Appendix B: Travel Demand Forecating (TDF) Memo

Philip Habib & Associates
Engineers and Planners • 432 Park Avenue South • New York, NY 10016 • 212 929 5656 • 212 929 5605 (fax)

DRAFT

TECHNICAL MEMORANDUM

TO: **NYCDCP**

FROM: **Philip Habib & Associates**

DATE: **October 3, 2024**

PROJECT: **Atlantic Avenue Mixed-Use Plan (AAMUP) [PHA No. 1872B]**

RE: **Transportation Planning Factors and Travel Demand Forecast**

This memorandum summarizes the transportation planning factors to be used for the analyses of traffic, transit, pedestrian and parking conditions for the *Atlantic Avenue Mixed Use Plan (AAMUP) EIS*. Estimates of the peak travel demand for the Proposed Actions' reasonable worst-case development scenario (RWCDS) are provided.

THE PROPOSED ACTIONS

The New York City Department of City Planning (DCP)), together with New York City Department of Housing Preservation and Development (HPD) and Department of Citywide Administrative Services (DCAS), is proposing a series of land use actions, including zoning map amendments and zoning text amendments (including establishing a special zoning district and Mandatory Inclusionary Housing (MIH)(collectively, the "Proposed Actions") that would facilitate the implementation of a neighborhood land-use plan along Atlantic Avenue in Prospect Heights, northwestern Crown Heights and southern Bedford Stuyvesant in partnership with elected officials, city agencies, community boards, and local stakeholders.

The Proposed Actions would affect an approximately 21-block area (refer to **Figure 1**), primarily along Atlantic Avenue in Brooklyn Community Districts (CDs) 3, and 8, and generally bounded by Vanderbilt Avenue to the west, Nostrand Avenue to the east, Herkimer Street to the north, and Bergen Street to the south (see **Figure 1**). In addition, the Proposed Actions would affect two separate, non-contiguous areas located on a portion of two 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; and
- Halsey Street to the north, Macon Street to the south, Nostrand Avenue to the west and Marcy Avenue to the east.

In response to the comments received on the Draft Scope of Work, two additional development sites (Sites #53 and #55) have been included in environmental analysis to account for development that could be facilitated by future discretionary actions not subject to the current ULURP application associated with the Proposed Actions. These two separate, non-contiguous sites in CD 2 and 8 are on a portion of two blocks bounded by:

- Fulton Street to the north, Atlantic Avenue to the south, Carlton Avenue to the west and Clermont Avenue to the east; and
- Prospect Place to the north, Park Place to the south, New York Avenue to the west and Brooklyn Avenue to the east.



Legend

1 Projected Development Site

Atlantic Avenue Mixed-Use Plan

Figure 1
Projected Development Sites

THE REASONABLE WORST CASE DEVELOPMENT SCENARIO (RWCDS)

In order to assess the potential effects of the Proposed Actions, a RWCDS for both "future without the proposed actions" (No Action) and "future with the proposed actions" (With Action) conditions is 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 within the ten-year analysis period for the Proposed Actions (i.e., by the 2034 analysis year), while potential sites are considered less likely to be developed over the same period. Projected development sites are considered for the purposes of the transportation analyses. A total of 54 projected development sites were identified and are considered for the purposes of the transportation analyses (see **Figure 1**). **Table 1** shows the total anticipated No-Action and With-Action land uses on projected development sites that were assumed for the purposes of the transportation analyses.

Table 1
2034 RWCDS No-Action and With-Action Land Uses

Land Use	No-Action Conditions (gsf)	With-Action Condition (gsf)	No-Action to With-Action Increment (gsf)
Residential			
Total Residential	114,682 135 DUs	5,320,984 5,278 DUs	5,206,302 5,143 DUs
Commercial			
Local Retail	60,625	347,132	286,507
Destination Retail	0	50,410	50,410
Office & Other Commercial	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 (1)	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 SF	52,309	0	-52,309
Parking Spaces	209		-209

NOTES:
(1) Other CF uses are assumed to include a 3,500 gsf community center (cross-fit gym) in the No-Action, 80,192 gsf of community center uses in the With-Action, a 2,925 gsf senior center in the With-Action, and 15,437 gsf of arts and cultural space in the With-Action, as well as 242,300 gsf of school uses in both the No-Action and With-Action (no net change).

TRANSPORTATION PLANNING FACTORS

The transportation planning factors used to forecast the travel demand that would be generated by the No-Action and With-Action land uses on projected development sites are summarized in **Table 2** and discussed below.

The trip generation rates, temporal distributions, modal splits, vehicle occupancies, and truck trip factors for each projected land use were primarily based on those cited in the 2021 *City Environmental Quality Review (CEQR) Technical Manual*, factors developed for recent environmental reviews in the area, American Community Survey (ACS) journey-to-work 5-year (2015-2019) data 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).

Residential

Residential person trip rates and temporal distribution reflect data from the 2021 *CEQR Technical Manual*, and directional in/out splits were based on data provided by NYC Department of Transportation (NYCDOT). Modal split and auto occupancy were based on 2015-2019 5-year ACS journey-to-work data for census tracts encompassing the AAMUP area, and taxi vehicle occupancy was based on data from the 2021 *Gowanus Neighborhood Rezoning FEIS* (CEQR No. 19DCP157K). Truck generation rates and temporal distributions reflect those cited in the 2021 *CEQR Technical Manual*.

Retail

The trip generation rates and temporal distributions for local and destination retail were based on data from the 2021 *CEQR Technical Manual*, and in/out splits were based on data provided by NYCDOT. The modal splits and vehicle occupancy rates for local and destination retail were based on survey data provided by NYCDOT and data from the 2021 *Gowanus Neighborhood Rezoning FEIS.* Truck trip generation rates and temporal distributions were based on data from the *CEQR Technical Manual* (local retail) and the 2021 *Gowanus Neighborhood Rezoning FEIS* (destination retail). A local retail pass-by / linked trip credit of 35% was utilized (based on consultation with NYCDOT).

Non-Retail Commercial Uses

Non-retail commercial land uses include office and auto-related (auto repair) uses. As shown in **Table 2**, the factors used to forecast travel demand from these uses were developed from a variety of sources, including the *CEQR Technical Manual*, data provided by NYCDOT, the 2021 *Gowanus Neighborhood Rezoning* FEIS, and CTPP reverse journey-to-work data.

Community Facility Uses

For purposes of travel demand forecasting, community facility uses are assumed to include medical office, community center, senior center, and arts and cultural uses. As shown in **Table 2**, the factors used to forecast travel demand from these land uses were developed from a variety of sources, including the

CEQR Technical Manual, data provided by NYCDOT, the 2021 *Gowanus Neighborhood Rezoning FEIS*, the 2021 *Cooper Park Commons EAS*, and the *2022 Innovation QNS FEIS.*

Light Industrial/Warehouse

The trip generation rates, temporal distributions, directional in/out splits, vehicle occupancies and truck factors for light industrial uses were based on data from the 2021 *Gowanus Neighborhood Rezoning FEIS.* The modal splits were based on AASHTO CTPP reverse journey-to-work data for workers in the census tracts encompassing the Project Area along with data from the *2021 Gowanus Neighborhood Plan FEIS* (for the midday). Factors for warehouse uses were also based on data from the 2021 *Gowanus Neighborhood Rezoning FEIS* and census reverse journey-to-work data, as well as data provided by NYCDOT.

