960 FRANKLIN AVENUE REZONING EIS
Chapter 14: Transportation

A. INTRODUCTION

This chapter describes the transportation characteristics and potential impacts associated with the Proposed Actions, which consist of consist of zoning map and text amendments, as well as a Large Scale General Development (LSGD) special permit, a special permit to reduce the parking requirement, and the use of public financing for the development of permanently affordable housing. As described in Chapter 1, "Project Description," the Proposed Actions would facilitate the development of a site in the Crown Heights neighborhood of Brooklyn; the Applicant-owned Development Site is comprised of Block 1192, Lots 41, 46, 63, and 66, while the Proposed Rezoning Area also includes Lot 40 and part of Lots 1, 77, and 85 (the "Project Area"). The Proposed Actions would facilitate the development of the 120,209 sf (approximately 2.76-acre) Development Site with an approximately 1,369,314-gross square foot (gsf) mixed-use development (the "Proposed Development"). The Proposed Development would comprise 1,263,039 gsf of residential uses, introducing a total of 1,578 rental dwelling units (DUs), approximately 21,183 gsf of local retail space and approximately 9,678 gsf of community facility space. Approximately 75,414 gsf (approximately 128 parking spaces) would be allocated for parking on the ground- and cellar-levels of the Proposed Development. Absent the Proposed Actions, the Development Site would be redeveloped with 414,607 gsf (approximately 356,190 zsf) of residential uses with approximately 518 market rate condominiums (assuming an average dwelling unit size of approximately 800 gsf per unit). Approximately 259 parking spaces would be provided. As described in more detail in **Chapter 1, "Project Description"**, the incremental (net) change that would result from the Proposed Development is the addition of 1,060 dwelling units (848,418 gsf), 21,183 gsf of local retail uses, 9,678 gsf of community facility uses, and a net decrease of approximately 131 accessory parking spaces.

This chapter describes in detail the existing transportation conditions in proximity to the Project Area. Future conditions in the year 2024 without the Proposed Actions (the No-Action condition) are then determined, including additional transportation-system demand and any changes expected by the year 2024. The increase in travel demand resulting from the Proposed Actions is then projected and added to the No-Action condition to develop the 2024 future with the Proposed Actions (the With-Action condition). Significant adverse impacts from action-generated trips are then identified and described in detail. **Chapter 21, "Mitigation"** discusses practicable measures to address these impacts.

B. PRINCIPAL CONCLUSIONS

Traffic

Traffic conditions were evaluated for the weekday 8 to 9 AM, 1 to 2 PM, and 4:30-5:30 PM and Saturday 2 to 3 PM peak hours at eight intersections in the traffic study area where additional traffic resulting from the Proposed Actions would be most heavily concentrated. The traffic impact analysis indicates the potential for significant adverse impacts at two lane groups at one intersection, namely the westbound left movement at the Washington Avenue and Empire Boulevard intersection, which would operate at

LOS F in the weekday AM, weekday PM, and Saturday midday peak hours; and the westbound through-right lane group at the Washington Avenue and Empire Boulevard intersection, which would operate at LOS E in the weekday AM and Saturday midday peak hours.

Chapter 21, "Mitigation," discusses potential measures to mitigate these significant adverse traffic impacts.

Transit

Subway

The analysis of subway station conditions focuses on two New York City Transit (NYCT) subway stations in proximity to the proposed rezoning area where incremental demand from the Proposed Actions would exceed the 200-trip *City Environmental Quality Review* (CEQR) *Technical Manual* analysis threshold in one or both peak hours, namely the Franklin Avenue-Botanic Garden (2, 3, 4, 5, S) and Prospect Park (B, Q, S) stations.

In the future with the Proposed Actions, the street stair at the southeast corner of Franklin Avenue and Eastern Parkway at the Franklin Avenue-Botanic Garden station, as well as the street stair leading to the west side of Flatbush Avenue at the north end of the Prospect Park subway station, are projected to operate at level of service (LOS) D with a volume-to-capacity (v/c) ratio of 1.12 and 1.08, respectively, in the AM peak hour. However, as the width increment thresholds for both stairs would not exceed *CEQR Technical Manual* impact criteria, these stairs would not be considered significantly adversely impacted by action-generated demand in the AM peak hour. All other analyzed stairs, and all analyzed fare arrays at the two study area subway stations are projected to operate at an acceptable LOS C or better during the AM and PM peak periods in the With-Action condition and would therefore not be significantly adversely impacted by the Proposed Actions based on *CEQR Technical Manual* criteria.

Pedestrians

The Proposed Actions would generate a net increment of 171 walk-only trips during the weekday AM peak hour, 568 in the midday peak hour, 370 in the PM peak hour, and 405 during the Saturday peak hour. Persons en route to and from subway station entrances and bus stops would add approximately 741, 452, 814, and 763 additional pedestrian trips to sidewalks and crosswalks in the vicinity of the Project Area during these same periods, respectively. New pedestrian trips would therefore total 912, 1,020, 1,184, and 1,168 (bus, subway and "walk only"; in and out combined) during the weekday AM, midday, PM, and Saturday midday peak hours, respectively. Peak hour pedestrian conditions were evaluated at a total of 30 representative pedestrian elements where new trips generated by the Proposed Development are expected to be most concentrated. These elements—14 sidewalks, ten corner areas, and five crosswalks—are primarily located in the vicinity of the Proposed Development and corridors connecting the site to area subway station entrances and existing local retail uses. One crosswalk, namely the north crosswalk at Empire Boulevard and Washington Avenue, would be significantly adversely impacted by the Proposed Actions in all four analysis peak hours. Potential measures to mitigate these significant adverse pedestrian impacts are discussed in **Chapter 21, "Mitigation."**

Vehicular and Pedestrian Safety

The sections of Flatbush and Franklin Avenues within the traffic study area were identified in the *Vision Zero Brooklyn Pedestrian Safety Action Plan* as a Priority Corridors where safety issues were found to occur systematically at an area-wide level. However, no "Priority Intersections" or "Priority Areas" were identified within the traffic or pedestrian study areas.

Crash data for traffic and pedestrian study area intersections were obtained from the New York City Department of Transportation (NYCDOT) for the three-year reporting period between January 1, 2015, and December 31, 2017 (the most recent period for which data were available for all locations). During this period, a total of 124 reportable and non-reportable crashes and 38 pedestrian/bicyclist-related injury crashes occurred at analyzed study area intersections. No fatalities occurred. A review of the crash data identified the intersection of Ocean and Flatbush Avenues at Empire Boulevard as a high crash location (defined as those with 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurring in any consecutive 12 months of the most recent three-year period for which data are available). As described below, measures to enhance pedestrian safety at this intersection could include the re-striping of faded crosswalks and improved street lighting.

Parking

The parking analyses document changes in the on-street parking supply and utilization in within a ¼-mile and ½-mile of the Development Site under both No-Action and With-Action conditions. There are no off-street public parking lots and garages within the ¼-mile parking study area and one overnight public garage in the ½-mile parking study area. Under the With-Action reasonable worst case development scenario (RWCDS), it is assumed that up to 128 accessory parking spaces would be provided on the Development Site. The anticipated project-generated overnight parking demand of approximately 366 vehicles would exceed on-site supply by 238 vehicles and the surplus demand would have to be accommodated in the parking study area surrounding the Development Site. This excess demand would lead to an on-street parking deficit of approximately 167 spaces in the ¼-mile study area and parking deficit of approximately 50 spaces in the ½-mile study area. This shortfall would not be considered significant given the availability of alternative modes of transportation (including seven subway routes and five local bus routes) and the magnitude of the shortfall (less than one percent of ½-mile study area's capacity). The Proposed Development is expected to result in a parking shortfall per CEQR Technical Manual guidance.

C. PRELIMINARY ANALYSIS METHODOLOGY

The *CEQR Technical Manual* describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed in the following sections, the preliminary analysis begins with a trip generation (Level 1) forecast 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, parking, and vehicular and pedestrian safety.

D. LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the Proposed Actions during the weekday AM, midday, and PM and Saturday peak hours. These estimates were then compared to the *CEQR Technical Manual* analysis thresholds to determine if a Level 2 screening and/or quantified operational analyses would 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 Proposed Actions. A detailed travel demand forecast is then provided for the Proposed Actions.

Transportation Planning Factors

The transportation planning factors used to forecast travel demand for the Proposed Development's land uses are summarized in **Table 14-1**. The trip generation rates, temporal distributions, modal splits, vehicle occupancies, and truck trip factors for each of the land uses were primarily based on those cited in the 2020 *CEQR Technical Manual*, 2013-2017 American Community Survey (ACS) 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). Additional details on the transportation planning factors used for the travel demand forecast are presented in the *Transportation Planning Factors and Travel Demand Forecast* technical memorandum provided in **Appendix 5**.

Residential

The forecast of travel demand for residential use used a weekday trip generation rate of 8.075 person trips per DU, a Saturday trip generation rate of 9.6 person trips per DU, and temporal distributions of 10.0 percent, 5.0 percent, 11.0 percent, and 8.0 percent for the weekday AM, midday, and PM and Saturday midday peak hours, respectively, as per the 2020 *CEQR Technical Manual*. The residential modal split assumed 11.4 percent, 0.4 percent, 71.4 percent, 6.9 percent, and 9.9 percent mode shares for private auto, taxi, subway, bus and walk-only modes, respectively, as per the 2013 to 2017 ACS Means of Transportation to Work Table for Brooklyn census tracts 213, 215, 217, 219, 325, and 327. The vehicle occupancy of 1.10 persons per vehicle in the weekday AM and PM peak hours was also assumed based on the ACS data. Directional splits (in/out) were based on the 2013 *Empire Boulevard Rezoning Environmental Assessment Statement* (EAS).

Local Retail

The forecast of travel demand for the local retail use used a weekday trip generation rate of 205 person trips per 1,000 sf, a Saturday trip generation rate of 240 person trips per 1,000 sf, and temporal

distributions of 3.0 percent, 19.0 percent, 10.0 percent, and 10.0 percent for the weekday AM, midday, and PM and Saturday midday peak hours, respectively, as per the 2020 *CEQR Technical Manual*. The local retail modal split assumed 11.0 percent, 0.0 percent, 3.0 percent, 2.0 percent, and 84.0 percent mode shares for private auto, taxi, subway, bus, and walk-only modes, respectively, based on data provided by NYCDCP in coordination with NYCDOT. The vehicle occupancy of 2.00 persons per vehicle was also assumed based on the *Crown West Heights Rezoning EAS*. Directional splits (in/out) were assumed based on the 2014 *Atlantic Yards Final Supplemental Environmental Impact Statement* (FSEIS).

Additionally, it was assumed that 25.0 percent of local retail trips were linked trips and not new to the study area.

Community Facility

For analysis purposes, it is conservatively assumed that the proposed community facility space would be occupied by a medical office facility. However, as described in other sections of the EIS, the Applicant intends to provide a daycare facility in the community facility space. However, for transportation planning purposes, the use of a medical office results in a more conservative analysis. The forecast of travel demand for the medical office use was primarily based on data provided by NYCDCP in coordination with NYCDOT and used a weekday trip generation rate of 103.4 person trips per 1,000 sf, a Saturday trip generation rate of 62.1 person trips per 1,000 sf and temporal distributions of 10.0 percent, 13.0 percent, 9.0 percent, and 16.0 percent were assumed for the weekday AM, midday, and PM and Saturday midday peak hours, respectively. The medical office modal split assumed 24.0 percent, 6.0 percent, 59.0 percent, 9.0 percent, and 2.0 percent mode shares for private auto, taxi, subway, bus, and walk-only modes, respectively with vehicle occupancy of 1.5 persons per vehicle.

Trip Generation

The net incremental change in person and vehicle trips expected to result from the Proposed Actions by the 2024 analysis year was derived based on the land uses described above and the transportation planning factors shown in **Table 14-1**. **Table 14-2** shows an estimate of the net incremental change in peak hour person trips and vehicle trips (versus the No-Action condition) that would occur in late 2024 with implementation of the Proposed Actions.

As shown in **Table 14-2**, the Proposed Actions would generate a net increase of approximately 1,054 person trips (in + out combined) in the weekday AM peak hour, 1,178 in the weekday midday, 1,358 in the weekday PM peak hour, and 1,355 in the Saturday peak hour. Peak hour vehicle trips (including auto, bus, truck, and taxi trips) would increase by a net total of approximately 133, 116, 145, and 148 (in + out combined) in the weekday AM, midday, and PM and Saturday peak hours, respectively.

Peak hour subway trips would increase by a net total of 671, 399, 735, and 686 during these periods, respectively, while bus trips would increase by approximately 70, 53, 79, and 77, respectively. Trips made entirely on foot (walk-only trips) would increase by 171, 568, 370, and 405 during the weekday AM, midday, and PM and Saturday peak hours, respectively.

Since these numbers of peak hour trips would exceed the *CEQR Technical Manual* analysis thresholds for vehicular traffic, transit, and pedestrians, a Level 2 screening assessment was undertaken to identify specific locations where additional detailed analyses may be warranted.

TABLE 14-1
Transportation Planning Factors

Land Use:	Residential		Local Retail		Medical Office	
Trip Generation:	(1)		(1)		(6)	
Weekday	8.075		205		103.4	
Saturday	9.6		240		62.1	
	per DU		per 1,000 sf		per 1,000 sf	
Temporal Distribution:	(1)		(1)		(6)	
AM	10.0%		3.0%		10.0%	
MD	5.0%		19.0%		13.0%	
PM	11.0%		10.0%		9.0%	
SAT	8.0%		10.0%		16.0%	
	(2)		(6)		(6)	
Modal Splits*:	All		All		All	
Auto	11.4%		11.0%		24.0%	
Taxi	0.4%		0.0%		6.0%	
Subway	71.4%		3.0%		59.0%	
Bus	6.9%		2.0%		9.0%	
Walk/Bike/Other	9.9%		84.0%		2.0%	
	100.0%		100.0%		100.0%	
	(3)		(5)		(6)	
In/Out Splits:	In	Out	In	Out	In	Out
AM	20.0%	80.0%	50.0%	50.0%	89.0%	11.0%
MD	51.0%	49.0%	50.0%	50.0%	51.0%	49.0%
PM	65.0%	35.0%	50.0%	50.0%	48.0%	52.0%
SAT	50.0%	50.0%	55.0%	45.0%	51.0%	49.0%
Vehicle Occupancy*:	(2)		(4)		(6)	
Auto	1.1		2.00		1.50	
Taxi	1.4		2.00		1.50	
Truck Trip Generation	(1)		(1)		(1)	
Weekday	0.06		0.35		0.32	
Saturday	0.02		0.04		0.01	
	per DU		per 1,000 sf		per 1,000 sf	
Truck Temporal Distribution	(1)		(1)		(1)	
AM	12.0%		8.0%		10.0%	
MD	9.0%		11.0%		11.0%	
PM	2.0%		2.0%		2.0%	
SAT	9.0%		11.0%		11.0%	
	In	Out	In	Out	In	Out
AM/MD/PM/Sat	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

Notes :

(1) 2014 *City Environmental Quality Review (CEQR) Technical Manual.*

(2) Based on *American Community Survey 2013-2017* , Means of Transportation to Work Table for Brooklyn Tracts 213, 215, 217, 219, 325, and 327.

(3) *Empire Boulevard Rezoning EAS,* December 2013.

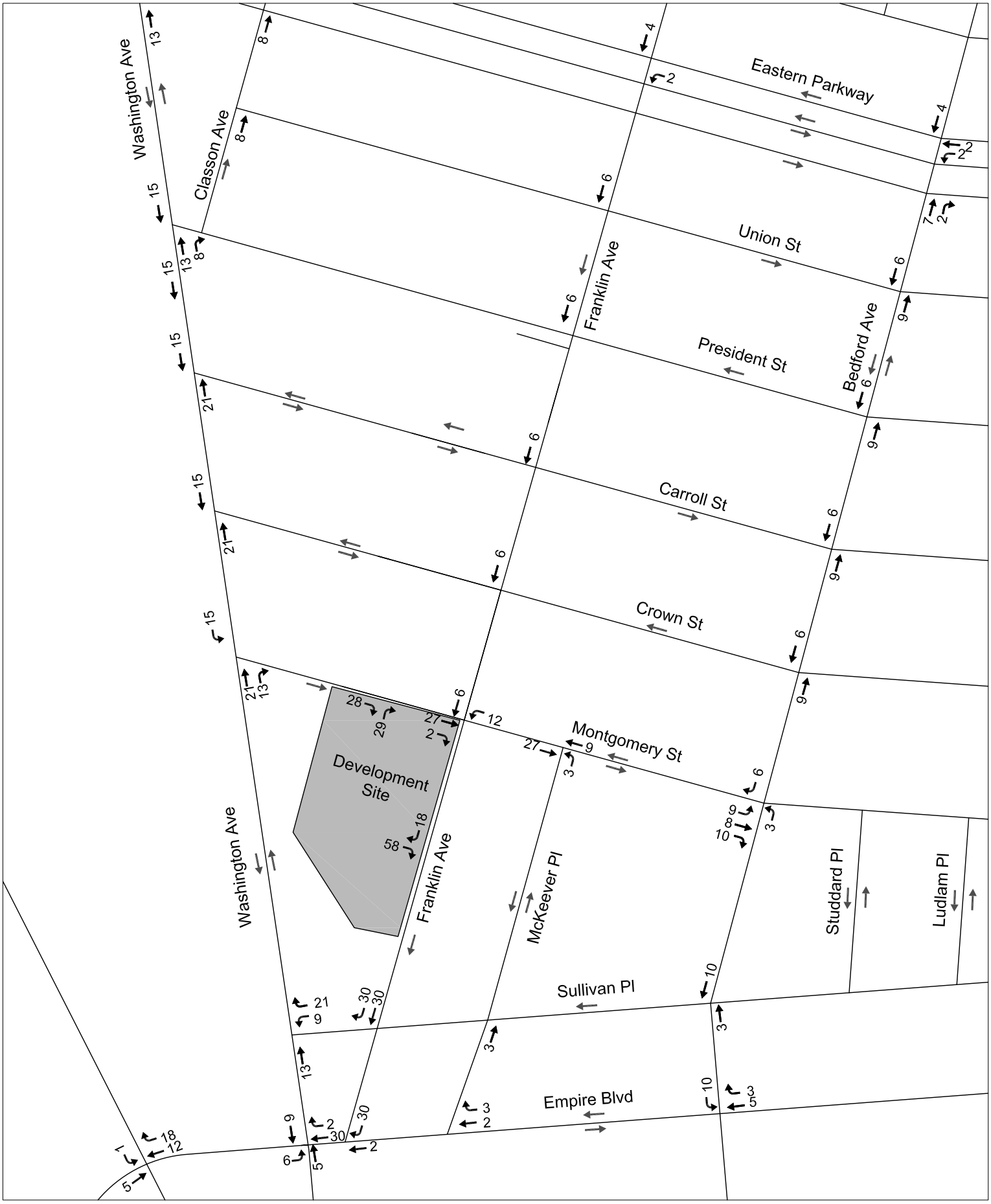
(4) *Crown Heights West Rezoning EAS* .

(5) *Atlantic Yards FSEIS,* 2014.

(6) Based on data provided by NYCDCP/NYCDOT.

TABLE 14-2
Travel Demand Forecast (Net Incremental Trips)

Land Use:		Residential		Local Retail		Medical Office		Total	
Area/Units:		1060	DU	21,183	gsf	9,678	gsf		
Peak Hour Trips:									
	AM	856		98		100		1,054	
	MD	428		620		130		1,178	
	PM	942		326		90		1,358	
	Saturday	814		381		160		1,355	
Person Trips:									
		In	Out	In	Out	In	Out	In	Out
AM	Auto	20	78	5	5	21	3	46	86
	Dropoff/Taxi	1	3	0	0	5	1	6	4
	Subway	122	488	1	1	53	6	176	495
	Public Bus	12	47	1	1	8	1	21	49
	Walk/Bike/Other	17	68	42	42	2	0	61	110
	Total	172	684	49	49	89	11	310	744
		In	Out	In	Out	In	Out	In	Out
MD	Auto	25	24	34	34	16	15	75	73
	Dropoff/Taxi	1	1	0	0	4	4	5	5
	Subway	155	149	9	9	39	38	203	196
	Public Bus	15	14	6	6	6	6	27	26
	Walk/Bike/Other	22	22	261	261	1	1	284	284
	Total	218	210	310	310	66	64	594	584
		In	Out	In	Out	In	Out	In	Out
PM	Auto	70	38	18	18	10	11	98	67
	Dropoff/Taxi	2	1	0	0	3	3	5	4
	Subway	437	235	5	5	25	28	467	268
	Public Bus	42	23	3	3	4	4	49	30
	Walk/Bike/Other	61	33	137	137	1	1	199	171
	Total	612	330	163	163	43	47	818	540
		In	Out	In	Out	In	Out	In	Out
Saturday	Auto	46	46	23	19	20	19	89	84
	Dropoff/Taxi	2	2	0	0	5	5	7	7
	Subway	291	291	6	5	47	46	344	342
	Public Bus	28	28	4	3	7	7	39	38
	Walk/Bike/Other	40	40	177	144	2	2	219	186
	Total	407	407	210	171	81	79	698	657
Vehicle Trips :		In	Out	In	Out	In	Out	In	Out
AM	Auto	18	71	3	3	14	2	35	76
	Dropoff/Taxi	1	2	0	0	3	1	4	3
	Dropoff/Taxi Balanced	3	3	0	0	4	4	7	7
	Truck	4	4	0	0	0	0	4	4
	Total	25	78	3	3	18	6	46	87
		In	Out	In	Out	In	Out	In	Out
MD	Auto	23	22	17	17	11	10	51	49
	Dropoff/Taxi	1	1	0	0	3	3	4	4
	Dropoff/Taxi Balanced	2	2	0	0	6	6	8	8
	Truck	0	0	0	0	0	0	0	0
	Total	25	24	17	17	17	16	59	57
		In	Out	In	Out	In	Out	In	Out
PM	Auto	64	35	9	9	7	7	80	51
	Dropoff/Taxi	1	1	0	0	2	2	3	3
	Dropoff/Taxi Balanced	2	2	0	0	4	4	6	6
	Truck	1	1	0	0	0	0	1	1
	Total	67	38	9	9	11	11	87	58
		In	Out	In	Out	In	Out	In	Out
Saturday	Auto	42	42	12	10	13	13	67	65
	Dropoff/Taxi	1	1	0	0	3	3	4	4
	Dropoff/Taxi Balanced	2	2	0	0	6	6	8	8
	Truck	0	0	0	0	0	0	0	0
	Total	44	44	12	10	19	19	75	73



