A. INTRODUCTION

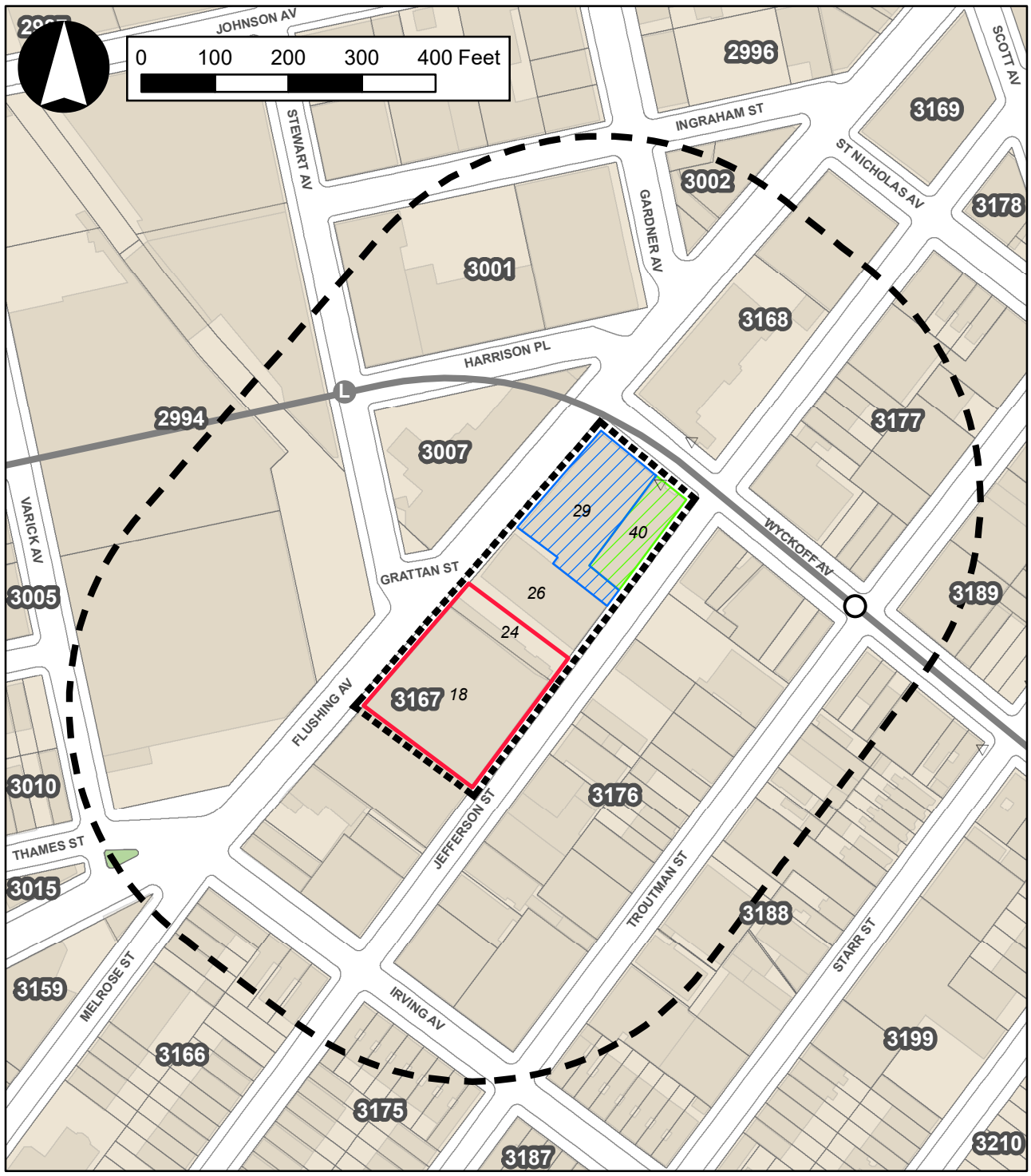
This chapter describes the transportation characteristics and potential impacts associated with the Proposed Action. The Proposed Action is a zoning map amendment to rezone an existing M1-1 district to M1-5 to facilitate the construction of a new, mixed-use development comprising approximately 238,104 gross square feet (gsf) in total (the "Proposed Project"). As shown in **Figure 4-1**, the "Proposed Rezoning Area" or "Project Area" encompasses Block 3167, Lots 12 (p/o), 18, 24, 26, 29 and 40 in the Bushwick neighborhood of Brooklyn Community District (CD) 4. Block 3167 is bordered by Flushing Avenue to the west, Wyckoff Avenue to the north, Jefferson Street to the east, and Irving Avenue to the south. Lots 18 and 24 are owned and controlled by the Applicant and comprise "Projected Development Site 1."

In order to assess the potential effects of the Proposed Action, a RWCDS for both "future without the proposed action" (No-Action) and "future with the proposed action" (With-Action) conditions is analyzed for an analysis year of 2027 (refer to **Table 4-1**). As per the RWCDS, the No-Action scenario assumes that the currently existing M1-1 zoning would remain and that the Proposed Project would not be constructed. While no new construction is assumed for Projected Development Site 1 (Lots 18 and 24), the currently vacant, approximately 31,907 sf building on these lots is assumed to be converted and re-occupied with commercial retail uses in the No-Action condition. It is also assumed that the existing 20,475 gsf of retail space on Projected Development Site 2 (Lot 29) would remain, and that the existing 7,613 gsf of light industrial space on Projected Development Site 3 (Lot 40) would remain.

As outlined in **Chapter 1, "Project Description,"** for analysis purposes, the With-Action RWCDS for Projected Development Site 1 assumes the development of approximately 121,786 gsf of office uses, 75,586 gsf of local retail uses, 40,732 gsf of light industrial uses and 59,973 gsf of community facility uses. (The travel demand forecast discussed below conservatively assumes medical office uses for the community facility space.) It should be noted that the proposed retail spaces located on the ground floor and cellar would accommodate multiple retail tenants and would be accessed from the building's pedestrian alley, Flushing Avenue, and Jefferson Street frontages. Additionally, within the nine-story building, each of the retail spaces would provide internal connections via the commercial lobby. In addition, it is assumed that Projected Development Sites 2 and 3 would each be redeveloped in the future with the Proposed Action. It is anticipated that Projected Development Site 2 (Lot 29) would be redeveloped with a commercial office building with approximately 79,821 gsf of office space and 16,730 gsf of retail space, and that Projected Development Site 3 (Lot 40) would be redeveloped with a commercial office building with approximately 32,547 gsf of office space and 6,250 gsf of retail space. As a result, the total With-Action development scenario for the three development sites would include approximately 234,154 gsf of commercial office uses, 98,566 gsf of retail uses, 40,732 gsf of light industrial uses, and 59,973 gsf of community facility (medical office) uses.

Table 4-1 shows the total anticipated No-Action and With-Action land uses assumed under the RWCDS for each of the three projected development sites for the purposes of the transportation analyses, and the net incremental change that would result from the Proposed Action. As shown in **Table 4-1**, under the Proposed Action's RWCDS there would be a net incremental increase of 234,154 gsf of office uses, 46,184

Project Site Location



Legend

- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- Project Area
- 400-ft Radius
- Open Space
- L-Line
- Jefferson Street Subway Station (L)
- Subway Station Entrance
- 3167 Block
- 18 Lot

gsf of retail uses, 33,119 gsf of light industrial uses and 59,973 gsf of community facility (medical office) uses.

TABLE 4-1
2027 RWCDS No-Action and With-Action Land Uses

Projected Development Site	No-Action Condition	With-Action Condition	Net Increment
Office			
Projected Development Site 1 (Lots 18 and 24)	0 gsf	121,786 gsf	121,786 gsf
Projected Development Site 2 (Lots 29)	0 gsf	79,821 gsf	79,821 gsf
Projected Development Site 3 (Lot 40)	0 gsf	32,547 gsf	32,547 gsf
Total Office	***0 gsf***	***234,154 gsf***	***234,154 gsf***
Local Retail			
Projected Development Site 1 (Lots 18 and 24)	31,907 gsf	75,586 gsf	43,679 gsf
Projected Development Site 2 (Lots 29)	20,475 gsf	16,730 gsf	(3,745 gsf)
Projected Development Site 3 (Lot 40)	0 gsf	6,250 gsf	6,250 gsf
Total Local Retail	***52,382 gsf***	***98,566 gsf***	***46,184 gsf***
Light Industrial			
Projected Development Site 1 (Lots 18 and 24)	0 gsf	40,732 gsf	40,732 gsf
Projected Development Site 2 (Lots 29)	0 gsf	0 gsf	0 gsf
Projected Development Site 3 (Lot 40)	7,613 gsf	0 gsf	(7,613 gsf)
Total Light Industrial	***7,613 gsf***	***40,732 gsf***	***33,119 gsf***
Medical Office			
Projected Development Site 1 (Lots 18 and 24)	0 gsf	59,973 gsf	59,973 gsf
Projected Development Site 2 (Lots 29)	0 gsf	0 gsf	0 gsf
Projected Development Site 3 (Lot 40)	0 gsf	0 gsf	0 gsf
Total Medical Office	***0 gsf***	***59,973 gsf***	***59,973 gsf***
Total Development	***59,995 gsf***	***433,425 gsf***	***373,430 gsf***

This chapter describes the existing transportation conditions in proximity to the Project Area. Future conditions in the year 2027 without the Proposed Action (the No-Action condition) are then determined, including additional transportation-system demand and any changes expected by 2027. The increase in travel demand resulting from the Proposed Action is then projected and added to the No-Action condition to develop the 2027 future with the Proposed Action (the With-Action condition). Significant adverse impacts from action-generated trips are then identified and described in detail.

B. PRINCIPAL CONCLUSIONS

Traffic

Traffic conditions were evaluated for the weekday AM (7:30-8:30 AM), midday (1:00-2:00 PM) and PM (4:00-5:00 PM) peak hours, and Saturday (2:00-3:00 PM) peak hours at 10 intersections (seven signalized and three unsignalized[1]) in the traffic study area where additional traffic resulting from the Proposed Action would exceed the 50-trips/hour *City Environmental Quality Review* (CEQR) *Technical Manual* analysis threshold. As summarized in **Table 4-2** and **Table 4-3**, the traffic impact analysis indicates the potential for significant adverse impacts at seven intersections (six signalized and one unsignalized) during one or more analyzed peak hours. Significant adverse impacts were identified at 10 lane groups at six intersections in the weekday AM peak hour, eight lane groups at five intersections in the midday, 19 lane groups at seven intersections in the PM, and four lane groups at three intersections in the Saturday peak hour. **Chapter 9, "Mitigation,"** discusses potential measures to mitigate these significant traffic impacts.

TABLE 4-2
Number of Impacted Intersections and Lane Groups by Peak Hour

	Peak Hour			
	Weekday AM	**Weekday Midday**	**Weekday PM**	**Saturday**
Impacted Lane Groups	10	8	19	4
Impacted Intersections	6	5	7	3

TABLE 4-3
Summary of Significantly Impacted Intersections

Intersection		Peak Hour			
Location	**Control**	**Weekday AM**	**Weekday Midday**	**Weekday PM**	**Saturday**
Flushing Ave (EB/WB) & Wyckoff Ave (NB/SB)	Signalized	X	X	X	X
Flushing Ave (EB/WB) & Melrose St (EB/WB) & Irving Ave (SB) & Thames St (EB/WB) & Varick Ave (SB)	Signalized	X	X	X	X
Flushing Ave (EB/WB) & Knickerbocker Ave (NB/SB)	Signalized	X	X	X	---
Flushing Ave (EB/WB) & Morgan Ave (NB/SB) & Wilson Ave (NB/SB)	Signalized	X	X	X	---
Troutman St (WB) & Irving Ave (SB)	Signalized	---	---	X	---
Troutman St (WB) & Knickerbocker Ave (NB)	Signalized	X	---	X	---
Jefferson Ave (EB) & Irving Avenue (SB)	Unsignalized	X	X	X	X
Total		6	5	7	3

[1] The intersection of Flushing Avenue and Stewart Avenue is currently unsignalized, but a signal is proposed at this intersection as part of the Proposed Project. Therefore, it was analyzed as unsignalized under Existing and No-Action conditions, and as signalized under With-Action conditions.

Transit

Subway

SUBWAY STATIONS

The Proposed Action would generate a net increment of approximately 255 and 237 new subway trips during the weekday AM and PM commuter peak hours. The analysis of subway station conditions focuses on New York City Transit's Jefferson Street (L) station as incremental demand from the Proposed Action would exceed the 200-trips/hour *CEQR Technical Manual* analysis threshold at this station in the weekday AM and PM peak hours. In the future with the Proposed Action, those stairs and fare arrays that would be used by project-generated demand are expected to operate at an acceptable level of service (LOS) B or better in both the AM and PM peak hours and would therefore not be significantly adversely impacted by the Proposed Action based on *CEQR Technical Manual* criteria.

SUBWAY LINE HAUL

The vicinity of the Project Area is primarily served by one NYCT subway route – L trains operating on the Canarsie Line. The peak direction of travel along the L train route is typically Manhattan-bound (northbound) in the AM and Brooklyn-bound (southbound) in the PM. The Proposed Action would generate a net increment of approximately 69 Manhattan-bound trips along the L subway route during the weekday AM peak hour, and approximately 71 Brooklyn-bound trips during the weekday PM peak hour. However, as the Proposed Action would generate more than 200 incremental subway trips along the L route during the AM and PM peak hours (i.e., 255 total trips during the weekday AM peak hour and 237 total trips during the PM peak hour), further line haul analyses were conducted.

Line haul conditions on the L train are assessed at the maximum load point in the peak direction in the AM and PM commuter peak period. In the future with the Proposed Actions, peak direction L trains are expected to operate slightly over capacity at the analyzed maximum load point in the weekday AM and PM peak hours. During the AM peak hour, the northbound L trains would be operating over capacity with a volume-to-capacity (v/c) ratio of 1.07 (same as under No-Action condition) leaving 1st Avenue. Similarly, during the PM peak hour, southbound L trains are expected to continue to operate slightly over capacity with a v/c ratio of 1.05 (same as under No-Action conditions) leaving 14th Street – Union Square. However, incremental demand due to the Proposed Actions would only amount to an average of 0.32 and 0.38 additional passengers per car in the weekday AM and PM peak hours, respectively. As no peak direction L trains operating at or over capacity would experience an average increase of five or more additional passengers per car at the maximum load point in the weekday AM and PM peak hours as a result of the Proposed Actions, L train service would not be considered significantly adversely impacted under *CEQR Technical Manual* impact criteria.

Bus

Four New York City Transit local bus routes—the B38, B38 LTD, B57 and B60—operate within ¼-mile of the Project Area. It is estimated that the Proposed Action would generate a net total of approximately 139 and 128 incremental bus trips on these routes during the weekday AM and PM peak hours, respectively. As the number of incremental trips in one direction on any one of these routes would not exceed the 50-trip *CEQR Technical Manual* analysis threshold, the Proposed Action is not expected to result in significant adverse impacts to local bus service.

Pedestrians

The Proposed Action and associated RWCDS is expected to generate approximately 714 incremental walk-only trips in the weekday AM peak hour, 1,290 in the weekday midday peak hour, 1,108 in the weekday PM peak hour, and 1,511 in the Saturday peak hour. Persons walking to and from nearby parking facilities, subway station entrances and bus stops would add approximately 719, 447, 708, and 530 incremental pedestrian trips to sidewalks and crosswalks in the vicinity of the Project Area during the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. Pedestrian conditions were evaluated during the weekday AM (7:00-8:00 AM), midday (12:45-1:45 PM), PM (4:00-5:00 PM), and Saturday (1:15-2:15 PM) peak hours at a total of 14 pedestrian elements (five sidewalks, four crosswalks and five corner areas) where new trips generated by the Proposed Action are expected to exceed the 200-trip/hour *CEQR Technical Manual* analysis threshold. These elements are primarily located along Flushing Avenue in the immediate proximity of the Project Area. In the Future with the Proposed Action, all analyzed sidewalks and corners would continue to operate at an acceptable LOS C or better during each analyzed peak hour; however, one analyzed crosswalk would be considered significantly adversely impacted in one or more peak hour as a result of the Proposed Action. Potential measures to mitigate these crosswalk impacts are discussed in **Chapter 9, "Mitigation."**

Street User Safety

Under *CEQR Technical Manual* guidance, an evaluation of vehicular and pedestrian safety is needed for locations within the traffic and pedestrian study areas that have been identified as high crash locations. These are defined as a Vision Zero priority intersection or 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 3-year period for which data is available should be identified as a high crash location.[2] The *Vision Zero Brooklyn Pedestrian Safety Action Plan*, released in 2015 and updated in 2019, identified Flushing Avenue, to the north of the Project Area, as a Priority Corridor.

Crash data for intersections in the traffic and pedestrian study areas were obtained from the New York City Department of Transportation for the three-year reporting period between January 1, 2017, and December 31, 2019 (the most recent period for which data were available for all locations). The data quantify the total number of crashes as well as the total number of crashes involving injuries to pedestrians or bicyclists. During the three-year reporting period, a total of 339 crashes and 40 pedestrian/bicyclist-related injury crashes occurred at analyzed study area intersections. None of these crashes involved fatalities. Based on these criteria, the analyzed intersection of Flushing Avenue and Knickerbocker Avenue was classified as a high crash location.

Parking

The parking analysis documents changes in parking supply and utilization within a study area extending ½-mile from the Project Area. Within this study area there are a total of two off-street public parking garages. Under the Proposed Action, no existing on-street or off-street public parking would be displaced, and it is anticipated that no accessory parking would be provided on the Projected Development Site 1.

[2] Vision Zero seeks to eliminate all deaths from traffic crashes regardless of whether on foot, bicycle, or inside of a motor vehicle. Vision Zero corridors and intersections are identified as locations that disproportionately account for pedestrian fatalities and severe injuries, thus prioritizing them for safety interventions.

Based on anticipated changes in parking demand during the 2020 to 2027 period, it is estimated that in the future with the Proposed Action there would be a deficit of approximately 285 spaces of on-street and off-street public parking capacity within ¼-mile of the Project Area in the weekday midday period. Additionally, within ½-mile of the Project Area, it is estimated that in the future with the Proposed Action there would be a deficit of approximately 35 spaces of on-street and off-street public parking capacity in the weekday midday period. While some drivers destined for the vicinity of the Project Area would potentially have to travel a greater distance to find available parking in the weekday midday, this shortfall would not be considered a significant adverse impact due to the availability of alternative modes of transportation in the surrounding area. Therefore, the Proposed Action is not expected to result in significant adverse parking impacts during the weekday midday peak period.

C. PRELIMINARY ANALYSIS METHODOLOGY

The *City Environmental Quality Review* (CEQR) *Technical Manual* describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed in the following sections, the preliminary analysis begins with a trip generation (Level 1) analysis to estimate the numbers of person and vehicle trips attributable to the proposed action. According to the *CEQR Technical Manual*, if the 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 (a Level 2 analysis) are to be performed to estimate the incremental trips that would be incurred at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the 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, vehicular and pedestrian safety, and parking.

D. LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the Proposed Action during the weekday AM, midday and PM peak hours, and Saturday peak hour, for the RWCDS. These estimates were then compared to the *CEQR Technical Manual* analysis thresholds to determine if a Level 2 screening and/or quantified operational analyses may be warranted. The travel demand assumptions used for the assessment are described in the following sections along with a summary of the travel demand that would be generated by the RWCDS. A detailed travel demand forecast is then provided for the RWCDS.

Background

As shown in **Table 4-1**, compared to the No-Action condition, the Proposed Action would result in a net incremental increase of approximately 234,154 gsf of office uses, 46,184 gsf of retail uses, 33,119 gsf of light industrial uses and 59,973 gsf of community facility (medical office) uses.

Transportation Planning Factors

The trip generation rates, temporal and directional distributions, modal splits, vehicle occupancies and truck trip factors used to forecast travel demand for local retail, office, exposition space, light industrial, and medical office land uses are summarized in **Table 4-4**. They were based on factors cited in the 2021 City Environmental Quality Review (CEQR) Technical Manual, American Association of State Highway and Transportation Officials (AASHTO) Reverse Journey to Work data, and factors developed for recent environmental reviews. 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).

Travel Demand Forecast

The net incremental change in person and vehicle trips expected to result from the Proposed Action by the 2027 analysis year was derived based on the net change in land uses shown in **Table 4-1** and the transportation planning factors shown in **Table 4-4**.

Tables 4-5 and 4-6 show estimates of the net incremental change in peak hour person trips and vehicle trips (versus the No-Action condition), respectively, that would occur in 2027 with implementation of the Proposed Action. These data are further summarized in **Table 4-7**. As shown in **Table 4-5**, under the RWCDS, the Proposed Action would generate a net increase of approximately 1,478 person trips (in + out combined) in the weekday AM peak hour, 1,762 in the weekday midday, 1,852 in the weekday PM, and 2,062 in the Saturday peak hour. As shown in **Table 4-7**, peak hour vehicle trips (including auto, taxi and truck trips) would increase by a net total of approximately 343, 206, 334 and 266 (in + out combined) in the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. Peak hour subway trips would increase by a net total of approximately 255, 123, 237 and 141 trips during the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. Bus trips would increase by a net total of approximately 139, 118, 128 and 96 in the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. Lastly, pedestrian trips would increase by 1,433, 1,737, 1,816 and 2,041, during the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. These totals include walk-only trips and pedestrians en route to and from nearby off-street parking spaces, subway stations, and bus stops.

TRAFFIC

Based on *CEQR Technical Manual* guidelines, a quantified traffic analysis is typically required if a proposed action would result in 50 or more vehicle trip ends in a peak hour at one or more intersections. As shown in **Table 4-7**, under the RWCDS, the net number of incremental vehicle trips—343, 206, 334 and 266 in the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively—would exceed the 50-trip threshold in each peak hour and a Level 2 screening analysis is therefore warranted for these periods to determine which intersections would require quantified analysis.

TRANSIT

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

As shown in **Table 4-7**, the Proposed Action is expected to generate approximately 255 and 237 new subway trips in the weekday AM and PM peak hours. As these numbers of trips would exceed the 200-trip *CEQR Technical Manual* analysis threshold, a Level 2 screening analysis is warranted to determine which subway stations and routes would require quantified analysis. As also shown in **Table 4-7,** the Proposed Action is expected to generate 139 and 128 new trips by bus in the weekday AM and PM peak hours, respectively. As these numbers of trips would exceed the 50-trip *CEQR Technical Manual* analysis threshold during the weekday PM peak hour, a Level 2 screening analysis is warranted to determine if quantified analysis are required.

