A. INTRODUCTION

This chapter examines the potential effects of the Proposed Project, Kingsbridge Armory Redevelopment, on the study area's transportation systems, including vehicular traffic, transit, pedestrians, street user safety, and parking. The transportation analyses consider future conditions in the 2032 build year with the Proposed Actions (the "With Action condition") compares that against conditions absent the Proposed Actions (the "No Action condition"). As described in Chapter 1, "Project Description," the Proposed Actions would facilitate the adaptive reuse of the vacant, approximately 588,765-gross-square-foot (gsf) Armory building to provide a mix of new uses, including community facility and cultural space, light manufacturing space, commercial office space, a live event venue, and other entertainment uses, along with on-site parking and loading docks. The adjacent National Guard Site, which is currently occupied by a one-story garage and a two-story office building, would be redeveloped with a new residential building with ground floor retail. The Proposed Project would also formalize the triangular alignment at the southwest corner of the Project Site, including approximately 4,800 square feet of New York City Department of Transportation (DOT) right-of-way (ROW), to create a new publicly accessible open space. **Table 13-1** provides a summary of the Proposed Project's various programming uses.

Table 13-1
Proposed Development Programmed Uses

Use	Size	Notes
Armory Site		
Museum (gsf)	30,204	
Recreational Community Facility (gsf)	119,666	
Commercial Office (gsf)	73,009	
Light Manufacturing/Incubator Space (gsf)	87,780	
Flex Space/Sports Fields (gsf)	87,250	Flexible space within event venue space
Event Venue (gsf) *Attendance Capacity (seats)*	17,000	
Parking and Loading *No. of Spaces*	248	
National Guard Site		
Residential *No. of DUs*	500	
Local Retail	14,362	
Parking (No. of Spaces)	80	
Notes: gsf = gross square feet; DUs = dwelling units		

PRINCIPAL CONCLUSIONS

Detailed analyses were prepared for vehicular traffic, transit, pedestrians, street user safety, and parking. As summarized below, potential significant adverse impacts have been identified for traffic intersections, a subway station stairway, and pedestrian elements (sidewalks, corner reservoirs, and crosswalks).

TRAFFIC

Traffic conditions were evaluated at 31 intersections for the four conventional operational peak hours—weekday AM, midday, and PM and Saturday midday/afternoon. An additional 11 intersections (for a total of 42 intersections) were also analyzed for the weekday and Saturday evening event peak hour conditions. Significant adverse traffic impacts were identified at 11 intersections in the weekday AM peak hour, six in the weekday midday peak hour, 10 in the weekday PM peak hour, 23 in the weekday evening peak hour, nine in the Saturday midday/afternoon peak hour, and 20 in the Saturday evening peak hour. **Table 13-2** summarizes the projected significant adverse traffic impacts. Potential improvement measures that may be implemented to mitigate these impacts are discussed in Chapter 22, "Mitigation."

Table 13-2
Summary of Significant Adverse Traffic Impacts

Analysis Peak Hour	Total No. of Impacted	
	Intersections	Lane Groups
Weekday AM	11	21
Weekday Midday	6	7
Weekday PM	10	19
Weekday Evening	23	32
Saturday Midday/Afternoon	9	13
Saturday Evening	20	25
Totals During Any Peak Hour	25	42

TRANSIT

Detailed analyses were prepared for fare control area and vertical circulation elements at the Kingsbridge Road (No. 4 train) Station, located along Jerome Avenue, and the Kingsbridge Road (B/D train) Station, located along the Grand Concourse. Significant adverse impacts were identified for one stairway, as summarized in **Table 13-3**, at the Kingsbridge Road (No. 4 train) Station during the weekday and Saturday evening event peak hours. Additionally, the subway line-haul impact analysis for these same event day peak hours, which will be prepared between Draft and Final EIS, could conclude projected event day ridership surges at the Project Site resulting in significant adverse line-haul impacts to the No. 4 and/or B/D subway lines. Potential improvement measures that may be implemented to mitigate these impacts are discussed in Chapter 22, "Mitigation."

Table 13-3
Summary of Significant Adverse Subway Station Impacts

Analysis Peak Hour	Station Element	Total No. of Impacted Station Elements	
		Kingsbridge Road (No. 4) Station at Jerome Avenue	Kingsbridge Road (B/D) Station at the Grand Concourse
Weekday AM	Control Areas	0	0
	Stairways	0	0
Weekday PM	Control Areas	0	0
	Stairways	0	0
Weekday Evening	Control Areas	0	0
	Stairways	1	0
Saturday Evening	Control Areas	0	0
	Stairways	1	0
Totals During Any Peak Hour	Control Areas	0	0
	Stairways	1	0

PEDESTRIANS

Pedestrian conditions were evaluated for the four conventional operational peak hours (weekday AM, midday, and PM and Saturday midday/afternoon) at 18 sidewalk, 17 corner reservoir, and eight crosswalk locations. For the weekday and Saturday evening event peak hours, additional analysis locations were included to assess conditions along paths event attendees would likely traverse to/from potential off-site parking locations, resulting in total 25 sidewalks, 19 corners, and 12 crosswalks analyzed for these study time periods. As summarized in **Table 13-4**, significant adverse pedestrian impacts were identified at one pedestrian element (i.e., sidewalk, corner, or crosswalk) in the weekday PM peak hour, 12 in the weekday evening peak hour, one in the Saturday midday/afternoon peak hour, and 11 in the Saturday evening peak hour. Potential improvement measures that may be implemented to mitigate these impacts are discussed in Chapter 22, “Mitigation.”

Table 13-4
Summary of Significant Adverse Pedestrian Impacts

Analysis Peak Hour	Total No. of Impacted Pedestrian Elements			
	Sidewalks	Corners	Crosswalks	Total
Weekday AM	0	0	0	0
Weekday Midday	0	0	0	0
Weekday PM	1	0	0	1
Weekday Evening	5	1	6	12
Saturday Midday/Afternoon	1	0	0	1
Saturday Evening	5	0	6	11
Totals During Any Peak Hour	6	1	7	14

STREET USER SAFETY

Crash data for the study area intersections were obtained from DOT for the period between January 1, 2017 and December 31, 2019. During this period, there were 395 total crashes, resulting in 336 injuries and one fatality, at the study area intersections. Among these crashes, 109 were pedestrian/bicyclist-related. A rolling yearly total of crash data identifies nine study area intersections as high crash locations. **Table 13-5** provides

a summary of these high crash locations and their corresponding crash, fatality, injury, and pedestrian/bicyclist-related statistics.

Table 13-5
Summary of High Crash Locations

Intersection		Study Period						Crashes by Year						
		All Crashes by Year			All Crashes Highest 12- Month	Total Fatalities	Total Injuries	Pedestrian			Bicycle			Ped + Bike 12 Consecutive Month Maximum
North-South Roadway	East-West Roadway	2017	2018	2019				2017	2018	2019	2017	2018	2019	
** University Ave	W Kingsbridge Rd	6	13	10	15	0	22	2	3	0	0	0	0	3
** Reservoir Ave/ Aqueduct Ave	W Kingsbridge Rd	2	6	5	7	0	11	2	4	1	0	0	1	5
* Grand Ave	Reservoir Ave/ W Kingsbridge Rd	4	4	5	7	0	9	1	2	1	1	0	0	3
** Grand Concourse	E 192nd St	2	9	6	9	1	11	1	1	2	0	0	0	2
** Grand Concourse	E Kingsbridge Rd	9	9	10	13	0	32	4	2	6	0	0	0	6
* Creston Ave	E Kingsbridge Rd	3	5	4	8	0	12	1	0	1	0	1	1	3
* Grand Concourse	E 196th St	9	11	16	17	0	42	3	1	4	0	0	1	5
* Sedgwick Ave	W Kingsbridge Rd	5	8	9	11	0	14	0	1	3	0	0	1	4
* Jerome Ave	E/W Kingsbridge Rd	13	14	12	19	0	34	2	5	2	0	0	0	6

Notes: Intersections where five or more pedestrian/bicycle injury crashes in any consecutive 12-month period; or intersections along a Vision Zero priority corridor with three or more pedestrian/bicycle injury crashes in any consecutive 12-month period are considered high crash locations. Asterisk (*) denotes a location within the Vision Zero priority corridor. Double asterisk (**) denotes a Vision Zero high priority intersection.
Source: DOT January 1, 2017 to December 31, 2019 crash data.

Between Draft and Final EIS, the crash data will be updated to also include more recent 2023 data from DOT. Prevailing trends of the identified crashes from that dataset will be further examined. Where feasible, potential safety measures, such as crosswalk restriping, detectable warning surface improvements, and adding countdown timers, will be recommended for DOT consideration.