960 Franklin Avenue Rezoning

Figure 14-1

Weekday AM Peak Hour Traffic Assignments

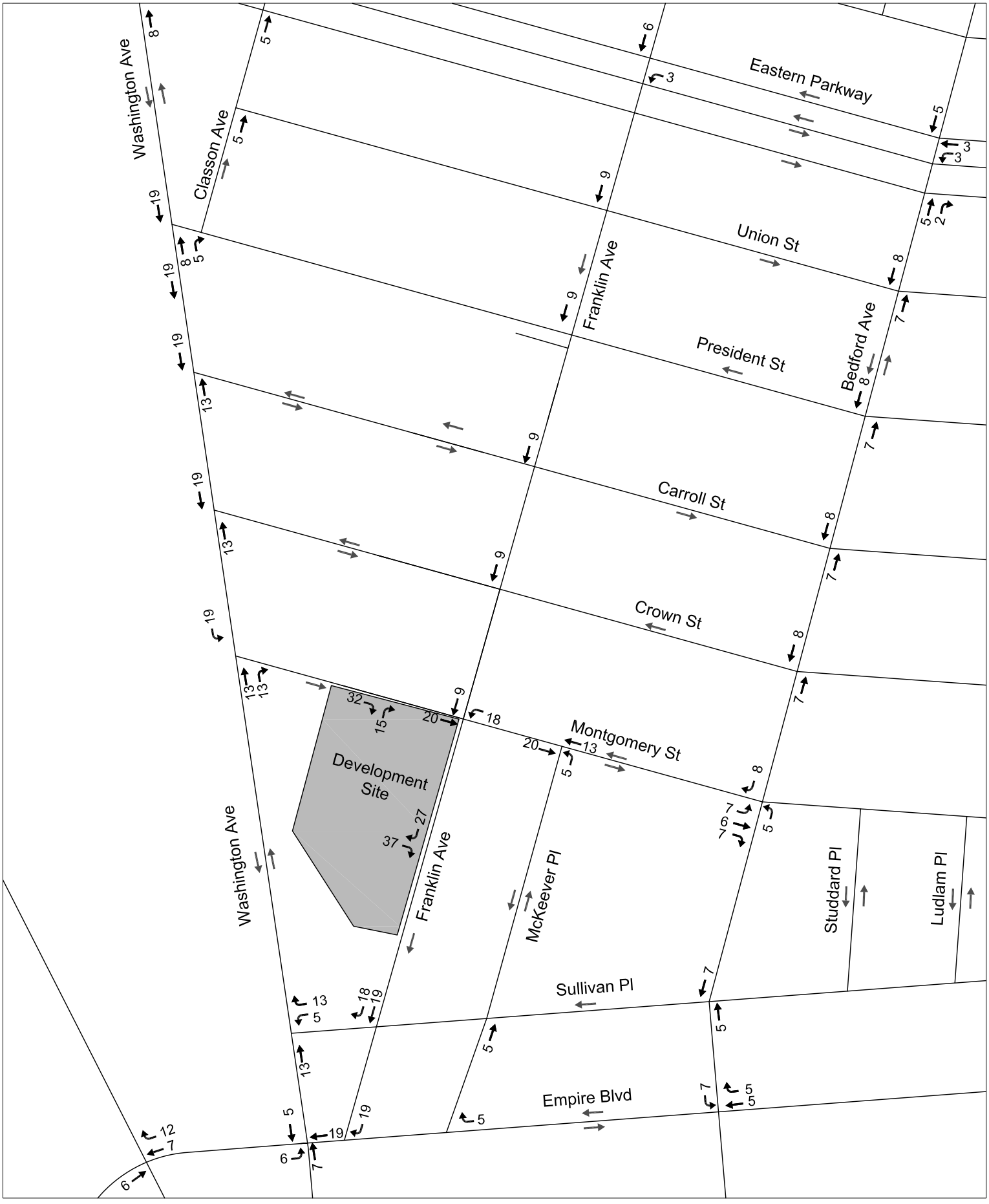


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Figure 14-2

Weekday Midday Peak Hour Traffic Assignments

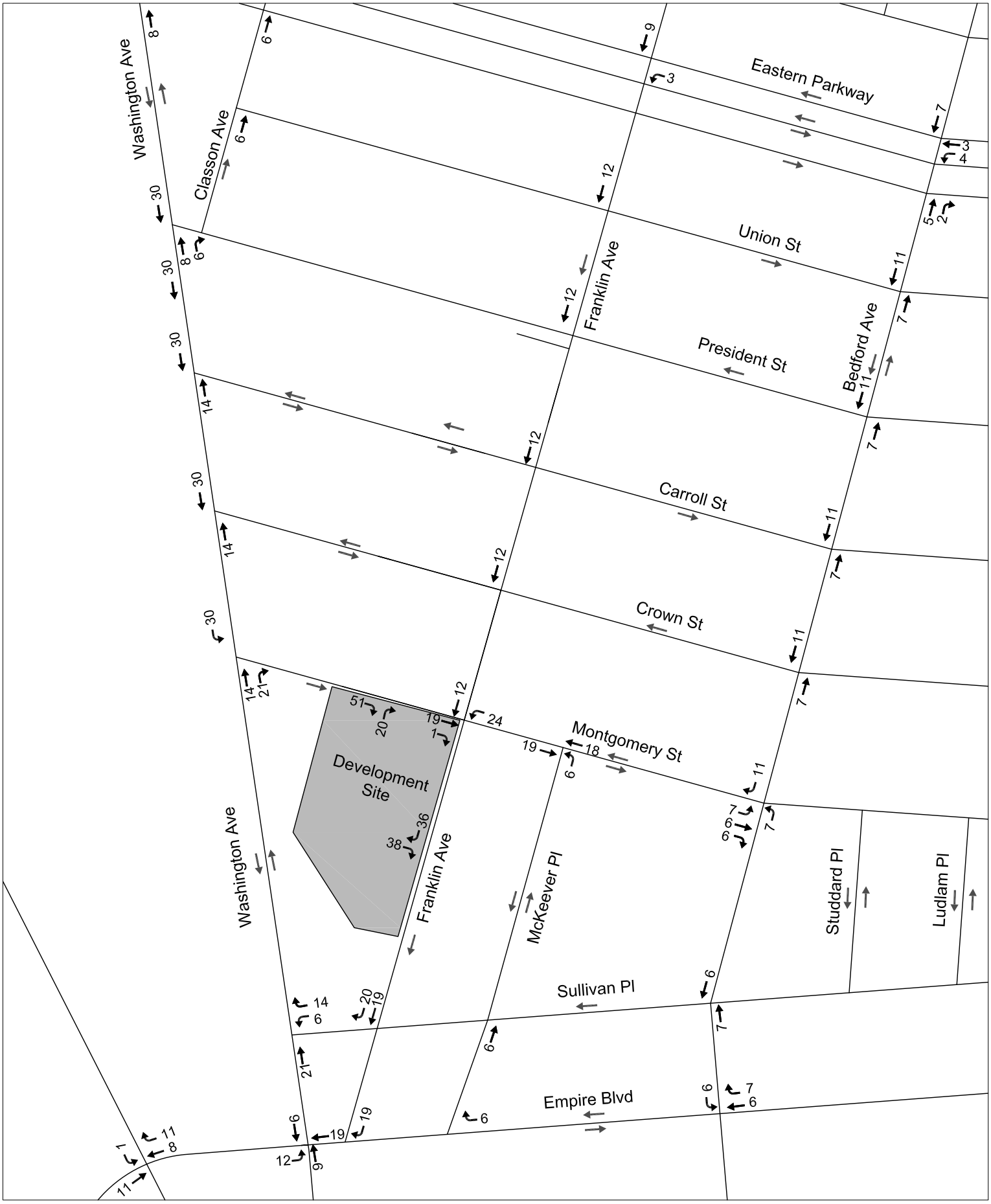

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Figure 14-3

Weekday PM Peak Hour Traffic Assignments

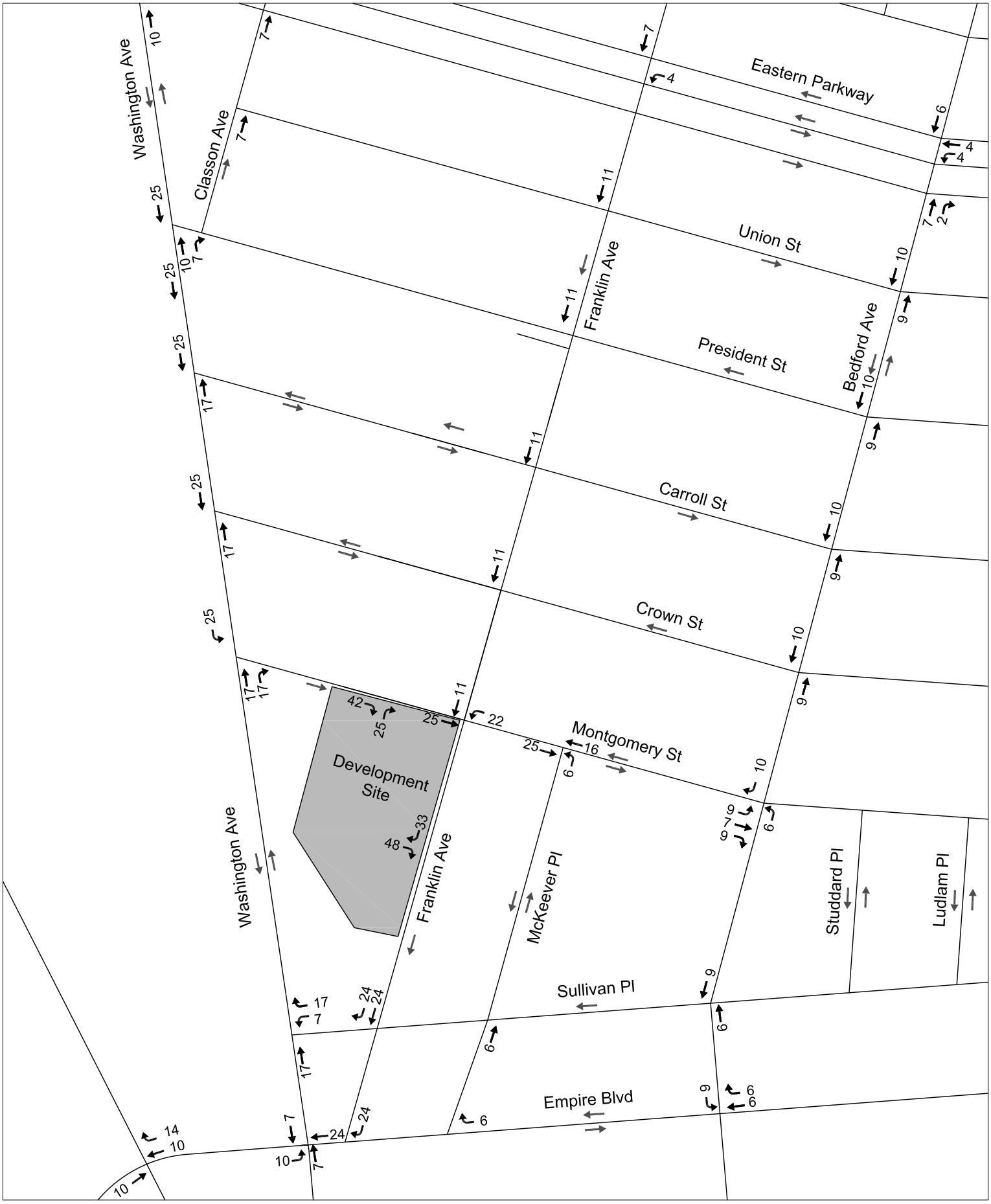

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Figure 14-4

Saturday Peak Hour Traffic Assignments

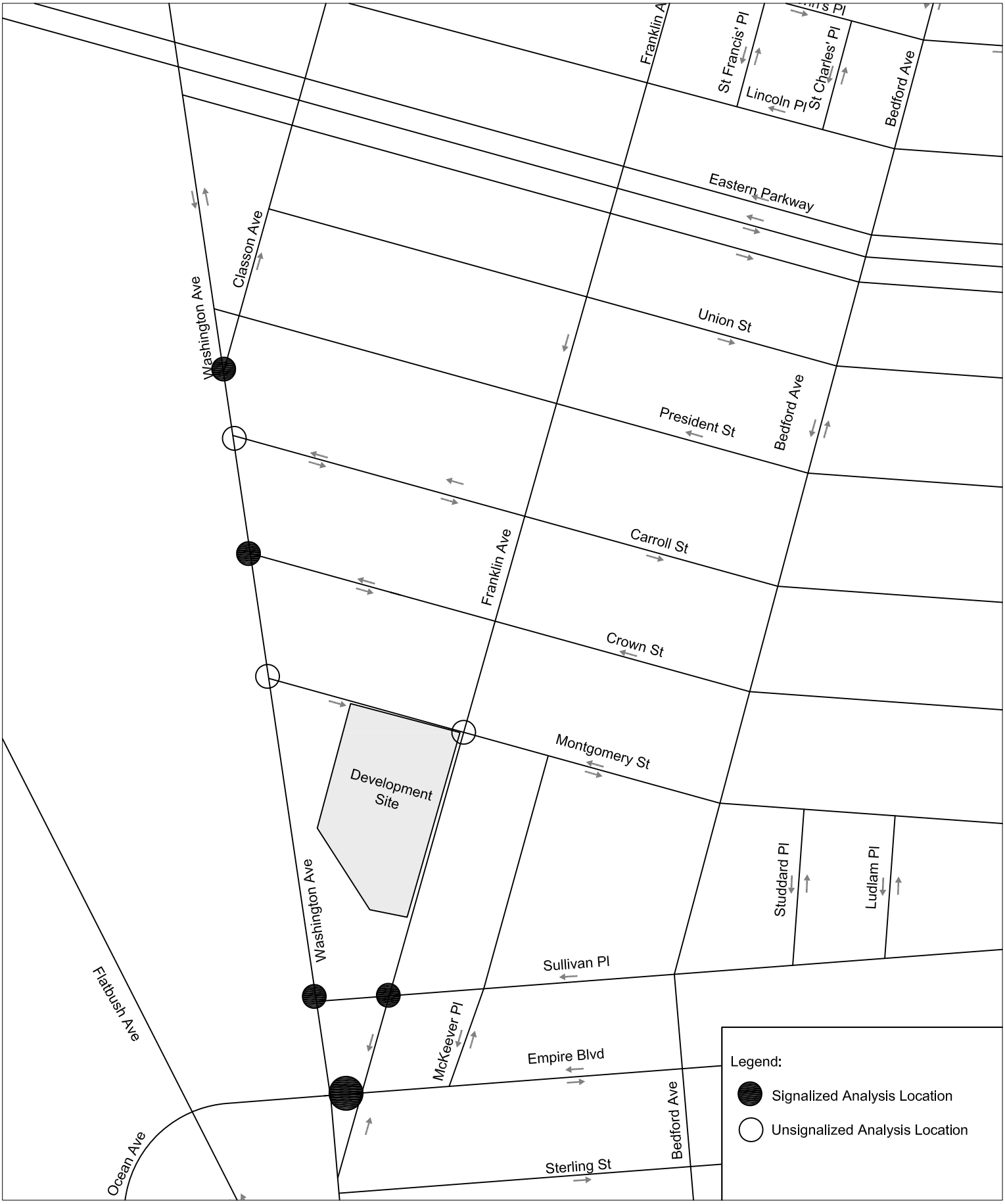

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Figure 14-5

Traffic Analysis Locations

E. LEVEL 2 SCREENING ASSESSMENT

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

Vehicular Traffic

Based upon the projected development associated with the Proposed Actions, there would be 133, 116, 145, and 148 additional vehicle trips during the weekday AM, midday, and PM and Saturday peak hours, respectively. These traffic volumes would exceed the *CEQR Technical Manual* threshold of 50 vehicles during the peak hours 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. **Figures 14-1** through **14-4** show the assignment of incremental peak hour vehicle trips, and **Figure 14-5** shows the locations of the eight intersections (five signalized and three unsignalized) that were selected for detailed analysis.

Transit

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

Subway

Subway Stations

As shown in **Figure 14-6**, the nearest subway stations to the Project Area are the Franklin Avenue-Botanic Garden station on the IRT Eastern Parkway Line (2, 3, 4, and 5 trains) and the BMT Franklin Avenue Line (Franklin Avenue Shuttle) on Eastern Parkway between Classon and Franklin Avenues north of the rezoning area, and Prospect Park on the BMT Brighton Line (B and Q trains) and the BMT Franklin Avenue Line (Franklin Avenue Shuttle) at the intersection of Flatbush Avenue, Empire Boulevard, and Ocean Avenue southwest of the Project Area.

As shown above in **Table 14-2**, the approximate net hourly subway trips generated by the Proposed Actions would be 671 and 735 (in and out combined) trips in the weekday AM and PM commuter peak hours, respectively. Based on ridership data and distance from the Proposed Development Site, approximately 60 percent of subway trips were assigned to the Franklin Avenue-Botanic Garden station

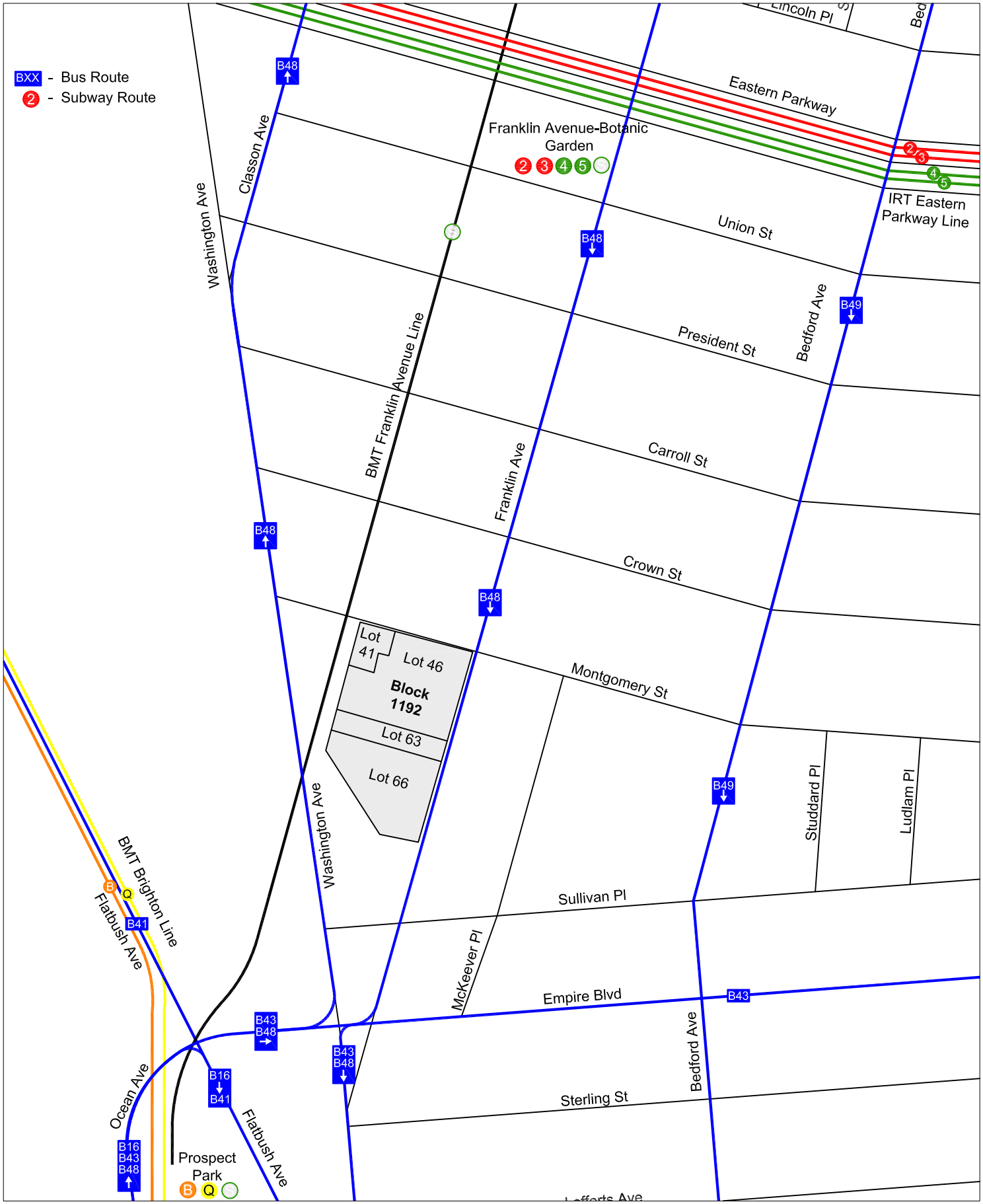

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Figure 14-6

Site Location and Transit Access

complex on the IRT Eastern Parkway Line (2, 3, 4, and 5 trains) and the BMT Franklin Avenue Line (Franklin Avenue Shuttle) with the remaining approximately 40 percent assigned to the Prospect Park station on the BMT Brighton Line (B and Q trains) and the BMT Franklin Avenue Line (Franklin Avenue Shuttle). As shown in **Table 14-3**, both the Franklin Avenue-Botanic Garden station complex, with an expected increase of 403 AM and 441 PM peak hour trips, and the Prospect Park station, with an expected increase of 268 AM and 294 PM peak hour trips, would exceed the *CEQR Technical Manual* analysis threshold of 200 new trips in any one peak hour. A detailed analysis of key circulation elements (e.g., street stairs and fare arrays) is therefore warranted for both the Franklin Avenue-Botanic Garden and the Prospect Park subway stations.

TABLE 14-3
Project Increment Peak Hour Subway Assignments by Station

Subway Station	AM Peak Hour Trips			PM Peak Hour Trips		
	Into Project	Out Of Project	Total	Into Project	Out Of Project	Total
Project Summary						
Peak Hour Project Increment Trips	314	740	1,054	786	572	1,358
Peak Hour Project Increment Subway Trips	176	495	671	467	268	735
Subway Station Summary						
Franklin Avenue (2/3/4/5)-Botanic Garden (S)	106	297	403	280	161	441
Prospect Park (B/Q/S)	70	198	268	187	107	294

Subway Line Haul

As noted above, the Proposed Actions would generate approximately 176 incoming and 495 outgoing new subway trips in the weekday AM peak hour 467 incoming and 268 outgoing new subway trips in the weekday PM peak hour. As discussed above, the Project Area is served by a total of seven NYCT subway routes—the No. 2, 3, 4, 5, as well as the B, Q, and the Franklin Avenue Shuttle (S). As the project-generated subway trips would be distributed among these seven lines, the Proposed Actions are expected to generate less than 200 new peak hour subway trips per line in one direction. An analysis of subway line haul conditions is therefore not warranted per *CEQR Technical Manual* analysis criteria.

Bus

As shown in **Figure 14-6**, the Project Area is served by a total of five local bus routes operated by New York City Transit (NYCT) including the B43 and B48, which provide service between Greenpoint and Prospect-Lefferts Gardens; the B49, which runs along Bedford and Rogers Avenues en route between Manhattan Beach and Bedford-Stuyvesant; the B16, which provides service between Bay Ridge and Prospect-Lefferts Garden; and the B41, which runs along Flatbush Avenue en route between Kings Plaza and Downtown Brooklyn. It should be noted that the B16, B43, and B48 all terminate at Lincoln Road and Flatbush Avenue, approximately 0.3 miles south of the Project Area. The northern terminus of the B49 is located at Franklin Avenue and Lefferts Place, approximately one-mile north of the Project Area. These factors, as well as the distance of individual bus stops from the Project Area, were taken into consideration for the assignment of project-generated bus trips.

As shown in **Table 14-2**, the Proposed Actions are expected to generate a net total of approximately 70 and 79 incremental trips by local bus during the weekday AM and PM peak hours, respectively. According to the general thresholds used by the MTA and specified in the *CEQR Technical Manual*, a detailed analysis of bus conditions is generally not required if a proposed action is projected to result in fewer than 50 peak hour trips being assigned to a single bus route (in one direction), as this level of new demand is considered unlikely to result in significant adverse impacts. As the 70 project generated AM peak hour and 79 PM peak hour bus trips will be distributed to the five local NYCT bus routes serving the project area, none of these bus routes are expected to experience 50 or more new trips in one direction in at least one peak hour and therefore a detailed analysis of bus line haul conditions is not warranted per *CEQR Technical Manual* criteria.

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 14-2**, the Proposed Actions are expected to generate approximately 171 walk-only trips in the weekday AM peak hour, 568 in the midday peak hour, 370 in the PM peak hour, and 405 in the Saturday peak hour. Persons en route to and from subway station entrances and bus stops would add approximately 741, 452, 814, and 763 additional pedestrian trips to sidewalks and crosswalks in the vicinity of the rezoning area during these same periods, respectively. New pedestrian trips would therefore total 912, 1,020, 1,184, and 1,168 (bus, subway and "walk only"; in and out combined) in the weekday AM, midday, PM, and Saturday midday peak hours, respectively.

For the pedestrian trip assignment for the Proposed Actions, the walk-only trips were distributed evenly around the network and the subway and bus trips were assigned to stations and bus routes based on the ridership at each subway station/on each bus route and the distance from the each of the Proposed Development Site to the subway station/nearest bus stop on a route. As shown in **Figure 14-7**, a total of 30 pedestrian elements, including 14 sidewalks, 11 corner areas, and five crosswalks are expected to exceed the *CEQR Technical Manual* analysis threshold of 200 new peak hour pedestrian trips on any single element. The analysis elements are primarily located along the Franklin Avenue and Empire Boulevard corridors connecting the Project Area to area subway station entrances.

It should be noted that several crosswalks and corner areas along Franklin Avenue between Montgomery Street and Eastern Parkway are expected an increase of more than 200 new pedestrian trips but will not be included in the pedestrian analysis pursuant to *CEQR Technical Manual* methodology, as the intersections of Franklin Avenue with Montgomery, Crown, Carroll, and Union streets are all unsignalized.