TABLE 4-4
Transportation Planning Factors

Land Use:	**Local Retail**		**Office**		**Light Industrial**		**Medical Office**	
Size/Units:	46,184 gsf		234,154 gsf		33,119 gsf		59,973 gsf	
Trip Generation:	(1)		(1)		(4)		(1,5)	
Weekday	329		18		14.7		See Note (5)	
Saturday	358		3.9		2.2		37.0	
	per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf	
Temporal Distribution:	(1)		(1)		(4)		(1)	
AM	4.8%		12.4%		13.2%		11.0%	
MD	8.0%		11.0%		11.0%		12.6%	
PM	10.9%		10.5%		14.2%		8.5%	
Saturday	11.7%		14.1%		10.7%		16.6%	
	(2)		(2)	(6)	(3)	(6)	(2)	
Modal Splits:	All Periods		AM/PM/Sat	MD	AM/PM/Sat	MD	All Periods	
Auto	11.0%		28.7%	2.0%	43.5%	2.0%	22.0%	
Taxi	0.0%		4.9%	1.0%	1.6%	1.0%	4.0%	
Subway	3.0%		32.1%	7.0%	24.5%	7.0%	13.0%	
Bus	2.0%		12.7%	7.0%	6.5%	7.0%	13.0%	
Walk/Other	84.0%		21.6%	83.0%	23.9%	83.0%	48.0%	
	100.0%		100.0%	100.0%	100.0%	100.0%	100.0%	
	(2)		(2)		(4)		(2)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out
AM	52%	48%	86.0%	14.0%	88%	12%	62%	38%
MD	50%	50%	52.0%	48.0%	50%	50%	53%	47%
PM	50%	50%	16.0%	84.0%	12%	88%	39%	61%
Saturday	50%	50%	48.0%	52.0%	47%	53%	54%	46%
Vehicle Occupancy:	(2)		(3,6)		(3,6)		(2)	
Auto	1.20		1.13		1.13		1.50	
Taxi	1.20		1.26		1.14		1.50	
Truck Trip Generation:	(1)		(1)		(4)		(4)	
Weekday	0.35		0.32		0.67		0.29	
Saturday	0.04		0.01		0.67		0.29	
	per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf	
Truck Temporal Distribution:	(1)		(1)		(4)		(4)	
AM	8.0%		10.0%		14.0%		3.0%	
MD	11.0%		11.0%		9.0%		11.0%	
PM	2.0%		2.0%		1.0%		1.0%	
Saturday	11.0%		11.0%		0.0%		0.0%	
Truck Directional Distribution:	In	Out	In	Out	In	Out	In	Out
All Periods	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

Notes :

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

(2) Based on data provided by NYCDOT.

(3) Based on AASHTO CTPP reverse journey-to-work 5-Year (2012-2016) data for Brooklyn Census Tracts 427, 429, 445, 447, 453 and 539.

(4) Based on data from the 2016 *East New York Rezoning Proposal FEIS.*

(5) Weekday daily trip estimate based on following equation: 141.77 + 66.626 x gross SF (in thousands).

(6) Based on data from the 2016 *25 Kent Avenue EAS.*

TABLE 4-5
RWCDS Travel Demand Forecast – Incremental Person Trips

Land Use:		Local Retail [a,b]		Office		Light Industrial		Medical Office		Total	
Size/Units:		46,184 gsf		234,154 gsf		33,119 gsf		59,973 gsf			
Peak Hour Trips:											
	AM	434		524		64		456		1,478	
	MD	722		464		54		522		1,762	
	PM	986		444		70		352		1,852	
	Saturday	1,556		130		8		368		2,062	
Person Trips:											
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
AM	Auto	26	23	129	21	23	3	62	38	240	85
	Taxi	0	0	22	4	1	0	11	7	34	11
	Subway	6	6	144	23	14	2	37	23	201	54
	Bus	4	4	57	9	4	1	37	23	102	37
	Walk/Other	190	175	100	15	14	2	135	83	439	275
	Total	226	208	452	72	56	8	282	174	1,016	462
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
MD	Auto	39	39	6	5	1	1	61	54	107	99
	Taxi	0	0	2	2	0	0	11	10	13	12
	Subway	10	10	17	15	2	2	36	31	65	58
	Bus	7	7	17	15	2	2	36	32	62	56
	Walk/Other	305	305	200	185	22	22	133	118	660	630
	Total	361	361	242	222	27	27	277	245	907	855
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
PM	Auto	55	55	21	107	3	25	30	47	109	234
	Taxi	0	0	3	18	0	1	5	9	8	28
	Subway	15	15	23	119	3	16	18	28	59	178
	Bus	10	10	9	48	1	4	18	28	38	90
	Walk/Other	413	413	15	81	2	15	66	103	496	612
	Total	493	493	71	373	9	61	137	215	710	1,142
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
Saturday	Auto	86	86	17	20	1	2	44	37	148	145
	Taxi	0	0	3	3	0	0	8	7	11	10
	Subway	24	24	20	22	2	1	26	22	72	69
	Bus	16	16	8	8	0	0	26	22	50	46
	Walk/Other	652	652	14	15	1	1	95	81	762	749
	Total	778	778	62	68	4	4	199	169	1,043	1,019

Notes:

a) 40% linked-trip credit applied to weekday local retail trips on Projected Development Site 1.
20% linked-trip credit applied to weekday local retail trips on Projected Development Site 3.

b) 20% linked-trip credit applied to Saturday local retail trips on Projected Development Site 1.
5% linked-trip credit applied to Saturday local retail trips on Projected Development Site 3.

TABLE 4-6
RWCDS Travel Demand Forecast – Incremental Vehicle Trips

Land Use:		Local Retail [a,b]		Office		Light Industrial		Medical Office		Total	
Size/Units:		46,184	gsf	234,154	gsf	33,119	gsf	59,973	gsf		
Vehicle Trips :											
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
AM	Auto	21	18	114	19	20	3	41	25	196	65
	Taxi	0	0	17	4	1	0	7	5	25	9
	Taxi (Balanced)	0	0	21	21	1	1	12	12	34	34
	Truck	1	1	4	4	2	2	0	0	7	7
	Total	22	19	139	44	23	6	53	37	237	106
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
MD	Auto	33	33	6	5	1	1	41	36	81	75
	Taxi	0	0	2	2	0	0	7	7	9	9
	Taxi (Balanced)	0	0	4	4	0	0	14	14	18	18
	Truck	1	1	4	4	1	1	1	1	7	7
	Total	34	34	14	13	2	2	56	51	106	100
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
PM	Auto	45	45	19	95	3	22	20	31	87	193
	Taxi	0	0	3	14	0	1	3	6	6	21
	Taxi (Balanced)	0	0	17	17	1	1	9	9	27	27
	Truck	0	0	0	0	0	0	0	0	0	0
	Total	45	45	36	112	4	23	29	40	114	220
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
Saturday	Auto	72	72	15	18	1	2	29	25	117	117
	Taxi	0	0	3	3	0	0	5	5	8	8
	Taxi (Balanced)	0	0	6	6	0	0	10	10	16	16
	Truck	0	0	0	0	0	0	0	0	0	0
	Total	72	72	21	24	1	2	39	35	133	133

TABLE 4-7
Travel Demand Forecast Summary

Peak Hour	Vehicle Trips			Pedestrian Trips[1]														
				Auto			Subway			Bus			Walk/Other			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
AM	237	106	343	240	85	325	201	54	255	102	37	139	439	275	714	982	451	1,433
MD	106	100	206	107	99	206	65	58	123	62	56	118	660	630	1,290	894	843	1,737
PM	114	220	334	109	234	343	59	178	237	38	90	128	496	612	1,108	702	1,114	1,816
Saturday	133	133	266	148	145	293	72	69	141	50	46	96	762	749	1,511	1,032	1,009	2,041

Notes:

[1]Includes walk-only trips and pedestrians en route to/from nearby off-street parking spaces, subway stations, and bus stops.

PEDESTRIANS

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 at any pedestrian element (sidewalk, corner area or crosswalk). As shown in **Table 4-7**, the Proposed Action and associated RWCDS would generate an incremental demand of approximately 1,433, 1,737, 1,816 and 2,041 total

pedestrian trips (including walk-only trips and pedestrians en route to and from nearby parking, subway stations and bus stops) in the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. As the numbers of trips in all of these periods would exceed the 200-trip threshold, a Level 2 screening analysis is warranted to determine which if any pedestrian elements would require quantified analysis.

E. LEVEL 2 SCREENING ASSESSMENT

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

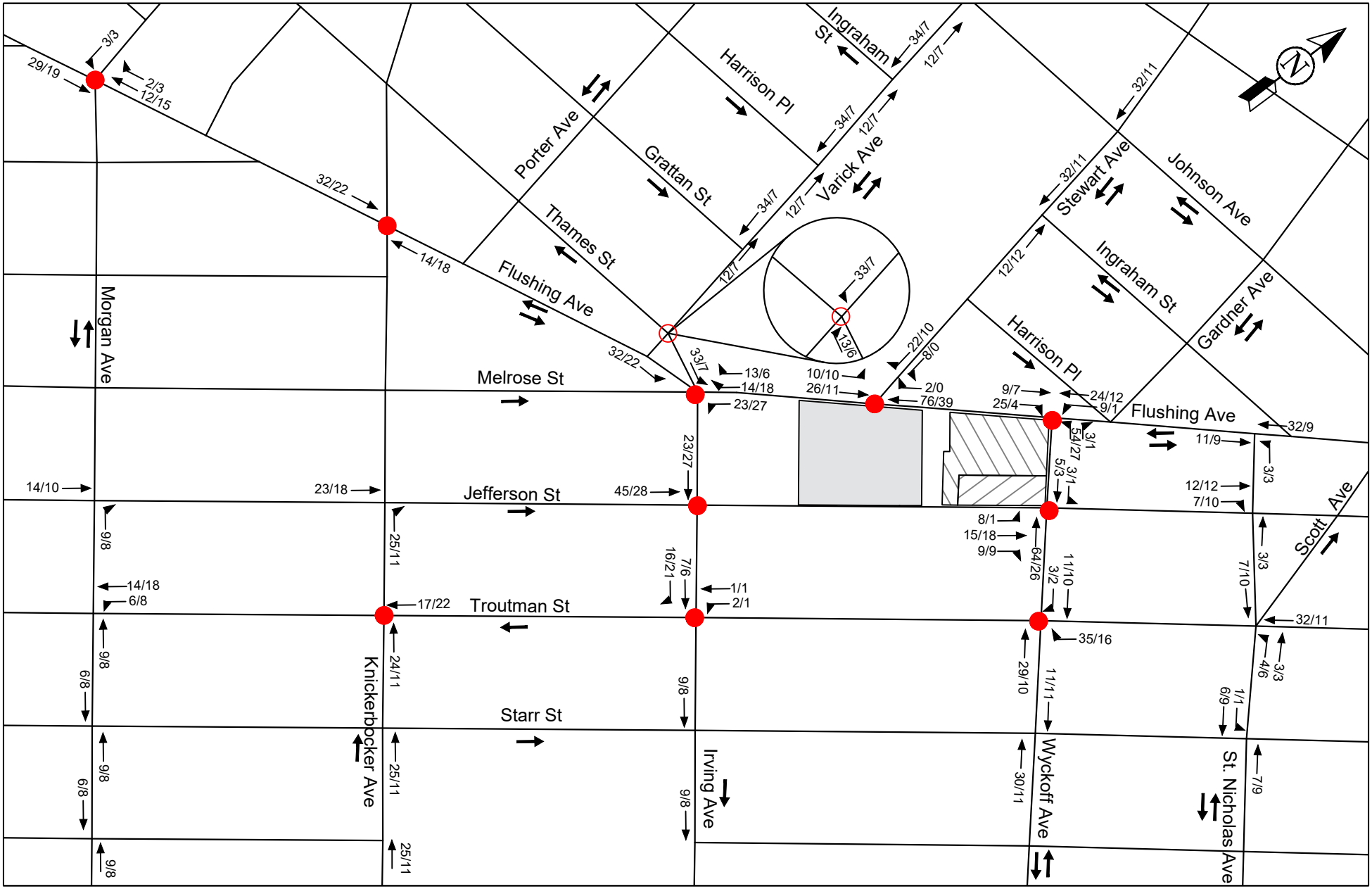
Vehicular Traffic

As shown in **Table 4-7** and discussed above, the Proposed Action is expected to result in new incremental increases of approximately 343, 206, 334 and 266 vehicle trips in the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. These traffic volumes would exceed the *CEQR Technical Manual* threshold of 50 vehicles during each peak hour for Level 1 screening and, therefore, a Level 2 screening was performed to help identify intersections for detailed analysis.

The *CEQR Technical Manual* Level 2 screening threshold for detailed analysis is also 50 vehicles, but this threshold applies to individual intersections during the peak hours (rather than total trips generated). Peak hour project increment traffic volumes were first assigned to the Project Area street network to identify the intersections that would potentially exceed the 50-trip threshold during one or more periods. The origins and destinations for the vehicle trip assignments were based on the project location, area arterials, and AASHTO Reverse Journey to Work data for Brooklyn Census Tracts 427, 429, 445, 447, 453 and 539.

Although the Proposed Action's RWCDS does not include on-site accessory parking and it is expected that drivers would park in nearby off-street public parking facilities or on-street, all auto trips were assigned directly to the building frontages on Jefferson Street and Flushing and Wyckoff avenues. This can be considered a conservative approach with respect to the traffic impact analysis as it concentrates project traffic at intersections in proximity to the Project Area rather than dispersing it to outlying streets. Taxis were generally assigned to the building frontages on Jefferson Street and Flushing and Wyckoff avenues. Trucks were assigned to Flushing Avenue, as it is the primary DOT-designated Local Truck Route in proximity to the Project Area. Additional data on the distributions of auto and taxi trips by land use are presented in the TPF/TDF *Technical Memorandum* included in **Appendix I** of the Final Scope of Work (FSOW)**.**

The assignment of net incremental peak hour vehicle trips at intersections in proximity to the Project Area are shown in **Figures 4-2a and 4-2b**. As shown in **Figures 4-2a and 4-2b**, a total of 10 intersections (seven signalized and three unsignalized) were selected for detailed analysis as they would exceed the 50-trip threshold in one or more peak hours.



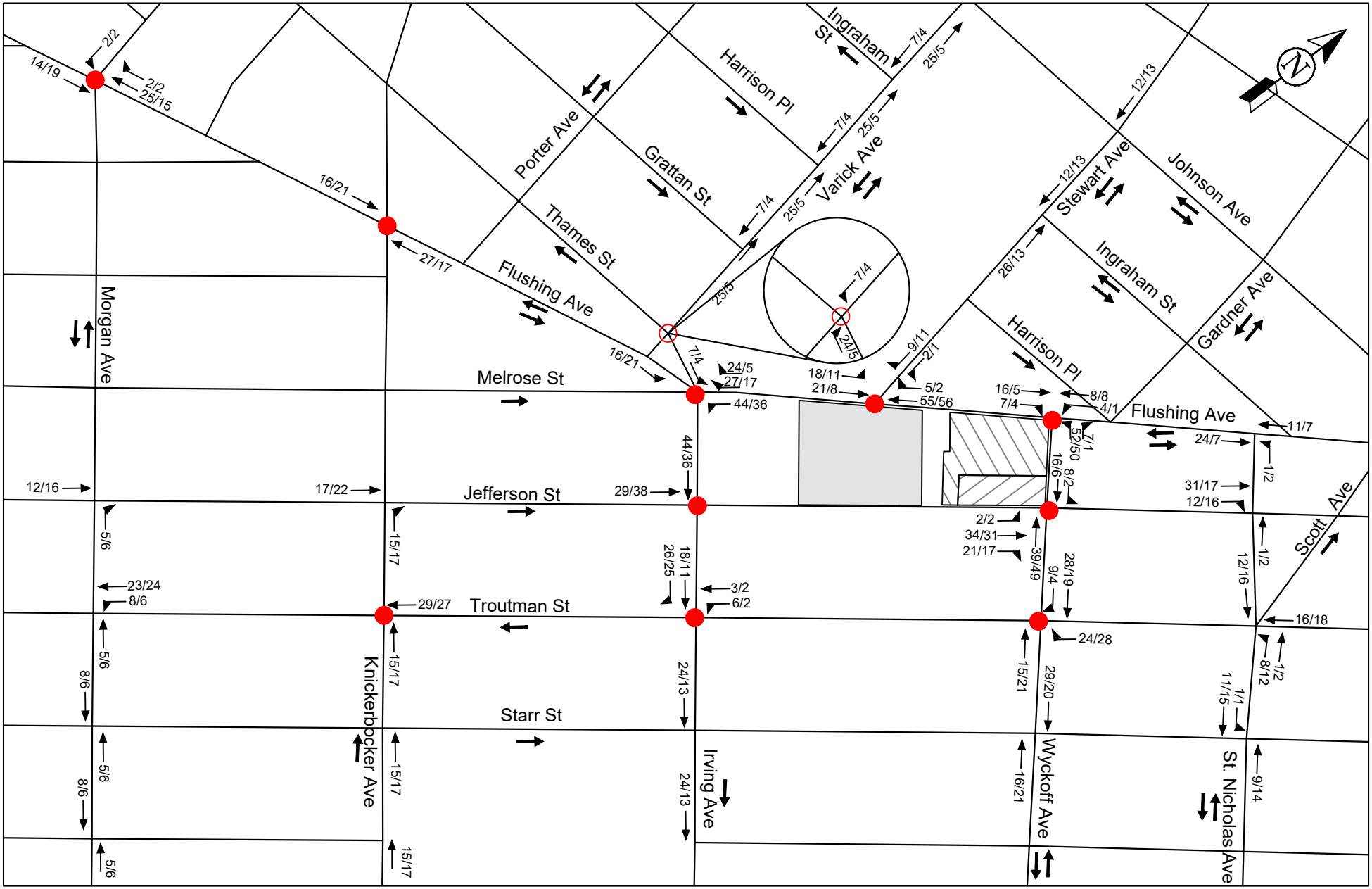
Legend = Projected Development Site 1 = Projected Development Site 2 = Projected Development Site 3

x/x = Weekday AM/MD Peak Hour Volumes = Analyzed Intersection

1160 Flushing Ave Rezoning

Figure 4-2a

Projected Incremental Weekday AM/MD Peak Hour Traffic Volumes



Legend = Projected Development Site 1 = Projected Development Site 2 = Projected Development Site 3

x/x = Weekday PM/Saturday Peak Hour Volumes = Analyzed Intersection

1160 Flushing Ave Rezoning

Figure 4-2b

Projected Incremental Weekday PM/Saturday Peak Hour Traffic Volumes

Transit

Subway

Subway Stations

As shown in **Table 4-7**, the Proposed Action is expected to generate a net total of approximately 255 and 237 incremental subway trips in the weekday AM and PM peak hours, respectively. Most, if not all, of these trips are expected to utilize the Jefferson Street subway station, which is served by L trains operating on the Canarsie Line. This station is located beneath Wyckoff Avenue immediately adjacent to the Project Area, and as noted previously, entrance stairs to the station's Brooklyn-bound platform are located on the northeastern portion of Lot 40 (see **Figure 4-3**).

As incremental peak hour demand from the Proposed Action would exceed the 200-trip *CEQR Technical Manual* analysis threshold at the Jefferson Street (L) station during the AM and PM peak hours, it has been selected for detailed analysis during the weekday AM and PM peak hours. Key circulation elements (e.g., stairs and fare arrays) expected to be used by concentrations of new demand from the Proposed Action are analyzed.

Subway Line Haul

As discussed above, the vicinity of the Project Area is served by one NYCT subway route – the L train. The peak direction of travel along the L route is typically Manhattan-bound (northbound) in the AM and Brooklyn-bound (southbound) in the PM. **Table 4-8** provides the assignment of project-generated subway trips for the weekday AM and PM peak hours, by direction. As shown below in **Table 4-8**, the Proposed Action would generate approximately 69 Manhattan-bound trips along the L subway route during the weekday AM peak hour, and approximately 71 Brooklyn-bound trips during the weekday PM peak hour. However, as shown in **Table 4-8**, the Proposed Action would generate more than 200 incremental subway trips along the L route during the AM and PM peak hours (i.e., 255 total trips during the weekday AM peak hour and 237 total trips during the PM peak hour). Therefore, an analysis of subway line haul conditions is included in the EIS. The analysis uses 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 L subway line during the weekday AM and PM peak hours.

TABLE 4-8
Subway Assignments by Direction - L Train

Direction	AM			PM		
	In	Out	Total	In	Out	Total
Brooklyn Bound	181	5	186	53	18	71
Manhattan Bound	20	49	69	6	160	166
Total	**201**	**54**	**255**	**59**	**178**	**237**

Bus

As shown in **Table 4-9** and discussed above, the approximate hourly public bus trips generated by the Proposed Action would be 139 and 128 trips in the weekday AM and PM peak hours, respectively. These bus trips were assigned to each route based on proximity to individual projected development sites and current ridership patterns. **Table 4-9** 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

Figure 4-3

Transit Services



Legend

Project Area

LIRR

Subway

L-Line

Subway Station (L-Line)

Subway Station Entrance

Bus

B57

B13

B38

B60

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 4-9**, all four routes are expected to experience fewer than 50 new trips per direction in each peak hour. Therefore, based on *CEQR Technical Manual* guidance, significant adverse impacts to local bus service are not anticipated, and a detailed analysis of local bus conditions is not warranted.

TABLE 4-9
Bus Assignments by Route

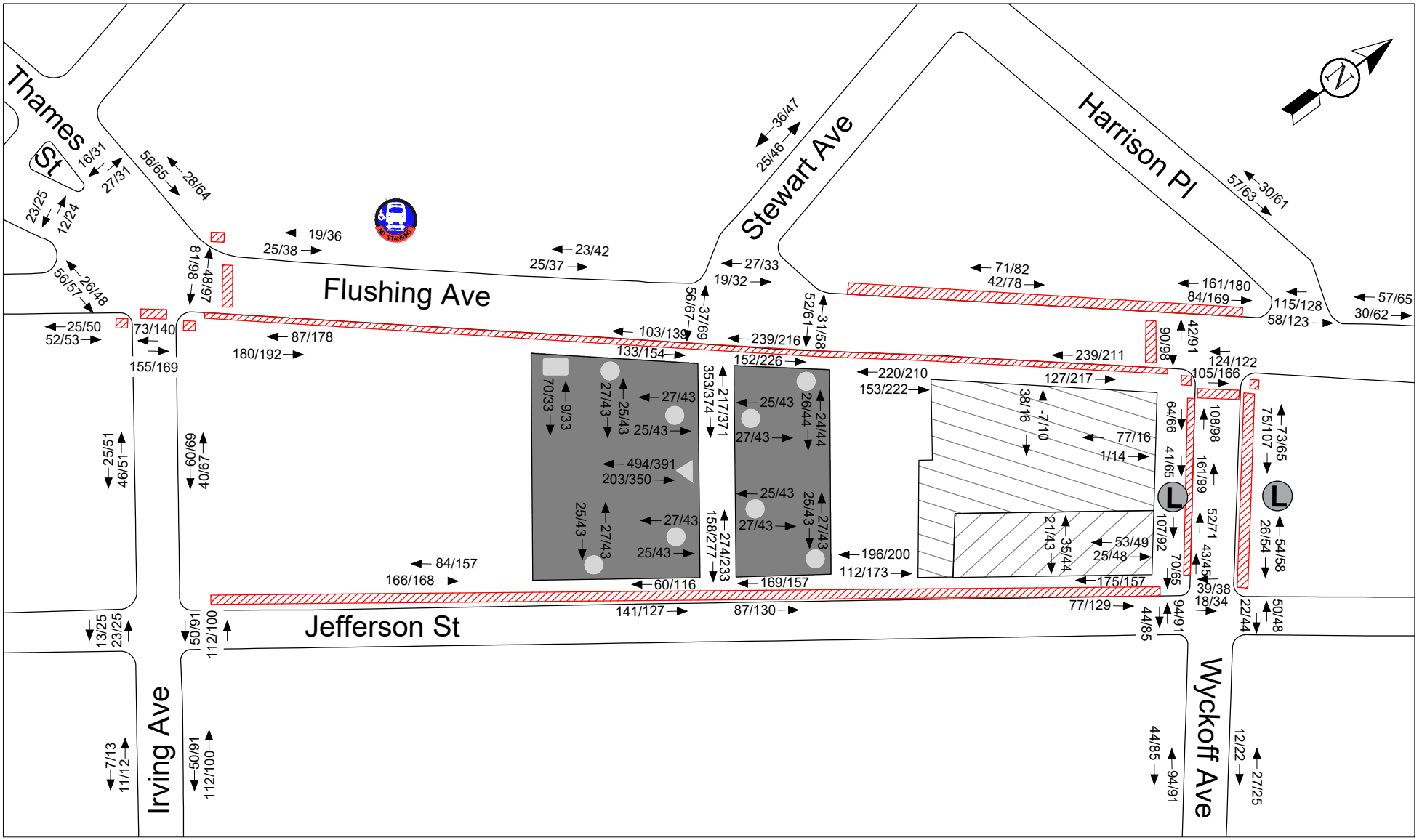
Route	Direction	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
B38	EB	25	0	25	9	1	10
	WB	1	10	11	1	23	24
B38 LTD	EB	25	0	25	10	1	11
	WB	1	9	10	1	22	23
B57	EB	13	3	16	6	8	14
	WB	10	5	15	3	12	15
B60	NB	16	4	20	5	10	15
	SB	11	6	17	3	13	16
Total		**102**	**37**	**139**	**38**	**90**	**128**

Pedestrians

Under *CEQR Technical Manual* criteria, detailed pedestrian analyses are generally warranted if a proposed action is projected to result in 200 or more peak hour pedestrians at any sidewalk, corner area or crosswalk.