Table 2
Transportation Planning Factors

Land Use:	Local Retail		Office		Residential		Destination Retail		Auto Repair		Light Industrial		Warehouse		Medical Office		Community Center		Senior Center		Arts & Cultural	
Trip Generation:	(1)		(1)		(1)		(1)		(8)		(8)		(7)		(1)		(1)		(1)		(4)	
Weekday	329.0		18.0		8.18		78.2		19.42		14.7		2.36		See note (6)		51.6		34.8		76.00	
Saturday	358.0		3.9		9.08		92.5		19.42		2.2		0.2		37.0		50.4		26.2		50.74	
	per 1,000 sf		per 1,000 sf		per DU		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf	
Temporal Distribution	(1)		(1)		(1)		(1)		(8)		(8)		(7)		(1)		(1)		(1)(7)		(4)	
AM	4.8%		12.4%		9.3%		3.0%		13.2%		13.2%		10.0%		11.0%		9.0%		13.6%		3.0%	
MD	8.0%		11.0%		5.6%		9.0%		11.0%		11.0%		9.0%		12.6%		7.4%		19.3%		10.3%	
PM	10.9%		10.5%		8.5%		9.0%		14.2%		14.2%		11.0%		8.5%		9.0%		4.0%		10.2%	
SAT	11.7%		14.1%		8.4%		11.0%		10.7%		10.7%		33.0%		16.6%		12.6%		26.4%		12.5%	
Modal Splits:	(2)		(5)	(8)	(3)		(8)(9)		(8)(9)		(5)	(8)	(5)		(2)		(8)		(10)		(4)	
	All Periods		AM/PM/SAT	MD	All Periods		All Periods		All Periods		AM/PM/SAT	MD	All Periods		All Periods		All Periods		All Periods		All Periods	
Auto	11.0%		35.5%	2.0%	12.6%		59.0%		85.0%		35.5%	2.0%	35.5%		22.0%		16.0%		6.8%		36.0%	
Taxi	0.0%		0.9%	1.0%	1.2%		3.0%		5.0%		0.9%	1.0%	0.9%		4.0%		0.0%		0.0%		12.0%	
Subway	3.0%		34.3%	7.0%	69.7%		15.0%		1.0%		34.3%	7.0%	34.3%		13.0%		7.0%		2.2%		25.0%	
LIRR	0.0%		2.5%	0.0%	1.1%		0.0%		0.0%		2.5%	0.0%	2.5%		0.0%		0.0%		0.0%		0.0%	
Bus	2.0%		11.7%	7.0%	4.9%		18.0%		1.0%		11.7%	7.0%	11.7%		13.0%		14.0%		13.5%		25.0%	
School Bus	0.0%		0.0%	0.0%	0.0%		0.0%		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%	3.3%		0.0%		4.0%		0.0%		0.0%	
Walk/Other	84.0%		11.8%	83.0%	7.0%		3.9%		6.3%		11.8%	83.0%	11.8%		48.0%		59.0%		77.5%		2.0%	
Total	100.0%		100%	100%	100%		100%		100%		100%	100%	100%		100%		100%		100%		100%	
In/Out Splits:	(7)		(7)		(7)		(7)		(8)		(8)		(7)		(1)		(7)		(7)		(4)	
	In	Out	In	Out	In	Out	In	Out	In	Out	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%	77%	23%	62%	38%	57%	43%	61%	39%	56%	44%
MD	50%	50%	52%	48%	50%	50%	53%	47%	50%	50%	50%	50%	53%	47%	53%	47%	48%	52%	38%	62%	14%	86%
PM	50%	50%	16%	84%	62%	38%	49%	51%	50%	50%	12%	88%	27%	73%	39%	61%	52%	48%	30%	70%	5%	95%
SAT	50%	50%	48%	52%	55%	45%	52%	48%	50%	50%	47%	53%	64%	36%	54%	46%	48%	52%	47%	53%	25%	75%
Vehicle Occupancy:	(2)		(5,8)		(3,8)		(8)		(8)		(5,(8)		(8)		(2)		(8)		(10)		(4)	
							AM/MD/PM	SAT													Weekday	Saturday
Auto	1.20		1.09		1.11		2.05	2.49	1.30		1.11		1.30		1.50		1.20		1.65		2.00	3.00
Taxi	1.20		1.26		1.40		2.05	2.49	1.30		1.20		1.30		1.50		1.20		1.40		2.00	3.00
Truck Trip Generation	(1)		(1)		(1)		(8)		(8)		(8)		(7)		(8)		(8)		(10)		(4)	
Weekday	0.35		0.32		0.06		0.35		0.89		0.67		0.91		0.29		0.29		0.29		0.35	
Saturday	0.04		0.01		0.02		0.02		0.89		0.67		0.08		0.29		0.29		0.29		0.02	
	per 1,000 sf		per 1,000 sf		per DU		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf	
Truck Temporal Distribution:	(1)		(1)		(1)		(8)		(8)		(8)		(7)		(8)		(8)		(10)		(4)	
AM	8.0%		10.0%		12.0%		7.7%		14.0%		14.0%		9.9%		3.0%		9.6%		9.6%		7.9%	
MD	11.0%		11.0%		9.0%		11.0%		9.0%		9.0%		8.0%		11.0%		11.0%		11.0%		14.7%	
PM	2.0%		2.0%		2.0%		1.0%		1.0%		1.0%		7.0%		1.0%		1.0%		1.0%		1,1%	
SAT	11.0%		11.0%		9.0%		11.0%		0.0%		0.0%		28.0%		0.0%		0.0%		0.0%		14.7%	
Truck In/Out Splits:	In	Out	In	Out	In	Out	In	Out	In	Out	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%	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%								

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

LEVEL 1 TRIP GENERATION & SCREENING

The *CEQR Technical Manual* describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed in the following sections of this memorandum, the preliminary analysis begins with a trip generation (a Level 1 screening assessment) analysis to estimate the numbers of person and vehicle trips attributable to a proposed action. According to the *CEQR Technical Manual*, if a proposed action is expected to result in fewer than 50 peak hour vehicle or ferry 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 (a Level 2 screening assessment) are to be performed to estimate the incremental trips that could occur at specific transportation elements and to identify potential locations for further analysis. If the trip assignments demonstrate 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, 25 or more peak hour trips by Citywide Ferry Service ("CWFS") in a single direction on a single route or 50 or more at a ferry landing, 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, pedestrian, vehicular and pedestrian safety, and parking conditions.

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 1** and the transportation planning factors shown in **Table 2**. **Table 3** 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 3**, 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 and PM, and Saturday peak hours, respectively.

Peak hour subway trips would increase by a net total of approximately 3,245, 2,051, 3,099 and 3,254 during these periods, respectively, while transit bus trips would increase by approximately 477, 460, 563 and 581, respectively. 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.

Walk-only trips would increase by 3,208, 5,303, 6,272 and 7,254 trips during the weekday AM, midday and PM, and Saturday peak hours, respectively, and lastly, peak hour bike trips would increase by a net total of approximately 175, 83, 160 and 159 during these periods.

Table 4 shows the net incremental change in peak hour vehicle trips (auto, taxi and truck) that would be generated by each individual development site during the weekday AM, midday and PM, and Saturday peak hours. As shown in **Table 4**, Site 15 would generate the greatest number of new vehicle trips, with up to 194 incremental vehicle trips per hour. 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.

As the number of trips in the weekday AM, midday, PM, and Saturday midday periods would exceed the 50-trip threshold for vehicles and the 200-trip threshold for transit and pedestrians, a Level 2 screening assessment is warranted to determine which intersections, subway routes, bus routes, and pedestrian elements would require quantified analysis.

Table 3

RWCDS Travel Demand Forecast

Land Use: / Size/Units:	Local Retail 286,507 gsf		Office 453,426 gsf		Residential 5,143 DU		Destination Retail 50,410 gsf		Auto Repair -81,000 gsf		Light Industrial -67,693 gsf		Warehouse -92,583 gsf		Medical Office 48,548 gsf		Community Center 54,806 gsf		Senior Center 2,925 gsf		Art & Cultural 15,437 gsf		Total	
Peak Hour Trips:																								
AM	2,952		1,022		3,946		120		-212		-134		-26		399		256		14		36		8,373	
Midday	4,916		900		2,384		356		-182		-114		-22		456		212		20		122		9,048	
PM	6,686		864		3,602		356		-230		-144		-28		309		256		4		120		11,795	
Saturday	7,812		254		3,958		514		-172		-18		-8		302		350		20		98		13,110	
Person Trips:																								
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	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	-9	-1	54	34	24	18	1	0	7	6	545	604
Taxi	0	0	6	0	4	33	2	1	-6	-2	0	0	0	0	10	7	0	0	0	0	2	2	18	41
Subway	46	44	303	49	612	2,159	11	7	0	0	-46	-6	-10	-1	32	19	10	7	0	0	5	4	963	2,282
LIRR	0	0	22	3	6	33	0	1	0	0	-3	-1	-1	0	0	0	0	0	0	0	0	0	24	36
Bus	32	30	102	17	37	153	13	8	0	0	-13	0	-2	0	33	19	21	16	1	1	5	4	229	248
Bike	0	0	29	3	30	108	1	0	0	0	-4	0	0	0	0	0	5	3	0	0	0	0	61	114
Walk/Other	1,286	1,191	105	19	63	213	3	2	-8	-5	-14	0	-2	0	117	74	86	66	7	4	0	1	1,643	1,565
Total	1,530	1,422	880	142	861	3,085	74	46	-137	-75	-121	-13	-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	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	-5	-6	53	47	17	17	1	1	6	38	537	547
Taxi	0	0	3	3	7	7	6	5	-4	-4	0	0	0	0	10	9	0	0	0	0	2	13	24	33
Subway	72	72	35	31	852	850	29	25	0	0	-4	-4	-5	-6	32	28	7	7	0	0	4	26	1,022	1,029
LIRR	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
Bus	52	52	35	31	55	55	33	29	0	0	-3	-3	0	0	32	28	15	16	1	2	4	26	224	236
Bike	0	0	0	0	36	36	2	3	0	0	0	0	0	0	0	0	3	3	0	0	0	0	41	42
Walk/Other	2,063	2,063	385	359	84	84	8	7	-6	-6	-50	-50	0	0	115	102	61	66	6	9	1	2	2,667	2,636
Total	2458	2458	468	432	1193	1191	189	167	-91	-91	-57	-57	-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	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	-3	-9	26	41	21	20	0	0	2	41	733	853
Taxi	0	0	0	5	25	10	5	6	-6	-6	0	0	0	0	5	8	0	0	0	0	1	14	30	37
Subway	99	99	48	252	1,563	965	26	28	0	0	-7	-50	-3	-9	15	24	10	9	0	0	2	28	1,753	1,346
LIRR	0	0	3	20	22	7	0	0	0	0	0	-4	0	0	0	0	0	0	0	0	0	0	25	23
Bus	67	67	16	85	110	65	31	32	0	0	1	-15	0	-3	16	25	18	17	1	0	2	28	262	301
Bike	0	0	3	24	78	45	2	2	0	0	1	-4	0	0	0	0	5	4	0	0	0	0	89	71
Walk/Other	2,810	2,810	17	84	158	100	7	7	-6	-6	1	-15	0	-1	58	91	78	74	1	2	0	2	3,124	3,148
Total	3343	3343	135	729	2235	1367	174	182	-116	-114	-10	-134	-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	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	-5	-3	36	30	27	29	1	1	9	26	893	848
Taxi	0	0	0	0	24	16	8	8	-3	-3	0	0	0	0	7	7	0	0	0	0	3	9	39	37
Subway	117	117	47	47	1,516	1,254	40	37	0	0	-4	-5	0	0	21	18	11	13	0	0	7	18	1,755	1,499
LIRR	0	0	5	3	18	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	22
Bus	78	78	13	13	106	88	48	43	0	0	0	0	0	0	21	18	24	25	1	1	6	18	297	284
Bike	0	0	3	3	76	58	3	2	0	0	0	0	0	0	0	0	7	7	0	0	0	0	89	70
Walk/Other	3,282	3,282	17	15	155	128	11	10	-6	-6	-1	-2	0	0	76	68	100	107	8	8	1	1	3,643	3,611
Total	3906	3906	127	127	2171	1787	268	246	-86	-86	-8	-10	-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	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	-9	-1	36	24	21	16	1	0	4	3	476	531
Taxi	0	0	6	0	4	29	1	0	-6	-2	0	0	0	0	7	5	0	0	0	0	1	1	13	33
Taxi (Balanced)	0	0	6	6	33	33	1	1	-8	-8	0	0	0	0	12	12	0	0	0	0	2	2	46	46
Truck	1	1	5	5	13	13	1	1	-4	-4	-3	-3	-5	-3	0	0	1	1	0	0	0	0	9	11
Total	141	132	298	59	151	399	24	15	-106	-62	-40	-9	-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	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	-5	-6	35	31	15	15	1	1	3	19	425	427
Taxi	0	0	3	3	7	7	2	2	-4	-4	0	0	0	0	7	6	0	0	0	0	1	7	16	21
Taxi (Balanced)	0	0	6	6	14	14	4	4	-8	-8	0	0	0	0	13	13	0	0	0	0	8	8	37	37
Truck	2	2	6	6	7	7	1	1	-1	-1	0	0	-4	-4	0	0	1	1	0	0	0	0	12	12
Total	228	228	22	20	169	169	59	52	-71	-71	0	0	-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	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	-3	-9	17	26	19	18	0	0	1	21	604	695
Taxi	0	0	0	5	23	9	2	2	-6	-6	0	0	0	0	5	5	0	0	0	0	1	7	25	22
Taxi (Balanced)	0	0	5	5	32	32	4	4	-12	-12	0	0	0	0	10	10	0	0	0	0	8	8	47	47
Truck	0	0	0	0	0	0	0	0	0	0	0	0	-4	-2	0	0	0	0	0	0	0	0	-4	-2
Total	305	305	50	243	288	197	54	56	-92	-91	-6	-42	-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	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	-5	-3	25	20	24	26	1	1	5	13	706	667
Taxi	0	0	0	0	22	14	3	3	-3	-3	0	0	0	0	5	5	0	0	0	0	2	5	29	24
Taxi (Balanced)	0	0	0	0	36	36	6	6	-6	-6	0	0	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	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	-5	-3	35	30	24	26	1	1	12	20	759	720

