec/veh)	Weekday PM LOS		No-Action Weekday PM V/C Ratio	No-Action Weekday PM Delay (sec/veh)	No-Action Weekday PM LOS		Saturday Midday V/C Ratio	Saturday Midday Delay (sec/veh)	Saturday Midday LOS		No-Action Saturday Midday V/C Ratio	No-Action Saturday Midday Delay (sec/veh)	No-Action Saturday Midday LOS	
8: Atlantic Av & Washington Av	EB	TR	0.82	36.7	D		1.03	66.0	E	*	0.96	46.6	D	*	1.19	123.7	F	*	0.92	40.0	D	*	1.12	94.5	F	*	0.77	30.5	C		0.98	49.6	D	*
	WB	L	0.51	68.5	E	*	0.67	81.6	F	*	0.43	51.3	D		0.65	66.2	E	*	0.39	56.7	E	*	0.64	73.9	E	*	0.31	56.6	E	*	0.48	63.3	E	*
	WB	TR	0.82	26.9	C		0.92	33.5	C	*	0.62	20.4	C		0.72	22.5	C		0.60	16.6	B		0.69	18.7	B		0.65	17.6	B		0.75	20.1	C	
	NB	L	1.05	112.2	F	*	1.15	145.5	F	*	0.78	53.4	D		0.86	64.9	E	*	0.56	55.8	E	*	0.64	61.5	E	*	0.94	97.2	F	*	1.08	136.8	F	*
	NB	T	0.57	33.2	C		0.60	34.1	C		0.36	18.7	B		0.38	19.0	B		0.40	33.8	C		0.43	34.4	C		0.43	34.4	C		0.46	35.1	D	
	SB	TR	0.43	29.6	C		0.45	30.3	C		0.43	19.8	B		0.45	20.2	C		0.64	41.0	D		0.68	42.7	D		0.25	30.9	C		0.26	31.2	C	
9: Atlantic Av & Grand Av	EB	TR	0.56	17.1	B		0.72	22.4	C		0.59	18.5	B		0.71	21.1	C		0.73	21.3	C		0.90	31.7	C	*	0.61	19.6	B		0.75	23.2	C	
	WB	L	0.48	6.5	A		0.94	20.9	C	*	0.55	24.1	C		0.94	61.3	E	*	1.05	122.1	F	*	2.31	642.1	F	*	1.02	80.7	F	*	1.95	442.6	F	*
	WB	T	0.72	2.7	A		0.83	2.8	A		0.55	11.6	B		0.63	15.4	B		0.57	19.9	B		0.69	21.5	C		0.68	6.0	A		0.78	7.8	A	
	SB	L	0.29	35.5	D		0.40	38.3	D		0.20	20.5	C		0.33	22.5	C		0.47	39.1	D		0.71	50.9	D		0.36	37.1	D		0.61	46.1	D	
	SB	TR	0.73	50.5	D		0.87	64.6	E	*	0.51	25.0	C		0.62	28.2	C		0.97	79.5	E	*	1.15	134.7	F	*	0.58	42.9	D		0.76	52.2	D	
10: Atlantic Av & Classon av	EB	L	0.71	38.4	D		1.10	110.0	F	*	0.59	19.3	B		1.04	83.2	F	*	0.75	31.0	C		1.23	147.0	F	*	0.76	36.7	D		1.20	142.6	F	*
	EB	T	0.46	8.2	A		0.57	10.5	B		0.47	7.5	A		0.58	12.1	B		0.61	4.1	A		0.73	4.6	A		0.48	6.2	A		0.60	7.8	A	
	WB	TR	0.89	14.0	B		1.10	67.1	E	*	0.75	24.8	C		1.01	52.5	D	*	0.71	19.9	B		0.93	35.2	D	*	0.80	26.7	C		1.03	58.2	E	*
	NB	L	0.59	43.4	D		0.72	49.6	D		0.35	28.7	C		0.45	31.3	C		0.29	33.3	C		0.44	36.6	D		0.63	56.4	E	*	0.87	77.9	E	*
	NB	TR	0.98	78.4	E	*	1.25	169.8	F	*	0.54	30.3	C		0.69	34.3	C		0.68	40.5	D		0.91	57.0	E	*	1.03	102.9	F	*	1.42	253.3	F	*
11: Atlantic Av & Franklin Av	EB	TR	0.65	31.8	C		0.85	34.6	C		0.77	13.4	B		0.93	21.4	C	*	0.79	16.0	B		0.99	39.0	D	*	0.71	26.0	C		0.88	33.7	C	
	WB	L	0.32	14.9	B		0.50	26.3	C		0.38	31.7	C		0.57	37.2	D		0.50	35.3	D		0.80	54.5	D		0.40	18.8	B		0.69	29.9	C	
	WB	T	0.69	10.5	B		0.81	13.4	B		0.51	21.4	C		0.59	23.8	C		0.51	15.3	B		0.63	22.5	C		0.58	10.6	B		0.67	11.4	B	
	SB	LT	0.71	44.7	D		0.84	52.7	D		0.66	32.4	C		0.77	36.3	D		1.05	93.8	F	*	1.24	166.0	F	*	0.90	59.6	E	*	1.06	95.6	F	*
	SB	R	0.25	35.7	D		0.44	40.6	D		0.18	25.1	C		0.33	28.0	C		0.51	46.4	D		0.87	78.7	E	*	0.30	38.0	D		0.59	48.3	D	
12: Atlantic Av & Bedford Av	EB	L	0.97	120.2	F	*	1.19	175.1	F	*	0.89	86.6	F	*	1.06	115.7	F	*	1.04	127.8	F	*	1.22	176.8	F	*	1.05	145.0	F	*	1.26	208.2	F	*
	EB	T	0.45	19.1	B		0.53	24.0	C		0.46	4.8	A		0.53	6.4	A		0.66	4.3	A		0.76	3.4	A		0.57	4.7	A		0.68	10.3	B	
	WB	TR	0.86	39.3	D		0.98	53.7	D	*	0.84	37.7	D		0.99	55.9	E	*	0.84	40.6	D		1.00	62.0	E	*	0.80	37.0	D		0.95	48.6	D	*
	NB	L	1.01	51.9	D	*	1.23	131.1	F	*	0.56	20.2	C		0.71	24.7	C		0.61	18.2	B		0.79	25.9	C		0.94	39.0	D	*	1.15	101.5	F	*
	NB	T	1.05	54.1	D	*	1.15	90.5	F	*	0.79	22.6	C		0.87	27.0	C		1.05	61.3	E	*	1.15	98.4	F	*	1.05	59.0	E	*	1.15	96.6	F	*
	NB	R	0.30	12.8	B		0.36	14.8	B		0.19	17.7	B		0.24	18.2	B		0.47	18.9	B		0.58	23.4	C		0.29	13.3	B		0.36	15.4	B	
13: Atlantic Av & Nostrand Av	EB	TR	0.56	19.7	B		0.65	21.6	C		0.66	24.7	C		0.78	27.9	C		0.84	34.0	C		0.97	47.1	D	*	0.56	17.4	B		0.66	19.6	B	
	WB	T	0.85	4.9	A		0.97	8.5	A	*	0.80	24.2	C		0.94	25.8	C	*	0.93	60.8	E	*	1.15	122.6	F	*	0.67	29.2	C		0.81	33.4	C	
	SB	LT	0.90	57.1	E	*	0.99	72.3	E	*	1.05	79.9	E	*	1.15	115.0	F	*	0.69	34.9	C		0.75	37.6	D									
	SB	R	0.52	41.6	D		0.62	45.9	D		0.36	22.1	C		0.42	23.6	C		0.35	29.2	C		0.42	31.1	C									
	SB	LTR																									1.05	94.2	F	*	1.21	151.5	F	
14: Atlantic Av & New York Av	EB	L	0.61	70.1	E	*	0.79	81.8	F	*	0.63	58.0	E	*	0.81	67.1	E	*	0.67	94.6	F	*	0.86	100.5	F	*	0.92	125.2	F	*	1.16	190.1	F	*
	EB	T	0.62	22.8	C		0.74	32.8	C		0.64	27.2	C		0.77	36.0	D		0.78	6.2	A		0.92	10.5	B	*	0.58	6.5	A		0.72	8.8	A	
	WB	T	0.98	52.2	D	*	1.16	115.9	F	*	0.83	32.8	C		1.04	71.2	E	*	0.94	47.7	D	*	1.17	120.7	F	*	0.86	37.7	D		1.06	78.9	E	*
	WB	R	0.20	20.1	C		0.27	23.1	C		0.28	20.4	C		0.41	25.6	C		0.26	22.2	C		0.38	26.6	C		0.28	22.7	C		0.42	27.9	C	
	NB	LT	1.05	105.5	F	*	1.25	175.5	F	*																								
	NB	R	0.24	35.8	D		0.26	36.3	D																									
	NB	LTR									1.05	93.7	F	*	1.22	156.3	F	*	1.05	104.8	F	*	1.24	174.6	F	*	1.05	103.0	F	*	1.26	178.3	F	*

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 11)

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

Unsignalized Intersection	Approach	Lane Group	Weekday AM V/C Ratio	Weekday AM Delay (sec/veh)	Weekday AM LOS	No-Action Weekday AM V/C Ratio	No-Action Weekday AM Delay (sec/veh)	No-Action Weekday AM LOS	Weekday Midday V/C Ratio	Weekday Midday Delay (sec/veh)	Weekday Midday LOS	No-Action Weekday Midday V/C Ratio	No-Action Weekday Midday Delay (sec/veh)	No-Action Weekday Midday LOS	Weekday PM V/C Ratio	Weekday PM Delay (sec/veh)	Weekday PM LOS	No-Action Weekday PM V/C Ratio	No-Action Weekday PM Delay (sec/veh)	No-Action Weekday PM LOS	Saturday Midday V/C Ratio	Saturday Midday Delay (sec/veh)	Saturday Midday LOS	No-Action Saturday Midday V/C Ratio	No-Action Saturday Midday Delay (sec/veh)	No-Action Saturday Midday LOS
8A: Atlantic Av & Washington Av	NB	R	0.14	10.5	B	0.20	11.9	B	0.07	10.0	A	0.09	10.4	B	0.15	11.3	B	0.19	12.4	B	0.13	10.3	B	0.20	12.2	B
16: Grand Av & Pacific St (All Way Stop)	WB	LT	0.33	10.2	B	0.40	11.3	B	0.22	9.0	A	0.28	9.7	A	0.30	10.6	B	0.38	11.9	B	0.30	9.8	A	0.40	11.2	B
	SB	TR	0.43	10.9	B	0.51	12.5	B	0.33	9.5	A	0.41	10.5	B	0.64	15.1	C	0.76	20.9	C	0.39	10.2	B	0.50	12.1	B
17: Grand Av & Dean St (All Way Stop)	EB	TR	0.25	9.3	A	0.29	9.9	A	0.25	9.0	A	0.29	9.7	A	0.52	14.0	B	0.62	17.8	C	0.35	10.4	B	0.44	12.0	B
	SB	LT	0.39	10.4	B	0.49	11.9	B	0.35	9.9	A	0.46	11.5	B	0.78	23.2	C	0.97	49.6	E *	0.46	11.5	B	0.62	15.4	C
22: Franklin Av & Leffert Pl.	EB	R	0.07	12.6	B	0.23	17.2	C	0.09	12.3	B	0.25	16.6	C	0.12	11.5	B	0.50	28.9	D	0.06	10.6	B	0.34	22.7	C
26: Bedford Av & Harkimer st	NB	T	0.40	0.0	A	0.43	0.0	A	0.27	0.0	A	0.30	0.0	A	0.33	0.0	A	0.36	0.0	A	0.35	0.0	A	0.38	0.0	A
		R	0.07	0.0	A	0.07	0.0	A	0.07	0.0	A	0.07	0.0	A	0.08	0.0	A	0.08	0.0	A	0.07	0.0	A	0.07	0.0	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 11)

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

Signalized Intersection	Approach	Lane Group	Weekday AM V/C Ratio	Weekday AM Delay (sec/veh)	Weekday AM LOS	No-Action Weekday AM V/C Ratio	No-Action Weekday AM Delay (sec/veh)	No-Action Weekday AM LOS	Weekday Midday V/C Ratio	Weekday Midday Delay (sec/veh)	Weekday Midday LOS	No-Action Weekday Midday V/C Ratio	No-Action Weekday Midday Delay (sec/veh)	No-Action Weekday Midday LOS	Weekday PM V/C Ratio	Weekday PM Delay (sec/veh)	Weekday PM LOS	No-Action Weekday PM V/C Ratio	No-Action Weekday PM Delay (sec/veh)	No-Action Weekday PM LOS	Saturday Midday V/C Ratio	Saturday Midday Delay (sec/veh)	Saturday Midday LOS	No-Action Saturday Midday V/C Ratio	No-Action Saturday Midday Delay (sec/veh)	No-Action Saturday Midday LOS
15: Grand Av &	EB	TR	0.62	26.2	C	0.71	30.3	C	0.65	29.8	C	0.72	33.2	C	0.95	55.5	E *	1.07	87.6	F *	0.85	44.1	D	0.97	63.3	E *
Fulton St	WB	LT	1.05	80.6	F *	1.42	227.4	F *	0.64	28.9	C	0.89	49.3	D	0.87	46.3	D	1.52	278.5	F *	0.70	32.1	C	1.30	182.9	F *
	SB	LT	0.28	19.8	B	0.31	20.3	C	0.22	19.0	B	0.24	19.4	B	0.44	22.2	C	0.49	23.2	C	0.29	19.9	B	0.34	20.6	C
	SB	R	0.17	18.7	B	0.20	19.2	B	0.10	17.8	B	0.12	18.1	B	0.12	18.2	B	0.16	18.6	B	0.13	18.3	B	0.16	18.7	B
18: Classon av &	EB	LT	0.33	14.3	B	0.41	15.6	B	0.46	18.4	B	0.51	19.4	B	0.57	18.9	B	0.66	21.6	C	0.51	19.3	B	0.57	21.0	C
Fulton St	WB	TR	0.64	8.3	A	0.72	10.3	B	0.44	19.3	B	0.52	19.3	B	0.39	12.2	B	0.49	13.5	B	0.46	20.6	C	0.57	21.2	C
	NB	LTR	0.61	30.6	C	0.77	36.1	D	0.61	25.4	C	0.75	30.6	C	0.68	32.2	C	0.85	40.1	D	0.70	33.0	C	0.88	43.7	D
19: Classon Av &	WB	TR	0.90	53.2	D *	0.98	64.1	E *	0.62	38.2	D	0.72	41.2	D	0.58	19.6	B	0.68	21.9	C	0.61	15.7	B	0.73	20.4	C
Pacific Street	NB	LT	0.42	3.7	A	0.51	4.3	A	0.37	3.2	A	0.47	4.0	A	0.38	3.2	A	0.50	4.5	A	0.44	3.8	A	0.59	4.7	A
20: Classon Av &	EB	LT	0.79	40.7	D	1.01	77.8	E *	0.77	38.1	D	1.02	79.7	E *	1.05	86.4	F *	1.35	197.2	F *	0.95	62.4	E *	1.34	195.9	F *
Dean St	NB	TR	0.80	13.6	B	0.94	19.3	B *	0.71	22.9	C	0.85	27.0	C	0.69	20.9	C	0.85	26.4	C	0.80	24.9	C	0.97	37.3	D *
21: Franklin Av &	EB	T	0.31	25.6	C	0.38	26.2	C	0.41	20.1	C	0.46	21.6	C	0.50	18.7	B	0.57	20.9	C	0.48	22.6	C	0.55	23.7	C
Fulton St	EB	R	0.20	24.7	C	0.23	24.7	C	0.16	15.3	B	0.19	16.2	B	0.25	17.0	B	0.29	18.6	B	0.23	17.5	B	0.27	17.5	B
	WB	LT	0.80	33.3	C	0.86	39.5	D	0.72	30.1	C	0.80	35.4	D	0.65	26.0	C	0.72	29.1	C	0.65	25.9	C	0.72	29.3	C
	SB	LTR	0.62	21.9	C	0.73	25.2	C	0.55	20.3	C	0.64	22.4	C	0.65	22.3	C	0.78	26.7	C	0.65	22.2	C	0.77	26.3	C
23: Franklin Av &	WB	LT	0.74	19.4	B	0.80	22.5	C	0.42	18.7	B	0.46	19.6	B	0.56	29.1	C	0.64	31.8	C	0.47	25.4	C	0.54	27.6	C
Pacific St	SB	TR	0.81	16.6	B	0.97	30.8	C *	0.78	20.5	C	0.93	34.5	C *	0.86	17.9	B	1.02	32.8	C *	0.99	40.2	D *	1.18	99.8	F *
24: Franklin St/Fran	EB	TR	0.55	23.0	C	0.84	33.8	C	0.53	32.6	C	0.78	39.5	D	0.89	23.7	C	1.26	135.8	F *	0.64	20.1	C	0.94	27.8	C *
Dean St	SB	LT	0.78	10.2	B	1.03	36.8	D *	0.68	6.5	A	0.88	13.1	B	0.85	13.3	B	1.12	70.7	E *	0.85	7.3	A	1.11	58.7	E *
25: Bedford Av &	EB	L	0.54	47.1	D	0.95	113.9	F *	0.54	29.5	C	0.73	43.3	D	0.38	31.0	C	0.56	39.7	D	0.69	40.2	D	0.98	89.5	F *
Fulton St	EB	T	0.43	33.4	C	0.47	34.6	C	0.65	30.0	C	0.70	32.6	C	0.48	30.3	C	0.54	31.8	C	0.45	21.9	C	0.51	23.2	C
	WB	TR	0.97	74.7	E *	1.05	96.9	F *	0.77	33.6	C	0.85	39.9	D	0.70	38.5	D	0.79	43.8	D	0.90	46.0	D *	1.00	67.9	E *
	NB	LT	0.98	49.5	D *	1.13	99.8	F *	0.90	40.5	D *	1.05	73.9	E *	0.96	51.2	D *	1.12	100.2	F *	1.05	70.5	E *	1.23	139.2	F *
	NB	R	0.11	16.8	B	0.14	17.4	B	0.23	21.4	C	0.30	23.4	C	0.25	22.6	C	0.35	25.4	C	0.35	24.6	C	0.47	30.1	C
27: Bedford Av &	WB	TR	0.67	43.3	D	0.72	45.9	D	0.58	31.9	C	0.64	34.3	C	0.66	43.0	D	0.74	47.3	D	0.72	51.5	D	0.84	61.4	E *
Pacific St	NB	LT	0.83	7.7	A	0.89	9.6	A	0.62	5.2	A	0.68	5.9	A	0.61	5.6	A	0.67	6.2	A	0.65	6.0	A	0.70	6.6	A
28. Bedford Av/	EB	LTR	0.67	43.0	D	0.79	43.2	D	0.62	33.6	C	0.72	38.1	D	1.05	77.0	E *	1.16	108.8	F *	0.95	78.7	E *	1.08	108.5	F *
	NB	T	0.71	8.2	A	0.76	8.7	A	0.56	8.0	A	0.61	8.2	A	0.51	8.8	A	0.55	8.3	A	0.61	6.0	A	0.65	6.3	A
Roger Av & Dean St	NB	R	0.13	5.0	A	0.14	5.0	A	0.10	6.3	A	0.10	6.2	A	0.09	7.2	A	0.10	6.7	A	0.07	2.5	A	0.08	2.7	A
Bedford Av ->	NEB	T	0.66	6.9	A	0.71	7.5	A	0.55	9.0	A	0.60	9.5	A	0.62	8.8	A	0.68	9.2	A	0.48	4.7	A	0.53	4.7	A
29: Bedford Av &	WB	L	0.22	16.7	B	0.24	17.5	B	0.33	10.4	B	0.36	11.3	B	0.36	13.9	B	0.40	15.4	B	0.17	12.3	B	0.19	14.9	B
Bergen St	WB	TR	0.86	26.2	C	0.96	28.5	C *	0.44	11.4	B	0.53	12.8	B	0.64	16.7	B	0.78	17.9	B	0.69	14.8	B	0.86	19.1	B
	NB	LT	0.69	23.5	C	0.75	26.4	C	0.47	18.2	B	0.53	19.5	B	0.62	20.9	C	0.69	23.6	C	0.50	17.4	B	0.57	19.1	B
	SB	TR	0.08	15.4	B	0.08	14.4	B	0.09	16.7	B	0.10	15.8	B	0.16	21.6	C	0.17	21.6	C	0.08	5.9	A	0.09	5.7	A
30: Bergen St &	WB	TR	1.05	103.5	F *	1.14	135.3	F *	0.86	50.5	D	0.96	67.8	E *	1.05	104.5	F *	1.19	155.1	F *	1.04	103.2	F *	1.21	164.8	F *
Roger Av	NB	LT	0.73	22.2	C	0.78	24.3	C	0.57	18.8	B	0.62	19.8	B	0.47	16.4	B	0.57	18.2	B	0.69	20.4	C	0.75	22.3	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 11)

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 to ensure affordable housing is part of any future development) that would facilitate the implementation of a multi-year planning process conducted along Atlantic Avenue in northwestern Crown Heights and southern Bedford-Stuyvesant.

Future With-Action Traffic Growth

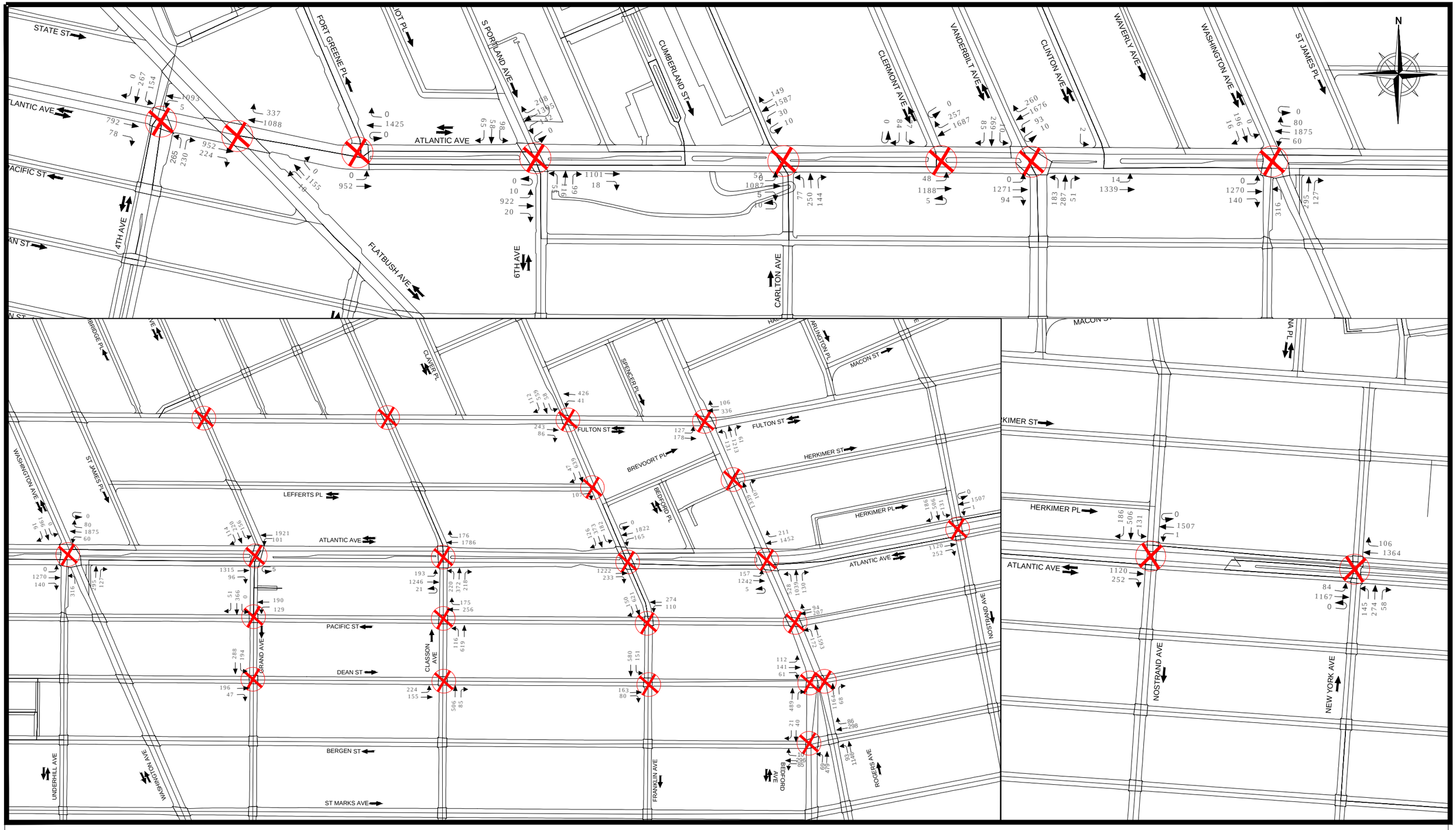
As shown in **Table 13-10**, based on projected development associated with the Proposed Actions, there would be a net total of approximately 1,119, 950, 1,387, and 1,469 additional vehicle trips (auto, taxi, and truck) during the weekday AM, midday, PM, and Saturday peak hours, respectively. The assignments of auto and taxi trips to the street network in proximity to the Project Area 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 arts and cultural and community center) were based on population density in proximity to the Project Area and surrounding neighborhoods within a 0.5-mile radius. Origins/destinations for the destination retail and medical office uses are based on population density in proximity to the Project Area and surrounding neighborhoods within a one-mile radius.

Using the origin/destination distributions, auto and taxi trips were assigned to various portals on the periphery of the Project Area and from there via the most direct route to each projected development site. Although 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 Project Area rather than dispersing it to outlying public parking facilities. Additional auto and taxi trip distribution data are provided in the *Atlantic Avenue Mixed-Use Plan (AAMUP) Transportation Planning Factors and Travel Demand Forecast Technical Memorandum* included in Appendix G.

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 Atlantic Avenue, which is a through truck route, along with the local truck routes along Nostrand, Bedford, and Flatbush Avenues.