As shown in **Table 4-7,** the Proposed Action and associated RWCDS is expected to generate approximately 714 incremental walk-only trips in the weekday AM peak hour, 1, 290 in the weekday midday peak hour, 1,108 in the weekday PM peak hour, and 1,511 in the Saturday peak hour. Persons walking to and from nearby parking, subway station entrances, and bus stops would add approximately 719, 447, 708, and 530 incremental pedestrian trips to sidewalks and crosswalks in the vicinity of the Project Area during the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. Pedestrian trips associated with transit trips and walk-only trips would each have a different assignment pattern. Subway and bus trips would be assigned as described above. Walk-only trips were assigned evenly through the local street network, with "walk-only" trips originating/ending at their respective entrance/exit locations (refer to **Figures 4-4a and 4-4b**). In the weekday AM and PM peak hours, new pedestrian trips would be most concentrated on sidewalks and crosswalks adjacent to the Project Area and along corridors connecting the site to nearby bus stops. In the midday and Saturday periods, pedestrian trips would tend to be more dispersed, as people travel throughout the area for dining, shopping and/or running errands.

Given the numbers of incremental pedestrian trips that would be generated, a detailed analysis of pedestrian conditions under the Proposed Action is warranted. Based on pedestrian count data collected in proximity to the Project Area, the weekday AM (7:00-8:00 AM), midday (12:45-1:45 PM), PM (4:00-5:00 PM), and Saturday (1:15-2:15 PM) peak hours have been selected for analysis. A preliminary assignment of weekday AM, midday and PM peak hours, and Saturday peak hour pedestrian trips is shown in **Figures 4-4a and 4-4b**. As shown in **Figures 4-4a and 4-4b**, a total of 14 pedestrian elements (five sidewalks, four crosswalks, and five corner areas) will exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or more peak hours, thereby warranting detailed analyses in all four peak hours. These pedestrian

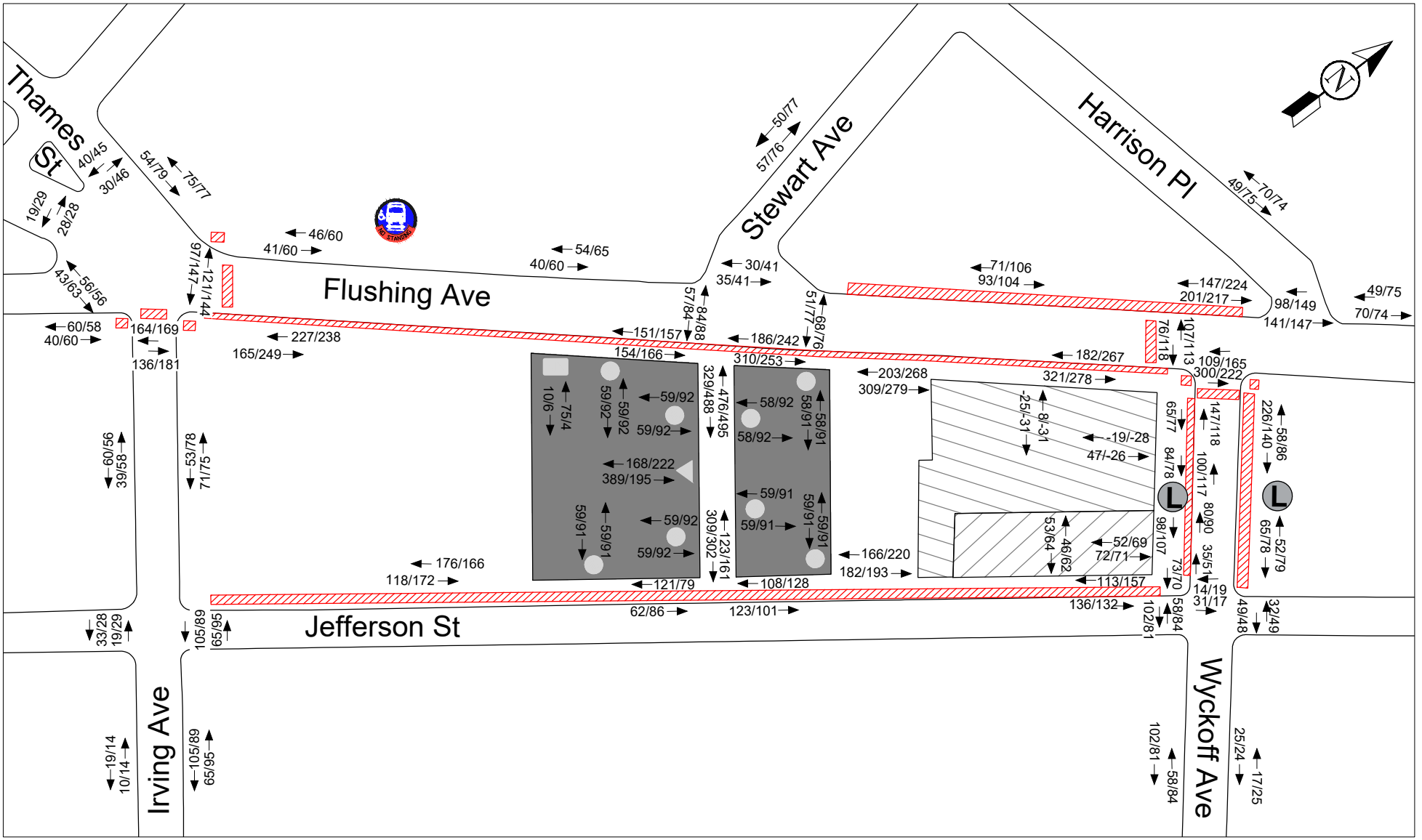


Legend
- = Projected Development Site 1
- = Projected Development Site 2
- = Projected Development Site 3
- 2/2 = Weekday AM/MD Peak Hour Volume
- = Pedestrian Element Analysis Locations
- = Light Industrial Entrance
- = Office/Community Facility Entrance
- = Retail Entrance
- L = Jefferson Street Subway Station
- = Bus Stop

1160 Flushing Ave Rezoning

Figure 4-4a

Projected Weekday AM/MD Peak Hour Pedestrian Volumes



1160 Flushing Ave Rezoning

Figure 4-4b

Projected Weekday PM/Saturday Peak Hour Pedestrian Volumes

elements, discussed below, are primarily located along Flushing Avenue in the immediate proximity of the Project Area.

Parking

Parking demand from the proposed commercial, retail and community facility uses typically peaks in the midday period and declines during the afternoon and evening. As no accessory parking would be provided on-site under the Proposed Action's RWCDS, detailed existing on-street and off-street parking inventories will be provided in the EAS to document the existing supply and demand during the weekday midday period. The parking analyses will document changes in the parking supply and utilization within a ½-mile radius of the Project Area under both No-Action and With-Action conditions. Changes in the parking supply and utilization under both No-Action and With-Action conditions are also forecasted.

F. TRANSPORTATION ANALYSES METHODOLOGIES

Traffic

Analysis Methodology

The traffic analysis examines conditions in the weekday AM, midday and PM peak hours, and Saturday peak hour at 10 intersections (seven signalized and three unsignalized). Based on data collected in November 2020, the weekday peak hours selected for analysis are 7:30-8:30 AM, 1:00-2:00 PM, and 4:00-5:00 PM, and the Saturday peak hour is 2:00-3:00 PM. These peak hours were selected based on existing traffic volumes in the study area as reflected in automatic traffic recorder (ATR) count data.[3]

The capacity analyses at intersections were based on the methodology presented in the Highway Capacity Manual (HCM) and utilize HCS+ Version 5.5 software. Traffic data required for these analyses include the hourly volumes on each approach, turning movements, the percentage of trucks and buses, and pedestrian volumes at crosswalks. Field inventories are also necessary to document the physical layout and street widths, lane markings, curbside parking regulations, and other relevant characteristics needed for the analysis.

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

For unsignalized intersections, the HCM methodology generally assumes that traffic on major streets is not affected by traffic flows on minor streets. Left turns from a major street are assumed to be affected by the opposing, or oncoming, traffic flow on that major street. Traffic on minor streets is affected by all conflicting movements. Similar to signalized intersections, the HCM methodology expresses the quality of

[3] To account for the ongoing effects of the Covid-19 Pandemic on study area traffic volumes, pre-pandemic secondary source data from NYCDOT's Traffic Information System (TIMS) were used to develop adjustment factors for the 2020 count data.

traffic flow at unsignalized intersections in terms of LOS based on the amount of delay that a driver experiences. Level of service definitions used to characterize traffic flows at unsignalized intersections differ somewhat from those used for signalized intersections, primarily because drivers anticipate different levels of performance from the two different kinds of intersections. For unsignalized intersections, LOS ranges from A, representing minimal delay (ten 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 4-10 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 4-10
Intersection Level of Service Criteria

LOS	Average Delay per Vehicle (seconds)	
	Signalized Intersections	**Unsignalized Intersections**
A	Less than 10.1	Less than 10.1
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	Greater than 80.0	Greater than 50.0

Source: *2000 Highway Capacity Manual*

Significant Impact Criteria

The identification of significant adverse traffic impacts at analyzed intersections is based on criteria presented in the *CEQR Technical Manual*. If a lane group in the With-Action condition would be LOS A, B, or C, or marginally acceptable LOS D (i.e., delay less than or equal to 45.0 seconds/vehicle for signalized intersections and 30.0 seconds/vehicle for unsignalized intersections), the impact is not considered significant. If the lane-group LOS would deteriorate from LOS A, B, or C in the No-Action condition to worse than mid-LOS D or 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 D in the No-Action condition, an increase in delay of 5.0 or more seconds in the With-Action condition is considered a significant impact if the With-Action delay would exceed mid-LOS D. For a lane group that would operate at LOS E in the No-Action condition, a projected With-Action increase in delay of 4.0 or more seconds is considered a significant impact. For a lane group that would operate at LOS F in the No-Action condition, a projected With-Action increase in delay of 3.0 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 was collected at the Jefferson Street (L) subway station in March 2019. The methodology for assessing subway station pedestrian circulation elements (stairs, escalators, and passageways) and fare control elements (low 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 v/c ratio. All analyses reflect pedestrian flow volumes over a 15-minute interval during each peak hour. Based on existing pedestrian volumes at the Jefferson Street (L) station, the peak hours selected for the analysis of subway station conditions are 7:45-8:45 AM and 5:00-6:00 PM. (As noted previously, transit analyses typically focus on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the subway and bus systems is usually highest.)

Under *CEQR Technical Manual* guidance, 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 foot-width per minute (pfm) for stairs and 15 pfm 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 ten percent is applied where opposing pedestrian flows use the same stair or passageway. (No friction factor is applied if the flow is all or predominantly in one direction.)

By contrast with stairways and passageways, under *CEQR Technical Manual* guidance 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 4-11** shows the *CEQR Technical Manual* LOS criteria for all subway station elements. As shown in **Table 4-11**, 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 4-11
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.

Significant Impact Criteria

SUBWAY STATIONS

The *CEQR Technical Manual* identifies a significant impact for stairways and passageways in terms of the minimum width increment threshold (WIT) based on the minimum amount of additional capacity that would be required to restore conditions to either their No-Action v/c ratio or to a v/c ratio of 1.00 (LOS C/D), whichever is greater. Stairways that are substantially degraded in LOS or that 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 4-12** are reached or exceeded. For turnstiles, escalators, and high-wheel exit gates, the *CEQR Technical Manual* defines a significant impact as an increase from a No-Action v/c ratio of below 1.00 to a v/c ratio of 1.00 or greater. Where a facility is already at a v/c ratio of 1.00 or greater, a 0.01 change in v/c ratio is also considered significant.

TABLE 4-12
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
$\geq$1.6	2	3

SUBWAY LINE HAUL

For subway line haul conditions*, 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.

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 November 2020. 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 7:00-8:00 AM, 12:45-1:45 PM, and 4:00-5:00 PM peak hours, and the Saturday peak hour is 1:15-2:15 PM.[4]

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

LOS standards are based on the average area available per pedestrian during the analysis period, typically expressed as a 15-minute peak period. LOS grades from A to F are assigned, with LOS A representative of free flow conditions without pedestrian conflicts and LOS F depicting significant capacity limitations and inconvenience. **Table 4-13** defines the LOS criteria for pedestrian crosswalk/corner area and sidewalk conditions, as based on the *Highway Capacity Manual* methodology.

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

[4] To account for the ongoing effects of the Covid-19 Pandemic on study area pedestrian volumes, NYCDOT provided pedestrian adjustment factors for the 2020 count data.

TABLE 4-13
Pedestrian Crosswalk/Corner Area and Sidewalk Levels of Service Descriptions

LOS	Crosswalk/Corner	Crosswalk/Corner Area Criteria (sf/ped)	Platoon Sidewalk Criteria (sf/ped)
A	(Unrestricted)	> 60	> 530
B	(Slightly Restricted)	> 40 to 60	> 90 to 530
C	(Restricted but fluid)	> 24 to 40	> 40 to 90
D	(Restricted, necessary to continuously alter walking stride and direction)	> 15 to 24	> 23 to 40
E	(Severely restricted)	> 8 to 15	> 11 to 23
F	(Forward progress only by shuffling; no reverse movement possible)	≤ 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 CEQR Technical Manual impact criteria for a Central Business District ("CBD") location are used to identify significant adverse impacts due to the Proposed Action. These criteria define a significant adverse sidewalk impact to have occurred if the average pedestrian space under the No-Action scenario is 34.7 square feet/pedestrian (sf/ped) or greater, and the average pedestrian space under the With-Action scenario is 31.4 sf/ped or less (worse than mid-LOS D). If the average pedestrian space under the With-Action scenario is 31.5 sf/ped or greater (mid-LOS D or better), the impact should not be considered significant. If the No-Action scenario pedestrian space is between 6.4 and 34.6 sf/ped, inclusive, a reduction in pedestrian space under the With-Action scenario should be considered significant based on **Table 4-14**, 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 scenario. If the reduction in pedestrian space is less than the value in **Table 4-14**, the impact is not considered significant. If the average pedestrian space under the No-Action scenario is 6.3 sf/ped or less, then a reduction in pedestrian space of 0.3 sf/ped or greater, under the With-Action scenario, should be considered significant.

CORNER AREAS AND CROSSWALKS

For CBD areas, 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 scenario is 21.5 sf/ped or greater and, under the With-Action scenario, the average pedestrian space decreases to 19.4 sf/ped or less (worse than mid-LOS D). If the pedestrian space under the With-Action scenario is 19.5 sf/ped or greater (mid-LOS D or better), the impact should not be considered significant. If the average pedestrian space under the No-Action scenario is between 5.1 and 21.4 sf/ped, a decrease in pedestrian space under the With-Action scenario should be considered significant based on **Table 4-15** 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 scenario. If the decrease in pedestrian space is less than the value in **Table 4-15**, the impact is not considered significant. If the average pedestrian space under the No-Action

scenario is 5.0 sf/ped or less, then a decrease in pedestrian space of 0.2 sf/ped or greater should be considered significant.

Street User Safety

Under CEQR Technical Manual guidelines, 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 a Vision Zero corridor/intersection or 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. 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.

TABLE 4-14
Significant Impact Criteria for Sidewalks with Platooned Flow in a CBD Location

No-Action Scenario Pedestrian Flow (sf/ped)			With-Action Scenario 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*

TABLE 4-15
Significant Impact Criteria for Corners and Crosswalks in a CBD Location

No-Action Scenario Pedestrian Space (sf/ped)			With-Action Scenario 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*

Parking

Analysis Methodology

The parking analysis identifies the supply of on-street and off-street public parking near a proposed project and determines the extent to which the supply is utilized in existing conditions and in the future without and with a proposed action. The analysis considers anticipated changes in the study area's parking supply and demand, and compares project-generated parking demand with future parking availability to determine if a parking shortfall is likely to result. The displacement of existing parking capacity attributable to the proposed action or project is also considered. Typically, the analysis encompasses the parking facilities—public parking lots and garages and on-street curbside spaces—that vehicular traffic destined to the project site or area would likely utilize. According to the *CEQR Technical Manual*, a ¼-mile – ½-mile radius around a project site is generally assumed as the distance that someone driving to the site would be willing to walk.

A parking demand forecast for the Proposed Action and associated RWCDS is provided to document the projected demand that would need to be accommodated on-street or at nearby off-street public parking facilities. As the Proposed Action would result in predominately commercial developments (and therefore generate substantially less parking demand on weekends than on weekdays), and as demand from the proposed commercial and community facility uses typically peaks in the midday period and declines during the afternoon and evening, the parking analysis focuses on the weekday midday period.

Significant Shortfall 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 a ¼-mile – ½-mile), as well as the availability of alternative modes of transportation, are considered in making this determination.

Under *CEQR Technical Manual* guidance, 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, May 2010," in the 2021 *CEQR Technical Manual*. The proposed rezoning area is located immediately adjacent to Zone 2 as shown in Map 16-2.

G. TRAFFIC

Existing Conditions

Study Area Street Network

As shown in **Figures 4-2a and 4-2b**, the street network in proximity to the Project Area is comprised of an irregular grid pattern of collector and local streets. Intersections are a mix of stop-controlled and signalized.

The Project Area itself is bounded by Flushing Avenue on the west, Jefferson Street on the east, Wyckoff Avenue on the north and Irving Avenue on the south. Flushing Avenue extends in a northeast-southwest direction from Maspeth, Queens, where it provides access to/from the Queens-Midtown Expressway (3-495) via Grand Avenue, to Flatbush Avenue in Brooklyn's Dumbo neighborhood where it provides access to the Manhattan Bridge and the Brooklyn-Queens Expressway (3-278). In proximity to the Project Area, it is approximately 44 feet wide and typically operates with one moving lane plus curbside parking in each direction. It is traversed by NYCT B57 local buses and is a designated Local Truck Route. Jefferson Street is a one-way northbound local street that typically operates with one moving lane and parking along both curbs. Wyckoff Avenue is an approximately 35-foot-wide two-way street that begins at Flushing Avenue and extends to the southeast. It operates with one moving lane plus curbside parking in each direction. The final street bounding the Project Area is Irving Avenue, a one-way eastbound local street that operates with one moving lane, parking along each curb, and a striped bicycle lane outboard of the parking lane along the north curb. Like Wyckoff Avenue, which it parallels, Irving Avenue begins at Flushing Avenue and extends in a generally southeast direction.

Other streets of note in proximity to the Project Area include St. Nicholas Avenue and Cypress Avenue, which both run parallel to, and to the north of, Wyckoff Avenue; Knickerbocker Avenue and Wilson Avenue, which both run parallel to, and to the south of, Irving Avenue; and DeKalb Avenue. St. Nicholas Avenue is a two-way local street that extends southeast from its intersection with Flushing Avenue and Ingraham Street. It typically operates with one moving lane in each direction plus parking along both curbs. Cypress Avenue is a two-way street that is typically 35 to 40 feet in width and extends from Flushing Avenue to the Jackie Robinson Parkway. It typically operates with one moving lane plus curbside parking in each direction. Knickerbocker Avenue to the south of the Project Area is a one-way westbound local street that typically operates with one moving lane and parking along both curbs. It is one of the few streets in proximity to the Project Area that extends across Flushing Avenue. To the south of Knickerbocker Avenue is Wilson Avenue, an approximately 35-foot-wide two-way street that extends to the southeast from its intersection with Flushing Avenue. It typically operates with one moving lane in each direction with parking along one or both curbs, and it is traversed by NYCT B60 buses. To the west

of Flushing Avenue, the street continues as Morgan Avenue. Other streets in proximity to the Project Area are typically one-way local streets that operate with one moving lane plus parking along one or both curbs.

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 November 2020. 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 at this time. Signal timing plans for signalized intersections within the study area were obtained from NYCDOT. **Figures 4-5a and 4-5b** show existing weekday (AM, midday and PM) and Saturday traffic volumes, respectively.

Intersection Capacity Analysis

Existing v/c ratios, delays, and LOS for individual lane groups at analyzed intersections are shown in **Table 4-16**. A lane group is considered congested in **Table 4-16** 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 4-16**, of the 10 analyzed intersections, a total of seven intersections (six signalized and one unsignalized) currently have at least one congested lane group in one or more peak hours. Of the seven intersections with congested lane groups, four intersections are located along Flushing Avenue, two intersections are located along Troutman Street, and one is located along Jefferson Street. Four intersections contain one or more lane groups operating at or over capacity (v/c ratio ≥ 1.0) in the weekday AM and midday peak hours, seven intersections in the weekday PM peak hour, and two in the Saturday peak hour.