Parking

Parking demand from commercial and retail uses typically peaks in the weekday midday period and declines during the afternoon and evening. By contrast, residential parking demand typically peaks during the overnight period. The expected overnight parking demand, which is critical for the primarily residential Proposed Development, is approximately 366 vehicles. The on-site accessory parking of 128 spaces is not expected to be sufficient to accommodate this projected overnight demand. As such, detailed existing on-street and off-street parking inventories within a ¼-mile radius and within a ½-mile radius of the Proposed Development Site are provided in this EIS to document the existing supply and demand during the

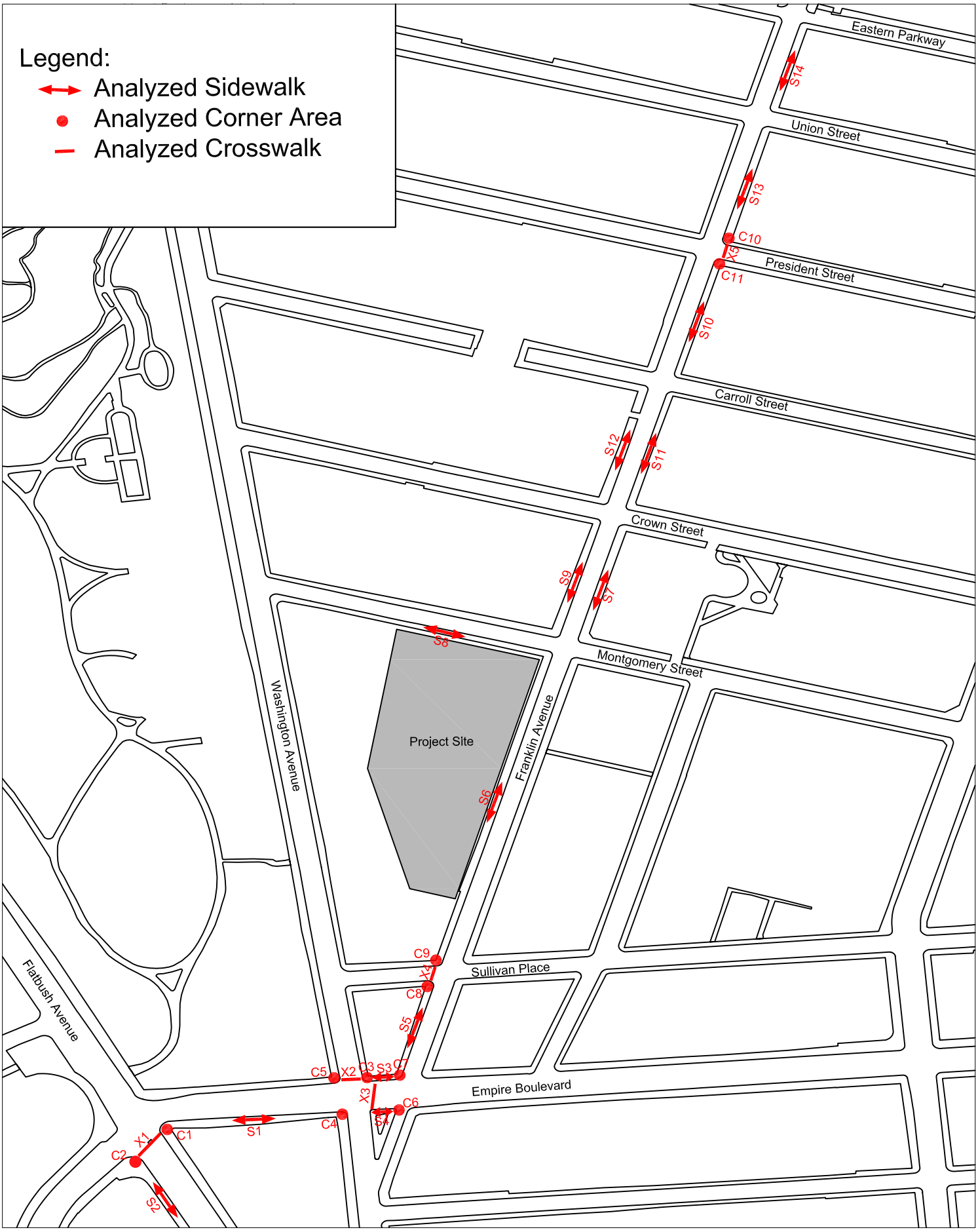

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Figure 14-7

Pedestrian Analysis Locations

weekday overnight period, and changes in the parking supply and utilization under both the No-Action and With-Action conditions will be forecasted.

F. TRANSPORTATION ANALYSES METHODOLOGIES

Traffic

Analysis Methodology

The traffic analysis examines conditions in the weekday AM, midday, and PM and Saturday peak hours when the increased travel demand attributable to the Proposed Actions is expected to be the greatest. The peak hours selected for analysis are weekday 8 to 9 AM, 1 to 2 PM, and 4:30-5:30 PM and Saturday 2 to 3 PM peak hours. These peak hours were selected based on existing traffic volumes in the study area as reflected in automatic traffic recorder (ATR) count data.

The capacity analyses at intersections are 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 were also conducted to document the physical layout and street widths, lane markings, curbside parking regulations, and other relevant characteristics needed for the analysis.

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

For unsignalized intersections, the HCM methodology generally assumes that traffic on major streets is not affected by traffic flows on minor streets. Left turns from a major street are assumed to be affected by the opposing, or oncoming, traffic flow on that major street. Traffic on minor streets is affected by all conflicting movements. Similar to signalized intersections, the HCM methodology expresses the quality of traffic flow at unsignalized intersections in terms of LOS based on the amount of delay that a driver experiences. Level of service definitions used to characterize traffic flows at unsignalized intersections differ somewhat from those used for signalized intersections, primarily because drivers anticipate different levels of performance from the two different kinds of intersections. For unsignalized intersections, LOS ranges from A, representing minimal delay (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 14-4 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 14-4
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

Subway Station Analysis Methodology

To determine existing conditions at analyzed subway station elements, subway ridership data were collected at analyzed subway stations in November 2017 and June 2019. The methodology for assessing subway station pedestrian circulation elements (stairs, escalators, and passageways) and fare control elements (regular turnstiles, high entry/exit turnstiles [HEETs], and high exit turnstiles [HXTs]) compares existing and projected pedestrian volumes with the element's design capacity to yield a v/c ratio. All

analyses reflect pedestrian flow volumes over a 15-minute interval during each peak hour. Based on existing pedestrian volumes at area subway stations, the peak hours selected for the analysis of subway station conditions are 8 to 9 AM and 5:30 to 6:30 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 14-5** shows the *CEQR Technical Manual* LOS criteria for all subway station elements. As shown in **Table 14-5**, 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 14-5
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: 2020 *CEQR Technical Manual*

Subway Station Significant Impact Criteria

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 14-6** 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 14-6
Significant Impact Thresholds for Stairways and Passageways

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

Source: 2020 *CEQR Technical Manual*

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 2017. 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 7:45 to 8:45 AM, 1 to 2 PM, and 5 to 6 PM periods, and the 1:45 to 2:45 PM period on Saturday.

Peak 15-minute pedestrian flow conditions during the weekday AM, midday, and PM and Saturday midday peak hours 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 14-7** 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.

TABLE 14-7
Pedestrian Crosswalk/Corner Area and Sidewalk Levels of Service Descriptions

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

Notes:
Based on average conditions for 15 minutes
sf/ped – square feet of area per pedestrian
Source: 2020 *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 Actions. These criteria define a significant adverse sidewalk impact to have occurred under platoon conditions if the average pedestrian space under the No-Action condition is greater than 39.2 square feet/pedestrian (sf/ped), and the average pedestrian space under the With-Action condition is 31.5 sf/ped or less (mid-LOS D or worse). If the average pedestrian space under the With-Action condition is greater than 31.5 sf/ped (mid-LOS D or better), the impact should not be considered significant. If the No-Action pedestrian space is between 6.4 and 39.2 sf/ped, a reduction in pedestrian space under the With-Action condition should be considered significant based on **Table 14-8**, which shows a sliding-scale that identifies what decrease in pedestrian space is considered a significant impact for a given pedestrian space value in the No-Action condition. If the reduction in pedestrian space is less than the value in **Table 14-18**, the impact is not considered significant. If the average pedestrian space under the No-Action condition is less than 6.4 sf/ped, then a reduction in pedestrian space greater than or equal to 0.3 sf/ped, under the With-Action condition, should be considered significant.

TABLE 14-8
Significant Impact Criteria for Sidewalks with Platooned Flow in a CBD Location

No-Action Condition Pedestrian Flow (sf/ped)	With-Action Condition Pedestrian Flow Increment to be Considered a Significant Impact (sf/ped)
> 39.2	With-Action Condition < 31.5
38.7 to 39.2	Reduction ≥ 3.8
37.8 to 38.6	Reduction ≥ 3.7
36.8 to 37.7	Reduction ≥ 3.6
35.9 to 36.7	Reduction ≥ 3.5
34.9 to 35.8	Reduction ≥ 3.4
34.0 to 34.8	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
<6.4	Reduction ≥ 0.3

Source: 2020 *CEQR Technical Manual*

Corner Areas and Crosswalks

For CBD areas, *CEQR Technical Manual* impact criteria define a significant adverse corner area or crosswalk impact to have occurred if the average pedestrian space under the No-Action condition is greater than 21.5 sf/ped and, under the With-Action condition, the average pedestrian space decreases to 19.5 sf/ped or less (mid-LOS D or worse). If the pedestrian space under the With-Action condition is greater than 19.5 sf/ped (mid-LOS C or better), the impact should not be considered significant. If the average pedestrian space under the No-Action condition is between 5.1 and 21.5 sf/ped, a decrease in pedestrian space under the With- Action condition should be considered significant based on **Table 14-9** which shows a sliding-scale that identifies what decrease in pedestrian space is considered a significant impact for a given amount of pedestrian space in the No-Action condition. If the decrease in pedestrian

space is less than the value in **Table 14-9**, the impact is not considered significant. If the average pedestrian space under the No-Action condition is less than 5.1 sf/ped, then a decrease in pedestrian space greater than or equal to 0.2 sf/ped should be considered significant.

TABLE 14-9
Significant Impact Criteria for Corners and Crosswalks in a CBD Location

No-Action Condition Pedestrian Space (sf/ped)			With-Action Condition Pedestrian Space Reduction to be Considered a Significant Impact (sf/ped)
> 21.5			With Action Condition < 19.5
21.3	to	21.5	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	to	15.8	Reduction ≥ 1.4
14.1	to	14.9	Reduction ≥ 1.3
13.2	to	14	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	to	6.8	Reduction ≥ 0.4
5.1	to	5.9	Reduction ≥ 0.3
< 5.1			Reduction ≥ 0.2

Source: 2020 *CEQR Technical Manual*

Vehicular and Pedestrian Safety Evaluation

Under *CEQR Technical Manual* guidance, an evaluation of vehicular and pedestrian safety is needed for locations within the traffic and pedestrian study areas that have been identified as high crash locations. These are defined as locations with 48 or more total reportable and non-reportable crashes 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.

Parking

Analysis Methodology

The parking analysis identifies the supply of on-street and off-street public parking near a Proposed Development 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 radius around a project site is generally assumed as the distance that someone driving to the site would be willing to walk. If a shortfall of spaces is anticipated in the ¼-mile radius, the ½-mile radius may be included in the analysis. The parking analyses therefore document changes in the parking supply and utilization within a ¼-mile and ½-mile radius of the Project Area under both No-Action and With-Action conditions. As noted in Section E, "Level 2 Screening Assessment," the detailed parking analysis focuses solely on the weekday overnight period when project-generated demand is expected to exceed the proposed on-site capacity.

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), 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 Development 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 2020 *CEQR Technical Manual*. As the Project Area is not located within Parking Zone 1 or 2 as shown in Map 16-2, a project's parking shortfall that exceeds more than half the available on- and off-street parking spaces within a ¼-mile of the site can be considered significant. The *CEQR Technical Manual* notes that the lead agency should consider additional factors to determine whether such shortfall is significant, including: the availability and extent of transit in the area; the proximity of the project to such transit; any features of the project that are considered trip reduction or travel demand management (TDM) measures as set forth in Subsection 515 of the *CEQR Technical Manual*; travel modes of customers of area commercial businesses; and patterns of automobile usage by area residents. The sufficiency of parking within a ½-mile of the project site to accommodate the projected shortfall may also be considered.

G. TRAFFIC

Existing Conditions

Study Area Street Network

Block 1192 is bounded by Washington Avenue on the west, Empire Boulevard on the south, Franklin Avenue on the east, and Montgomery Street on the north. The BMT Franklin Avenue Line of the New York City Subway (NYCT) runs north-south in an open cut that bisects Block 1192. The Proposed Development site is located east of this cut.

In addition to the Proposed Development Site, which is currently primarily occupied by a spice warehouse and distribution facility, the rezoning area would include a portion of Lots 77 and 85, both of which contain residential buildings. The Development Site is approximately 2.76 acres in size. The Development Site includes approximately 550 feet of frontage along Franklin Avenue and approximately 230 feet of frontage along Montgomery Street. Adjacent land uses include residential, mixed-use or light industrial/warehouse uses, and there are various schools nearby, including P.S. 241, Clara Barton High School, and Medgar Evers College).

Franklin Avenue is a minor one-way southbound arterial through Crown Heights which runs along the east side of the Project Area, and Washington Avenue is a minor two-way arterial west of the Project Area. The nearest designated local truck routes to the Project Area are Rogers Avenue (northbound) and Nostrand Avenue (southbound) east of the Project Area and Empire Boulevard (east-west) south of the rezoning area. Eastern Parkway is a major arterial north of the Project Area but is not a designated local truck route. All other streets in the area are local streets.

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 September 2019. Some supplemental counts were provided by NYCDOT. 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. **Figures 14-8** through **14-11** show the existing traffic volumes during the weekday AM, midday, PM, and Saturday peak hours.

Intersection Capacity Analysis

The volume-to-capacity (v/c) ratios, delays and levels of service for all lane groups at all analyzed intersections in all peak periods under Existing conditions are provided in **Table 14-10**. A lane group is considered congested 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 14-10**, all analyzed lane groups are currently operating at an uncongested LOS D or better, with the exception of the following three lane groups in the weekday AM peak hour:

- the northbound approach at Washington and Classon Avenues (LOS E in AM peak hour);
- the westbound approach at Washington Avenue and Crown Street (LOS E in AM peak hour); and
- the eastbound through-right lane group at Washington Avenue and Empire Boulevard (LOS E in AM peak hour).