PARKING

The everyday uses of the Proposed Project are estimated to generate weekday and Saturday parking demands of up to 286 and 180 parking spaces, respectively. With 328 on-site parking spaces, these projected parking demands could be fully accommodated by the Proposed Project's on-site parking supply. On event days, the projected parking demand would well exceed the on-site parking supply. Accordingly, most, if not all, of the event parking demand is expected to be met off-site. Since there is limited on-street parking availability nearby and off-street public parking within approximately ½-mile of the Project Site could not fully accommodate the projected maximum capacity event parking demand, thereby resulting in significant parking shortfalls of 700 to 1,100 parking spaces, the Applicants are currently seeking other potential off-site resources with substantial accessory parking availability during peak event time periods at the Project Site. The progress of this effort, including any formal agreements reached, will be described in the Final EIS.

B. PRELIMINARY ANALYSIS METHODOLOGY AND SCREENING ASSESSMENT

The *CEQR Technical Manual* identifies procedures for evaluating a proposed project's potential impacts on traffic, transit, ferry, pedestrian, and parking conditions. This methodology begins with the preparation of a trip generation analysis to determine the volume of person and vehicle trips associated with the proposed project. The results are then compared with the *CEQR Technical Manual*-specified thresholds (Level 1 screening analysis) to determine whether a Level 2 screening analysis is warranted. If the proposed project would result in 50 or more peak hour vehicle trips, 200 or more peak hour transit trips (subway/rail or bus riders), 50 or more peak hour Citywide Ferry Service (CWFS) ferry trips, and/or 200 or more peak hour pedestrian trips, a Level 2 screening analysis is undertaken.

For the Level 2 screening analysis, project-generated trips would be assigned to specific intersections, transit routes, ferry routes, and pedestrian elements. If the results of this analysis show that the proposed project would generate 50 or more peak hour vehicle trips through an intersection, 50 or more peak hour bus riders on a bus route in a single direction, 200 or more peak hour subway passengers at any given station or on a subway line by direction, 25 or more peak hour passenger ferry trips in a single direction on a single route, 50 or more peak hour passengers at a ferry landing, or 200 or more peak hour pedestrian trips per pedestrian element, further quantified analyses may be warranted to evaluate the potential for significant adverse traffic, transit, ferry, and pedestrian impacts. Correspondingly, assessments of street user safety and parking supply and demand would also be undertaken.

TRANSPORTATION PLANNING ASSUMPTIONS AND TRIP GENERATION

Trip generation factors for the Proposed Project are based on information from the *CEQR Technical Manual*, DOT's travel demand surveys, U.S. Census Data, other previously approved EISs, and the *Barclays Center Travel Demand Management (TDM) Effectiveness in Meeting Mode Split Objective Memorandum (July 2013)*. Activities associated with the event venue were assumed to primarily take place during weekday and Saturday evenings. Therefore, in addition to the four typical analysis peak periods—which include weekday AM, midday, PM, and Saturday midday/afternoon—the weekday evening and Saturday evening peak periods are also included for analysis. The travel demand assumptions used to estimate project-generated trips are summarized in **Table 13-6**.

RESIDENTIAL

The daily person trip rate is from the *CEQR Technical Manual*. The temporal distribution is from the *CEQR Technical Manual* and DOT's travel demand surveys. The directional distribution is from DOT's travel demand surveys. The modal splits and auto vehicle occupancy are from the U.S. Census American Community Survey (ACS) 2015–2019 Journey-to-Work (JTW) estimates for Bronx census tracts 239, 253, 263, 265, 267.01, 267.02, 401, 403.04, and 409. The taxi vehicle occupancy is from the *Jerome Avenue Rezoning FEIS (2018)*. The daily delivery trip rate is from the *CEQR Technical Manual*. The delivery temporal and directional distributions are from the *CEQR Technical Manual* and the *Willets Points Development FSEIS (2013)*.

Table 13-6
Travel Demand Assumptions

Use	Residential						Office						Local Retail					
Total	(1)						(1)						(1)					
Daily	Weekday				Saturday		Weekday				Saturday		Weekday				Saturday	
Person	8.18				9.08		18.00				3.90		329.00				358.00	
Trip	Trips / DU						Trips / KSF						Trips / KSF					
Internal Capture	0%				0%		0%				0%		15%				15%	
Net	Weekday				Saturday		Weekday				Saturday		Weekday				Saturday	
Daily	8.18				9.08		18.00				3.90		279.65				304.30	
Person Trip	Trips / DU						Trips / KSF						Trips / KSF					
	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE
Temporal	(1)(2)						(1)(2)						(1)(2)					
	9.3%	5.6%	8.5%	7.2%	8.4%	5.6%	12.4%	11.0%	10.5%	3.8%	14.1%	2.8%	4.8%	8.0%	10.9%	8.0%	11.7%	6.6%
Direction	(2)						(2)						(2)					
In	22%	50%	62%	61%	55%	54%	86%	52%	16%	20%	48%	45%	52%	50%	50%	47%	50%	48%
Out	78%	50%	38%	39%	45%	46%	14%	48%	84%	80%	52%	55%	48%	50%	50%	53%	50%	52%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(5)						(3)						(2)					
	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE
Auto	16.5%	16.5%	16.5%	16.5%	16.5%	16.5%	38.6%	38.6%	38.6%	38.6%	38.6%	38.6%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%
Taxi	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subway	53.4%	53.4%	53.4%	53.4%	53.4%	53.4%	21.5%	21.5%	21.5%	21.5%	21.5%	21.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Railroad	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bus	17.7%	17.7%	17.7%	17.7%	17.7%	17.7%	19.9%	19.9%	19.9%	19.9%	19.9%	19.9%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Bicycle	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Walk	9.7%	9.7%	9.7%	9.7%	9.7%	9.7%	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%	84.0%	84.0%	84.0%	84.0%	84.0%	84.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle	(4)(5)						(3)(4)						(2)					
Occupancy	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE
Auto	1.10	1.10	1.10	1.10	1.10	1.10	1.11	1.11	1.11	1.11	1.11	1.11	2.10	2.10	2.10	2.10	2.10	2.10
Taxi	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.20	1.20	1.20	1.20	1.20	1.20
Daily	(1)						(1)						(1)					
Delivery Trip	Weekday				Saturday		Weekday				Saturday		Weekday				Saturday	
Generation	0.06				0.02		0.32				0.01		0.35				0.04	
Rate	Delivery Trips / DU						Delivery Trips / KSF						Delivery Trips / KSF					
Delivery	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE
Temporal	(1)(11)						(1)(11)						(1)(11)					
	12.0%	9.0%	2.0%	2.0%	9.0%	2.0%	10.0%	11.0%	2.0%	2.0%	11.0%	2.0%	8.0%	11.0%	2.0%	1.0%	11.0%	1.0%
Delivery Direction	(1)(11)						(1)(11)						(1)(11)					
In	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Out	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Use	Light Industrial/Manufacturing						Recreational Community Facility						Museum					
Total	(8)						(1)						(1)					
Daily	Weekday				Saturday		Weekday				Saturday		Weekday				Saturday	
Person	14.70				2.20		51.60				50.40		27.00				20.60	
Trip	Trips / KSF						Trips / KSF						Trips / KSF					
Internal Capture	0%				0%		0%				0%		0%				0%	
Net	Weekday				Saturday		Weekday				Saturday		Weekday				Saturday	
Daily	14.70				2.20		51.60				50.40		27.00				20.60	
Person Trip	Trips / KSF						Trips / KSF						Trips / KSF					
	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE
Temporal	(8)						(1)(2)						(1)(7)					
	13.2%	11.0%	14.2%	0.5%	10.7%	0.0%	9.0%	7.4%	9.0%	6.8%	12.6%	3.4%	1.0%	16.0%	13.0%	6.4%	17.0%	4.9%
Direction	(8)						(2)						(1)(7)					
In	88%	47%	12%	0%	47%	50%	57%	48%	52%	44%	48%	26%	100%	43%	31%	20%	54%	28.8%
Out	12%	53%	88%	100%	53%	50%	43%	52%	48%	56%	52%	74%	0%	57%	69%	80%	46%	71.2%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(3)						(9)						(10)					
	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE
Auto	38.6%	38.6%	38.6%	38.6%	38.6%	38.6%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	36.0%	36.0%	36.0%	36.0%	36.0%	36.0%
Taxi	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
Subway	21.5%	21.5%	21.5%	21.5%	21.5%	21.5%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Railroad	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bus	19.9%	19.9%	19.9%	19.9%	19.9%	19.9%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Bicycle	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Walk	16.1%	16.1%	16.1%	16.1%	16.1%	16.1%	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle	(3)(4)						(9)						(7)					
Occupancy	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE
Auto	1.11	1.11	1.11	1.11	1.11	1.11	1.40	1.40	1.40	1.40	1.40	1.40	2.67	2.67	2.67	2.67	2.67	2.67
Taxi	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	2.08	2.08	2.08	2.08	2.08	2.08
Daily	(8)						(9)						(7)					
Delivery Trip	Weekday				Saturday		Weekday				Saturday		Weekday				Saturday	
Generation	0.67				0.67		0.04				0.01		0.05				0.00	
Rate	Delivery Trips / KSF						Delivery Trips / KSF						Delivery Trips / KSF					
Delivery	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE	AM	MD	PM	EVE	Sat MD	Sat EVE
Temporal	(8)						(9)(11)						(7)(12)					
	14.0%	9.0%	1.0%	1.0%	0.0%	0.0%	7.7%	11.0%	2.0%	0.0%	11.0%	0.0%	9.6%	11.0%	1.0%	0.0%	1.0%	0.0%
Delivery Direction	(8)						(9)(11)						(7)(12)					
In	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Out	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 13-6
Travel Demand Assumptions