The Future Without the Proposed Action (No-Action Condition)

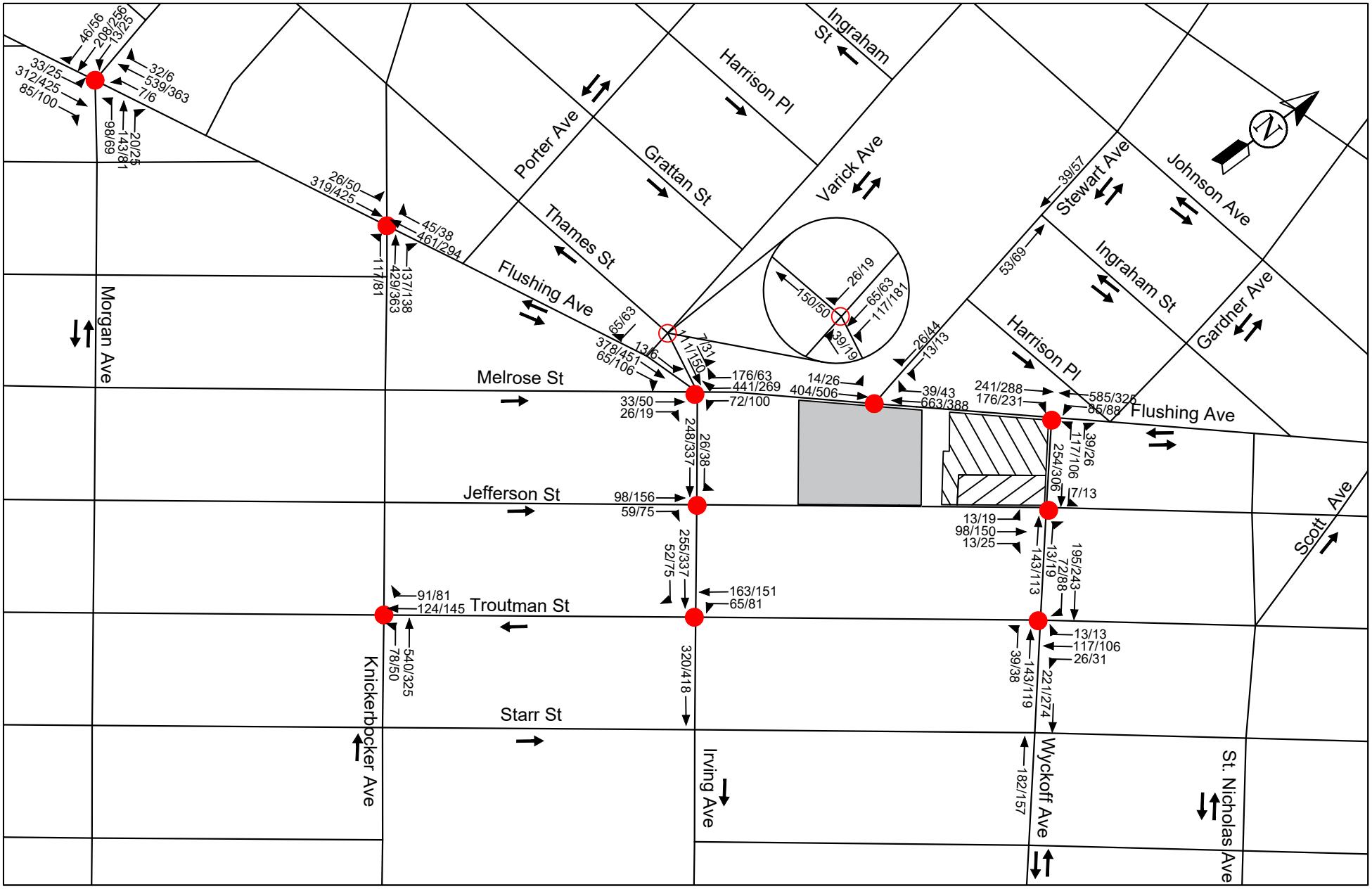
Future No-Action Traffic Growth

Between 2020 and 2027, it is expected that transportation demands in the vicinity of the Project Area will increase due to long-term background growth and other planned developments unrelated to the Proposed Action. As shown in **Table 4-1**, it is assumed that under the No-Action RWCDS, Project Area uses would total 59,995 gsf, including 52,382 gsf of local retail uses and 7,613 gsf of light industrial uses.

In order to forecast future traffic conditions without the Proposed Action (the No-Action condition), the developments within ¼-mile of the Project Area listed in **Table 2-3** in **Chapter 2, "Land Use, Zoning and Public Policy,"** were considered. The future No-Action traffic volumes also reflect annual background growth rates of 0.50 percent per year for the 2020 through 2025 period and 0.25 percent per year for 2025 to 2027. These background growth rates, recommended in the 2021 *CEQR Technical Manual* for projects in Brooklyn, are applied to account for smaller projects and as-of-right developments not reflected in **Table 2-3**, and general increases in travel demand not attributable to specific development projects. Where new developments were found to generate relatively little new traffic through analyzed intersections, demand from these sites was also assumed to be reflected as part of general background growth. **Figures 4-6a and 4-6b** show total No-Action traffic volumes during the weekday (AM, midday and PM) and Saturday peak hours.

Intersection Capacity Analysis

The peak hour v/c ratios, delays and LOS for lane groups at analyzed intersections under No-Action conditions are shown in **Table 4-17**. As shown in **Table 4-17**, a total of eight analyzed intersections (six signalized and two unsignalized) would have at least one congested lane group in one or more peak hours



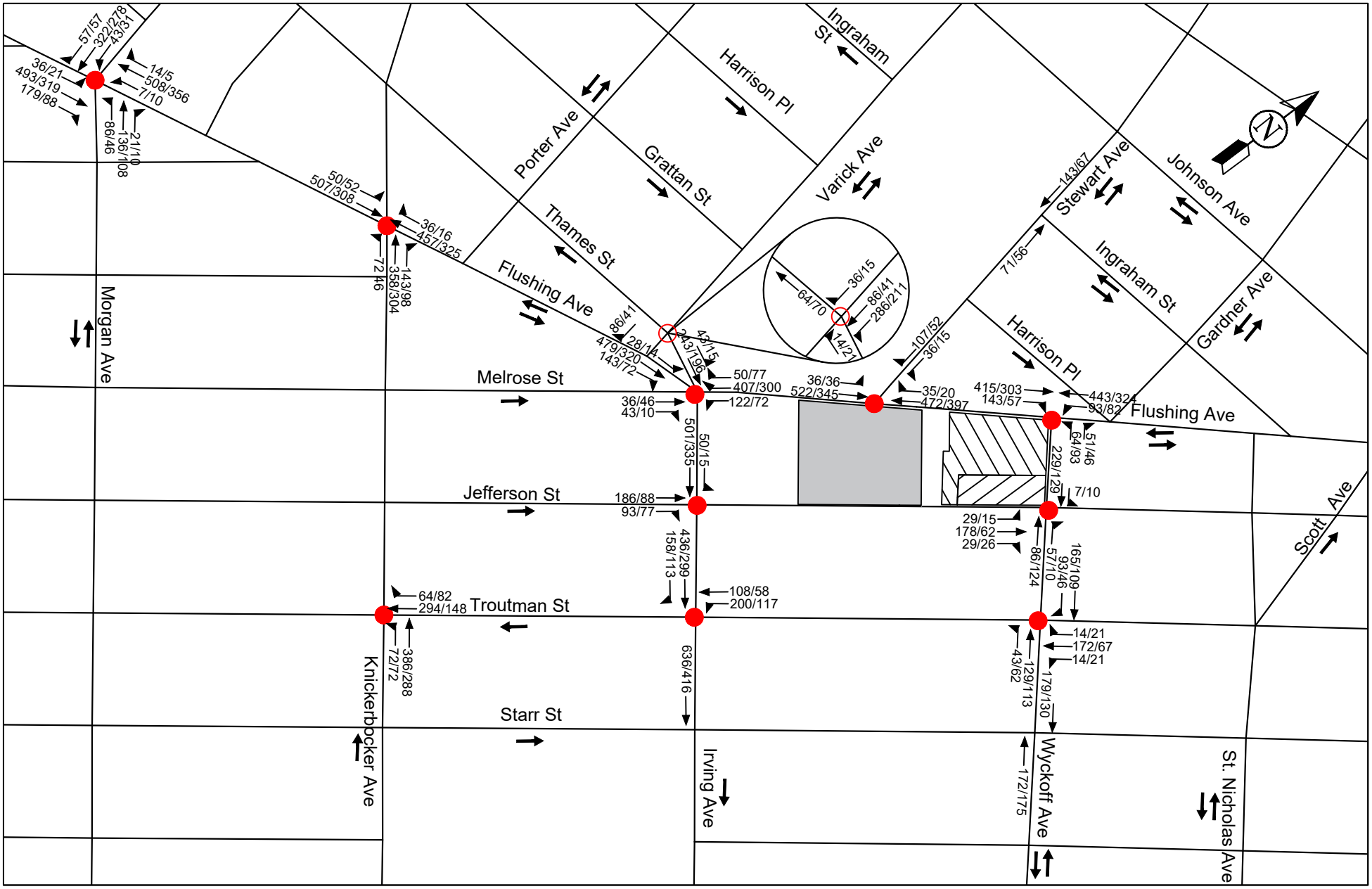
Legend = Projected Development Site 1 = Projected Development Site 2 = Projected Development Site 3

x/x = Weekday AM/MD Existing Volumes = Analyzed Intersection

1160 Flushing Ave Rezoning

Figure 4-5a

Weekday AM/MD Existing Traffic Volumes



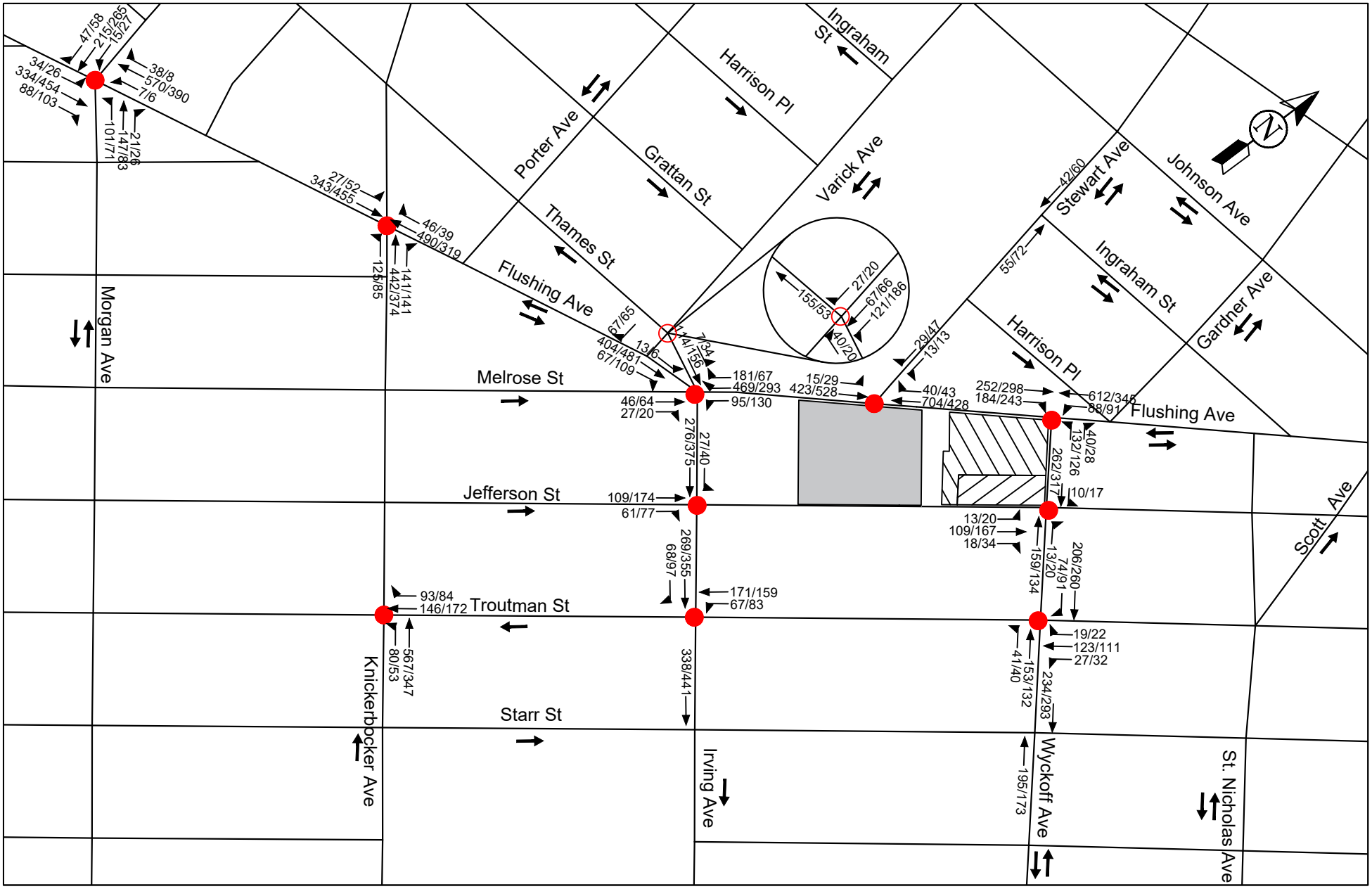
Legend = Projected Development Site 1 = Projected Development Site 2 = Projected Development Site 3

x/x = Weekday PM/Saturday Existing Volumes = Analyzed Intersection

1160 Flushing Ave Rezoning

Figure 4-5b

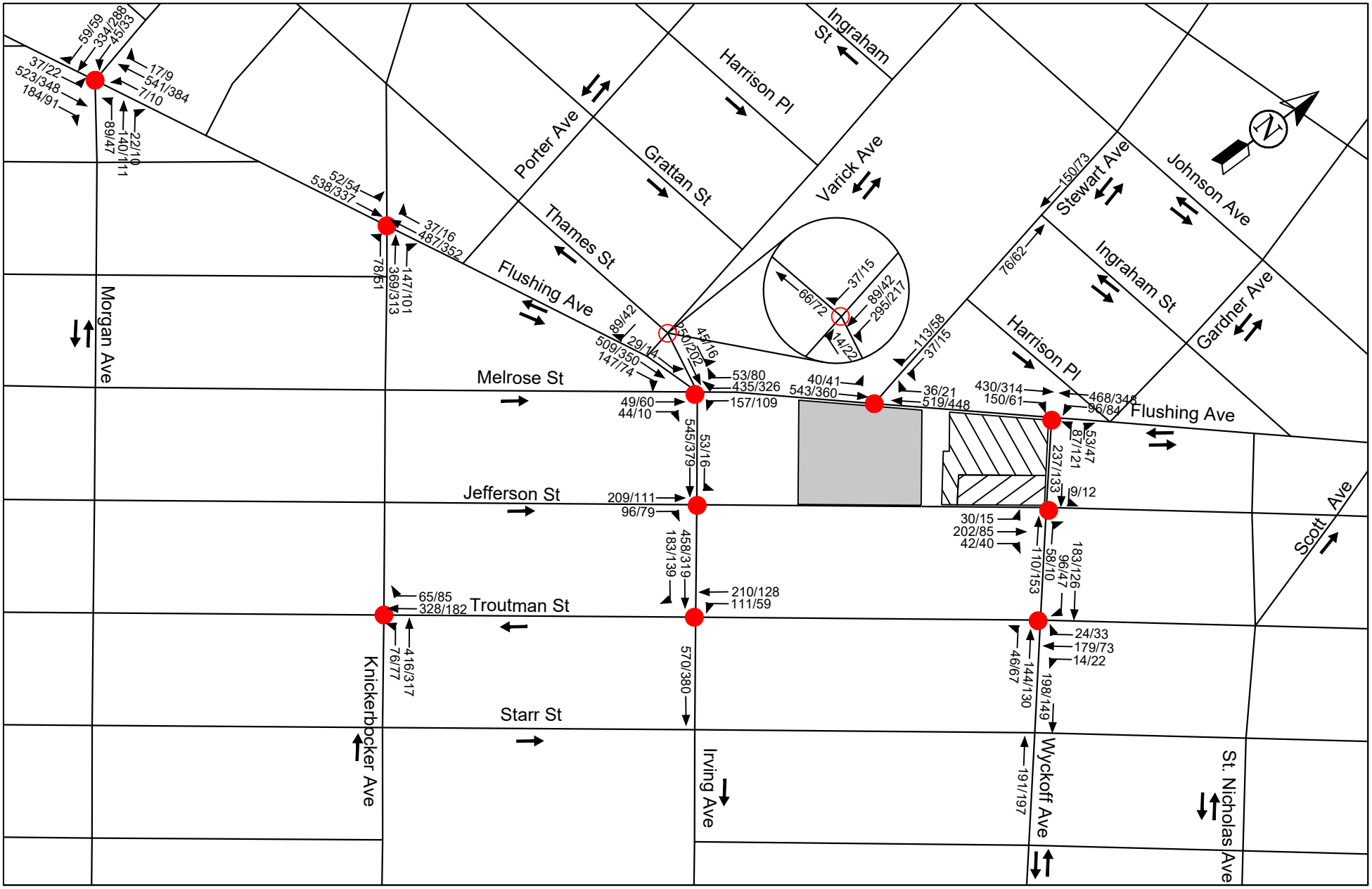
Weekday PM/Saturday Existing Traffic Volumes



1160 Flushing Ave Rezoning

Figure 4-6a

Weekday AM/MD No-Action Traffic Volumes



Legend = Projected Development Site 1 = Projected Development Site 2 = Projected Development Site 3

x/x = Weekday PM/Saturday No-Action Volumes = Analyzed Intersection

1160 Flushing Ave Rezoning

Figure 4-6b

Weekday PM/Saturday No-Action Traffic Volumes

TABLE 4-16
Existing Conditions Intersection Level of Service Analysis

Signalized Intersections	Existing AM Peak Hour					Existing Midday Peak Hour					Existing PM Peak Hour					Existing SAT Peak Hour				
	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS
Flushing Ave &	EB	TR	0.79	31.2	C	EB	TR	1.05	75.9	E *	EB	TR	1.00	60.5	E *	EB	TR	0.75	28.9	C
Wyckoff Ave	WB	LT	1.05	73.1	E *	WB	LT	1.05	80.2	F *	WB	LT	1.05	77.1	E *	WB	LT	0.98	59.0	E *
	NB	LR	0.39	19.8	B	NB	LR	0.30	18.1	B	NB	LR	0.29	18.1	B	NB	LR	0.35	19.0	B
Flushing Ave &	Flushing EB	LT	0.84	40.6	D	Flushing EB	LT	1.00	69.0	E *	Flushing EB	LT	1.05	78.0	E *	Flushing EB	LT	0.72	31.8	C
Melrose St & Irving Ave &	Flushing EB	R	0.20	19.9	B	Flushing EB	R	0.34	22.3	C	Flushing EB	R	0.39	23.3	C	Flushing EB	R	0.24	20.6	C
Thames St & Varick Ave	Melrose EB	LTR	0.25	29.5	C	Melrose EB	LTR	0.29	30.3	C	Melrose EB	LTR	0.35	31.4	C	Melrose EB	LTR	0.23	28.9	C
	Flushing WB	LT	0.77	17.1	B	Flushing WB	LT	0.70	15.6	B	Flushing WB	LT	1.05	63.4	E *	Flushing WB	LT	0.49	9.0	A
	Flushing WB	R	0.28	6.6	A	Flushing WB	R	0.09	5.2	A	Flushing WB	R	0.07	5.1	A	Flushing WB	R	0.12	5.4	A
	Melrose WB	LT	0.68	12.8	B	Melrose WB	LT	0.53	9.9	A	Melrose WB	LT	0.75	15.7	B	Melrose WB	LT	0.45	8.3	A
	Melrose WB	R	0.28	6.6	A	Melrose WB	R	0.09	5.2	A	Melrose WB	R	0.07	5.1	A	Melrose WB	R	0.12	5.4	A
	Thames WB	TR	0.18	5.7	A	Thames WB	TR	0.07	5.0	A	Thames WB	TR	0.08	5.1	A	Thames WB	TR	0.09	5.1	A
	Flushing SB	LTR	0.50	37.8	D	Flushing SB	LTR	0.70	44.9	D	Flushing SB	LTR	0.95	72.3	E *	Flushing SB	LTR	0.97	80.3	F *
	Melrose SB	LTR	0.50	37.8	D	Melrose SB	LTR	0.70	44.9	D	Melrose SB	LTR	1.05	99.0	F *	Melrose SB	LTR	0.76	48.1	D
	Varick SB	TR	0.85	61.3	E *	Varick SB	TR	1.04	95.8	F *	Varick SB	TR	1.05	94.0	F *	Varick SB	TR	1.05	100.9	F *
Flushing Ave &	EB	LT	0.70	24.3	C	EB	LT	1.04	71.0	E *	EB	LT	1.05	72.4	E *	EB	LT	0.71	24.2	C
Knickerbocker Ave	WB	TR	0.99	57.0	E *	WB	TR	0.65	22.1	C	WB	TR	0.88	35.6	D	WB	TR	0.54	18.4	B
	NB	L	0.33	21.2	C	NB	L	0.23	19.6	B	NB	L	0.21	19.5	B	NB	L	0.15	18.8	B
	NB	TR	1.05	78.3	E *	NB	TR	1.05	78.2	E *	NB	TR	1.05	78.7	E *	NB	TR	0.96	57.5	E *
Flushing Ave &	EB	LTR	0.85	33.3	C	EB	LTR	1.05	72.3	E *	EB	LTR	1.05	68.8	E *	EB	LTR	0.79	26.5	C
Morgan Ave & Wilson Ave	WB	LTR	1.05	70.7	E *	WB	LTR	0.66	21.0	C	WB	LTR	0.91	37.4	D *	WB	LTR	0.54	17.4	B
	NB	LTR	1.05	100.6	F *	NB	LTR	1.03	102.3	F *	NB	LTR	1.04	100.7	F *	NB	LTR	0.77	50.0	D
	SB	LTR	0.99	82.9	F *	SB	LTR	1.05	92.6	F *	SB	LTR	1.05	89.6	F *	SB	LTR	1.05	89.2	F *
Troutman St &	WB	LTR	0.46	20.1	C	WB	LTR	0.45	20.0	C	WB	LTR	0.57	22.4	C	WB	LTR	0.36	18.4	B
Wyckoff Ave	NB	LT	0.37	10.4	B	NB	LT	0.33	10.0	A	NB	LT	0.33	9.8	A	NB	LT	0.37	10.6	B
	SB	TR	0.47	11.6	B	SB	TR	0.60	14.2	B	SB	TR	0.47	11.6	B	SB	TR	0.28	9.3	A
Troutman St &	WB	LT	0.68	26.3	C	WB	LT	0.70	28.4	C	WB	LT	0.98	61.1	E *	WB	LT	0.57	23.3	C
Irving Ave	SB	TR	0.57	13.6	B	SB	TR	0.74	19.1	B	SB	TR	1.04	62.3	E *	SB	TR	0.77	20.6	C
Troutman St &	WB	TR	0.68	25.4	C	WB	TR	0.72	27.3	C	WB	TR	1.04	73.0	E *	WB	TR	0.73	28.2	C
Knickerbocker Ave	NB	LT	1.05	65.0	E *	NB	LT	0.75	21.6	C	NB	LT	0.94	41.2	D *	NB	LT	0.69	19.0	B
Flushing Ave &	EB	LT	0.02	10.4	B	EB	LT	0.04	9.2	A	EB	LT	0.05	9.5	A	EB	LT	0.05	9.3	A
Stewart Ave	SB	LR	0.22	25.8	D	SB	LR	0.18	16.8	C	SB	LR	0.56	30.5	D	SB	LR	0.19	15.4	C
(Unsignalized)																				
Jefferson St &	EB	LTR	-	9.45	A	EB	LTR	-	11.52	B	EB	LTR	-	11.39	B	EB	LTR	-	8.54	A
Wyckoff Ave	NB	TR	-	9.51	A	NB	TR	-	9.65	A	NB	TR	-	9.34	A	NB	TR	-	8.54	A
(Unsignalized)	SB	LT	-	10.83	B	SB	LT	-	12.73	B	SB	LT	-	11.30	B	SB	LT	-	8.61	A
Jefferson St &	EB	TR	0.33	14.1	B	EB	TR	0.72	36.1	E	EB	TR	1.13	129.9	F *	EB	TR	0.53	24.7	C
Irving Ave	SB	LT	0.02	7.2	A	SB	LT	0.03	7.3	A	SB	LT	0.04	7.4	A	SB	LT	0.01	7.2	A
(Unsignalized)																				

Notes:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DfL-Analysis considers a defacto left-turn lane on this approach
V/C ratio - volume to capacity ratio
LOS - level of service
***** - Denotes a congested movement (LOS E or F, v/c ratio greater than or equal to 0.9)