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

Table 4
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**

ANALYSIS PERIODS

Based on *CEQR Technical Manual* guidelines, a quantified traffic analysis is typically required if a proposed action would result in more than 50 vehicle trip ends in a peak hour. As shown in **Table 3**, the Proposed Actions are expected to result in more than 50 total vehicle trips during the weekday AM and PM peak hours (which are typical peak periods for commuter travel demand) and the weekday midday and Saturday peak hours (typical peak periods for retail demand). These four periods will therefore be included in the quantified analysis of traffic conditions. The specific peak hours for analysis will be identified based on automatic traffic recorder (ATR) counts that will be conducted as part of the traffic study for the AAMUP EIS.

Transit (both subway and bus) analyses generally examine conditions during the weekday AM and PM commuter peak periods, as it is during these times that overall transit demand (and the potential for significant adverse impacts) is typically greatest. Therefore, the quantitative analyses of transit

conditions with the Proposed Actions will focus on these two periods. The specific time period will be selected for the analysis of subway station conditions on based on existing entering and exiting volumes at subway stations in the vicinity of the Project Area.

According to *CEQR Technical Manual* guidelines, a quantified analysis of pedestrian conditions is typically required if a proposed action would result in 200 or more peak hour pedestrian trips. As shown in **Table 3**, the net increase in pedestrian trips resulting from the Proposed Actions would exceed the 200-trip *CEQR Technical Manual* analysis threshold during the weekday AM and PM commuter peak hours and the weekday midday and Saturday peak hours for retail demand. The specific analysis peak hours will be determined based on pedestrian counts that will be conducted as part of the pedestrian analyses for the AAMUP EIS. The analysis of pedestrian conditions will therefore focus on the weekday AM, midday and PM, and Saturday peak hours.

TRAFFIC STUDY AREA

Area Street Network

As noted above, the Project Area generally encompasses an approximately 21-block area, 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. The Proposed Actions also include a separate, non-contiguous area located on a portion of four blocks.

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 DOT-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 Select Bus Service.

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.

Traffic Assignment and Analysis Locations

As shown in **Table 3** and discussed above, the Proposed Actions' RWCDS is expected to result in a net incremental increase of approximately 1,119, 950, 1,387 and 1,479 vehicle trips in the weekday AM, midday and PM, and Saturday peak hours, respectively. As these traffic volumes would exceed 50 trips in each peak hour (the *CEQR Technical Manual* Level 1 screening threshold for a detailed analysis), a assignment of net increment traffic volumes was prepared for each period to help identify potential intersections for analysis (a Level 2 screening assessment).

The assignments of auto and taxi trips to the street network in proximity to the Project Area were based on the locations of each projected development site and the anticipated origins and destinations of vehicle trips associated with the different land uses projected for each site under the RWCDS (e.g., commercial, residential, community facility, etc.). **Table 5** shows the directional distributions of auto and taxi trips by land use based on origin/destination data. 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. Although much of the project-generated auto demand is expected to park at off-street public parking facilities in the area or on-street, 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 in the adjacent neighborhoods.

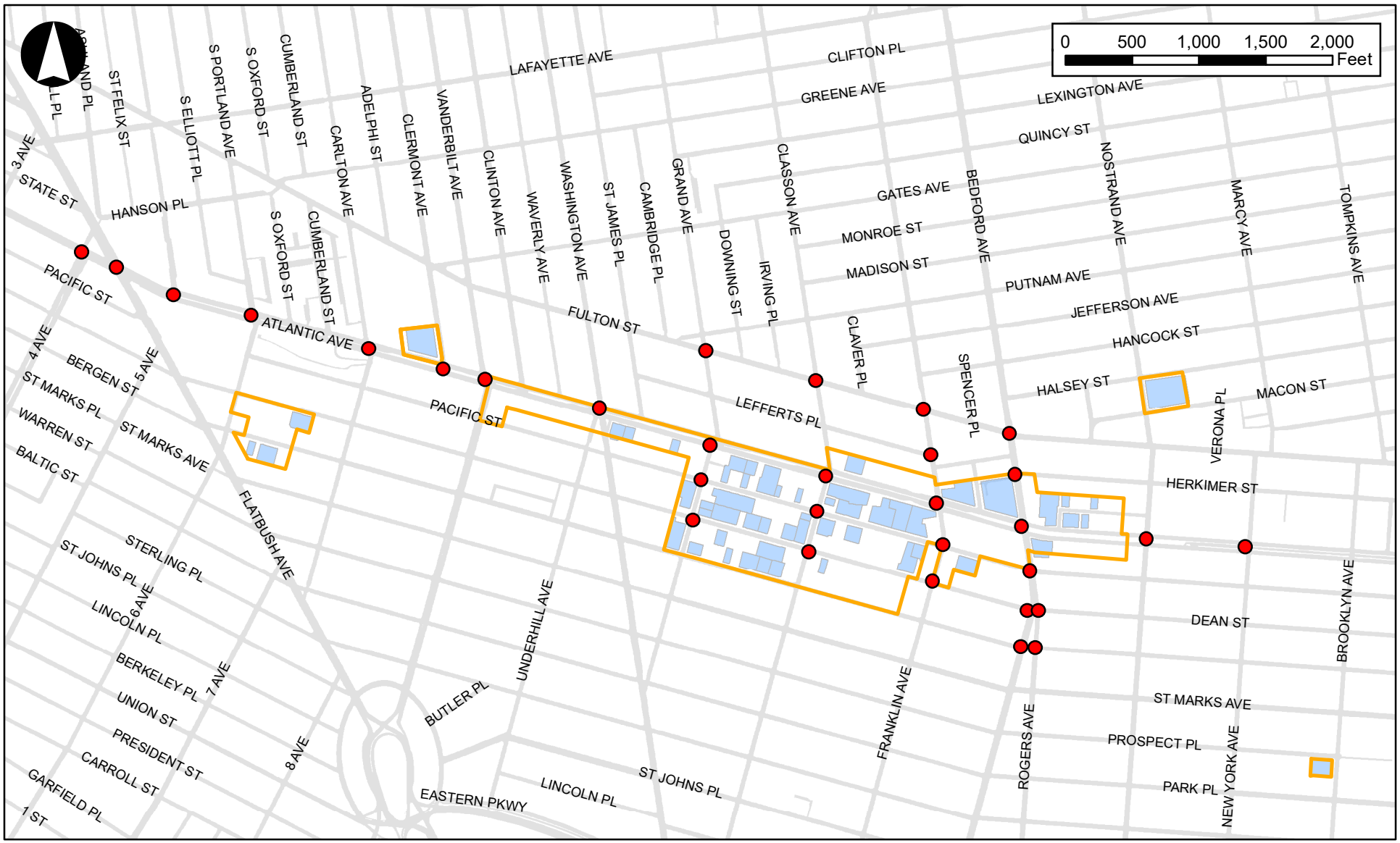
Table 5
Directional Distributions of Auto/Taxi Trips by Land Use