Use	Flex Space/Sports Fields (Non-Event Hours)						Event Venue (Event Hours)					
Total Daily Person Trip	(1) Weekday 51.60 Trips / KSF				Saturday 50.40		(13) Weekday 2.00 Trips / Seat				Saturday 2.00	
Internal Capture	0%				0%		0%				0%	
Net Daily Person Trip	Weekday 51.60 Trips / KSF				Saturday 50.40		Weekday 2.00 Trips / Seat				Saturday 2.00	
	AM	**MD**	**PM**	**EVE**	**Sat MD**	**Sat EVE**	**AM**	**MD**	**PM**	**EVE**	**Sat MD**	**Sat EVE**
Temporal	(1)						(13)					
	9.0%	7.4%	9.0%		12.6%					27.5%		30.0%
Direction	(2)						(13)					
In	57%	48%	52%		48%					100%		100%
Out	43%	52%	48%		52%					0%		0%
Total	100%	100%	100%		100%					100%		100%
Modal Split	(9)						(13)					
	AM	**MD**	**PM**	**EVE**	**Sat MD**	**Sat EVE**	**AM**	**MD**	**PM**	**EVE**	**Sat MD**	**Sat EVE**
Auto	4.0%	4.0%	4.0%		4.0%					30.0%		45.0%
Taxi	9.0%	9.0%	9.0%		9.0%					5.0%		5.0%
Subway	12.0%	12.0%	12.0%		12.0%					52.6%		34.9%
Railroad	0.0%	0.0%	0.0%		0.0%					8.8%		8.7%
Bus	5.0%	5.0%	5.0%		5.0%					0.0%		0.6%
Bicycle	0.0%	0.0%	0.0%		0.0%					0.1%		0.1%
Walk	70.0%	70.0%	70.0%		70.0%					3.5%		5.7%
Total	100%	100%	100%		100%					100%		100%
Vehicle Occupancy	(9)						(13)					
	AM	**MD**	**PM**	**EVE**	**Sat MD**	**Sat EVE**	**AM**	**MD**	**PM**	**EVE**	**Sat MD**	**Sat EVE**
Auto	1.40	1.40	1.40		1.40					2.96		3.15
Taxi	1.40	1.40	1.40		1.40					3.08		3.84
Daily Delivery Trip Generation Rate	(7) Weekday 0.04 Delivery Trips / KSF				Saturday 0.01		(14) Weekday 0.01 Delivery Trips / Guest				Saturday 0.01	
Delivery Temporal	**AM**	**MD**	**PM**	**EVE**	**Sat MD**	**Sat EVE**	**AM**	**MD**	**PM**	**EVE**	**Sat MD**	**Sat EVE**
	(9)						(14)					
	7.7%	11.0%	2.0%		11.0%					0.0%		0.0%
Delivery Direction	(9)						(14)					
In	50%	50%	50%		50%					50%		50%
Out	50%	50%	50%		50%					50%		50%
Total	100%	100%	100%		100%					100%		100%

Sources:
(1) 2021 *CEQR Technical Manual*
(2) Based on NYCDOT Trip Generation Surveys
(3) *U.S. Census American Community Survey (ACS) 2012–2016 5-Year Estimates Reverse Journey-to-Work (RJTW) Data for Bronx Census Tracts 239, 253, 263, 265, 267.01, 267.02, 401, 403.04, 409*
(4) *Jerome Avenue Rezoning FEIS (2018)*
(5) *U.S. Census American Community Survey (ACS) 2015–2019 5-Year Estimates Journey-to-Work (JTW) Data for Bronx Census Tracts 239, 253, 263, 265, 267.01, 267.02, 401, 403.04, 409*
(6) *Webster Avenue Rezoning (2011)*
(7) *One45 – Museum of Civil Rights FEIS (2022)*
(8) *Spofford Campus FEIS (2018)*
(9) *Stevenson Commons FEIS (2021)*
(10) *Innovations QNS FEIS (2022)*
(11) *Willets Point FSEIS (2013)*
(12) *No. 7 Subway Extension-Hudson Yards Rezoning and Development Program FGEIS (2004)*
(13) Based on July 2013 Barclays Center TDM Effectiveness in Meeting Mode Split Objectives Memorandum
(14) Based on event space use from *One45 – Museum of Civil Rights FEIS (2022)*

COMMERCIAL OFFICE

The daily person trip rate is from the *CEQR Technical Manual*. The temporal distribution is from the *CEQR Technical Manual* and DOT's travel demand surveys. The directional distribution is from DOT's travel demand surveys. The modal splits and auto vehicle occupancy are from the U.S. Census ACS 2012–2016 Reverse Journey-to-Work (RJTW) estimates for Bronx census tracts 239, 253, 263, 265, 267.01, 267.02, 401, 403.04, and 409. The taxi vehicle occupancy is from the *Jerome Avenue Rezoning FEIS (2018)*. The daily delivery trip rate is from the *CEQR Technical Manual*. The delivery temporal and directional distributions are from the *CEQR Technical Manual* and the *Willets Points Development FSEIS (2013)*.

LOCAL RETAIL

The daily person trip rate is from the *CEQR Technical Manual*. The temporal distribution is from the *CEQR Technical Manual* and DOT's travel demand surveys. The local retail would primarily support the other planned uses on the Development Site; therefore, a 15-percent linked trip credit has been applied to the local retail trip generation estimates.

The directional distribution, modal splits, and vehicle occupancies are from DOT's travel demand surveys. The daily delivery trip rate is from the *CEQR Technical Manual*. The delivery temporal and directional distributions are from the *CEQR Technical Manual* and the *Willets Points Development FSEIS (2013)*.

LIGHT INDUSTRIAL/MANUFACTURING

The daily person trip rate, temporal distribution, and directional distribution are from the *Spofford Campus FEIS (2018)*. The modal splits and vehicle occupancies are from the U.S. Census ACS 2012–2016 Reverse Journey-to-Work (RJTW) estimates for Bronx census tracts 239, 253, 263, 265, 267.01, 267.02, 401, 403.04, and 409 and the *Jerome Avenue Rezoning FEIS (2018)*. The daily delivery trip rate, delivery temporal, and delivery directional distributions are from the *Spofford Campus FEIS (2018)*.

RECREATIONAL COMMUNITY FACILITY

The daily person trip rate is from the *CEQR Technical Manual*. The temporal distribution, and directional distribution are from the *CEQR Technical Manual* and DOT's travel demand surveys. The modal splits and vehicle occupancies are from the *Stevenson Commons FEIS (2021)*. The daily delivery trip rate is from the *Stevenson Commons FEIS (2021)*. The delivery temporal and directional distributions are from the *Stevenson Commons FEIS (2021)* and the *Willets Point Development FSEIS (2013)*.

MUSEUM

The daily person trip rate is from the *CEQR Technical Manual*. The temporal and directional distributions are from the *CEQR Technical Manual* and the *One45 – Museum of Civil Rights FEIS (2022)*. The modal splits are from the *Innovation QNS FEIS (2022)*. The auto and taxi occupancies are from the *One45 – Museum of Civil Rights FEIS (2022)*. The daily delivery trip rate, delivery temporal, and delivery directional distributions are from the *One45 – Museum of Civil Rights FEIS (2022)*.

FLEX SPACE/SPORTS FIELDS (NON-EVENT HOURS)

The daily person trip rate is from the *CEQR Technical Manual*. The temporal distribution, and directional distribution are from the *CEQR Technical Manual* and DOT's travel demand surveys. The modal splits and vehicle occupancies are from the *Stevenson Commons FEIS (2021)*. The daily delivery trip rate, delivery temporal and directional distributions are from the *Stevenson Commons FEIS (2021)*. Due to the different activities that may take place within the space allocated for this use, the travel patterns of the associated users could vary. Accordingly, the Applicants have committed to performing a post-completion transportation monitoring program (including a trip generation survey) to verify travel demand characteristics for this use.