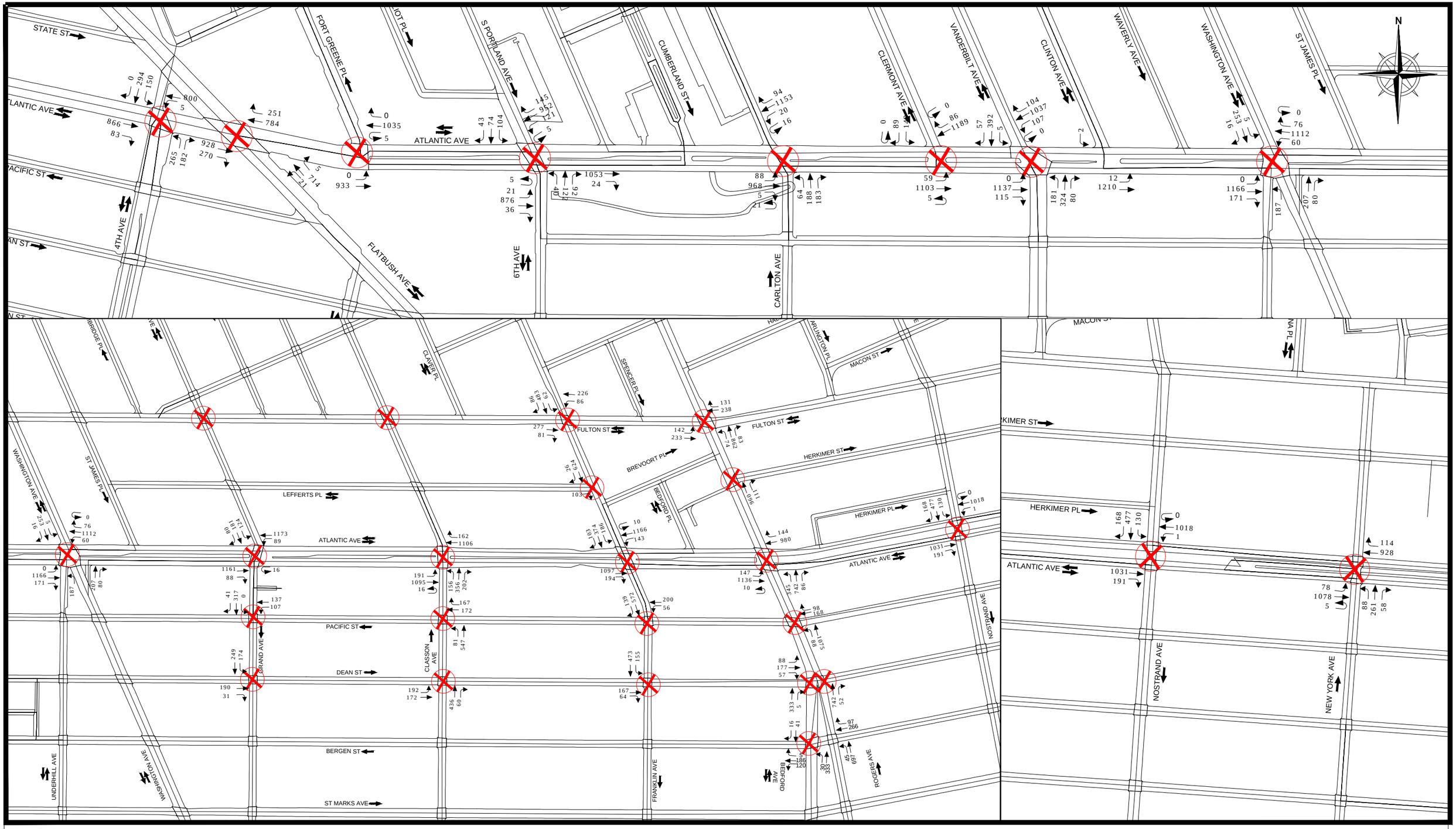
Figures 13-2a through 13-2d show the assignment of incremental vehicle trips (auto, taxi, and truck) generated during the weekday AM, midday, PM, and Saturday peak hours under the Proposed Actions. **Figures 13-10a through 13-10d** show the total weekday AM, midday,

AM Peak Hour With-Action Traffic Volumes



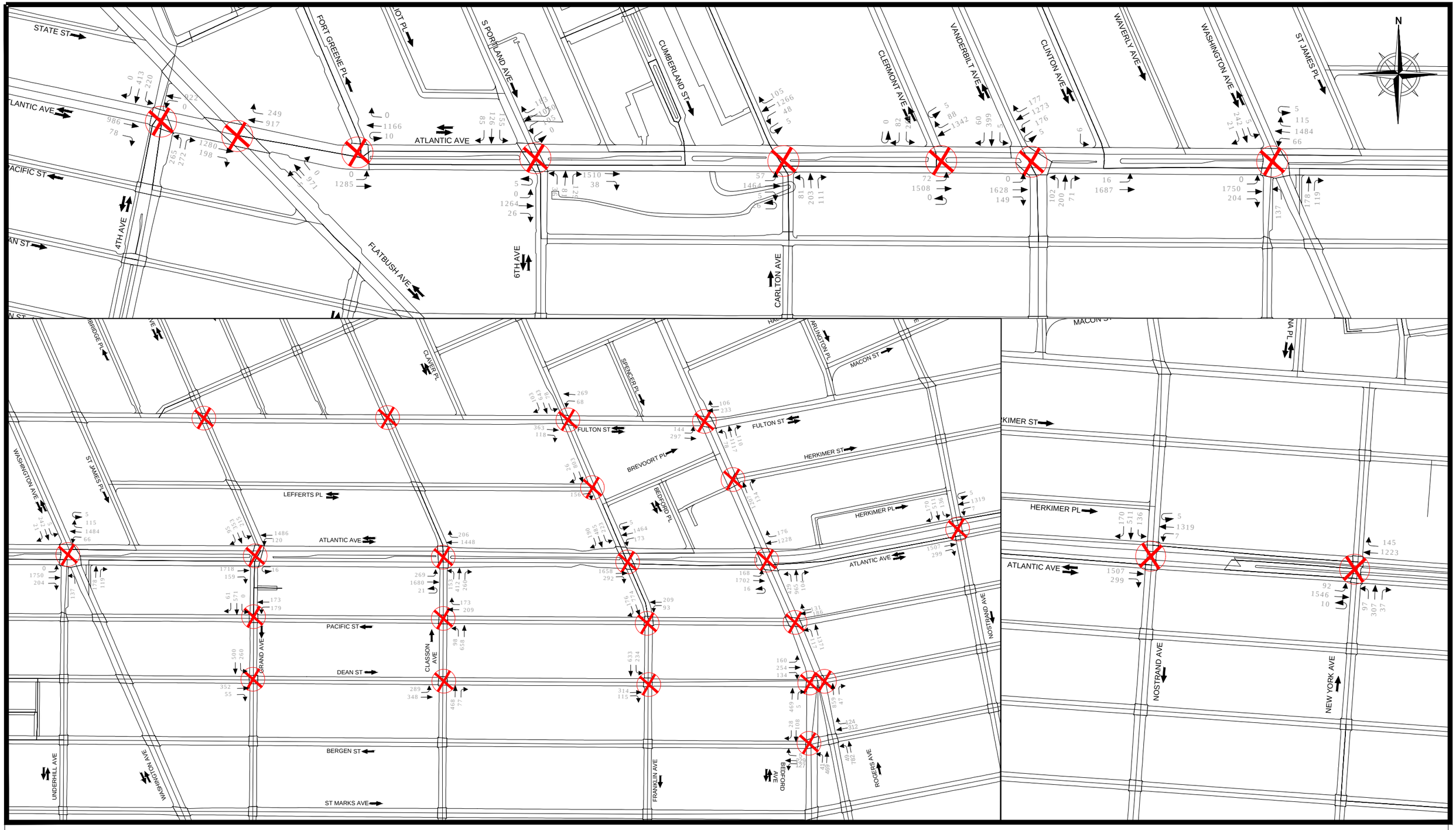
LEGEND: ← 2 = AM Traffic Volume ⊗ Traffic Analysis Locations

MD Peak Hour With-Action Traffic Volumes



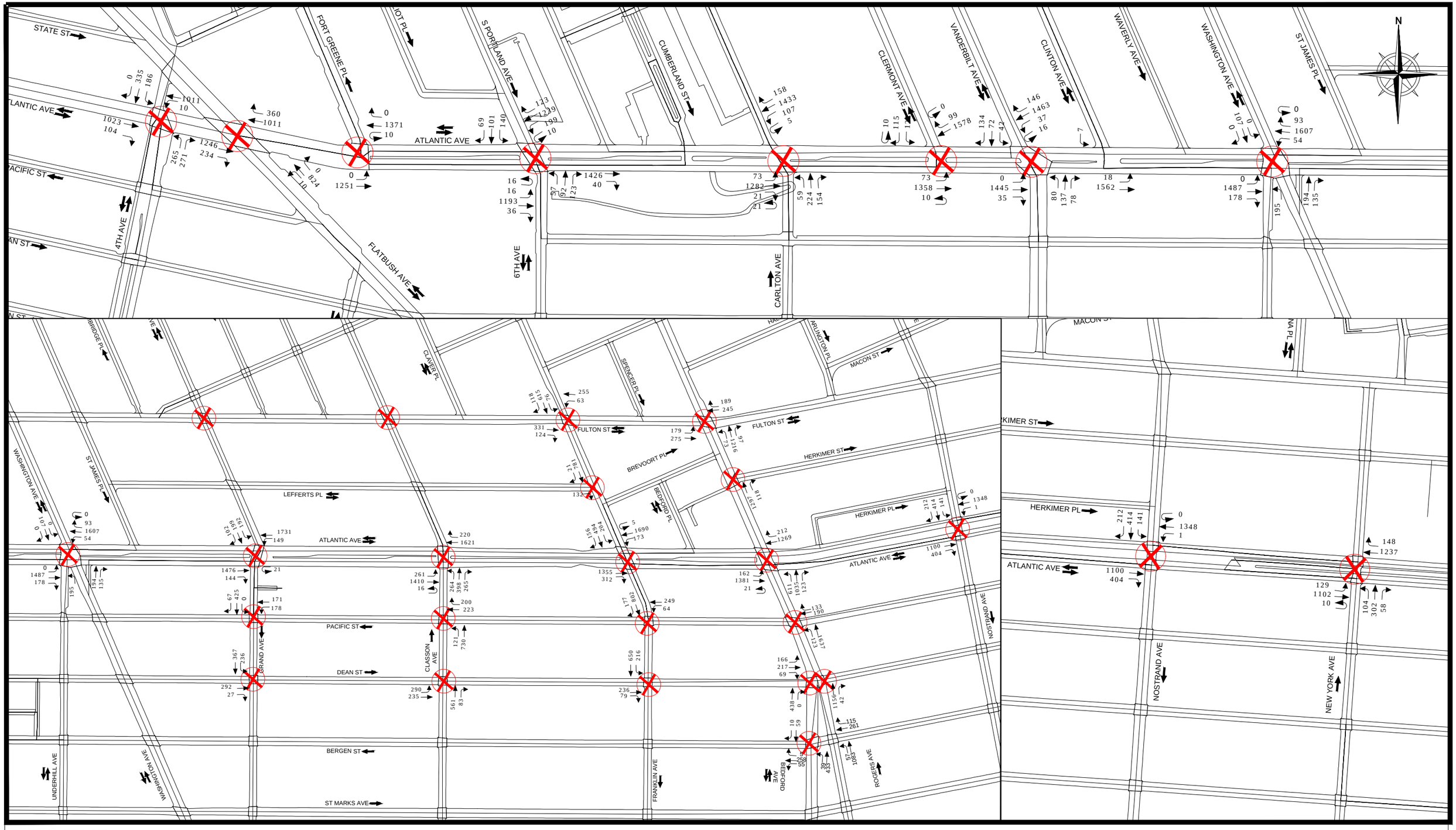
LEGEND: ← 2 = MD Traffic Volume ⊗ Traffic Analysis Locations

PM Peak Hour With-Action Traffic Volumes



LEGEND: ← 2 = PM Traffic Volume ⊗ Traffic Analysis Locations

SAT Peak Hour With-Action Traffic Volumes



LEGEND: ← 2 = SAT Traffic Volume ⊗ Traffic Analysis Locations

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**, 27 intersections (24 signalized and 3 unsignalized) would have at least one congested lane group in one or more peak hours in the With-Action condition, compared to 24 (23 signalized and one unsignalized) in the No-Action condition.

The traffic impact analysis indicates the potential for significant adverse impacts at 27 intersections (24 signalized and 3 unsignalized) during one or more analyzed peak hours. Significant adverse impacts were identified to 41 lane groups at 21 intersections during the weekday AM peak hour, 26 lane groups at 21 intersections in the weekday midday peak hour, 44 lane groups at 25 intersections in the weekday PM peak hour, and 46 lane groups at 25 intersections during the Saturday peak hour. Potential measures to mitigate the significant adverse traffic impacts identified in **Table 13-22** are discussed in **Chapter 20, Mitigation**.

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

Signalized Intersections	Approach	Lane Group	No-Action Weekday AM V/C Ratio	No-Action Weekday AM Delay (sec/veh)	No-Action Weekday AM LOS	With-Action Weekday AM V/C Ratio	With-Action Weekday AM Delay (sec/veh)	With-Action Weekday AM LOS	No-Action Weekday Midday V/C Ratio	No-Action Weekday Midday Delay (sec/veh)	No-Action Weekday Midday LOS	With-Action Weekday Midday V/C Ratio	With-Action Weekday Midday Delay (sec/veh)	With-Action Weekday Midday LOS	No-Action Weekday PM V/C Ratio	No-Action Weekday PM Delay (sec/veh)	No-Action Weekday PM LOS	With-Action Weekday PM V/C Ratio	With-Action Weekday PM Delay (sec/veh)	With-Action Weekday PM LOS	No-Action Saturday Midday V/C Ratio	No-Action Saturday Midday Delay (sec/veh)	No-Action Saturday Midday LOS	With-Action Saturday Midday V/C Ratio	With-Action Saturday Midday Delay (sec/veh)	With-Action Saturday Midday LOS
1: Atlantic Av & 4th Av	EB	T	0.72	30.3	C	0.76	31.9	C	0.84	40.6	D	0.90	45.4	D	0.94	52.0	D	1.01	68.6	E *	0.95	52.2	D	1.04	73.1	E *
	EB	R	0.28	28.1	C	0.28	28.1	C	0.32	32.9	C	0.32	32.9	C	0.37	37.6	D	0.37	37.6	D	0.53	42.0	D	0.53	42.0	D
	WB	T	0.89	9.4	A	0.99	19.6	B	0.84	11.7	B	0.92	15.0	B	0.87	27.6	C	1.00	41.3	D	0.89	15.7	B	1.04	40.4	D
	NB	L	0.79	68.9	E	0.81	72.1	E	0.61	50.9	D	0.64	52.0	D	0.84	74.7	E	0.87	78.6	E	0.62	50.4	D	0.62	50.7	D
	NB	LTR	0.99	113.6	F	1.05	130.2	F *	0.70	57.2	E	0.73	59.6	E	1.17	168.1	F	1.23	192.4	F *	0.86	76.8	E	0.89	83.7	F *
	NB	R	0.83	77.0	E	0.86	81.2	F *	0.64	53.3	D	0.65	53.7	D	0.90	88.1	F	0.92	90.7	F	0.65	53.3	D	0.67	54.5	D
	SB	LT	1.18	149.6	F	1.24	175.0	F *	1.04	97.4	F	1.11	120.0	F *	1.13	118.3	F	1.21	147.6	F *	1.18	143.0	F	1.27	181.6	F *
2: Atlantic Av & Flatbush Av	EB	T	0.77	17.8	B	0.84	20.3	C	0.69	15.3	B	0.79	19.8	B	0.91	18.9	B	0.99	23.6	C	0.91	24.4	C	1.01	33.0	C
	EB	R	0.78	33.0	C	0.78	33.0	C	0.80	32.7	C	0.80	33.0	C	0.59	21.9	C	0.59	21.8	C	0.74	30.8	C	0.74	28.6	C
	WB	T	0.80	22.8	C	0.89	29.0	C	0.63	14.4	B	0.71	17.1	B	0.65	36.6	D	0.75	41.3	D	0.75	37.3	D	0.84	40.3	D
	WB	R	1.21	142.0	F	1.36	204.9	F *	1.06	89.1	F	1.14	115.4	F *	1.00	94.0	F	1.08	119.1	F *	1.16	143.4	F	1.24	171.7	F *
	NB	T	0.71	28.1	C	0.71	28.1	C	0.57	24.7	C	0.57	24.7	C	0.62	25.6	C	0.62	25.6	C	0.56	24.5	C	0.56	24.5	C
	SB	T	0.51	24.1	C	0.51	24.1	C	0.53	24.3	C	0.53	24.3	C	0.78	31.9	C	0.78	31.9	C	0.61	26.1	C	0.61	26.1	C
3: Atlantic Av & Fort Greene Pl.	EB	T	0.64	2.4	A	0.70	2.8	A	0.56	1.1	A	0.61	1.1	A	0.71	12.8	B	0.78	14.2	B	0.76	2.7	A	0.84	5.0	A
	WB	T	0.64	7.3	A	0.71	7.5	A	0.59	18.8	B	0.64	19.9	B	0.58	10.0	A	0.66	10.7	B	0.68	13.3	B	0.75	14.1	B
4: Atlantic Av & S Portland Av	EB	TR	0.59	10.4	B	0.64	11.5	B	0.75	28.3	C	0.82	31.2	C	0.70	14.3	B	0.76	18.4	B	0.73	5.0	A	0.81	6.7	A
	WB	L	0.57	22.0	C	0.63	25.4	C	0.72	36.0	D	0.82	49.1	D	0.52	22.6	C	0.63	30.4	C	1.04	91.6	F	1.22	158.9	F *
	WB	T	0.67	18.6	B	0.73	20.3	C	0.71	21.2	C	0.76	22.7	C	0.54	14.7	B	0.60	15.7	B	0.56	15.9	B	0.61	16.8	B
	NB	LT	0.57	32.2	C	0.59	34.3	C	0.39	25.4	C	0.42	25.9	C	0.44	34.1	C	0.50	38.6	D	0.56	44.5	D	0.61	46.4	D
	NB	R	0.37	27.7	C	0.39	29.4	C	0.24	23.2	C	0.27	23.6	C	0.44	33.9	C	0.48	37.3	D	0.45	40.8	D	0.49	41.4	D
	SB	L	0.60	50.2	D	0.61	50.9	D	0.39	27.0	C	0.40	27.3	C	0.80	67.2	E	0.82	70.6	E	0.83	73.4	E	0.85	77.5	E
	SB	TR	0.43	39.8	D	0.44	39.9	D	0.31	24.1	C	0.31	25.5	C	1.23	181.8	F	1.24	185.4	F	0.93	89.7	F	0.94	91.8	F
5: Atlantic Av & Carlton Av	EB	L	0.59	62.6	E	0.59	65.5	E	0.68	46.8	D	0.72	52.1	D	0.46	39.1	D	0.53	46.7	D	0.80	78.5	E	0.80	81.5	F
	EB	T	0.76	32.8	C	0.81	35.1	D	0.68	25.4	C	0.75	27.1	C	0.82	31.7	C	0.89	35.8	D	0.75	30.4	C	0.83	33.7	C
	WB	L	0.51	27.2	C	0.59	25.3	C	0.19	6.2	A	0.21	7.0	A	0.94	104.1	F	1.23	200.4	F *	0.82	43.7	D	0.92	57.6	E *
	WB	TR	1.06	59.5	E	1.19	112.3	F *	0.87	12.0	B	0.98	21.2	C	0.74	26.1	C	0.86	32.0	C	0.92	16.0	B	1.05	46.5	D
	NB	LTR	1.05	90.6	F	1.15	123.7	F *	1.02	72.5	E	1.07	87.5	F *	0.96	70.4	E	1.03	88.8	F *	0.90	57.0	E	0.97	69.5	E *
6: Atlantic Av & Clermont Av.	EB	L	1.16	166.6	F	1.33	218.6	F *	0.83	75.3	E	1.16	170.6	F *	0.64	18.3	B	0.98	65.1	E *	1.17	153.5	F	1.84	432.8	F *
	EB	T	0.61	4.3	A	0.65	4.6	A	0.67	29.8	C	0.72	31.7	C	0.62	3.4	A	0.67	3.3	A	0.62	6.9	A	0.68	8.2	A
	WB	TR	0.97	16.5	B	1.07	42.5	D	0.78	10.3	B	0.87	11.4	B	0.69	7.4	A	0.79	7.8	A	0.76	18.3	B	0.85	19.8	B
	SB	LR	0.66	46.5	D	0.74	50.8	D	0.52	27.7	C	0.55	28.4	C	0.80	54.6	D	0.83	57.5	E	0.66	46.8	D	0.70	48.9	D
7: Atlantic Av & Vanderbilt Av	EB	T	0.90	23.7	C	0.96	31.5	C	1.10	80.0	E	1.19	115.5	F *	0.92	21.0	C	0.99	30.4	C	0.92	61.9	E	1.02	76.7	E *
	EB	R	0.43	18.9	B	0.47	21.1	C	0.85	54.6	D	0.88	58.0	E	0.57	14.6	B	0.60	15.6	B	0.15	39.3	D	0.18	37.5	D
	WB	L	0.86	65.1	E	0.93	87.1	F *	0.89	70.8	E	0.89	71.3	E	1.31	208.3	F	1.31	209.0	F	0.44	29.2	C	0.44	30.5	C
	WB	TR	1.01	51.6	D	1.11	85.4	F *	0.80	28.4	C	0.88	33.3	C	0.72	23.4	C	0.81	27.0	C	0.83	28.6	C	0.93	36.3	D
	NB	L	0.81	54.8	D	0.85	59.8	E *	0.68	29.4	C	0.69	30.4	C	0.73	55.2	E	0.79	61.7	E *	0.24	24.8	C	0.27	25.3	C
	NB	T	0.52	30.3	C	0.52	30.3	C	0.53	18.5	B	0.53	18.5	B	0.38	28.5	C	0.38	28.5	C	0.26	25.2	C	0.26	25.2	C
	NB	R	0.18	24.3	C	0.18	24.3	C	0.19	13.8	B	0.19	13.8	B	0.20	25.9	C	0.20	25.9	C	0.23	25.2	C	0.23	25.2	C
	SB	T	0.77	52.2	D	0.77	52.4	D	0.73	32.9	C	0.73	32.9	C	1.10	115.9	F	1.10	116.7	F	0.41	37.9	D	0.42	38.0	D
	SB	R	0.40	39.0	D	0.41	39.2	D	0.18	20.3	C	0.18	20.4	C	0.30	37.6	D	0.31	38.0	D	0.57	44.7	D	0.59	45.6	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 impact 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 11)

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

Signalized Intersections	Approach	Lane Group	No-Action Weekday AM V/C Ratio	No-Action Weekday AM Delay (sec/veh)	No-Action Weekday AM LOS	With-Action Weekday AM V/C Ratio	With-Action Weekday AM Delay (sec/veh)	With-Action Weekday AM LOS		No-Action Weekday Midday V/C Ratio	No-Action Weekday Midday Delay (sec/veh)	No-Action Weekday Midday LOS	With-Action Weekday Midday V/C Ratio	With-Action Weekday Midday Delay (sec/veh)	With-Action Weekday Midday LOS		No-Action Weekday PM V/C Ratio	No-Action Weekday PM Delay (sec/veh)	No-Action Weekday PM LOS	With-Action Weekday PM V/C Ratio	With-Action Weekday PM Delay (sec/veh)	With-Action Weekday PM LOS		No-Action Saturday Midday V/C Ratio	No-Action Saturday Midday Delay (sec/veh)	No-Action Saturday Midday LOS	With-Action Saturday Midday V/C Ratio	With-Action Saturday Midday Delay (sec/veh)	With-Action Saturday Midday LOS	
8: Atlantic Av & Washington Av	EB	TR	1.03	66.0	E	1.09	89.1	F	*	1.19	123.7	F	1.28	163.3	F	*	1.12	94.5	F	1.20	128.4	F	*	0.98	49.6	D	1.07	75.3	E	*
	WB	L	0.56	67.6	E	0.67	81.6	F	*	0.65	66.2	E	0.65	66.2	E		0.64	73.9	E	0.64	73.9	E		0.48	63.3	E	0.48	63.3	E	
	WB	TR	0.92	33.5	C	0.98	42.5	D		0.72	22.5	C	0.78	24.2	C		0.69	18.7	B	0.75	20.4	C		0.75	20.1	C	0.81	22.3	C	
	NB	L	1.15	145.5	F	1.28	195.5	F	*	0.86	64.9	E	0.99	90.4	F	*	0.64	61.5	E	0.90	95.6	F	*	1.08	136.8	F	1.32	226.8	F	*
	NB	T	0.60	34.1	C	0.61	34.5	C		0.38	19.0	B	0.39	19.2	B		0.43	34.4	C	0.44	34.8	C		0.46	35.1	D	0.48	35.6	D	
	SB	TR	0.45	30.3	C	0.45	30.3	C		0.45	20.2	C	0.45	20.3	C		0.68	42.7	D	0.68	42.8	D		0.26	31.2	C	0.26	31.2	C	
9: Atlantic Av & Grand Av	EB	TR	0.72	22.4	C	0.80	25.2	C		0.71	21.1	C	0.80	23.6	C		0.90	31.7	C	1.00	47.6	D		0.75	23.2	C	0.86	27.6	C	
	WB	L	0.94	20.9	C	1.70	325.5	F	*	0.94	61.3	E	1.57	287.0	F	*	2.31	642.1	F	3.23	1035.0	F	*	1.95	442.6	F	3.82	1283.6	F	*
	WB	T	0.83	2.8	A	0.89	3.1	A		0.63	15.4	B	0.67	15.6	B		0.69	21.5	C	0.74	21.1	C		0.78	7.8	A	0.84	9.0	A	
	SB	L	0.40	38.3	D	0.71	53.5	D		0.33	22.5	C	0.54	29.0	C		0.71	50.9	D	1.04	109.5	F	*	0.61	46.1	D	0.91	79.4	E	*
	SB	TR	0.87	64.6	E	1.07	110.4	F	*	0.62	28.2	C	0.77	36.2	D		1.15	134.7	F	1.35	215.5	F	*	0.76	52.2	D	0.98	83.7	F	*
10: Atlantic Av & Classon av	EB	L	1.10	110.0	F	1.29	185.0	F	*	1.04	83.2	F	1.27	167.0	F	*	1.23	147.0	F	1.54	274.3	F	*	1.20	142.6	F	1.47	253.3	F	*
	EB	T	0.57	10.5	B	0.61	12.1	B		0.58	12.1	B	0.62	14.2	B		0.73	4.6	A	0.78	4.8	A		0.60	7.8	A	0.65	9.2	A	
	WB	TR	1.10	67.1	E	1.20	113.6	F	*	1.01	52.5	D	1.12	89.3	F	*	0.93	35.2	D	1.03	56.8	E	*	1.03	58.2	E	1.16	108.0	F	*
	NB	L	0.72	49.6	D	1.28	181.7	F	*	0.45	31.3	C	0.76	49.2	D		0.44	36.6	D	0.93	64.4	E	*	0.87	77.9	E	1.38	228.8	F	*
	NB	TR	1.25	169.8	F	1.96	477.2	F	*	0.69	34.3	C	1.03	76.4	E	*	0.91	57.0	E	1.67	342.7	F	*	1.42	253.3	F	2.48	717.4	F	*
11: Atlantic Av & Franklin Av	EB	TR	0.85	34.6	C	1.01	50.2	D		0.93	21.4	C	1.14	84.1	F	*	0.99	39.0	D	1.22	125.4	F	*	0.88	33.7	C	1.08	76.2	E	*
	WB	L	0.50	26.3	C	1.05	67.6	E	*	0.57	37.2	D	0.88	41.8	D		0.80	54.5	D	1.32	195.1	F	*	0.69	29.9	C	1.33	182.6	F	*
	WB	T	0.81	13.4	B	0.87	14.8	B		0.59	23.8	C	0.64	24.5	C		0.63	22.5	C	0.67	23.1	C		0.67	11.4	B	0.73	12.9	B	
	SB	LT	0.84	52.7	D	0.96	69.3	E	*	0.77	36.3	D	0.89	46.2	D		1.24	166.0	F	1.46	261.5	F	*	1.06	95.6	F	1.27	178.0	F	*
	SB	R	0.44	40.6	D	0.60	48.2	D		0.33	28.0	C	0.47	32.5	C		0.87	78.7	E	1.19	172.9	F	*	0.59	48.3	D	0.87	76.7	E	*
12: Atlantic Av & Bedford Av	EB	L	1.19	175.1	F	1.22	162.5	F		1.06	115.7	F	1.07	97.0	F		1.22	176.8	F	1.23	177.8	F		1.26	208.2	F	1.28	196.5	F	
	EB	T	0.53	24.0	C	0.58	26.1	C		0.53	6.4	A	0.57	6.9	A		0.76	3.4	A	0.85	3.6	A		0.68	10.3	B	0.75	14.1	B	
	WB	TR	0.98	53.7	D	1.12	97.7	F	*	0.99	55.9	E	1.12	99.9	F	*	1.00	62.0	E	1.14	110.6	F	*	0.95	48.6	D	1.10	92.5	F	*
	NB	L	1.23	131.1	F	1.43	218.2	F	*	0.71	24.7	C	0.94	40.4	D		0.79	25.9	C	1.08	77.0	E	*	1.15	101.5	F	1.53	268.9	F	*
	NB	T	1.15	90.5	F	1.18	107.4	F	*	0.87	27.0	C	0.91	28.6	C		1.15	98.4	F	1.22	124.0	F	*	1.15	96.6	F	1.21	124.5	F	*
	NB	R	0.36	14.8	B	0.48	17.8	B		0.24	18.2	B	0.33	18.4	B		0.58	23.4	C	0.80	39.6	D		0.36	15.4	B	0.48	22.0	C	
13: Atlantic Av & Nostrand Av	EB	TR	0.65	21.6	C	0.72	23.3	C		0.78	27.9	C	0.85	31.2	C		0.97	47.1	D	1.09	81.8	F	*	0.66	19.6	B	0.75	21.8	C	
	WB	T	0.97	8.5	A	1.09	45.8	D		0.94	25.8	C	1.04	47.1	D		1.15	122.6	F	1.35	213.3	F	*	0.81	33.4	C	0.91	38.4	D	
	SB	LT	0.99	72.3	E	1.06	93.4	F	*	1.15	115.0	F	1.23	147.6	F	*	0.75	37.6	D	0.80	39.9	D								
	SB	R	0.62	45.9	D	0.79	59.4	E	*	0.42	23.6	C	0.58	28.3	C		0.42	31.1	C	0.65	40.3	D								
	SB	LTR																						1.21	151.5	F	1.49	272.2	F	*
14: Atlantic Av & New York Av	EB	L	0.79	81.8	F	0.79	78.5	E		0.81	67.1	E	0.81	61.3	E		0.86	100.5	F	0.86	86.8	F		1.16	190.1	F	1.16	182.4	F	
	EB	T	0.74	32.8	C	0.83	36.5	D		0.77	36.0	D	0.84	37.8	D		0.92	10.5	B	1.04	28.9	C		0.72	8.8	A	0.84	11.3	B	
	WB	T	1.16	115.9	F	1.25	152.7	F	*	1.04	71.2	E	1.11	93.0	F	*	1.17	120.7	F	1.25	154.4	F	*	1.06	78.9	E	1.14	109.3	F	*
	WB	R	0.27	23.1	C	0.27	23.2	C		0.41	25.6	C	0.42	25.8	C		0.38	26.6	C	0.39	26.9	C		0.42	27.9	C	0.43	28.3	C	
	NB	LT	1.25	175.5	F	1.26	179.5	F	*																					
	NB	R	0.26	36.3	D	0.26	36.3	D																						
	NB	LTR								1.22	156.3	F	1.24	161.1	F	*	1.24	174.6	F	1.26	179.1	F	*	1.26	178.3	F	1.27	182.9	F	*
15: Grand Av & Fulton St	EB	TR	0.71	30.3	C	0.83	39.4	D		0.72	33.2	C	0.88	47.0	D		1.07	87.6	F	1.27	163.5	F	*	0.97	63.3	E	1.24	155.5	F	*
	WB	LT	1.42	227.4	F	1.70	353.0	F	*	0.89	49.3	D	1.07	95.0	F	*	1.52	278.5	F	2.13	550.9	F	*	1.30	182.9	F	1.89	446.8	F	*
	SB	LT	0.31	20.3	C	0.38	21.2	C		0.24	19.4	B	0.29	19.9	B		0.49	23.2	C	0.55	24.5	C		0.34	20.6	C	0.41	21.8	C	
	SB	R	0.20	19.2	B	0.22	19.5	B		0.12	18.1	B	0.13	18.3	B		0.16	18.6	B	0.18	19.0	B		0.16	18.7	B	0.19	19.1	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 an impact 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 11)