Land Use	Brooklyn				Manhattan	Bronx	Queens	Long Island	Staten Island/NJ	Upstate NY/ CT/PA
	N	S	E	W						
Residential	9%	22%	10%	16%	20%	2%	11%	4%	4%	2%
Office/Industrial[1]	8%	25%	20%	3%	2%	2%	19%	12%	7%	2%
Local Retail/Community Uses[2]	29%	20%	25%	26%	---	---	---	---	---	---
Destination Retail/Medical Office	20%	20%	30%	30%	---	---	---	---	---	---

Notes:
[1] Also includes office, industrial, and warehouse uses.
[2] Also includes local retail, auto-related, community center, and arts & cultural use.

Using the distributions shown in **Table 5**, auto and taxi trips were first assigned to various portals on the periphery of the Project Area and from there via the most direct route to each projected development site. 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 the projected sites.

The assignment helps to identify potential intersections that would exceed the 50-trip threshold and 31 representative intersections were selected for a detailed traffic analysis as shown in **Figure 2** and listed



Legend

- AAMUP Project Area
- Proposed Development Site
- Traffic Analysis Location

Figure 2
Traffic Analysis Locations

below. These locations were selected based on consultation and coordination with NYCDCP and NYCDOT.

Detailed Analysis Locations

1. 4th Ave and Atlantic Ave
2. Flatbush Ave and Atlantic Ave
3. Fort Green Pl and Atlantic Ave
4. S Portland Ave and Atlantic Ave
5. Carlton Ave and Atlantic Ave
6. Clermont Ave and Atlantic Ave
7. Vanderbilt Ave and Atlantic Ave
8. Washington Ave and Atlantic Ave
9. Grand Ave and Atlantic Ave
10. Classon Ave and Atlantic Ave
11. Franklin Ave and Atlantic Ave
12. Bedford Ave and Atlantic Ave
13. Nostrand Ave and Atlantic Ave
14. New York Ave and Atlantic Ave
15. Grand Ave and Fulton St
16. Grand Ave and Pacific St
17. Grand Ave and Dean St
18. Classon Ave and Fulton St
19. Classon Ave and Pacific St
20. Classon Ave and Dean St
21. Franklin Ave and Fulton St
22. Franklin Ave and Lefferts Pl
23. Franklin Ave and Pacific St
24. Franklin Ave and Dean St
25. Bedford Ave and Fulton St
26. Bedford Ave and Herkimer St
27. Bedford Ave and Pacific St
28. Bedford Ave and Dean St
29. Bedford Ave and Bergen St
30. Rogers Ave and Dean St
31. Rogers Ave and Bergen St

TRANSIT

According to the general thresholds used by the MTA and specified in the *CEQR Technical Manual,* detailed transit analyses are required if a proposed action is projected to result in greater than 200 peak hour rail or bus transit riders. If a proposed action would result in 50 or more bus passengers being assigned to a single bus line (in one direction), or if it would result in an increase of 200 or more passengers at a single subway station or on a single subway line, a detailed bus or subway analysis would be warranted.

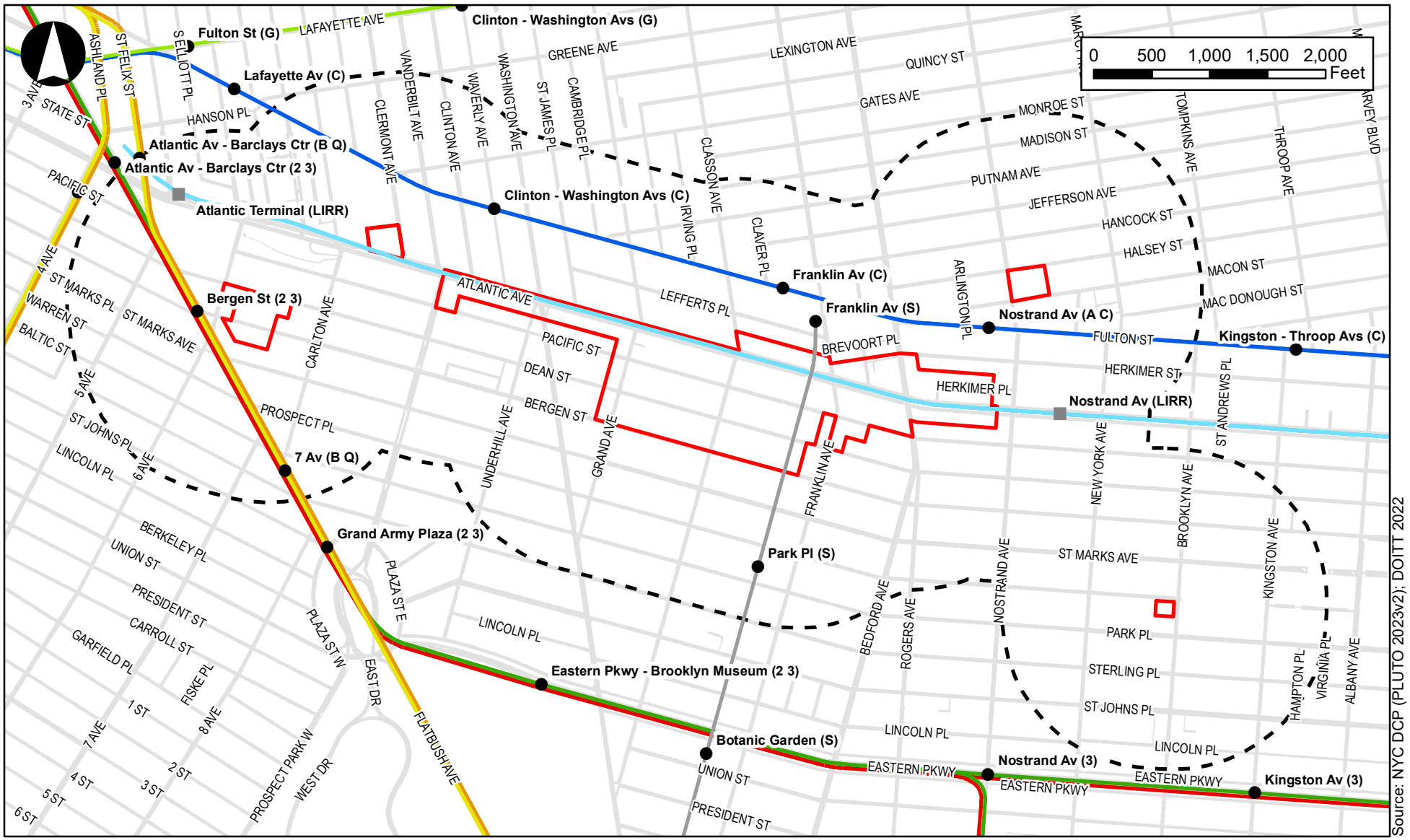
Subway Analysis

Subway Stations

As shown in **Figure 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 7 Avenue stations. The Bergen Street station is served by the 2 and 3 lines, and the 7 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.

Subway Assignment and Analyzed Stations

As shown in **Table 3**, 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. **Table 6** shows the estimated net incremental subway trips generated by the Proposed Actions during the weekday AM and PM peak hours at each of the subway stations/station complexes serving the Project Area. As shown in **Table 6**, the highest number of incremental subway trips is expected to occur at the Franklin Avenue (C) subway station which would experience approximately 1,122 incremental trips in the AM peak hour and 1,084 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 serving the Project Area are expected to experience fewer than 200 incremental trips in the AM and PM peak hours.



Atlantic Avenue Mixed-Use Plan

Figure 3
Subway Services

As incremental peak hour demand from the Proposed Actions is expected to exceed the 200-trip *CEQR Technical Manual* analysis threshold at the Franklin Avenue, the Nostrand Avenue, and the Clinton-Washington Avenues stations, these facilities will be analyzed in the EIS. Key circulation elements (i.e., stairs and fare arrays) at these stations that are expected to be used by concentrations of new demand from the Proposed Actions will be analyzed.