EVENT VENUE (EVENT HOURS)

The daily person trip rate, temporal distribution, and directional distribution are from the *Barclays Center TDM Effectiveness in Meeting Mode Split Objectives Memorandum (July 2013)*. The modal splits and vehicle occupancies are also from the *Barclays Center TDM Effectiveness in Meeting Mode Split Objectives Memorandum (July 2013)*. The daily delivery trip rate, delivery temporal and directional distributions are from the event space

use from the *One45 – Museum of Civil Rights FEIS (2022)*. The transportation monitoring program described above will also be performed for the Project Site's event venue to verify modal split and temporal distribution characteristics at future high-attendance events.

LEVEL 1 SCREENING ASSESSMENT

As detailed in **Table 13-7**, the Proposed Project would generate 1,880, 1,759, 2,173, 10,492, 2,373, and 10,981 person trips during the weekday AM, midday, PM, and evening, and Saturday midday/afternoon and evening peak hours, respectively. Correspondingly, 364, 326, 378, 1,416, 346, and 1,822 vehicle trips would be generated during the same respective peak hours.

Table 13-7
Proposed Project Trip Generation

			Person Trip								Vehicle Trip			
Program	Peak Hour	In/Out	Auto	Taxi	Subway	Railroad	Bus	Bike	Walk	Total	Auto	Taxi	Delivery	Total
Residential 500 DUs	WD AM	In	14	1	45	1	15	1	8	85	13	3	2	18
		Out	49	3	158	3	53	2	29	297	45	3	2	50
		Total	63	4	203	4	68	3	37	382	58	6	4	68
	WD MD	In	19	1	61	1	20	1	11	114	17	2	1	20
		Out	19	1	61	1	20	1	11	114	17	2	1	20
		Total	38	2	122	2	40	2	22	228	34	4	2	40
	WD PM	In	36	2	115	2	38	2	21	216	33	2	0	35
		Out	22	1	71	1	23	1	13	132	20	2	0	22
		Total	58	3	186	3	61	3	34	348	53	4	0	57
	WD EVE	In	30	2	96	2	32	1	17	180	27	2	0	29
		Out	19	1	61	1	20	1	11	114	17	2	0	19
		Total	49	3	157	3	52	2	28	294	44	4	0	48
	SAT MD/AN	In	35	2	112	2	37	2	20	210	32	2	0	34
		Out	28	2	92	2	30	1	17	172	25	2	0	27
		Total	63	4	204	4	67	3	37	382	57	4	0	61
	SAT EVE	In	23	1	73	1	24	1	13	136	21	2	0	23
		Out	19	1	62	1	21	1	11	116	17	2	0	19
		Total	42	2	135	2	45	2	24	252	38	4	0	42
Commercial Office 73,009 gsf	WD AM	In	54	2	30	2	28	1	23	140	49	1	1	51
		Out	9	0	5	0	5	0	4	23	8	1	1	10
		Total	63	2	35	2	33	1	27	163	57	2	2	61
	WD MD	In	29	1	16	1	15	1	12	75	26	2	1	29
		Out	27	1	15	1	14	1	11	70	24	2	1	27
		Total	56	2	31	2	29	2	23	145	50	4	2	56
	WD PM	In	9	0	5	0	4	0	4	22	8	1	0	9
		Out	45	2	25	2	23	1	19	117	41	1	0	42
		Total	54	2	30	2	27	1	23	139	49	2	0	51
	WD EVE	In	4	0	2	0	2	0	2	10	4	1	0	5
		Out	15	1	9	1	8	0	6	40	14	1	0	15
		Total	19	1	11	1	10	0	8	50	18	2	0	20
	SAT MD/AN	In	7	0	4	0	4	0	3	18	6	0	0	6
		Out	8	0	4	0	4	0	3	19	7	0	0	7
		Total	15	0	8	0	8	0	6	37	13	0	0	13
	SAT EVE	In	1	0	1	0	1	0	1	4	1	0	0	1
		Out	2	0	1	0	1	0	1	5	2	0	0	2
		Total	3	0	2	0	2	0	2	9	3	0	0	3
Local Retail 14,362 gsf	WD AM	In	11	0	3	0	2	0	84	100	5	0	0	5
		Out	10	0	3	0	2	0	78	93	5	0	0	5
		Total	21	0	6	0	4	0	162	193	10	0	0	10
	WD MD	In	18	0	5	0	3	0	135	161	9	0	0	9
		Out	18	0	5	0	3	0	135	161	9	0	0	9
		Total	36	0	10	0	6	0	270	322	18	0	0	18
	WD PM	In	24	0	7	0	4	0	184	219	11	0	0	11
		Out	24	0	7	0	4	0	184	219	11	0	0	11
		Total	48	0	14	0	8	0	368	438	22	0	0	22
	WD EVE	In	17	0	5	0	3	0	127	152	8	0	0	8
		Out	19	0	5	0	3	0	143	170	9	0	0	9
		Total	36	0	10	0	6	0	270	322	17	0	0	17
	SAT MD/AN	In	28	0	8	0	5	0	215	256	13	0	0	13
		Out	28	0	8	0	5	0	215	256	13	0	0	13
		Total	56	0	16	0	10	0	430	512	26	0	0	26
	SAT EVE	In	15	0	4	0	3	0	116	138	7	0	0	7
		Out	16	0	4	0	3	0	126	149	8	0	0	8
		Total	31	0	8	0	6	0	242	287	15	0	0	15

Table 13-7
Proposed Project Trip Generation

Program	Peak Hour	In/Out	Person Trip								Vehicle Trip			
			Auto	Taxi	Subway	Railroad	Bus	Bike	Walk	Total	Auto	Taxi	Delivery	Total
Light Industrial/Manufacturing 87,780 gsf	WD AM	In	58	3	32	2	30	1	24	150	52	2	4	58
		Out	8	0	4	0	4	0	3	19	7	2	4	13
		Total	66	3	36	2	34	1	27	169	59	4	8	71
	WD MD	In	26	1	14	1	13	1	11	67	23	2	3	28
		Out	29	1	16	1	15	1	12	75	26	2	3	31
		Total	55	2	30	2	28	2	23	142	49	4	6	59
	WD PM	In	8	0	5	0	4	0	4	21	7	2	0	9
		Out	62	3	35	2	32	1	26	161	56	2	0	58
		Total	70	3	40	2	36	1	30	182	63	4	0	67
	WD EVE	In	0	0	0	0	0	0	0	0	0	0	0	0
		Out	2	0	1	0	1	0	1	5	2	0	0	2
		Total	2	0	1	0	1	0	1	5	2	0	0	2
	SAT MD/AN	In	4	0	2	0	2	0	2	10	4	0	0	4
		Out	4	0	2	0	2	0	2	10	4	0	0	4
		Total	8	0	4	0	4	0	4	20	8	0	0	8
	SAT EVE	In	0	0	0	0	0	0	0	0	0	0	0	0
		Out	0	0	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	0	0	0	0	0	0	0	0
Recreational Community Facility 119,666 gsf	WD AM	In	13	29	38	0	16	0	222	318	9	37	0	46
		Out	10	22	29	0	12	0	167	240	7	37	0	44
		Total	23	51	67	0	28	0	389	558	16	74	0	90
	WD MD	In	9	20	26	0	11	0	154	220	6	29	0	35
		Out	10	21	29	0	12	0	166	238	7	29	0	36
		Total	19	41	55	0	23	0	320	458	13	58	0	71
	WD PM	In	12	26	35	0	14	0	202	289	9	36	0	45
		Out	11	24	32	0	13	0	187	267	8	36	0	44
		Total	23	50	67	0	27	0	389	556	17	72	0	89
	WD EVE	In	7	17	22	0	9	0	129	184	5	27	0	32
		Out	9	21	28	0	12	0	165	235	6	27	0	33
		Total	16	38	50	0	21	0	294	419	11	54	0	65
	SAT MD/AN	In	15	33	44	0	18	0	255	365	11	50	0	61
		Out	16	36	47	0	20	0	277	396	11	50	0	61
		Total	31	69	91	0	38	0	532	761	22	100	0	122
	SAT EVE	In	2	5	6	0	3	0	37	53	1	14	0	15
		Out	6	14	18	0	8	0	106	152	4	14	0	18
		Total	8	19	24	0	11	0	143	205	5	28	0	33
Museum 30,204 gsf	WD AM	In	3	1	2	0	2	0	0	8	1	0	0	1
		Out	0	0	0	0	0	0	0	0	0	0	0	0
		Total	3	1	2	0	2	0	0	8	1	0	0	1
	WD MD	In	20	7	14	0	14	0	1	56	7	7	0	14
		Out	27	9	19	0	19	0	1	75	10	7	0	17
		Total	47	16	33	0	33	0	2	131	17	14	0	31
	WD PM	In	12	4	8	0	8	0	1	33	4	6	0	10
		Out	26	9	18	0	18	0	1	72	10	6	0	16
		Total	38	13	26	0	26	0	2	105	14	12	0	26
	WD EVE	In	4	1	3	0	3	0	0	11	1	2	0	3
		Out	15	5	10	0	10	0	1	41	6	2	0	8
		Total	19	6	13	0	13	0	1	52	7	4	0	11
	SAT MD/AN	In	21	7	14	0	14	0	1	57	8	6	0	14
		Out	18	6	12	0	12	0	1	49	7	6	0	13
		Total	39	13	26	0	26	0	2	106	15	12	0	27
	SAT EVE	In	3	1	2	0	2	0	0	8	1	1	0	2
		Out	8	3	5	0	5	0	0	21	3	1	0	4
		Total	11	4	7	0	7	0	0	29	4	2	0	6
Flex Space/Sports Fields 87,250 gsf	WD AM	In	9	21	28	0	12	0	162	232	6	26	0	32
		Out	7	16	21	0	9	0	122	175	5	26	0	31
		Total	16	37	49	0	21	0	284	407	11	52	0	63
	WD MD	In	6	14	19	0	8	0	112	159	4	21	0	25
		Out	7	16	21	0	9	0	121	174	5	21	0	26
		Total	13	30	40	0	17	0	233	333	9	42	0	51
	WD PM	In	8	19	25	0	11	0	147	210	6	27	0	33
		Out	8	18	23	0	10	0	136	195	6	27	0	33
		Total	16	37	48	0	21	0	283	405	12	54	0	66
	SAT MD/AN	In	11	24	32	0	13	0	186	266	8	36	0	44
		Out	12	26	35	0	14	0	202	289	9	36	0	45
		Total	23	50	67	0	27	0	388	555	17	72	0	89