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

Signalized Intersections	Approach	Lane Group	No-Action Weekday AM V/C Ratio	No-Action Weekday AM Delay (sec/veh)	No-Action Weekday AM LOS	With-Action Weekday AM V/C Ratio	With-Action Weekday AM Delay (sec/veh)	With-Action Weekday AM LOS	No-Action Weekday Midday V/C Ratio	No-Action Weekday Midday Delay (sec/veh)	No-Action Weekday Midday LOS	With-Action Weekday Midday V/C Ratio	With-Action Weekday Midday Delay (sec/veh)	With-Action Weekday Midday LOS	No-Action Weekday PM V/C Ratio	No-Action Weekday PM Delay (sec/veh)	No-Action Weekday PM LOS	With-Action Weekday PM V/C Ratio	With-Action Weekday PM Delay (sec/veh)	With-Action Weekday PM LOS	No-Action Saturday Midday V/C Ratio	No-Action Saturday Midday Delay (sec/veh)	No-Action Saturday Midday LOS	With-Action Saturday Midday V/C Ratio	With-Action Saturday Midday Delay (sec/veh)	With-Action Saturday Midday LOS
18: Classon av &	EB	LT	0.41	15.6	B	0.48	17.0	B	0.51	19.4	B	0.57	21.0	C	0.66	21.6	C	0.76	26.0	C	0.57	21.0	C	0.69	25.0	C
Fulton St	WB	TR	0.72	10.3	B	0.76	9.9	A	0.52	19.3	B	0.54	18.6	B	0.49	13.5	B	0.51	15.2	B	0.57	21.2	C	0.60	20.5	C
	NB	LTR	0.77	36.1	D	0.92	47.8	D	0.75	30.6	C	0.89	34.5	C	0.85	40.1	D	1.07	84.8	F *	0.88	43.7	D	1.09	91.4	F *
19: Classon Av &	WB	TR	0.98	64.1	E	1.65	322.7	F *	0.72	41.2	D	1.42	224.3	F *	0.68	21.9	C	1.54	269.2	F *	0.73	20.4	C	1.75	358.6	F *
Pacific Street	NB	LT	0.51	4.3	A	0.72	7.5	A	0.47	4.0	A	0.61	5.7	A	0.50	4.5	A	0.76	8.8	A	0.59	4.7	A	0.80	8.8	A
20: Classon Av &	EB	LT	1.01	77.8	E	1.78	388.7	F *	1.02	79.7	E	1.57	298.4	F *	1.35	197.2	F	2.33	630.5	F *	1.34	195.9	F	2.37	649.9	F *
Dean St	NB	TR	0.94	19.3	B	1.12	66.6	E *	0.85	27.0	C	0.96	35.8	D	0.85	26.4	C	1.02	49.6	D	0.97	37.3	D	1.14	82.9	F *
21: Franklin Av &	EB	T	0.38	26.2	C	0.47	26.3	C	0.46	21.6	C	0.54	23.7	C	0.57	20.9	C	0.71	23.6	C	0.55	23.7	C	0.69	26.5	C
Fulton St	EB	R	0.23	24.7	C	0.29	24.1	C	0.19	16.2	B	0.26	17.9	B	0.29	18.6	B	0.41	19.8	B	0.27	17.5	B	0.40	19.5	B
	WB	LT	0.86	39.5	D	0.99	62.1	E *	0.80	35.4	D	0.93	54.0	D	0.72	29.1	C	0.94	56.0	E *	0.72	29.3	C	0.90	47.2	D
	SB	LTR	0.73	25.2	C	0.82	29.3	C	0.64	22.4	C	0.71	24.4	C	0.78	26.7	C	0.87	32.0	C	0.77	26.3	C	0.89	33.5	C
23: Franklin Av &	WB	LT	0.80	22.5	C	0.98	43.0	D	0.46	19.6	B	0.63	24.0	C	0.64	31.8	C	0.93	49.0	D	0.54	27.6	C	0.82	34.4	C
Pacific St	SB	TR	0.97	30.8	C	1.51	245.0	F *	0.93	34.5	C	1.41	209.1	F *	1.02	32.8	C	1.60	286.4	F *	1.18	99.8	F	1.88	413.2	F *
24: Franklin St/Fran	EB	TR	0.84	33.8	C	1.05	56.5	E *	0.78	39.5	D	0.93	42.0	D	1.26	135.8	F	1.56	271.0	F *	0.94	27.8	C	1.18	108.2	F *
Dean St	SB	LT	1.03	36.8	D	1.26	125.5	F *	0.88	13.1	B	1.15	74.0	E *	1.12	70.7	E	1.49	231.8	F *	1.11	58.7	E	1.47	217.5	F *
25: Bedford Av &	EB	L	0.95	113.9	F	1.64	367.5	F *	0.73	43.3	D	0.97	86.2	F *	0.56	39.7	D	0.97	94.1	F *	0.98	89.5	F	1.43	251.3	F *
Fulton St	EB	T	0.47	34.6	C	0.49	35.1	D	0.70	32.6	C	0.75	36.2	D	0.54	31.8	C	0.58	33.2	C	0.51	23.2	C	0.57	24.6	C
	WB	TR	1.05	96.9	F	1.10	112.7	F *	0.85	39.9	D	0.89	45.2	D	0.79	43.8	D	0.82	47.2	D	1.00	67.9	E	1.05	81.6	F *
	NB	LT	1.13	99.8	F	1.19	124.0	F *	1.05	73.9	E	1.11	95.5	F *	1.12	100.2	F	1.19	129.4	F *	1.23	139.2	F	1.30	172.1	F *
	NB	R	0.14	17.4	B	0.32	22.2	C	0.30	23.4	C	0.57	36.4	D	0.35	25.4	C	0.64	42.3	D	0.47	30.1	C	0.99	113.3	F *
27: Bedford Av &	WB	TR	0.72	45.9	D	0.78	50.3	D	0.64	34.3	C	0.75	39.7	D	0.74	47.3	D	0.88	60.8	E *	0.84	61.4	E	1.04	101.7	F *
Pacific St	NB	LT	0.89	9.6	A	0.97	16.3	B	0.68	5.9	A	0.78	7.7	A	0.67	6.2	A	0.78	8.1	A	0.70	6.6	A	0.81	10.9	B
28. Bedford Av/	EB	LTR	0.79	43.2	D	1.07	75.4	E *	0.72	38.1	D	0.99	75.4	E *	1.16	108.8	F	1.58	298.6	F *	1.08	108.5	F	1.58	318.0	F *
	NB	T	0.76	8.7	A	0.80	10.8	B	0.61	8.2	A	0.66	8.7	A	0.55	8.3	A	0.60	9.8	A	0.65	6.3	A	0.71	7.2	A
Roger Av & Dean St	NB	R	0.14	5.0	A	0.15	5.5	A	0.10	6.2	A	0.11	6.2	A	0.10	6.7	A	0.11	7.5	A	0.08	2.7	A	0.09	3.1	A
Bedford Av ->	NB	T	0.71	7.5	A	0.73	8.2	A	0.60	9.5	A	0.65	10.2	B	0.68	9.2	A	0.72	10.6	B	0.53	4.7	A	0.58	4.7	A
29: Bedford Av &	WB	L	0.24	17.5	B	0.26	17.5	B	0.36	11.3	B	0.39	11.5	B	0.40	15.4	B	0.45	16.1	B	0.19	14.9	B	0.23	14.9	B
Bergen St	WB	TR	0.96	28.5	C	1.01	38.4	D	0.53	12.8	B	0.58	12.8	B	0.78	17.9	B	0.85	20.0	B	0.86	19.1	B	0.95	23.8	C
	NB	LT	0.75	26.4	C	0.79	28.2	C	0.53	19.5	B	0.58	20.7	C	0.69	23.6	C	0.75	26.2	C	0.57	19.1	B	0.63	20.9	C
	SB	TR	0.08	14.4	B	0.10	13.1	B	0.10	15.8	B	0.11	14.5	B	0.17	21.6	C	0.19	21.9	C	0.09	5.7	A	0.10	5.7	A
30: Bergen St &	WB	TR	1.14	135.3	F	1.15	137.7	F	0.96	67.8	E	1.06	93.8	F *	1.19	155.1	F	1.32	208.0	F	1.21	164.8	F	1.41	244.8	F *
Roger Av	NB	LT	0.78	24.3	C	0.79	24.4	C	0.62	19.8	B	0.66	20.9	C	0.57	18.2	B	0.57	18.1	B	0.75	22.3	C	0.81	24.9	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 an impact 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 11)

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

Unsignalized Intersections	Approach	Lane Group	No-Action Weekday AM V/C Ratio	No-Action Weekday AM Delay (sec/veh)	No-Action Weekday AM LOS	With-Action Weekday AM V/C Ratio	With-Action Weekday AM Delay (sec/veh)	With-Action Weekday AM LOS	No-Action Weekday Midday V/C Ratio	No-Action Weekday Midday Delay (sec/veh)	No-Action Weekday Midday LOS	With-Action Weekday Midday V/C Ratio	With-Action Weekday Midday Delay (sec/veh)	With-Action Weekday Midday LOS	No-Action Weekday PM V/C Ratio	No-Action Weekday PM Delay (sec/veh)	No-Action Weekday PM LOS	With-Action Weekday PM V/C Ratio	With-Action Weekday PM Delay (sec/veh)	With-Action Weekday PM LOS	No-Action Saturday Midday V/C Ratio	No-Action Saturday Midday Delay (sec/veh)	No-Action Saturday Midday LOS	With-Action Saturday Midday V/C Ratio	With-Action Saturday Midday Delay (sec/veh)	With-Action Saturday Midday LOS
8A: Atlantic Av & Washington Av	NB	R	0.20	11.9	B	0.24	12.4	B	0.09	10.4	B	0.13	10.6	B	0.19	12.4	B	0.25	13.0	B	0.20	12.2	B	0.28	13.3	B
16: Grand Av & Pacific St	WB	LT	0.40	11.3	B	0.59	16.0	C	0.28	9.7	A	0.43	12.1	B	0.38	11.9	B	0.66	19.7	C	0.40	11.2	B	0.66	18.7	C
(All Way Stop)	SB	TR	0.51	12.5	B	0.72	19.9	C	0.41	10.5	B	0.57	13.8	B	0.76	20.9	C	1.04	68.4	F *	0.50	12.1	B	0.78	23.7	C
17: Grand Av & Dean St	EB	TR	0.29	9.9	A	0.40	12.0	B	0.29	9.7	A	0.38	11.3	B	0.62	17.8	C	0.72	22.1	C	0.44	12.0	B	0.62	17.7	C
(All Way Stop)	SB	LT	0.49	11.9	B	0.73	19.7	C	0.46	11.5	B	0.66	16.6	C	0.97	49.6	E	1.39	199.7	F *	0.62	15.4	C	1.01	59.1	F *
22: Franklin Av & Leffert Pl.	EB	R	0.23	17.2	C	1.72	480.1	F *	0.25	16.6	C	1.18	220.2	F *	0.50	28.9	D	6.25	@NA	F *	0.34	22.7	C	5.64	@NA	F *
26: Bedford Av &	NB	T	0.43	0.0	A	0.44	0.0	A	0.30	0.0	A	0.31	0.0	A	0.36	0.0	A	0.37	0.0	A	0.38	0.0	A	0.40		A
Harkimer st		R			A	0.08	0.0	A	0.07	0.0	A	0.08	0.0	A	0.08	0.0	A	0.09	0.0	A	0.07	0.0	A	0.09		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 an impact 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 11)

Transit

Existing Conditions

Subway Service

Subway Stations

As discussed above in Section E, "Level 2 Screening Assessment," project-generated subway trips at the Franklin Avenue (C/S), Nostrand Avenue (A/C), and Clinton-Washington-Avenues (C) stations on the IND Fulton Street line are expected to exceed the 200-trip 2021 *CEQR Technical Manual* analysis threshold in the weekday AM and/or PM peak hours. All three stations are located below-grade.

Franklin Avenue Subway Station (C/S)

The Franklin Avenue (Fulton Street Line) subway station is located beneath Fulton Street and consists of four tracks and two side platforms. The two center express tracks are used by the A train during the daytime hours. The two local tracks are used by the C train during daytime hours and by A trains during overnight hours. One fare control area is located at the south end of the Manhattan-bound platform, while another is located within the station house on the southwest corner of Franklin and Fulton Street. A free but indirect connection between the two platforms can be made within the station via the overpass above Fulton Street. The Franklin Avenue (Franklin Avenue Shuttle Line) station is an elevated station with one track and one side platform served by the Franklin Avenue S train.

Based on the locations of projected development sites, incremental demand from the Proposed Actions is expected to be concentrated at entrance stairs and fare arrays at the station's eastern end at Franklin and Fulton Street. As shown in **Figure 13-11**, stairs P3, P4, and P5 located at the southwest corner of Fulton Street and Franklin Avenue provide access to the north end of the above-grade shuttle platform via fare array N114 which consists of four turnstiles. In addition, escalator E-352 provides access to the above-grade shuttle platform via the same fare array.

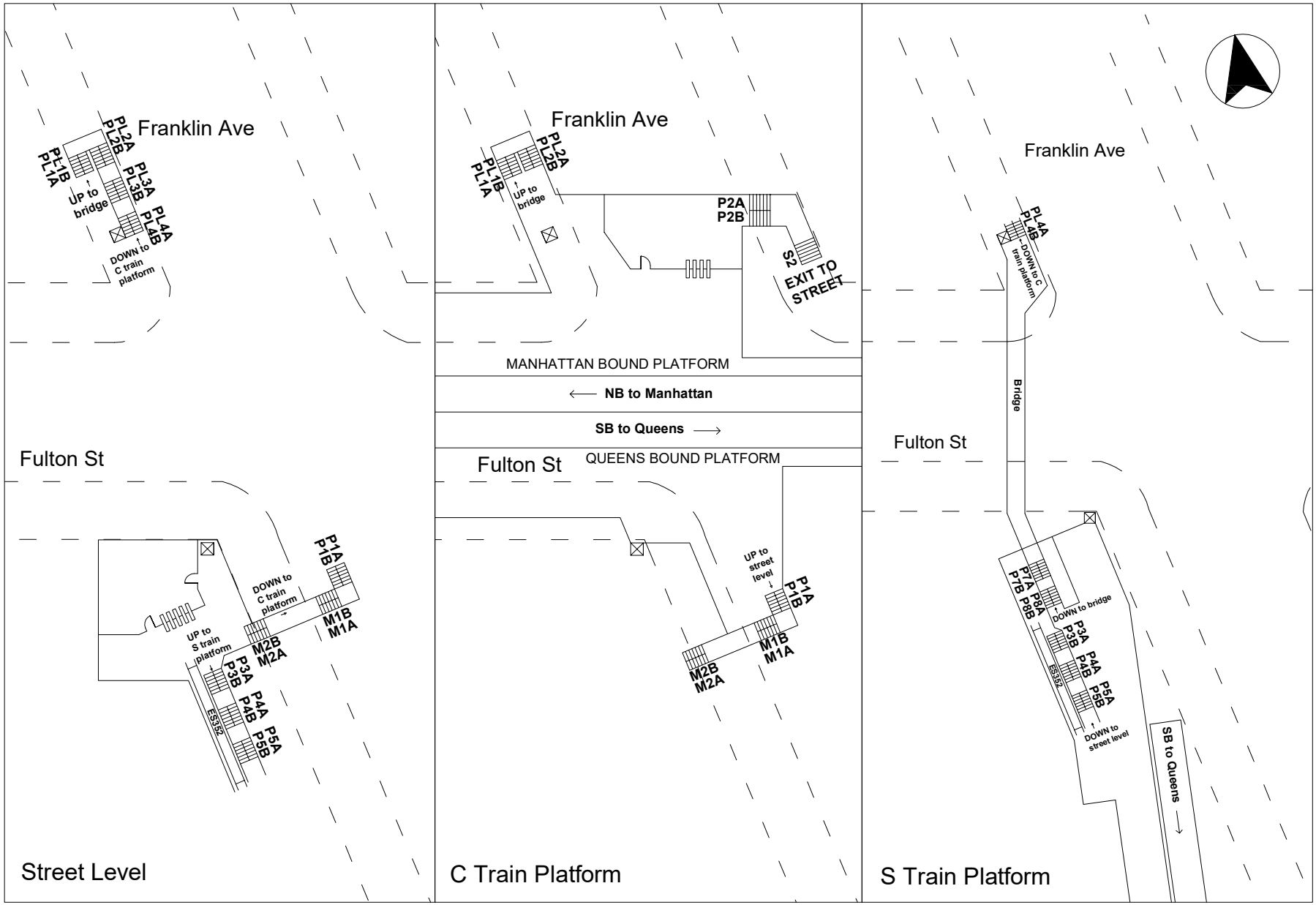
Stairs M1, M2, and P1 provide access to the southbound local platform from the street via fare array N114 and from the shuttle platform via stairs P3, P4, and P5. Stairs P2 and S2 provide access to the Manhattan-bound local train platform via a street-level entrance at the northeast corner of Fulton Street and Franklin Avenue and fare array N113 which consists of three turnstiles. Stairs PL1, PL2, PL3, and PL4 connect the Manhattan-bound C platform to an overpass across Fulton Street leading to the shuttle platform through stairs P7 and P8.

As shown in **Tables 13-23 through 13-25**, all analyzed stairs, fare arrays, and escalators at the Franklin Avenue subway station currently operate at an uncongested LOS A in both the AM and PM peak hours.

Nostrand Avenue Subway Station (A/C)

The Nostrand Avenue subway station is located beneath Fulton Street. It is a two-level express station on the IND Fulton Street line. The station has four tracks and four side platforms. Express trains stop on the upper level while local trains stop on the lower level. The

Franklin Avenue Subway Station (C/S)



Legend

Stairs | Escalator | Elevator | Fare Array | Emergency Exit

primary entrances to the local and express platforms in each direction are at Nostrand Avenue and Fulton Street. Another entrance for both sets of platforms is at Bedford Avenue and Fulton Street. As shown in **Figure 13-12**, a 24-hour fare booth and a fare array (N115) consisting of five turnstiles is located on a mezzanine level at the west end of the station at Bedford Avenue and Fulton Street. At this entrance, access between the mezzanine and street levels is provided by stairs M7, M8, and S7 (southeast corner) and S8 and S9 (northeast corner). Via fare array N115, this entrance provides access to the upper and lower levels for both Brooklyn-bound and Manhattan-bound trains. Six stairs (PL2, PL4, PL5, PL7, PL9, and PL11) provide access between the upper and lower levels on the Manhattan-bound platforms, while five stairs (PL1, PL3, PL6, PL8, and PL10) provide access between the upper and lower levels on the Brooklyn-bound platforms.

Additional access between the street and the east end of the Manhattan-bound platforms are provided by two sets of stairs – M4 and S4, and M2 and S2 - located at the northwest and northeast corners of Nostrand Avenue and Fulton Street, respectively. Fare array N116 provides access into the Manhattan-bound platform and consists of four turnstiles and two high exit turnstiles (HXT). Access between the street and the east end of the Brooklyn-bound platforms is provided by two sets of stairs – M3 and S3, and M1 and S1 – located at the southwest and southeast corners of Nostrand Avenue and Fulton Street, respectively. Fare array N117 provides access into the Brooklyn-bound platform and consists of three turnstiles and two HXT.

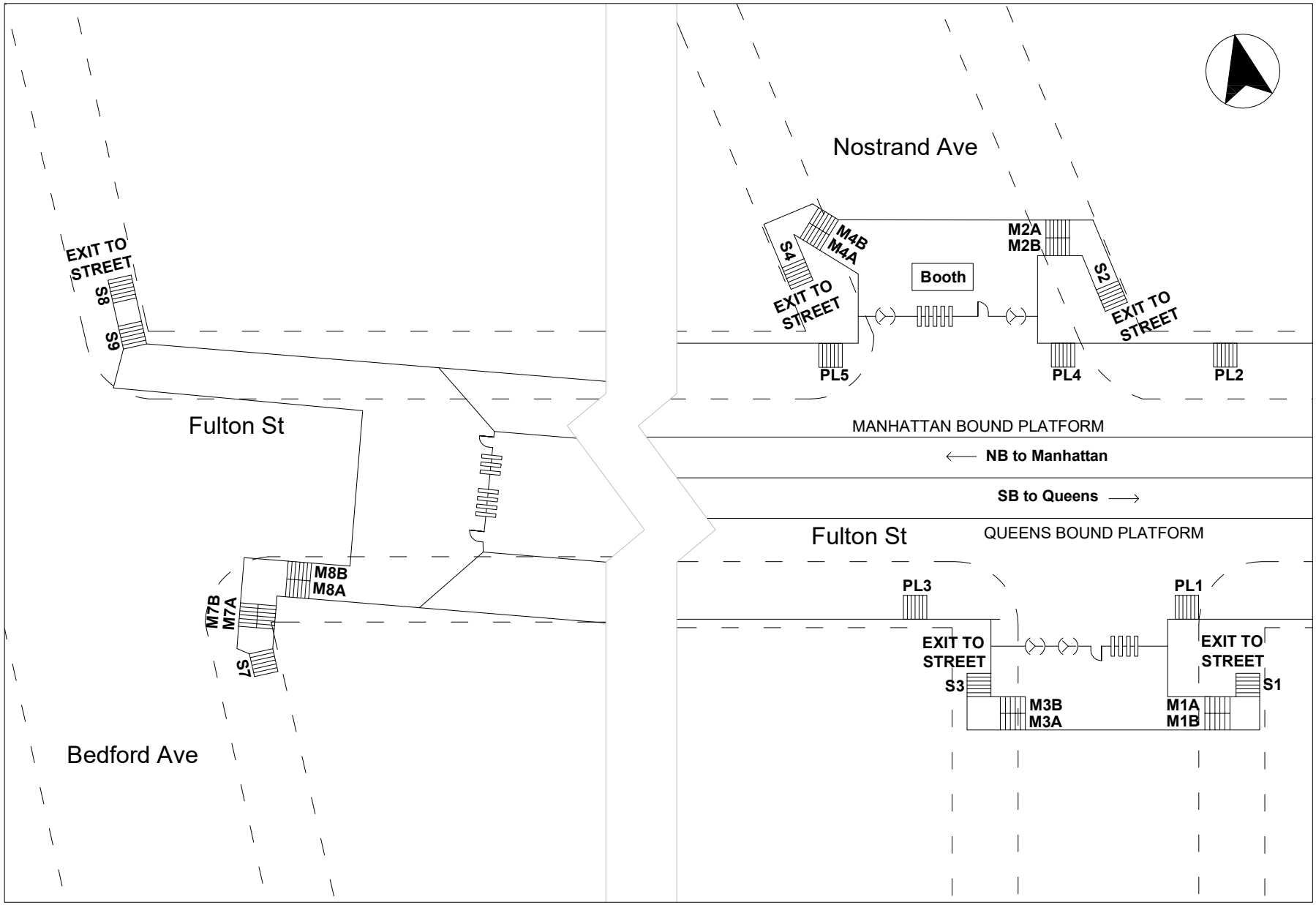
As shown in **Tables 13-23 and 13-24**, all analyzed stairs and fare arrays at the Nostrand Avenue subway station currently operate at an uncongested LOS B or better in both the AM and PM peak hours.

Clinton-Washington Avenues Subway Station (C)

The Clinton-Washington Avenues subway station is located beneath Fulton Street and consists of four tracks, two outer tracks with side platforms and two inner tracks for express service, serving the IND Fulton Street line. As shown in **Figure 13-13**, Manhattan-bound access from the street is possible via stairs P2 and S2 and fare array N111A consisting of three turnstiles at the northeast corner of Washington Avenue and Fulton Street. Southbound access from the street is possible via stairs P1 and S1 and fare array N112A consisting of three turnstiles at the southeast corner of Washington Avenue and Fulton Street. Access to both Manhattan-bound and Brooklyn-bound trains is also possible at the intersection of Clinton Avenue and Fulton Street. However, it is assumed for the purposes of this analysis that demand generated by the Proposed Actions will be concentrated at the intersection of Washington Avenue and Fulton Street. As such, this analysis will focus on those elements.

As shown in **Tables 13-23 and 13-24**, all analyzed stairs and fare arrays at the Clinton-Washington Avenues station currently operate at an uncongested LOS B or better in both the AM and PM peak hours.