Table 6
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 (C)	249	491	740	370	315	685
Franklin (C)	363	759	1,122	598	486	1,084
Nostrand (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
7 Avenue (B/Q)	13	41	54	29	26	55
Franklin Avenue (S)	8	17	25	13	11	24
Kingston-Troop Avs (C)	3	10	13	8	5	13
Kingston Ave (3)	4	11	15	9	5	14
Nostrand (3)	3	10	13	8	5	13
Total	963	2,282	3,245	1,753	1,346	3,099

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 included in the EIS. 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 Analysis

Bus Routes

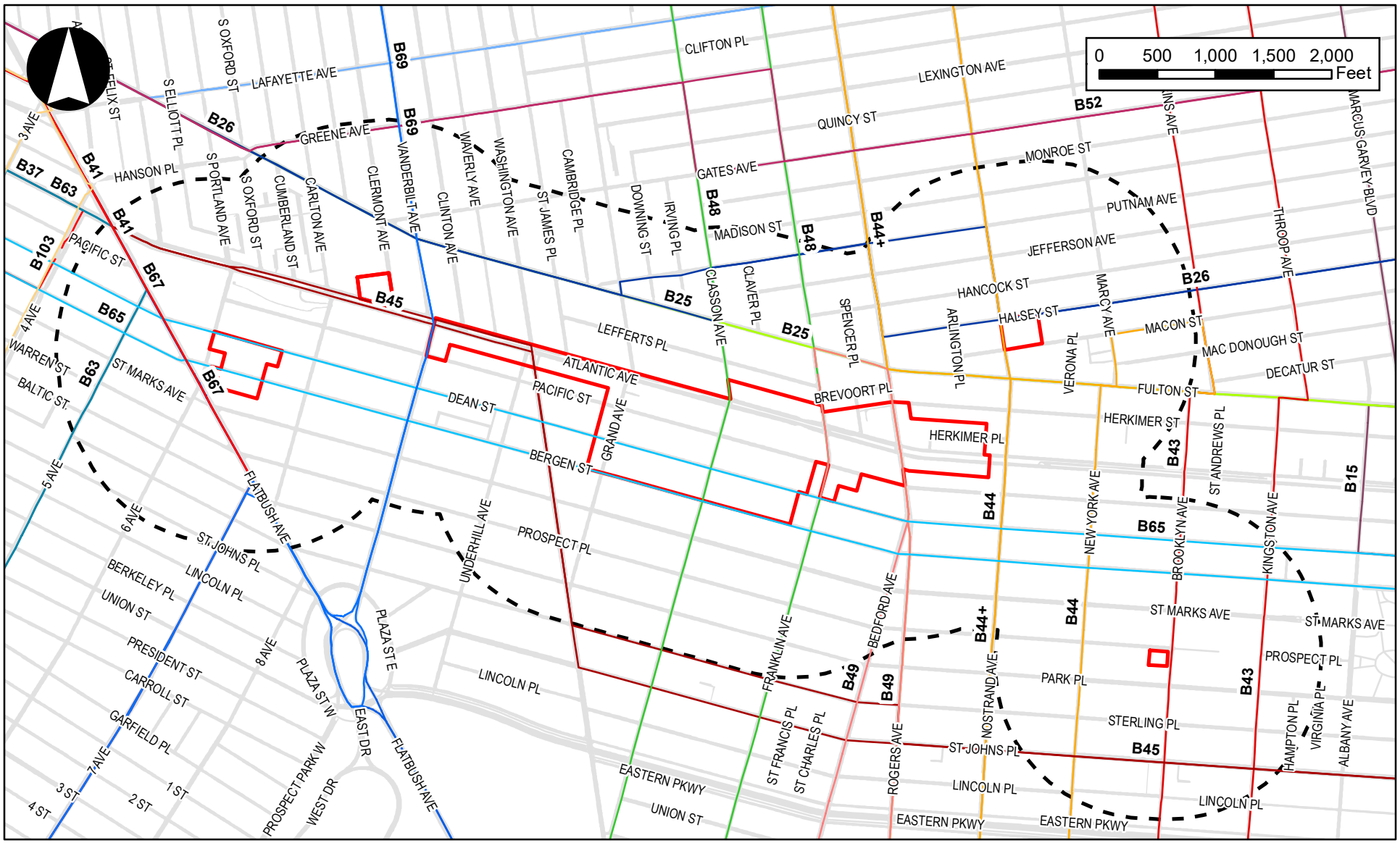
As shown in **Figure 4**, a total of ten NYCT bus services operate within an approximate ¼-mile of the Project Area and would primarily serve the future project-generated bus demand. These include the B25, B26, B41, B45, B48, B49, B65, B67, and B69 as well as both the local and Select Bus Service (SBS) services on the B44 route. These routes and the principal corridors on which they operate in proximity to the Project Area are listed in **Table 7**.

Table 7
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	Fulton Av
B41	NYCT	Kings Plaza – Downtown Brooklyn	Flatbush Av
B44 (Local/SBS)	NYCT	Sheepshead Bay - Williamsburg	Nostrand/New York/Rogers Avs
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

Bus Assignment and Analyzed Routes

As shown in **Table 3**, projected development sites are expected to generate a net total of approximately 477 and 563 incremental trips by bus during the weekday AM and PM peak hours, respectively. These local bus trips were assigned to each route based on proximity to individual projected development sites and current ridership patterns. **Table 8** shows the anticipated numbers of new riders expected on each local bus route in the AM and PM peak hours. According to the general thresholds used by the MTA and specified in the *CEQR Technical Manual*, a detailed analysis of bus conditions is generally not required if a proposed action is projected to result in fewer than 50 peak hour trips being assigned to a single bus route (in one direction), as this level of new demand is considered unlikely to result in significant adverse impacts. As shown in **Table 8**, 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.



Atlantic Avenue Mixed-Use Plan

Figure 4
Bus Services

Table 8
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	10	9	19	17	11	28
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		185	229	248	477	262	301

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

PEDESTRIANS

Based on *CEQR Technical Manual* guidance, detailed pedestrian analyses are generally warranted if a proposed action is projected to result in 200 or more new peak hour pedestrians at any sidewalk, corner area, or crosswalk. As shown in **Table 3**, 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 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. 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 peak hours, pedestrian trips would tend to be more dispersed, as people travel throughout the area for lunch, shopping and/or errands.

Given the relatively large numbers of pedestrian trips that would be generated by the Proposed Actions, a assignment of net increment pedestrian volumes was prepared for each period to help identify potential elements for analysis (a Level 2 screening assessment). The analysis of pedestrian conditions

in the EIS will focus on key pedestrian elements exceeding the 200-trip threshold and representative elements where new trips generated by projected developments are expected to be most concentrated. It is expected that these elements—sidewalks, corner areas and crosswalks—will be primarily located in the vicinity of major projected development sites and along corridors connecting these sites to area subway station entrances and bus routes. The preliminary assignment helps to identify potential pedestrian elements that would exceed the 200-trip threshold and 169 representative pedestrian elements (62 sidewalks, 39 crosswalks, and 68 corners) were selected for a detailed pedestrian analysis as listed below. These locations are also shown in **Figure 5**. These locations were selected based on consultation and coordination with NYCDCP and NYCDOT.

Sidewalks:

1. East Sidewalk along Washington Ave Between Fulton St and Atlantic Ave
2. South Sidewalk along Fulton St Between Washington Ave and St James Pl
3. East Sidewalk along Washington Ave Between Atlantic Ave and Pacific St
4. South Sidewalk along Fulton St Between St James Pl and Grand Ave
5. West Sidewalk along Grand Ave Between Fulton St and Lefferts Pl
6. East Sidewalk along Grand Ave Between Fulton St and Lefferts Pl
7. West Sidewalk along Grand Ave Between Lefferts Pl and Atlantic Ave
8. West Sidewalk along Grand Ave Between Atlantic Ave and Pacific St
9. West Sidewalk along Grand Ave Between Pacific St and Dean St
10. West Sidewalk along Grand Ave Between Dean St and Bergen St
11. East Sidewalk along Grand Ave Between Lefferts Pl and Atlantic Ave
12. East Sidewalk along Grand Ave Between Atlantic Ave and Pacific St
13. East Sidewalk along Grand Ave Between Pacific St and Dean St
14. East Sidewalk along Grand Ave Between Dean St and Bergen St
15. East Sidewalk along Grand Ave Between Bergen St and St Marks Ave
16. North Sidewalk along Atlantic Ave Between Grand Ave and Classon Ave
17. South Sidewalk along Atlantic Ave Between Grand Ave and Classon Ave
18. North Sidewalk along Pacific St Between Grand Ave and Classon Ave
19. South Sidewalk along Pacific St Between Grand Ave and Classon Ave
20. North Sidewalk along Dean St Between Grand Ave and Classon Ave
21. South Sidewalk along Dean St Between Grand Ave and Classon Ave
22. South Sidewalk along Dean St Between Classon Ave and Franklin Ave
23. North Sidewalk along Bergen St Between Grand Ave and Classon Ave
24. South Sidewalk along Fulton St Between Classon Ave and Franklin Ave
25. North Sidewalk along Atlantic Ave Between Classon Ave and Franklin Ave
26. South Sidewalk along Atlantic Ave Between Classon Ave and Franklin Ave
27. North Sidewalk along Pacific St Between Classon Ave and Franklin Ave
28. South Sidewalk along Pacific St Between Classon Ave and Franklin Ave
29. North Sidewalk along Fulton St Between Franklin Ave and Spencer Pl
30. West Sidewalk along Franklin Ave Between Fulton St and Lefferts Pl
31. West Sidewalk along Franklin Ave Between Lefferts Pl and Atlantic Ave
32. West Sidewalk along Franklin Ave Between Atlantic Ave and Pacific St
33. West Sidewalk along Franklin Ave Between Pacific St and Dean St
34. East Sidewalk along Franklin Ave Between Fulton St and Brevoort Pl
35. East Sidewalk along Franklin Ave Between Brevoort Pl and Atlantic Ave
36. East Sidewalk along Franklin Ave Between Atlantic Ave and Pacific St
37. East Sidewalk along Franklin Ave Between Pacific St and Dean St