TABLE 4-17

No-Action Conditions Intersection Level of Service Analysis

Signalized Intersections	Existing AM Peak Hour					No-Action AM Peak Hour					Existing Midday Peak Hour					No-Action Midday Peak Hour					Existing PM Peak Hour					No-Action PM Peak Hour					Existing SAT Peak Hour					No-Action SAT Peak Hour				
	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS
Flushing Ave &	EB	TR	0.79	31.2	C	EB	TR	0.89	41.4	D	EB	TR	1.05	75.9	E *	EB	TR	1.22	137.9	F *	EB	TR	1.00	60.5	E *	EB	TR	1.14	105.0	F *	EB	TR	0.75	28.9	C	EB	TR	0.82	34.4	C
Wyckoff Ave	WB	LT	1.05	73.1	E *	WB	LT	1.13	102.7	F *	WB	LT	1.05	80.2	F *	WB	LT	1.17	122.5	F *	WB	LT	1.05	77.1	E *	WB	LT	1.16	115.6	F *	WB	LT	0.98	59.0	E *	WB	LT	1.09	92.1	F *
	NB	LR	0.39	19.8	B	NB	LR	0.44	20.7	C	NB	LR	0.30	18.1	B	NB	LR	0.35	19.0	B	NB	LR	0.29	18.1	B	NB	LR	0.35	19.0	B	NB	LR	0.35	19.0	B	NB	LR	0.42	20.3	C
Flushing Ave &	Flushing EB	LT	0.84	40.6	D	Flushing EB	LT	0.90	47.0	D *	Flushing EB	LT	1.00	69.0	E *	Flushing EB	LT	1.07	87.8	F *	Flushing EB	LT	1.05	78	E *	Flushing EB	LT	1.22	140.2	F *	Flushing EB	LT	0.72	31.8	C	Flushing EB	LT	0.79	35.5	D
Melrose St & Irving Ave &	Flushing EB	R	0.20	19.9	B	Flushing EB	R	0.24	20.7	C	Flushing EB	R	0.34	22.3	C	Flushing EB	R	0.47	26.4	C	Flushing EB	R	0.39	23.3	C	Flushing EB	R	0.59	31.3	C	Flushing EB	R	0.24	20.6	C	Flushing EB	R	0.39	25.4	C
Thames St & Varick Ave	Melrose EB	LTR	0.25	29.5	C	Melrose EB	LTR	0.34	31.3	C	Melrose EB	LTR	0.29	30.3	C	Melrose EB	LTR	0.38	32.5	C	Melrose EB	LTR	0.35	31.4	C	Melrose EB	LTR	0.50	36.6	D	Melrose EB	LTR	0.23	28.9	C	Melrose EB	LTR	0.29	30.0	C
	Flushing WB	LT	0.77	17.1	B	Flushing	LT	0.93	33.8	C *	Flushing WB	LT	0.70	15.6	B	Flushing WB	LT	0.86	27.5	C	Flushing	LT	1.05	63.4	E *	Flushing	LT	1.29	157.7	F *	Flushing	LT	0.49	9.0	A	Flushing	LT	0.66	13.1	B
	Flushing WB	R	0.28	6.6	A	Flushing	R	0.29	6.8	A	Flushing WB	R	0.09	5.2	A	Flushing WB	R	0.10	5.3	A	Flushing	R	0.07	5.1	A	Flushing	R	0.08	5.1	A	Flushing	R	0.12	5.4	A	Flushing	R	0.13	5.5	A
	Melrose WB	LT	0.68	12.8	B	Melrose	LT	0.77	16.6	B	Melrose WB	LT	0.53	9.9	A	Melrose WB	LT	0.65	12.8	B	Melrose	LT	0.75	15.7	B	Melrose	LT	0.90	26.8	C *	Melrose	LT	0.45	8.3	A	Melrose	LT	0.56	10.2	B
	Melrose WB	R	0.28	6.6	A	Melrose	R	0.29	6.8	A	Melrose WB	R	0.09	5.2	A	Melrose WB	R	0.10	5.3	A	Melrose	R	0.07	5.1	A	Melrose	R	0.08	5.1	A	Melrose	R	0.12	5.4	A	Melrose	R	0.13	5.5	A
	Thames WB	TR	0.18	5.7	A	Thames	TR	0.19	5.7	A	Thames WB	TR	0.07	5.0	A	Thames WB	TR	0.07	5.0	A	Thames	TR	0.08	5.1	A	Thames	TR	0.08	5.1	A	Thames	TR	0.09	5.1	A	Thames	TR	0.10	5.2	A
	Flushing SB	LTR	0.50	37.8	D	Flushing SB	LTR	0.52	38.3	D	Flushing SB	LTR	0.70	44.9	D	Flushing SB	LTR	0.73	46.8	D	Flushing SB	LTR	0.95	72.3	E *	Flushing SB	LTR	0.99	79.7	E *	Flushing SB	LTR	0.97	80.3	F *	Flushing SB	LTR	0.78	50.0	D
	Melrose SB	LTR	0.50	37.8	D	Melrose SB	LTR	0.52	38.3	D	Melrose SB	LTR	0.70	44.9	D	Melrose SB	LTR	0.73	46.8	D	Melrose SB	LTR	1.05	99	F *	Melrose SB	LTR	1.08	110.0	F *	Melrose SB	LTR	0.76	48.1	D	Melrose SB	LTR	0.78	50.0	D
	Varick SB	TR	0.85	61.3	E *	Varick SB	TR	0.88	65.6	E *	Varick SB	TR	1.04	95.8	F *	Varick SB	TR	1.08	107.4	F *	Varick SB	TR	1.05	94	F *	Varick SB	TR	1.08	104.4	F *	Varick SB	TR	1.05	100.9	F *	Varick SB	TR	1.07	109.1	F *
Flushing Ave &	EB	LT	0.70	24.3	C	EB	LT	0.76	27.3	C	EB	LT	1.04	71.0	E *	EB	LT	1.11	94.6	F *	EB	LT	1.05	72.4	E *	EB	LT	1.15	107.5	F *	EB	LT	0.71	24.2	C	EB	LT	0.77	27.6	C
Knickerbocker Ave	WB	TR	0.99	57.0	E *	WB	TR	1.05	73.4	E *	WB	TR	0.65	22.1	C	WB	TR	0.70	24.2	C	WB	TR	0.88	35.6	D	WB	TR	0.94	44.0	D *	WB	TR	0.54	18.4	B	WB	TR	0.58	19.5	B
	NB	L	0.33	21.2	C	NB	L	0.35	21.8	C	NB	L	0.23	19.6	B	NB	L	0.24	19.9	B	NB	L	0.21	19.5	B	NB	L	0.23	19.8	B	NB	L	0.15	18.8	B	NB	L	0.18	19.2	B
	NB	TR	1.05	78.3	E *	NB	TR	1.09	90.3	F *	NB	TR	1.05	78.2	E *	NB	TR	1.08	89.8	F *	NB	TR	1.05	78.7	E *	NB	TR	1.09	92.0	F *	NB	TR	0.96	57.5	E *	NB	TR	1.00	67.1	E *
Flushing Ave &	EB	LTR	0.85	33.3	C	EB	LTR	0.91	39.9	D *	EB	LTR	1.05	72.3	E *	EB	LTR	1.12	96.3	F *	EB	LTR	1.05	68.8	E *	EB	LTR	1.12	91.0	F *	EB	LTR	0.79	26.5	C	EB	LTR	0.85	31.7	C
Morgan Ave & Wilson Ave	WB	LTR	1.05	70.7	E *	WB	LTR	1.12	94.7	F *	WB	LTR	0.66	21.0	C	WB	LTR	0.71	23.1	C	WB	LTR	0.91	37.4	D *	WB	LTR	0.97	48.5	D *	WB	LTR	0.54	17.4	B	WB	LTR	0.59	18.6	B
	NB	LTR	1.05	100.6	F *	NB	LTR	1.11	119.4	F *	NB	LTR	1.03	102.3	F *	NB	LTR	1.09	121.4	F *	NB	LTR	1.04	100.7	F *	NB	LTR	1.11	121.8	F *	NB	LTR	0.77	50.0	D	NB	LTR	0.81	53.8	D
	SB	LTR	0.99	82.9	F *	SB	LTR	1.04	95.0	F *	SB	LTR	1.05	92.6	F *	SB	LTR	1.10	107.6	F *	SB	LTR	1.05	89.6	F *	SB	LTR	1.09	100.9	F *	SB	LTR	1.05	89.2	F *	SB	LTR	1.09	103.8	F *
Troutman St &	WB	LTR	0.46	20.1	C	WB	LTR	0.52	21.4	C	WB	LTR	0.45	20.0	C	WB	LTR	0.52	21.9	C	WB	LTR	0.57	22.4	C	WB	LTR	0.64	24.9	C	WB	LTR	0.36	18.4	B	WB	LTR	0.48	21.5	C
Wyckoff Ave	NB	LT	0.37	10.4	B	NB	LT	0.40	10.8	B	NB	LT	0.33	10.0	A	NB	LT	0.37	10.5	B	NB	LT	0.33	9.8	A	NB	LT	0.37	10.4	B	NB	LT	0.37	10.6	B	NB	LT	0.45	11.9	B
	SB	TR	0.47	11.6	B	SB	TR	0.50	12.3	B	SB	TR	0.60	14.2	B	SB	TR	0.67	16.3	B	SB	TR	0.47	11.6	B	SB	TR	0.54	13.2	B	SB	TR	0.28	9.3	A	SB	TR	0.33	10.0	A
Troutman St &	WB	LT	0.68	26.3	C	WB	LT	0.71	28.2	C	WB	LT	0.70	28.4	C	WB	LT	0.74	30.9	C	WB	LT	0.98	61.1	E *	WB	LT	1.04	78.9	E *	WB	LT	0.57	23.3	C	WB	LT	0.63	25.3	C
Irving Ave	SB	TR	0.57	13.6	B	SB	TR	0.64	15.3	B	SB	TR	0.74	19.1	B	SB	TR	0.83	24.9	C	SB	TR	1.04	62.3	E *	SB	TR	1.16	101.6	F *	SB	TR	0.77	20.6	C	SB	TR	0.89	31.9	C
Troutman St &	WB	TR	0.68	25.4	C	WB	TR	0.75	29.3	C	WB	TR	0.72	27.3	C	WB	TR	0.80	32.9	C	WB	TR	1.04	73.0	E *	WB	TR	1.13	104.9	F *	WB	TR	0.73	28.2	C	WB	TR	0.84	36.4	D
Knickerbocker Ave	NB	LT	1.05	65.0	E *	NB	LT	1.10	82.1	F *	NB	LT	0.75	21.6	C	NB	LT	0.80	24.4	C	NB	LT	0.94	41.2	D *	NB	LT	1.02	57.4	E *	NB	LT	0.69	19.0	B	NB	LT	0.76	22.1	C
Flushing Ave &	EB	LT	0.02	10.4	B	EB	LT	0.04	12.6	B	EB	LT	0.04	9.2	A	EB	LT	0.05	10.6	B	EB	LT	0.05	9.5	A	EB	LT	0.08	11.0	B	EB	LT	0.05	9.3	A	EB	LT	0.08	10.8	B
Stewart Ave	SB	LR	0.22	25.8	D	SB	LR	0.39	49.0	E	SB	LR	0.18	16.8	C	SB	LR	0.30	26.2	D	SB	LR	0.56	30.5	D	SB	LR	0.95	101.7	F *	SB	LR	0.19	15.4	C	SB	LR	0.31	23.0	C
(Unsignalized)																																								
Jefferson St &	EB	LTR	-	9.45	A	EB	LTR	-	9.82	A	EB	LTR	-	11.52	B	EB	LTR	-	12.62	B	EB	LTR	-	11.39	B	EB	LTR	-	12.81	B	EB	LTR	-	8.54	A	EB	LTR	-	9.11	A
Wyckoff Ave	NB	TR	-	9.51	A	NB	TR	-	9.94	A	NB	TR	-	9.65	A	NB	TR	-	10.33	B	NB	TR	-	9.34	A	NB	TR	-	10.14	B	NB	TR	-	8.54	A	NB	TR	-	9.12	A
(Unsignalized)	SB	LT	-	10.83	B	SB	LT	-	11.37	B	SB	LT	-	12.73	B	SB	LT	-	13.96	B	SB	LT	-	11.30	B	SB	LT	-	12.15	B	SB	LT	-	8.61	A	SB	LT	-	8.96	A
Jefferson St &	EB	TR	0.33	14.1	B	EB	TR	0.47	20.1	C	EB	TR	0.72	36.1	E	EB	TR	1.25	186.1	F *	EB	TR	1.13	129.9	F *	EB	TR	2.29	645.3	F *	EB	TR	0.53	24.7	C	EB	TR	1.28	211.8	F *
Irving Ave	SB	LT	0.02	7.2	A	SB	LT	0.02	7.2	A	SB	LT	0.03	7.3	A	SB	LT	0.03	7.3	A	SB	LT	0.04	7.4	A	SB	LT	0.04	7.4	A	SB	LT	0.01	7.2	A	SB	LT	0.01	7.2	A
(Unsignalized)																																								

Notes:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, DfL-Analysis considers a defacto left-turn lane on this approach

V/C ratio - volume to capacity ratio

LOS - level of service

***** - Denotes a congested movement (LOS E or F, v/c ratio greater than or equal to 0.9)

in the No-Action condition, as compared to seven under existing conditions. Under No-Action conditions, five of the eight intersections with congested lane groups are located along Flushing Avenue (versus four under existing conditions), two intersections are located along Troutman Street (same as under existing conditions), and one intersection is located along Jefferson Street (same as under existing conditions). Four intersections would have one or more lane groups operating at or over capacity (v/c $\geq$ 1.0) in the weekday AM peak hour (same as under existing conditions), five in the midday (versus four under existing conditions), seven in the PM (same as under existing conditions), and five in the Saturday peak hour (versus two under existing conditions).

The Future with the Proposed Action (With-Action Conditions)

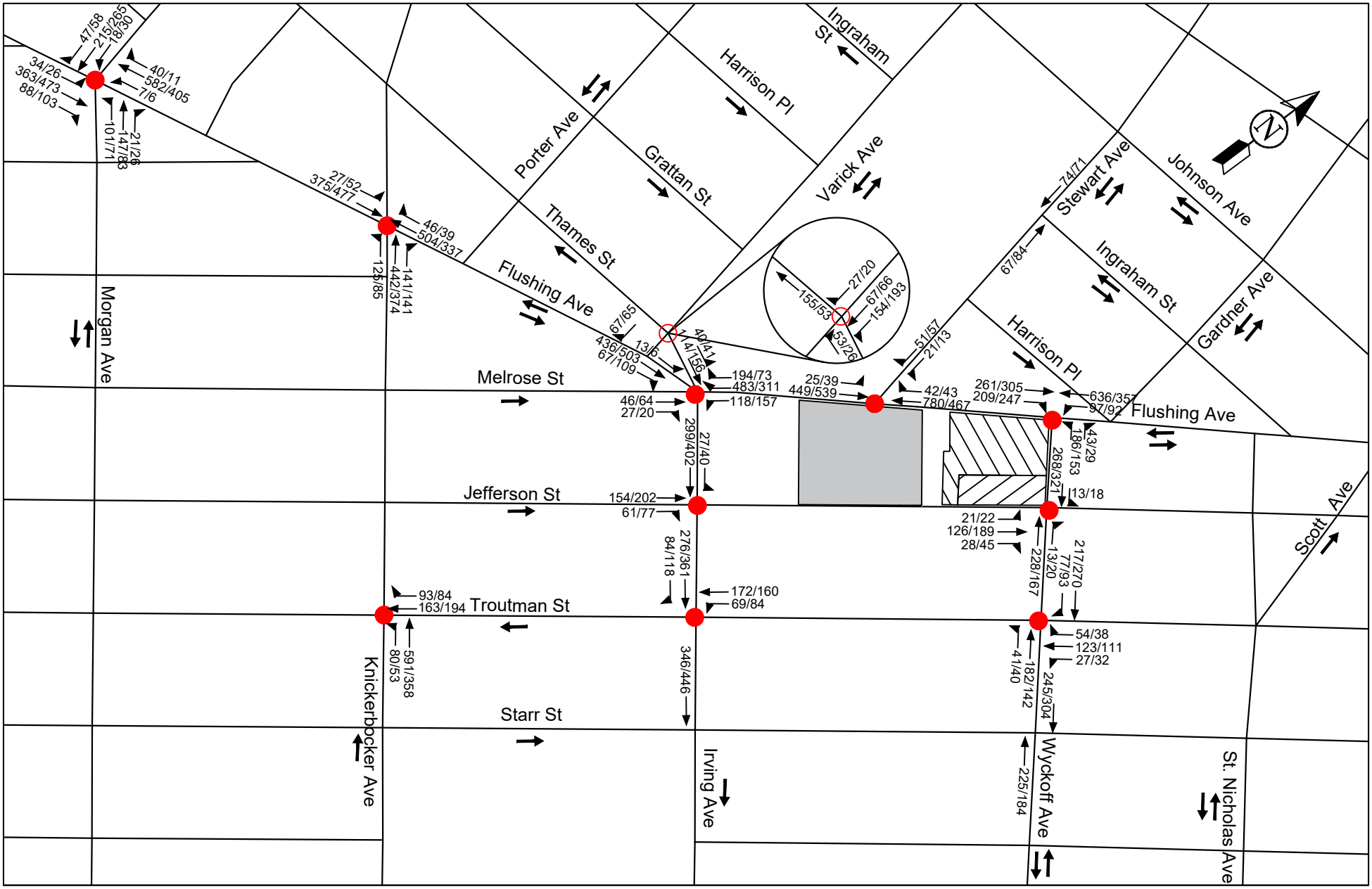
Future With-Action Traffic Growth

As shown in **Table 4-7**, based on projected development associated with the Proposed Action, there would be a net total of approximately 343, 206, 334 and 266 vehicle trips (auto, taxi and truck) in the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. **Figures 4-2a and 4-2b** show the assignment of incremental vehicle trips (auto, taxi and truck) generated during the each analyzed peak hour under the Proposed Action. **Figures 4-7a and 4-7b** show the total weekday and Saturday traffic volumes at the 10 analyzed intersections for the 2027 future with the Proposed Action. The volumes shown are the combination of the net incremental traffic generated by the Proposed Action and the No-Action volumes.

In addition, the Proposed Project would include a pedestrian alleyway adjacent to the intersection of Flushing Avenue and Stewart Avenue. As this intersection is currently unsignalized, a signal is proposed at this intersection in the future with the Proposed Action. In consultation with NYCDOT, the proposed signal would be implemented upon completion of Projected Development Site 1 in 2025. As such, this intersection was analyzed as signalized under With-Action conditions.

Intersection Capacity Analysis

The peak hour v/c ratios, delays and LOS for lane groups at analyzed intersections under With-Action conditions are shown in **Table 4-18**. Lane groups with significant adverse impacts are identified. As shown in **Table 4-18**, a total of eight analyzed intersections would have at least one congested lane group in one or more peak hour in the With-Action condition, same as under the No-Action condition. Significant adverse impacts were identified at 10 lane groups at six intersections in the weekday AM peak hour, eight lane groups at five intersections in the midday, 19 lane groups at seven intersections in the PM, and four lane groups at three intersections in the Saturday peak hour. Potential measures to mitigate the significant adverse traffic impacts identified in **Table 4-2** are discussed in **Chapter 9, "Mitigation."**



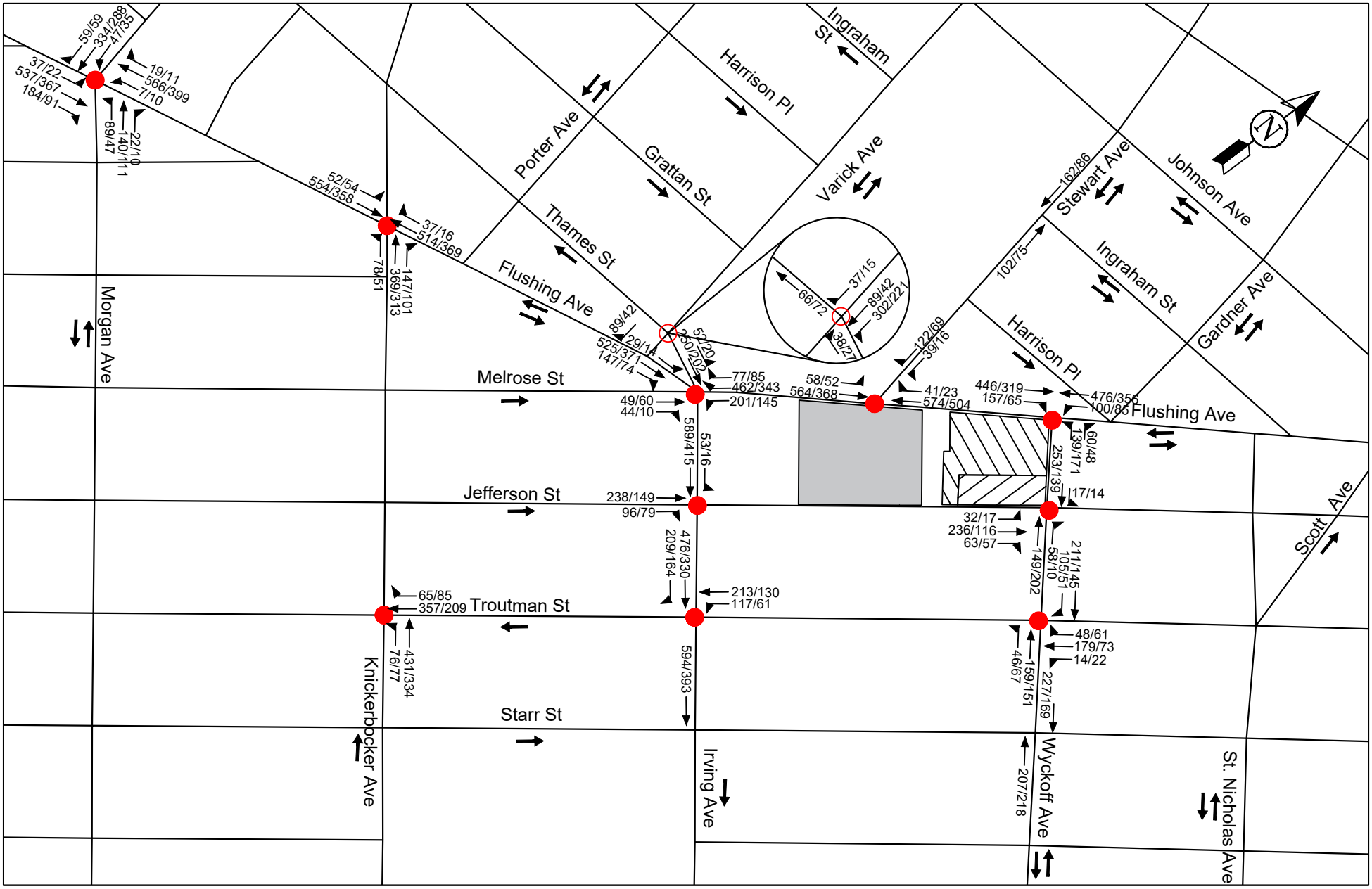
Legend = Projected Development Site 1 = Projected Development Site 2 = Projected Development Site 3

x/x = Weekday AM/MD With-Action Volumes = Analyzed Intersection

1160 Flushing Ave Rezoning

Figure 4-7a

Projected Weekday AM/MD With-Action Traffic Volumes



Legend = Projected Development Site 1 = Projected Development Site 2 = Projected Development Site 3