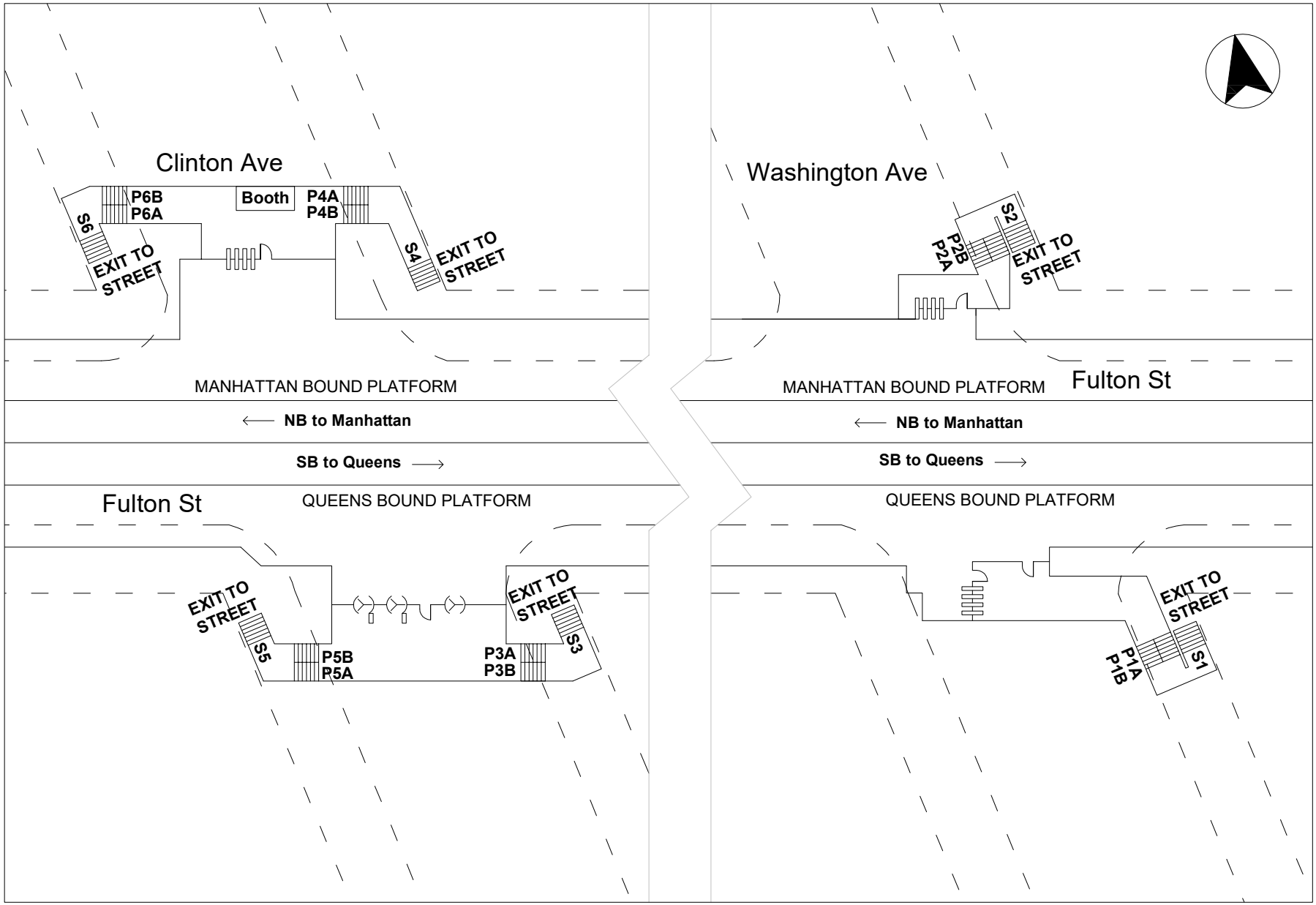
Nostrand Avenue Subway Station (A/C)



Legend

Stairs | Fare Array | Emergency Exit | High Exit Turnstile (HXT)

Clinton - Washington Avenue Subway Station (C)



Legend

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

Table 13-23: Existing Conditions Subway Station Stair Analysis

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
AM	Franklin Ave (C/S)	P3A/P3B/P4A/P4B/P5A/P5B	7.58	6.33	1	380	1.00	0.75	1.00	0.17	A
		M1A/M1B/M2A/M2B/P1A/P1B	8.00	6.75	68	232	0.75	0.80	0.90	0.13	A
		P2A/P2B/S2	4.58	3.58	126	378	0.75	1.00	0.90	0.35	A
	Nostrand Ave (A/C)	M7A/M7B/M8A/M8B/S7	5.00	4.00	93	284	0.75	1.00	0.90	0.24	A
		S8/S9	5.00	4.00	134	326	0.75	1.00	0.90	0.29	A
		PL11	5.00	4.00	12	57	0.75	0.80	0.90	0.05	A
		PL9	5.00	4.00	102	74	0.75	0.80	0.90	0.13	A
		PL7	5.00	4.00	34	51	0.75	0.80	0.90	0.06	A
		PL5	5.00	4.00	60	81	0.75	0.80	0.90	0.10	A
		PL4	5.00	4.00	27	54	0.75	0.80	0.90	0.06	A
		PL2	5.00	4.00	4	7	0.75	0.80	0.90	0.01	A
		M4A/M4B/S4	5.00	4.00	333	362	0.75	0.90	0.90	0.49	B
		M2A/M2B/S2	5.00	4.00	168	752	0.75	0.90	0.90	0.61	B
		PL10	5.00	4.00	5	17	0.75	0.80	0.90	0.02	A
		PL8	5.00	4.00	5	5	0.75	0.80	0.90	0.01	A
		PL6	5.00	4.00	22	15	0.75	0.80	0.90	0.03	A
		PL3	5.00	4.00	37	28	0.75	0.80	0.90	0.05	A
		PL1	5.00	4.00	26	14	0.75	0.80	0.90	0.03	A
		M3A/M3B/S3	5.00	4.00	99	105	0.75	1.00	0.90	0.14	A
		M1A/M1B/S1	5.00	4.00	160	72	0.75	1.00	0.90	0.17	A
	Clinton-Washington Ave (C)	P6A/P6B/S6	5.00	4.00	218	232	0.75	1.00	0.90	0.30	A
		P5A/P5B/S5	5.00	4.00	84	23	0.75	1.00	0.90	0.08	A
		P2A/P2B/S2	5.00	4.00	716	208	0.75	1.00	0.90	0.67	B
		P1A/P1B/S1	5.00	4.00	113	72	0.75	1.00	0.90	0.13	A
PM	Franklin Ave (C/S)	P3A/P3B/P4A/P4B/P5A/P5B	7.58	6.33	8	371	1.00	0.75	1.00	0.17	A
		M1A/M1B/M2A/M2B/P1A/P1B	8.00	6.75	305	420	0.75	0.80	0.90	0.32	A
		P2A/P2B/S2	4.58	3.58	65	226	0.75	1.00	0.90	0.20	A
	Nostrand Ave (A/C)	M7A/M7B/M8A/M8B/S7	5.00	4.00	198	191	0.75	1.00	0.90	0.26	A
		S8/S9	5.00	4.00	158	238	0.75	1.00	0.90	0.26	A
		PL11	5.00	4.00	6	23	0.75	0.80	0.90	0.02	A
		PL9	5.00	4.00	22	10	0.75	0.80	0.90	0.02	A
		PL7	5.00	4.00	26	17	0.75	0.80	0.90	0.03	A
		PL5	5.00	4.00	53	55	0.75	0.80	0.90	0.08	A
		PL4	5.00	4.00	28	46	0.75	0.80	0.90	0.05	A
		PL2	5.00	4.00	4	10	0.75	0.80	0.90	0.01	A
		M4A/M4B/S4	5.00	4.00	204	168	0.75	0.90	0.90	0.27	A
		M2A/M2B/S2	5.00	4.00	117	309	0.75	0.90	0.90	0.29	A
		PL10	5.00	4.00	22	18	0.75	0.80	0.90	0.03	A
		PL8	5.00	4.00	28	19	0.75	0.80	0.90	0.04	A
		PL6	5.00	4.00	73	35	0.75	0.80	0.90	0.08	A
		PL3	5.00	4.00	286	51	0.75	0.80	0.90	0.26	A
		PL1	5.00	4.00	209	58	0.75	0.80	0.90	0.20	A
		M3A/M3B/S3	5.00	4.00	387	217	0.75	1.00	0.90	0.42	A
		M1A/M1B/S1	5.00	4.00	610	153	0.75	1.00	0.90	0.56	B
	Clinton-Washington Ave (C)	P6A/P6B/S6	5.00	4.00	34	96	0.75	1.00	0.90	0.08	A
		P5A/P5B/S5	5.00	4.00	127	142	0.75	1.00	0.90	0.18	A
		P2A/P2B/S2	5.00	4.00	212	63	0.75	1.00	0.90	0.20	A
		P1A/P1B/S1	5.00	4.00	432	129	0.75	1.00	0.90	0.41	A

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	Franklin Ave (C/S)	N113	3	0	0	378	126	1.00	0.75	0.90	0.13	A
		N114	4	0	0	189	109	1.00	0.75	0.90	0.06	A
	Nostrand Ave (A/C)	N115	5	0	0	610	227	1.00	0.75	0.90	0.13	A
		N116	4	0	2	1,114	501	1.00	0.75	0.90	0.29	A
		N117	3	0	2	177	259	1.00	0.75	0.90	0.09	A
	Clinton-Washington Ave (C)	N111	3	0	0	408	303	1.00	0.75	0.90	0.19	A
		N112	0	2	1	32	130	1.00	0.75	0.90	0.06	A
		N111A	3	0	0	208	716	1.00	0.75	0.90	0.23	A
		N112A	3	0	0	72	113	1.00	0.75	0.90	0.05	A
PM	Franklin Ave (C/S)	N113	3	0	0	226	65	1.00	0.75	0.90	0.08	A
		N114	4	0	0	187	125	1.00	0.75	0.90	0.06	A
	Nostrand Ave (A/C)	N115	5	0	0	429	356	1.00	0.75	0.90	0.12	A
		N116	4	0	2	477	321	1.00	0.75	0.90	0.14	A
		N117	3	0	2	370	997	1.00	0.75	0.90	0.25	A
	Clinton-Washington Ave (C)	N111	3	0	0	160	55	1.00	0.75	0.90	0.06	A
		N112	0	2	1	188	228	1.00	0.75	0.90	0.19	A
		N111A	3	0	0	63	212	1.00	0.75	0.90	0.07	A
		N112A	3	0	0	129	432	1.00	0.75	0.90	0.14	A

Table 13-25: Existing Conditions Escalator Analysis at the Franklin Avenue Subway Station

Station	Peak Period	Escalator	Tread Width	Feet per Minute	Guideline Capacity	Peak Hour Volumes	Surging Factor	V/C Ratio	LOS
Franklin Ave (C/S)	AM	E-352 (Up)	32"	90	750	160	1.00	0.07	A
	PM	E-352 (Up)	32"	90	750	213	1.00	0.09	A

Subway Line Haul

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

The Project Area is served by a total of seven NYCT subway routes within a quarter mile, including the A, C, Franklin Avenue shuttle, B, Q, 2, and 3 lines. It should be noted that the D, N, R, 4, 5, and LIRR serves the Atlantic-Barclays station on the western periphery of the

Project Area. All of these routes cross the East River, with the exception of the Franklin Avenue shuttle (which travels within Brooklyn near and parallel to Franklin Avenue). The peak direction of travel is typically Manhattan-bound in the AM peak period and Brooklyn-bound in the PM.

The analysis of existing subway line haul conditions for the A and C subway routes is based on maximum load point capacity and ridership data for 2019 provided by NYCT.

Table 13-26 shows existing line haul conditions in the peak direction at the maximum load points for the A and C subway routes during the AM and PM peak hours. As shown in **Table 13-26**, all routes currently operate below capacity in the peak direction in both periods; however, in the AM peak hour, northbound C trains operate close to capacity with a v/c ratio of 0.92. Southbound C trains also have the highest v/c ratio in the PM peak hour – 0.91.

Table 13-26: Existing Conditions Subway Line Haul Analysis

Peak Period	Route	Direction	Maximum Load Point (leaving station)	Average Trains Per Hour (1)	Cars Per Hour per Train(1)	Average Passengers Per Hour (1)	Average Passengers Per Car	Guideline Passengers Per Car (2,4)	V/C Ratio (3)
AM	A	NB	Nostrand Av	16.4	10	17,984	109	140	0.78
	C	NB	High St	7.1	8	7,572	134	145	0.92
PM	A	SB	Jay St - MetroTech	15.0	10	14,750	98	140	0.70
	C	SB	Jay St - MetroTech	6.1	8	6,243	127	140	0.91

Notes:

(1) Based on 2019 ridership data from NYCT. Data was provided by NYCT in 2024.
(2) Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service. Per NYCT direction, A train capacity is adjusted from 175 to 140 to reflect 10 60-foot cars at 140 passengers per car capacity.
(3) Volume to guideline capacity ratio.
(4) Guideline capacities are based on combined corridor headways for lines on shared segments (e.g., the 2/3).

Long Island Rail Road Commuter Rail Service

Commuter rail trains operated by the LIRR connect northwestern Crown Heights and southern Bedford-Stuyvesant to the railroad's hub at Jamaica, Queens and points on Long Island via Atlantic Terminal and the Nostrand Avenue station located to the west of the Project Area at the intersection of Flatbush and Atlantic Avenues and to the east of the Project Area at the intersection of Nostrand and Atlantic Avenues (see **Figure 13-3**), respectively. At Jamaica, connections are available to all LIRR branches with the exception of the Port Washington Branch. Connections are also available to the AirTrain to JFK International Airport and to E, J, and Z subway trains.

On weekdays there are approximately 135 LIRR arrivals and departures (combined) at this terminus, including seven arrivals in the 8:00–9:00 a.m. hour and eight departures in the 5:00–6:00 p.m. hour.

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 Project Area will increase due to long-term background growth as well as development that could occur pursuant to existing zoning. In order to forecast future transit conditions without the Proposed Actions (the No-Action condition), development on projected development sites and developments shown in **Figure 13-8** were considered.

Subway Service

Subway Stations

The Future No-Action subway station volumes reflect annual background growth rates of 0.5 percent per year for the 2024 through 2029 period and 0.25 percent for the 2029 through 2034 period. These background growth rates, recommended in the 2021 *CEQR Technical Manual* for projects in Brooklyn outside the downtown area, are applied to account for smaller projects and as-of-right developments not shown in **Figure 13-8** 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 Franklin Avenue (C/S), Nostrand Avenue (A/C), and Clinton-Washington-Avenues (C) stations on the IND Fulton Street line are shown in **Tables 13-27 through 13-29** and discussed below.

Franklin Avenue Subway Station (C/S)
All analyzed stairs, fare arrays, and escalators at the Franklin Avenue station are expected to operate at an uncongested LOS B or better in both the AM and PM peak hours in the No-Action condition.

Nostrand Avenue Subway Station (A/C)
All analyzed stairs and fare arrays at the Nostrand Avenue station are expected to operate at an uncongested LOS C or better in both the AM and PM peak hours in the No-Action condition.

Clinton-Washington Avenues Subway Station (C)
All analyzed stairs and fare arrays at the Clinton-Washington Avenues station are expected to continue to operate at an uncongested LOS C or better in both the AM and PM peak hours in the No-Action condition.

Subway Line Haul

The Future No-Action subway line haul conditions reflect annual background growth rates of 0.5 percent per year for the 2019 through 2024 period and 0.25 percent for the 2024 through 2034 period. These background growth rates, recommended in the 2021 *CEQR Technical Manual* for projects in Brooklyn outside the downtown area, are applied to account for smaller projects and as-of-right developments not shown in **Figure 13-8** and general increases in travel demand not attributable to specific development projects.

Table 13-30 shows anticipated 2034 No-Action line haul conditions at the maximum load points on the two subway routes operating in proximity to the Project Area that would generate 200 or more new subway trips in one direction per route. The data in **Table 13-30** reflect both background growth for the 2019 through 2034 period and the addition of demand from new development within the Project Area and its proximity.

As shown in **Table 13-30**, in the No-Action condition, C trains are expected to operate over capacity in the AM peak hour with a v/c ratio of 1.05 in the peak northbound direction and in the PM peak hour with a v/c ratio of 1.02 in the peak southbound direction. This compares to v/c ratios of 0.92 in the AM peak hour and 0.91 in the PM peak hour under existing conditions. All other analyzed subway routes are expected to continue to operate below capacity with a v/c ratio of 0.83 or less in the peak direction in both the AM and PM peak hours.

Table 13-27: No-Action Subway Station Stair Analysis

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
AM	Franklin Ave (C/S)	P3A/P3B/P4A/P4B/P5A/P5B	7.58	6.33	1	401	1.00	0.75	1.00	0.18	A
		M1A/M1B/M2A/M2B/P1A/P1B	8.00	6.75	190	332	0.75	0.80	0.90	0.23	A
		P2A/P2B/S2	4.58	3.58	161	709	0.75	1.00	0.90	0.60	B
	Nostrand Ave (A/C)	M7A/M7B/M8A/M8B/S7	5.00	4.00	122	362	0.75	1.00	0.90	0.30	A
		S8/S9	5.00	4.00	164	424	0.75	1.00	0.90	0.37	A
		PL11	5.00	4.00	13	75	0.75	0.80	0.90	0.06	A
		PL9	5.00	4.00	117	97	0.75	0.80	0.90	0.16	A
		PL7	5.00	4.00	36	62	0.75	0.80	0.90	0.07	A
		PL5	5.00	4.00	64	99	0.75	0.80	0.90	0.12	A
		PL4	5.00	4.00	29	66	0.75	0.80	0.90	0.07	A
		PL2	5.00	4.00	4	8	0.75	0.80	0.90	0.01	A
		M4A/M4B/S4	5.00	4.00	347	377	0.75	0.90	0.90	0.51	B
		M2A/M2B/S2	5.00	4.00	188	899	0.75	0.90	0.90	0.72	C
		PL10	5.00	4.00	6	25	0.75	0.80	0.90	0.02	A
		PL8	5.00	4.00	6	7	0.75	0.80	0.90	0.01	A
		PL6	5.00	4.00	27	18	0.75	0.80	0.90	0.03	A
		PL3	5.00	4.00	46	33	0.75	0.80	0.90	0.06	A
		PL1	5.00	4.00	32	17	0.75	0.80	0.90	0.04	A
		M3A/M3B/S3	5.00	4.00	103	109	0.75	1.00	0.90	0.14	A
		M1A/M1B/S1	5.00	4.00	221	104	0.75	1.00	0.90	0.23	A
	Clinton-Washington Ave (C)	P6A/P6B/S6	5.00	4.00	230	274	0.75	1.00	0.90	0.34	A
		P5A/P5B/S5	5.00	4.00	97	32	0.75	1.00	0.90	0.09	A
		P2A/P2B/S2	5.00	4.00	753	302	0.75	1.00	0.90	0.75	C
		P1A/P1B/S1	5.00	4.00	148	96	0.75	1.00	0.90	0.17	A
PM	Franklin Ave (C/S)	P3A/P3B/P4A/P4B/P5A/P5B	7.58	6.33	8	395	1.00	0.75	1.00	0.18	A
		M1A/M1B/M2A/M2B/P1A/P1B	8.00	6.75	560	487	0.75	0.80	0.90	0.46	B
		P2A/P2B/S2	4.58	3.58	129	407	0.75	1.00	0.90	0.37	A
	Nostrand Ave (A/C)	M7A/M7B/M8A/M8B/S7	5.00	4.00	260	236	0.75	1.00	0.90	0.34	A
		S8/S9	5.00	4.00	225	287	0.75	1.00	0.90	0.34	A
		PL11	5.00	4.00	7	27	0.75	0.80	0.90	0.02	A
		PL9	5.00	4.00	28	11	0.75	0.80	0.90	0.03	A
		PL7	5.00	4.00	29	21	0.75	0.80	0.90	0.04	A
		PL5	5.00	4.00	58	67	0.75	0.80	0.90	0.09	A
		PL4	5.00	4.00	31	56	0.75	0.80	0.90	0.07	A
		PL2	5.00	4.00	4	12	0.75	0.80	0.90	0.01	A
		M4A/M4B/S4	5.00	4.00	212	175	0.75	0.90	0.90	0.28	A
		M2A/M2B/S2	5.00	4.00	145	398	0.75	0.90	0.90	0.37	A
		PL10	5.00	4.00	35	28	0.75	0.80	0.90	0.05	A
		PL8	5.00	4.00	44	29	0.75	0.80	0.90	0.06	A
		PL6	5.00	4.00	79	37	0.75	0.80	0.90	0.09	A
		PL3	5.00	4.00	312	55	0.75	0.80	0.90	0.28	A
		PL1	5.00	4.00	228	62	0.75	0.80	0.90	0.22	A
		M3A/M3B/S3	5.00	4.00	403	226	0.75	1.00	0.90	0.44	A
		M1A/M1B/S1	5.00	4.00	726	178	0.75	1.00	0.90	0.66	B
	Clinton-Washington Ave (C)	P6A/P6B/S6	5.00	4.00	42	118	0.75	1.00	0.90	0.10	A
		P5A/P5B/S5	5.00	4.00	159	152	0.75	1.00	0.90	0.21	A
		P2A/P2B/S2	5.00	4.00	237	111	0.75	1.00	0.90	0.25	A
		P1A/P1B/S1	5.00	4.00	515	145	0.75	1.00	0.90	0.48	B

Table 13-28: No-Action Subway Station Fare 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	Franklin Ave (C/S)	N113	3	0	0	709	161	1.00	0.75	0.90	0.23	A
		N114	4	0	0	287	239	1.00	0.75	0.90	0.10	A
	Nostrand Ave (A/C)	N115	5	0	0	786	286	1.00	0.75	0.90	0.17	A
		N116	4	0	2	1,275	534	1.00	0.75	0.90	0.33	A
		N117	3	0	2	213	324	1.00	0.75	0.90	0.11	A
	Clinton-Washington Ave (C)	N111	3	0	0	488	321	1.00	0.75	0.90	0.21	A
		N112	0	2	1	49	156	1.00	0.75	0.90	0.08	A
		N111A	3	0	0	302	753	1.00	0.75	0.90	0.26	A
		N112A	3	0	0	96	148	1.00	0.75	0.90	0.06	A
PM	Franklin Ave (C/S)	N113	3	0	0	408	128	1.00	0.75	0.90	0.14	A
		N114	4	0	0	245	382	1.00	0.75	0.90	0.12	A
	Nostrand Ave (A/C)	N115	5	0	0	522	485	1.00	0.75	0.90	0.16	A
		N116	4	0	2	572	357	1.00	0.75	0.90	0.16	A
		N117	3	0	2	404	1,129	1.00	0.75	0.90	0.28	A
	Clinton-Washington Ave (C)	N111	3	0	0	200	70	1.00	0.75	0.90	0.07	A
		N112	0	2	1	204	287	1.00	0.75	0.90	0.22	A
		N111A	3	0	0	110	237	1.00	0.75	0.90	0.09	A
		N112A	3	0	0	145	515	1.00	0.75	0.90	0.16	A

Table 13-29: No-Action Escalator Analysis at the Franklin Avenue Subway Station

Station	Peak Period	Escalator	Tread Width	Feet per Minute	Guideline Capacity	Peak Hour Volumes	Peak 15-Minute Volumes	Surging Factor	V/C Ratio	LOS
Franklin Ave (C/S)	AM	E-352 (Up)	32"	90	750	179	56	1.00	0.07	A
	PM	E-352 (Up)	32"	90	750	229	72	1.00	0.10	A

Table 13-30: No-Action Subway Line Haul Analysis

Peak Period	Route	Direction	Maximum Load Point (leaving station)	Average Trains Per Hour (1)	Cars Per Hour per Train (1)	Average Passengers Per Hour (1)	Average Passengers Per Car	Guideline Passengers Per Car (2,4)	V/C Ratio (3)
AM	A	NB	Nostrand Av	16.4	10	19,126	116	140	0.83
	C	NB	High St	7.1	8	8,586	152	145	1.05
PM	A	SB	Jay St - MetroTech	15.0	10	15,682	105	140	0.75
	C	SB	Jay St - MetroTech	6.1	8	7,048	143	140	1.02

Notes:

(1) Based on 2019 ridership data from NYCT (provided in 2024). Passenger volumes grown by 0.5 percent/year to account for growth in demand during the 2019 to 2024 period and 0.25 percent/year for the 2024-2034 period as per 2021 *CEQR Technical Manual* guidance.

(2) Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service. Per NYCT direction, A train capacity is adjusted from 175 to 140 to reflect 10 60-foot cars at 140 passengers per car capacity.

(3) Volume to guideline capacity ratio.

(4) Guideline capacities are based on combined corridor headways for lines on shared segments (e.g., the 2/3).

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

Subway Service

Subway Stations

As shown in **Table 13-10**, the Proposed Actions are expected to generate a net total of approximately 3,245 and 3,099 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 Franklin Avenue (C/S) subway station which would experience approximately 1,147 incremental trips in the AM peak hour and 1,108 in the PM peak hour. The next highest number would occur at the Nostrand Avenue (A/C) subway station which would experience approximately 964 incremental trips in the AM peak hour and 926 in the PM peak hour. In addition, the Clinton-Washington Avenues (C) subway station would experience approximately 740 incremental trips in the AM peak hour and 685 in the PM peak hour. All other subway stations/station complexes in proximity to the Project 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 the Franklin Avenue, Nostrand Avenue, and Clinton-Washington Avenues stations in the With-Action condition are shown in **Tables 13-31 through 13-33** and discussed below.

Franklin Avenue Subway Station (C/S)

In the With-Action condition, all analyzed stairs, fare arrays, and escalators at the Franklin Avenue station are expected to operate at an acceptable LOS C or better in both the AM and PM peak hours with the exception of street stairs S2/P2 during the AM peak hour. This stair would operate at LOS D in the AM peak hours versus LOS B in the No-Action condition. However, stairs S2/P2 would not be considered significantly adversely impacted based on the 2021 *CEQR Technical Manual* impact criteria. Therefore, no significant adverse impacts are anticipated to occur at the Franklin Avenue subway station as a result of the Proposed Actions.

Table 13-31: With-Action Subway Station Stair Analysis

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS	WIT	Impact Threshold
					Up	Down	Up	Down	Up	Down					
AM	Franklin Ave (C/S)	P3A/P3B/P4A/P4B/P5A/P5B	7.58	6.33	0	8	1	409	1.00	0.75	1.00	0.18	A	- - -	- - -
		M1A/M1B/M2A/M2B/P1A/P1B	8.00	6.75	290	169	480	501	0.75	0.80	0.90	0.43	A	- - -	- - -
		P2A/P2B/S2	4.58	3.58	72	608	233	1,317	0.75	1.00	0.90	1.05	D	2.19	8.00
	Nostrand Ave (A/C)	M7A/M7B/M8A/M8B/S7	5.00	4.00	164	517	286	879	0.75	1.00	0.90	0.73	C	- - -	- - -
		S8/S9	5.00	4.00	41	0	205	424	0.75	1.00	0.90	0.40	A	- - -	- - -
		PL11	5.00	4.00	5	54	18	129	0.75	0.80	0.90	0.11	A	- - -	- - -
		PL9	5.00	4.00	44	70	161	167	0.75	0.80	0.90	0.24	A	- - -	- - -
		PL7	5.00	4.00	1	12	37	74	0.75	0.80	0.90	0.08	A	- - -	- - -
		PL5	5.00	4.00	1	20	65	119	0.75	0.80	0.90	0.14	A	- - -	- - -
		PL4	5.00	4.00	1	13	30	79	0.75	0.80	0.90	0.08	A	- - -	- - -
		PL2	5.00	4.00	0	2	4	10	0.75	0.80	0.90	0.01	A	- - -	- - -
		M4A/M4B/S4	5.00	4.00	2	59	349	436	0.75	0.90	0.90	0.55	B	- - -	- - -
		M2A/M2B/S2	5.00	4.00	7	97	195	996	0.75	0.90	0.90	0.79	C	- - -	- - -
		PL10	5.00	4.00	6	24	12	49	0.75	0.80	0.90	0.04	A	- - -	- - -
		PL8	5.00	4.00	6	7	12	14	0.75	0.80	0.90	0.02	A	- - -	- - -
		PL6	5.00	4.00	3	3	30	21	0.75	0.80	0.90	0.04	A	- - -	- - -
		PL3	5.00	4.00	5	6	51	39	0.75	0.80	0.90	0.07	A	- - -	- - -
		PL1	5.00	4.00	3	3	35	20	0.75	0.80	0.90	0.04	A	- - -	- - -
		M3A/M3B/S3	5.00	4.00	10	15	113	124	0.75	1.00	0.90	0.16	A	- - -	- - -
		M1A/M1B/S1	5.00	4.00	28	24	249	128	0.75	1.00	0.90	0.27	A	- - -	- - -
	Clinton-Washington Ave (C)	P6A/P6B/S6	5.00	4.00	4	58	234	332	0.75	1.00	0.90	0.37	A	- - -	- - -
		P5A/P5B/S5	5.00	4.00	17	15	114	47	0.75	1.00	0.90	0.11	A	- - -	- - -
		P2A/P2B/S2	5.00	4.00	46	335	799	637	0.75	1.00	0.90	0.99	C	- - -	- - -
		P1A/P1B/S1	5.00	4.00	183	84	331	180	0.75	1.00	0.90	0.36	A	- - -	- - -
PM	Franklin Ave (C/S)	P3A/P3B/P4A/P4B/P5A/P5B	7.58	6.33	0	13	8	408	1.00	0.75	1.00	0.18	A	- - -	- - -
		M1A/M1B/M2A/M2B/P1A/P1B	8.00	6.75	479	108	1039	595	0.75	0.80	0.90	0.73	C	- - -	- - -
		P2A/P2B/S2	4.58	3.58	120	389	249	796	0.75	1.00	0.90	0.73	C	- - -	- - -
	Nostrand Ave (A/C)	M7A/M7B/M8A/M8B/S7	5.00	4.00	326	294	586	530	0.75	1.00	0.90	0.76	C	- - -	- - -
		S8/S9	5.00	4.00	82	0	307	287	0.75	1.00	0.90	0.40	A	- - -	- - -
		PL11	5.00	4.00	5	12	12	39	0.75	0.80	0.90	0.04	A	- - -	- - -
		PL9	5.00	4.00	19	5	47	16	0.75	0.80	0.90	0.05	A	- - -	- - -
		PL7	5.00	4.00	2	3	31	24	0.75	0.80	0.90	0.04	A	- - -	- - -
		PL5	5.00	4.00	4	8	62	75	0.75	0.80	0.90	0.10	A	- - -	- - -
		PL4	5.00	4.00	2	7	33	63	0.75	0.80	0.90	0.07	A	- - -	- - -
		PL2	5.00	4.00	0	1	4	13	0.75	0.80	0.90	0.01	A	- - -	- - -
		M4A/M4B/S4	5.00	4.00	11	19	223	194	0.75	0.90	0.90	0.30	A	- - -	- - -
		M2A/M2B/S2	5.00	4.00	18	44	163	442	0.75	0.90	0.90	0.41	A	- - -	- - -
		PL10	5.00	4.00	43	34	78	62	0.75	0.80	0.90	0.10	A	- - -	- - -
		PL8	5.00	4.00	55	36	99	65	0.75	0.80	0.90	0.12	A	- - -	- - -
		PL6	5.00	4.00	4	1	83	38	0.75	0.80	0.90	0.09	A	- - -	- - -
		PL3	5.00	4.00	17	2	329	57	0.75	0.80	0.90	0.30	A	- - -	- - -
		PL1	5.00	4.00	13	2	241	64	0.75	0.80	0.90	0.23	A	- - -	- - -
		M3A/M3B/S3	5.00	4.00	43	5	446	231	0.75	1.00	0.90	0.48	B	- - -	- - -
		M1A/M1B/S1	5.00	4.00	73	11	799	189	0.75	1.00	0.90	0.73	C	- - -	- - -
	Clinton-Washington Ave (C)	P6A/P6B/S6	5.00	4.00	11	26	53	144	0.75	1.00	0.90	0.12	A	- - -	- - -
		P5A/P5B/S5	5.00	4.00	42	7	201	159	0.75	1.00	0.90	0.25	A	- - -	- - -
		P2A/P2B/S2	5.00	4.00	63	226	300	337	0.75	1.00	0.90	0.43	A	- - -	- - -
		P1A/P1B/S1	5.00	4.00	254	57	769	202	0.75	1.00	0.90	0.71	C	- - -	- - -