38. East Sidewalk along Franklin Ave Between Dean St and Bergen St
39. South Sidewalk along Brevoort Pl Between Franklin Ave and Bedford Pl
40. North Sidewalk along Atlantic Ave between Franklin Ave and Bedford Pl
41. North Sidewalk along Atlantic Ave between Bedford Pl and Bedford Ave
42. South Sidewalk along Atlantic Ave between Franklin Ave and Bedford Ave
43. West Sidewalk along Bedford Ave between Fulton St and Brevoort Pl
44. West Sidewalk along Bedford Ave between Brevoort Pl and Atlantic Ave
45. East Sidewalk along Bedford Ave between Fulton St and Herkimer St
46. East Sidewalk along Bedford Ave between Herkimer St and Atlantic Ave
47. North Sidewalk along Atlantic Ave between Bedford Ave and Perry Pl
48. North Sidewalk along Atlantic Ave between Perry Pl and Nostrand Ave
49. South Sidewalk along Atlantic Ave between Bedford Ave and Nostrand Ave
50. South Sidewalk along Pacific St between Washington Ave and Grand Ave
51. West Sidewalk along Classon Ave between Fulton St and Lefferts Pl
52. West Sidewalk along Classon Ave between Lefferts Pl and Atlantic Ave
53. West Sidewalk along Classon Ave between Atlantic Ave and Pacific St
54. West Sidewalk along Classon Ave between Pacific St and Dean St
55. West Sidewalk along Classon Ave between Dean St and Bergen St
56. East Sidewalk along Classon Ave between Fulton St and Lefferts Pl
57. East Sidewalk along Classon Ave between Lefferts Pl and Atlantic Ave
58. East Sidewalk along Classon Ave between Atlantic Ave and Pacific St
59. East Sidewalk along Classon Ave between Pacific St and Dean St
60. East Sidewalk along Classon Ave between Dean St and Bergen St
61. West Sidewalk along Nostrand Ave between Fulton St and Herkimer St
62. West Sidewalk along Nostrand Ave between Herkimer St and Herkimer Pl

Crosswalks:

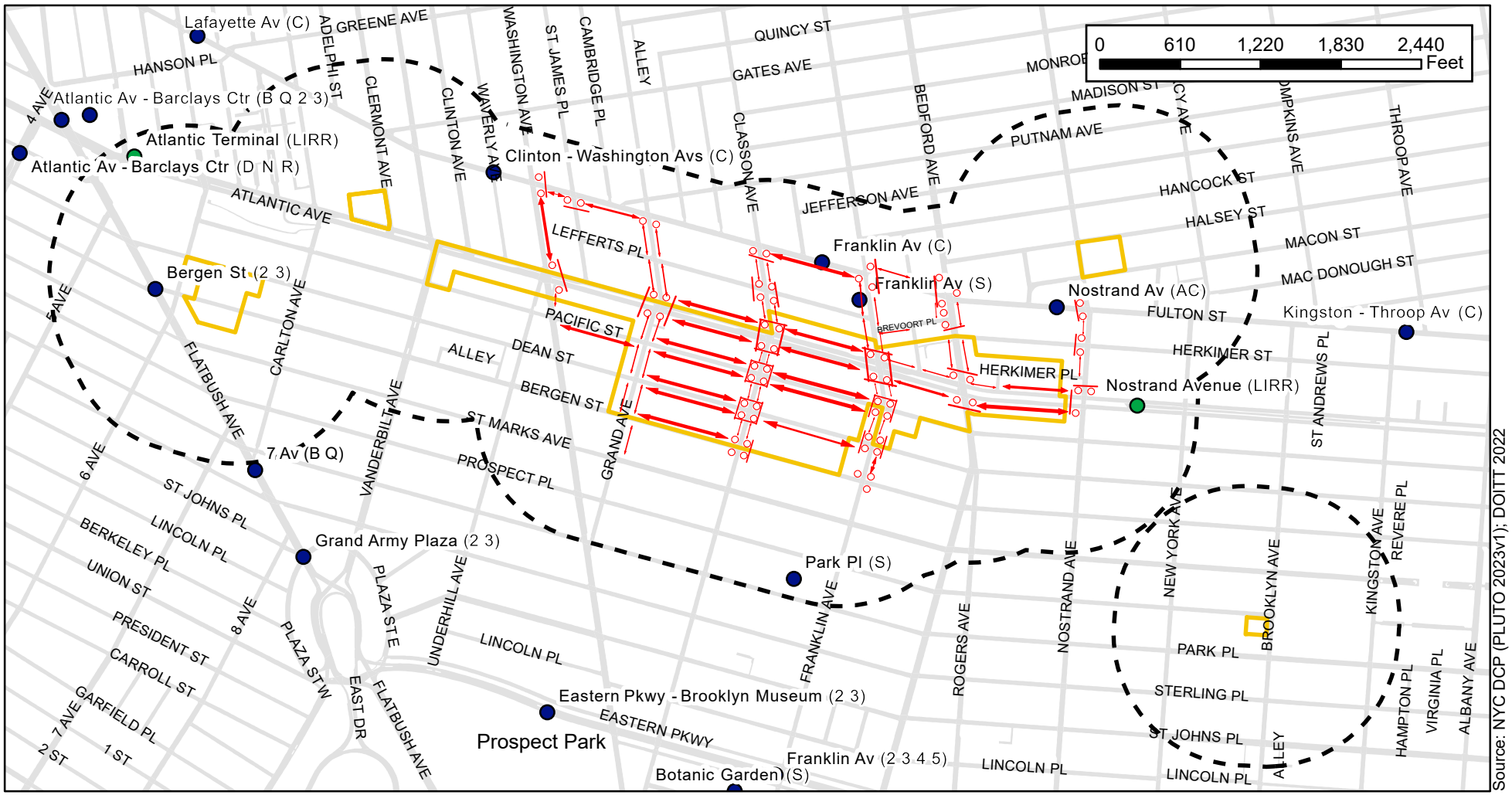
1. East Crosswalk of Washington Ave and Fulton St
2. South Crosswalk of St James Pl and Fulton St
3. South Crosswalk of Classon Ave and Fulton St
4. East Crosswalk of Washington Ave and Atlantic Ave
5. West Crosswalk of Grand Ave and Atlantic Ave
6. East Crosswalk of Grand Ave and Atlantic Ave
7. West Crosswalk of Classon Ave and Lefferts Pl
8. East Crosswalk of Classon Ave and Lefferts Pl
9. North Crosswalk of Classon Ave and Atlantic Ave
10. East Crosswalk of Classon Ave and Atlantic Ave
11. South Crosswalk of Classon Ave and Atlantic Ave
12. West Crosswalk of Classon Ave and Atlantic Ave
13. North Crosswalk of Classon Ave and Pacific St
14. East Crosswalk of Classon Ave and Pacific St
15. South Crosswalk of Classon Ave and Pacific St
16. West Crosswalk of Classon Ave and Pacific St
17. North Crosswalk of Classon Ave and Dean St
18. East Crosswalk of Classon Ave and Dean St
19. South Crosswalk of Classon Ave and Dean St
20. West Crosswalk of Classon Ave and Dean St
21. East Crosswalk of Classon Ave and Bergen St

22. East Crosswalk of Franklin Ave and Fulton St
23. North Crosswalk of Franklin Ave and Atlantic Ave
24. East Crosswalk of Franklin Ave and Atlantic Ave
25. South Crosswalk of Franklin Ave and Atlantic Ave
26. West Crosswalk of Franklin Ave and Atlantic Ave
27. North Crosswalk of Franklin Ave and Pacific St
28. East Crosswalk of Franklin Ave and Pacific St
29. West Crosswalk of Franklin Ave and Pacific St
30. East Crosswalk of Franklin Ave and Dean St
31. West Crosswalk of Franklin Ave and Dean St
32. West Crosswalk of Bedford Ave and Fulton St
33. South Crosswalk of Bedford Ave and Brevoort Pl
34. North Crosswalk of Bedford Ave and Atlantic Ave
35. South Crosswalk of Bedford Ave and Atlantic Ave
36. West Crosswalk of Nostrand Ave and Fulton St
37. West Crosswalk of Nostrand Ave and Herkimer St
38. North Crosswalk of Nostrand Ave and Atlantic Ave
39. West Crosswalk of Nostrand Ave and Atlantic Ave

Street Corners:

1. NE corner of Washington Ave and Fulton St
2. SE corner of Washington Ave and Fulton St
3. NE corner of Washington Ave and Atlantic Ave
4. SE corner of Washington Ave and Atlantic Ave
5. SW corner of St James Pl and Fulton St
6. SE corner of St James Pl and Fulton St
7. SW corner of Grand Ave and Fulton St
8. SE corner of Grand Ave and Fulton St
9. NE corner of Grand Ave and Atlantic Ave
10. NW corner of Grand Ave and Atlantic Ave
11. SE corner of Grand Ave and Atlantic Ave
12. SW corner of Grand Ave and Atlantic Ave
13. SW corner of Classon Ave and Fulton St
14. SE corner of Classon Ave and Fulton St
15. NW corner of Classon Ave and Lefferts Pl
16. NE corner of Classon Ave and Lefferts Pl
17. SW corner of Classon Ave and Lefferts Pl
18. SE corner of Classon Ave and Lefferts Pl
19. NW corner of Classon Ave and Atlantic Ave
20. NE corner of Classon Ave and Atlantic Ave
21. SW corner of Classon Ave and Atlantic Ave
22. SE corner of Classon Ave and Atlantic Ave
23. NW corner of Classon Ave and Pacific St
24. NE corner of Classon Ave and Pacific St
25. SW corner of Classon Ave and Pacific St
26. SE corner of Classon Ave and Pacific St
27. NW corner of Classon Ave and Dean St
28. NE corner of Classon Ave and Dean St

29. SW corner of Classon Ave and Dean St
30. SE corner of Classon Ave and Dean St
31. NW corner of Classon Ave and Bergen St
32. NE corner of Classon Ave and Bergen St
33. SW corner of Classon Ave and Bergen St
34. SE corner of Classon Ave and Bergen St
35. NE corner of Franklin Ave and Fulton St
36. SE corner of Franklin Ave and Fulton St
37. SW corner of Franklin Ave and Fulton St
38. NW corner of Franklin Ave and Atlantic Ave
39. NE corner of Franklin Ave and Atlantic Ave
40. SW corner of Franklin Ave and Atlantic Ave
41. SE corner of Franklin Ave and Atlantic Ave
42. NW corner of Franklin Ave and Pacific St
43. NE corner of Franklin Ave and Pacific St
44. SW corner of Franklin Ave and Pacific St
45. SE corner of Franklin Ave and Pacific St
46. NW corner of Franklin Ave and Dean St
47. NE corner of Franklin Ave and Dean St
48. SW corner of Franklin Ave and Dean St
49. SE corner of Franklin Ave and Dean St
50. NW corner of Franklin Ave and Bergen St
51. NE corner of Franklin Ave and Bergen St
52. SE corner of Franklin Ave and Bergen St
53. NW corner of Bedford Ave and Fulton St
54. NE corner of Bedford Ave and Fulton St
55. SW corner of Bedford Ave and Fulton St
56. NW corner of Bedford Ave and Brevoort Pl
57. SW corner of Bedford Ave and Brevoort Pl
58. NW corner of Bedford Ave and Atlantic Ave
59. NE corner of Bedford Ave and Atlantic Ave
60. SW corner of Bedford Ave and Atlantic Ave
61. SE corner of Bedford Ave and Atlantic Ave
62. NW corner of Nostrand Ave and Fulton St
63. SW corner of Nostrand Ave and Fulton St
64. NW corner of Nostrand Ave and Herkimer St
65. SW corner of Nostrand Ave and Herkimer St
66. NW corner of Nostrand Ave and Atlantic Ave
67. NE corner of Nostrand Ave and Atlantic Ave
68. SW corner of Nostrand Ave and Atlantic Ave



Legend

- Primary Study Area
- Secondary Study Area (Quarter-Mile Radius)
- Subway Stops
- LIRR Stations
- Sidewalk
- Crosswalk
- Street Corners

PARKING

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

VEHICULAR AND PEDESTRIAN SAFETY

Under *CEQR Technical Manual* guidance, an evaluation of vehicular and pedestrian safety is needed for locations within traffic and pedestrian study areas that have been identified as high crash locations These are defined as locations along a Vision Zero priority intersection or locations where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. In addition, any location along a Vision Zero priority corridor with three or more pedestrian/bicyclist injury crashes in any consecutive 12 months of the most recent three-year period for which data is available should be identified as a high crash location. For these locations, crash trends will 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.

Vision Zero Brooklyn Pedestrian Safety Action Plan

Consistent with the city's Vision Zero initiative, the *Vision Zero Brooklyn Pedestrian Safety Action Plan* was released in 2015 and updated in 2019. The plan identifies a series of engineering/planning, enforcement, and education/awareness campaign strategies to enhance pedestrian safety along the borough's Priority Corridors and Priority Intersections. These strategies include measures such as reducing the speed limit to 25 miles per hour, expanding exclusive pedestrian crossing time, installing additional lighting around key transit stops, expanding the bicycle network, prioritizing targeted enforcement and deploying speed cameras, and targeting intensive street-level outreach. Within a ¼-mile of the Project Area, 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.

Crash Data

Table 9 shows the crash data summary for the three-year reporting period between January 1, 2017 and December 31, 2019 that were obtained from NYCDOT. This is the most recent three-year period for which data are available. The data obtained quantify the total number of reportable crashes (crashes involving a fatality, injury, or more than $1,000 in property damage), as well as a yearly breakdown of fatalities, injuries, and vehicular crashes involving pedestrians and bicycles at each location. **Table 9** summarizes the crash data for each intersection within the quarter-mile study area during the study period, including a breakdown of pedestrian and bicycle crashes by year.

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. As shown in **Table 9**, 24 intersections along Priority Corridors were found to have

experienced a total of three or more pedestrian/bicyclist injury crashes in any one year during the three-year period and were therefore identified as high crash locations. As shown in **Table 9**, the five additional locations were identified as they have experienced a total of five or more pedestrian/bicyclist injury crashes in any one year during the three-year period and not along Priority Corridors. For selected locations that coincide with traffic and pedestrian analysis intersections, crash trends will 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 selected analysis locations will be based on consultation with NYCDCP and NYCDOT.

Table 9
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	4	1	0	**8**	2	0	11	19	16
	6 AVENUE / S PORTLAND AVE	2	0	1	2	0	1	4	0	2	5	11	12
	CUMBERLAND STREET	0	0	0	0	0	0	0	0	0	1	3	2
	CARLTON AVENUE	1	2	0	1	2	0	2	4	0	7	11	9
	CLERMONT AVENUE	0	2	2	0	2	2	0	4	4	7	16	9
	VANDERBILT AVENUE	2	2	1	2	2	1	4	4	2	12	28	28
	CLINTON AVENUE	0	0	0	0	0	0	0	0	0	4	13	5
	WAVERLY AVENUE	0	0	0	0	0	0	0	0	0	1	1	1
	ST JAMES PLACE	0	0	0	0	0	0	0	0	0	1	3	8
	CLASSON AVENUE	1	0	0	1	0	0	2	0	0	5	13	8
	FRANKLIN AVENUE	3	1	0	3	1	0	**6**	2	0	13	14	16
	BEDFORD PLACE	0	0	0	0	0	0	0	0	0	1	1	0
	BEDFORD AVENUE	4	3	1	4	3	1	**8**	**6**	2	17	19	26
	PERRY PLACE	0	0	0	0	0	0	0	0	0	1	3	1
	NOSTRAND AVENUE	7	3	8	7	3	8	**14**	**6**	**16**	21	24	26
	NEW YORK AVENUE	2	0	1	2	0	1	4	0	2	13	17	17
	GRAND AVENUE	0	1	1	0	1	1	0	2	2	11	5	11
	SOUTH OXFORD STREET	0	0	0	0	0	0	0	0	0	3	2	3
	WASHINGTON AVENUE / UNDERHILL AVE	4	2	1	4	2	1	**8**	4	2	19	18	27
FULTON STREET	GATES AVENUE	0	0	0	0	0	0	0	0	0	3	2	6
	VANDERBILT AVENUE	2	1	1	2	1	1	4	2	2	7	6	9
	CLINTON AVENUE	0	0	1	0	0	1	0	0	2	3	3	5
	WAVERLY AVENUE	0	0	2	0	0	2	0	0	4	1	1	6
	CAMBRIDGE PLACE	0	1	0	0	1	0	0	2	0	2	4	3
	GRAND AVENUE	0	2	2	0	2	2	0	4	4	1	4	3
	WASHINGTON AVENUE	2	3	1	2	3	1	4	**6**	2	4	8	7
	ST JAMES PLACE	0	1	2	0	1	2	0	2	4	0	4	5
	DOWNING STREET	0	0	0	0	0	0	0	0	0	1	1	1
	IRVING PLACE	0	0	0	0	0	0	0	0	0	0	3	1
	CLASSON AVENUE	1	1	1	1	1	1	2	2	2	6	12	3
	CLAVER PLACE	0	0	0	0	0	0	0	0	0	1	6	3
	FRANKLIN AVENUE	1	3	5	1	3	5	2	**6**	**10**	6	15	11
	SPENCER PLACE	0	3	0	0	3	0	0	**6**	0	2	4	4
	BEDFORD AVENUE	2	0	0	2	0	0	4	0	0	8	7	10
	NOSTRAND AVENUE	3	2	5	3	2	5	**6**	4	**10**	10	12	20
	VERONA PLACE	2	1	0	2	1	0	4	2	0	5	4	2
	ARLINGTON PLACE	1	0	0	1	0	0	2	0	0	1	3	2
GATES AVENUE	VANDERBILT AVENUE	0	0	0	0	0	0	0	0	0	2	2	3
	CLINTON AVENUE	1	0	0	1	0	0	2	0	0	3	0	5
	WAVERLY AVENUE	0	0	0	0	0	0	0	0	0	0	1	2
LEFFERTS PLACE	ST JAMES PLACE	0	1	1	0	1	1	0	2	2	1	2	1
	GRAND AVENUE	0	0	0	0	0	0	0	0	0	1	0	2
PUTNAM AVENUE	GRAND AVENUE	0	0	0	0	0	0	0	0	0	1	0	1
	DOWNING STREET	0	0	0	0	0	0	0	0	0	1	1	2
	IRVING PLACE	0	0	0	0	0	0	0	0	0	1	1	1
	CLASSON AVENUE	0	0	0	0	0	0	0	0	0	1	6	3
JEFFERSON AVENUE	CLAVER PLACE	0	0	0	0	0	0	0	0	0	0	0	1
	FRANKLIN AVENUE	0	1	0	0	1	0	0	2	0	1	3	2
HANCOCK STREET	FRANKLIN AVENUE	2	2	0	2	2	0	4	4	0	6	5	1
	SPENCER PLACE	1	0	0	1	0	0	2	0	0	1	0	0
	BEDFORD AVENUE	1	0	1	1	0	1	2	0	2	2	4	4
HALSEY STREET	BEDFORD AVENUE	0	0	1	0	0	1	0	0	2	2	8	2
	NOSTRAND AVENUE	3	0	2	3	0	2	**6**	0	4	10	10	8
MACON STREET	ARLINGTON PLACE	0	0	0	0	0	0	0	0	0	0	0	1
	NOSTRAND AVENUE	0	3	1	0	3	1	0	**6**	2	5	6	7