Table 13-7
Proposed Project Trip Generation

Program	Peak Hour	In/Out	Person Trip								Vehicle Trip			
			Auto	Taxi	Subway	Railroad	Bus	Bike	Walk	Total	Auto	Taxi	Delivery	Total
Event Venue 17,000 Seats	WD EVE	In	2,805	468	4,918	823	0	9	327	9,350	949	152	0	1,101
		Out	0	0	0	0	0	0	0	0	0	152	0	152
		Total	2,805	468	4,918	823	0	9	327	9,350	949	304	0	1,253
	SAT EVE	In	4,590	510	3,560	887	61	10	581	10,199	1,457	133	0	1,590
		Out	0	0	0	0	0	0	0	0	0	133	0	133
		Total	4,590	510	3,560	887	61	10	581	10,199	1,457	266	0	1,723
Total	**WD AM**	**In**	**162**	**57**	**178**	**5**	**105**	**3**	**523**	**1,033**	**135**	**69**	**7**	**211**
		Out	**93**	**41**	**220**	**3**	**85**	**2**	**403**	**847**	**77**	**69**	**7**	**153**
		Total	**255**	**98**	**398**	**8**	**190**	**5**	**926**	**1,880**	**212**	**138**	**14**	**364**
	WD MD	**In**	**127**	**44**	**155**	**3**	**84**	**3**	**436**	**852**	**92**	**63**	**5**	**160**
		Out	**137**	**49**	**166**	**3**	**92**	**3**	**457**	**907**	**98**	**63**	**5**	**166**
		Total	**264**	**93**	**321**	**6**	**176**	**6**	**893**	**1,759**	**190**	**126**	**10**	**326**
	WD PM	**In**	**109**	**51**	**200**	**2**	**83**	**2**	**563**	**1,010**	**78**	**74**	**0**	**152**
		Out	**198**	**57**	**211**	**5**	**123**	**3**	**566**	**1,163**	**152**	**74**	**0**	**226**
		Total	**307**	**108**	**411**	**7**	**206**	**5**	**1,129**	**2,173**	**230**	**148**	**0**	**378**
	WD EVE	**In**	**2,867**	**488**	**5,046**	**825**	**49**	**10**	**602**	**9,887**	**994**	**184**	**0**	**1,178**
		Out	**79**	**28**	**114**	**2**	**54**	**1**	**327**	**605**	**54**	**184**	**0**	**238**
		Total	**2,946**	**516**	**5,160**	**827**	**103**	**11**	**929**	**10,492**	**1,048**	**368**	**0**	**1,416**
	SAT MD/AN	**In**	**121**	**66**	**216**	**2**	**93**	**2**	**682**	**1,182**	**82**	**94**	**0**	**176**
		Out	**114**	**70**	**200**	**2**	**87**	**1**	**717**	**1,191**	**76**	**94**	**0**	**170**
		Total	**235**	**136**	**416**	**4**	**180**	**3**	**1,399**	**2,373**	**158**	**188**	**0**	**346**
	SAT EVE	**In**	**4,634**	**517**	**3,646**	**888**	**94**	**11**	**748**	**10,538**	**1,488**	**150**	**0**	**1,638**
		Out	**51**	**18**	**90**	**1**	**38**	**1**	**244**	**443**	**34**	**150**	**0**	**184**
		Total	**4,685**	**535**	**3,736**	**889**	**132**	**12**	**992**	**10,981**	**1,522**	**300**	**0**	**1,822**

Notes: WD = Weekday; SAT = Saturday; MD = Midday; AN = Afternoon; EVE = Evening; gsf = gross square feet; DUs = dwelling units

TRAFFIC

As summarized in **Table 13-7**, the Proposed Project would generate 364, 326, 378, 1,416, 346, and 1,822 incremental vehicle trips during the weekday AM, midday, PM, and evening, and Saturday midday/afternoon and evening peak hours, respectively. Since the incremental vehicle trips from the Proposed Project would be greater than 50 vehicle trips during all six analysis peak hours, Level 2 screening assessments (presented in the section below) were prepared to identify the overall traffic study area warranting a detailed analysis.

TRANSIT

Public transportation options serving the area surrounding the Project Site are shown in **Figure 13-1**. The Project Site is served by the Kingsbridge Road (No. 4 train) and Kingsbridge Road (B and D trains) subway stations. The Project Site is also served by the Bx1, Bx2, Bx3, Bx9, Bx12, Bx22, Bx26, Bx28, and Bx32 local bus routes and the BxM4 express bus route. In addition, the Harlem, New Canaan, and New Haven Metro North Railroads are available at the Fordham Station, which is approximately ¾-mile from the Project Site.

As shown in **Table 13-7**, there would be 398, 321, 411, 5,160, 416, and 3,736 subway trips during the weekday AM, midday, PM, and evening, and Saturday midday/afternoon and evening peak hours, respectively. Since the incremental subway trips would be greater than 200 during peak hours, a Level 2 screening assessment (presented in the section below) was prepared to identify the subway station elements and/or subway lines warranting a detailed analysis.



Transit Study Area

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-1

For incremental bus trips, the Proposed Project would result in 190, 176, 206, 103, 180, and 132 incremental bus trips during the weekday AM, midday, PM, and evening, and Saturday midday/afternoon and evening peak hours, respectively. Since the incremental bus trips would be greater than 200 during peak hours, a Level 2 screening assessment (presented in the section below) was prepared to identify if a detailed line-haul analysis is warranted for the area's bus routes.

Regarding trips made by commuter rail, the Proposed Project would result in 8, 6, 7, 827, 4, and 889 incremental rail trips during the weekday AM, midday, PM, and evening, and Saturday midday/afternoon and evening peak hours, respectively. While the Fordham Station is at an approximately ¾-mile distance from the project site, commuter rail trips, pertaining to those made to/from the weekday and Saturday evening events, have been conservatively assumed to connect with subway lines serving stations that are much closer to the Project Site. Accordingly, no further examinations of commuter rail operations are warranted.

CITYWIDE FERRY SERVICE (CWFS)

The Project Site is not located near any ferry service. Accordingly, the Proposed Project is not expected to generate any ferry trips and an analysis of ferry operations is not warranted.

PEDESTRIANS

As shown in **Table 13-7**, the Proposed Project would result in 1,880, 1,759, 2,173, 10,492, 2,373, and 10,981 incremental person trips during the weekday AM, midday, PM, and evening, and Saturday midday/afternoon and evening peak hours, respectively. Since the incremental person trips from the Proposed Project would be greater than 200 person trips during all six analysis peak hours, Level 2 screening assessments (presented in the section below) were prepared to identify the overall pedestrian study area warranting a detailed analysis.

LEVEL 2 SCREENING ASSESSMENT

As part of the Level 2 screening assessment, project generated trips were assigned to specific intersections, transit facilities, and pedestrian elements near the Project Site. The *CEQR Technical Manual* states that further quantified analyses to assess the potential impacts of a proposed project on the transportation system may be warranted if the trip assignments were to identify key intersections incurring 50 or more peak hour vehicle trips, subway stations incurring 200 or more peak hour transit trips, subway lines incurring 200 or more peak hour riders in a travel direction, bus routes incurring 50 or more peak hour riders in a travel direction, or pedestrian elements incurring 200 or more peak hour pedestrian trips.