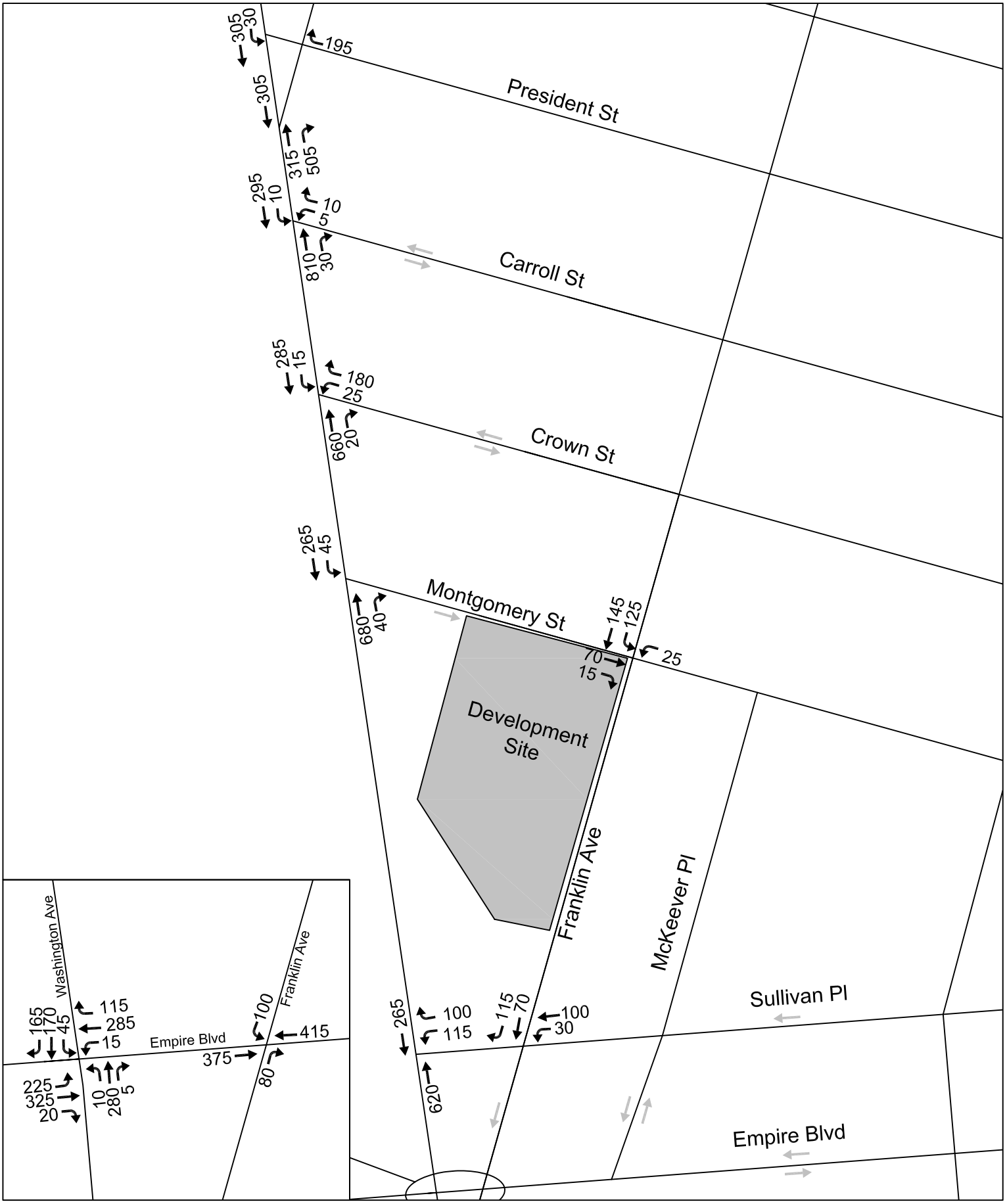

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Figure 14-8

Existing Weekday AM Peak Hour Traffic Volumes

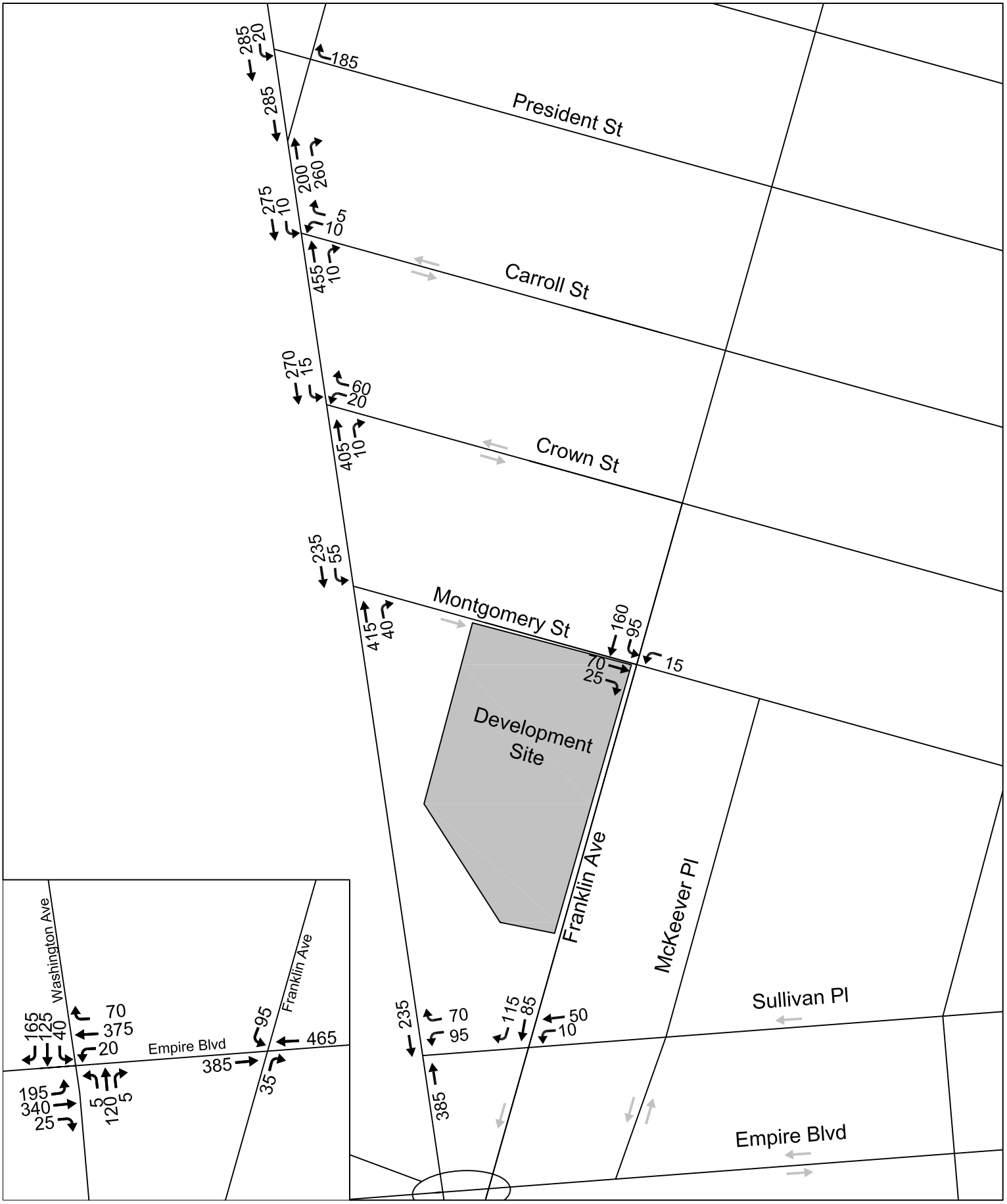

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Figure 14-9

Existing Weekday Midday Peak Hour Traffic Volumes

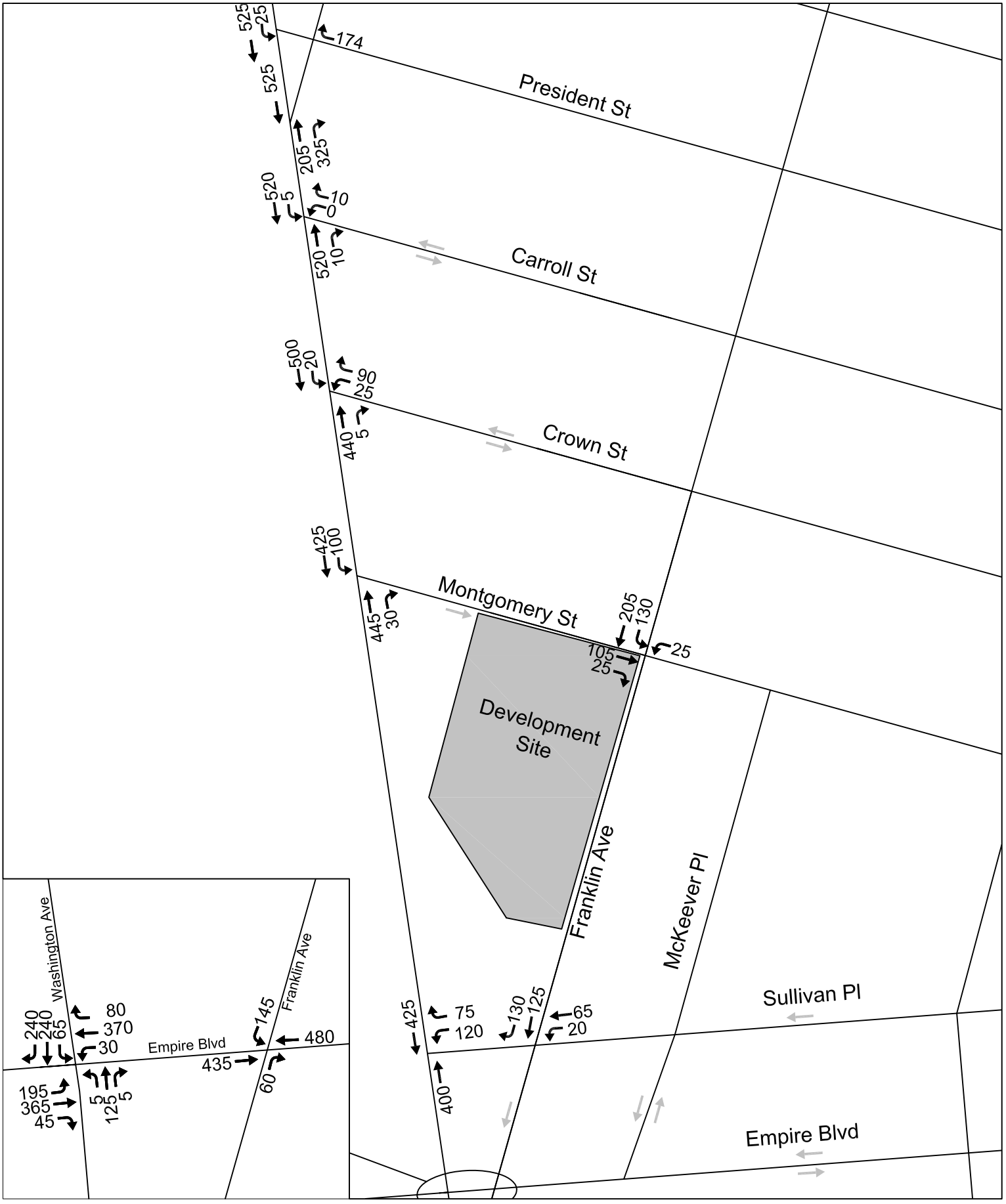

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Figure 14-10

Existing Weekday PM Peak Hour Traffic Volumes

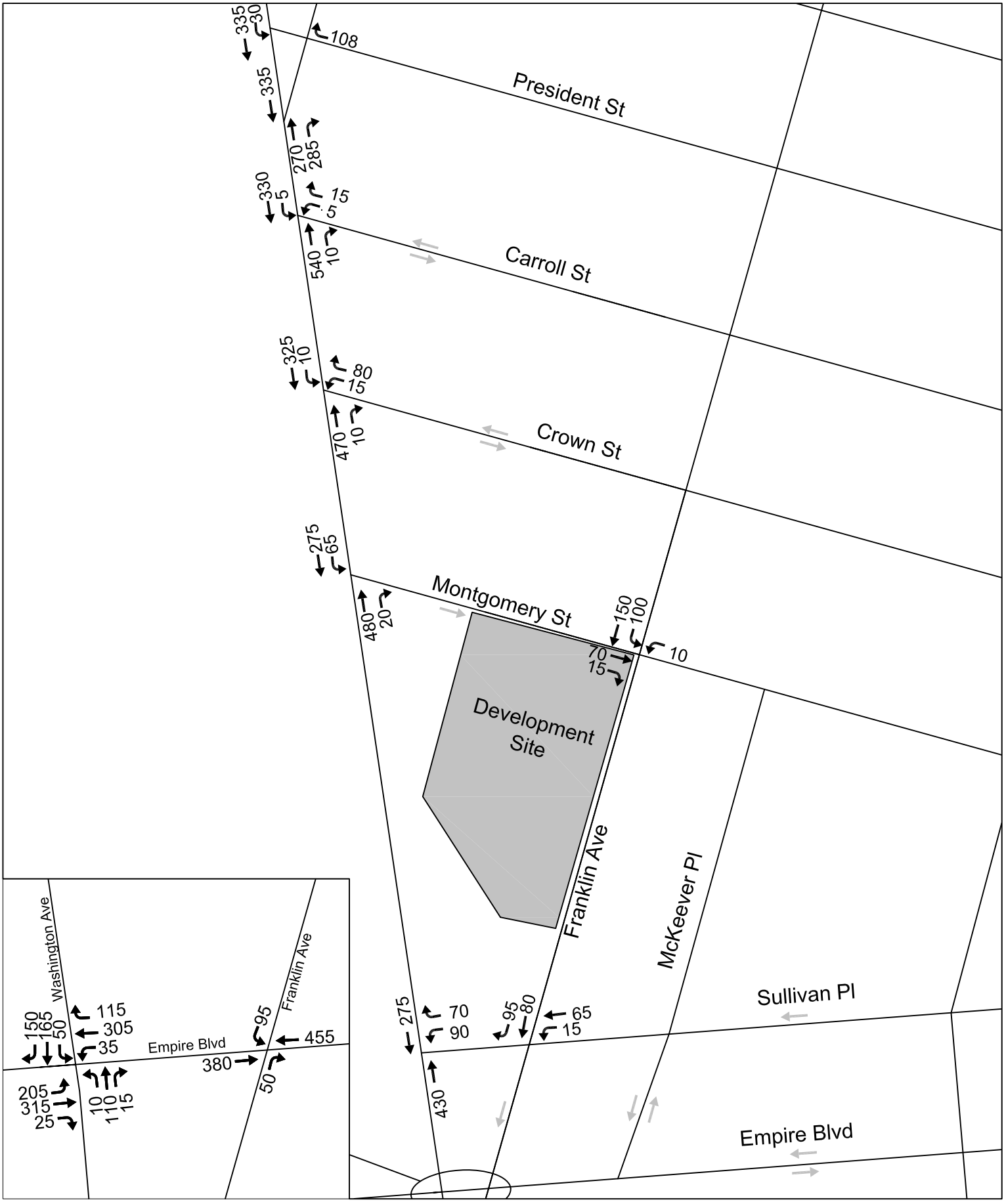

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Figure 14-11

Existing Saturday Peak Hour Traffic Volumes

TABLE 14-10
Existing Traffic Levels of Service

Signalized Intersections	Approach	Lane Group	Weekday AM Peak Hour V/C Ratio	Delay (sec/veh)	LOS		Weekday MD Peak Hour V/C Ratio	Delay (sec/veh)	LOS	Weekday PM Peak Hour V/C Ratio	Delay (sec/veh)	LOS	Saturday Peak Hour V/C Ratio	Delay (sec/veh)	LOS
Washington Ave. &	NB	TR	1.05	59.0	E	*	0.69	14.9	B	0.70	15.2	B	0.77	17.8	B
Classon Ave.	SB	T	0.42	8.9	A		0.36	8.6	A	0.61	12.4	B	0.42	9.2	A
Washington Ave. &	WB	LR	0.83	56.4	E	*	0.34	31.3	C	0.46	34.2	C	0.41	32.9	C
Crown St.	NB	TR	0.84	21.5	C		0.56	11.4	B	0.53	10.9	B	0.61	12.5	B
	SB	LT	0.43	9.5	A		0.38	8.8	A	0.62	12.6	B	0.41	9.1	A
Washington Ave. &	WB	L	0.40	32.4	C		0.35	31.2	C	0.43	33.0	C	0.35	31.2	C
Sullivan Pl.	WB	R	0.35	30.9	C		0.25	29.1	C	0.27	29.5	C	0.26	29.3	C
	NB	T	0.80	19.4	B		0.53	10.9	B	0.48	10.1	B	0.49	10.1	B
	SB	T	0.33	8.3	A		0.30	7.9	A	0.48	10.0	B	0.34	8.3	A
Washington Ave. &	EB	L	0.56	20.8	C		0.51	19.8	B	0.50	19.7	B	0.51	20.1	C
Empire Bvld.	EB	TR	0.80	55.3	E	*	0.65	46.5	D	0.66	46.8	D	0.55	43.4	D
	WB	L	0.21	42.1	D		0.27	45.0	D	0.38	49.4	D	0.36	46.6	D
	WB	TR	0.68	47.3	D		0.73	49.1	D	0.67	46.8	D	0.71	48.4	D
	NB	LTR	0.73	42.8	D		0.34	30.0	C	0.33	29.8	C	0.32	29.7	C
	SB	LTR	0.58	34.5	C		0.47	31.5	C	0.72	38.4	D	0.50	32.1	C
Franklin Ave &	EB	T	0.22	8.4	A		0.23	8.5	A	0.22	8.4	A	0.20	8.2	A
Empire Bvld.	WB	T	0.74	50.1	D		0.86	59.4	E	0.75	50.7	D	0.79	52.5	D
	NB	R	0.37	40.4	D		0.16	35.7	D	0.31	39.9	D	0.21	36.5	D
	SB	L	0.51	45.5	D		0.40	41.0	D	0.72	56.7	E	0.39	40.4	D
Franklin Ave. &	WB	LT	0.41	28.8	C		0.19	25.2	C	0.25	26.1	C	0.24	25.8	C
Sullivan Pl.	SB	TR	0.34	14.1	B		0.37	14.4	B	0.48	16.5	B	0.34	13.9	B

Unsignalized Intersections	Approach	Lane Group	Weekday AM Peak Hour V/C Ratio	Delay (sec/veh)	LOS	Weekday MD Peak Hour V/C Ratio	Delay (sec/veh)	LOS	Weekday PM Peak Hour V/C Ratio	Delay (sec/veh)	LOS	Saturday Peak Hour V/C Ratio	Delay (sec/veh)	LOS
Washington Ave. &	WB	LR	0.11	30.2	D	0.05	16.5	C	0.03	13.7	B	0.08	17.7	C
Carroll St.	SB	LT	0.03	12.8	B	0.01	9.0	A	0.01	9.4	A	0.01	9.7	A
Washington Ave. &	SB	LT	0.11	12.9	B	0.08	9.6	A	0.15	10.0	B	0.10	9.9	A
Montgomery St.														
Franklin Ave. &	EB	TR	-	8.5	A	-	8.3	A	-	9.1	A	-	8.1	A
Montgomery St.	WB	L	-	8.3	A	-	8.1	A	-	8.8	A	-	7.9	A
	SB	LT	-	10.3	B	-	9.7	A	-	12.0	B	-	9.2	A

Notes:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DefL-Analysis considers a defacto left lane on this approach
V/C Ratio - Volume to Capacity Ratio, sec. - Seconds
LOS - Level of Service
* - Denotes a congested movement (LOS E or F, or V/C ratio greater than or equal to 0.9)
Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

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

Future No-Action Traffic Growth

In order to forecast 2024 future traffic conditions without the Proposed Actions (the No-Action condition), development on the Development Site and other developments listed in **Table 14-11** and shown in **Figure 14-12** were considered. The future No-Action traffic volumes also reflect annual background growth rates as recommended in the *2020 CEQR Technical Manual* for projects in Brooklyn. This background growth was applied to account for smaller projects and as-of-right developments not reflected in **Table 14-11**, and general increases in travel demand not attributable to specific development projects. Where new developments (excluding those on the Development Site) 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 14-13** through **14-16** show total year 2024 No-Action traffic volumes during weekday AM, midday, and PM and Saturday peak hours.

TABLE 14-11
No-Action Developments

Map No.[1]	Project	Residential (DUs)	Commercial (sf)	Community Facility (sf)	Build Year	Notes
Within a Quarter-Mile Radius						
1	960 Franklin Avenue	518	-	-	2023	On-Site No-Action development. Included in analysis.
2[2]	109-111 Montgomery Street	163	-	-	2020	Included in analyis.
3[2]	931 Carroll Street	128	-	-	2021	Included in analyis.
4	40 Crown Street	390	16,284	-	2021	Included in analyis.
5	Bedford-Union Armory (1555 Bedford Avenue)	390	48,997	90,374	2021	Included in analyis. (Based on Bedford Union Armory EIS.)
Within a Mile Radius						
6	564 St. John's Place	193	-	-	2020	Included in background growth.
7	310 Clarkson Avenue	170	8,388	-	2019	Included in analyis.
8	350 Clarkson Avenue	250	5,687	-	2019	Included in analyis.
9	1515 Bedford Avenue	114	-	8,519	2021	Included in background growth.
10	1548 Bedford Avenue (Hotel)	100	38,356	-	2020	Included in background growth.
11	409 Eastern Parkway Hotel	186	13,554	-	2019	Included in analyis.
12	794 Flatbush Avenue	255	19,800	11,300	2019	Included in analyis.

Notes:
Developments with 2019/2020 Build Years were included in the No-Action as they weren't completed prior to data collection
1 – Refer to **Figure 14-12**
2 – While developments No. 2 and 3 would typically be included in background growth due to their relatively small size (<200 dwelling units), they were conservatively included due to their close proximity.

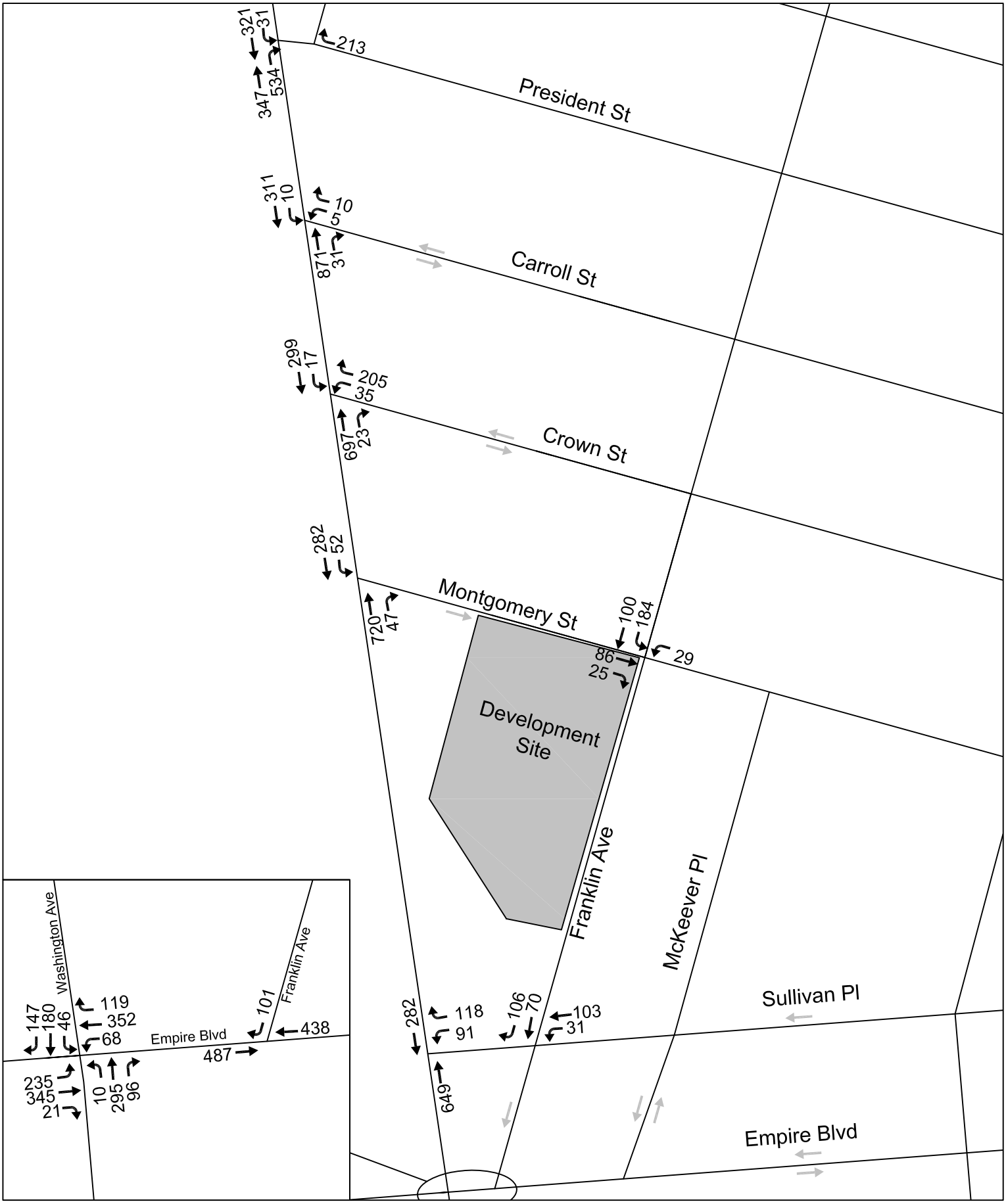
Future No-Action Street Network Changes

In the future without the Proposed Actions, DOT expects to implement a number of street improvements in proximity to the traffic study area that would affect traffic flow. It should be noted that these improvements were included in the No-Action (and With-Action) analyses. These street improvements are described below.

Figure 14-12
No-Action Development Sites

Legend

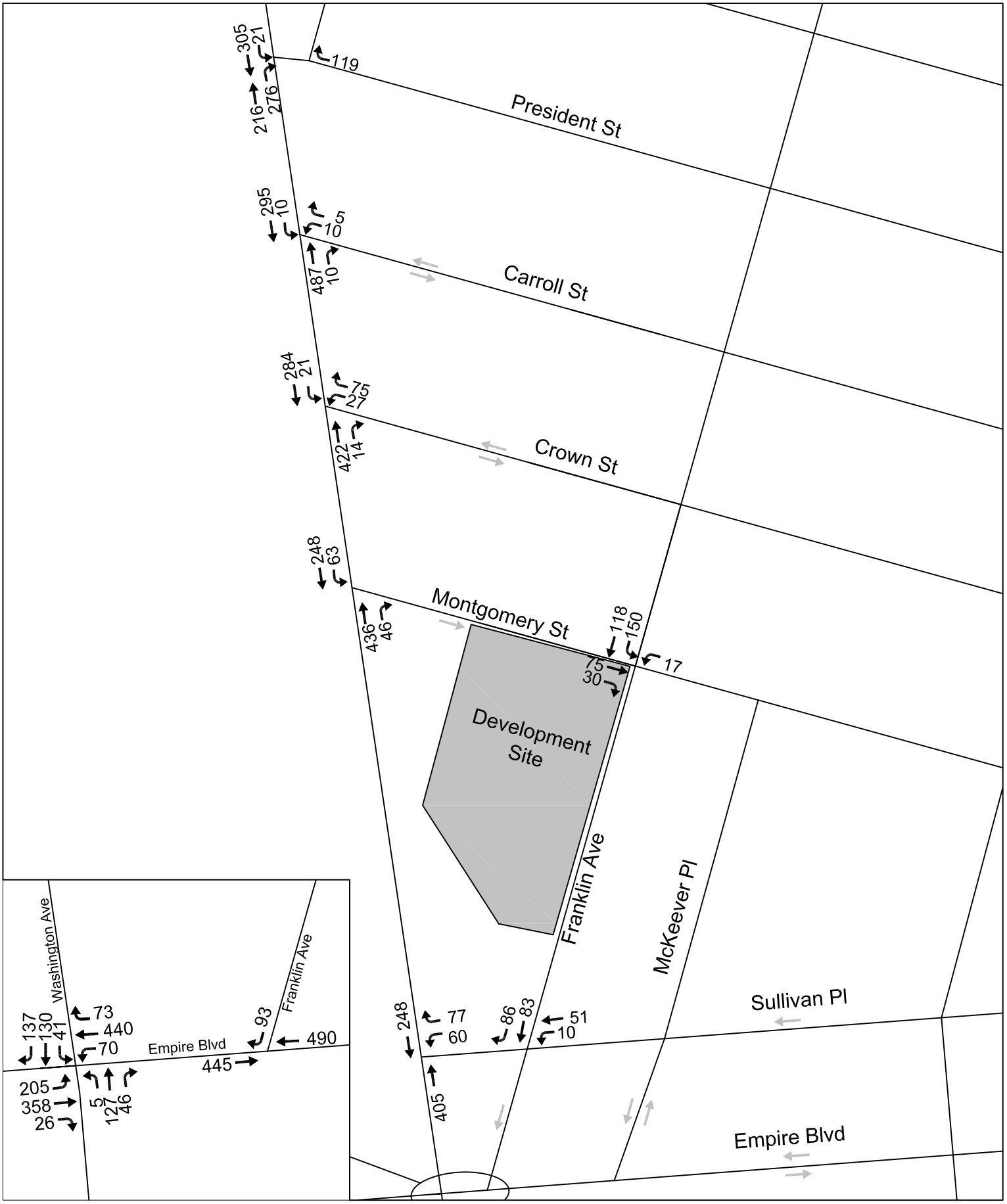
- Project Area
- Quarter-Mile Radius
- One-Mile Radius
- Open Space
- 7 No-Action Development Sites (refer to Table 2-4)



960 Franklin Avenue Rezoning

Figure 14-13

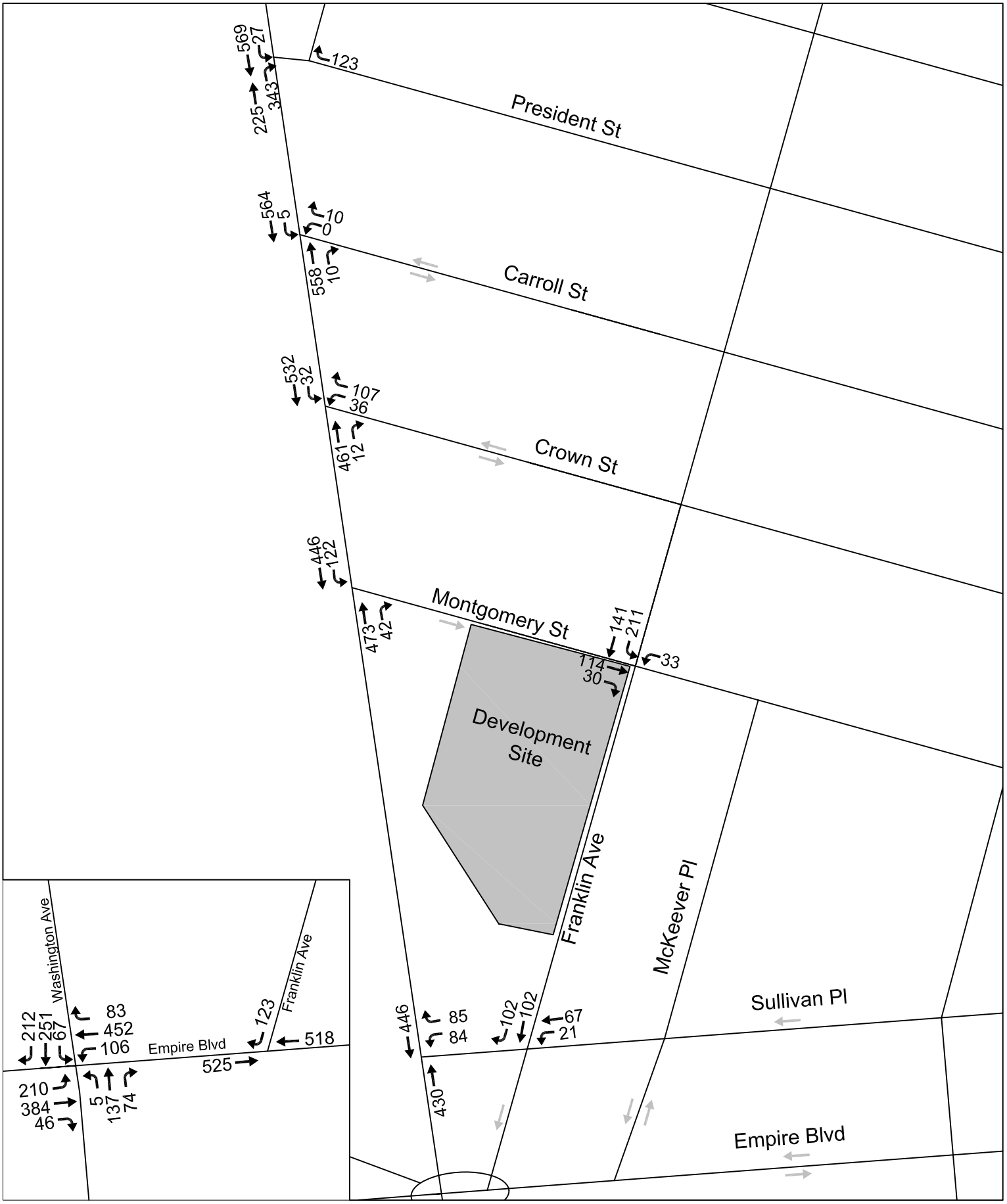
No-Action Weekday AM Peak Hour Traffic Volumes



960 Franklin Avenue Rezoning

Figure 14-14

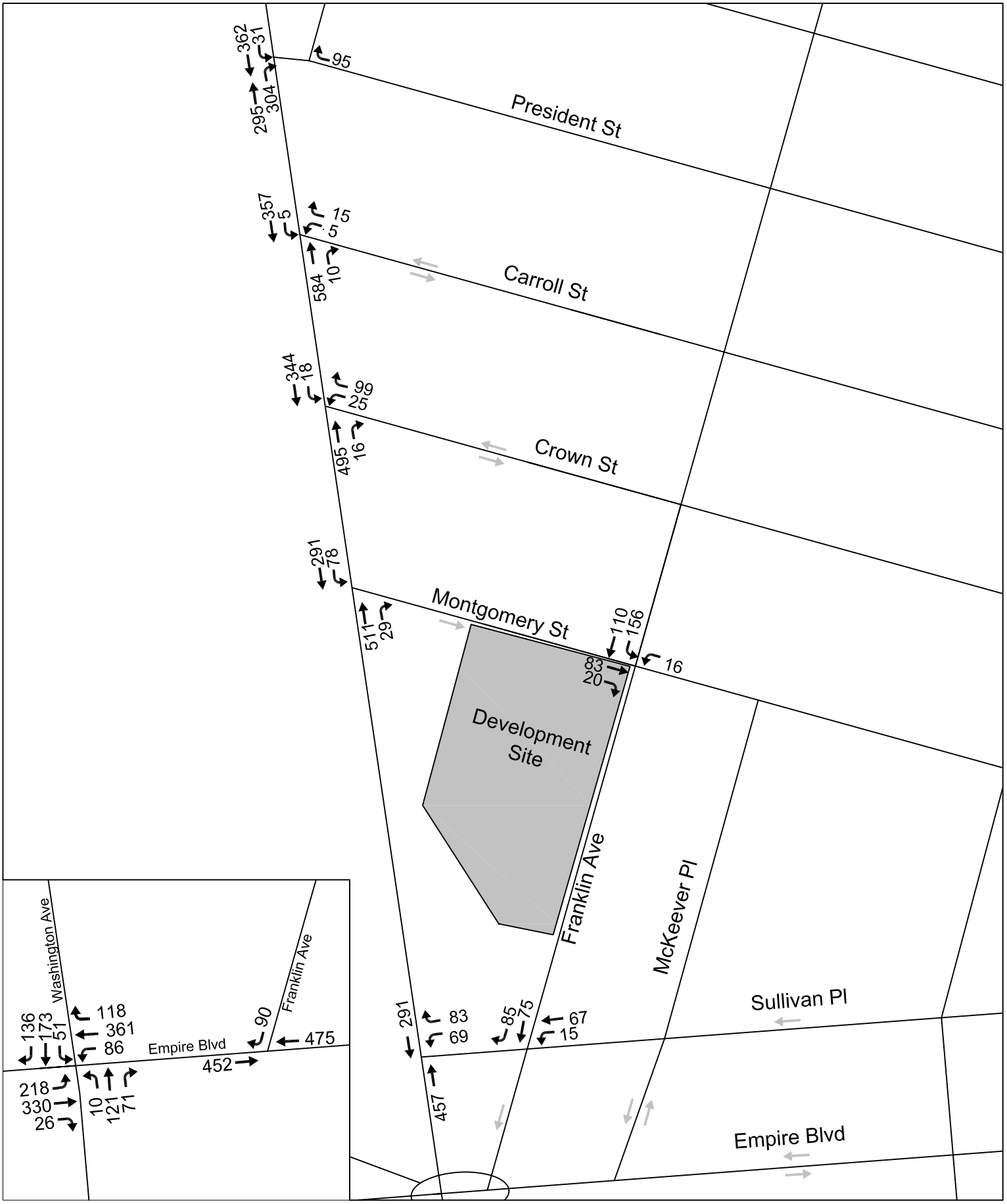
No-Action Weekday Midday Peak Hour Traffic Volumes



960 Franklin Avenue Rezoning

Figure 14-15

No-Action Weekday PM Peak Hour Traffic Volumes



960 Franklin Avenue Rezoning

Figure 14-16

No-Action Saturday Peak Hour Traffic Volumes

Empire Boulevard at Franklin and Washington Avenues (Project ID: HWK779W):

- The closure to traffic of the segment of Franklin Avenue south of Empire Boulevard and its inclusion as part of a pedestrian plaza area with landscaping.
- As part of the above improvement at Franklin Avenue and Empire Boulevard, existing northbound right-turns at this location would be diverted to Washington Avenue at Empire Boulevard with the addition of a proposed right-only lane on the northbound approach.
- Similarly, the southbound left-turn at Franklin Avenue and Empire Boulevard would be converted to a southbound right-turn.
- Some new stripping would be included as part of construction at Franklin Avenue at Empire Boulevard and Washington Avenue at Empire Boulevard.