Table 13-32: With-Action Subway Station Fare Array Analysis

Peak Hour	Station	Control Area	Control Elements			Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits	System Entries	System Exits			
AM	Franklin Ave (C/S)	N113	3	0	0	608	72	1,317	233	1.00	0.75	0.90	0.42	A
		N114	4	0	0	169	298	456	537	1.00	0.75	0.90	0.19	A
	Nostrand Ave (A/C)	N115	5	0	0	517	205	1,303	491	1.00	0.75	0.90	0.29	A
		N116	4	0	2	156	9	1,431	543	1.00	0.75	0.90	0.36	A
		N117	3	0	2	39	38	252	362	1.00	0.75	0.90	0.12	A
	Clinton-Washington Ave (C)	N111	3	0	0	58	4	546	325	1.00	0.75	0.90	0.23	A
		N112	0	2	1	15	17	64	173	1.00	0.75	0.90	0.09	A
		N111A	3	0	0	335	46	637	799	1.00	0.75	0.90	0.37	A
		N112A	3	0	0	84	183	180	331	1.00	0.75	0.90	0.13	A
PM	Franklin Ave (C/S)	N113	3	0	0	389	120	797	248	1.00	0.75	0.90	0.28	A
		N114	4	0	0	108	492	353	874	1.00	0.75	0.90	0.23	A
	Nostrand Ave (A/C)	N115	5	0	0	294	408	816	893	1.00	0.75	0.90	0.26	A
		N116	4	0	2	63	29	635	386	1.00	0.75	0.90	0.18	A
		N117	3	0	2	16	116	420	1,245	1.00	0.75	0.90	0.30	A
	Clinton-Washington Ave (C)	N111	3	0	0	26	11	226	81	1.00	0.75	0.90	0.08	A
		N112	0	2	1	7	42	211	329	1.00	0.75	0.90	0.24	A
		N111A	3	0	0	226	63	336	300	1.00	0.75	0.90	0.16	A
		N112A	3	0	0	57	254	202	769	1.00	0.75	0.90	0.24	A

Table 13-33: With-Action Escalator Analysis at the Franklin Avenue Subway Station

Station	Peak Period	Escalator	Tread Width	Feet per Minute	Guideline Capacity	Project Increment	Peak Hour Volumes	Peak 15-Minute Volumes	Surging Factor	V/C Ratio	LOS
Franklin Ave (C/S)	AM	E-352 (Up)	32"	90	750	17	196	61	1.00	0.08	A
	PM	E-352 (Up)	32"	90	750	11	240	75	1.00	0.10	A

Nostrand Avenue Subway Station (A/C)

In the With-Action condition, all analyzed stairs and fare arrays at the Nostrand Avenue station are projected to operate at an acceptable LOS C or better in both the AM and PM peak hours. No significant adverse impacts are therefore anticipated to occur at this station as a result of the Proposed Actions based on the 2021 *CEQR Technical Manual* impact criteria previously described under "Transportation Analyses Methodologies."

Clinton-Washington Avenues Subway Station (C)

In the With-Action condition, all analyzed stairs and fare arrays at the Clinton-Washinton Avenues station are expected to operate at an acceptable LOS C or better in both the AM and PM peak hours. No significant adverse impacts are anticipated to occur at the Clinton-Washington Avenues subway station as a result of the Proposed Actions based on the 2021 *CEQR Technical Manual* impact criteria previously described under "Transportation Analyses Methodologies."

Subway Line Haul

Table 13-34 shows line haul conditions on the analyzed subway routes serving the Project Area in the With-Action condition. As shown in **Table 13-34**, in the With-Action condition, C trains are expected to continue to operate over capacity in the AM peak hour with a v/c ratio of 1.19 in the peak northbound direction and in the PM peak hour with a v/c ratio of 1.16 in the peak southbound direction. This compares to v/c ratios of 1.05 northbound in the AM peak hour and 1.02 southbound in the PM peak hour under No-Action conditions. As northbound C trains would be operating over capacity and would experience an average incremental increase of 20.81 persons/car in the AM, greater than the five persons/car 2021 *CEQR Technical Manual* impact threshold, northbound C service would be considered significantly adversely impacted by the Proposed Actions in the AM peak hour. In addition, as southbound C trains would be operating over capacity and would experience an average incremental increase of 18.60 persons/car in the PM, greater than the five persons/car 2021 *CEQR Technical Manual* impact threshold, southbound C service would be considered significantly adversely impacted by the Proposed Actions in the PM peak hour. All other analyzed subway routes are projected to operate below capacity in the peak direction in both the AM and PM peak hours and would therefore not be significant adversely impacted by the Proposed Actions in either period.

Table 13-34: With-Action Subway Line Haul Analysis

Peak Period	Route	Direction	Maximum Load Point (leaving station)	Average Trains Per Hour (1)	Average Cars Per Hour per Train (1)	Project Increment	Average Passengers Per Hour (1)	Average Passengers Per Car	Guideline Passengers Per Car (2,4)	V/C Ratio (3)	Average Additional Passengers Per Car Per Hour
AM	A	NB	Nostrand Av	16.4	10	398	19,524	119	140	0.85	2.42
	C	NB	High St	7.1	8	1,179	9,765	172	145	1.19	20.81
PM	A	SB	Jay St - MetroTech	15.0	10	310	15,992	107	140	0.76	2.07
	C	SB	Jay St - MetroTech	6.1	8	914	7,962	162	140	1.16	18.60

Notes:

(1) Based on 2019 ridership data from NYCT (provided in 2024). Passenger volumes grown by 0.5 percent/year to account for growth in demand during the 2019 to 2024 period and 0.25 percent/year for the 2024-2034 period as per 2021 *CEQR Technical Manual* guidance.

(2) Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service. Per NYCT direction, A train capacity is adjusted from 175 to 140 to reflect 10 60-foot cars at 140 passengers per car capacity.

(3) Volume to guideline capacity ratio.

(4) Guideline capacities are based on combined corridor headways for lines on shared segments (e.g., the 2/3).

(5) Shading denotes a significant adverse impact based on 2021 *CEQR Technical Manual* criteria.

Long Island Rail Road Commuter Rail Service

As noted previously, the Proposed Actions are not expected to generate substantial numbers of new LIRR trips in either the weekday AM or PM commuter peak periods. As some projected development sites are not located within a convenient walking distance of Atlantic Terminal, it is conservatively assumed that most commuter rail trips generated by the Proposed Actions would likely start or end on another mode of transit (i.e., subway and bus) and are assumed

to be reflected in the forecast for these modes. Increased demand on the LIRR as a result of the Proposed Actions is not expected to result in significant adverse impacts to LIRR line haul capacity in either the weekday AM or PM commuter peak periods.

Pedestrians

Existing Conditions

Much of the Project Area is characterized by relatively light to moderate pedestrian flows during peak periods with the exception of major retail corridors and corridors providing access to area subway stations and bus routes. As discussed previously in Section E, "Level 2 Screening Assessment," the analysis of pedestrian conditions focuses on representative pedestrian elements where new trips generated by projected developments are expected to be most concentrated. These elements—sidewalks, corner areas and crosswalks—are primarily located in the vicinity of major projected development sites and along corridors connecting these sites to area transit services. As shown in **Figure 13-5**, they include a total of 62 sidewalks, 39 crosswalks, and 68 corner areas primarily located along the Atlantic Avenue, Grand Avenue, Classon, Avenue, Franklin Avenue, and Bedford Avenue corridors.

Sidewalks

Data from pedestrian counts conducted in December 2023 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 Franklin Avenue in the vicinity of the Franklin Avenue subway station, and along Bedford Avenue in the vicinity of the Nostrand Avenue subway station. As shown in **Table 13-35**, analyzed sidewalks typically range from four to eight feet in effective width, with some wider sidewalks (i.e., up to 12 feet in effective width) present along Grand and Classon Avenues, and some more narrow (i.e., one foot or less in effective width) present along Franklin and Bedford Avenues. 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 13-35 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 13-35**, all analyzed sidewalks currently operate at an acceptable LOS C or better in all peak hours.

Crosswalks

Study area intersections are a mix of signalized and stop controlled, and the signalized intersections generally include pedestrian signals. The majority of crosswalks in the area feature high visibility striping and analyzed crosswalks generally range from 11 to 20 feet in width. **Table 13-36** shows the peak hour volumes, average pedestrian space (in sf/ped), and levels of service at analyzed crosswalks. As shown in **Table 13-36**, all analyzed crosswalks currently operate at an uncongested LOS A in all peak hours, with the exception of the west

crosswalk at Atlantic Avenue and Nostrand Avenue that operates at an acceptable LOS B in the Saturday peak hour.

Corner Areas

Table 13-37 shows the peak hour volumes, average pedestrian space (in sf/ped) and levels of service at analyzed corner areas. As shown in **Table 13-37**, all of the analyzed corner areas currently operate at an uncongested LOS A in all peak hours, with the exception of the southwest corner at the intersection of Bedford Avenue and Fulton Street that operates at an acceptable LOS B in the weekday midday and Saturday peak hours and an acceptable LOS C in the weekday PM peak hour.

Table 13-35: 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	South Sidewalk along Fulton St Between Washington Ave and St James Pl	5.0	335	309	459	389	191.2	225.3	142.8	191.1	B	B	B	B
S2	East Sidewalk along Washington Ave Between Fulton St and Atlantic Ave	4.0	400	194	421	180	129.5	310.1	109.4	337.8	B	B	B	B
S3	East Sidewalk along Washington Ave Between Atlantic Ave and Pacific St	8.0	183	61	127	86	512.3	1,869.6	878.0	1,178.7	B	A	A	A
S4	South Sidewalk along Fulton St Between St James Pl and Grand Ave	8.0	207	199	213	331	495.8	585.7	547.2	306.1	B	A	A	B
S5	East Sidewalk along Grand Ave Between Fulton St and Lefferts Pl	5.5	47	37	16	77	1,149.2	1,200.8	1,960.2	871.1	A	A	A	A
S6	West Sidewalk along Grand Ave Between Fulton St and Lefferts Pl	4.5	149	123	118	125	435.2	376.5	555.6	433.3	B	B	A	B
S7	East Sidewalk along Grand Ave Between Lefferts Pl and Atlantic Ave	6.5	62	89	52	90	1,112.6	775.0	1,504.8	835.1	A	A	A	A
S8	North Sidewalk along Atlantic Ave Between Grand Ave and Classon Ave	4.0	68	41	54	81	717.4	1,189.9	985.5	563.1	A	A	A	A
S09	South Sidewalk along Atlantic Ave Between Grand Ave and Classon Ave	2.5	49	24	35	52	533.3	1,089.0	678.8	388.3	A	A	A	B
S10	East Sidewalk along Grand Ave Between Atlantic Ave and Pacific St	5.5	52	112	30	78	904.7	420.0	1,481.0	653.4	A	B	A	A
S11	West Sidewalk along Grand Ave Between Atlantic Ave and Pacific St	10.0	62	28	36	75	2,094.9	4,638.8	2,200.0	1,520.6	A	A	A	A
S12	West Sidewalk along Grand Ave Between Lefferts Pl and Atlantic Ave	4.5	54	36	38	45	897.5	1,346.4	1,481.8	1,527.4	A	A	A	A
S13	North Sidewalk along Pacific St Between Grand Ave and Classon Ave	2.0	30	22	34	31	538.5	853.2	496.1	597.8	A	A	B	A
S14	South Sidewalk along Pacific St Between Grand Ave and Classon Ave	2.0	24	56	60	55	851.4	313.9	281.1	280.7	A	B	B	B
S15	East Sidewalk along Grand Ave Between Pacific St and Dean St	2.5	40	77	15	40	616.2	196.6	1,069.2	497.4	A	B	A	B
S16	West Sidewalk along Grand Ave Between Pacific St and Dean St	12.0	73	32	47	81	2,265.3	3,385.8	3,154.5	1,900.8	A	A	A	A
S17	South Sidewalk along Pacific St between Washington Ave and Grand Ave	2.5	54	25	34	55	579.2	1,409.7	989.9	467.9	A	A	A	B
S18	North Sidewalk along Dean St Between Grand Ave and Classon Ave	4.5	16	41	25	28	2,238.6	495.4	748.4	1,489.2	A	B	A	A
S19	South Sidewalk along Dean St Between Grand Ave and Classon Ave	7.5	48	38	41	68	1,596.4	1,852.3	1,847.2	930.3	A	A	A	A
S20	East Sidewalk along Grand Ave Between Dean St and Bergen St	6.0	75	107	38	67	636.7	413.0	994.1	205.7	A	B	A	B
S21	West Sidewalk along Grand Ave Between Dean St and Bergen St	2.5	51	54	41	45	496.8	520.6	763.0	615.9	B	B	A	A
S22	North Sidewalk along Bergen St Between Grand Ave and Classon Ave	2.0	153	76	130	127	86.6	281.3	140.5	147.6	C	B	B	B
S23	East Sidewalk along Grand Ave Between Bergen St and St Marks Ave	5.5	105	81	56	77	497.8	709.8	956.7	585.5	B	A	A	A
S24	South Sidewalk along Fulton St Between Classon Ave and Franklin Ave	4.5	186	215	260	281	306.4	255.1	265.7	240.8	B	B	B	B
S25	East Sidewalk along Classon Ave between Fulton St and Lefferts Pl	5.0	76	80	109	146	791.9	702.8	603.0	423.0	A	A	A	B
S26	West Sidewalk along Classon Ave between Fulton St and Lefferts Pl	3.0	47	56	56	97	788.6	568.4	543.0	411.4	A	A	A	B
S27	East Sidewalk along Classon Ave between Lefferts Pl and Atlantic Ave	6.0	92	53	117	99	764.4	1,326.9	487.3	796.7	A	A	B	A
S28	West Sidewalk along Classon Ave between Lefferts Pl and Atlantic Ave	9.5	57	46	60	69	2,085.6	2,518.9	1,981.3	1,635.6	A	A	A	A
S29	North sidewalk along Atlantic Ave between Classon Ave and Franklin Ave	2.0	21	32	5	45	724.0	524.6	3,991.7	563.1	A	B	A	A
S30	South Sidewalk along Atlantic Ave Between Classon Ave and Franklin Ave	7.0	19	11	17	34	2,976.2	4,158.0	3,473.1	1,296.3	A	A	A	A
S31	East Sidewalk along Classon Ave Between Atlantic Ave and Pacific St	9.5	82	35	98	81	1,046.0	2,579.6	725.5	1,281.8	A	A	A	A

Table 13-35 (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 Classon Ave between Atlantic Ave and Pacific St	9.0	63	65	54	80	1,272.8	1,167.9	1,564.2	1,216.2	A	A	A	A
S33	North Sidewalk along Pacific St Between Classon Ave and Franklin Ave	3.5	33	61	39	17	516.5	310.3	650.3	1,149.5	B	B	A	A
S34	South Sidewalk along Pacific St Between Classon Ave and Franklin Ave	4.0	20	24	6	24	1,188.0	1,485.0	2,376.0	1,089.0	A	A	A	A
S35	East Sidewalk along Classon Ave between Pacific St and Dean St	3.0	102	78	116	95	286.4	269.5	178.0	330.0	B	B	B	B
S36	West Sidewalk along Classon Ave between Pacific St and Dean St	10.0	58	109	79	112	1,290.4	675.7	1,097.7	901.6	A	A	A	A
S37	South Sidewalk along Dean St Between Classon Ave and Franklin Ave	4.0	6	13	22	30	6,969.6	2,376.0	842.4	312.8	A	A	A	B
S38	East Sidewalk along Classon Ave between Dean St and Bergen St	3.5	126	110	116	123	98.7	306.1	290.2	803.8	B	B	B	A
S39	West Sidewalk along Classon Ave between Dean St and Bergen St	5.0	100	62	77	99	302.8	670.6	648.0	413.9	B	A	A	B
S40	North Sidewalk along Fulton St Between Franklin Ave and Spencer Pl	7.0	356	235	344	278	267.7	358.4	251.2	346.8	B	B	B	B
S41	East Sidewalk along Franklin Ave Between Fulton St and Brevoort Pl	1.5	287	207	308	267	70.4	101.6	64.0	67.7	C	B	C	C
S42	West Sidewalk along Franklin Ave Between Fulton St and Lefferts Pl	6.0	161	119	259	96	537.1	678.8	297.0	851.3	A	A	B	A
S43	South Sidewalk along Brevoort Pl Between Franklin Ave and Bedford Pl	6.0	58	44	56	35	897.1	1,053.0	992.8	1,792.2	A	A	A	A
S44	East Sidewalk along Franklin Ave Between Brevoort Pl and Atlantic Ave	1.5	173	91	164	189	70.6	152.5	90.9	74.1	C	B	B	C
S45	North Sidewalk along Atlantic Ave between Franklin Ave and Bedford Pl	3.0	21	29	12	35	899.5	811.1	1,782.0	641.5	A	A	A	A
S46	South Sidewalk along Atlantic Ave between Franklin Ave and Bedford Ave	1.5	11	16	23	43	745.2	746.2	495.8	319.0	A	A	B	B
S47	East Sidewalk along Franklin Ave Between Atlantic Ave and Pacific St	5.0	145	81	114	185	331.7	593.9	422.0	260.0	B	A	B	B
S48	West Sidewalk along Franklin Ave Between Atlantic Ave and Pacific St	3.0	115	95	166	103	216.8	270.0	167.3	269.8	B	B	B	B
S49	West Sidewalk along Franklin Ave Between Lefferts Pl and Atlantic Ave	1.5	110	160	167	87	179.0	109.4	113.3	204.6	B	B	B	B
S50	East Sidewalk along Franklin Ave Between Pacific St and Dean St	4.0	167	101	149	206	207.6	381.0	271.0	219.0	B	B	B	B
S51	West Sidewalk along Franklin Ave Between Pacific St and Dean St	4.0	144	107	180	109	313.4	395.2	200.5	383.6	B	B	B	B
S52	East Sidewalk along Franklin Ave Between Dean St and Bergen St	4.0	140	101	175	216	264.6	338.7	228.0	195.6	B	B	B	B
S53	East Sidewalk along Bedford Ave between Fulton St and Herkimer St	3.0	270	162	319	223	109.3	189.0	102.5	134.0	B	B	B	B
S54	West Sidewalk along Bedford Ave between Fulton St and Brevoort Pl	1.0	123	184	82	226	86.9	61.1	152.2	59.4	C	C	B	C
S55	East Sidewalk along Bedford Ave between Herkimer St and Atlantic Ave	4.0	207	107	210	157	183.5	381.9	212.6	257.2	B	B	B	B
S56	North Sidewalk along Atlantic Ave between Bedford Ave and Perry Pl	5.0	23	35	27	87	1,497.9	1,357.7	1,848.0	532.5	A	A	A	A
S57	South Sidewalk along Atlantic Ave between Bedford Ave and Nostrand Ave	0.5	26	25	28	26	164.3	163.8	165.3	164.3	B	B	B	B
S58	North Sidewalk along Atlantic Ave between Bedford Pl and Bedford Ave	4.5	35	10	37	48	885.9	1,924.5	1,025.8	668.2	A	A	A	A
S59	West Sidewalk along Bedford Ave between Brevoort Pl and Atlantic Ave	8.5	105	80	28	163	663.5	1,098.1	2,091.7	538.9	A	A	A	A
S60	West Sidewalk along Nostrand Ave between Fulton St and Herkimer St	5.0	785	591	844	494	66.9	92.1	60.0	89.8	C	B	C	C
S61	West Sidewalk along Nostrand Ave between Herkimer St and Herkimer Pl	5.0	346	352	532	392	138.8	144.9	94.6	140.7	B	B	B	B
S62	North Sidewalk along Atlantic Ave between Perry Pl and Nostrand Ave	3.0	125	76	67	169	247.9	403.2	388.2	185.4	B	B	B	B

Table 13-36: 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
Fulton St & Washington Ave	X1	East	436	153	291	219	66.8	187.4	98.3	144.6	A	A	A	A
Atlantic Ave & Washington Ave	X2	East	249	93	187	174	170.2	434.6	161.3	173.0	A	A	A	A
Fulton St & St James Pl	X3	South	226	178	237	326	269.8	366.0	253.6	185.5	A	A	A	A
Atlantic Ave & Grand Ave	X4	East	49	68	32	50	379.5	209.1	618.5	452.1	A	A	A	A
Atlantic Ave & Grand Ave	X5	West	56	39	37	53	354.8	642.8	573.5	476.2	A	A	A	A
Fulton St and Classon Ave	X6	South	152	134	163	170	313.2	317.5	354.0	300.8	A	A	A	A
Lefferts Pl & Classon Ave	X7	East	87	58	121	117	464.7	586.4	261.0	355.0	A	A	A	A
Lefferts Pl & Classon Ave	X8	West	53	49	66	76	661.2	576.8	468.9	497.0	A	A	A	A
Atlantic Ave & Classon Ave	X9	North	16	18	10	24	2,372.3	1,222.4	3,310.5	1,467.8	A	A	A	A
Atlantic Ave & Classon Ave	X10	East	79	45	102	107	214.8	389.1	140.6	157.0	A	A	A	A
Atlantic Ave & Classon Ave	X11	South	18	19	15	36	2,314.6	1,757.6	3,698.6	1,419.7	A	A	A	A
Atlantic Ave & Classon Ave	X12	West	50	43	47	86	233.4	389.2	278.9	178.8	A	A	A	A
Pacific St & Classon Ave	X13	North	29	35	27	42	627.8	412.2	722.7	474.7	A	A	A	A
Pacific St & Classon Ave	X14	East	82	59	112	101	582.7	849.5	260.6	419.9	A	A	A	A
Pacific St & Classon Ave	X15	South	20	28	21	24	1,129.9	986.1	986.1	879.5	A	A	A	A
Pacific St & Classon Ave	X16	West	63	51	52	93	614.3	621.5	809.2	439.6	A	A	A	A
Dean St & Classon Ave	X17	North	7	19	25	27	3,131.1	787.3	638.5	767.6	A	A	A	A
Dean St & Classon Ave	X18	East	90	140	79	75	482.6	155.9	509.1	505.7	A	A	A	A
Dean St & Classon Ave	X19	South	60	52	65	101	392.9	506.3	360.6	297.6	A	A	A	A
Dean St & Classon Ave	X20	West	71	60	70	112	512.1	564.0	513.6	355.6	A	A	A	A
Bergen St & Classon Ave	X21	East	76	60	51	75	366.7	398.1	565.3	397.7	A	A	A	A
Fulton St & Franklin Ave	X22	East	303	178	279	267	132.8	222.7	138.1	144.4	A	A	A	A
Atlantic Ave & Franklin Ave	X23	North	23	40	34	33	2,755.6	1,359.1	1,944.4	1,667.2	A	A	A	A
Atlantic Ave & Franklin Ave	X24	East	174	96	160	187	144.5	294.5	114.8	146.2	A	A	A	A
Atlantic Ave & Franklin Ave	X25	South	35	18	29	31	1,264.7	1,541.3	1,257.4	1,224.1	A	A	A	A
Atlantic Ave & Franklin Ave	X26	West	122	90	177	115	189.9	269.1	101.5	216.7	A	A	A	A
Pacific St & Franklin Ave	X27	North	11	19	21	31	1,230.2	764.2	764.5	470.4	A	A	A	A
Pacific St & Franklin Ave	X28	East	148	82	132	185	267.0	526.8	345.3	240.4	A	A	A	A
Pacific St & Franklin Ave	X29	West	139	96	189	133	320.4	422.4	233.4	298.4	A	A	A	A
Dean St & Franklin Ave	X30	East	149	110	159	211	218.0	390.0	258.6	207.9	A	A	A	A
Dean St & Franklin Ave	X31	West	169	113	202	166	239.0	345.4	201.3	233.4	A	A	A	A
Fulton St & Bedford Ave	X32	West	89	136	129	173	354.5	160.8	252.9	188.4	A	A	A	A
Brevoort Pl& Bedford Ave	X33	South	49	45	51	37	699.9	797.2	699.4	1,066.4	A	A	A	A
Atlantic Ave & Bedford Ave	X34	North	18	24	19	34	1,601.4	798.4	960.5	746.2	A	A	A	A
Atlantic Ave & Bedford Ave	X35	South	32	28	31	35	1,439.4	1,509.1	1,660.1	1,515.0	A	A	A	A
Fulton St & Nostrand Ave	X36	West	636	362	658	403	82.6	126.4	78.3	119.9	A	A	A	A
Herkimer St & Nostrand Ave	X37	West	351	322	509	416	123.9	126.6	97.7	98.9	A	A	A	A
Atlantic Ave & Nostrand Ave	X38	North	87	78	81	91	367.6	287.0	344.9	420.9	A	A	A	A
Atlantic Ave & Nostrand Ave	X39	West	274	238	343	320	85.4	120.9	96.2	52.2	A	A	A	B