TRAFFIC

Level 2 vehicle trip assignments were developed by distributing the peak hour trips presented in the Level 1 screening section above to the surrounding roadway network. Theses assignments took into account the regional and local origin/destination patterns of the Proposed Project's individual land uses and the parking resources provided on-site. Traffic assignments for the various programmed uses are discussed below.

Residential

The proposed residential use's auto trip assignments were developed based on the 2012–2016 U.S. Census ACS JTW origin-destination (O-D) estimates. Many of the destinations for the residential trips would remain in the Bronx (50 percent) and the remaining trips would be toward Manhattan (18 percent), New Jersey (16 percent), Upstate New York (9 percent), Brooklyn (4 percent), and Queens (3 percent). Residential trips would originate from the on-site parking facilities and use the most direct routes for travel to their destinations.

Commercial Office

Commercial Office auto trip assignments were assigned to the surrounding roadway network based on the 2012–2016 U.S. Census ACS Reverse Journey-to-Work (RJTW) O-D estimates. Many of the office trips would originate from Upstate New York (36 percent) and the Bronx (35 percent), with the remaining trips from New Jersey (10 percent), Queens (7 percent), Manhattan (5 percent), Long Island (4 percent), Connecticut (2 percent), and Staten Island (1 percent).

Local Retail

The local retail use is expected to serve patrons primarily from the immediate area. Auto trips were generally assigned from local origins within the neighborhood and adjacent residential areas. Approximately 30 percent of the vehicle trips would originate from north of the Project Site, 30 percent from the south, 30 percent from the east, and 10 percent from the west.

Light Industrial/Manufacturing

Auto trips generated by the light industrial/manufacturing use were assigned to the surrounding roadway network based on the 2012–2016 U.S. Census ACS RJTW O-D estimates in a similar manner as the commercial office use.

Recreational Community Facility

The recreational community facility use is expected to serve patrons primarily from the immediate area, with its vehicle trips assigned in a similar manner as the local retail use.

Museum

The museum component's trip assignment patterns would be similar to those for the local retail use and are expected to be primarily from the surrounding neighborhoods. Approximately 30 percent of the vehicle trips would originate from north of the Project Site, 30 percent from the south, 30 percent from the east, and 10 percent from the west.

Flex Space/Sports Fields (Non-Event Hours)

The recreational trips associated with these spaces (during non-event hours) would be made primarily from the immediate area and were assigned in a similar manner as the local retail use.

Event Venue (Event Hours)

The event venue is expected draw travel (during event hours) from a larger geographic area, including the outer boroughs and New Jersey. The vehicle trips associated with this

use would traverse major roadways to reach the general area surrounding the Project Site. Approximately 15 percent of the vehicle trips would originate from the north, 40 percent from the south, 40 percent from the east, and 5 percent from the west. Once in the immediate vicinity of the Project Site, trip patterns would be comparable to those for the local retail use. While most, if not all, of the event venue parking would be accommodated off-site, the associated trips were conservatively assigned to the on-site parking resources.

Taxis

Taxi pick-ups and drop-offs were assigned to Project Site frontages along West Kingsbridge Road, West 195th Street, Jerome Avenue, and Reservoir Avenue.

Deliveries

Truck delivery trips were assigned to DOT-designated truck routes, from regional origins via major access routes to the area, such as the Major Deegan Expressway, Fordham Road, Webster Avenue, and Jerome Avenue. At the Project Site, these trips would access on-site loading areas via West Kingsbridge Road, West 195th Street, Jerome Avenue, and Reservoir Avenue.

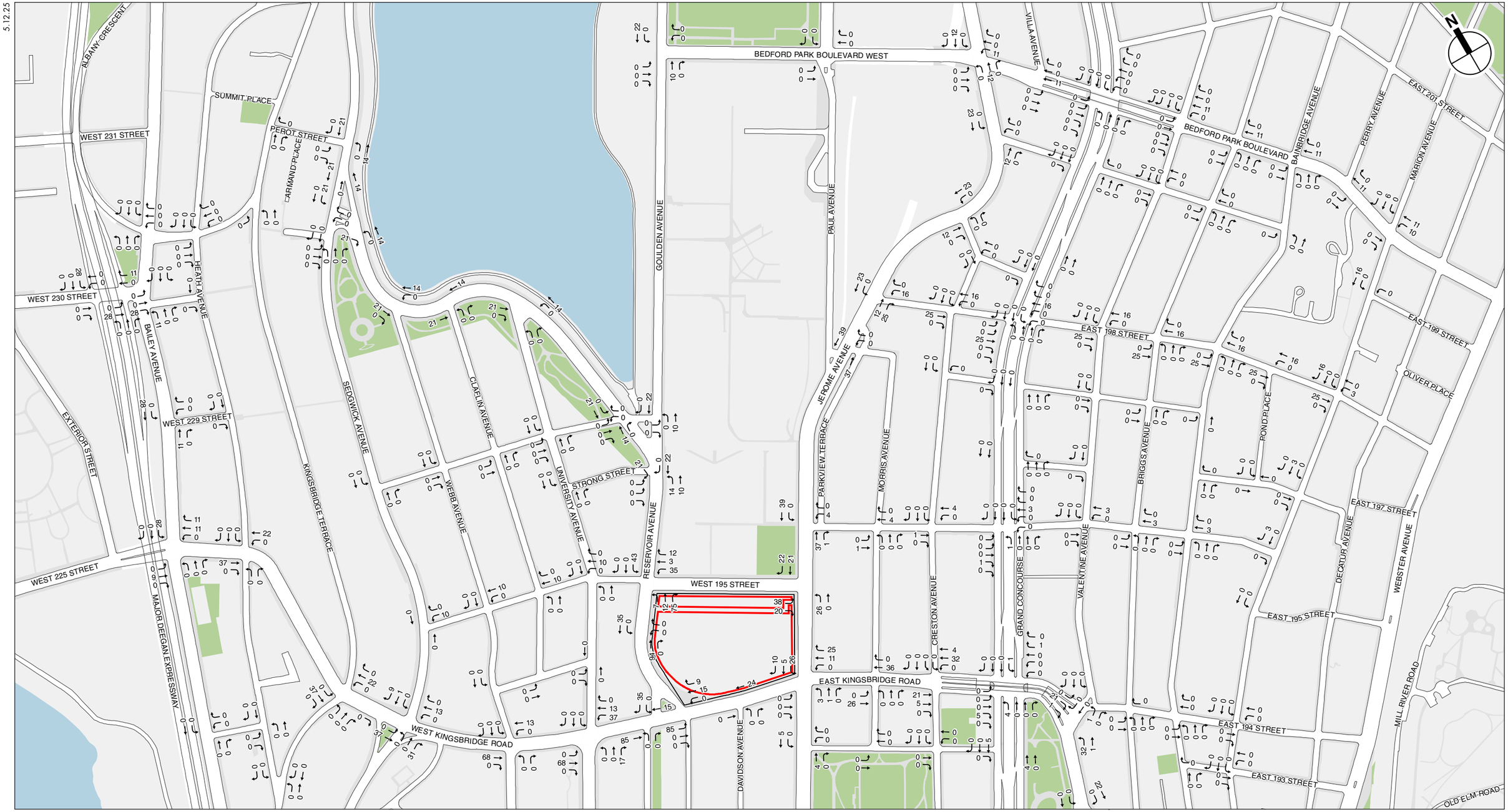
Summary

The Level 2 peak hour trip assignments for the Proposed Project are presented in **Figures 13-2 through 13-7**. As detailed in **Table 13-8** and illustrated in **Figure 13-8**, 31 intersections were selected to analyze potential impacts for the four conventional operational peak hours—weekday AM, midday, and PM and Saturday midday/afternoon, and 11 additional intersections (for a total of 42 intersections) were also selected to analyze potential impacts for the weekday and Saturday evening event peak hours.