x/x = Weekday PM/Saturday With-Action Volumes = Analyzed Intersection

1160 Flushing Ave Rezoning

Figure 4-7b

Projected Weekday PM/Saturday With-Action Traffic Volumes

TABLE 4-18
With-Action Conditions Intersection Level of Service Analysis

Signalized Intersections	No-Action AM Peak Hour					With-Action AM Peak Hour						No-Action Midday Peak Hour					With-Action Midday Peak Hour						No-Action PM Peak Hour					With-Action PM Peak Hour						No-Action SAT Peak Hour					With-Action SAT Peak Hour					
	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS		Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS		Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS		Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	
Flushing Ave &	EB	TR	0.89	41.4	D	EB	TR	1.07	87.3	F	*	EB	TR	1.22	137.9	F	EB	TR	1.39	211.8	F	*	EB	TR	1.14	105.0	F	EB	TR	1.25	150.4	F	*	EB	TR	0.82	34.4	C	EB	TR	0.87	38.7	D	
Wyckoff Ave	WB	LT	1.13	102.7	F	WB	LT	1.28	161.4	F	*	WB	LT	1.17	122.5	F	WB	LT	1.23	148.1	F	*	WB	LT	1.16	115.6	F	WB	LT	1.24	150.1	F	*	WB	LT	1.09	92.1	F	WB	LT	1.14	109.8	F	*
	NB	LR	0.44	20.7	C	NB	LR	0.57	24.0	C		NB	LR	0.35	19.0	B	NB	LR	0.41	20.1	C		NB	LR	0.35	19.0	B	NB	LR	0.49	21.6	C		NB	LR	0.42	20.3	C	NB	LR	0.54	22.9	C	
Flushing Ave &	Flushing EB	LT	0.90	47.0	D	Flushing EB	LT	0.97	59.5	E	*	Flushing EB	LT	1.07	87.8	F	Flushing EB	LT	1.12	105.5	F	*	Flushing EB	LT	1.22	140.2	F	Flushing EB	LT	1.42	229.6	F	*	Flushing EB	LT	0.79	35.5	D	Flushing EB	LT	0.83	39.2	D	
Melrose St & Irving Ave &	Flushing EB	R	0.24	20.7	C	Flushing EB	R	0.38	32.7	C		Flushing EB	R	0.47	26.4	C	Flushing EB	R	0.68	40.2	D		Flushing EB	R	0.59	31.3	C	Flushing EB	R	0.83	55.9	E	*	Flushing EB	R	0.39	25.4	C	Flushing EB	R	0.48	29.8	C	
Thames St & Varick Ave	Melrose EB	LTR	0.34	31.3	C	Melrose EB	LTR	0.43	33.7	C		Melrose EB	LTR	0.38	32.5	C	Melrose EB	LTR	0.40	33.0	C		Melrose EB	LTR	0.50	36.6	D	Melrose EB	LTR	0.54	38.9	D		Melrose EB	LTR	0.29	30.2	C	Melrose EB	LTR	0.29	30.2	C	
	Flushing WB	LT	0.93	33.8	C	Flushing WB	LT	1.08	72.7	E	*	Flushing WB	LT	0.86	27.5	C	Flushing WB	LT	1.04	63.9	E	*	Flushing WB	LT	1.29	157.7	F	Flushing WB	LT	1.55	268.2	F	*	Flushing WB	LT	0.66	13.1	B	Flushing WB	LT	0.81	20.2	C	
	Flushing WB	R	0.29	6.8	A	Flushing WB	R	0.32	7.1	A		Flushing WB	R	0.10	5.3	A	Flushing WB	R	0.11	5.4	A		Flushing WB	R	0.08	5.1	A	Flushing WB	R	0.12	5.4	A		Flushing WB	R	0.13	5.5	A	Flushing WB	R	0.15	5.6	A	
	Melrose WB	LT	0.77	16.6	B	Melrose WB	LT	0.85	22.2	C		Melrose WB	LT	0.65	12.8	B	Melrose WB	LT	0.79	19.2	B		Melrose WB	LT	0.90	26.8	C	Melrose WB	LT	1.08	71.9	E	*	Melrose WB	LT	0.56	10.2	B	Melrose WB	LT	0.69	13.5	B	
	Melrose WB	R	0.29	6.8	A	Melrose WB	R	0.32	7.1	A		Melrose WB	R	0.10	5.3	A	Melrose WB	R	0.11	5.4	A		Melrose WB	R	0.08	5.1	A	Melrose WB	R	0.12	5.4	A		Melrose WB	R	0.13	5.5	A	Melrose WB	R	0.15	5.6	A	
	Thames WB	TR	0.19	5.7	A	Thames WB	TR	0.20	5.8	A		Thames WB	TR	0.07	5.0	A	Thames WB	TR	0.08	5.1	A		Thames WB	TR	0.08	5.1	A	Thames WB	TR	0.11	5.2	A		Thames WB	TR	0.10	5.2	A	Thames WB	TR	0.11	5.2	A	
	Flushing SB	LTR	0.52	38.3	D	Flushing SB	LTR	0.68	46.0	D		Flushing SB	LTR	0.73	46.8	D	Flushing SB	LTR	0.76	48.8	D		Flushing SB	LTR	0.99	79.7	E	Flushing SB	LTR	1.01	86.5	F	*	Flushing SB	LTR	0.78	50.0	D	Flushing SB	LTR	1.06	104.6	F	*
	Melrose SB	LTR	0.52	38.3	D	Melrose SB	LTR	0.68	46.0	D		Melrose SB	LTR	0.73	46.8	D	Melrose SB	LTR	0.76	48.8	D		Melrose SB	LTR	1.08	110.0	F	Melrose SB	LTR	1.11	118.5	F	*	Melrose SB	LTR	0.78	50.0	D	Melrose SB	LTR	0.80	51.6	D	
	Varick SB	TR	0.88	65.6	E	Varick SB	TR	1.01	93.5	F	*	Varick SB	TR	1.08	107.4	F	Varick SB	TR	1.11	116.9	F	*	Varick SB	TR	1.08	104.4	F	Varick SB	TR	1.10	110.4	F	*	Varick SB	TR	1.07	109.1	F	Varick SB	TR	1.09	113.5	F	*
Flushing Ave &	EB	LT	0.76	27.3	C	EB	LT	0.82	31.5	C		EB	LT	1.11	94.6	F	EB	LT	1.16	114.2	F	*	EB	LT	1.15	107.5	F	EB	LT	1.21	130.7	F	*	EB	LT	0.77	27.6	C	EB	LT	0.83	31.7	C	
Knickerbocker Ave	WB	TR	1.05	73.4	E	WB	TR	1.09	85.1	F	*	WB	TR	0.70	24.2	C	WB	TR	0.74	26.4	C		WB	TR	0.94	44.0	D	WB	TR	0.99	56.2	E	*	WB	TR	0.58	19.5	B	WB	TR	0.61	20.3	C	
	NB	L	0.35	21.8	C	NB	L	0.35	21.8	C		NB	L	0.24	19.9	B	NB	L	0.24	19.9	B		NB	L	0.23	19.8	B	NB	L	0.23	19.8	B		NB	L	0.18	19.2	B	NB	L	0.18	19.2	B	
	NB	TR	1.09	90.3	F	NB	TR	1.09	90.3	F		NB	TR	1.08	89.8	F	NB	TR	1.08	89.8	F		NB	TR	1.09	92.0	F	NB	TR	1.09	92.0	F		NB	TR	1.00	67.1	E	NB	TR	1.00	67.1	E	
Flushing Ave &	EB	LTR	0.91	39.9	D	EB	LTR	0.97	50.5	D		EB	LTR	1.12	96.3	F	EB	LTR	1.17	113.7	F	*	EB	LTR	1.12	91.0	F	EB	LTR	1.15	105.2	F	*	EB	LTR	0.85	31.7	C	EB	LTR	0.90	36.8	D	
Morgan Ave & Wilson Ave	WB	LTR	1.12	94.7	F	WB	LTR	1.16	107.2	F	*	WB	LTR	0.71	23.1	C	WB	LTR	0.74	24.7	C		WB	LTR	0.97	48.5	D	WB	LTR	1.02	61.4	E	*	WB	LTR	0.59	18.6	B	WB	LTR	0.62	19.4	B	
	NB	LTR	1.11	119.4	F	NB	LTR	1.11	119.4	F		NB	LTR	1.09	121.4	F	NB	LTR	1.09	121.4	F		NB	LTR	1.11	121.8	F	NB	LTR	1.11	121.8	F		NB	LTR	0.81	53.8	D	NB	LTR	0.81	53.8	D	
	SB	LTR	1.04	95.0	F	SB	LTR	1.06	100.4	F	*	SB	LTR	1.10	107.6	F	SB	LTR	0.11	111.5	F		SB	LTR	1.09	100.9	F	SB	LTR	1.11	107.2	F	*	SB	LTR	1.09	103.8	F	SB	LTR	1.10	106.5	F	
Troutman St &	WB	LTR	0.52	21.4	C	WB	LTR	0.68	27.5	C		WB	LTR	0.52	21.9	C	WB	LTR	0.62	25.4	C		WB	LTR	0.64	24.9	C	WB	LTR	0.75	31.0	C		WB	LTR	0.48	21.5	C	WB	LTR	0.65	28.2	C	
Wyckoff Ave	NB	LT	0.40	10.8	B	NB	LT	0.45	11.6	B		NB	LT	0.37	10.5	B	NB	LT	0.39	10.8	B		NB	LT	0.37	10.4	B	NB	LT	0.40	10.8	B		NB	LT	0.45	11.9	B	NB	LT	0.49	12.6	B	
	SB	TR	0.50	12.3	B	SB	TR	0.54	12.9	B		SB	TR	0.67	16.3	B	SB	TR	0.70	17.7	B		SB	TR	0.54	13.2	B	SB	TR	0.63	15.5	B		SB	TR	0.33	10.0	A	SB	TR	0.38	10.5	B	
Troutman St &	WB	LT	0.71	28.2	C	WB	LT	0.73	29.2	C		WB	LT	0.74	30.9	C	WB	LT	0.77	33.0	C		WB	LT	1.04	78.9	E	WB	LT	1.10	97.0	F	*	WB	LT	0.63	25.3	C	WB	LT	0.65	26.3	C	
Irving Ave	SB	TR	0.64	15.3	B	SB	TR	0.70	17.2	B		SB	TR	0.83	24.9	C	SB	TR	0.91	33.5	C		SB	TR	1.16	101.6	F	SB	TR	1.26	145.7	F	*	SB	TR	0.89	31.9	C	SB	TR	1.01	54.4	D	
Troutman St &	WB	TR	0.75	29.3	C	WB	TR	0.84	36.9	D		WB	TR	0.80	32.9	C	WB	TR	0.90	44.8	D		WB	TR	1.13	104.9	F	WB	TR	1.24	146.4	F	*	WB	TR	0.84	36.4	D	WB	TR	0.95	54.3	D	
Knickerbocker Ave	NB	LT	1.10	82.1	F	NB	LT	1.15	98.8	F	*	NB	LT	0.80	24.4	C	NB	LT	0.82	26.4	C		NB	LT	1.02	57.4	E	NB	LT	1.05	67.9	E	*	NB	LT	0.76	22.1	C	NB	LT	0.79	23.9	C	
Flushing Ave &	EB	LT	0.04	12.6	B	EB	LT	0.68	15.5	B		EB	LT	0.05	10.6	B	EB	LT	0.77	19.9	B		EB	LT	0.08	11.0	B	EB	LT	0.94	36.5	D		EB	LT	0.08	10.8	B	EB	LT	0.62	14.7	B	
Stewart Ave						WB	TR	1.00	48.0	D							WB	TR	0.64	14.8	B							WB	TR	0.75	18.2	B							WB	TR	0.59	13.5	B	
(Unsignalized)	SB	LR	0.39	49.0	E	SB	LR	0.33	29.9	C		SB	LR	0.30	26.2	D	SB	LR	0.33	29.3	C		SB	LR	0.95	101.7	F	SB	LR	0.72	44.6	D		SB	LR	0.31	23.0	C	SB	LR	0.43	32.0	C	
Jefferson St &	EB	LTR	-	9.82	A	EB	LTR	-	10.82	B		EB	LTR	-	12.6	B	EB	LTR	-	14.01	B		EB	LTR	-	12.8	B	EB	LTR	-	16.50	C		EB	LTR	-	9.11	A	EB	LTR	-	10.24	B	
Wyckoff Ave	NB	TR	-	9.94	A	NB	TR	-	11.69	B		NB	TR	-	10.3	B	NB	TR	-	11.21	B		NB	TR	-	10.1	B	NB	TR	-	11.89	B		NB	TR	-	9.12	A	NB	TR	-	10.33	B	
(Unsignalized)	SB	LT	-	11.37	B	SB	LT	-	12.41	B		SB	LT	-	14.0	B	SB	LT	-	15.01	C		SB	LT	-	12.2	B	SB	LT	-	14.29	B		SB	LT	-	8.96	A	SB	LT	-	9.57	A	
Jefferson St &	EB	TR	0.47	20.1	C	EB	TR	1.02	105.0	F	*	EB	TR	1.25	186.1	F	EB	TR	2.93	953.0	F	*	EB	TR	2.29	645.3	F	EB	TR	5.25	1997.0	F	*	EB	TR	1.28	211.8	F	EB	TR	3.72	1339.0	F	*
Irving Ave	SB	LT	0.02	7.2	A	SB	LT	0.02	7.2	A		SB	LT	0.03	7.3	A	SB	LT	0.03	7.3	A		SB	LT	0.04	7.4	A	SB	LT	0.04	7.4	A		SB	LT	0.01	7.2	A	SB	LT	0.01	7.2	A	
(Unsignalized)																																												

Notes: Flushing and Stewart signalized under WA condition
* - Denotes a significant adverse impact

H. TRANSIT

Existing Conditions

Subway Stations

As discussed above in Section E, "Level 2 Screening Assessment," the Proposed Action is expected to exceed the 200-trip *CEQR Technical Manual* threshold for a subway station analysis in both the weekday AM and PM peak hours at the Jefferson Street station served by the L train operating on the Canarsie Local Line. The Jefferson Street station is located beneath Wyckoff Avenue immediately adjacent to the Project Area, and as noted previously, entrance stairs to the station's Brooklyn-bound platform are located on the northeastern portion of Lot 40 (see **Figure 4-3**).

The station consists of a two island platforms below street level. As shown in **Figure 4-8**, street and platform stairs provide access to one High Entry/Exit Turnstile (HEETs) and one High Exit Turnstile (HXTs) adjacent to both the Manhattan- and Brooklyn-bound platforms. On the north side of the station, street stairs S6A/S6B and platform stairs P4A/P4B provide access to the Manhattan-bound platform. On the south side of the station, street stairs S5A/S5B and platform stairs P3A/P3B provide access to the Manhattan-bound platform. It should be noted that although data was collected in March 2019, an annual background growth rate of 0.5 percent per year was included to bring the existing analysis year to 2020. This background growth rate is recommended in the 2021 *CEQR Technical Manual* for projects in Brooklyn. As shown in **Tables 4-19 and 4-20**, all stairs and fare arrays currently operate at an uncongested LOS A both the AM and PM peak hours.

TABLE 4-19
Existing Conditions Subway Station Stair Analysis

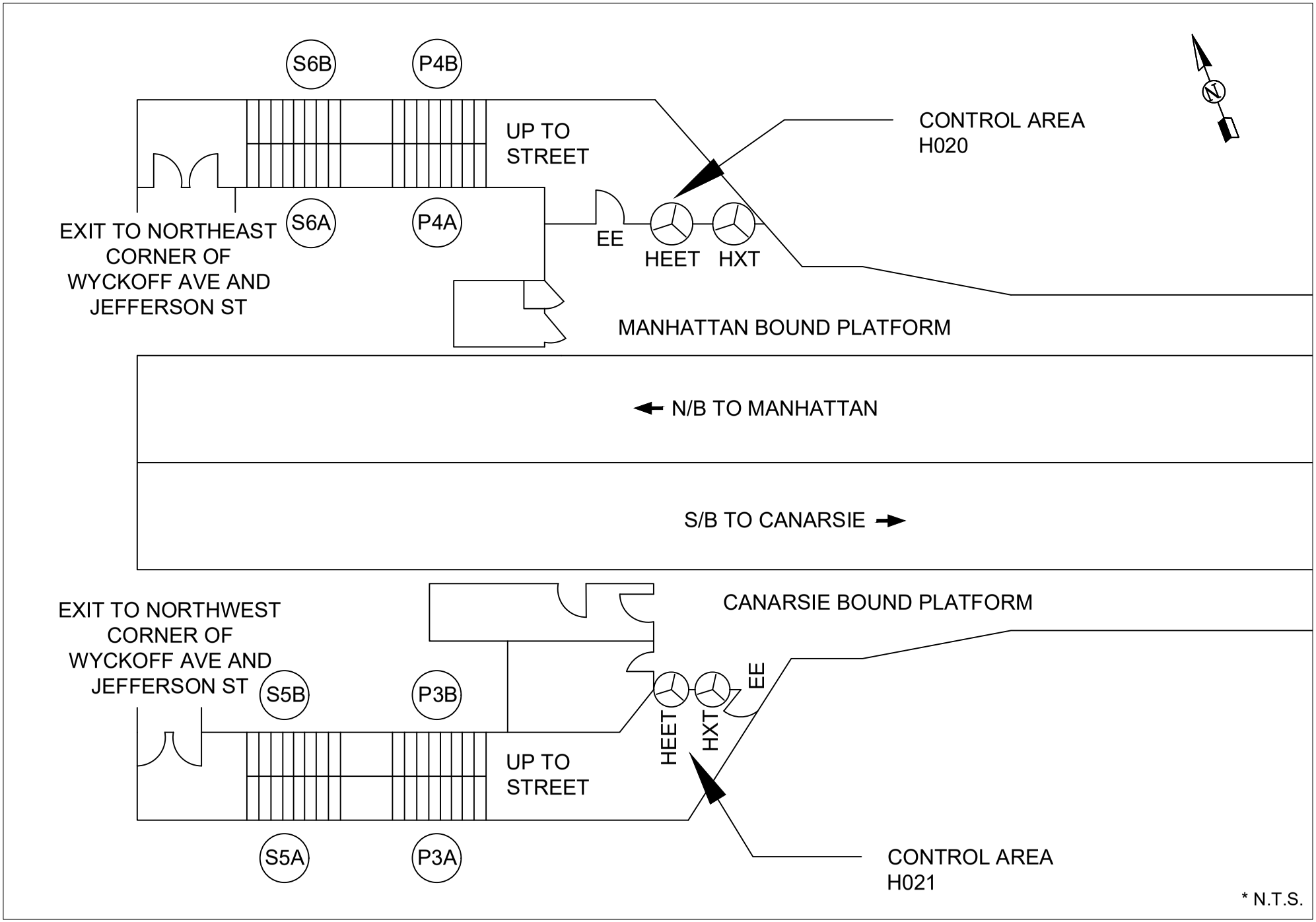
Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
AM	Jefferson Ave (L)	S6/P4	15.00	13.75	128	244	0.75	1.00	0.90	0.07	A
		S5/P3	14.83	13.58	87	72	0.75	1.00	0.90	0.03	A
PM	Jefferson Ave (L)	S6/P4	15.00	13.75	60	210	0.75	1.00	0.90	0.05	A
		S5/P3	14.83	13.58	288	108	0.75	1.00	0.90	0.08	A

Notes:
Data collected in March 2019, but background growth was applied to bring the existing analysis year to 2020.
Methodology based on *CEQR Technical Manual guidance.*

TABLE 4-20
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	Jefferson Ave (L)	H020	0	1	1	244	128	1.00	0.75	0.90	0.39	A
		H021	0	1	1	72	87	1.00	0.75	0.90	0.14	A
PM	Jefferson Ave (L)	H020	0	1	1	210	60	1.00	0.75	0.90	0.31	A
		H201	0	1	1	108	288	1.00	0.75	0.90	0.27	A

Notes:
Data collected in March 2019, but background growth was applied to bring the existing analysis year to 2020.
Methodology based on *CEQR Technical Manual guidance.*



1160 Flushing Ave Rezoning

Figure 4-8

Jefferson Street Subway Station Layout

Subway Line Haul

Line haul is the volume of transit riders passing a defined point on a given transit route. As discussed above, the vicinity of the Project Area is primarily served by one NYCT subway route – L trains operating on the Canarsie Line. The peak direction of travel along the L route is typically Manhattan-bound (northbound) in the AM and Brooklyn-bound (southbound) in the PM. The analysis of existing subway line haul conditions on these routes is based on maximum load point capacity and 2018-2019 ridership data (prior to the Covid-19 pandemic) and provided by NYCT. Line haul conditions on the L train are assessed at the peak load point during the weekday AM at 1st Avenue in Manhattan and the weekday PM peak hours at 14th Street – Union Square in Manhattan. Maximum load point data from 2018-2019 were provided by NYCT, and were grown by 0.5 percent per year to account for any increases in demand during the 2019-2020 period.

Table 4-21 shows existing line haul conditions in the peak direction at the maximum load points along the L subway route during the AM and PM peak hours. As shown in **Table 4-21**, L trains are operating over capacity in the peak directions in the both peak hours where trains are currently operating at volume-to-capacity (v/c) ratios of approximately 1.03 and 1.02 in the weekday AM and PM peak hours, respectively.

TABLE 4-21
Existing Conditions Subway Line Haul Analysis

Peak Period	Route	Direction	Maximum Load Point (leaving station)	Average Trains Per Hour (1)	Cars Per Train	Average Cars Per Hour	Average Passengers Per Hour (1)	Average Passengers Per Car	Guideline Passengers Per Car (2)	V/C Ratio (3)
AM	L	NB	1 Av	19.2	8	154	23,056	150	145	1.03
PM	L	SB	14 St - Union Square	17.5	8	140	20,638	147	145	1.02

Notes:
1. Based on 2018-2019 ridership and train throughput data from NYCT. Passenger volumes grown by 0.5 percent/year to account for growth in demand during the 2018 to 2020 period.
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.
3. Volume to guideline capacity ratio.

The Future Without the Proposed Action (No-Action Condition)

Between 2020 and 2027, it is expected that subway demand in the vicinity of the Project Area will increase due to long-term background growth as well as planned development. In order to forecast future subway conditions without the Proposed Action (the No-Action condition), the developments within ¼-mile of the Project Area listed in **Table 2-3** in **Chapter 2, "Land Use, Zoning and Public Policy,"** were considered. The future No-Action traffic volumes also reflect annual background growth rates of 0.50 percent per year for the 2020 through 2025 period and 0.25 percent per year for 2025 to 2027. These background growth rates, recommended in the 2021 *CEQR Technical Manual* for projects in Brooklyn, are applied to account for smaller projects and as-of-right developments not reflected in **Table 2-3**, and general increases in travel demand not attributable to specific development projects.

Subway Stations

Under No-Action conditions, demand at the Jefferson Street (L) subway station is expected to increase as a result of new development and background growth. As shown in **Tables 4-22 and 4-23**, it is expected

that in the future No-Action condition, all street stairs and fare arrays will continue to operate at an uncongested LOS A in both the AM and PM peak hours.

TABLE 4-22
No-Action Stair Analysis at Analyzed Subway Stations

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	Jefferson Ave (L)	S6/P4	15.00	13.75	134	271	0.75	1.00	0.90	0.08	A
		S5/P3	14.83	13.58	104	77	0.75	1.00	0.90	0.04	A
PM	Jefferson Ave (L)	S6/P4	15.00	13.75	65	242	0.75	1.00	0.90	0.06	A
		S5/P3	14.83	13.58	324	114	0.75	1.00	0.90	0.09	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

TABLE 4-23
No-Action Fare Array Analysis at Analyzed Subway Stations

Peak Hour	Station	Fare Array	Control Elements			Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits			
AM	Jefferson Ave (L)	H020	0	1	1	271	134	1.00	0.75	0.90	0.43	A
		H021	0	1	1	77	104	1.00	0.75	0.90	0.15	A
PM	Jefferson Ave (L)	H020	0	1	1	242	65	1.00	0.75	0.90	0.36	A
		H201	0	1	1	114	324	1.00	0.75	0.90	0.29	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

Subway Line Haul

Table 4-24 shows anticipated 2027 No-Action line haul conditions in the peak direction at the maximum load point on the Canarsie (L) Line. The data in **Table 4-24** reflect both background growth for the 2020 through 2027 period and the addition of demand from new development in proximity to the Project Site. As shown in **Table 4-24**, in the AM peak hour, northbound L trains are expected to continue to operate over capacity with a v/c ratio of 1.07 leaving 1st Avenue. Similarly, in the PM peak hour, southbound L trains are also expected to operate over capacity with a v/c ratio of 1.05 leaving 1st Avenue.