Washington Avenue / Classon Avenue at President Street (Project ID: HWK1672):

- Improvements include truncating Classon Avenue south of President Street and creating a large intersection of President Avenue, Classon Avenue, and Washington Avenue. Westbound movements on President Street would be restricted to right-turns to the Classon Avenue.

Intersection Capacity Analysis

The volume-to-capacity (v/c) ratios, delays and levels of service for all lane groups at the analyzed intersections in all peak periods under No-Action conditions are provided in **Table 14-12**. As shown in **Table 14-12**, the westbound left-right lane group at Washington Avenue and Crown Street as well as the eastbound through-right lane group at Washington Avenue and Empire Boulevard. are congested in the weekday AM peak hour under Existing conditions would continue to be congested under No-Action conditions.

As shown in **Table 14-12**, a total of nine lane groups at six intersections (three signalized and three stop-controlled) are expected to deteriorate in level of service (LOS) in one or more peak hours from existing conditions to the No-Action conditions. Some of movements would become congested (LOS E or F, or V/C ratio greater than or equal to 0.9) in the No-Action condition. Deteriorated lane groups include:

- the westbound left-right lane group at Washington Avenue and Crown Street (signalized) is expected to deteriorate from LOS E to LOS F in the weekday AM peak hour, and LOS C to LOS D in the weekday PM and Saturday midday peak hours;
- the northbound through movement at Washington Avenue and Sullivan Place (signalized) is expected to deteriorate from LOS B to LOS C in the weekday AM peak hour;
- the eastbound left movement at Washington Avenue and Empire Boulevard (signalized) is expected to deteriorate from LOS B to LOS C in the weekday midday and weekday PM peak hours;
- the westbound left movement at Washington Avenue and Empire Boulevard (signalized) is expected to deteriorate from LOS D to LOS F in the weekday AM, weekday midday, weekday PM and Saturday midday peak hours;
- the westbound through-right lane group at Washington Avenue and Empire Boulevard (signalized) is expected to deteriorate from LOS D to E in the weekday AM, weekday midday, and Saturday midday peak hours;
- the westbound left-right lane group at Washington Avenue and Carroll Street (unsignalized) is expected to deteriorate from LOS D to LOS E in the weekday AM peak hour;

- the southbound left-through lane group at Washington Avenue and Carroll Street (unsignalized) is expected to deteriorate from LOS A to LOS B in the Saturday midday peak hour;
- the southbound left-through lane group at Washington Avenue and Montgomery Street (unsignalized) is expected to deteriorate from LOS A to B in the Saturday midday peak hour;
- and the southbound left-through lane group at Franklin Avenue and Montgomery Street (unsignalized) is expected to deteriorate from LOS A to LOS B in the weekday midday peak hour.

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

Future With-Action Traffic Growth

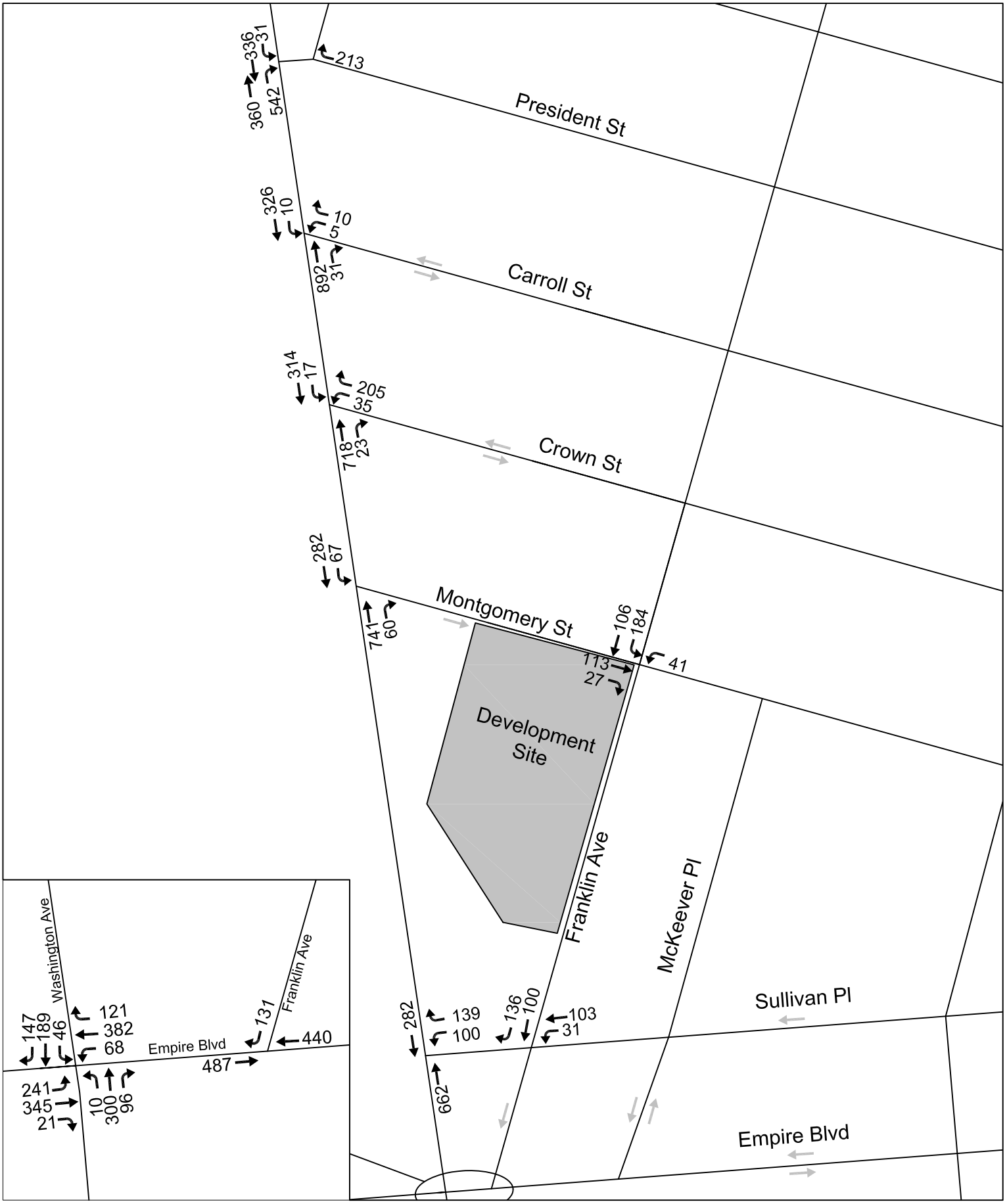
As discussed above, the Proposed Actions would result in a total of 133, 116, 145, and 148 additional vehicle trips during the weekday AM, midday, and PM and Saturday peak hours, respectively (including autos, taxis and trucks). **Figures 14-1** through **14-4** show the assignment of these project-generated peak hour trips, while **Figures 14-17** through **14-20** show the total peak hour traffic volumes at the analyzed intersections for the 2024 future with the Proposed Actions. The volumes shown are the combination of the net incremental traffic generated by the Proposed Actions and the No-Action volumes.

Intersection Capacity Analysis

The v/c ratios, delays and levels of service for all lane groups at the analyzed intersections in all peak periods under With-Action conditions are provided in **Table 14-13**. As shown in **Table 14-13**, a total of nine lane groups at six intersections (three signalized and three stop-controlled) are expected to deteriorate in level of service (LOS) in one or more peak hours from No-Action conditions to the With-Action conditions. These lane groups include:

- the southbound left-through lane group at Washington Avenue and Crown Street (signalized) is expected to deteriorate from LOS A to LOS B in the weekday AM and Saturday midday peak hours;
- the eastbound left movement at Washington Avenue and Empire Boulevard (signalized) is expected to deteriorate from LOS C to LOS D in the weekday AM peak hour;
- the westbound through-right lane group at Washington Avenue and Empire Boulevard (signalized) is expected to deteriorate from LOS D to LOS E in the weekday PM peak hour;
- the northbound left-through lane group at Washington Avenue and Empire Boulevard (signalized) is expected to deteriorate from LOS C to LOS D in the weekday AM peak hour;
- the southbound through-right lane group at Franklin Avenue and Sullivan Place (signalized) is expected to deteriorate from LOS B to LOS C in the weekday AM and weekday PM peak hours;
- the westbound left-right lane group at Washington Avenue and Carroll Street (unsignalized) is expected to deteriorate from LOS B to LOS C in the weekday PM peak hour;
- the southbound left-through lane group at Washington Avenue and Carroll Street (unsignalized) is expected to deteriorate from LOS A to LOS B in the weekday PM peak hour;
- the southbound left-through lane group at Washington Avenue and Montgomery Street (unsignalized) is expected to deteriorate from LOS B to LOS C in the weekday AM peak hour, and LOS A to B in the weekday midday peak hour;
- and the southbound left-through lane group at Franklin Avenue and Montgomery Street (unsignalized) is expected to deteriorate from LOS A to LOS B in the Saturday midday peak hour.

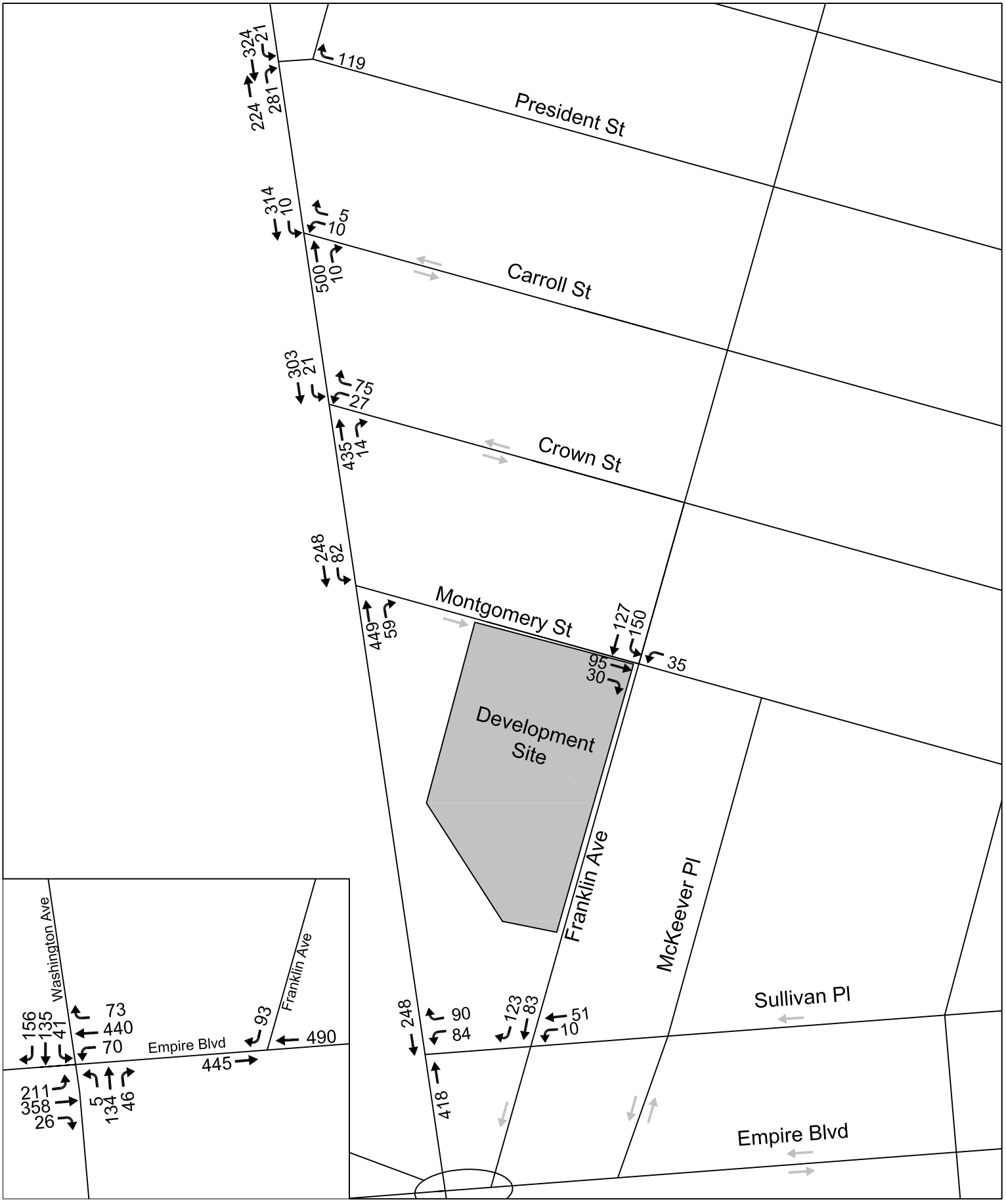
Furthermore, as shown in **Table 14-13**, there would be a total of two lane groups at one intersection that would experience a significant adverse traffic impact as a result of the Proposed Actions. The impacted lane groups are the westbound left movement and the westbound through-right lane group at



960 Franklin Avenue Rezoning

Figure 14-17

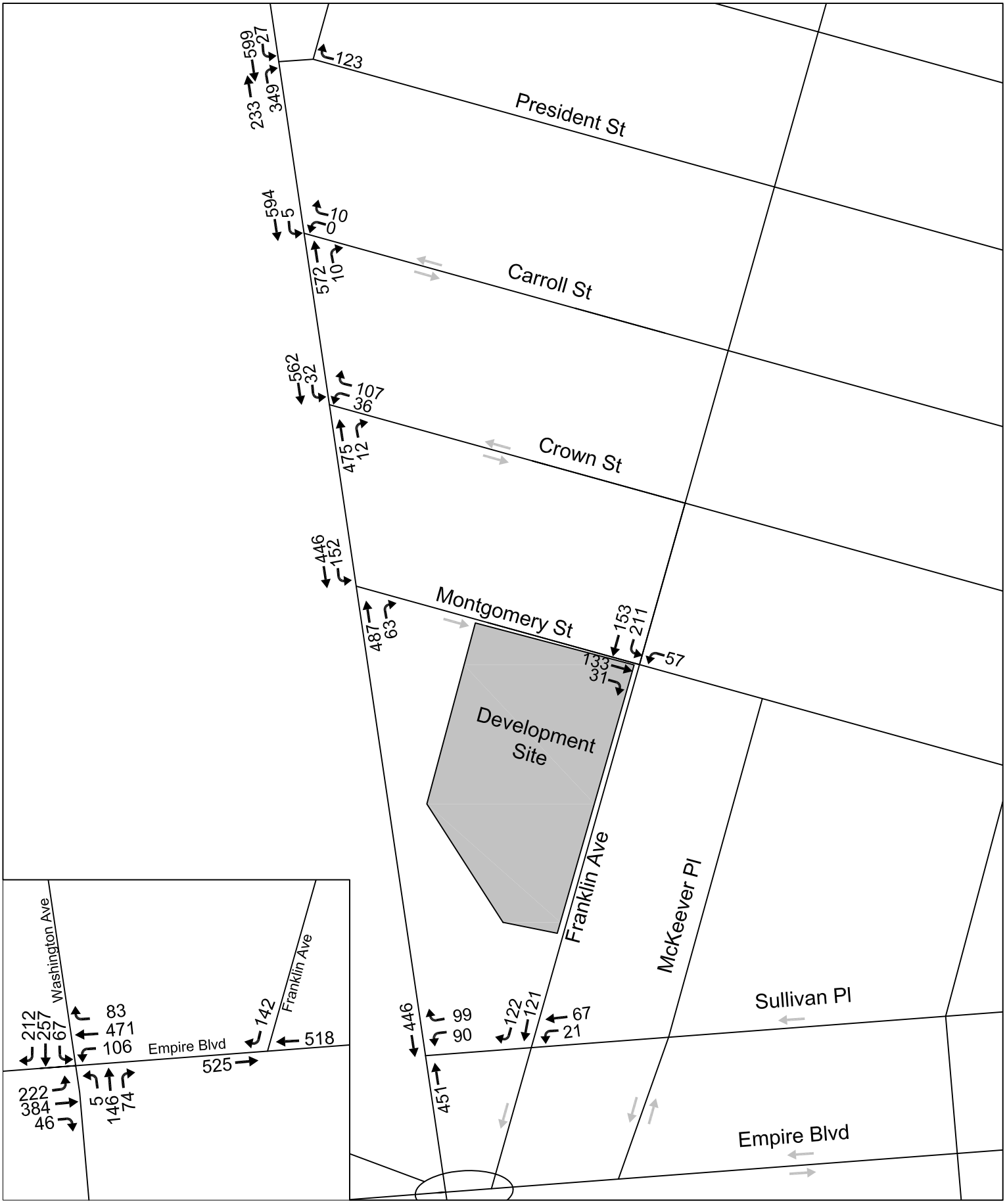
With-Action Weekday AM Peak Hour Traffic Volumes



960 Franklin Avenue Rezoning

Figure 14-18

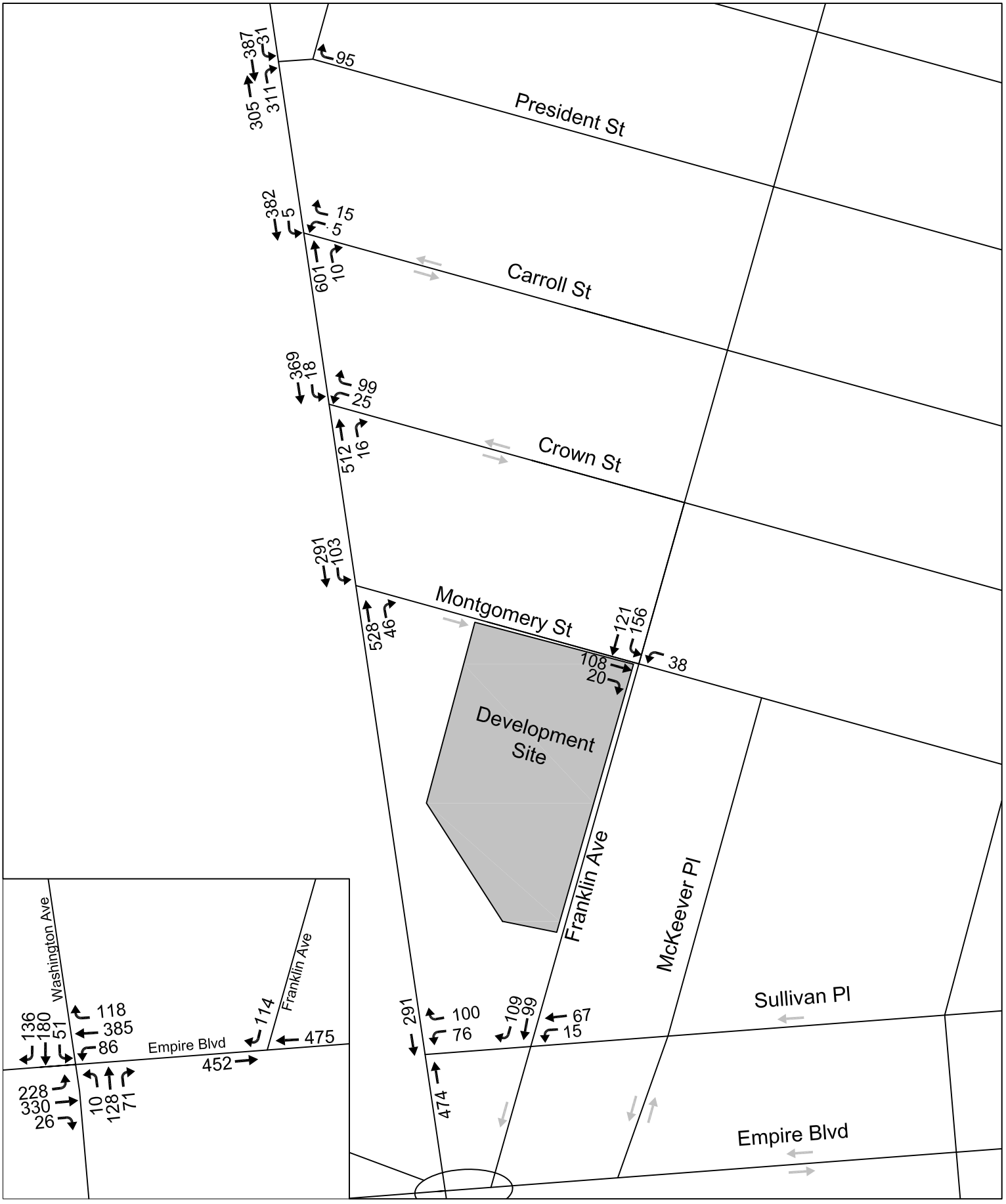
With-Action Weekday Midday Peak Hour Traffic Volumes



960 Franklin Avenue Rezoning

Figure 14-19

With-Action Weekday PM Peak Hour Traffic Volumes



960 Franklin Avenue Rezoning

Figure 14-20

With-Action Saturday Peak Hour Traffic Volumes

Washington Avenue and Empire Boulevard, which would operate at LOS F and LOS E, respectively in the weekday AM and Saturday midday peak hours.