Table 13-8
Traffic Level 2 Screening Analysis Results

Traffic Intersections	Incremental Vehicle Trips						Selected Analysis Locations (Excluding Event Hours)	Selected Analysis Locations (Including Event Hours)
	Weekday				Saturday			
	AM	MD	PM	EVE (Event)	MD/AN	EVE (Event)		
Major Deegan Expressway SB Ramp and West 230th Street	28	16	7	59	5	82		✓
Major Deegan Expressway SB Ramp and West Fordham Road	21	15	24	62	14	53		✓
Major Deegan Expressway NB Ramp and West 230th Street	39	32	33	74	11	92		✓
Major Deegan Expressway NB Ramp and West Fordham Road	43	26	36	457	26	619		✓
Bailey Avenue and West 230th Street	39	32	33	74	11	92		✓
Bailey Avenue and West 229th Street*	39	32	33	74	11	92		
Bailey Avenue and West 225th Street/West Kingsbridge Road	59	52	58	150	44	184	✓	✓
Cedar Avenue and West Fordham Road*	43	26	36	457	26	619		✓
Heath Avenue and West Kingsbridge Road*	59	52	58	150	44	184	✓	✓
Hampden Place and West Fordham Road*	43	26	36	457	26	619		
Kingsbridge Terrace and W Kingsbridge Road*	59	52	58	150	44	184	✓	✓
Landing Road and West Fordham Road*	43	26	36	457	26	619		
Sedgwick Avenue and Perot Street	35	31	38	14	33	6		
Sedgwick Avenue and Reservoir Avenue (Service)	35	31	38	14	33	6		
Sedgwick Avenue and Reservoir Avenue (Main North)	21	15	15	6	17	3		
Reservoir Avenue and Reservoir Avenue (Service)	35	31	38	14	33	6		
Sedgwick Avenue and West 195th Street	10	7	8	41	10	34		
Sedgwick Avenue and West Kingsbridge Road (West)^	37	26	19	121	22	165		
Sedgwick Avenue and West Kingsbridge Road (Main)^	60	52	58	203	44	230		
Sedgwick Avenue and West Kingsbridge Road (East)^	68	45	42	520	46	734	✓	✓
Sedgwick Avenue and Bailey Avenue	32	19	23	452	24	615		✓
Sedgwick Avenue and Webb Avenue*	32	19	23	452	24	615		
Sedgwick Avenue and West Fordham Road (West)	43	26	36	457	26	619		
Sedgwick Avenue and West Fordham Road (Main)	50	33	45	407	36	575	✓	✓
Loring Place North and West Fordham Road	19	14	22	8	12	6		
Webb Avenue and Reservoir Avenue	35	31	38	14	33	6		
Webb Avenue and West 195th Street	10	7	8	41	10	34		
Webb Avenue and West Kingsbridge Road*	81	64	73	561	58	765	✓	✓

5.12.25



Project Site

Armory and National Guard Sites

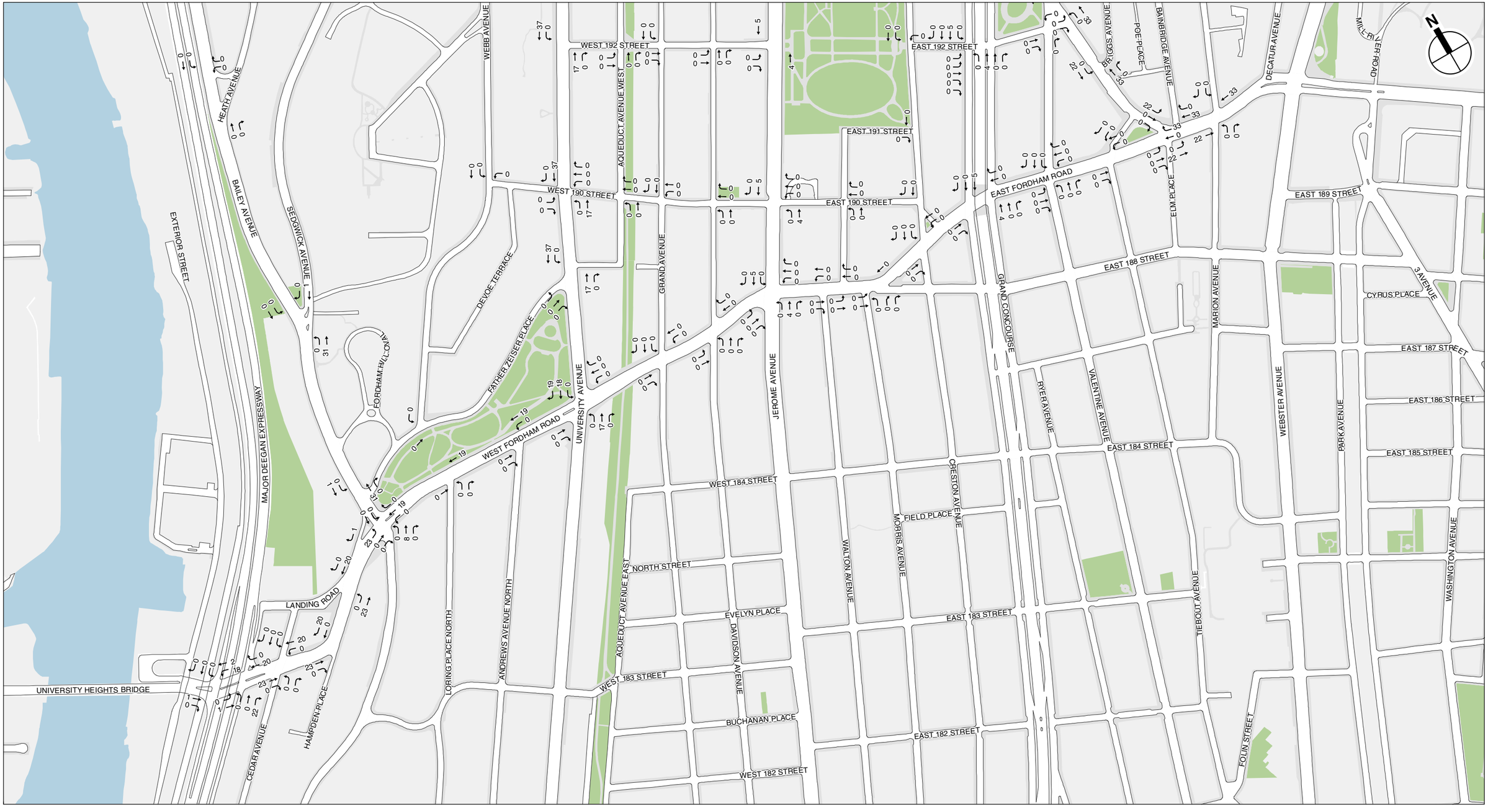
0 500 FEET

Proposed Project Generated Vehicle Trips
Weekday AM Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-2a

5.12.25

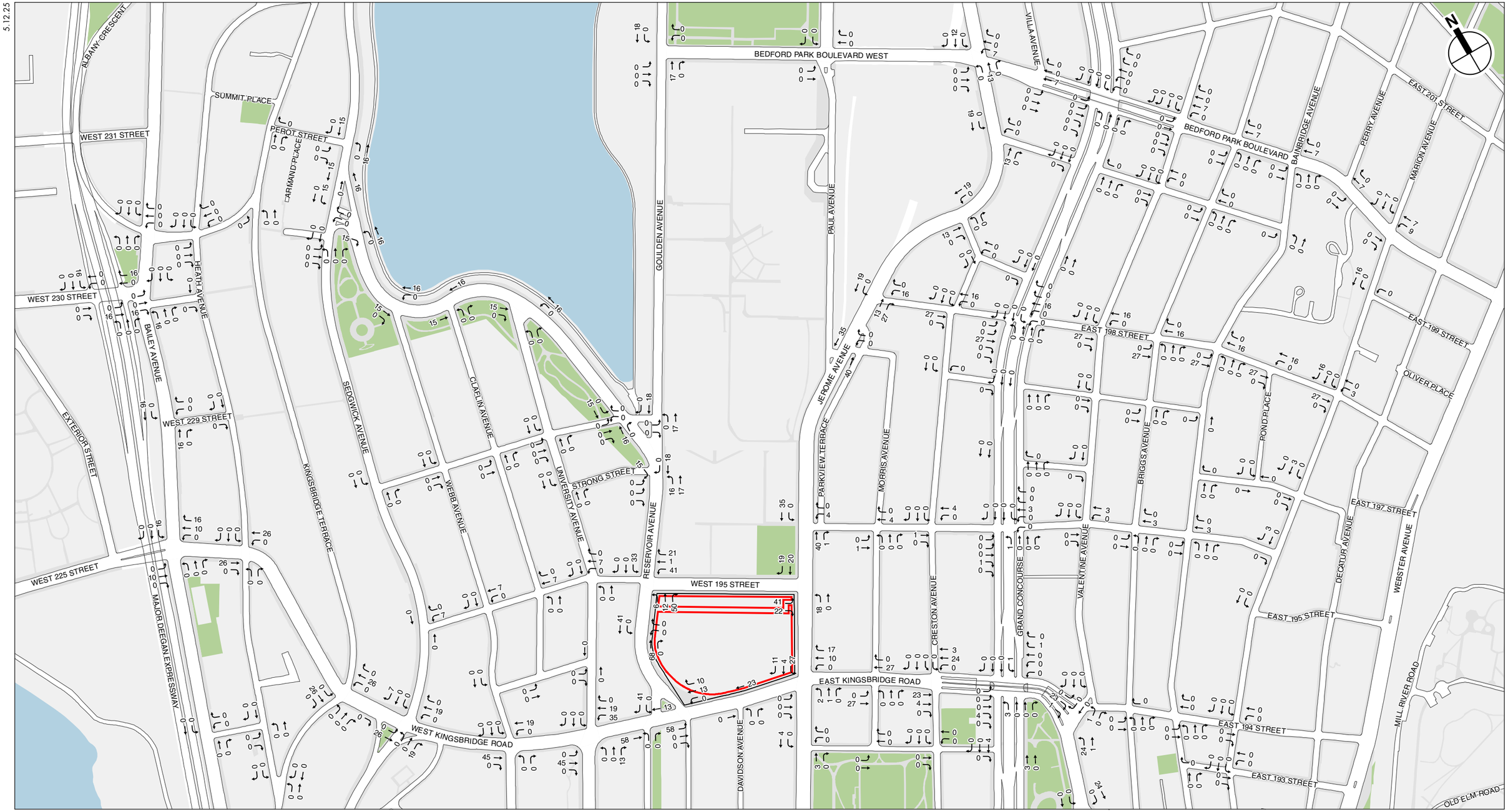


Proposed Project Generated Vehicle Trips
Weekday AM Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-2b