TABLE 4-24
No-Action Subway Line Haul Analysis

Peak Period	Route	Direction	Maximum Load Point (leaving station)	Average Trains Per Hour (1)	Cars Per Train	Average Cars Per Hour	Average Passengers Per Hour (1)	Average Passengers Per Car	Guideline Passengers Per Car (2)	V/C Ratio (3)
AM	L	NB	1 Av	19.2	8	154	23,798	155	145	1.07
PM	L	SB	14 St - Union Square	17.5	8	140	21,309	152	145	1.05

Notes:
1. Based on 2018-2019 ridership and train throughput data from NYCT.
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.
3. Volume to guideline capacity ratio.

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

Subway Stations

As shown in **Table 4-7**, the Proposed Action is expected to generate a net increment of 255 and 237 new subway trips in the weekday AM and PM peak hours, respectively, at the Jefferson Street (L) station. Based on the location of the Jefferson Street station relative to the Project Area, it is anticipated that new project-generated subway trips would utilize the entrance located beneath Wyckoff Avenue immediately adjacent to the Project Area. **Tables 4-25 and 4-26** show conditions at analyzed stairs and fare arrays at this subway station in the future with the Proposed Action. As shown in **Tables 4-25 and 4-26**, under With-Action conditions all analyzed stairs and fare arrays at the Jefferson Street (L) station would operate at an acceptable LOS B or better in both the AM and PM peak hours. The Proposed Action would therefore not result in significant adverse subway station impacts based on *CEQR Technical Manual* impact criteria.

TABLE 4-25
With-Action Stair Analysis at Analyzed Subway Stations

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down	Up	Down			
AM	Jefferson Ave (L)	S6/P4	15.00	13.75	20	49	154	320	0.75	1.00	0.90	0.09	A
		S5/P3	14.83	13.58	181	5	285	82	0.75	1.00	0.90	0.08	A
PM	Jefferson Ave (L)	S6/P4	15.00	13.75	6	160	71	402	0.75	1.00	0.90	0.08	A
		S5/P3	14.83	13.58	53	18	377	132	0.75	1.00	0.90	0.11	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

TABLE 4-26
With-Action Fare Array Analysis at Analyzed Subway Stations

Peak Hour	Station	Fare Array	Control Elements			Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits	System Entries	System Exits			
AM	Jefferson Ave (L)	H020	0	1	1	49	20	320	154	1.00	0.75	0.90	0.50	B
		H021	0	1	1	5	181	82	285	1.00	0.75	0.90	0.23	A
PM	Jefferson Ave (L)	H020	0	1	1	160	6	402	71	1.00	0.75	0.90	0.58	B
		H201	0	1	1	18	53	132	377	1.00	0.75	0.90	0.34	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

Subway Line Haul

Table 4-27 shows line haul conditions on L trains in the future with the Proposed Actions. As shown in **Table 4-27**, in the AM peak hour, L trains are expected to continue to operate over capacity with a v/c ratio of 1.07 (same as under No-Action condition) leaving 1st Avenue. Similarly, during the PM peak hour, southbound L trains are expected to continue to operate slightly over capacity with a v/c ratio of 1.05 (same as under No-Action condition) leaving 14th Street – Union Square. However, incremental demand due to the Proposed Actions would only amount to an average of 0.32 and 0.38 additional passengers per car in the weekday AM and PM peak hours, respectively. As no peak direction L trains operating at or over capacity would experience an average increase of five or more additional passengers per car at their maximum load point in either the AM or PM peak hours, L train service would not be considered significantly adversely impacted by the Proposed Actions under the *CEQR Technical Manual* impact criteria outlined above in Section F, "Transportation Analyses Methodologies."

TABLE 4-27
With-Action Subway Line Haul Analysis Stations

Peak Period	Route	Direction	Maximum Load Point (leaving station)	Average Trains Per Hour (1)	Cars Per Train	Average Cars Per Hour	Project Increment	Average Passengers Per Hour (1)	Average Passengers Per Car	Guideline Passengers Per Car (2)	V/C Ratio (3)	Average Additional Passenger per Car
AM	L	NB	1 Av	19.2	8	154	49	23,847	155	145	1.07	0.32
PM	L	SB	14 St - Union Square	17.5	8	140	53	21,362	153	145	1.05	0.38

I. PEDESTRIANS

Existing Conditions

As discussed previously in Section E, "Level 2 Screening Assessment," the analysis of pedestrian conditions focuses on a total of 14 pedestrian elements where new trips generated by the Proposed Project are expected to exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or more peak hours. As shown in **Figures 4-4a and 4-4b**, these elements— five sidewalks, four crosswalks, and five corner areas —are located in the immediate proximity of the Project Area and along Flushing Avenue.

Sidewalks

The highest existing pedestrian flows on analyzed sidewalks are generally found along Wyckoff Avenue in the vicinity of the entrance to the Jefferson Street (L) subway station (up to 523 persons/hour). Analyzed sidewalks typically range from approximately 12 feet (along Flushing Avenue) to 18 feet in width (along Wyckoff Avenue). Features typically present along study area sidewalks that can reduce the effective width available for pedestrian flow include street furniture such as fire hydrants, curbside signage, and traffic signal and lamp posts.

Table 4-28 shows the existing peak hour pedestrian volumes, average pedestrian space (in sf/ped), and platoon-adjusted LOS at the analyzed sidewalks. As shown in **Table 4-28**, the analyzed sidewalks currently operate at an uncongested LOS B or better in all analyzed peak hours.

TABLE 4-28
Existing Sidewalk Conditions

Location	Sidewalk	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volume				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted LOS			
				AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Wyckoff Ave btwn Flushing Ave and Jefferson St	East	17.8	11.2	451	194	523	256	352.9	738.7	243.4	580.5	B	A	B	A
Wyckoff Ave btwn Flushing Ave and Jefferson St	West	17.7	10.5	369	224	480	437	396.5	616.2	270.1	304.3	B	A	B	B
Flushing Ave btwn Irving Ave and Wyckoff Ave	South	12.1	4.8	60	113	115	130	790.0	412.7	359.7	370.3	A	B	B	B
Flushing Ave btwn Stewart Ave and Harrison Pl	North	13.0	4.8	86	87	118	96	418.0	606.7	466.7	533.9	B	A	B	A
Jefferson St btwn Irving Ave and Wyckoff Ave	North	15.1	6.0	93	63	110	170	715.3	1,221.9	622.0	475.1	A	A	A	B

Crosswalks

Study area intersections are a mix of signalized and stop controlled, and the signalized intersections generally include pedestrian signals. High visibility crosswalk striping is present at several intersections along Flushing Avenue. **Table 4-29** shows the peak hour volumes, average pedestrian space (in sf/ped),

and LOS at the analyzed crosswalks. As shown in **Table 4-29**, the analyzed crosswalks currently operates at an uncongested LOS A in all analyzed peak hours.

Corner Areas

Table 4-30 shows the peak hour volumes, average pedestrian space (in sf/ped) and levels of service at analyzed corner areas. As shown in **Table 4-30**, all five of the analyzed corner areas currently operate at an uncongested LOS A in all analyzed peak hours.

TABLE 4-29
Existing Crosswalk Conditions

Location	Crosswalk	Width (ft.)	Peak Hour Volume				Average Pedestrian Space (ft^2/ped)				LOS			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Flushing Ave	East	14.9	46	79	124	166	415.0	243.1	160.0	116.8	A	A	A	A
@ Irving Ave	South	13.4	51	99	67	154	297.1	179.7	169.2	104.4	A	A	A	A
Flushing Ave	South	14.8	160	93	137	129	184.8	352.5	206.9	254.0	A	A	A	A
@ Wyckoff	West	14.5	111	67	127	113	308.1	440.3	281.4	219.2	A	A	A	A

TABLE 4-30
Existing Corner Conditions

Location	Corner	Pedestrian Space (SFP)				LOS			
		AM	MD	PM	SAT	AM	MD	PM	SAT
Flushing Ave @ Irving Ave	NE	871.3	551.8	398.6	354.8	A	A	A	A
Flushing Ave @ Irving Ave	SE	948.8	578.4	492.1	263.1	A	A	A	A
Flushing Ave @ Irving Ave	SW	670.3	558.9	352.1	282.7	A	A	A	A
Flushing Ave @ Wyckoff Ave	SE	300.5	476.3	296.9	304.5	A	A	A	A
Flushing Ave @ Wyckoff Ave	SW	381.7	544.6	330.5	304.9	A	A	A	A

The Future Without the Proposed Action (No-Action Condition)

Pedestrian volumes along analyzed sidewalks, crosswalks, and corner areas are expected to increase through 2027 as a result of background growth as well as demand from No-Action development projects (see **Table 2-3** in **Chapter 2, "Land Use, Zoning, and Public Policy"**). No changes to the study area pedestrian network are anticipated to occur during this period.

Sidewalks

Table 4-31 shows the No-Action peak hour pedestrian volumes, average pedestrian space, and platoon-adjusted LOS at the analyzed sidewalk. As shown in **Table 4-31**, all analyzed sidewalks are expected to operate at an uncongested LOS B in all analyzed peak hours in the future without the Proposed Action.

TABLE 4-31
No-Action Sidewalk Conditions

Location	Sidewalk	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volume				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted LOS			
				AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Wyckoff Ave btwn Flushing Ave and Jefferson St	East	17.8	11.2	560	333	694	440	284.2	430.3	183.3	337.6	B	B	B	B
Wyckoff Ave btwn Flushing Ave and Jefferson St	West	17.7	10.5	496	393	692	681	294.9	351.1	187.2	195.1	B	B	B	B
Flushing Ave btwn Irving Ave and Wyckoff Ave	South	12.1	4.8	192	333	410	476	246.7	139.7	100.4	100.6	B	B	B	B
Flushing Ave btwn Stewart Ave and Harrison Pl	North	13.0	4.8	219	282	358	372	163.9	186.9	153.5	137.4	B	B	B	B
Jefferson St btwn Irving Ave and Wyckoff Ave	North	15.1	6.0	223	279	406	516	298.1	275.7	168.2	156.2	B	B	B	B

Crosswalks

Table 4-32 shows the peak hour volumes, average pedestrian space, and LOS at the analyzed crosswalks in the No-Action condition. As shown in **Table 4-32**, each of the analyzed crosswalks are expected to operate at LOS C or better in all analyzed peak hours in the future without the Proposed Action.

TABLE 4-32
No-Action Crosswalk Conditions

Location	Crosswalk	Width (ft.)	Peak Hour Volume				Average Pedestrian Space (ft^2/ped)				LOS			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Flushing Ave	East	14.9	164	258	357	436	114.7	72.5	53.3	43.0	A	A	B	B
@ Irving Ave	South	13.4	153	264	286	410	91.5	61.6	33.9	36.1	A	A	C	C
Flushing Ave	South	14.8	289	285	385	415	98.1	110.9	70.5	75.6	A	A	A	A
@ Wyckoff	West	14.5	278	292	400	427	120.8	96.7	85.1	54.9	A	A	A	B

Corner Areas

Table 4-33 shows the peak hour volumes, average pedestrian space, and LOS at analyzed corner areas in the No-Action condition. As shown in **Table 4-33**, all analyzed corner areas are expected to continue to operate at an uncongested LOS A in all analyzed peak hours in the future without the Proposed Action.

TABLE 4-33
No-Action Corner Conditions

Location	Corner	Pedestrian Space (SFP)				LOS			
		AM	MD	PM	SAT	AM	MD	PM	SAT
Flushing Ave @ Irving Ave	NE	414.0	276.5	215.5	183.5	A	A	A	A
Flushing Ave @ Irving Ave	SE	303.7	207.6	145.7	103.4	A	A	A	A
Flushing Ave @ Irving Ave	SW	346.2	281.8	170.5	139.6	A	A	A	A
Flushing Ave @ Wyckoff Ave	SE	218.6	282.1	181.0	176.0	A	A	A	A
Flushing Ave @ Wyckoff Ave	SW	189.0	177.5	125.8	99.9	A	A	A	A

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

The Proposed Action would generate new pedestrian demand on analyzed sidewalks, crosswalks, and corner areas by 2027. This new demand would include trips made solely by walking, as well as pedestrian trips en route to and from public parking garages in the study area, subway station entrances and bus

stops. Pedestrian trips generated by the Proposed Action are expected to be most concentrated in proximity to the Project Area and along corridors connecting the site to area transit services.

As shown in **Table 4-7**, the Proposed Action is expected to generate a net total of approximately 714 incremental walk-only trips in the weekday AM peak hour, 1,290 in the weekday midday peak hour, 1,108 in the weekday PM peak hour, and 1,511 in the Saturday peak hour. Persons walking to and from nearby parking, subway station entrances, and bus stops would add approximately 719, 447, 708, and 530 incremental pedestrian trips to sidewalks and crosswalks in the vicinity of the Project Area during the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. These pedestrian volumes were added to the projected No-Action volumes to generate the With-Action pedestrian volumes for analysis.

Anticipated conditions at analyzed sidewalks, crosswalks, and corner areas in the future with the Proposed Action are shown in **Tables 4-34 through 4-36**. As discussed below, all analyzed sidewalks and corners would operate at an acceptable LOS C or better during each analyzed peak hour; however, one analyzed crosswalk would be considered significantly adversely impacted in one or more peak hour as a result of the Proposed Action. Potential measures to mitigate these crosswalk impacts are discussed in **Chapter 9, "Mitigation."**

Sidewalks

Table 4-34 shows the incremental change in peak hour pedestrian volumes attributable to the Proposed Action and the total With-Action pedestrian volumes, average pedestrian space, and platoon-adjusted LOS at the analyzed sidewalk. As shown in **Table 4-34**, in the With-Action condition all analyzed sidewalks would operate at an acceptable LOS C or better in all analyzed peak hours. Therefore, the Proposed Action would not result in any significant adverse sidewalk impacts based on the *CEQR Technical Manual* impact criteria discussed above in Section F, "Transportation Analyses Methodologies."

TABLE 4-34
With-Action Sidewalk Conditions

Location	Sidewalk	Total Width (ft.)	Effective Width (ft.)	Project Increment				Peak Hour Volume				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted LOS			
				AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Wyckoff Ave btwn Flushing Ave and Jefferson St	East	17.8	11.2	148	172	284	226	708	505	978	666	224.7	283.6	129.8	222.9	B	B	B	B
Wyckoff Ave btwn Flushing Ave and Jefferson St	West	17.7	10.5	202	164	212	195	698	557	904	876	209.4	247.6	143.1	151.5	B	B	B	B
Flushing Ave btwn Irving Ave and Wyckoff Ave	South	12.1	4.8	393	442	512	547	585	775	922	1023	80.4	59.3	43.7	45.9	C	C	C	C
Flushing Ave btwn Stewart Ave and Harrison Pl	North	13.0	4.8	245	349	348	441	464	631	706	813	76.8	83.0	77.3	62.2	C	C	C	C
Jefferson St btwn Irving Ave and Wyckoff Ave	North	15.1	6.0	308	373	348	413	531	652	754	929	124.9	117.6	90.2	86.3	B	B	B	C

Crosswalks

Table 4-35 shows the incremental change in peak hour pedestrian volumes attributable to the Proposed Action and the total With-Action pedestrian volumes, average pedestrian space, and LOS at the analyzed crosswalks. As shown in **Table 4-35**, in the With-Action condition, one analyzed crosswalk would be considered significantly adversely impacted in two analyzed peak hours based on the *CEQR Technical Manual* impact criteria discussed above in Section F, "Transportation Analyses Methodologies." The south crosswalk at the intersection of Flushing Avenue and Irving Avenue would operate at LOS E in the weekday PM peak hour and at LOS D during the Saturday peak hours. As such, this crosswalk would be significantly adversely impacted during these periods. Potential measures to mitigate this crosswalk impact is discussed in **Chapter 9, "Mitigation."**

TABLE 4-35
With-Action Crosswalk Conditions

Location	Crosswalk	Width (ft.)	Project Increment				Peak Hour Volume				Average Pedestrian Space (ft^2/ped)				LOS			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Flushing Ave	East	14.9	129	195	218	291	293	453	575	727	60.2	40.1	31.9	24.9	A	B	C	C
@ Irving Ave	South	13.4	228	309	300	350	381	573	586	760	34.2	25.6	14.2	17.4	C	C	E	D
Flushing Ave	South	14.8	229	288	409	387	518	573	794	802	50.6	53.2	31.5	37.1	B	B	C	C
@ Wyckoff	West	14.5	71	109	87	120	349	401	487	547	92.6	67.9	66.5	40.4	A	A	A	B

Notes: Shading demotes a significant adverse impact based on *CEQR Technical Manual* criteria

Corner Areas

Table 4-36 shows the total With-Action pedestrian volumes, average pedestrian space, and LOS at analyzed corner areas. As shown in **Table 4-36**, in the With-Action condition all analyzed corner areas would operate at an uncongested LOS B or better in all analyzed peak hours. Therefore, the Proposed Action would not result in any significant adverse corner area impacts based on the *CEQR Technical Manual* impact criteria discussed above in Section F, "Transportation Analyses Methodologies."

TABLE 4-36
With-Action Corner Conditions

Location	Corner	Pedestrian Space (SFP)				LOS			
		AM	MD	PM	SAT	AM	MD	PM	SAT
Flushing Ave @ Irving Ave	NE	239.4	158.6	135.4	103.8	A	A	A	A
Flushing Ave @ Irving Ave	SE	135.6	100.7	73.3	53.4	A	A	A	B
Flushing Ave @ Irving Ave	SW	162.8	143.0	95.7	83.3	A	A	A	A
Flushing Ave @ Wyckoff Ave	SE	156.5	187.4	113.8	115.3	A	A	A	A
Flushing Ave @ Wyckoff Ave	SW	105.0	98.5	69.8	58.7	A	A	A	B

J. STREET USER SAFETY

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 released on February 19, 2015 and identified Flushing Avenue, to the north of the Project Area as a Priority Corridor. There were no Priority Intersections or Priority Intersections identified within the traffic or pedestrian study areas. 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
- Install additional lighting under elevated trains and around other key transit stops
- Install 60 new speed bumps in Brooklyn annually
- Develop additional Neighborhood Slow Zones in Priority Areas
- 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 camera 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

EDUCATION AND AWARENESS CAMPAIGNS

- Target child and senior safety education at Priority Corridors and Priority Areas
- Launch multilingual public information campaigns in Priority Areas
- Target intensive street-level outreach at Priority Corridors, Intersections, and Areas

Study Area High Crash Locations

Crash data for 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 crashes as well as the total number of crashes involving injuries to pedestrians or bicyclists. During the three-year reporting period, a total of 339 crashes and 40 pedestrian/bicyclist-related injury crashes occurred at analyzed study area intersections. None of these crashes involved fatalities. **Table 4-37** provides a summary of crashes by intersection during the 2017 to 2019 period, as well as a breakdown of pedestrian and bicycle crashes by year and location.

According to the 2021 *CEQR Technical Manual* and NYCDOT, a high crash location is defined as location identified along a Vision Zero priority intersection or 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 3-year period for which data is available is also identified as a high crash location. As shown in **Table 4-37**, based on these

criteria, the analyzed intersection of Flushing Avenue and Knickerbocker Avenue was classified as a high crash location.

Flushing Avenue and Knickerbocker Avenue

In 2017, one pedestrian crash and zero bicycle-related crashes occurred at this intersection. A total of two pedestrian crashes and zero bicycle-related crashes occurred at this intersection in 2018, and three pedestrian and one bicycle-related crashes occurred at this intersection in 2019. This intersection is signalized and includes pedestrian signals with countdown clocks. There are north, south, east, and west crosswalks striped at this intersection. In addition, there is a conventional bicycle lane located along Knickerbocker Avenue, to the south of Flushing Avenue, and a protected bicycle lane located along Morgan Avenue, to the north of Flushing Avenue. Flushing Avenue is a NYCDOT designated local truck routes. This intersection is expected to experience minimal increases in project generated pedestrian trips as a majority of pedestrian trips would be concentrated adjacent to the Proposed Project and along the routes to/from the Jefferson Street subway station.

Lastly, no intersections within the traffic and pedestrian study areas are located within a designated Senior Pedestrian Focus Area (SPFA), which were identified by NYCDOT based on the density of senior pedestrian (age 65+) crashes resulting in fatalities or severe injuries in a five-year period, as well as variables such as senior trip generators, concentrations of senior centers, and senior housing locations.

TABLE 4-37
Summary of Motor Vehicle Crash Data 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
Flushing Avenue	Cypress Ave / Johnson Ave	0	1	0	0	0	0	0	1	0	0	12	2
	Scott Ave	0	0	0	0	1	0	0	1	0	3	7	8
	St Nicholas Ave	0	0	0	0	0	0	0	0	0	2	3	9
	Wyckoff Ave	0	1	1	0	0	0	0	1	1	1	3	3
	Harrison Pl / Gardner Ave	0	0	0	0	0	0	0	0	0	1	1	1
	Stewart Ave / Grattan St	0	0	0	0	0	1	0	0	1	0	1	2
	Irving Ave / Melrose St	1	1	0	0	1	0	1	2	0	4	6	2
	Varick Ave	0	0	0	0	0	0	0	0	0	0	0	1
	Knickerbocker Ave	1	2	3	0	0	1	1	2	4	2	7	9
Knickerbocker Ave	Thames St	0	1	0	0	0	0	0	1	0	0	2	2
	George St	0	0	0	0	0	0	0	0	0	1	2	2
	Melrose St	0	0	0	0	0	0	0	0	0	0	1	0
	Jefferson St	0	0	2	2	1	0	2	1	2	5	3	10
	Troutman St	1	1	0	0	0	1	1	1	1	2	6	5
	Starr St	0	0	1	0	0	0	0	0	1	1	0	3
Irving Ave	Jefferson St	0	0	0	0	0	0	0	0	0	1	0	7
	Troutman St	0	0	0	0	0	0	0	0	0	2	2	2
	Starr St	0	0	0	0	1	0	0	1	0	0	2	2
	Willoughby St	0	0	0	0	0	0	0	0	0	0	1	1
	Suydam St	0	0	2	0	0	0	0	0	2	1	1	2
Wyckoff Ave	Jefferson St	0	0	0	0	1	0	0	1	0	2	7	2
	Troutman St	1	0	0	0	0	0	1	0	0	1	1	3
	Starr St	0	0	0	0	0	0	0	0	0	3	4	1
	Willoughby St	0	0	0	0	0	0	0	0	0	0	3	1
	Suydam St	0	1	0	0	0	0	0	1	0	1	3	4
St Nicholas Ave	Jefferson St	0	0	0	1	0	0	1	0	0	3	3	2
	Troutman St / Scott Ave	0	0	0	0	0	0	0	0	0	0	0	0
	Starr St	0	0	1	0	0	1	0	0	2	0	3	3
	Willoughby St	0	0	0	0	0	0	0	0	0	0	0	2
	Suydam St	0	1	0	0	0	0	0	1	0	0	1	1
Scott Ave	Jefferson St	0	0	0	0	0	0	0	0	0	0	0	0
Cypress Ave	Jefferson St	1	0	0	0	0	0	1	0	0	2	0	0
	Troutman St	0	0	1	0	0	0	0	0	1	0	0	3
	Starr St	0	0	1	0	0	0	0	0	1	0	4	1
	Willoughby St	0	0	0	0	0	0	0	0	0	0	0	2
Porter Ave	Johnson Ave	0	0	0	0	0	0	0	0	0	0	2	5
	Ingraham St	0	0	0	0	0	0	0	0	0	0	0	4
	Harrison Pl	0	0	0	0	0	0	0	0	0	0	1	1
	Grattan St	0	0	0	0	0	0	0	0	0	0	2	1
	Thames St	0	0	0	0	0	0	0	0	0	3	4	3
Varick Ave	Randolph St	0	0	0	0	0	0	0	0	0	0	2	2
	Johnson Ave	0	0	0	0	0	0	0	0	0	4	6	9
	Ingraham St	0	0	0	0	0	0	0	0	0	0	0	0
	Harrison Pl	0	0	0	0	0	0	0	0	0	1	3	4
	Grattan St	0	0	0	0	0	0	0	0	0	1	1	1
	Thames St	0	0	0	0	0	0	0	0	0	0	1	1
Stewart Ave	Randolph St	0	0	0	0	0	0	0	0	0	0	0	1
	Johnson Ave	0	1	0	0	0	0	0	1	0	2	5	14
	Ingraham St	0	0	0	0	0	0	0	0	0	0	1	1
	Harrison Pl	0	0	0	0	0	0	0	0	0	0	0	1
Gardner Ave	Randolph St	0	0	0	0	0	0	0	0	0	0	0	2
	Johnson Ave	0	0	0	0	0	0	0	0	0	0	2	2
	Ingraham St	0	0	0	0	0	0	0	0	0	0	1	0
Scott Ave	Randolph St	0	0	0	0	0	0	0	0	0	0	5	1
	Johnson Ave	0	0	0	1	0	0	1	0	0	7	5	2

Source: NYCDOT

K. PARKING

Existing Conditions

It should be noted that there are no off-street public parking facilities were identified within ¼-mile of the Project Area.