TABLE 14-12
No-Action Traffic Levels of Service

			Weekday AM Peak Hour						Weekday MD Peak Hour						Weekday PM Peak Hour						Saturday Peak Hour					
			Existing			No-Action			Existing			No-Action			Existing			No-Action			Existing			No-Action		
Signalized Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Washington Ave. &	WB	R	-	-	-	0.55	30.0	C	-	-	-	0.58	30.7	C	-	-	-	0.53	29.0	C	-	-	-	0.35	25.0	C
Classon Ave.	NB	TR	1.05	59.0	E *	-	-	-	0.69	14.9	B	-	-	-	0.70	15.2	B	-	-	-	0.77	17.8	B	-	-	-
	NB	T	-	-	-	0.43	12.9	B	-	-	-	0.30	11.6	B	-	-	-	0.30	11.6	B	-	-	-	0.38	12.5	B
	NB	R	-	-	-	0.89	31.7	C	-	-	-	0.54	16.1	B	-	-	-	0.55	16.3	B	-	-	-	0.56	16.4	B
	SB	T	0.42	8.9	A	-	-	-	0.36	8.6	A	-	-	-	0.61	12.4	B	-	-	-	0.42	9.2	A	-	-	-
	SB	LT	-	-	-	0.59	16.0	B	-	-	-	0.50	14.8	B	-	-	-	0.83	26.9	C	-	-	-	0.59	16.6	B
Washington Ave. &	WB	LR	0.83	56.4	E *	0.97	81.2	F *	0.34	31.3	C	0.44	33.6	C	0.46	34.2	C	0.57	37.9	D	0.41	32.9	C	0.53	36.5	D
Crown St.	NB	TR	0.84	21.5	C	0.89	25.9	C	0.56	11.4	B	0.59	12.0	B	0.53	10.9	B	0.57	11.6	B	0.61	12.5	B	0.66	13.6	B
	SB	LT	0.43	9.5	A	0.45	9.9	A	0.38	8.8	A	0.42	9.3	A	0.62	12.6	B	0.69	14.7	B	0.41	9.1	A	0.46	9.8	A
Washington Ave. &	WB	L	0.40	32.4	C	0.32	30.6	C	0.35	31.2	C	0.22	28.8	C	0.43	33.0	C	0.30	30.2	C	0.35	31.2	C	0.27	29.6	C
Sullivan Pl.	WB	R	0.35	30.9	C	0.41	32.2	C	0.25	29.1	C	0.28	29.6	C	0.27	29.5	C	0.31	30.1	C	0.26	29.3	C	0.31	30.1	C
	NB	T	0.80	19.4	B	0.84	21.8	C	0.53	10.9	B	0.56	11.4	B	0.48	10.1	B	0.52	10.7	B	0.49	10.1	B	0.51	10.5	B
	SB	T	0.33	8.3	A	0.35	8.5	A	0.30	7.9	A	0.31	8.1	A	0.48	10.0	B	0.50	10.4	B	0.34	8.3	A	0.36	8.5	A
Washington Ave. &	EB	L	0.56	20.8	C	0.76	33.2	C	0.51	19.8	B	0.69	29.1	C	0.50	19.7	B	0.68	28.8	C	0.51	20.1	C	0.67	28.4	C
Empire Bvld.	EB	TR	0.80	55.3	E *	0.87	60.2	E *	0.65	46.5	D	0.62	43.1	D	0.66	46.8	D	0.63	43.4	D	0.55	43.4	D	0.52	40.5	D
	WB	L	0.21	42.1	D	0.85	98.1	F *	0.27	45.0	D	0.88	104.5	F *	0.38	49.4	D	1.22	203.7	F *	0.36	46.6	D	0.82	82.8	F *
	WB	TR	0.68	47.3	D	0.88	58.8	E *	0.73	49.1	D	0.89	60.1	E *	0.67	46.8	D	0.84	53.9	D	0.71	48.4	D	0.86	56.1	E *
	NB	LT	-	-	-	0.62	34.7	C	-	-	-	0.28	26.8	C	-	-	-	0.28	26.8	C	-	-	-	0.25	26.2	C
	NB	R	-	-	-	0.26	26.8	C	-	-	-	0.13	24.5	C	-	-	-	0.20	25.7	C	-	-	-	0.20	25.6	C
	NB	LTR	0.73	42.8	D	-	-	-	0.34	30.0	C	-	-	-	0.33	29.8	C	-	-	-	0.32	29.7	C	-	-	-
	SB	LTR	0.58	34.5	C	0.61	33.5	C	0.47	31.5	C	0.43	28.9	C	0.72	38.4	D	0.71	36.5	D	0.50	32.1	C	0.49	30.1	C
Franklin Ave &	EB	T	0.22	8.4	A	0.27	6.6	A	0.23	8.5	A	0.24	6.4	A	0.22	8.4	A	0.25	6.5	A	0.20	8.2	A	0.22	6.2	A
Empire Bvld.	WB	T	0.74	50.1	D	0.71	46.4	D	0.86	59.4	E *	0.83	53.5	D	0.75	50.7	D	0.74	47.6	D	0.79	52.5	D	0.75	47.9	D
	NB	R	0.37	40.4	D	-	-	-	0.16	35.7	D	-	-	-	0.31	39.9	D	-	-	-	0.21	36.5	D	-	-	-
	SB	L	0.51	45.5	D	-	-	-	0.40	41.0	D	-	-	-	0.72	56.7	E *	-	-	-	0.39	40.4	D	-	-	-
	SB	R	-	-	-	0.45	47.2	D	-	-	-	0.41	46.1	D	-	-	-	0.54	50.7	D	-	-	-	0.40	45.7	D
Franklin Ave. &	WB	LT	0.41	28.8	C	0.42	29.2	C	0.19	25.2	C	0.19	25.3	C	0.25	26.1	C	0.27	26.3	C	0.24	25.8	C	0.25	26.0	C
Sullivan Pl.	SB	TR	0.34	14.1	B	0.43	16.1	B	0.37	14.4	B	0.38	15.0	B	0.48	16.5	B	0.51	17.9	B	0.34	13.9	B	0.40	15.5	B
			Existing			No-Action			Existing			No-Action			Existing			No-Action			Existing			No-Action		
Unsignalized Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Washington Ave. &	WB	LR	0.11	30.2	D	0.13	36.3	E *	0.05	16.5	C	0.06	18.4	C	0.03	13.7	B	0.03	14.7	B	0.08	17.7	C	0.09	20.1	C
Carroll St.	SB	LT	0.03	12.8	B	0.03	13.8	B	0.01	9.0	A	0.01	9.3	A	0.01	9.4	A	0.01	9.8	A	0.01	9.7	A	0.01	10.2	B
Washington Ave. & Montgomery St.	SB	LT	0.11	12.9	B	0.14	14.1	B	0.08	9.6	A	0.09	9.9	A	0.15	10.0	B	0.19	10.6	B	0.10	9.9	A	0.13	10.4	B
Franklin Ave. &	EB	TR	-	8.5	A	-	8.8	A	-	8.3	A	-	8.4	A	-	9.1	A	-	9.5	A	-	8.1	A	-	8.4	A
Montgomery St.	WB	L	-	8.3	A	-	8.4	A	-	8.1	A	-	8.2	A	-	8.8	A	-	9.0	A	-	7.9	A	-	8.1	A
	SB	LT	-	10.3	B	-	10.9	B	-	9.7	A	-	10.1	B	-	12.0	B	-	12.9	B	-	9.2	A	-	9.7	A

Notes:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DefL-Analysis considers a defacto left lane on this approach
V/C Ratio - Volume to Capacity Ratio, sec. - Seconds
LOS - Level of Service
* - Denotes a congested movement (LOS E or F, or V/C ratio greater than or equal to 0.9)
Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

TABLE 14-13
With-Action Traffic Levels of Service

			Weekday AM Peak Hour						Weekday MD Peak Hour						Weekday PM Peak Hour						Saturday Peak Hour					
			No-Action			With-Action			No-Action			With-Action			No-Action			With-Action			No-Action			With-Action		
Signalized Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Washington Ave. &	WB	R	0.55	30.0	C	0.55	30.0	C	0.58	30.7	C	0.58	30.7	C	0.53	29.0	C	0.53	29.0	C	0.35	25.0	C	0.35	25.0	C
Classon Ave.	NB	T	0.43	12.9	B	0.44	13.1	B	0.30	11.6	B	0.31	11.7	B	0.30	11.6	B	0.32	11.7	B	0.38	12.5	B	0.40	12.7	B
	NB	R	0.89	31.7	C	0.90	33.4	C	0.54	16.1	B	0.55	16.3	B	0.55	16.3	B	0.56	16.5	B	0.56	16.4	B	0.57	16.7	B
	SB	LT	0.59	16.0	B	0.61	16.6	B	0.50	14.8	B	0.53	15.3	B	0.83	26.9	C	0.87	30.5	C	0.59	16.6	B	0.63	17.6	B
Washington Ave. &	WB	LR	0.97	81.2	F	0.97	81.2	F	0.44	33.6	C	0.44	33.6	C	0.57	37.9	D	0.57	37.9	D	0.53	36.5	D	0.53	36.5	D
Crown St.	NB	TR	0.89	25.9	C	0.91	29.0	C	0.59	12.0	B	0.60	12.4	B	0.57	11.6	B	0.58	11.9	B	0.66	13.6	B	0.68	14.3	B
	SB	LT	0.45	9.9	A	0.47	10.2	B	0.42	9.3	A	0.44	9.6	A	0.69	14.7	B	0.72	15.9	B	0.46	9.8	A	0.49	10.2	B
Washington Ave. &	WB	L	0.32	30.6	C	0.35	31.3	C	0.22	28.8	C	0.31	30.4	C	0.30	30.2	C	0.33	30.6	C	0.27	29.6	C	0.30	30.1	C
Sullivan Pl.	WB	R	0.41	32.2	C	0.48	34.0	C	0.28	29.6	C	0.33	30.4	C	0.31	30.1	C	0.36	31.0	C	0.31	30.1	C	0.37	31.4	C
	NB	T	0.84	21.8	C	0.86	23.2	C	0.56	11.4	B	0.57	11.8	B	0.52	10.7	B	0.54	11.1	B	0.51	10.5	B	0.53	10.9	B
	SB	T	0.35	8.5	A	0.35	8.5	A	0.31	8.1	A	0.31	8.1	A	0.50	10.4	B	0.50	10.4	B	0.36	8.5	A	0.36	8.5	A
Washington Ave. &	EB	L	0.76	33.2	C	0.82	38.6	D	0.69	29.1	C	0.74	32.7	C	0.68	28.8	C	0.75	33.5	C	0.67	28.4	C	0.73	32.4	C
Empire Bvld.	EB	TR	0.87	60.2	E	0.87	60.5	E	0.62	43.1	D	0.62	43.2	D	0.63	43.4	D	0.63	43.6	D	0.52	40.5	D	0.52	40.6	D
	WB	L	0.85	98.1	F	0.87	102.5	F *	0.88	104.5	F	0.89	106.9	F	1.22	203.7	F	1.26	217.9	F *	0.82	82.8	F	0.83	86.8	F *
	WB	TR	0.88	58.8	E	0.95	69.0	E *	0.89	60.1	E	0.91	62.8	E	0.84	53.9	D	0.88	57.8	E	0.86	56.1	E	0.91	62.8	E *
	NB	LT	0.62	34.7	C	0.63	35.1	D	0.28	26.8	C	0.30	27.0	C	0.28	26.8	C	0.30	27.1	C	0.25	26.2	C	0.26	26.4	C
	NB	R	0.26	26.8	C	0.26	26.8	C	0.13	24.5	C	0.13	24.5	C	0.20	25.7	C	0.20	25.7	C	0.20	25.6	C	0.20	25.6	C
	SB	LTR	0.61	33.5	C	0.64	34.9	C	0.43	28.9	C	0.49	30.2	C	0.71	36.5	D	0.76	39.0	D	0.49	30.1	C	0.52	30.8	C
Franklin Ave &	EB	T	0.27	6.6	A	0.27	6.6	A	0.24	6.4	A	0.24	6.4	A	0.25	6.5	A	0.25	6.5	A	0.22	6.2	A	0.22	6.2	A
Empire Bvld.	WB	T	0.71	46.4	D	0.71	46.6	D	0.83	53.5	D	0.83	53.5	D	0.74	47.6	D	0.74	47.6	D	0.75	47.9	D	0.75	47.9	D
	SB	R	0.45	47.2	D	0.57	52.1	D	0.41	46.1	D	0.41	46.1	D	0.54	50.7	D	0.62	54.5	D	0.40	45.7	D	0.50	49.1	D
Franklin Ave. &	WB	LT	0.42	29.2	C	0.42	29.2	C	0.19	25.3	C	0.20	25.3	C	0.27	26.3	C	0.27	26.3	C	0.25	26.0	C	0.25	26.0	C
Sullivan Pl.	SB	TR	0.43	16.1	B	0.62	21.9	C	0.38	15.0	B	0.56	19.8	B	0.51	17.9	B	0.65	22.8	C	0.40	15.5	B	0.56	19.5	B
			No-Action			With-Action			No-Action			With-Action			No-Action			With-Action			No-Action			With-Action		
Unsignalized Intersections	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Washington Ave. &	WB	LR	0.13	36.3	E	0.14	40.2	E	0.06	18.4	C	0.07	20.3	C	0.03	14.7	B	0.03	15.4	C	0.09	20.1	C	0.10	22.0	C
Carroll St.	SB	LT	0.03	13.8	B	0.03	14.4	B	0.01	9.3	A	0.02	9.7	A	0.01	9.8	A	0.01	10.1	B	0.01	10.2	B	0.01	10.5	B
Washington Ave. & Montgomery St.	SB	LT	0.14	14.1	B	0.2	15.8	C	0.09	9.9	A	0.14	10.7	B	0.19	10.6	B	0.26	11.8	B	0.13	10.4	B	0.18	11.4	B
Franklin Ave. &	EB	TR	-	8.8	A	-	9.3	A	-	8.4	A	-	8.8	A	-	9.5	A	-	10.0	A	-	8.4	A	-	8.8	A
Montgomery St.	WB	L	-	8.4	A	-	8.7	A	-	8.2	A	-	8.4	A	-	9.0	A	-	9.4	A	-	8.1	A	-	8.4	A
	SB	LT	-	10.9	B	-	11.5	B	-	10.1	B	-	10.6	B	-	12.9	B	-	14.1	B	-	9.7	A	-	10.2	B

Notes:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DefL-Analysis considers a defacto left lane on this approach
V/C Ratio - Volume to Capacity Ratio, sec. - Seconds
LOS - Level of Service
* - Denotes a congested movement (LOS E or F, or V/C ratio greater than or equal to 0.9)
Analysis is based on the 2000 Highway Capacity Manual methodology (HCS+, version 5.5)

H. TRANSIT – SUBWAY STATIONS

Existing Conditions

As discussed above in Section E, "Level 2 Screening Assessment," action-generated trips are expected to exceed the 200-trip *CEQR Technical Manual* analysis threshold at both the Franklin Avenue-Botanic Garden (2, 3, 4, and 5 trains and the Franklin Avenue Shuttle) and the Prospect Park (B and Q trains and the Franklin Avenue Shuttle).

Franklin Avenue-Botanic Garden

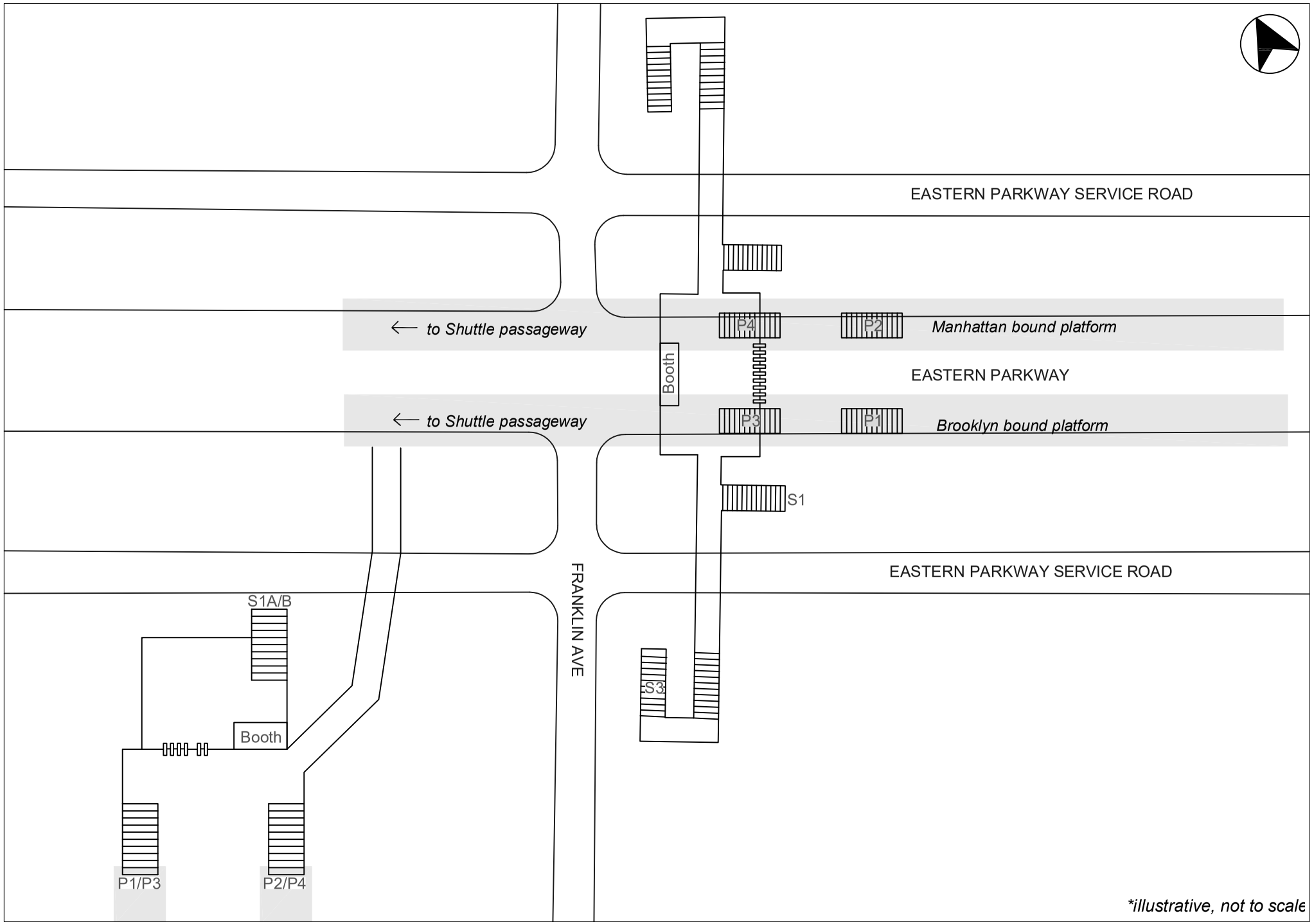
The Franklin Avenue-Botanic Garden station complex is shared by the IRT Eastern Parkway Line and the BMT Franklin Avenue Line. Located at the intersection of Franklin Avenue and Eastern Parkway in Brooklyn, it is served by the 2, 3, 4 and 5 trains, and the Franklin Avenue Shuttle (S). The station complex is named for its proximity to the Brooklyn Botanic Garden. There is a free transfer between the Eastern Parkway and Franklin Avenue shuttle platforms via a passageway. As the majority of project-generated subway riders is anticipated to use the 2, 3, 4 and 5 trains, the analysis focuses on station elements at this portion of the station complex. As shown in **Figure 14-21**, the station's main entrance is a mezzanine above the platforms and tracks at their center. Two staircases from each platform go up to a waiting area that allows a free transfer between directions. Outside of the turnstile bank, there is a token booth and four street stairs to either eastern corners of Franklin Avenue and Eastern Parkway. The transfer to the Franklin Avenue Shuttle is at the west end of the station. A single staircase from each platform goes up to a mezzanine, where a passageway leads to the north end of the Franklin Avenue-bound platform. A crossover is required to reach the Prospect Park-bound platform.

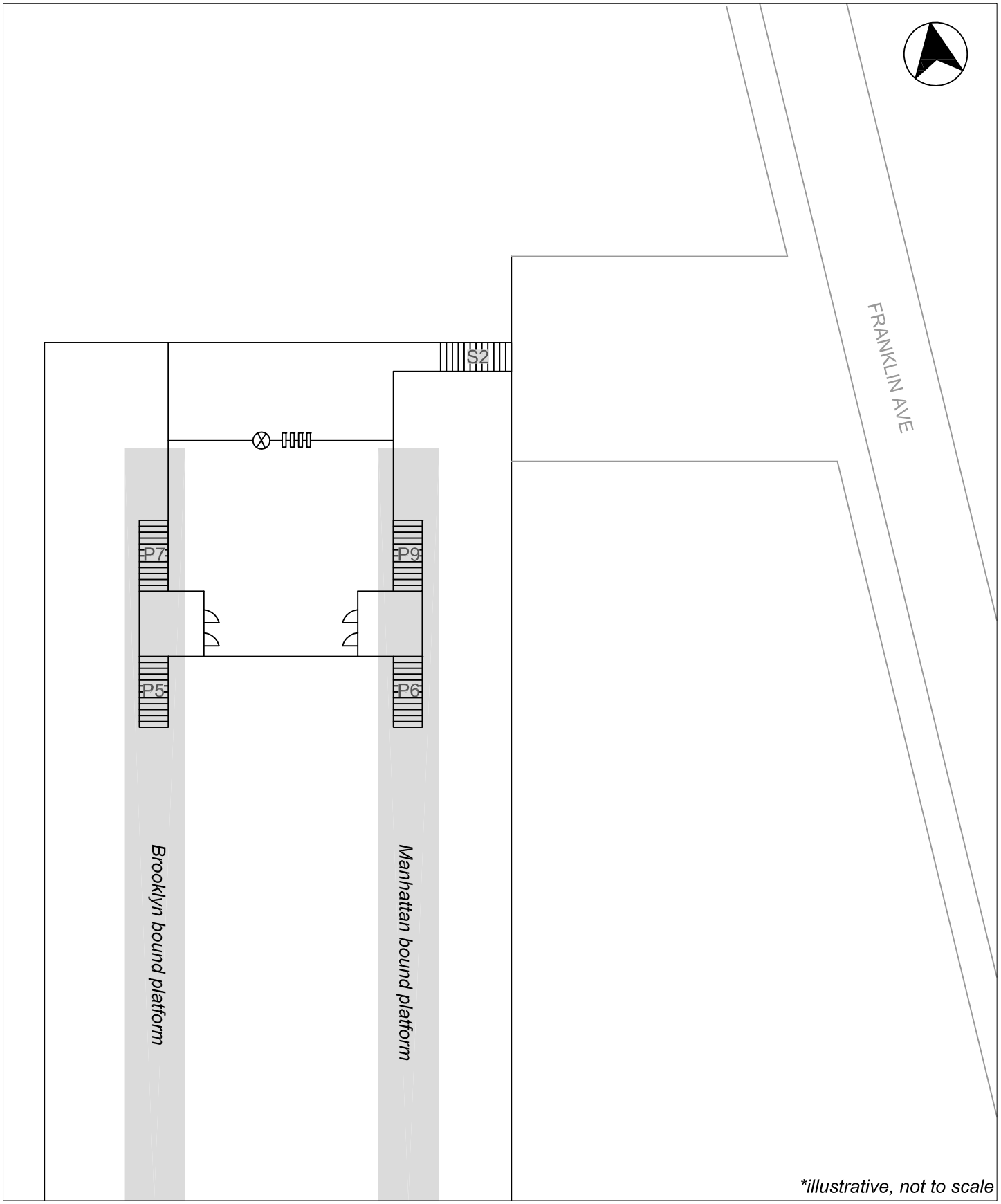
Prospect Park

The Prospect Park station is an express stop on the BMT Brighton Line and is served by the B and Q trains and the Franklin Avenue Shuttle (S). The station has one entrance/exit at its extreme south end with access from Lincoln Road between Ocean and Flatbush Avenues. The station's other entrance/exit at the north end, which would be used by project generated subway riders, is located on the west side of Flatbush Avenue south of Empire Boulevard/Ocean Avenue. As shown in **Figure 14-22**, two staircases from each platform go up to a waiting area, where a bank of turnstiles and one exit-only turnstile lead to a mezzanine. Outside fare control, a single staircase goes up to a small plaza that leads to Flatbush Avenue.

As shown in **Tables 14-14** and **14-15**, all of the analyzed elements at both stations, where project generated demand is expected to be most concentrated, currently operate at an uncongested LOS C or better in both the AM and PM peak hours.