Table 13-37: Existing Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
Washington Ave & Fulton St	C01	NE	159.9	352.2	280.0	290.0	A	A	A	A
Washington Ave & Fulton St	C02	SE	140.9	244.1	131.0	177.9	A	A	A	A
Washington Ave & Atlantic Ave	C03	NE	304.0	722.5	442.4	452.6	A	A	A	A
Washington Ave & Atlantic Ave	C04	SE	137.9	370.5	218.0	216.4	A	A	A	A
St James Pl & Fulton St	C05	SE	468.8	648.0	505.2	360.8	A	A	A	A
St James Pl & Fulton St	C06	SW	209.2	228.5	175.5	148.0	A	A	A	A
Grand Ave & Fulton St	C07	SE	1,114.6	1,058.8	1,392.9	716.0	A	A	A	A
Grand Ave & Fulton St	C08	SW	640.4	708.6	757.1	505.0	A	A	A	A
Grand Ave & Atlantic Ave	C09	NE	438.1	385.7	569.3	407.9	A	A	A	A
Grand Ave & Atlantic Ave	C10	SE	761.0	504.9	1,375.6	664.1	A	A	A	A
Grand Ave & Atlantic Ave	C11	SW	984.7	1,239.8	1,942.8	982.8	A	A	A	A
Grand Ave & Atlantic Ave	C12	NW	1,048.4	1,716.7	1,412.1	1,077.1	A	A	A	A
Classon Ave & Fulton St	C13	SE	740.8	726.3	675.1	631.9	A	A	A	A
Classon Ave & Fulton St	C14	SW	706.3	758.1	722.3	622.7	A	A	A	A
Classon Ave & Lefferts Pl	C15	NE	697.0	1,003.7	533.1	605.6	A	A	A	A
Classon Ave & Lefferts Pl	C16	SE	731.4	944.7	479.9	637.9	A	A	A	A
Classon Ave & Lefferts Pl	C17	SW	2,141.9	1,940.3	1,496.6	1,540.5	A	A	A	A
Classon Ave & Lefferts Pl	C18	NW	610.7	755.2	626.5	583.3	A	A	A	A
Classon Ave & Atlantic Ave	C19	NE	1,047.2	1,170.5	908.6	760.4	A	A	A	A
Classon Ave & Atlantic Ave	C20	SE	994.6	1,288.6	762.0	688.2	A	A	A	A
Classon Ave & Atlantic Ave	C21	SW	1,276.2	1,241.7	1,633.5	871.8	A	A	A	A
Classon Ave & Atlantic Ave	C22	NW	914.0	1,148.7	1,184.9	856.9	A	A	A	A
Classon Ave & Pacific St	C23	NE	1,506.0	1,808.6	983.4	1,247.2	A	A	A	A
Classon Ave & Pacific St	C24	SE	1,685.7	2,117.7	1,118.6	1,503.5	A	A	A	A
Classon Ave & Pacific St	C25	SW	2,158.7	1,769.5	2,297.9	1,275.3	A	A	A	A
Classon Ave & Pacific St	C26	NW	1,732.7	1,602.6	2,264.7	1,337.3	A	A	A	A
Classon Ave & Dean St	C27	NE	1,308.8	419.8	798.5	916.6	A	A	A	A
Classon Ave & Dean St	C28	SE	933.9	561.1	951.1	921.5	A	A	A	A
Classon Ave & Dean St	C29	SW	1,006.6	1,093.6	955.0	706.8	A	A	A	A
Classon Ave & Dean St	C30	NW	2,241.5	1,260.1	1,554.9	1,440.1	A	A	A	A
Classon Ave & Bergen St	C31	NE	705.2	1,076.8	1,055.4	901.0	A	A	A	A
Classon Ave & Bergen St	C32	SE	355.1	380.8	453.8	434.8	A	A	A	A
Classon Ave & Bergen St	C33	SW	211.0	253.3	275.2	302.5	A	A	A	A
Classon Ave & Bergen St	C34	NW	132.2	284.9	183.3	172.6	A	A	A	A
Franklin Ave & Fulton St	C35	NE	255.6	407.1	269.5	279.2	A	A	A	A
Franklin Ave & Fulton St	C36	SE	242.5	256.9	207.3	213.2	A	A	A	A
Franklin Ave & Fulton St	C37	SW	223.0	222.9	198.2	234.9	A	A	A	A
Franklin Ave & Atlantic Ave	C38	NE	375.6	571.9	374.7	341.0	A	A	A	A
Franklin Ave & Atlantic Ave	C39	SE	638.5	1,138.1	621.3	572.0	A	A	A	A
Franklin Ave & Atlantic Ave	C40	SW	385.4	560.3	282.4	398.3	A	A	A	A
Franklin Ave & Atlantic Ave	C41	NW	486.8	314.2	307.5	469.3	A	A	A	A
Franklin Ave & Pacific St	C42	NE	1,470.3	2,313.0	1,646.0	1,120.1	A	A	A	A
Franklin Ave & Pacific St	C43	SE	367.6	570.2	444.0	323.4	A	A	A	A
Franklin Ave & Pacific St	C44	SW	603.3	743.4	451.0	583.3	A	A	A	A
Franklin Ave & Pacific St	C45	NW	373.0	444.2	273.1	302.5	A	A	A	A
Franklin Ave & Dean St	C46	NE	272.3	501.7	325.2	306.4	A	A	A	A
Franklin Ave & Dean St	C47	SE	603.5	945.7	640.2	553.7	A	A	A	A
Franklin Ave & Dean St	C48	SW	605.6	764.5	532.1	590.1	A	A	A	A
Franklin Ave & Dean St	C49	NW	249.9	401.3	231.3	277.6	A	A	A	A
Franklin Ave & Bergen St	C50	NE	334.6	348.5	253.8	202.0	A	A	A	A
Franklin Ave & Bergen St	C51	SE	169.4	188.4	149.6	125.8	A	A	A	A
Franklin Ave & Bergen St	C52	NW	662.8	792.4	483.4	666.3	A	A	A	A
Bedford Ave & Fulton St	C53	NE	187.0	164.0	117.9	101.9	A	A	A	A
Bedford Ave & Fulton St	C54	SW	86.7	52.5	37.7	43.8	A	B	C	B
Bedford Ave & Fulton St	C55	NW	198.3	153.8	118.2	110.1	A	A	A	A
Bedford Ave & Brevoort Pl	C56	SW	1,065.0	1,073.2	878.9	941.0	A	A	A	A
Bedford Ave & Brevoort Pl	C57	NW	479.7	465.3	370.3	390.3	A	A	A	A
Bedford Ave & Atlantic Ave	C58	NE	423.6	611.4	404.5	367.9	A	A	A	A
Bedford Ave & Atlantic Ave	C59	SE	377.7	676.6	441.3	484.9	A	A	A	A
Bedford Ave & Atlantic Ave	C60	SW	325.3	526.5	643.5	270.1	A	A	A	A
Bedford Ave & Atlantic Ave	C61	NW	502.2	831.7	1,091.6	386.9	A	A	A	A
Nostrand Ave & Fulton St	C62	SW	191.0	200.1	134.9	153.0	A	A	A	A
Nostrand Ave & Fulton St	C63	NW	254.0	326.5	242.1	266.7	A	A	A	A
Nostrand Ave & Herkimer St	C64	SW	280.6	316.4	207.3	247.1	A	A	A	A
Nostrand Ave & Herkimer St	C65	NW	571.4	642.9	410.7	434.9	A	A	A	A
Nostrand Ave & Atlantic Ave	C66	NE	240.6	264.6	172.8	170.0	A	A	A	A
Nostrand Ave & Atlantic Ave	C67	SW	281.2	305.4	217.3	224.5	A	A	A	A
Nostrand Ave & Atlantic Ave	C68	NW	173.8	212.0	158.8	139.8	A	A	A	A

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

Pedestrian volumes along analyzed sidewalks, crosswalks, and corner areas are expected to increase during the 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 13-8**. Conditions on analyzed sidewalks, crosswalks, and corner areas in the No-Action condition are discussed below.

Sidewalks

Table 13-38 shows the No-Action peak hour pedestrian volumes, average pedestrian space, and platoon-adjusted levels of service at analyzed sidewalks. As shown in **Table 13-38**, all analyzed sidewalks are projected to operate at an acceptable LOS C or better in all peak hours, with the exception of three sidewalks. The east sidewalk along Classon Avenue between Pacific Street and Dean Street operates at a LOS D in the weekday PM peak hour. The east sidewalk along Franklin Avenue between Fulton Street and Brevoort Place operates at a LOS D in the weekday AM, midday, and PM peak hours and at a LOS E in the Saturday peak hour. The east sidewalk along Franklin Avenue between Brevoort Place and Atlantic Avenue operates at a LOS E in the weekday AM, PM, and Saturday peak hours and at a LOS D in the weekday midday peak hour.

Crosswalks

Table 13-39 shows the peak hour volumes, average pedestrian space, and levels of service at analyzed crosswalks in the No-Action condition. As shown in **Table 13-39**, all analyzed crosswalks are expected to operate at an acceptable LOS B or better in all peak hours in the No-Action condition.

Corner Areas

Table 13-40 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 13-40**, all analyzed corner areas are expected to operate at an acceptable LOS C or better.

Table 13-38: 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	South Sidewalk along Fulton St Between Washington Ave and St James Pl	5.0	478.8	415.4	608.6	551.9	133.5	167.6	107.4	134.5	B	B	B	B
S2	East Sidewalk along Washington Ave Between Fulton St and Atlantic Ave	4.0	452.0	235.4	484.2	240.9	114.5	254.8	95.0	252.2	B	B	B	B
S3	East Sidewalk along Washington Ave Between Atlantic Ave and Pacific St	8.0	244.5	138.4	229.9	203.9	382.6	826.4	484.7	496.8	B	A	B	B
S4	South Sidewalk along Fulton St Between St James Pl and Grand Ave	8.0	375.5	345.7	410.2	557.7	273.5	336.8	284.2	181.4	B	B	B	B
S5	East Sidewalk along Grand Ave Between Fulton St and Lefferts Pl	5.5	158.8	190.3	209.6	303.7	341.7	233.6	149.0	220.4	B	B	B	B
S6	West Sidewalk along Grand Ave Between Fulton St and Lefferts Pl	4.5	262.1	227.9	258.0	281.8	247.4	202.9	254.0	191.8	B	B	B	B
S7	East Sidewalk along Grand Ave Between Lefferts Pl and Atlantic Ave	6.5	170.3	238.2	243.3	312.4	405.6	194.4	321.8	240.7	B	B	B	B
S8	North Sidewalk along Atlantic Ave Between Grand Ave and Classon Ave	4.0	129.8	136.9	174.0	219.9	378.1	365.2	305.7	207.1	B	B	B	B
S09	South Sidewalk along Atlantic Ave Between Grand Ave and Classon Ave	3.5	240.4	259.2	359.3	427.1	152.3	107.3	92.3	65.8	B	B	B	C
S10	East Sidewalk along Grand Ave Between Atlantic Ave and Pacific St	5.5	206.6	334.7	318.4	415.6	228.2	101.1	139.5	122.3	B	B	B	B
S11	West Sidewalk along Grand Ave Between Atlantic Ave and Pacific St	10.0	111.0	76.4	98.4	147.2	1170.1	1625.7	808.1	775.8	A	A	A	A
S12	West Sidewalk along Grand Ave Between Lefferts Pl and Atlantic Ave	4.5	184.9	172.6	218.4	250.0	261.8	194.5	258.1	213.6	B	B	B	B
S13	North Sidewalk along Pacific St Between Grand Ave and Classon Ave	5.5	125.1	148.6	196.5	217.8	355.4	346.3	236.6	233.7	B	B	B	B
S14	South Sidewalk along Pacific St Between Grand Ave and Classon Ave	3.0	63.1	112.2	133.3	140.2	486.5	235.3	190.1	165.3	B	B	B	B
S15	East Sidewalk along Grand Ave Between Pacific St and Dean St	13.5	168.0	268.0	260.6	326.4	792.3	305.1	331.7	329.5	A	B	B	B
S16	West Sidewalk along Grand Ave Between Pacific St and Dean St	12.0	100.4	72.6	98.6	142.6	1653.7	1504.8	1497.6	1076.6	A	A	A	A
S17	South Sidewalk along Pacific St between Washington Ave and Grand Ave	2.5	105.6	100.9	133.0	170.5	294.9	348.8	252.9	150.2	B	B	B	B
S18	North Sidewalk along Dean St Between Grand Ave and Classon Ave	4.5	60.5	105.7	110.6	127.2	596.9	191.5	168.4	325.7	A	B	B	B
S19	South Sidewalk along Dean St Between Grand Ave and Classon Ave	7.5	66.8	66.9	77.0	110.4	1161.0	1066.5	983.5	569.9	A	A	A	A
S20	East Sidewalk along Grand Ave Between Dean St and Bergen St	6.0	167.0	248.2	216.3	274.4	285.9	178.0	173.9	207.2	B	B	B	B
S21	West Sidewalk along Grand Ave Between Dean St and Bergen St	2.5	80.7	99.8	96.6	107.8	312.7	283.8	322.3	256.5	B	B	B	B
S22	North Sidewalk along Bergen St Between Grand Ave and Classon Ave	2.0	169.9	94.9	154.6	155.6	77.9	225.0	117.8	120.8	C	B	B	B
S23	East Sidewalk along Grand Ave Between Bergen St and St Marks Ave	5.5	165.0	170.7	169.2	209.2	316.7	336.2	316.9	215.6	B	B	B	B
S24	South Sidewalk along Fulton St Between Classon Ave and Franklin Ave	8.5	324.9	340.3	427.7	465.8	331.3	304.7	305.7	274.9	B	B	B	B
S25	East Sidewalk along Classon Ave between Fulton St and Lefferts Pl	5.5	190.0	197.5	265.5	324.2	348.3	313.8	271.6	209.5	B	B	B	B
S26	West Sidewalk along Classon Ave between Fulton St and Lefferts Pl	3.0	128.8	185.3	220.0	288.4	287.1	170.9	137.8	138.2	B	B	B	B
S27	East Sidewalk along Classon Ave between Lefferts Pl and Atlantic Ave	6.0	206.3	168.7	273.6	275.2	339.6	416.0	207.9	286.7	B	B	B	B
S28	West Sidewalk along Classon Ave between Lefferts Pl and Atlantic Ave	9.5	132.0	164.9	210.2	243.4	900.5	702.2	566.0	464.3	A	A	A	B
S29	North sidewalk along Atlantic Ave between Classon Ave and Franklin Ave	4.5	230.5	376.4	422.4	526.2	148.4	99.9	105.9	107.9	B	B	B	B
S30	South Sidewalk along Atlantic Ave Between Classon Ave and Franklin Ave	7.0	146.2	143.6	201.2	248.1	387.2	317.5	293.6	177.5	B	B	B	B
S31	East Sidewalk along Classon Ave Between Atlantic Ave and Pacific St	9.5	292.6	316.6	466.1	505.7	293.6	284.7	152.4	205.1	B	B	B	B

Table 13-38 (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 Classon Ave between Atlantic Ave and Pacific St	9.0	167.0	227.9	262.0	322.3	480.1	334.3	322.3	301.1	B	B	B	B
S33	North Sidewalk along Pacific St Between Classon Ave and Franklin Ave	3.5	69.8	98.9	87.5	70.5	243.4	222.5	288.1	275.1	B	B	B	B
S34	South Sidewalk along Pacific St Between Classon Ave and Franklin Ave	4.0	71.0	75.5	75.9	104.7	334.6	475.1	187.4	251.2	B	B	B	B
S35	East Sidewalk along Classon Ave between Pacific St and Dean St	3.0	344.3	387.4	526.3	567.2	84.6	53.6	38.5	54.8	C	C	D	C
S36	West Sidewalk along Classon Ave between Pacific St and Dean St	10.0	124.0	215.7	215.7	271.0	603.5	340.9	403.3	372.5	A	B	B	B
S37	South Sidewalk along Dean St Between Classon Ave and Franklin Ave	4.0	131.4	202.4	116.6	118.3	349.1	262.1	280.1	241.5	B	B	B	B
S38	East Sidewalk along Classon Ave between Dean St and Bergen St	3.5	195.8	206.4	233.2	256.0	186.5	162.5	144.3	131.3	B	B	B	B
S39	West Sidewalk along Classon Ave between Dean St and Bergen St	5.0	127.3	151.3	191.3	230.7	388.1	275.3	259.8	178.0	B	B	B	B
S40	North Sidewalk along Fulton St Between Franklin Ave and Spencer Pl	7.0	427.4	331.4	469.4	418.3	223.1	253.6	184.1	230.0	B	B	B	B
S41	East Sidewalk along Franklin Ave Between Fulton St and Brevoort Pl	1.5	737.3	533.7	782.0	776.8	25.8	38.2	23.4	21.3	D	D	D	E
S42	West Sidewalk along Franklin Ave Between Fulton St and Lefferts Pl	6.0	262.8	218.6	397.1	240.8	328.7	368.7	193.6	339.0	B	B	B	B
S43	South Sidewalk along Brevoort Pl Between Franklin Ave and Bedford Pl	6.0	76.6	65.2	83.0	64.4	684.6	702.0	669.8	965.0	A	A	A	A
S44	East Sidewalk along Franklin Ave Between Brevoort Pl and Atlantic Ave	1.5	710.2	499.8	750.1	823.7	15.5	26.7	18.4	15.3	E	D	E	E
S45	North Sidewalk along Atlantic Ave between Franklin Ave and Bedford Pl	3.0	68.6	86.1	86.0	119.2	277.7	270.3	248.5	188.5	B	B	B	B
S46	South Sidewalk along Atlantic Ave between Franklin Ave and Bedford Ave	1.5	59.6	80.4	107.8	139.8	136.4	147.2	105.3	97.7	B	B	B	B
S47	East Sidewalk along Franklin Ave Between Atlantic Ave and Pacific St	5.0	331.9	222.1	310.1	402.9	144.7	216.6	155.0	119.1	B	B	B	B
S48	West Sidewalk along Franklin Ave Between Atlantic Ave and Pacific St	3.0	195.0	221.2	320.8	277.2	127.7	115.3	86.2	99.7	B	B	C	B
S49	West Sidewalk along Franklin Ave Between Lefferts Pl and Atlantic Ave	1.5	204.1	255.7	295.5	222.9	95.6	67.9	63.6	79.6	B	C	C	C
S50	East Sidewalk along Franklin Ave Between Pacific St and Dean St	4.0	305.5	214.8	304.3	379.1	113.1	178.9	132.2	118.9	B	B	B	B
S51	West Sidewalk along Franklin Ave Between Pacific St and Dean St	4.0	202.4	197.3	292.3	234.0	223.3	214.5	123.4	178.5	B	B	B	B
S52	East Sidewalk along Franklin Ave Between Dean St and Bergen St	4.0	193.5	169.6	256.7	308.1	191.9	202.3	155.1	137.1	B	B	B	B
S53	East Sidewalk along Bedford Ave between Fulton St and Herkimer St	3.0	383.6	241.1	442.0	350.5	76.8	126.9	73.8	85.2	C	B	C	C
S54	West Sidewalk along Bedford Ave between Fulton St and Brevoort Pl	1.0	153.8	231.8	137.1	294.2	69.6	48.1	90.7	45.0	C	C	B	C
S55	East Sidewalk along Bedford Ave between Herkimer St and Atlantic Ave	4.0	228.7	240.9	242.0	224.2	170.0	315.4	164.8	188.6	B	B	B	B
S56	North Sidewalk along Atlantic Ave between Bedford Ave and Perry Pl	5.0	55.8	70.7	72.2	139.0	615.2	669.3	693.0	333.2	A	A	A	B
S57	South Sidewalk along Atlantic Ave between Bedford Ave and Nostrand Ave	0.5	56.7	61.6	72.4	73.8	74.6	66.7	63.9	57.3	C	C	C	C
S58	North Sidewalk along Atlantic Ave between Bedford Pl and Bedford Ave	4.5	81.8	63.4	109.2	127.8	378.1	305.4	345.0	250.5	B	B	B	B
S59	West Sidewalk along Bedford Ave between Brevoort Pl and Atlantic Ave	8.5	119.2	97.7	49.0	192.5	585.5	905.7	1195.2	455.1	A	A	A	B
S60	West Sidewalk along Nostrand Ave between Fulton St and Herkimer St	5.0	835.4	637.2	905.9	545.5	62.8	85.4	55.8	81.4	C	C	C	C
S61	West Sidewalk along Nostrand Ave between Herkimer St and Herkimer Pl	5.0	382.5	394.8	584.6	440.9	125.7	129.1	86.0	125.0	B	B	C	B
S62	North Sidewalk along Atlantic Ave between Perry Pl and Nostrand Ave	3.0	152.8	98.0	96.0	202.9	202.5	312.7	270.9	154.3	B	B	B	B

Table 13-39: 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
Fulton St & Washington Ave	X1	East	586.0	257.7	442.2	385.4	48.8	109.4	64.1	80.7	B	A	A	A
Atlantic Ave & Washington Ave	X2	East	354.7	227.8	361.3	386.6	125.3	181.7	88.9	80.9	A	A	A	A
Fulton St & St James Pl	X3	South	382.6	301.7	409.3	522.5	157.4	213.7	145.3	114.1	A	A	A	A
Atlantic Ave & Grand Ave	X4	East	170.5	236.7	250.1	303.1	121.7	59.9	85.6	70.9	A	B	A	A
Atlantic Ave & Grand Ave	X5	West	174.9	129.2	174.9	207.1	126.4	140.6	136.6	117.3	A	A	A	A
Fulton St and Classon Ave	X6	South	235.7	228.3	284.3	307.3	200.1	183.3	200.5	163.9	A	A	A	A
Lefferts Pl & Classon Ave	X7	East	202.3	175.3	279.6	296.5	191.3	186.3	108.4	131.9	A	A	A	A
Lefferts Pl & Classon Ave	X8	West	131.5	173.1	223.1	258.3	262.8	163.0	134.0	141.0	A	A	A	A
Atlantic Ave & Classon Ave	X9	North	145.0	228.6	268.9	323.1	208.6	61.9	100.0	86.1	A	A	A	A
Atlantic Ave & Classon Ave	X10	East	266.2	280.5	403.7	450.9	73.5	75.9	42.4	41.5	A	A	B	B
Atlantic Ave & Classon Ave	X11	South	172.5	183.8	237.4	291.5	210.5	149.5	197.8	155.9	A	A	A	A
Atlantic Ave & Classon Ave	X12	West	118.0	149.9	184.3	246.7	116.7	136.3	82.4	73.1	A	A	A	A
Pacific St & Classon Ave	X13	North	81.0	91.4	100.4	126.5	223.3	157.3	189.8	150.0	A	A	A	A
Pacific St & Classon Ave	X14	East	299.8	356.2	502.0	551.6	157.9	114.3	60.3	73.6	A	A	A	A
Pacific St & Classon Ave	X15	South	62.9	91.0	101.0	118.5	354.6	300.8	205.6	174.2	A	A	A	A
Pacific St & Classon Ave	X16	West	128.8	153.0	184.9	260.6	293.3	200.8	220.4	145.0	A	A	A	A
Dean St & Classon Ave	X17	North	49.6	75.6	101.0	115.2	403.7	183.9	148.9	159.6	A	A	A	A
Dean St & Classon Ave	X18	East	175.7	266.8	234.7	254.3	244.1	78.5	164.5	145.4	A	A	A	A
Dean St & Classon Ave	X19	South	85.4	91.2	115.0	160.9	273.5	285.0	202.5	184.5	A	A	A	A
Dean St & Classon Ave	X20	West	124.7	143.6	178.0	238.9	289.6	237.1	201.5	164.9	A	A	A	A
Bergen St & Classon Ave	X21	East	138.7	146.1	152.2	190.4	199.8	161.1	188.1	154.3	A	A	A	A
Fulton St & Franklin Ave	X22	East	780.9	513.3	768.9	794.7	48.6	74.3	47.0	45.4	B	A	B	B
Atlantic Ave & Franklin Ave	X23	North	380.6	359.7	477.2	511.4	159.9	145.8	126.2	100.8	A	A	A	A
Atlantic Ave & Franklin Ave	X24	East	432.5	291.0	436.7	495.1	64.6	95.0	48.4	52.8	A	A	B	B
Atlantic Ave & Franklin Ave	X25	South	158.8	140.4	198.5	222.7	242.4	172.7	150.2	153.6	A	A	A	A
Atlantic Ave & Franklin Ave	X26	West	242.1	269.0	402.3	366.6	107.0	87.2	51.1	64.8	A	A	B	A
Pacific St & Franklin Ave	X27	North	50.3	64.2	77.8	98.3	246.5	214.8	204.1	147.0	A	A	A	A
Pacific St & Franklin Ave	X28	East	319.7	218.6	320.7	394.5	122.2	195.7	140.8	112.0	A	A	A	A
Pacific St & Franklin Ave	X29	West	201.8	193.8	309.8	267.7	218.7	206.1	140.0	147.9	A	A	A	A
Dean St & Franklin Ave	X30	East	199.9	175.2	237.2	300.2	116.9	177.0	122.8	104.2	A	A	A	A
Dean St & Franklin Ave	X31	West	228.8	201.4	313.5	292.3	130.8	144.1	96.1	98.4	A	A	A	A
Fulton St & Bedford Ave	X32	West	116.0	179.5	182.0	235.6	269.2	121.3	177.1	87.3	A	A	A	A
Brevoort Pl& Bedford Ave	X33	South	66.2	65.3	76.8	66.0	518.5	548.8	462.4	590.2	A	A	A	A
Atlantic Ave & Bedford Ave	X34	North	55.8	66.2	73.7	94.3	512.5	267.1	239.8	258.6	A	A	A	A
Atlantic Ave & Bedford Ave	X35	South	79.9	90.7	112.0	127.4	572.4	464.2	446.0	405.6	A	A	A	A
Fulton St & Nostrand Ave	X36	West	678.1	397.4	709.7	447.1	76.7	114.2	71.6	106.9	A	A	A	A
Herkimer St & Nostrand Ave	X37	West	388.2	363.7	561.9	468.4	111.3	111.8	88.0	87.5	A	A	A	A
Atlantic Ave & Nostrand Ave	X38	North	145.8	143.0	157.2	174.5	214.6	154.8	175.0	214.8	A	A	A	A
Atlantic Ave & Nostrand Ave	X39	West	299.4	267.1	382.1	361.6	74.7	106.4	85.5	45.2	A	A	A	B

Table 13-40: No-Action Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft²/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
Washington Ave & Fulton St	C01	NE	135.8	272.0	215.5	215.1	A	A	A	A
Washington Ave & Fulton St	C02	SE	110.9	183.7	104.1	131.0	A	A	A	A
Washington Ave & Atlantic Ave	C03	NE	206.7	327.8	225.9	203.8	A	A	A	A
Washington Ave & Atlantic Ave	C04	SE	85.7	98.5	72.3	51.3	A	A	A	B
St James Pl & Fulton St	C05	SE	306.8	409.1	306.0	231.7	A	A	A	A
St James Pl & Fulton St	C06	SW	152.1	201.4	122.6	104.9	A	A	A	A
Grand Ave & Fulton St	C07	SE	507.1	449.4	352.4	320.0	A	A	A	A
Grand Ave & Fulton St	C08	SW	356.3	364.7	343.8	262.3	A	A	A	A
Grand Ave & Atlantic Ave	C09	NE	159.2	111.9	108.7	91.2	A	A	A	A
Grand Ave & Atlantic Ave	C10	SE	173.3	111.9	149.4	94.0	A	A	A	A
Grand Ave & Atlantic Ave	C11	SW	287.3	290.8	346.3	236.0	A	A	A	A
Grand Ave & Atlantic Ave	C12	NW	361.6	381.9	292.6	261.2	A	A	A	A
Classon Ave & Fulton St	C13	SE	418.4	389.7	351.9	319.4	A	A	A	A
Classon Ave & Fulton St	C14	SW	439.4	405.7	454.7	325.8	A	A	A	A
Classon Ave & Lefferts Pl	C15	NE	368.3	408.5	250.4	261.1	A	A	A	A
Classon Ave & Lefferts Pl	C16	SE	369.0	369.0	227.4	271.7	A	A	A	A
Classon Ave & Lefferts Pl	C17	SW	1,049.4	697.2	567.4	580.3	A	A	A	A
Classon Ave & Lefferts Pl	C18	NW	340.5	290.1	234.1	214.8	A	A	A	A
Classon Ave & Atlantic Ave	C19	NE	256.8	171.2	140.5	126.1	A	A	A	A
Classon Ave & Atlantic Ave	C20	SE	182.3	117.9	88.0	97.0	A	A	A	A
Classon Ave & Atlantic Ave	C21	SW	289.0	250.7	234.7	196.1	A	A	A	A
Classon Ave & Atlantic Ave	C22	NW	280.2	184.8	166.2	150.8	A	A	A	A
Classon Ave & Pacific St	C23	NE	522.4	394.9	250.4	278.1	A	A	A	A
Classon Ave & Pacific St	C24	SE	498.8	417.1	227.5	276.0	A	A	A	A
Classon Ave & Pacific St	C25	SW	950.6	663.6	649.3	446.2	A	A	A	A
Classon Ave & Pacific St	C26	NW	641.7	482.6	544.6	374.7	A	A	A	A
Classon Ave & Dean St	C27	NE	191.6	161.9	150.3	159.6	A	A	A	A
Classon Ave & Dean St	C28	SE	612.8	311.5	463.0	431.4	A	A	A	A
Classon Ave & Dean St	C29	SW	656.9	578.5	478.5	400.6	A	A	A	A
Classon Ave & Dean St	C30	NW	915.6	486.4	440.3	463.0	A	A	A	A
Classon Ave & Bergen St	C31	NE	495.3	550.1	539.7	477.6	A	A	A	A
Classon Ave & Bergen St	C32	SE	265.2	241.8	272.5	258.4	A	A	A	A
Classon Ave & Bergen St	C33	SW	162.9	175.0	177.0	175.4	A	A	A	A
Classon Ave & Bergen St	C34	NW	99.1	153.0	106.7	94.7	A	A	A	A
Franklin Ave & Fulton St	C35	NE	149.0	214.2	139.9	137.6	A	A	A	A
Franklin Ave & Fulton St	C36	SE	124.6	151.9	114.2	111.3	A	A	A	A
Franklin Ave & Fulton St	C37	SW	173.5	179.8	156.0	174.0	A	A	A	A
Franklin Ave & Atlantic Ave	C38	NE	85.3	110.4	63.6	56.6	A	A	A	B
Franklin Ave & Atlantic Ave	C39	SE	209.5	305.2	173.7	166.3	A	A	A	A
Franklin Ave & Atlantic Ave	C40	SW	145.1	143.1	81.3	92.2	A	A	A	A
Franklin Ave & Atlantic Ave	C41	NW	94.7	81.6	59.5	54.9	A	A	B	B
Franklin Ave & Pacific St	C42	NE	620.8	829.7	634.5	493.0	A	A	A	A
Franklin Ave & Pacific St	C43	SE	170.7	229.6	177.7	143.7	A	A	A	A
Franklin Ave & Pacific St	C44	SW	340.6	319.2	229.6	232.8	A	A	A	A
Franklin Ave & Pacific St	C45	NW	208.5	196.7	147.0	137.2	A	A	A	A
Franklin Ave & Dean St	C46	NE	141.5	227.3	150.3	142.7	A	A	A	A
Franklin Ave & Dean St	C47	SE	484.4	686.4	483.7	419.8	A	A	A	A
Franklin Ave & Dean St	C48	SW	484.1	533.1	386.5	395.4	A	A	A	A
Franklin Ave & Dean St	C49	NW	118.5	164.8	105.5	108.6	A	A	A	A
Franklin Ave & Bergen St	C50	NE	241.1	224.4	176.6	144.3	A	A	A	A
Franklin Ave & Bergen St	C51	SE	124.0	122.0	98.6	84.5	A	A	A	A
Franklin Ave & Bergen St	C52	NW	512.0	526.6	353.8	435.4	A	A	A	A
Bedford Ave & Fulton St	C53	NE	90.9	102.4	66.7	58.5	A	A	A	B
Bedford Ave & Fulton St	C54	SW	60.1	41.6	28.4	33.8	A	B	C	C
Bedford Ave & Fulton St	C55	NW	136.7	107.2	79.2	73.5	A	A	A	A
Bedford Ave & Brevoort Pl	C56	SW	915.3	894.4	719.9	744.7	A	A	A	A
Bedford Ave & Brevoort Pl	C57	NW	351.6	346.2	284.8	267.3	A	A	A	A
Bedford Ave & Atlantic Ave	C58	NE	290.5	358.4	225.3	216.3	A	A	A	A
Bedford Ave & Atlantic Ave	C59	SE	249.9	352.2	249.2	245.2	A	A	A	A
Bedford Ave & Atlantic Ave	C60	SW	235.7	323.4	332.3	180.2	A	A	A	A
Bedford Ave & Atlantic Ave	C61	NW	367.0	505.6	481.6	256.2	A	A	A	A
Nostrand Ave & Fulton St	C62	SW	158.1	169.5	114.7	127.7	A	A	A	A
Nostrand Ave & Fulton St	C63	NW	244.8	301.3	223.6	245.5	A	A	A	A
Nostrand Ave & Herkimer St	C64	SW	250.6	275.2	183.4	213.9	A	A	A	A
Nostrand Ave & Herkimer St	C65	NW	516.9	574.8	371.0	391.1	A	A	A	A
Nostrand Ave & Atlantic Ave	C66	NE	103.1	118.4	78.5	73.5	A	A	A	A
Nostrand Ave & Atlantic Ave	C67	SW	230.4	249.8	179.1	180.8	A	A	A	A
Nostrand Ave & Atlantic Ave	C68	NW	139.3	162.2	121.1	107.7	A	A	A	A

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

As discussed in **Chapter 1, Project Description**, the Proposed Actions would include 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) that would facilitate the implementation of a multi-year planning process conducted along Atlantic Avenue in northwestern Crown Heights and southern Bedford-Stuyvesant.