Table 9 (cont'd)
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
6 AVENUE	STERLING PLACE	1	0	1	1	0	1	2	0	2	1	0	1
	PARK PLACE	0	0	0	0	0	0	0	0	0	2	2	2
	PROSPECT PLACE	1	0	0	1	0	0	2	0	0	1	2	1
	FLATBUSH AVENUE	3	1	0	3	1	0	**6**	2	0	6	9	10
	BERGEN STREET	0	0	1	0	0	1	0	0	2	2	7	9
	DEAN STREET	1	1	3	1	1	3	2	2	**6**	3	3	8
	PACIFIC STREET	0	0	0	0	0	0	0	0	0	0	2	0
	ST MARKS AVENUE	0	0	1	0	0	1	0	0	2	0	1	2
5 AVENUE	PROSPECT PLACE	1	0	0	1	0	0	2	0	0	2	1	4
	ST MARKS AVENUE / ST MARKS PLACE	1	0	1	1	0	1	2	0	2	2	0	2
	BERGEN STREET	1	1	1	1	1	1	2	2	2	3	6	4
	DEAN STREET	2	0	0	2	0	0	4	0	0	2	2	3
	FLATBUSH Avenue	0	0	2	0	0	2	0	0	4	2	7	6
FLATBUSH AVENUE	PACIFIC STREET	0	0	0	0	0	0	0	0	0	2	5	2
	ST MARKS AVENUE	0	0	0	0	0	0	0	0	0	6	6	5
	PROSPECT PLACE	0	0	0	0	0	0	0	0	0	3	5	4
	CARLTON AVENUE / PARK PLACE	2	0	0	2	0	0	4	0	0	9	12	8
	BERGEN STREET	0	1	1	0	1	1	0	2	2	6	9	9
7 AVENUE	PARK PLACE	0	0	1	0	0	1	0	0	2	1	1	3
	FLATBUSH AVENUE	0	0	0	0	0	0	0	0	0	4	5	2
PROSPECT PLACE	CARLTON AVENUE	0	0	2	0	0	2	0	0	4	0	1	4
	UNDERHILL AVENUE	0	0	0	0	0	0	0	0	0	2	1	2
	WASHINGTON AVENUE	1	2	4	1	2	4	2	4	**8**	3	2	7
	GRAND AVENUE	0	0	0	0	0	0	0	0	0	0	3	1
	FRANKLIN AVENUE	0	0	0	0	0	0	0	0	0	0	1	4
	CLASSON AVENUE	0	0	1	0	0	1	0	0	2	0	6	5
ST MARKS AVENUE	CARLTON AVENUE	1	0	0	1	0	0	2	0	0	2	0	0
	VANDERBILT AVENUE	4	0	0	4	0	0	**8**	0	0	5	3	7
BERGEN STREET	CARLTON AVENUE	0	0	0	0	0	0	0	0	0	0	0	1
	VANDERBILT AVENUE	2	0	2	2	0	2	4	0	4	6	4	7
	UNDERHILL AVENUE	0	0	1	0	0	1	0	0	2	1	2	2
	WASHINGTON AVENUE	0	2	1	0	2	1	0	4	2	1	2	5
	GRAND AVENUE	0	1	0	0	1	0	0	2	0	1	2	1
	CLASSON AVENUE	0	0	1	0	0	1	0	0	2	1	1	4
	FRANKLIN AVENUE	1	0	0	1	0	0	2	0	0	1	3	3
	BEDFORD AVENUE	0	0	0	0	0	0	0	0	0	4	1	3
	ROGERS AVENUE	0	0	1	0	0	1	0	0	2	5	3	8
	NOSTRAND AVENUE	0	0	2	0	0	2	0	0	4	1	4	7
DEAN STREET	CARLTON AVENUE	0	0	0	0	0	0	0	0	0	0	2	0
	UNDERHILL AVENUE	0	0	0	0	0	0	0	0	0	4	1	3
	VANDERBILT AVENUE	2	0	1	2	0	1	4	0	2	3	1	6
	WASHINGTON AVENUE	0	1	0	0	1	0	0	2	0	0	7	3
	GRAND AVENUE	0	1	0	0	1	0	0	2	0	1	3	1
	CLASSON AVENUE	0	1	1	0	1	1	0	2	2	1	4	7
	FRANKLIN AVENUE	0	1	0	0	1	0	0	2	0	0	6	3
	BEDFORD AVENUE / ROGERS AVENUE	1	1	1	1	1	1	2	2	2	6	7	9
	NOSTRAND AVENUE	2	0	1	2	0	1	4	0	2	6	1	8
	NEW YORK AVENUE	1	0	1	1	0	1	2	0	2	4	2	5
PACIFIC STREET	CARLTON AVENUE	0	0	0	0	0	0	0	0	0	1	2	0
	VANDERBILT AVENUE	0	1	0	0	1	0	0	2	0	3	1	5
	GRAND AVENUE	0	0	1	0	0	1	0	0	2	1	2	1
	UNDERHILL AVENUE	0	0	0	0	0	0	0	0	0	0	1	3
	WASHINGTON AVENUE	1	0	0	1	0	0	2	0	0	2	2	0
	CLASSON AVENUE	0	1	0	0	1	0	0	2	0	0	2	2
	FRANKLIN AVENUE	0	0	0	0	0	0	0	0	0	1	3	3
	BEDFORD AVENUE	0	1	0	0	1	0	0	2	0	1	5	4
	NOSTRAND AVENUE	1	0	0	1	0	0	2	0	0	1	4	5
	NEW YORK AVENUE	1	0	1	1	0	1	2	0	2	1	2	4

Table 9 (cont'd)
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
ST MARKS AVENUE	UNDERHILL AVENUE	1	0	0	1	0	0	2	0	0	2	0	1
	WASHINGTON AVENUE	0	0	0	0	0	0	0	0	0	1	1	4
	GRAND AVENUE	0	0	0	0	0	0	0	0	0	0	1	2
	FRANKLIN AVENUE	1	2	1	1	2	1	2	4	2	2	3	2
	BEDFORD AVENUE	1	0	0	1	0	0	2	0	0	2	1	3
	ROGERS AVENUE	0	0	1	0	0	1	0	0	2	3	5	3
CLASSON AVENUE	PARK PLACE	1	0	3	1	0	3	2	0	**6**	2	2	5
	LEFFERTS PLACE	0	1	1	0	1	1	0	2	2	1	5	2
FRANKLIN AVENUE	PARK PLACE	0	0	0	0	0	0	0	0	0	2	2	3
	LEFFERTS PLACE	0	0	0	0	0	0	0	0	0	1	2	1
	BREVOORT PLACE	0	0	0	0	0	0	0	0	0	1	1	1
BEDFORD PLACE	BREVOORT PLACE	0	0	0	0	0	0	0	0	0	0	1	0
	HERKIMER STREET	0	0	0	0	0	0	0	0	0	1	10	3
	BREVOORT PLACE	0	0	0	0	0	0	0	0	0	2	4	3
HERKIMER PL	NOSTRAND AVENUE	0	0	0	0	0	0	0	0	0	0	9	5
HERKIMER STREET	NOSTRAND AVENUE	1	2	0	1	2	0	2	4	0	4	10	5
	NEW YORK AVENUE	0	0	0	0	0	0	0	0	0	4	3	6

Notes:
Shading denotes intersection with 5+ crashes or high priority corridor intersection with 3+ crashes
Intersections of Fulton St & Putnam Ave, Halsey St & Arlington Pl, and Macon St & Verona Pl have 0 crashes in 2017-2019.