Franklin Avenue Subway Station Layou





960 Franklin Avenue Rezoning

Figure 14-22

Prospect Park Subway Station Layout

TABLE 14-14
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
					Into Subway	Out of Subway	Into Subway	Out of Subway			
AM	Franklin Avenue-Botanic Garden (2,3,4,5,S)	S3 (SE Corner)	5.50	4.50	718	691	1.00	0.80	0.9	0.81	C
		S1 (Southern Island)	5.83	4.83	293	310	1.00	0.80	0.9	0.33	A
		P1 (Brooklyn bound)	8.00	7.00	345	114	1.00	0.75	0.9	0.17	A
		P3 (Brooklyn bound)	8.00	7.00	270	240	1.00	0.75	0.9	0.19	A
		P2 (Manhattan bound)	8.00	7.00	1,154	510	1.00	0.75	0.9	0.61	B
		P4 (Manhattan bound)	8.00	7.00	1,495	629	1.00	0.75	0.9	0.77	C
		S1A/B Garden S Entry	7.75	6.50	162	640	1.00	0.80	0.9	0.34	A
		P1/P3 (S southbound)	7.83	6.58	236	440	1.00	0.75	0.9	0.29	A
		P2/P4 (N northbound)	7.83	6.58	333	592	1.00	0.75	0.9	0.39	A
	Prospect Park (B,Q,S)	S2 (Flatbush Ave)	7.00	6.00	1,168	781	1.00	0.80	0.9	0.83	C
		P5 (Brooklyn bound)	9.00	7.75	448	65	1.00	0.75	0.9	0.16	A
		P7 (Brooklyn bound)	5.00	4.00	163	33	1.00	0.75	0.9	0.12	A
		P6 (Manhattan bound)	8.50	7.25	389	505	1.00	0.75	0.9	0.34	A
		P9 (Manhattan bound)	4.50	3.50	168	178	1.00	0.75	0.9	0.27	A
PM	Franklin Avenue-Botanic Garden (2,3,4,5,S)	S3 (SE Corner)	5.50	4.50	354	424	1.00	0.80	0.9	0.46	B
		S1 (Southern Island)	5.83	4.83	110	322	1.00	0.80	0.9	0.25	A
		P1 (Brooklyn bound)	8.00	7.00	396	597	1.00	0.75	0.9	0.40	A
		P3 (Brooklyn bound)	8.00	7.00	227	787	1.00	0.75	0.9	0.42	A
		P2 (Manhattan bound)	8.00	7.00	220	211	1.00	0.75	0.9	0.17	A
		P4 (Manhattan bound)	8.00	7.00	311	333	1.00	0.75	0.9	0.25	A
		S1A/B Garden S Entry	7.75	6.50	98	333	1.00	0.80	0.9	0.18	A
		P1/P3 (S southbound)	7.83	6.58	200	234	1.00	0.75	0.9	0.18	A
		P2/P4 (N northbound)	7.83	6.58	338	256	1.00	0.75	0.9	0.24	A
	Prospect Park (B,Q,S)	S2 (Flatbush Ave)	7.00	6.00	662	885	1.00	0.80	0.9	0.68	B
		P5 (Brooklyn bound)	9.00	7.75	335	279	1.00	0.75	0.9	0.21	A
		P7 (Brooklyn bound)	5.00	4.00	134	147	1.00	0.75	0.9	0.19	A
		P6 (Manhattan bound)	8.50	7.25	170	434	1.00	0.75	0.9	0.24	A
		P9 (Manhattan bound)	4.50	3.50	23	25	1.00	0.75	0.9	0.04	A

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

TABLE 14-15
Existing Conditions Subway Station Fare Array Analysis

Peak Hour	Station	Control Elements		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
		Turnstiles	HXT	System Entries	System Exits	System Entries	System Exits			
AM	Franklin Avenue (2,3,4,5)	8	0	3,264	1,493	1.0	0.8	0.9	0.46	B
	Bontanic Garden (S)	4	0	162	640	1.0	0.8	0.9	0.14	A
	Prospect Park (B,Q,S)	4	1	1,168	781	1.0	0.8	0.9	0.35	A
PM	Franklin Avenue (2,3,4,5)	8	0	1,154	1,928	1.0	0.8	0.9	0.28	A
	Bontanic Garden (S)	4	0	98	333	1.0	0.8	0.9	0.08	A
	Prospect Park (B,Q,S)	4	1	662	885	1.0	0.8	0.9	0.26	A

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

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

Under No-Action conditions, demand at all analyzed subway stations is expected to increase as a result of new development and/or background growth. **Tables 14-16** and **14-16** show the results of the analysis of

No-Action AM and PM peak hour conditions at the Franklin Avenue-Botanic Garden and Prospect Park subway stations. As shown in **Tables 14-16** and **14-17**, all analyzed stairs and fare arrays at these stations would continue to operate at an acceptable LOS C or better in both peak hours in the 2024 future without the Proposed Actions, with the exception of street stair S3 at the southeast corner of Franklin Avenue and Eastern Parkway, which would operate at LOS C with a v/c ratio of 0.98. It should be noted that the Manhattan-bound platform stair (P2) at the Franklin Ave – Botanic Garden station would experience a degradation of level of service from LOS B under the existing conditions to LOS C under the No-Action conditions in the AM peak hour. Similar degradations would occur on both Brooklyn-bound platform stairs (P1 & P3) at the Franklin Ave – Botanic Garden station where the level of service would degrade from LOS A under the existing conditions to LOS B under the No-Action conditions in the PM peak hour. Also, the street stair on Flatbush Avenue (S2) at the Prospect Park station would experience a degradation of level of service from LOS B under the existing conditions to LOS C under the No-Action conditions in the PM peak hour.

TABLE 14-16
No-Action 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
					Into Subway	Out of Subway	Into Subway	Out of Subway			
AM	Franklin Avenue-Botanic Garden (2,3,4,5,S)	S3 (SE Corner)	5.50	4.50	948	763	1.00	0.80	0.9	0.98	C
		S1 (Southern Island)	5.83	4.83	455	375	1.00	0.80	0.90	0.44	A
		P1 (Brooklyn bound)	8.00	7.00	354	124	1.00	0.75	0.9	0.17	A
		P3 (Brooklyn bound)	8.00	7.00	298	285	1.00	0.75	0.9	0.22	A
		P2 (Manhattan bound)	8.00	7.00	1,271	663	1.00	0.75	0.9	0.71	C
		P4 (Manhattan bound)	8.00	7.00	1,647	822	1.00	0.75	0.9	0.91	C
		S1A/B Garden S Entry	7.75	6.50	248	679	1.00	0.80	0.9	0.39	A
		P1/P3 (S southbound)	7.83	6.58	242	475	1.00	0.75	0.9	0.31	A
		P2/P4 (N northbound)	7.83	6.58	423	607	1.00	0.75	0.9	0.43	A
	Prospect Park (B,Q,S)	S2 (Flatbush Ave)	7.00	6.00	1,325	951	1.00	0.80	0.9	0.97	C
		P5 (Brooklyn bound)	9.00	7.75	479	86	1.00	0.75	0.9	0.18	A
		P7 (Brooklyn bound)	5.00	4.00	176	42	1.00	0.75	0.9	0.13	A
		P6 (Manhattan bound)	8.50	7.25	472	607	1.00	0.75	0.9	0.41	A
		P9 (Manhattan bound)	4.50	3.50	199	214	1.00	0.75	0.9	0.32	A
PM	Franklin Avenue-Botanic Garden (2,3,4,5,S)	S3 (SE Corner)	5.50	4.50	517	577	1.00	0.80	0.9	0.64	B
		S1 (Southern Island)	5.83	4.83	127	357	1.00	0.80	0.9	0.28	A
		P1 (Brooklyn bound)	8.00	7.00	529	710	1.00	0.75	0.9	0.49	B
		P3 (Brooklyn bound)	8.00	7.00	317	879	1.00	0.75	0.9	0.49	B
		P2 (Manhattan bound)	8.00	7.00	290	268	1.00	0.75	0.9	0.21	A
		P4 (Manhattan bound)	8.00	7.00	412	414	1.00	0.75	0.9	0.32	A
		S1A/B Garden S Entry	7.75	6.50	145	415	1.00	0.80	0.9	0.24	A
		P1/P3 (S southbound)	7.83	6.58	205	314	1.00	0.75	0.9	0.22	A
		P2/P4 (N northbound)	7.83	6.58	391	262	1.00	0.75	0.9	0.26	A
	Prospect Park (B,Q,S)	S2 (Flatbush Ave)	7.00	6.00	839	1,054	1.00	0.80	0.9	0.83	C
		P5 (Brooklyn bound)	9.00	7.75	416	349	1.00	0.75	0.9	0.26	A
		P7 (Brooklyn bound)	5.00	4.00	167	178	1.00	0.75	0.9	0.23	A
		P6 (Manhattan bound)	8.50	7.25	226	497	1.00	0.75	0.9	0.28	A
		P9 (Manhattan bound)	4.50	3.50	29	30	1.00	0.75	0.9	0.04	A

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

TABLE 14-17
No-Action Conditions Subway Station Fare Array Analysis

Peak Hour	Station	Control Elements		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
		Turnstiles	HXT	System Entries	System Exits	System Entries	System Exits			
AM	Franklin Avenue (2,3,4,5)	8	0	3,569	1,894	1.0	0.8	0.9	0.53	B
	Bontanic Garden (S)	4	0	248	679	1.0	0.8	0.9	0.17	A
	Prospect Park (B,Q,S)	4	1	1,331	955	1.0	0.8	0.9	0.41	A
PM	Franklin Avenue (2,3,4,5)	8	0	1,547	2,272	1.0	0.8	0.9	0.35	A
	Bontanic Garden (S)	4	0	145	415	1.0	0.8	0.9	0.10	A
	Prospect Park (B,Q,S)	4	1	842	1,059	1.0	0.8	0.9	0.32	A

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

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

As shown in **Table 14-3**, the Proposed Actions are expected to generate a net total of 671 and 735 new subway trips in the weekday AM and PM peak hours, respectively. The Franklin Avenue-Botanic Garden station is expected to experience an increase of 403 AM and 441 PM peak hour trips, while the Prospect Park station is expected to experience an increase of 268 AM and 294 PM peak hour trips.

Tables 14-18 and **14-19** show conditions at stairs and fare arrays at the two analyzed subway stations in the future with the Proposed Actions. As shown in **Table 14-18**, under With-Action conditions the street stair at the southeast corner (S3) of Franklin Avenue and Eastern Parkway is projected to deteriorate in level of service and operate at LOS D with a v/c ratio of 1.12 in the AM peak hour, compared to a v/c ratio of 0.98 (LOS C) in the No-Action condition. As the WIT of 6.24 inches is smaller than the seven-inch impact threshold, this stair would also not be considered significantly adversely impacted as a result of the Proposed Actions. The street stair leading from the Prospect Park station's mezzanine (S2) to the entrance on Flatbush Avenue is also expected to deteriorate in level of service and operate at LOS D in the AM peak hour, with a v/c ratio of 1.08, compared to a v/c ratio of 0.97 (LOS C) in the No-Action condition. As the WIT of 5.76 inches is smaller than the eight-inch impact threshold, this stair would also not be considered significantly adversely impacted as a result of the Proposed Actions. In addition to the above mentioned stairs, the Manhattan-bound platform stair (P6) at the Prospect Park station would experience a degradation of level of service from LOS A under the No-Action conditions to LOS B under the With-Action conditions in the AM peak hour. Similarly, the southeast corner street stair (S3) at the Franklin Ave – Botanic Garden station would experience a degradation of level of service from LOS B under the No-Action conditions to LOS C under the With-Action conditions in the PM peak hour. Also, the fare array at the Prospect Park station would experience a degradation in level of service from LOS A under the No-Action conditions to LOS B under the With-Action conditions in the AM peak hour.

As shown in **Tables 14-18** and **14-19**, all analyzed stairs except S3 at Franklin Avenue and S2 at Prospect Park and all analyzed fare arrays are projected to operate at an acceptable LOS C or better in both peak hours in the With-Action condition. No analyzed stairs or fare arrays would be significantly adversely impacted by the Proposed Actions based on 2020 *CEQR Technical Manual* criteria.

TABLE 14-18
With-Action Conditions Subway Station Stair Analysis

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS	WIT (in.)	Impact threshold (in.)
					Into Subway	Out of Subway	Into Subway	Out of Subway	Into Subway	Out of Subway					
AM	Franklin Avenue-Botanic Garden (2,3,4,5,S)	S3 (SE Corner)	5.50	4.50	186	66	1,134	829	1.00	0.80	0.9	1.12	D	6.24	7.00
		S1 (Southern Island)	5.83	4.83	61	22	516	397	1.00	0.80	0.9	0.48	B	-	
		P1 (Brooklyn bound)	8.00	7.00	1	0	355	124	1.00	0.75	0.9	0.17	A	-	-
		P3 (Brooklyn bound)	8.00	7.00	23	8	321	293	1.00	0.75	0.9	0.24	A	-	-
		P2 (Manhattan bound)	8.00	7.00	97	35	1,368	698	1.00	0.75	0.9	0.76	C	-	-
		P4 (Manhattan bound)	8.00	7.00	126	45	1,773	867	1.00	0.75	0.9	0.97	C	-	-
		S1A/B Garden S Entry	7.75	6.50	50	18	298	697	1.00	0.80	0.9	0.42	A	-	-
		P1/P3 (S southbound)	7.83	6.58	0	18	242	493	1.00	0.75	0.9	0.32	A	-	-
		P2/P4 (N northbound)	7.83	6.58	50	0	473	607	1.00	0.75	0.9	0.45	A	-	-
	Prospect Park (B,Q,S)	S2 (Flatbush Ave)	7.00	6.00	198	70	1,523	1,021	1.00	0.80	0.9	1.08	D	5.76	8.00
		P5 (Brooklyn bound)	9.00	7.75	16	27	495	113	1.00	0.75	0.9	0.19	A	-	-
		P7 (Brooklyn bound)	5.00	4.00	8	10	184	52	1.00	0.75	0.9	0.15	A	-	-
		P6 (Manhattan bound)	8.50	7.25	129	23	601	630	1.00	0.75	0.9	0.46	B	-	-
		P9 (Manhattan bound)	4.50	3.50	45	10	244	224	1.00	0.75	0.9	0.36	A	-	-
PM	Franklin Avenue-Botanic Garden (2,3,4,5,S)	S3 (SE Corner)	5.50	4.50	101	175	618	752	1.00	0.80	0.9	0.80	C	-	-
		S1 (Southern Island)	5.83	4.83	33	58	160	415	1.00	0.80	0.9	0.33	A	-	
		P1 (Brooklyn bound)	8.00	7.00	41	80	570	790	1.00	0.75	0.9	0.54	B	-	-
		P3 (Brooklyn bound)	8.00	7.00	55	46	372	925	1.00	0.75	0.9	0.53	B	-	-
		P2 (Manhattan bound)	8.00	7.00	15	45	305	313	1.00	0.75	0.9	0.24	A	-	-
		P4 (Manhattan bound)	8.00	7.00	23	63	435	477	1.00	0.75	0.9	0.35	A	-	-
		S1A/B Garden S Entry	7.75	6.50	27	47	172	462	1.00	0.80	0.9	0.27	A	-	-
		P1/P3 (S southbound)	7.83	6.58	0	47	205	361	1.00	0.75	0.9	0.24	A	-	-
		P2/P4 (N northbound)	7.83	6.58	27	0	418	262	1.00	0.75	0.9	0.27	A	-	-
	Prospect Park (B,Q,S)	S2 (Flatbush Ave)	7.00	6.00	107	187	946	1,241	1.00	0.80	0.9	0.96	C	-	-
		P5 (Brooklyn bound)	9.00	7.75	34	95	450	444	1.00	0.75	0.9	0.31	A	-	-
		P7 (Brooklyn bound)	5.00	4.00	18	38	185	216	1.00	0.75	0.9	0.28	A	-	-
		P6 (Manhattan bound)	8.50	7.25	53	48	279	545	1.00	0.75	0.9	0.32	A	-	-
		P9 (Manhattan bound)	4.50	3.50	3	6	32	36	1.00	0.75	0.9	0.05	A	-	-

Notes:
Methodology based on *CEQR Technical Manual* guidelines.
* Denotes a significant adverse impact.

TABLE 14-19
With-Action Conditions Subway Station Fare Array Analysis

Peak Hour	Station	Control Elements		Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
		Turnstiles	HXT	System Entries	System Exits	System Entries	System Exits	System Entries	System Exits			
AM	Franklin Avenue (2,3,4,5)	8	0	247	88	3,816	1,982	1.0	0.8	0.9	0.56	B
	Bontanic Garden (S)	4	0	50	18	298	697	1.0	0.8	0.9	0.18	A
	Prospect Park (B,Q,S)	4	1	198	70	1,529	1,025	1.0	0.8	0.9	0.46	B
PM	Franklin Avenue (2,3,4,5)	8	0	134	234	1,681	2,506	1.0	0.8	0.9	0.38	A
	Bontanic Garden (S)	4	0	27	47	172	462	1.0	0.8	0.9	0.11	A
	Prospect Park (B,Q,S)	4	1	107	187	949	1,246	1.0	0.8	0.9	0.37	A

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

I. PEDESTRIANS

Existing Conditions

As discussed previously in Section E, "Level 2 Screening Assessment," the analysis of pedestrian conditions focuses on a total of 29 representative pedestrian elements where new trips generated by the Proposed Development are expected to be most concentrated. These elements—sidewalks, corner areas, and crosswalks—are primarily located along corridors connecting these sites to area subway station entrances and existing local retail land uses. As shown in **Figure 14-7**, they include a total of 14 sidewalks, ten corner areas, and five crosswalks primarily located along Franklin Avenue and Empire Boulevard.

Sidewalks

Table 14-20 shows the existing peak hour pedestrian volumes, average pedestrian space (in sf/ped), and platoon-adjusted LOS at the 14 analyzed sidewalks. As shown in **Table 14-20**, all analyzed sidewalks currently operate at an acceptable LOS C or better in all peak hours.

Crosswalks

Study area intersections are a mix of signalized and stop controlled, and the signalized intersections generally include pedestrian signals. High visibility crosswalk striping is present at many intersections, especially in proximity to schools and along heavily trafficked commercial corridors. **Table 14-21** shows the peak hour volumes, average pedestrian space (in sf/ped), and LOS at analyzed crosswalks. As shown in **Table 14-21**, all analyzed crosswalks currently operate at an uncongested LOS A in all peak hours.

TABLE 14-20
Existing Sidewalk Conditions

No.	Location		Effective Width (ft.)	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
				AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
S1	Empire Blvd betw. Flatbush Ave & Washington Ave	South	3.9	505	262	479	284	81.7	184.6	116.2	196.5	C	B	B	B
S2	Flatbush Ave betw. Empire Blvd & Prospect Park Subway Station	West	8.4	452	190	260	315	268.0	441.6	363.6	355.1	B	B	B	B
S3	Empire Blvd betw. Washington Ave & Franklin Ave	North	8.5	225	113	138	122	340.9	822.1	858.5	816.6	B	A	A	A
S4	Empire Blvd betw. Washington Ave & Franklin Ave	South	4.8	342	165	326	210	171.3	382.9	202.8	297.2	B	B	B	B
S5	Franklin Ave betw. Sullivan Pl & Empire Blvd	West	11.2	73	25	55	43	2,106.7	2,969.8	2,442.7	2,959.9	A	A	A	A
S6	Franklin Ave betw. Mongtomery St & Sullivan Pl	West	5.0	39	21	52	33	1,421.5	2,489.1	1,233.6	1,800.0	A	A	A	A
S7	Franklin Ave betw. Crown St & Montgomery St	East	9.3	296	127	334	319	341.4	1,049.8	372.7	404.1	B	A	B	B
S8	Montgomery St betw. Washington Ave & Franklin Ave	West	5.4	37	36	31	34	1,786.6	1,645.5	1,661.6	2,146.3	A	A	A	A
S9	Franklin Ave betw. Crown St & Montgomery St	West	9.8	65	24	117	122	1,829.5	3,539.2	1,174.8	1,101.3	A	A	A	A
S10	Franklin Ave betw. President St & Carroll St	East	8.3	561	333	662	316	172.1	349.1	173.4	363.8	B	B	B	B
S11	Franklin Ave betw. Carroll St & Crown St	East	4.5	457	258	598	156	114.9	215.2	106.8	415.7	B	B	B	B
S12	Franklin Ave betw. Carroll St & Crown St	West	11.2	216	59	213	53	556.9	2,609.0	689.4	2,470.4	A	A	A	A
S13	Franklin Ave betw. Union St & President St	East	8.5	1,138	476	883	515	90.5	248.7	141.4	253.4	B	B	B	B
S14	Franklin Ave betw. Eastern Parkway & Union St	East	10.4	1,574	524	980	542	78.0	289.6	156.3	283.0	C	B	B	B

TABLE 14-21
Existing Crosswalk Conditions

Intersection	Crosswalk		Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Empire Blvd & Flatbush Ave	X1	South	297	129	252	231	140.4	360.4	173.9	192.5	A	A	A	A
Empire Blvd & Washington Ave	X2	North	121	104	124	114	76.7	62.9	79.5	81.6	A	A	A	A
Empire Blvd & Franklin Ave	X3	West	120	38	95	123	131.2	352.5	175.5	124.2	A	A	A	A
Franklin Ave & Sullivan Pl	X4	West	36	51	32	14	1,106.4	891.8	1,467.9	4,536.7	A	A	A	A
Franklin Ave & President St	X5	East	432	260	550	361	112.2	189.9	83.9	136.2	A	A	A	A

Corner Areas

Table 14-22 shows the average pedestrian space (in sf/ped) and levels of service at analyzed corner areas. As shown in **Table 14-22**, all of the analyzed corner areas currently operate at an uncongested LOS A in all peak hours.

TABLE 14-22
Existing Corner Area Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
Empire Blvd & Flatbush Ave	C1	SE	542.8	1,033.1	791.8	675.6	A	A	A	A
	C2	SW	377.6	826.8	606.7	589.4	A	A	A	A
Empire Blvd & Washington Ave	C3	NE	696.8	955.6	782.3	883.5	A	A	A	A
	C4	SW	278.3	610.0	337.1	539.5	A	A	A	A
	C5	NW	600.6	834.8	676.3	732.3	A	A	A	A
Empire Blvd & Franklin Ave	C7	NW	412.5	1,152.1	778.3	708.4	A	A	A	A
Franklin Ave & Sullivan Pl	C8	SW	1,560.2	2,564.8	2,548.6	4,314.3	A	A	A	A
	C9	NW	989.4	1,425.0	1,686.8	1,898.6	A	A	A	A
Franklin Ave & President St	C10	NE	121.9	256.9	117.2	167.2	A	A	A	A
	C11	SE	224.3	448.3	220.4	357.8	A	A	A	A

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

Pedestrian volumes along analyzed sidewalks, crosswalks, and corner areas are expected to increase during the 2017 through 2024 period as a result of background growth as well as demand from new development. In determining future No-Action pedestrian volumes, development on the Proposed Development Site pursuant to existing zoning was considered, as was demand from other No-Action development projects (see **Table 14-11** and **Figure 14-12**). It should be noted that, in the future without the Proposed Actions, DOT expects to implement a number of street improvements (Project ID: HWK779W) in proximity to the pedestrian study area that would affect pedestrian flow. These improvements were included in the No-Action (and With-Action) analyses. These street improvements include:

- The moving and widening of the west crosswalk (X3) of Empire Boulevard at Franklin Avenue to the east side of Empire Boulevard at Washington Avenue.
- A six-foot curb extension on the north side of Empire Boulevard at the northeast corner (C3) of Empire Boulevard at Washington Avenue as well as a corner reconstructed at this northeast corner. The northeast (C3) and southwest (C4) corners of Empire Boulevard at Washington Avenue would also be reconstructed.
- A new light pole / traffic pole would be added to the northwest corner (C7) of Empire Boulevard

at Franklin Avenue.

Sidewalks

Table 14-23 shows the No-Action peak hour pedestrian volumes, average pedestrian space, and platoon-adjusted LOS at analyzed sidewalks. As shown in **Table 14-23**, all analyzed sidewalks are expected to operate at an acceptable LOS C or better in all peak hours in the future without the Proposed Actions. As shown in **Table 14-23**, a total of nine sidewalks are expected to deteriorate in level of service (LOS) in one or more peak hours from Existing conditions to the No-Action conditions. These sidewalks include:

- S1 (south side of Empire Blvd between Flatbush Ave & Washington Ave) would deteriorate from LOS B to LOS C in the weekday PM peak hour;
- S3 (north side of Empire Blvd between Washington Ave & Franklin Ave) would deteriorate from LOS A to LOS B in the weekday midday peak hour, weekday PM peak hour, and Saturday midday peak hour;
- S5 (west side of Franklin Ave between Sullivan Pl & Empire Blvd) would deteriorate from LOS A to LOS B in each analyzed peak hour;
- S6 (west side of Franklin Ave between Montgomery St & Sullivan Pl) would deteriorate from LOS A to LOS B in each analyzed peak hour;
- S8 (west side of Montgomery St between Washington Ave & Franklin Ave) would deteriorate from LOS A to LOS B in each analyzed peak hour;
- S9 (west side of Franklin Ave between Crown St & Montgomery St) would deteriorate from LOS A to LOS B in each analyzed peak hour;
- S11 (east side of Franklin Ave between Carroll St & Crown St) would deteriorate from LOS B to LOS C in the weekday AM peak hour and weekday PM peak hour;
- S12 (west side of Franklin Ave between Carroll St & Crown St) would deteriorate from LOS A to LOS B in the weekday AM peak hour, weekday PM peak hour, and Saturday midday peak hour;
- and S13 (east side of Franklin Ave between Union St & President St) would deteriorate from LOS B to LOS C in the weekday AM peak hour.