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 13-10**, the Proposed Actions are expected to generate a net total of approximately 3,208 walk-only trips in the weekday AM peak hour, 5,303 in the midday peak hour, 6,272 in the PM peak hour, and 7,254 in the Saturday peak hour. Persons en route to and from subway station entrances and bus stops would add approximately 3,722, 2,511, 3,662, and 3,835 additional pedestrian trips to Project Area sidewalks and crosswalks during these same periods, respectively. These pedestrian volumes were added to the projected No-Action volumes to generate the With-Action pedestrian volumes for analysis.

Anticipated conditions and significant adverse impacts at analyzed sidewalks, crosswalks, and corner areas in the With-Action condition are shown in **Tables 13-41 through 13-43**. As discussed below, a total of 12 sidewalks, four crosswalks, and four corners would be impacted in one or more peak hours. Potential mitigation for these sidewalk and crosswalk impacts are discussed in **Chapter 20, Mitigation.**

Sidewalks

Table 13-41 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 13-41** identifies the sidewalks that would be significantly adversely impacted in one or more peak hours based on the 2021 *CEQR Technical Manual* criteria shown in **Table 13-18**. As shown in **Table 13-41**, there would be significant adverse impacts at 12 of the 62 analyzed sidewalks in one or more peak hours. These would include:

- South Sidewalk along Pacific Street Between Classon Avenue and Franklin Avenue in the PM Peak Hour
- East Sidewalk along Classon Avenue between Pacific Street and Dean Street in the Midday, PM, and Saturday Peak Hours

- East Sidewalk along Franklin Avenue Between Fulton Street and Brevoort Place in the AM, Midday, PM, and Saturday Peak Hours
- East Sidewalk along Franklin Avenue Between Brevoort Place and Atlantic Avenue in the AM, Midday, PM, and Saturday Peak Hours
- North Sidewalk along Atlantic Avenue between Franklin Avenue and Bedford Place in the Midday, PM, and Saturday Peak Hours
- South Sidewalk along Atlantic Avenue between Franklin Avenue and Bedford Avenue in the AM, PM, and Saturday Peak Hours
- West Sidewalk along Franklin Avenue Between Atlantic Avenue and Pacific Street in the PM and Saturday Peak Hours
- West Sidewalk along Franklin Avenue Between Lefferts Place and Atlantic Avenue in the AM, Midday, PM and Saturday Peak Hours
- East Sidewalk along Bedford Avenue between Fulton Street and Herkimer Street in the AM, PM, and Saturday Peak Hours
- West Sidewalk along Bedford Ave between Fulton Street and Brevoort Place in the Midday and Saturday Peak Hours
- South Sidewalk along Atlantic Avenue between Bedford Avenue and Nostrand Avenue in the AM, Midday, PM, and Saturday Peak Hours
- North Sidewalk along Atlantic Avenue between Bedford Place and Bedford Avenue in the AM, Midday, PM, and Saturday Peak Hours

Table 13-41: 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	South Sidewalk along Fulton St Between Washington Ave and St James Pl	5.0	207.0	127.0	195.0	194.0	685.8	542.4	803.6	745.9	92.9	128.2	81.1	99.3	B	B	C	B
S2	East Sidewalk along Washington Ave Between Fulton St and Atlantic Ave	4.0	451.0	274.0	421.0	418.0	903.0	509.4	905.2	658.9	56.6	117.6	50.0	91.7	C	B	C	B
S3	East Sidewalk along Washington Ave Between Atlantic Ave and Pacific St	8.0	233.0	158.0	228.0	232.0	477.5	296.4	457.9	435.9	195.9	385.2	243.3	232.3	B	B	B	B
S4	South Sidewalk along Fulton St Between St James Pl and Grand Ave	8.0	243.0	192.0	264.0	272.0	618.5	537.7	674.2	829.7	165.8	216.4	172.7	121.7	B	B	B	B
S5	East Sidewalk along Grand Ave Between Fulton St and Lefferts Pl	5.5	138.0	164.0	196.0	212.0	296.8	354.3	405.6	515.7	182.2	125.1	76.5	129.6	B	B	C	B
S6	West Sidewalk along Grand Ave Between Fulton St and Lefferts Pl	4.5	303.0	296.0	365.0	371.0	565.1	523.9	623.0	652.8	114.3	87.8	104.7	82.3	B	C	B	C
S7	East Sidewalk along Grand Ave Between Lefferts Pl and Atlantic Ave	6.5	172.0	239.0	259.0	281.0	342.3	477.2	502.3	593.4	201.4	96.6	155.5	126.3	B	B	B	B
S8	North Sidewalk along Atlantic Ave Between Grand Ave and Classon Ave	4.0	83.0	137.0	171.0	200.0	212.8	273.9	345.0	419.9	229.9	182.4	153.9	108.1	B	B	B	B
S09	South Sidewalk along Atlantic Ave Between Grand Ave and Classon Ave	3.5	159.0	186.0	215.0	220.0	399.4	445.2	574.3	647.1	91.4	62.1	57.4	43.0	B	C	C	C
S10	East Sidewalk along Grand Ave Between Atlantic Ave and Pacific St	5.5	267.0	311.0	389.0	414.0	473.6	645.7	707.4	829.6	99.2	52.0	62.4	60.9	B	C	C	C
S11	West Sidewalk along Grand Ave Between Atlantic Ave and Pacific St	10.0	324.0	351.0	444.0	479.0	435.0	427.4	542.4	626.2	298.4	289.2	145.8	181.9	B	B	B	B
S12	West Sidewalk along Grand Ave Between Lefferts Pl and Atlantic Ave	4.5	339.0	352.0	440.0	458.0	523.9	524.6	658.4	708.0	91.9	63.1	84.9	74.8	B	C	C	C
S13	North Sidewalk along Pacific St Between Grand Ave and Classon Ave	5.5	182.0	302.0	240.0	241.0	307.1	450.6	436.5	458.8	144.5	114.2	106.1	110.8	B	B	B	B
S14	South Sidewalk along Pacific St Between Grand Ave and Classon Ave	3.0	245.0	302.0	391.0	438.0	308.1	414.2	524.3	578.2	99.2	63.2	47.7	39.3	B	C	C	D
S15	East Sidewalk along Grand Ave Between Pacific St and Dean St	13.5	432.0	623.0	671.0	716.0	600.0	891.0	931.6	1042.4	221.7	91.5	92.6	102.8	B	B	B	B
S16	West Sidewalk along Grand Ave Between Pacific St and Dean St	12.0	296.0	335.0	438.0	482.0	396.4	407.6	536.6	624.6	417.5	266.0	275.9	246.1	B	B	B	B
S17	South Sidewalk along Pacific St between Washington Ave and Grand Ave	2.5	174.0	223.0	277.0	308.0	279.6	323.9	410.0	478.5	111.2	108.3	81.4	52.7	B	B	C	C
S18	North Sidewalk along Dean St Between Grand Ave and Classon Ave	4.5	261.0	324.0	400.0	427.0	321.5	429.7	510.6	554.2	111.3	46.6	35.8	74.7	B	C	D	C
S19	South Sidewalk along Dean St Between Grand Ave and Classon Ave	7.5	176.0	237.0	283.0	317.0	242.8	303.9	360.0	427.4	316.5	232.2	210.2	147.6	B	B	B	B
S20	East Sidewalk along Grand Ave Between Dean St and Bergen St	6.0	325.0	540.0	553.0	614.0	492.0	788.2	769.3	888.4	96.8	55.5	48.4	63.7	B	C	C	C
S21	West Sidewalk along Grand Ave Between Dean St and Bergen St	2.5	189.0	247.0	302.0	345.0	269.7	346.8	398.6	452.8	93.3	80.6	77.7	60.3	B	C	C	C
S22	North Sidewalk along Bergen St Between Grand Ave and Classon Ave	2.0	181.0	224.0	229.0	243.0	350.9	318.9	383.6	398.6	37.1	66.6	47.0	46.5	D	C	C	C
S23	East Sidewalk along Grand Ave Between Bergen St and St Marks Ave	5.5	181.0	339.0	333.0	370.0	346.0	509.7	502.2	579.2	150.9	112.5	106.4	77.5	B	B	B	C
S24	South Sidewalk along Fulton St Between Classon Ave and Franklin Ave	8.5	449.0	362.0	495.0	529.0	773.9	702.3	922.7	994.8	138.8	147.3	141.3	128.3	B	B	B	B
S25	East Sidewalk along Classon Ave between Fulton St and Lefferts Pl	5.5	372.0	355.0	452.0	495.0	562.0	552.5	717.5	819.2	117.4	111.6	100.2	82.3	B	B	B	C
S26	West Sidewalk along Classon Ave between Fulton St and Lefferts Pl	3.0	228.0	281.0	348.0	380.0	356.8	466.3	568.0	668.4	103.3	67.4	52.5	58.8	B	C	C	C
S27	East Sidewalk along Classon Ave between Lefferts Pl and Atlantic Ave	6.0	406.0	410.0	517.0	570.0	612.3	578.7	790.6	845.2	114.3	121.0	71.3	92.8	B	B	C	B
S28	West Sidewalk along Classon Ave between Lefferts Pl and Atlantic Ave	9.5	240.0	293.0	372.0	408.0	372.0	457.9	582.2	651.4	319.4	252.8	204.0	173.1	B	B	B	B
S29	North sidewalk along Atlantic Ave between Classon Ave and Franklin Ave	4.5	253.0	355.0	471.0	546.0	483.5	731.4	893.4	1072.2	70.1	50.6	49.2	52.2	C	C	C	C
S30	South Sidewalk along Atlantic Ave Between Classon Ave and Franklin Ave	7.0	309.0	317.0	431.0	493.0	455.2	460.6	632.2	741.1	124.0	98.9	93.1	59.0	B	B	B	C
S31	East Sidewalk along Classon Ave Between Atlantic Ave and Pacific St	9.5	385.0	460.0	584.0	660.0	677.6	776.6	1050.1	1165.7	126.5	115.9	67.3	88.7	B	B	C	C

Table 13-41 (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 Classon Ave between Atlantic Ave and Pacific St	9.0	317.0	368.0	479.0	517.0	484.0	595.9	741.0	839.3	165.5	127.3	113.7	115.6	B	B	B	B
S33	North Sidewalk along Pacific St Between Classon Ave and Franklin Ave	3.5	223.0	306.0	388.0	440.0	292.8	404.9	475.5	510.5	57.7	53.9	52.7	37.4	C	C	C	D
S34	South Sidewalk along Pacific St Between Classon Ave and Franklin Ave	4.0	215.0	301.0	373.0	430.0	286.0	376.5	448.9	534.7	82.7	94.5	30.8	48.3	C	B	D *	C
S35	East Sidewalk along Classon Ave between Pacific St and Dean St	3.0	296.0	378.0	484.0	554.0	640.3	765.4	1010.3	1121.2	45.0	26.3	19.0	26.9	C	D *	E *	D *
S36	West Sidewalk along Classon Ave between Pacific St and Dean St	10.0	309.0	421.0	497.0	550.0	433.0	636.7	712.7	821.0	172.7	115.4	121.6	122.7	B	B	B	B
S37	South Sidewalk along Dean St Between Classon Ave and Franklin Ave	4.0	108.0	131.0	173.0	190.0	239.4	333.4	289.6	308.3	191.9	115.0	112.8	92.2	B	B	B	B
S38	East Sidewalk along Classon Ave between Dean St and Bergen St	3.5	158.0	242.0	299.0	345.0	353.8	448.4	532.2	601.0	103.1	103.4	62.8	55.5	B	B	C	C
S39	West Sidewalk along Classon Ave between Dean St and Bergen St	5.0	173.0	244.0	278.0	309.0	300.3	395.3	469.3	539.7	164.2	105.0	105.9	75.6	B	B	B	C
S40	North Sidewalk along Fulton St Between Franklin Ave and Spencer Pl	7.0	95.0	157.0	197.0	230.0	522.4	488.4	666.4	648.3	182.4	172.0	129.4	148.3	B	B	B	B
S41	East Sidewalk along Franklin Ave Between Fulton St and Brevoort Pl	1.5	483.0	444.0	622.0	687.0	1220.3	977.7	1404.0	1463.8	13.5	19.1	10.4	8.2	E *	E *	F *	F *
S42	West Sidewalk along Franklin Ave Between Fulton St and Lefferts Pl	6.0	519.0	411.0	591.0	630.0	781.8	629.6	988.1	870.8	110.1	127.8	77.2	93.3	B	B	C	B
S43	South Sidewalk along Brevoort Pl Between Franklin Ave and Bedford Pl	6.0	196.0	179.0	256.0	287.0	272.6	244.2	339.0	351.4	191.1	188.9	163.8	178.0	B	B	B	B
S44	East Sidewalk along Franklin Ave Between Brevoort Pl and Atlantic Ave	1.5	401.0	396.0	540.0	589.0	1111.2	895.8	1290.1	1412.7	8.3	13.5	9.0	6.9	F *	E *	F *	F *
S45	North Sidewalk along Atlantic Ave between Franklin Ave and Bedford Pl	3.0	511.0	677.0	919.0	1075.0	579.6	763.1	1005.0	1194.2	31.7	29.8	19.8	17.2	D	D *	E *	E *
S46	South Sidewalk along Atlantic Ave between Franklin Ave and Bedford Ave	1.5	242.0	238.0	336.0	385.0	301.6	318.4	443.8	524.8	26.0	36.6	24.5	25.0	D *	D	D *	D *
S47	East Sidewalk along Franklin Ave Between Atlantic Ave and Pacific St	5.0	368.0	435.0	588.0	665.0	699.9	657.1	898.1	1067.9	68.3	72.8	53.0	44.4	C	C	C	C
S48	West Sidewalk along Franklin Ave Between Atlantic Ave and Pacific St	3.0	525.0	485.0	681.0	733.0	720.0	706.2	1001.8	1010.2	33.8	35.5	26.6	26.4	D	D	D *	D *
S49	West Sidewalk along Franklin Ave Between Lefferts Pl and Atlantic Ave	1.5	576.0	500.0	710.0	770.0	780.1	755.7	1005.5	992.9	23.1	20.9	16.0	14.9	D *	E *	E *	E *
S50	East Sidewalk along Franklin Ave Between Pacific St and Dean St	4.0	227.0	306.0	403.0	461.0	532.5	520.8	707.3	840.1	64.6	73.5	56.5	53.2	C	C	C	C
S51	West Sidewalk along Franklin Ave Between Pacific St and Dean St	4.0	237.0	259.0	354.0	386.0	439.4	456.3	646.3	620.0	102.5	92.4	55.4	67.0	B	B	C	C
S52	East Sidewalk along Franklin Ave Between Dean St and Bergen St	4.0	81.0	123.0	158.0	184.0	274.5	292.6	414.7	492.1	135.0	116.9	95.9	85.6	B	B	B	C
S53	East Sidewalk along Bedford Ave between Fulton St and Herkimer St	3.0	822.0	601.0	897.0	975.0	1205.6	842.1	1339.0	1325.5	23.3	35.6	23.2	21.2	D *	D	D *	E *
S54	West Sidewalk along Bedford Ave between Fulton St and Brevoort Pl	1.0	116.0	182.0	234.0	274.0	269.8	413.8	371.1	568.2	38.7	25.6	32.1	21.7	D	D *	D	E *
S55	East Sidewalk along Bedford Ave between Herkimer St and Atlantic Ave	4.0	647.0	502.0	737.0	809.0	875.7	742.9	979.0	1033.2	43.8	102.0	40.0	40.2	C	B	C	C
S56	North Sidewalk along Atlantic Ave between Bedford Ave and Perry Pl	5.0	447.0	652.0	875.0	1024.0	502.8	722.7	947.2	1163.0	68.0	65.3	52.1	39.1	C	C	C	D
S57	South Sidewalk along Atlantic Ave between Bedford Ave and Nostrand Ave	0.5	103.0	94.0	145.0	169.0	159.7	155.6	217.4	242.8	25.6	25.3	19.9	15.9	D *	D *	E *	E *
S58	North Sidewalk along Atlantic Ave between Bedford Pl and Bedford Ave	4.5	1148.0	1428.0	1906.0	2240.0	1229.8	1491.4	2015.2	2367.8	24.0	10.5	17.2	11.3	D *	F *	E *	E *
S59	West Sidewalk along Bedford Ave between Brevoort Pl and Atlantic Ave	8.5	169.0	176.0	245.0	284.0	288.2	273.7	294.0	476.5	241.8	321.7	199.1	184.0	B	B	B	B
S60	West Sidewalk along Nostrand Ave between Fulton St and Herkimer St	5.0	186.0	213.0	274.0	333.0	1021.4	850.2	1179.9	878.5	51.2	63.8	42.6	50.1	C	C	C	C
S61	West Sidewalk along Nostrand Ave between Herkimer St and Herkimer Pl	5.0	263.0	328.0	420.0	507.0	645.5	722.8	1004.6	947.9	74.2	70.2	49.6	57.7	C	C	C	C
S62	North Sidewalk along Atlantic Ave between Perry Pl and Nostrand Ave	3.0	251.0	305.0	410.0	487.0	403.8	403.0	506.0	689.9	76.4	75.7	50.8	44.8	C	C	C	C

Table 13-42: 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
Fulton St & Washington Ave	X1	East	517.0	309.0	476.0	471.0	1103.0	566.7	918.2	856.4	24.2	47.7	29.3	34.4	C	B	C	C
Atlantic Ave & Washington Ave	X2	East	402.0	255.0	375.0	384.0	756.7	482.8	736.3	770.6	57.1	84.8	42.6	39.4	B	A	B	C
Fulton St & St James Pl	X3	South	212.0	140.0	208.0	208.0	594.6	441.7	617.3	730.5	99.6	144.5	95.0	80.3	A	A	A	A
Atlantic Ave & Grand Ave	X4	East	243.0	320.0	348.0	362.0	413.5	556.7	598.1	665.1	47.5	24.3	33.8	30.4	B	C	C	C
Atlantic Ave & Grand Ave	X5	West	377.0	400.0	501.0	528.0	551.9	529.2	675.9	735.1	38.0	33.1	34.0	31.4	C	C	C	C
Fulton St and Classon Ave	X6	South	137.0	111.0	158.0	163.0	372.7	339.3	442.3	470.3	125.0	121.8	127.3	105.6	A	A	A	A
Lefferts Pl & Classon Ave	X7	East	385.0	376.0	478.0	526.0	587.3	551.3	757.6	822.5	62.2	55.8	37.5	44.1	A	B	C	B
Lefferts Pl & Classon Ave	X8	West	239.0	293.0	369.0	404.0	370.5	466.1	592.1	662.3	88.6	58.4	47.5	51.9	A	B	B	B
Atlantic Ave & Classon Ave	X9	North	181.0	262.0	349.0	401.0	326.0	490.6	617.9	724.1	84.7	25.1	37.8	33.3	A	C	C	C
Atlantic Ave & Classon Ave	X10	East	476.0	542.0	689.0	774.0	742.2	822.5	1092.7	1224.9	23.1	23.3	12.9	12.6	D	D	E *	E *
Atlantic Ave & Classon Ave	X11	South	240.0	279.0	364.0	390.0	412.5	462.8	601.4	681.5	89.0	56.0	74.6	62.7	A	B	A	A
Atlantic Ave & Classon Ave	X12	West	267.0	310.0	398.0	431.0	385.0	459.9	582.3	677.7	32.8	42.3	23.6	24.3	C	B	D	C
Pacific St & Classon Ave	X13	North	138.0	192.0	229.0	256.0	219.0	283.4	329.4	382.5	71.5	43.3	48.0	39.4	A	B	B	C
Pacific St & Classon Ave	X14	East	375.0	463.0	592.0	673.0	674.8	819.2	1094.0	1224.6	68.4	48.1	26.5	31.5	A	B	C	C
Pacific St & Classon Ave	X15	South	219.0	270.0	344.0	383.0	281.9	361.0	445.0	501.5	77.5	73.9	44.9	39.5	A	A	B	C
Pacific St & Classon Ave	X16	West	304.0	406.0	492.0	547.0	432.8	559.0	676.9	807.6	81.7	51.7	56.5	43.4	A	B	B	B
Dean St & Classon Ave	X17	North	179.0	211.0	265.0	288.0	228.6	286.6	366.0	403.2	72.9	41.4	30.8	35.5	A	B	C	C
Dean St & Classon Ave	X18	East	224.0	308.0	385.0	444.0	399.7	574.8	619.7	698.3	104.2	34.5	59.5	50.8	A	C	B	B
Dean St & Classon Ave	X19	South	186.0	219.0	283.0	314.0	271.4	310.2	398.0	474.9	84.9	82.5	56.7	60.4	A	A	B	A
Dean St & Classon Ave	X20	West	210.0	285.0	335.0	371.0	334.7	428.6	513.0	609.9	105.9	78.3	68.2	62.8	A	A	A	A
Bergen St & Classon Ave	X21	East	94.0	161.0	195.0	225.0	232.7	307.1	347.2	415.4	118.3	75.1	80.9	69.0	A	A	A	A
Fulton St & Franklin Ave	X22	East	608.0	492.0	699.0	754.0	1388.9	1005.3	1467.9	1548.7	25.7	36.2	23.1	21.8	C	C	D	D
Atlantic Ave & Franklin Ave	X23	North	428.0	572.0	760.0	887.0	808.6	931.7	1237.2	1398.4	71.5	53.5	45.3	33.3	A	B	B	C
Atlantic Ave & Franklin Ave	X24	East	508.0	636.0	832.0	948.0	940.5	927.0	1268.7	1443.1	28.1	28.6	15.4	16.7	C	C	D *	D *
Atlantic Ave & Franklin Ave	X25	South	345.0	379.0	507.0	581.0	503.8	519.4	705.5	803.7	63.1	35.0	32.0	31.5	A	C	C	C
Atlantic Ave & Franklin Ave	X26	West	572.0	498.0	714.0	775.0	814.1	767.0	1116.3	1141.6	29.8	29.3	17.0	19.2	C	C	D *	D *
Pacific St & Franklin Ave	X27	North	204.0	207.0	286.0	312.0	254.3	271.2	363.8	410.3	46.9	48.8	42.0	33.3	B	B	B	C
Pacific St & Franklin Ave	X28	East	319.0	396.0	533.0	605.0	638.7	614.6	853.7	999.5	57.7	67.8	50.7	42.5	B	A	B	B
Pacific St & Franklin Ave	X29	West	346.0	383.0	525.0	571.0	547.8	576.8	834.8	838.7	72.6	62.8	46.0	40.9	A	A	B	B
Dean St & Franklin Ave	X30	East	143.0	206.0	269.0	309.0	342.9	381.2	506.2	609.2	63.3	74.9	50.6	44.9	A	A	B	B
Dean St & Franklin Ave	X31	West	135.0	184.0	234.0	264.0	363.8	385.4	547.5	556.3	81.1	73.9	53.8	50.5	A	A	B	B
Fulton St & Bedford Ave	X32	West	111.0	172.0	225.0	264.0	227.0	351.5	407.0	499.6	132.9	60.3	75.9	39.0	A	A	A	C
Brevoort Pl& Bedford Ave	X33	South	194.0	137.0	204.0	219.0	260.2	202.3	280.8	285.0	128.3	173.1	123.7	132.6	A	A	A	A
Atlantic Ave & Bedford Ave	X34	North	635.0	776.0	1046.0	1207.0	690.8	842.2	1119.7	1301.3	35.7	18.8	13.2	15.4	C	D *	E *	D *
Atlantic Ave & Bedford Ave	X35	South	230.0	209.0	305.0	350.0	309.9	299.7	417.0	477.4	143.5	137.6	115.9	104.3	A	A	A	A
Fulton St & Nostrand Ave	X36	West	128.0	137.0	178.0	216.0	806.1	534.4	887.7	663.1	63.7	83.5	56.2	70.5	A	A	B	A
Herkimer St & Nostrand Ave	X37	West	236.0	285.0	366.0	443.0	624.2	648.7	927.9	911.4	66.9	60.7	51.2	43.2	A	A	B	B
Atlantic Ave & Nostrand Ave	X38	North	126.0	178.0	239.0	279.0	271.8	321.0	396.2	453.5	112.3	67.0	66.1	78.7	A	A	A	A
Atlantic Ave & Nostrand Ave	X39	West	40.0	57.0	79.0	93.0	339.4	324.1	461.1	454.6	64.0	85.6	68.9	33.6	A	A	A	C