On-Street Parking

An inventory of existing parking regulations within ¼-mile of the Project Area was compiled from field surveys and on-line sources. On-street public parking is generally governed by truck loading regulations and alternate-side-of-the-street regulations to facilitate street cleaning, as well as more restrictive no standing regulations at locations where additional traffic flow capacity is needed. Based on existing curbside parking regulations, and taking into account curb space obstructed by curb cuts, fire hydrants, and other impediments, there are a total of approximately 1,637 legal curbside parking spaces in the midday within ¼-mile of the Project Area.

Based on data collected during field surveys conducted in November 2020, on-street parking during the weekday midday is approximately 93 percent utilized within ¼-mile of the Project Area, with approximately 112 on-street spaces currently available.

The Future Without the Proposed Action (No-Action Condition)

Between 2020 and 2027, it is expected that transportation demands in the vicinity of the Project Area will increase due to long-term background growth, new uses within the Project Area, and other planned developments unrelated to the Proposed Action. As shown in **Table 4-1**, under the No-Action RWCDS, the Project Area is assumed to be occupied by a total of 59,995 gsf, including 52,382 gsf of local retail uses and 7,613 gsf of light industrial uses. No accessory parking spaces would be provided at Projected Development Site 1 under the No-Action condition.

The forecast of future No-Action parking conditions also considers the potential for new demand from the planned developments listed in **Table 2-3** in **Chapter 2, "Land Use, Zoning, and Public Policy."** Auto trip forecasts were used to forecast the parking demands from these developments except where site-specific data were available from secondary sources such as previous environmental studies. In addition, the forecast of future No-Action parking conditions incorporates annual background growth rates of 0.50 percent per year for the 2020 through 2025 period and 0.25 percent per year for 2025 to 2027. These background growth rates, recommended in the *CEQR Technical Manual* for projects in Brooklyn outside of the Downtown area, are applied to account for smaller projects and as-of-right developments not reflected in **Table 2-3**, and general increases in parking demand not attributable to specific development projects.

On-Street Parking

After accounting for background growth and demand from No-Action land uses within the Project Area and in the surrounding area not otherwise accommodated by accessory parking, the demand for on-street parking is expected to increase to 1,605 spaces within ¼-mile of the Project Area in the midday period. **Table 4-38** shows that in the future without the Proposed Action, on-street parking within ¼-mile of the Project Area is expected to be operating at approximately 98 percent, with a surplus of 32 spaces in the weekday midday versus an existing surplus of 112 spaces.

TABLE 4-38
No-Action Public Parking Capacity, Demand and Utilization – Weekday Midday

¼-Mile Radius from Project Area	
Capacity	
Existing Capacity[1]	1,637
Net Change in No-Action Parking Supply[2]	0
Total No-Action Capacity	1,637
Demand	
Existing Demand[1]	1,525
Demand From Background Growth[3]	46
Incremental Demand from the No-Action RWCDS[4]	34
Incremental Demand from Off-Site No-Action Developments[5]	0
Total No-Action Demand	1,605
Utilization	
No-Action Utilization	98%
No-Action On-Street Parking Surplus/(Deficit)	32

Notes:
[1] Based on November 2020 field surveys. Excludes authorized vehicle parking.
[2] No changes to on-street parking spaces existing are expected to be implemented in the No-Action condition.
[3] Reflects annual background growth rates of 0.5 percent/year for the 2020 through 2025 period and 0.25 percent/year for the 2025 through 2027.
[4] Demand from No-Action land uses on Projected Development Site 1. Accessory parking would not be provided at Projected Development Site 1 under the No-Action condition.
[5] Demand from unrelated developments in the vicinity not otherwise accommodated by accessory parking.

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

Under the Proposed Action, no existing on-street or off-street public parking would be displaced, and no accessory parking spaces would be provided within the Project Area, similar to the No-Action condition. **Table 4-39** shows a forecast of the total hourly parking demand that would be generated by Projected Development Site 1 on a weekday under the Proposed Action. (As the proposed project is predominately commercial in nature, there is expected to be substantially less parking demand on weekends than on weekdays.) The parking forecast was derived from the forecast of daily auto trips from the proposed uses on Projected Development Site 1. As shown in **Table 4-39**, weekday parking demand generated by the Proposed Action would peak with approximately 236 spaces in the midday period. There would be little if any demand overnight.

In addition, as previously noted, non-Applicant owned Projected Development Sites 2 and 3 are also anticipated to be redeveloped under the Proposed Action. As shown in **Table 4-40**, the parking demand on Projected Development Sites 2 and 3 would peak with approximately 84 and 31 spaces, respectively, during the weekday midday period. Therefore, compared to the No-Action condition, net incremental midday parking demand from the Proposed Action would total approximately 317 spaces at off-street public parking facilities and on-street.

TABLE 4-39
Total Weekday Hourly Parking Accumulation Under the Proposed Action and Associated RWCDS Projected Development Site 1

	Local Retail 75,586 gsf			Office 121,786 gsf			Light Industrial 40,732 gsf			Medical Office 59,973 gsf			Total Accumulation		
	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.
12-1 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-7	2	1	1	0	0	0	0	0	0	3	0	3	5	1	4
7-8	17	14	4	7	1	6	2	0	2	3	0	6	29	15	18
8-9	34	32	6	59	10	55	27	4	25	41	25	22	161	71	108
9-10	35	28	13	58	7	106	20	3	42	35	15	42	148	53	203
10-11	51	35	29	8	9	105	3	2	43	29	21	50	91	67	227
11-12	49	48	30	4	12	97	1	4	40	29	34	45	83	98	212
12-1 PM	55	55	30	3	2	98	1	1	40	41	36	50	100	94	218
1-2	65	57	38	3	2	99	1	1	40	30	28	52	99	88	229
2-3	65	55	48	10	12	97	6	2	44	23	28	47	104	97	236
3-4	59	57	50	6	13	90	2	3	43	25	20	52	92	93	235
4-5	55	57	48	10	41	59	2	14	31	24	33	43	91	145	181
5-6	75	75	48	10	49	20	4	29	6	20	31	32	109	184	106
6-7	50	64	34	4	17	7	2	6	2	1	27	6	57	114	49
7-8	33	55	12	1	8	0	1	2	1	0	6	0	35	71	13
8-9	24	36	0	0	0	0	0	1	0	0	0	0	24	37	0
9-10	15	13	2	0	0	0	0	0	0	0	0	0	15	13	2
10-11	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
11-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	684	684		183	183		72	72		304	304		1,243	1,243	

TABLE 4-40
Total Weekday Hourly Parking Accumulation Under the Proposed Action's RWCDS – Project Area

	Projected Development Site 1			Projected Development Site 2			Projected Development Site 3			Total Accumulation		
	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.	In	Out	Accum.
12-1 AM	0	0	0	0	0	0	0	0	0	0	0	0
1-2	0	0	0	0	0	0	0	0	0	0	0	0
2-3	0	0	0	0	0	0	0	0	0	0	0	0
3-4	0	0	0	0	0	0	0	0	0	0	0	0
4-5	0	0	0	0	0	0	0	0	0	0	0	0
5-6	0	0	0	0	0	0	0	0	0	0	0	0
6-7	5	1	4	1	0	1	0	0	0	6	1	5
7-8	29	15	18	11	6	6	4	2	2	44	23	26
8-9	161	71	108	52	18	40	20	6	16	233	95	164
9-10	148	53	203	51	14	77	18	5	29	217	72	309
10-11	91	67	227	25	19	83	8	7	30	124	93	340
11-12	83	98	212	20	26	77	6	8	28	109	132	317
12-1 PM	100	94	218	22	22	77	7	7	28	129	123	323
1-2	99	88	229	26	22	81	8	6	30	133	116	340
2-3	104	97	236	31	28	84	10	9	31	145	134	351
3-4	92	93	235	26	30	80	9	10	30	127	133	345
4-5	91	145	181	27	48	59	9	18	21	127	211	261
5-6	109	184	106	34	61	32	11	21	11	154	266	149
6-7	57	114	49	21	34	19	6	11	6	84	159	74
7-8	35	71	13	12	25	6	4	8	2	51	104	21
8-9	24	37	0	9	14	1	3	5	0	36	56	1
9-10	15	13	2	5	5	1	1	1	0	21	19	3
10-11	0	2	0	0	1	0	0	0	0	0	3	0
11-12	0	0	0	0	0	0	0	0	0	0	0	0
Total	1243	1243		373	373		124	124		1,740	1,740	

On-Street Parking

As shown in **Table 4-41**, on-street parking demand within ¼-mile of the Project Area would total approximately 1,922 spaces in the weekday midday, and utilization would increase from 98 percent in the No-Action condition to 117 percent with the Proposed Action with a shortfall of approximately 285 spaces.

TABLE 4-41
With-Action On-Street Public Parking Capacity, Demand and Utilization – Weekday Midday

¼-Mile Radius from Project Area	
Capacity	
Total With-Action Capacity[1]	1,637
Demand	
No-Action Demand	1,605
Incremental Demand from the Proposed Action[2]	317
Total With-Action Demand	1,922
Utilization	
With-Action Utilization	117%
With-Action On-Street Parking Surplus/(Deficit)	(285)

Notes:
[1] No changes to on-street parking capacity are expected to result from the Proposed Action.
[2] Incremental Demand from With-Action land uses within the Project Area.

Expanded Parking Study Area (½-Mile from Project Area)

As there would be an on-street parking deficit within ¼-mile of the Project Area in the midday period in the With-Action condition, off-street and on-street parking conditions within an expanded study area extending ½-mile from the Project Area are also assessed, consistent with *CEQR Technical Manual* guidance.

Existing Conditions

Off-Street Parking

Off-street public parking facilities were inventoried during November 2020 and a total of two public parking garages were identified within ½-mile of the Project Area. **Figure 4-9** shows the locations of these off-street public parking facilities and **Table 4-42** provides a summary of their names, addresses, license numbers, capacities, and estimated weekday midday utilization.

Field observations and interviews with parking attendants were used to determine the utilization levels of each parking facility during the midday period on a typical weekday. As shown in **Table 4-42** two public parking garages are located within ½-mile of the Project Area with a combined licensed capacity of 150 spaces. During the midday period, approximately 73 percent of spaces are utilized within a ½-mile of the Project Area, leaving a residual supply of approximately 40 available off-street public parking spaces within the respective area.

TABLE 4-42
Existing Off-Street Public Parking Facilities

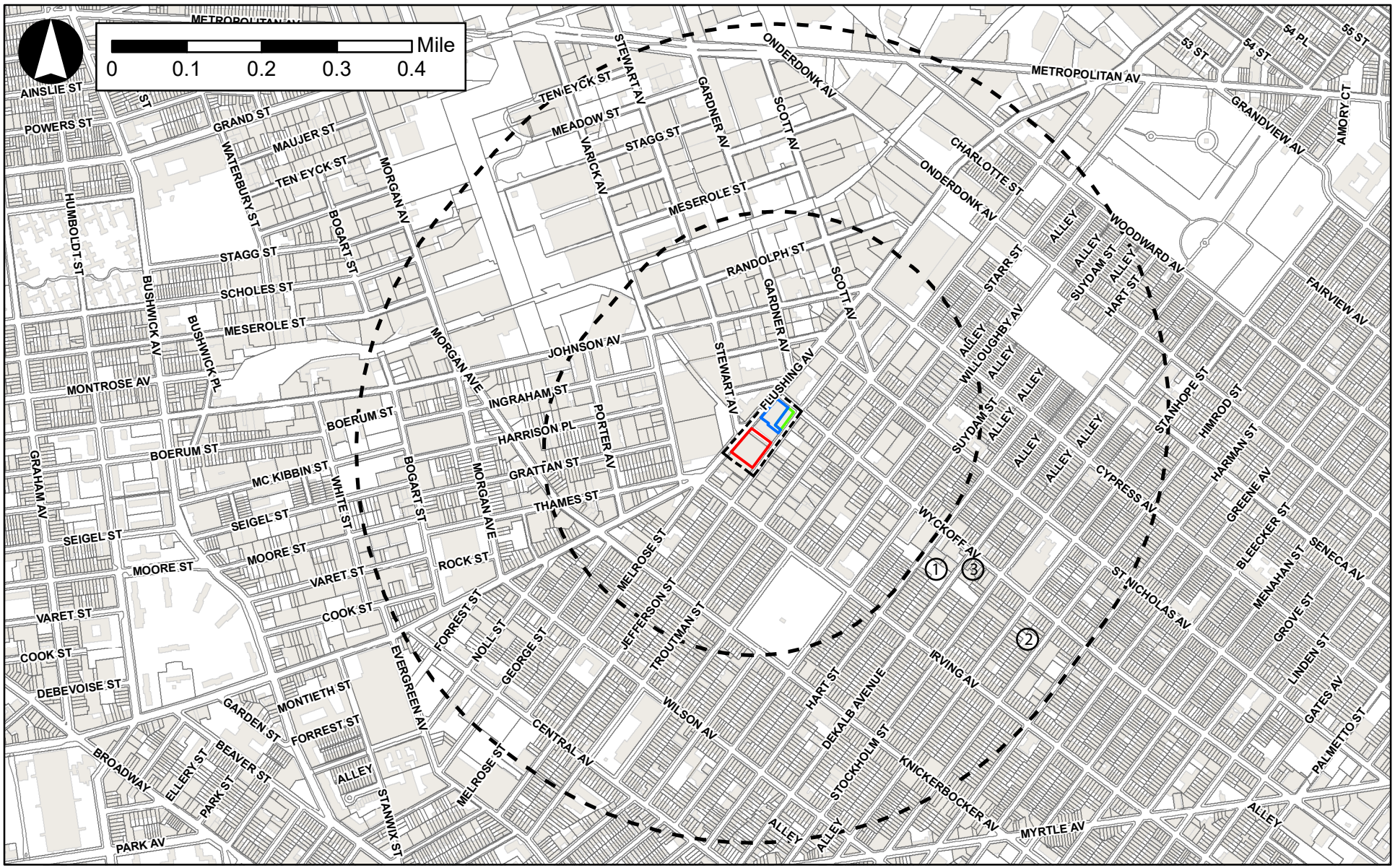
Map No.	Name	Location	License No.	Hours of Operation	Licensed Capacity	Weekday Midday	
						Estimated Utilization (%)	Available Capacity
1/4- to 1/2-Mile Radius from Development Site							
1	PPS Dekalb LLC	1601 Dekalb Ave	2093614-DCA	8 AM - 8 PM	100	73%	27
2	Wyckoff Parking Inc	343 Himrod St	0942362-DCA	7 AM - 7 PM	50	73%	13
				Total:	**150**	**73%**	**40**

Notes: Based on PHA surveys conducted in November 2020

On-Street Parking

An inventory of existing parking regulations within ½-mile of the Project Area was compiled from field surveys and on-line sources. On-street public parking is generally governed by truck loading regulations and alternate-side-of-the-street regulations to facilitate street cleaning, as well as more restrictive no standing regulations at locations where additional traffic flow capacity is needed. Based on existing curbside parking regulations, and taking into account curb space obstructed by curb cuts, fire hydrants, and other impediments, there are a total of approximately 4,236 legal curbside parking spaces in the midday within ½- mile of the Project Area.

Based on data collected during field surveys conducted in November 2020, on-street parking during the weekday midday is approximately 91 percent utilized within ½-mile of the Project Area, with approximately 396 on-street parking spaces currently available.



Source: DCP, DoITT

Legend

- Project Area
- Proposed Development Site
- Projected Development Site 1
- Projected Development Site 2
- Half-Mile Buffer
- Quarter-Mile Buffer
- ① Off Street Parking Spaces

Figure 4-9
Project Site Location

The Future Without the Proposed Action (No-Action Condition)

Off-Street Parking

As shown in **Table 4-43**, after accounting for background growth and the aforementioned new uses within the Project Area and No-Action land uses not otherwise accommodated by accessory parking, midday off-street public parking demand is expected to total 98 percent of capacity within ½-mile of the Project Area, with a surplus of 3 spaces during this period.

TABLE 4-43
No-Action Off-Street Public Parking Capacity, Demand and Utilization – Weekday Midday Within ½-Mile of the Project Area

½-Mile Radius from Project Area	
Capacity	
Existing Capacity[1]	150
Capacity Displaced by No-Action Developments[2]	0
Total No-Action Capacity	150
Demand	
Existing Demand	110
Demand From Background Growth[3]	3
Incremental Demand from the No-Action RWCDS[4]	34
Incremental Demand from Off-Site No-Action Developments[5]	0
Total No-Action Demand	147
Utilization	
No-Action Utilization	98%
No-Action Off-Street Parking Surplus/(Deficit)	3

Notes:
[1] Analysis conservatively assumes that facilities are fully utilized at 98 percent of licensed capacity.
[2] No existing public parking facilities are expected to be displaced by new development in the No-Action condition.
[3] Reflects annual background growth rates of 0.5 percent/year for the 2020 through 2025 period and 0.25 percent/year for the 2025 through 2027.
[4] Demand from No-Action land uses on Projected Development Site 1. Accessory parking would not be provided at Projected Development Site 1 under the No-Action condition.
[5] Demand from unrelated developments in the vicinity not otherwise accommodated by accessory parking.

On-Street Parking

After accounting for background growth and demand from No-Action land uses at Projected Development Site 1 and in the surrounding area, the demand for on-street parking is expected to increase to 3,957 spaces within ½-mile of the Project Area in the midday period. **Table 4-44** shows that in the future without the Proposed Action, on-street parking within ½-mile of the Project Area is expected to be operating at approximately 93 percent, with a surplus of 279 spaces in the weekday midday versus an existing surplus of 396 spaces.

TABLE 4-44
No-Action On-Street Public Parking Capacity, Demand and Utilization – Weekday Midday

½-Mile Radius from Project Area	
Capacity	
Existing Capacity[1]	4,236
Net Change in No-Action Parking Supply[2]	0
Total No-Action Capacity	4,236
Demand	
Existing Demand[1]	3,840
Demand From Background Growth[3]	117
Off-Street Public Parking Deficit[4]	0
Total No-Action Demand	3,957
Utilization	
No-Action Utilization	93%
No-Action On-Street Parking Surplus/(Deficit)	279

Notes:
[1] Based on November 2020 field surveys. Excludes authorized vehicle parking.
[2] No changes to on-street parking spaces existing are expected to be implemented in the No-Action condition.
[3] Reflects annual background growth rates of 0.5 percent/year for the 2020 through 2025 period and 0.25 percent/year for the 2025 through 2027.
[4] Demand from No-Action land uses on Projected Development Site 1 and from unrelated developments in the vicinity not otherwise accommodated by off-street parking.

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

As previously mentioned, under the Proposed Action, no existing on-street or off-street public parking would be displaced, and no accessory parking spaces would be provided within the Project Area.

Off-Street Parking

As shown in **Table 4-45**, off-street parking demand within ½-mile of the Project Area would total approximately 464 spaces in the weekday midday, and utilization would increase from 98 percent in the No-Action condition to 309 percent with the Proposed Action. As such, there would be an off-street parking shortfall of approximately 314 spaces during this period.

On-Street Parking

As shown in **Table 4-46**, on-street parking demand within ½-mile of the Project Area would total approximately 4,271 spaces in the weekday midday, and utilization would increase from 93 percent in the No-Action condition to 101 percent with the Proposed Action. There would be a deficit of approximately 35 on-street parking spaces within ½-mile of the Project Area in the midday period.

In summary, in the future with the Proposed Action there would be a shortfall of approximately 285 spaces and 35 spaces within ¼-mile and ½-mile, respectively, of on-street and off-street public parking capacity in the weekday midday period. This shortfall would reflect project demand not otherwise accommodated on-site or in off-street public parking facilities.

TABLE 4-45
With-Action Off-Street Public Parking Capacity, Demand and Utilization

½-Mile Radius from Project Area	
Capacity	
No-Action Capacity	150
Capacity Provided by With-Action Developments[1]	0
Total With-Action Capacity	150
Demand	
No-Action Demand	147
Net Incremental Demand from the Proposed Action[2]	317
Total With-Action Demand	464
Utilization	
With-Action Utilization	309%
With-Action Off-Street Parking Surplus/(Deficit)	(314)

Notes:
[1] No changes to off-street public parking capacity are expected to result from the Proposed Action.
[2] Net incremental demand from With-Action land uses within the Project Area.

TABLE 4-46
With-Action On-Street Public Parking Capacity, Demand and Utilization

½-Mile Radius from Project Area	
Capacity	
Total With-Action Capacity[1]	4,236
Demand	
Existing Demand	3,840
Background Growth	117
Off-Street Public Parking Deficit[2]	314
Total With-Action Demand	4,271
Utilization	
With-Action Utilization	101%
With-Action On-Street Parking Surplus/(Deficit)	(35)

Notes:
[1] No changes to on-street parking capacity are expected to result from the Proposed Action.
[2] Demand from No-Action and With-Action land uses within the Project Area not otherwise accommodated by on-site accessory parking or in off-street public parking facilities within ½-mile of the Project Area.

As discussed in Section F, "Transportation Analysis Methodologies," the Project Area is located just outside of CEQR Parking Zone 2. Under *CEQR Technical Manual* guidance, one of the factors to be considered in determining significance is the availability of alternative modes of transportation. As discussed previously, four local bus routes operate within ¼-mile of the Project Area, including the B38, B38 Limited (LTD), B57 and B60. In addition, the Jefferson Street subway station, served by L trains operating on the Canarsie Line, is located beneath Wyckoff Avenue immediately adjacent to the Project Area. Therefore, the Project Area is well served by subway and bus transit modes. Therefore, while some drivers destined for the Project Area would potentially have to travel a greater distance to find available parking, the shortfall in on-street and off-street public parking spaces during the weekday midday would not be considered a significant adverse parking impact given the availability of alternative modes of transportation.