TABLE 14-23
No-Action Sidewalk Conditions

No.	Location		Effective Width (ft.)	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
				AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
S1	Empire Blvd betw. Flatbush Ave & Washington Ave	South	3.9	733	382	645	458	55.8	126.4	86.0	121.6	C	B	C	B
S2	Flatbush Ave betw. Empire Blvd & Prc	West	8.4	763	367	604	619	158.5	228.4	156.2	180.5	B	B	B	B
S3	Empire Blvd betw. Washington Ave & Franklin Ave	North	8.5	643	411	596	563	131.9	237.4	216.4	199.4	B	B	B	B
S4	Empire Blvd betw. Washington Ave & Franklin Ave	South	4.8	354	171	337	217	165.5	369.5	196.2	287.6	B	B	B	B
S5	Franklin Ave betw. Sullivan Pl & Empire Blvd	West	11.2	467	397	516	481	329.2	186.7	260.2	264.4	B	B	B	B
S6	Franklin Ave betw. Mongtomery St & Sullivan Pl	West	5.0	457	463	563	524	120.9	112.4	113.5	112.9	B	B	B	B
S7	Franklin Ave betw. Crown St & Montgomery St	East	9.3	414	223	441	431	244.0	597.8	282.2	299.0	B	A	B	B
S8	Montgomery St betw. Washington Ave & Franklin Ave	West	5.4	213	124	226	202	310.2	477.6	227.7	361.1	B	B	B	B
S9	Franklin Ave betw. Crown St & Montgomery St	West	9.8	650	743	888	874	182.7	113.8	154.4	153.4	B	B	B	B
S10	Franklin Ave betw. President St & Carroll St	East	8.3	899	564	1,021	637	107.1	206.0	112.2	180.2	B	B	B	B
S11	Franklin Ave betw. Carroll St & Crown St	East	4.5	676	428	824	360	77.3	129.5	77.2	179.9	C	B	C	B
S12	Franklin Ave betw. Carroll St & Crown St	West	11.2	512	266	522	339	234.8	578.6	281.1	386.1	B	A	B	B
S13	Franklin Ave betw. Union St & President St	East	8.5	1,562	723	1,352	920	65.6	163.5	92.0	141.6	C	B	B	B
S14	Franklin Ave betw. Eastern Parkway & Union St	East	10.4	2,292	811	1,373	967	53.0	186.9	111.3	158.4	C	B	B	B

Crosswalks

Table 14-24 shows the peak hour volumes, average pedestrian space, and LOS at analyzed crosswalks in the No-Action condition. As shown in **Table 14-24**, all analyzed crosswalks are expected to operate at an acceptable LOS C or better in all peak hours in the future without the Proposed Actions, with the exception of the north crosswalk at Empire Boulevard and Washington Avenue, which would operate at LOS D in the AM peak hour. As shown in **Table 14-24**, a total of three crosswalks are expected to deteriorate in level of service (LOS) in one or more peak hours from the Existing conditions to the No-Action conditions. These crosswalks include:

- X2 (north crosswalk at Empire Blvd & Washington Ave) would deteriorate from LOS A to LOS C in the weekday AM, weekday PM, and Saturday midday peak hours, and LOS A to LOS D in the weekday midday peak hour;
- X3 (west crosswalk at Empire Blvd & Franklin Ave in the existing conditions / east crosswalk at Empire Blvd & Washington in the No-Action conditions) would deteriorate from LOS A to LOS B in each analyzed peak hour;
- X5 (east crosswalk at Franklin Ave & President St) would deteriorate from LOS A to LOS B in the weekday PM peak hour;

TABLE 14-24
No-Action Crosswalk Conditions

Intersection	Crosswalk		Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Empire Blvd & Flatbush Ave	X1	South	602	304	595	531	67.7	150.1	71.7	81.4	A	A	A	A
Empire Blvd & Washington Ave	X2	North	315	244	355	322	28.7	23.6	25.1	27.2	C	D	C	C
Empire Blvd & Washington Ave	X3	East	222	158	226	232	55.3	89.0	57.4	51.0	B	A	B	B
Franklin Ave & Sullivan Pl	X4	West	438	447	510	468	86.8	99.7	85.9	132.4	A	A	A	A
Franklin Ave & President St	X5	East	586	411	846	586	81.4	119.5	52.0	80.0	A	A	B	A

Corner Areas

Table 14-25 shows the average pedestrian space and LOS at analyzed corner areas in the No-Action condition. As shown in **Table 14-25**, all analyzed corner areas are expected to continue to operate at an uncongested LOS A in all peak hours in the future without the Proposed Actions. No corner areas are expected to experience a degradation on level of service from the Existing conditions to the No-Action conditions.

TABLE 14-25
No-Action Corner Area Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
Empire Blvd & Flatbush Ave	C1	SE	263.8	513.4	320.7	313.9	A	A	A	A
	C2	SW	233.7	487.0	308.1	311.3	A	A	A	A
Empire Blvd & Washington Ave	C3	NE	267.7	371.3	260.1	269.5	A	A	A	A
	C4	SW	175.2	344.5	180.8	261.9	A	A	A	A
	C5	NW	292.7	397.2	248.3	282.3	A	A	A	A
Empire Blvd & Franklin Ave	C7	NW	262.1	367.0	434.8	282.8	A	A	A	A
Franklin Ave & Sullivan Pl	C8	SW	300.2	358.7	304.5	447.0	A	A	A	A
	C9	NW	167.1	194.0	175.1	237.6	A	A	A	A
Franklin Ave & President St	C10	NE	87.2	156.1	70.5	97.5	A	A	A	A
	C11	SE	163.0	278.9	133.4	198.7	A	A	A	A

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

The Proposed Actions would generate new pedestrian demand on analyzed sidewalks, crosswalks, and corner areas by 2024. This new demand would include trips made solely by walking, as well as pedestrian trips en route to and from subway station entrances and bus stops. Pedestrian trips generated by the Proposed Actions are expected to be most concentrated in proximity to the Development Site and along corridors connecting the site to area transit services.

As shown in **Table 14-2**, to generate approximately 171 walk-only trips in the weekday AM peak hour, 568 in the midday peak hour, 370 in the PM peak hour, and 405 in the Saturday peak hour. Persons en route to and from subway station entrances and bus stops would add approximately 741, 452, 814, and 763 additional pedestrian trips to sidewalks and crosswalks in the vicinity of the rezoning area during these same periods, respectively. New pedestrian trips would therefore total 912, 1,020, 1,184, and 1,168 (bus,

subway and "walk only"; in and out combined) in the weekday AM, midday, PM, and Saturday midday peak hours, respectively. These pedestrian volumes were added to the projected No-Action volumes to generate the With-Action pedestrian volumes for analysis.

Anticipated conditions and significant adverse impacts at analyzed sidewalks, crosswalks, and corner areas in the future with the Proposed Actions are shown in **Tables 14-25** through **14-27**. As discussed below, one crosswalk would be impacted in one or more peak hours by new demand from the Proposed Actions. **Chapter 21, "Mitigation"** addresses practicable measures to address these impacts.

Sidewalks

Table 14-26 shows the incremental change in peak hour pedestrian volumes attributable to the Proposed Actions and the total With-Action pedestrian volumes, average pedestrian space, and platoon-adjusted LOS at analyzed sidewalks. It is worth noting that a total of nine sidewalks are expected to deteriorate in level of service (LOS) in one or more peak hours from the No-Action conditions to the With-Action conditions (refer to **Table 14-26**). These sidewalks include:

- S1 (south side of Empire Blvd between Flatbush Ave & Washington Ave) would deteriorate from LOS B to LOS C in the weekday midday peak hour and Saturday midday peak hour;
- S3 (north side of Empire Blvd between Washington Ave & Franklin Ave) would deteriorate from LOS B to LOS C in the weekday AM peak hour;
- S6 (west side of Franklin Ave between Montgomery St & Sullivan Pl) would deteriorate from LOS B to LOS C in each analyzed peak hour;
- S7 (east side of Franklin Ave between Crown St & Montgomery St) would deteriorate from LOS A to LOS B in the weekday midday peak hour;
- S8 (west side of Montgomery St between Washington Ave & Franklin Ave) would deteriorate from LOS B to LOS C in weekday PM peak hour;
- S9 (west side of Franklin Ave between Crown St & Montgomery St) would deteriorate from LOS B to LOS C in the weekday midday peak hour;
- S10 (east side of Franklin Ave between President St & Carroll St) would deteriorate from LOS B to LOS C in the weekday AM peak hour and weekday PM peak hour;
- S12 (west side of Franklin Ave between Carroll St & Crown St) would deteriorate from LOS A to LOS B in the weekday midday peak hour;
- and S13 (east side of Franklin Ave between Union St & President St) would deteriorate from LOS B to LOS C in the weekday PM peak hour.

As shown in **Table 14-26,** all analyzed sidewalks are expected to operate at an acceptable LOS C or better in all peak hours in the future with the Proposed Actions. As such, the Proposed Actions would not result in significant adverse sidewalk impacts.

TABLE 14-26

With-Action Sidewalk Conditions

No.	Location		Effective Width (ft.)	Project Increment				Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
				AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
S1	Empire Blvd betw. Flatbush Ave & Washington Ave	South	3.9	250	198	292	280	983	580	937	738	41.0	82.9	58.7	75.0	C	C	C	C
S2	Flatbush Ave betw. Empire Blvd & Prospect Park Subway Station	West	8.4	291	199	329	310	1,054	566	933	929	114.5	147.9	100.8	120.0	B	B	B	B
S3	Empire Blvd betw. Washington Ave & Franklin Ave	North	8.5	344	305	415	402	987	716	1,011	965	77.1	129.3	116.7	102.7	C	B	B	B
S4	Empire Blvd betw. Washington Ave & Franklin Ave	South	4.8	0	0	0	0	354	171	337	217	165.5	369.5	196.2	287.6	B	B	B	B
S5	Franklin Ave betw. Sullivan Pl & Empire Blvd	West	11.2	370	390	471	463	837	787	987	944	183.4	93.8	135.7	134.4	B	B	B	B
S6	Franklin Ave betw. Mongtomery St & Sullivan Pl	West	5.0	396	475	527	524	853	938	1,090	1,048	64.2	54.8	57.9	55.7	C	C	C	C
S7	Franklin Ave betw. Crown St & Montgomery St	East	9.3	130	100	151	144	544	323	592	575	185.6	412.7	210.1	224.0	B	B	B	B
S8	Montgomery St betw. Washington Ave & Franklin Ave	West	5.4	425	444	542	530	638	568	768	732	103.1	103.8	66.3	99.1	B	B	C	B
S9	Franklin Ave betw. Crown St & Montgomery St	West	9.8	316	281	383	369	966	1,024	1,271	1,243	122.7	82.3	107.6	107.6	B	C	B	B
S10	Franklin Ave betw. President St & Carroll St	East	8.3	290	196	327	308	1,189	760	1,348	945	80.7	152.7	84.7	121.2	C	B	C	B
S11	Franklin Ave betw. Carroll St & Crown St	East	4.5	210	148	239	226	886	576	1,063	586	58.6	96.0	59.4	110.2	C	B	C	B
S12	Franklin Ave betw. Carroll St & Crown St	West	11.2	210	148	239	226	722	414	761	565	166.3	371.7	192.7	231.5	B	B	B	B
S13	Franklin Ave betw. Union St & President St	East	8.5	371	244	415	391	1,933	967	1,767	1,311	52.6	122.1	70.1	99.1	C	B	C	B
S14	Franklin Ave betw. Eastern Parkway & Union St	East	10.4	534	212	290	370	2,826	1,023	1,663	1,337	42.6	148.1	91.7	114.3	C	B	B	B

Crosswalks

Table 14-27 shows the incremental change in peak hour pedestrian volumes attributable to the Proposed Actions and the total With-Action pedestrian volumes, average pedestrian space, and LOS at analyzed crosswalks. As shown in **Table 14-24**, a total of five crosswalks are expected deteriorate in level of service (LOS) in one or more peak hours from the No-Action conditions to the With-Action conditions. These crosswalks include:

- X1 (south crosswalk at Empire Blvd & Flatbush Ave) would deteriorate from LOS A to LOS B in weekday AM peak hour, weekday PM peak hour, and Saturday midday peak hour;
- X2 (north crosswalk at Empire Blvd & Washington Ave) would deteriorate from LOS C to LOS D in the weekday AM peak hour, LOS D to LOS E in the weekday midday peak hour, and LOS C to LOS E in the weekday PM peak hour, and LOS C to LOS D in the Saturday midday peak hour;
- X3 (east crosswalk at Empire Blvd & Washington Ave) would deteriorate from LOS B to LOS C in the weekday AM, weekday PM, and Saturday midday peak hours, and LOS A to LOS B in the weekday midday peak hour;
- X4 (west crosswalk at Franklin Ave & Sullivan Pl) would deteriorate from LOS A to LOS B in the weekday AM peak hour, weekday midday peak hour, and Saturday midday peak hour;
- and X5 (east crosswalk at Franklin Ave & President St) would deteriorate from LOS A to LOS B in the weekday AM peak hour, LOS B to LOS C in the weekday PM peak hour, and LOS A to LOS B in the Saturday midday peak hour.

As also shown in **Table 14-27**, the north crosswalk at Empire Boulevard and Washington Avenue (X2) would be significantly adversely impacted in all four peak hours based on the 2020 *CEQR Technical Manual* criteria shown in **Table 14-9** in Section F, while all other analyzed crosswalks would operate at an acceptable LOS C or better in all peak hours in the future with the Proposed Actions.

TABLE 14-27
With-Action Crosswalk Conditions

Intersection	Crosswalk		Project Increment				Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Empire Blvd & Flatbush Ave	X1	South	291	199	329	310	893	503	924	841	44.5	89.5	45.1	50.2	B	A	B	B
Empire Blvd & Washington Ave	X2	North	193	164	229	220	508	408	584	542	16.8	13.4	14.1	15.2	D *	E *	E *	D *
Empire Blvd & Washington Ave	X3	East	153	142	186	182	375	300	412	414	32.0	46.1	30.8	27.9	C	B	C	C
Franklin Ave & Sullivan Pl	X4	West	378	419	490	483	816	866	1,000	951	43.8	48.5	41.3	62.2	B	B	B	A
Franklin Ave & President St	X5	East	331	220	371	349	917	631	1,217	935	49.9	75.6	35.0	49.0	B	A	C	B

Note: *- denotes a significant adverse impact

Corner Areas

Table 14-28 shows the average pedestrian space and LOS at analyzed corner areas in the With-Action condition. As shown in **Table 14-28**, a total of one corner is expected deteriorate in level of service (LOS) in one or more peak hours from the No-Action conditions to the With-Action conditions. The northeast corner (C10) of Franklin Avenue and President Street would deteriorate from LOS A to LOS B in both the weekday AM and PM peak hours. Also shown in **Table 14-28**, all analyzed corner areas are expected to continue to operate at an uncongested LOS A or B in all peak hours in the future with the Proposed Actions. As such, the Proposed Actions would not result in significant adverse corner impacts.

TABLE 14-28
With-Action Corner Area Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
Empire Blvd & Flatbush Ave	C1	SE	171.7	319.9	197.5	197.1	A	A	A	A
	C2	SW	171.0	331.6	205.3	206.3	A	A	A	A
Empire Blvd & Washington Ave	C3	NE	156.5	208.2	146.8	148.1	A	A	A	A
	C4	SW	138.5	243.0	129.5	175.8	A	A	A	A
	C5	NW	191.4	242.7	146.4	165.4	A	A	A	A
Empire Blvd & Franklin Ave	C7	NW	130.4	209.5	175.7	165.2	A	A	A	A
Franklin Ave & Sullivan Pl	C8	SW	169.2	184.4	156.5	225.5	A	A	A	A
	C9	NW	90.3	97.8	89.3	119.9	A	A	A	A
Franklin Ave & President St	C10	NE	60.0	103.6	47.1	62.4	B	A	B	A
	C11	SE	109.5	183.1	90.6	123.0	A	A	A	A

J. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

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, DOT and the New York City Police Department (NYPD) developed a set of five plans, each of which analyzes the unique conditions of one New York City borough and recommends actions to address the borough's specific challenges to pedestrian safety. These plans pinpoint the conditions and characteristics of pedestrian fatalities and severe injuries; they also identify priority corridors, intersections, and areas that disproportionately

account for pedestrian fatalities and severe injuries, prioritizing them for safety interventions. The plans outline a series of recommended actions comprised of engineering, enforcement, and education measures that intend to alter the physical and behavioral conditions on City streets that lead to pedestrian fatality and injury.

The *Vision Zero Brooklyn Pedestrian Safety Action Plan* was released in 2015. Franklin and Flatbush avenues and Eastern Parking were identified as a Priority Corridor along their entire lengths within the traffic and pedestrian study area, and the intersection of Franklin Avenue and Eastern Parkway was identified as a Priority Intersection. 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
- Significantly expand exclusive pedestrian crossing time on all Brooklyn Priority Corridors
- Add exclusive pedestrian crossing time to all feasible Brooklyn Priority Intersections
- Modify signal timing to reduce off-speak speeding on all feasible Brooklyn Priority Corridors
- Install expanded speed limit signage on all Brooklyn Priority Corridors
- Drive community outreach and engagement at Brooklyn Priority Corridors, Intersections, & Areas
- Install additional lighting under elevated trains and around key transit stops
- Install 60 new speed bumps in Brooklyn annually
- Develop additional Neighborhood Slow Zones in Brooklyn 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

- Implement the majority of speed cameras at Priority Corridors, Intersections, and Areas
- Focus enforcement and deploy dedicated resources to Brooklyn NYPD precincts that overlap substantially with Priority Areas
- Prioritize targeted enforcement at Brooklyn Priority Corridors, Intersections, and Areas annually

Education and Awareness Campaigns

- Target child and senior safety education at Brooklyn Priority Corridors and Priority Areas
- Launch multilingual public information campaigns in Brooklyn Priority Areas
- Target Street Team outreach at Brooklyn Priority Corridors, Intersections, and Areas

Study Area High Crash Locations

Crash data for intersections in the traffic and pedestrian study areas were obtained from DOT for the three-year period between January 1, 2015 and December 31, 2017 (the most recent three-year period for which data are available). The data quantify the total number of reportable (involving a fatality, injury, or more than $1,000 in property damage) and non-reportable crashes as well as the total number of crashes involving injuries to pedestrians or bicyclists. During the three-year reporting period, a total of

124 reportable and non-reportable crashes and 38 pedestrian/bicyclist-related injury crashes occurred at analyzed study area intersections. No fatalities occurred. **Table 14-29** provides details of crash characteristics by intersection during the 2015 to 2017 period, as well as a breakdown of pedestrian and bicycle crashes by year and location.

According to the 2020 *CEQR Technical Manual*, a high crash location is one where there were 48 or more reportable and non-reportable crashes or five or more pedestrian/bicyclist-related crashes in any consecutive 12 months within the most recent three-year period for which data are available. As shown in **Table 14-29**, no intersections experienced 48 or more reportable and non-reportable crashes within a consecutive 12-month period during the 2015 to 2017 period; however, the intersection of Ocean and Flatbush Avenues at Empire Boulevard experienced five or more pedestrian/bicyclist-related crashes within a consecutive 12-month period and is therefore considered a high crash location.

With the Proposed Actions, this intersection would experience some increase in vehicle trips as well as in pedestrian trips en route to and from the Prospect Park subway station, primarily on the east and south crosswalks. Of the 10 total pedestrian/cyclist-related crashes that occurred from 2015 to 2017, seven occurred during nighttime hours. Geometric and operational characteristics affecting safety at this intersection include its wide geometry and overall complexity. The intersection is fully signalized and equipped with pedestrian signals as well as high visibility crosswalks. Measures to further enhance pedestrian safety at this intersection could include the re-striping of faded crosswalks and improved street lighting.

TABLE 14-29
Summary of Motor Vehicle Crash Data 2015-2017

Intersection		Pedestrian Injury Accidents			Bicycle Injury Accidents			Total Pedestrian/Bicyclist Injury Accidents			Total Accidents (Reportable + Non-Reportable)		
		2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Franklin Avenue	Union Street	0	0	2	0	1	0	0	1	2	0	3	4
	President Street	0	0	0	0	0	1	0	0	1	0	0	2
	Carroll Street	1	0	0	0	0	0	1	0	0	2	0	0
	Crown Street	0	0	0	1	0	0	1	0	0	2	0	1
	Montgomery Street	0	1	0	1	0	0	1	1	0	1	1	1
	Sullivan Place	0	0	0	0	0	0	0	0	0	0	0	0
	Empire Boulevard	1	1	0	0	1	0	1	2	0	2	4	4
Washingon Avenue	Classon Avenue	1	0	1	2	0	1	3	0	2	5	0	3
	Carroll Street	0	0	0	0	0	1	0	0	1	1	1	1
	Crown Street	0	0	1	1	0	0	1	0	1	1	2	2
	Montgomery Street	0	0	1	0	1	1	0	1	2	3	3	3
	Sullivan Place	0	0	1	0	0	0	0	0	1	0	1	3
	Empire Boulevard	1	0	2	0	1	1	1	1	3	5	6	9
Ocean Avenue / Flatbush Avenue	Empire Boulevard	4	5	0	0	1	0	4	**6**	0	17	18	13

K. PARKING

Existing Conditions

On-street public parking within a ¼-mile radius of the Development Site is generally governed by street cleaning regulations. Based on data collected during field surveys conducted in June 2019, on-street parking within the ¼-mile parking study area is approximately 94 percent utilized during the weekday overnight period, with approximately 114 available spaces. There are no public off-street parking facilities within the ¼-mile radius of the Development Site. As the parking available within the ¼-mile radius was limited, and additional parking survey was conducted within the area between the ¼-mile and ½-mile

radius from the Proposed Development Site, which indicated that approximately 96 percent of the available on-street parking was utilized during the weekday overnight period, with approximately 158 spaces. There is one public of-street parking facility with overnight service within the ½-mile radius, at 580-590 Flatbush Avenue, south of the Proposed Development Site. This garage is approximately 75 percent utilized during the weekday overnight period, with approximately 52 available spaces. The analysis does not include the 325-space public parking lot located at 200 Eastern Parkway adjacent to the Brooklyn Museum of Art and the Brooklyn Botanic Garden. Although it is located within a half-mile of the Development Site, it is closed overnight. In total, there are approximately 324 spaces available in the ½-mile study area. The Existing weekday overnight parking conditions are summarized below in **Table 14-30**.

TABLE 14-30
Existing Weekday Overnight Parking Capacity, Demand, and Utilization

	Capacity*	Demand/Utilized Spaces*	Available Spaces	Utilization Rate
Within ¼-mile of the Proposed Development Site				
On-Street (¼-mile radius)	1,822	1,708	114	94%
Within ½-mile of the Proposed Development Site				
On-Street (¼ to ½- mile radius subtotal):	3,660	3,502	158	96%
Off-Street	209	157	52	75%
½- mile study area total:	5,691	5,367	324	94%

*Source: PHA Parking Surveys (June 2019)

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

After accounting for background growth, the demand for on-street parking within the study area is expected to increase from 1,708 to 1,751 spaces in the weekday overnight period, increasing the overall utilization from 94 percent to 96 percent in 2024. Approximately 71 spaces would remain available in the ¼-mile study area. In the ½-mile study area, the number of utilized spaces would increase from 5,367 to 5,503 and the utilization from approximately 94% to 97%. Approximately 188 spaces would remain available in the overall ½-mile study area.

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

The Proposed Development would have a peak overnight parking demand of approximately 366 vehicles and approximately 128 proposed on-site accessory parking spaces, resulting an excess demand of approximately 238 vehicles that would have to be accommodated on-street or in public off-street facilities in the surrounding area during the overnight period. (The analysis focuses on this overnight period as the Proposed Development is predominantly residential in nature in a residential neighborhood and is expected to be substantially less parking demand and supply during the daytime than overnight period.) In combination with the No-Action demand, the overall study area parking demand in the With-Action condition would therefore total approximately 1,989 spaces in the ¼-mile study area and 5,741 spaces in the ½-mile study area. As shown in **Table 14-31**, the Proposed Development would therefore result in a shortfall of approximately 167 spaces within the ¼-mile radius of the Proposed Development Site, and a shortfall of approximately 50 spaces within the ½-mile radius of the Proposed Development Site during the overnight period. The shortfall would not be considered significant given the availability of alternative modes of transportation (including seven subway routes and five local bus routes) and the magnitude of

the shortfall (approximately less than one percent of ½-mile study area's capacity). As the Proposed Development is predominantly a residential building in a primarily residential area, the shortfall occurs during overnight period, when residential demand would be greatest and the nearest public parking facility is closed. Although a parking shortfall is anticipated, it should be noted that the analysis assumes that the 325-space public parking lot at 200 Eastern Parkway would continue to be closed overnight. If, however, overnight parking demand increases in the study area to the extent forecast in this EIS, there could be increased incentive for the operator of this facility to convert to a 24-hour operation. This would potentially eliminate the projected shortfall in overnight capacity.

TABLE 14-31
No-Action vs. With-Action Weekday Overnight Parking Capacity & Demand

	Capacity	Demand/ Utilized Spaces	Available Spaces /Shortfall
Within ¼-mile of the Proposed Development Site			
No-Action Condition	1,822	1,751	71
Project-generated demand not accommodated on-site	-	238	-
With-Action Condition	1,822	1,989	-167
Within ½-mile of the Proposed Development Site			
No-Action Condition	5,691	5,503	188
Project-generated demand not accommodated on-site	-	238	-
With-Action Condition	5,691	5,741	-50