Table 13-43: With-Action Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft²/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
Washington Ave & Fulton St	C01	NE	93.5	171.1	129.1	129.1	A	A	A	A
Washington Ave & Fulton St	C02	SE	62.2	107.9	63.7	75.4	A	A	A	A
Washington Ave & Atlantic Ave	C03	NE	62.9	121.8	74.4	64.3	A	A	A	A
Washington Ave & Atlantic Ave	C04	SE	37.5	50.8	34.7	24.6	C	B	C	C
St James Pl & Fulton St	C05	SE	213.3	288.7	210.5	170.1	A	A	A	A
St James Pl & Fulton St	C06	SW	111.9	149.0	91.2	80.5	A	A	A	A
Grand Ave & Fulton St	C07	SE	333.5	295.0	224.7	217.9	A	A	A	A
Grand Ave & Fulton St	C08	SW	198.2	200.1	183.9	156.7	A	A	A	A
Grand Ave & Atlantic Ave	C09	NE	65.0	45.8	40.2	36.5	A	B	B	C
Grand Ave & Atlantic Ave	C10	SE	73.5	43.6	62.7	44.1	A	B	A	B
Grand Ave & Atlantic Ave	C11	SW	98.8	91.0	100.0	82.5	A	A	A	A
Grand Ave & Atlantic Ave	C12	NW	122.0	111.4	88.2	85.6	A	A	A	A
Classon Ave & Fulton St	C13	SE	203.1	205.2	177.5	162.5	A	A	A	A
Classon Ave & Fulton St	C14	SW	273.8	241.1	230.7	195.2	A	A	A	A
Classon Ave & Lefferts Pl	C15	NE	146.1	137.4	94.6	105.7	A	A	A	A
Classon Ave & Lefferts Pl	C16	SE	128.2	106.4	77.5	90.1	A	A	A	A
Classon Ave & Lefferts Pl	C17	SW	383.8	225.8	208.9	213.0	A	A	A	A
Classon Ave & Lefferts Pl	C18	NW	148.6	114.1	91.3	93.3	A	A	A	A
Classon Ave & Atlantic Ave	C19	NE	89.7	61.0	43.9	38.3	A	A	B	C
Classon Ave & Atlantic Ave	C20	SE	61.8	41.5	28.2	31.2	A	B	C	C
Classon Ave & Atlantic Ave	C21	SW	102.2	90.7	76.1	73.3	A	A	A	A
Classon Ave & Atlantic Ave	C22	NW	97.9	67.2	51.4	51.0	A	A	B	B
Classon Ave & Pacific St	C23	NE	200.1	143.2	101.5	102.9	A	A	A	A
Classon Ave & Pacific St	C24	SE	194.4	156.9	83.6	100.1	A	A	A	A
Classon Ave & Pacific St	C25	SW	264.8	189.3	170.2	136.2	A	A	A	A
Classon Ave & Pacific St	C26	NW	218.4	154.3	168.4	133.0	A	A	A	A
Classon Ave & Dean St	C27	NE	117.0	68.8	74.4	76.4	A	A	A	A
Classon Ave & Dean St	C28	SE	257.7	132.1	162.9	154.0	A	A	A	A
Classon Ave & Dean St	C29	SW	232.0	188.6	152.6	147.5	A	A	A	A
Classon Ave & Dean St	C30	NW	243.6	137.9	117.8	137.3	A	A	A	A
Classon Ave & Bergen St	C31	NE	271.6	236.0	231.2	211.5	A	A	A	A
Classon Ave & Bergen St	C32	SE	188.1	135.0	148.0	137.2	A	A	A	A
Classon Ave & Bergen St	C33	SW	122.7	110.6	110.3	101.1	A	A	A	A
Classon Ave & Bergen St	C34	NW	48.6	52.8	41.9	37.0	B	B	B	C
Franklin Ave & Fulton St	C35	NE	79.4	104.8	69.4	63.4	A	A	A	A
Franklin Ave & Fulton St	C36	SE	69.9	88.6	64.3	60.5	A	A	A	A
Franklin Ave & Fulton St	C37	SW	91.4	108.9	88.6	88.6	A	A	A	A
Franklin Ave & Atlantic Ave	C38	NE	29.3	29.3	11.9	9.6	C	C	E *	E *
Franklin Ave & Atlantic Ave	C39	SE	72.0	78.5	41.5	39.9	A	A	B	C
Franklin Ave & Atlantic Ave	C40	SW	26.7	35.3	13.4	16.0	C	C	E *	D *
Franklin Ave & Atlantic Ave	C41	NW	31.7	27.8	15.4	11.5	C	C	D *	E *
Franklin Ave & Pacific St	C42	NE	235.5	258.9	205.0	167.4	A	A	A	A
Franklin Ave & Pacific St	C43	SE	76.1	77.2	60.4	51.6	A	A	A	B
Franklin Ave & Pacific St	C44	SW	119.3	97.9	75.2	66.9	A	A	A	A
Franklin Ave & Pacific St	C45	NW	43.3	41.6	33.4	27.5	B	B	C	C
Franklin Ave & Dean St	C46	NE	86.1	108.8	76.0	71.9	A	A	A	A
Franklin Ave & Dean St	C47	SE	298.5	349.3	254.8	220.3	A	A	A	A
Franklin Ave & Dean St	C48	SW	308.0	294.6	222.8	207.6	A	A	A	A
Franklin Ave & Dean St	C49	NW	63.7	69.3	51.6	50.5	A	A	B	B
Franklin Ave & Bergen St	C50	NE	153.0	119.8	102.8	85.6	A	A	A	A
Franklin Ave & Bergen St	C51	SE	85.5	70.2	56.7	48.8	A	A	B	B
Franklin Ave & Bergen St	C52	NW	360.9	319.4	241.3	267.9	A	A	A	A
Bedford Ave & Fulton St	C53	NE	35.4	48.0	25.7	20.9	C	B	C	D
Bedford Ave & Fulton St	C54	SW	45.9	30.5	20.4	22.5	B	C	D	D
Bedford Ave & Fulton St	C55	NW	80.8	62.3	43.3	37.9	A	A	B	C
Bedford Ave & Brevoort Pl	C56	SW	413.5	411.9	306.5	290.8	A	A	A	A
Bedford Ave & Brevoort Pl	C57	NW	267.6	234.6	182.3	166.8	A	A	A	A
Bedford Ave & Atlantic Ave	C58	NE	45.9	39.3	12.0	16.3	B	C	E *	D *
Bedford Ave & Atlantic Ave	C59	SE	66.5	93.9	67.1	57.2	A	A	A	B
Bedford Ave & Atlantic Ave	C60	SW	92.4	122.9	97.7	68.2	A	A	A	A
Bedford Ave & Atlantic Ave	C61	NW	58.6	57.6	34.6	27.5	B	B	C	C
Nostrand Ave & Fulton St	C62	SW	132.4	135.7	93.5	99.2	A	A	A	A
Nostrand Ave & Fulton St	C63	NW	214.2	249.2	185.7	195.8	A	A	A	A
Nostrand Ave & Herkimer St	C64	SW	147.5	148.9	102.1	102.6	A	A	A	A
Nostrand Ave & Herkimer St	C65	NW	329.8	335.0	225.5	219.7	A	A	A	A
Nostrand Ave & Atlantic Ave	C66	NE	78.6	84.1	54.3	48.9	A	A	B	B
Nostrand Ave & Atlantic Ave	C67	SW	151.7	169.1	115.4	109.1	A	A	A	A
Nostrand Ave & Atlantic Ave	C68	NW	69.7	69.6	45.4	40.8	A	A	B	B

Crosswalks

Table 13-42 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 13-42**, based on the 2021 *CEQR Technical Manual* criteria shown in **Table 13-19**, there would be significant adverse impacts at four of the 39 analyzed crosswalks in one or more peak hours as result of the Proposed Actions. These would include:

- The East Crosswalk on Atlantic Avenue at Classon Avenue in the PM and Saturday Peak Hours
- The East Crosswalk on Atlantic Avenue at Franklin Avenue in the PM and Saturday Peak Hours
- The West Crosswalk on Atlantic Avenue at Franklin Avenue in the PM and Saturday Peak Hours
- The North Crosswalk on Atlantic Avenue at Bedford Avenue in the Midday, PM, and Saturday Peak Hours

Corner Areas

Table 13-43 shows the total With-Action pedestrian volumes, average pedestrian space, and levels of service at analyzed corner areas. As shown in **Table 13-43**, based on the 2021 *CEQR Technical Manual* criteria shown in **Table 13-19**, there would significant adverse impacts at four of the 68 analyzed corners in one or more peak hours as result of the Proposed Actions. These would include:

- The Northeast Corner on Franklin Avenue at Atlantic Avenue in the PM and Saturday Peak Hours
- The Southwest Corner on Franklin Avenue at Atlantic Avenue in the PM and Saturday Peak Hours
- The Northwest Corner on Franklin Avenue at Atlantic Avenue in the PM and Saturday Peak Hours
- The Northeast Corner on Bedford Avenue at Atlantic Avenue in the PM and Saturday Peak Hours

Vehicular and Pedestrian Safety Evaluation

Recent NYCDOT Initiatives

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

The *Vision Zero Brooklyn Pedestrian Safety Action Plan* was initially released on February 19, 2015 and updated in 2019. The plan identifies Atlantic Avenue, Fulton Street, Nostrand Avenue, Franklin Avenue, Rogers Avenue, Clinton Avenue, and Fifth Avenue as "Priority Corridors." In addition, Franklin Avenue at Fulton Street, Fulton Street at Nostrand Avenue, Nostrand Avenue at Atlantic Avenue, and Atlantic Avenue at Bedford Avenue were also identified as Priority Intersections within the study area. In addition, the Project Area is located within a Senior Pedestrian Focus Area and a Priority Area. Actions recommended in the *Vision Zero Brooklyn Pedestrian Safety Action Plan* to enhance pedestrian safety in Brooklyn are summarized below.

Engineering and Planning

- Implement at least 50 Vision Zero safety engineering improvements at Priority Corridors, Intersections, and Areas citywide, informed by community input.
- Expand exclusive pedestrian crossing time, install expanded speed limit signage, and modify signal timing to reduce off-speak speeding on Priority Corridors and Intersections where feasible.
- Expand community outreach and engagement with regard to Priority Corridors, Intersections, and Areas.
- Expand the off-hour delivery program to reduce truck conflicts with pedestrians.
- Coordinate with MTA to ensure bus operations contribute to a safe pedestrian environment.
- Expand a bicycle network in Brooklyn that improves safety for all road users.

- Proactively design for pedestrian safety in high-growth areas in Brooklyn.

Enforcement

- Deploy speed cameras at Priority Corridors, Intersections, and Areas.
- Focus enforcement and deploy dedicated resources to Brooklyn NYPD precincts that overlap substantially with Priority Areas.
- Prioritize targeted enforcement at all Priority Corridors, Intersections, and Areas annually.
- Focus failure-to-yield enforcement on nighttime hour (9:00 p.m. to midnight).
- Initiate a series of target truck enforcement blitzes to reduce failure to yield and keep trucks on truck routes.

Education And Awareness Campaigns

- Target child and senior safety education at Priority Corridors and Priority Areas.
- Target intensive street-level outreach at Priority Corridors, Intersections, and Areas.

Study Area High Crash Locations

Crash data for analyzed intersections in the traffic and pedestrian study areas were obtained from NYCDOT 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 1,666 reportable and non-reportable crashes, no fatalities, 1,326 total injuries, and 390 pedestrian/bicyclist injury crashes occurred at intersections within the quarter-mile study area.

According to the 2021 *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 13-44**, 11 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.

Table 13-44: 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
ATLANTIC AVENUE	FT GREENE PLACE	4	1	0	0	0	0	**4**	1	0	11	19	16
	VANDERBILT AVENUE	2	2	1	1	1	5	**3**	**3**	**6**	12	28	28
	FRANKLIN AVENUE	3	1	0	0	1	1	**3**	2	1	13	14	16
	BEDFORD AVENUE	4	3	1	2	4	1	**6**	**7**	2	17	19	26
	NOSTRAND AVENUE	7	3	8	2	1	1	**9**	**4**	**9**	21	24	26
	NEW YORK AVENUE	2	0	1	1	1	0	**3**	1	1	13	17	17
	WASHINGTON AVENUE / UNDERHILL AVE	4	2	1	1	1	2	**5**	**3**	**3**	19	18	27
FULTON STREET	WASHINGTON AVENUE	2	3	1	1	1	1	**3**	**4**	2	4	8	7
	FRANKLIN AVENUE	1	3	5	2	1	0	**3**	**4**	**5**	6	15	11
	BEDFORD AVENUE	2	0	0	1	0	0	**3**	0	0	8	7	10
	NOSTRAND AVENUE	3	2	5	0	2	1	**3**	**4**	**6**	10	12	20

Notes: Shading denotes a high crash location based on 2021 *CEQR Technical Manual* criteria.

Atlantic Avenue at Fort Green Place

This intersection is located along a priority corridor. At this intersection, a total of four pedestrian injury crashes occurred in 2017, one pedestrian injury crash occurred in 2018 and no pedestrian injury crashes occurred in 2019. There were also no bicycle injury crashes from 2017-2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. In addition, the intersection is three legged with the eastbound and westbound vehicular traffic separated by a pedestrian island on the west approach. Of the five pedestrian injury crashes, four occurred during daylight on a dry road surface, while one occurred during a rainy day on a wet road surface. This intersection was referenced in Vision Zero and NYCDOT's "Flatbush Avenue and Atlantic Avenue" safety improvement plan. In addition, New York City has recently installed an LPI at this intersection which may have potentially contributed to the reduction of crashes in 2019.

Atlantic Avenue at Vanderbilt Avenue

This intersection is located along a priority corridor. At this intersection, a total of two pedestrian injury crashes and one bicycle injury crash occurred in 2017 and 2018. One pedestrian injury crash and five bicycle injury crashes occurred at this intersection in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. In addition, the intersection includes a pedestrian island on the west approach and a median on the east approach that separates eastbound and westbound vehicular traffic. There is also a northbound and southbound unprotected bicycle lane. Eleven of the twelve injury crashes in the three-year period occurred during daylight on a dry road surface. Both pedestrian injury crashes in 2017 occurred in the dark with the road lighted. One of the two pedestrian injury crashes in 2018 occurred at night with the road lighted. In 2019, the southbound bicycle lane on the south approach moved from along the west curb to in between a through and right turn only lane. In addition, based on historical imagery at this intersection, all 2019 bicycle injury crashes occurred while the bike lane marking was faded. These factors may have potentially contributed to the increase in bicycle

injury crashes in 2019. The southbound approach of this intersection was referenced in Vision Zero and NYCDOT's "Vanderbilt Ave/Clermont Ave" safety improvement plan.

Atlantic Avenue at Franklin Avenue

This intersection is located along a priority corridor. At this intersection, a total of three pedestrian injury crashes and zero bicycle injury crashes occurred in 2017. In 2018, one pedestrian injury crash and one bicycle injury crash occurred. In 2019, zero pedestrian injury crashes and one bicycle injury crash occurred. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. In addition, the intersection includes medians in the east and west approach separating the eastbound and westbound vehicular traffic. There is also a southbound unprotected shared bike lane. All crashes occurred on clear weather and on a dry road surface. Three of the four pedestrian injury crashes occurred during the dark with the road lighted, of which two of the crashes occurring at night. Both bicycle crashes occurred during daylight. The south leg of this intersection was referenced in Vision Zero and NYCDOT's "Franklin Avenue" safety improvement plan. New York City has also recently installed an LPI at this intersection, which may have potentially contributed to the zero pedestrian injury crashes in 2019.

Atlantic Avenue at Bedford Avenue

This is a priority intersection. At this intersection, a total of four pedestrian injury crashes and two bicycle injury crashes occurred in 2017. Three pedestrian injury crashes and four bicycle injury crashes occurred in 2018. One pedestrian injury crash and one bicycle injury crash occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. In addition, there is a median on the east approach that separates the eastbound and westbound vehicular traffic. On the west approach there is a wide pedestrian island that divides the eastbound and westbound vehicular traffic. Along Bedford Avenue, adjacent to this intersection, there is a bus lane located along the eastern curb. There is also a northbound unprotected bike lane along Bedford Avenue. Five of the eight pedestrian injury crashes in this period occurred during the night with the road lighted. All 2017 pedestrian injury crashes occurred during a cloudy day on a dry road surface except for one crash that occurred during a rainy day on a wet road surface. All 2018 pedestrian injury crashes occurred on a wet surface with the exception of one crash that occurred on a dry surface. There were no contributing factors to the bicycle crashes in 2017, as one crash occurred during clear weather on a dry road surface, while the other crash occurred during a snowy day on an icy surface. Two of the four bicycle injury crashes in 2018 occurred during the night with the road lighted.

Atlantic Avenue at Nostrand Avenue

This is a priority intersection. At this intersection, a total of seven pedestrian injury crashes and two bicycle injury crashes occurred in 2017. Three pedestrian injury crashes and one bicycle injury crash occurred in 2018. Eight pedestrian injury crashes and one bicycle injury crash occurred in 2019. The intersection is signalized and includes pedestrian signals with

countdown clocks and striped crosswalks at each approach. In addition, the intersection has wide pedestrian islands on the eastern and western approaches that divide the eastbound and westbound vehicular traffic. Along Nostrand Avenue, there is also a bus lane adjacent to the parking lane located along the western curb. Three of the seven pedestrian injury crashes in 2017, two of the three pedestrian injury crashes in 2018, and five of the eight pedestrian injury crashes in 2019 have occurred in the dark with the road lighted, of which three injury crashes occurred at night. All the bicycle injury crashes have occurred during clear weather on a dry road surface. However, two of the four bicycle crashes have also occurred at night with the road lighted. It should be noted that between 2017 and 2018 construction occurred near the southeast corner of this intersection. It is also worth noting that the northeast corner of this intersection appears to have less lighting. New York City has recently installed an LPI which will likely improve the pedestrian safety at this intersection.

Atlantic Avenue At New York Avenue

This intersection is located along a priority corridor. At this intersection, a total of two pedestrian injury crashes and one bicycle injury crash occurred in 2017. Zero pedestrian injury crashes and one bicycle injury crash occurred in 2018. One pedestrian injury crash and zero bicycle injury crashes occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. In addition, the intersection has two sets of pedestrian islands on both the east and west approach that divides vehicular traffic. All three injury crashes in 2017 occurred during the night with the road lighted. The 2017 and 2018 bicycle injury crashes occurred during clear weather on a dry road surface. The pedestrian injury crash in 2019 occurred during a rainy day on a wet road surface. New York City has recently installed an LPI, which will likely improve the pedestrian safety at this intersection.

Atlantic Avenue At Washington Avenue/ Underhill Avenue

This intersection is located along a priority corridor. At this intersection, a total of four pedestrian injury crashes and one bicycle injury crash occurred in 2017. Two pedestrian injury crashes and one bicycle injury crash occurred in 2018. One pedestrian injury crash and two bicycle injury crashes occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. This intersection has an irregular geometry with the northbound approach longer than the southbound approach. On the northbound approach there are two pedestrian islands dividing vehicular traffic. One of the pedestrian islands on Washington Avenue separates the northbound right-only lane and the northbound through and left-only lanes. The other pedestrian island separates Washington Avenue and Underhill Avenue. It is important to note that in 2022, Underhill Avenue converted from a one-way southbound lane with parking on both sides to an open street area. The eastbound and westbound approach also have pedestrian islands dividing vehicular traffic, albeit the pedestrian island on the eastbound approach is wider. Four of the seven pedestrian injury crashes in this time frame occurred during a rainy day on a wet road surface. Two of the four pedestrian injury crashes in 2017 have also occurred at night with the road lighted. All the bicycle crashes occurred during clear weather on a dry surface with the

exception of a 2019 bicycle injury crash that occurred on a wet surface during a rainy day. Two of the four bicycle crashes also occurred at night with the road lighted. This intersection was referenced in Vision Zero and NYCDOT's "Atlantic Avenue and Washington Avenue" safety improvement plan, which will likely result in improved safety.

Fulton Street At Washington Avenue

This intersection is located along a priority corridor. At this intersection, a total of two pedestrian injury crashes occurred in 2017, three pedestrian injury crashes in 2018, and one pedestrian injury crash in 2019. One bicycle injury crash occurred in 2017, 2018, and 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. The intersection also includes a bus lane on the eastern approach along the north curb, as well as on the western approach along the south curb. All the pedestrian injury crashes occurred during clear weather on a dry road surface except for one that occurred during a rainy day on a wet road surface. Three of the six pedestrian injury crashes occurred during the dark with the road lighted, of which two crashes occurred at night. All the bicycle injury crashes occurred during clear weather on a dry road surface. At this intersection, New York City has recently installed an LPI. This intersection was also referenced in Vision Zero and NYCDOT's "Fulton Street Bus Lane Extension" safety improvement plan, which will likely result in improved safety.

Fulton Street At Franklin Avenue

This is a priority intersection. At this intersection, a total of one pedestrian injury crash and two bicycle injury crashes occurred in 2017. Three pedestrian injury crashes and one bicycle injury crash occurred in 2018. Five pedestrian injury crashes and zero bicycle crashes occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. In addition, along Franklin Avenue, adjacent to the western curb, there is a southbound unprotected bike lane. Four of the nine pedestrian injury crashes in this time frame occurred during the night with the road lighted. Two of the three pedestrian injury crashes in 2018 occurred during a rainy day on a wet surface. All the 2019 pedestrian crashes occurred during clear weather on a dry surface except for one that occurred during a cloudy day. All three bicycle injury crashes occurred during clear weather on a dry road surface. It is worth noting that during this period there has been construction with scaffolding on the southeast corner of this intersection.

Fulton Street At Bedford Avenue

This intersection is located along a priority corridor. At this intersection, a total of two pedestrian injury crashes and one bicycle injury crash occurred in 2017. No injury crashes occurred in 2018 and 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. Along Bedford Avenue, there is a northbound unprotected bike lane adjacent to the parking lane located along the western curb. There is also a bus lane along Bedford Avenue adjacent to the eastern curb. No contributing factor could be determined for the pedestrian injury crashes, as one crash

occurred during a rainy day on a wet road surface, while the other crash occurred during clear weather on a dry surface. The bicycle injury crash occurred during daylight on clear weather and on a dry road surface. At this intersection, New York City has recently installed an LPI, which may have potentially contributed to the reduction of crashes.

Fulton Street At Nostrand Avenue

This is a priority intersection. At this intersection, a total of three pedestrian injury crashes and zero bicycle crashes occurred in 2017. Two pedestrian injury crashes and two bicycle crashes occurred in 2018. Five pedestrian injury crashes and one bicycle injury crash occurred in 2019. The intersection is signalized and includes pedestrian signals with countdown clocks and striped crosswalks at each approach. Along Nostrand Avenue, there is also a bus lane adjacent to the western curb. In addition, the intersection has an irregular geometry as the north and south sections are not perfectly aligned. All pedestrian injury crashes in 2017 occurred during clear weather on a dry surface. The 2018 pedestrian injury crashes occurred on a dry surface, however one crash occurred during daylight, while the other crash occurred at night with the road lighted. Two of the five pedestrian injury crashes in 2019 occurred during the dark with the road lighted, of which one occurred during the night. All the bicycle injury crashes occurred during clear weather on a dry road surface, except for one that occurred during a rainy day on a wet road surface. It is worth noting that in 2018 and 2019 there was scaffolding on the northwest corner of the intersection.

Parking

Table 13-45 shows the hourly net incremental change in parking demand for each land use under the Proposed Actions compared to the No-Action condition. The forecast of overnight parking demand generated by the Proposed Actions' residential component is based on 2017–2022 five-year ACS data on average vehicles per household for Brooklyn Census Tracts 343, 35, 129.01, 129.02, 131, 159, 161, 163, 199, 179, 201, 203, 205, 207, 215, 221, 227, 229, 231, 245, 247, 249, 269, 271, 273, 307, 299, 301, 303, 305, 311, 313, 315, 341, 377, 379, and 381 which encompass the Project Area. Parking demands from all other uses are derived from the forecasts of daily auto trips from these uses.

As shown in **Table 13-45**, parking demand generated by the various commercial, retail, light industrial, and community facility uses that would be developed under the Proposed Actions would typically peak during the midday hour, whereas residential parking demand would peak during the overnight period. The net decreases in auto-related, light industrial, and warehouse parking demand shown in **Table 13-45** reflect net reductions in these land uses within the Project Area under the With-Action condition. Overall, development associated with the Proposed Actions would generate a peak net parking demand of approximately 2,133 spaces in the weekday evening (4:00 p.m. to 5:00 p.m.) period and 2,104 spaces in the overnight period. 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.

Table 13-45: With-Action Net Incremental Weekday Hourly Parking Demand by Land Use

	Local Retail	Office	Residential	Destination Retail	Auto Repair	Light Industrial	Warehouse	Medical Office	Community Center	Senior Center	Arts & Cultural	Total Demand
12-1 AM	2	3	2,087	0	0	0	0	0	0	0	0	2,092
1-2	1	0	2,098	0	0	0	0	0	0	0	0	2,099
2-3	1	0	2,102	0	0	0	0	0	0	0	0	2,103
3-4	0	0	2,103	0	0	0	0	0	0	0	0	2,103
4-5	0	3	2,101	0	0	0	0	0	0	0	0	2,104
5-6	0	6	2,074	0	0	0	0	0	2	0	0	2,082
6-7	1	23	2,015	2	0	0	0	2	7	0	0	2,050
7-8	8	80	1,878	5	-7	-3	-1	9	8	0	1	1,978
8-9	16	224	1,629	14	-47	-34	-7	27	17	0	2	1,841
9-10	25	463	1,542	41	-130	-59	-11	38	21	0	20	1,950
10-11	36	496	1,499	63	-133	-60	-12	42	20	0	31	1,982
11-12	36	496	1,486	78	-102	-55	-9	38	17	0	20	2,005
12-1 PM	44	495	1,486	85	-51	-55	-9	34	16	0	4	2,049
1-2	44	497	1,496	89	-51	-55	-9	37	13	1	20	2,082
2-3	43	499	1,500	84	-60	-62	-10	35	13	0	32	2,074
3-4	55	491	1,531	77	-60	-65	-10	31	20	0	38	2,108
4-5	46	442	1,565	71	-15	-49	-8	22	22	1	36	2,133
5-6	47	249	1,637	69	-16	-13	-3	11	23	0	16	2,020
6-7	47	122	1,728	68	-3	-2	0	4	23	0	0	1,987
7-8	19	66	1,799	69	0	0	0	0	19	0	0	1,972
8-9	16	40	1,882	50	0	0	0	0	12	0	0	2,000
9-10	5	26	1,960	16	0	0	0	0	7	0	0	2,014
10-11	5	17	2,031	6	0	0	0	0	0	0	0	2,059
11-12	2	7	2,058	0	0	0	0	0	0	0	0	2,067

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 Project Area.

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

In addition, under 2021 *CEQR Technical Manual* guidance, one of the factors to be considered in determining significance of a parking shortfall is the availability of alternative modes of transportation. The Project Area is well-served by alternate modes of transportation within walking distance of the Project Area, including nine subway stations – Clinton-Washington Avenue (C) station, Franklin Avenue (C/S) station, Nostrand Avenue (A/C) station, Atlantic Avenue – Barclays Center (B/D/N/Q/R/2/3/4/5) station complex, Bergen Street (2/3) station, 7th Avenue (B/Q) station, Kingston-Troop Avenue (C) station, Kingston Avenue (3) station, and Nostrand Avenue (3) station.

In addition, the Project Area is well-served by eleven bus routes, all of which are operated by the NYCT Bus Company and operate solely in Brookyln except for the B26, which runs between Downtown Brooklyn and Ridgewood, Queens. Downtown Brooklyn is also the terminal for six other bus routes – the B25 with a terminal in Broadway Junction, the B41 with a terminal in Kings Plaza, the B45 and B65 with a terminal in Crown Heights, and the B67 and B69 with a terminal in Kensington. The B44 Local/SBS runs between Sheepshead Bay and Williamsburg, the B48 runs between Lefferts Gardens and Greenpoint, and the B49 runs between Manhattan Beach and Crown Heights.

Lastly, Nostrand Avenue LIRR station on the LIRR's Atlantic branch is located in the east of the Project Area and is generally served by the West Hempstead Branch and the City Terminal Zone of the LIRR. It is also served by the Hempstead and Babylon Branches of the LIRR during peak commuter periods. To the west of the Project Area is Atlantic Terminal, which is a major transit hub that provides connections to Atlantic Avenue – Barclays Center subway station and is the primary terminal for the West Hempstead Branch and the City Terminal Zone, and a peak hour terminal for some trains on the Hempstead Branch, Far Rockaway Branch and the Babylon Branch of the LIRR.

The Project Area has an extensive bicycle network with numerous bike routes within a quarter-mile radius of the Project Area. This includes conventional bike lanes along the entire Project Area corridors, such as Dean Street, Bergen Street, Bedford Avenue, Franklin Avenue, Classon Avenue, Vanderbilt Avenue, Carlton Avenue, Brooklyn Avenue, Sterling Place, Kingston Avenue, and Fifth Avenue. There is also a conventional bike lane along Washington Avenue south of Dean Street. Moreover, there are numerous Citi Bike dock station located in

the north and west of the Project Area with nine and six dock stations located in the northern and western portion of the Project Area, respectively. Many of the dock stations in the northern portion of the Project Area are located along or adjacent to the Fulton Street corridor, while many of the dock stations in the northern portion of the Project Area are located along or adjacent to the Flatbush Avenue corridor.

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