5.12.25



Project Site

Armory and National Guard Sites

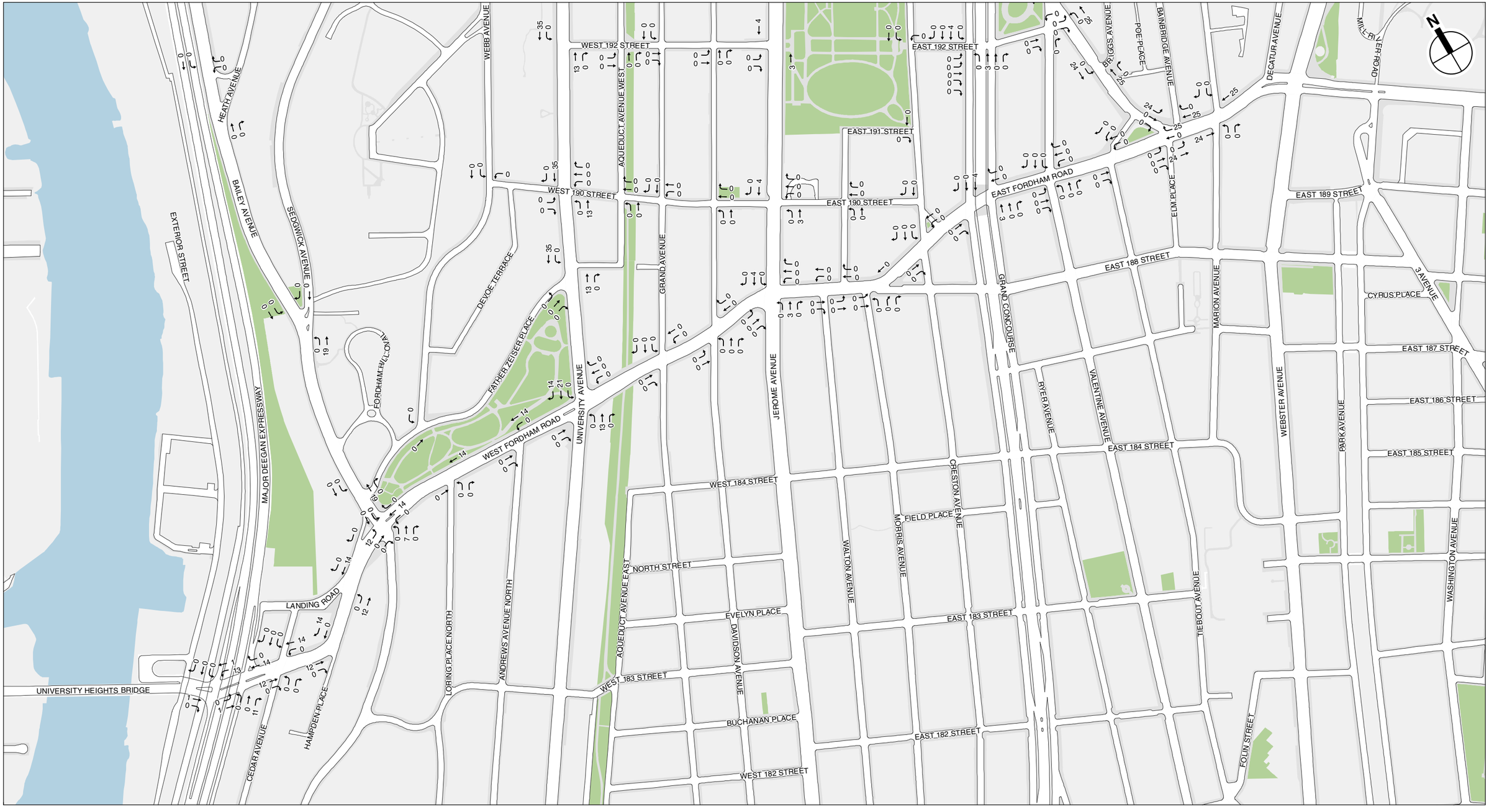
0 500 FEET

Proposed Project Generated Vehicle Trips
Weekday Midday Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-3a

5.12.25

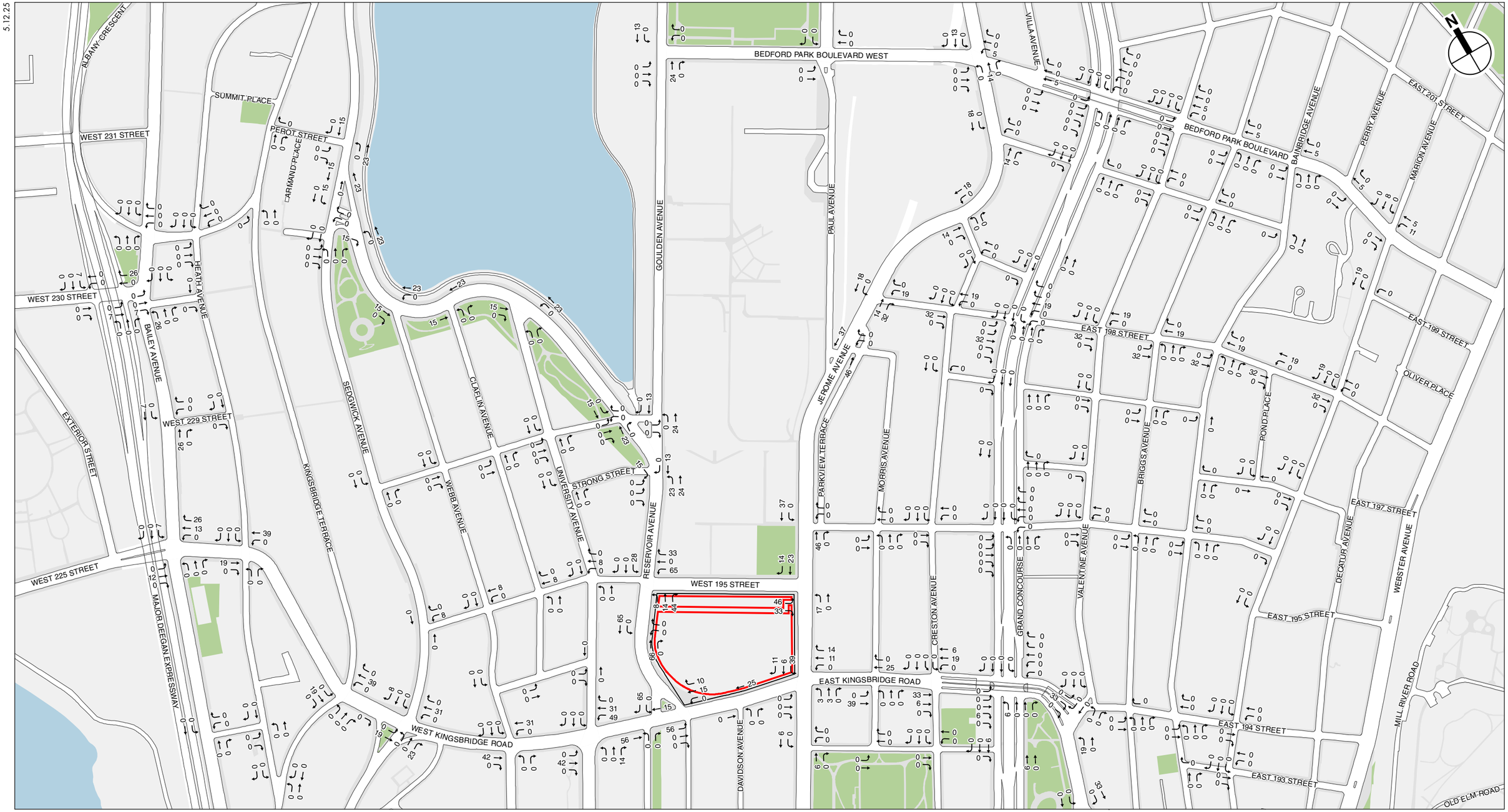


Proposed Project Generated Vehicle Trips
Weekday Midday Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-3b

5.12.25



Project Site

Armory and National Guard Sites

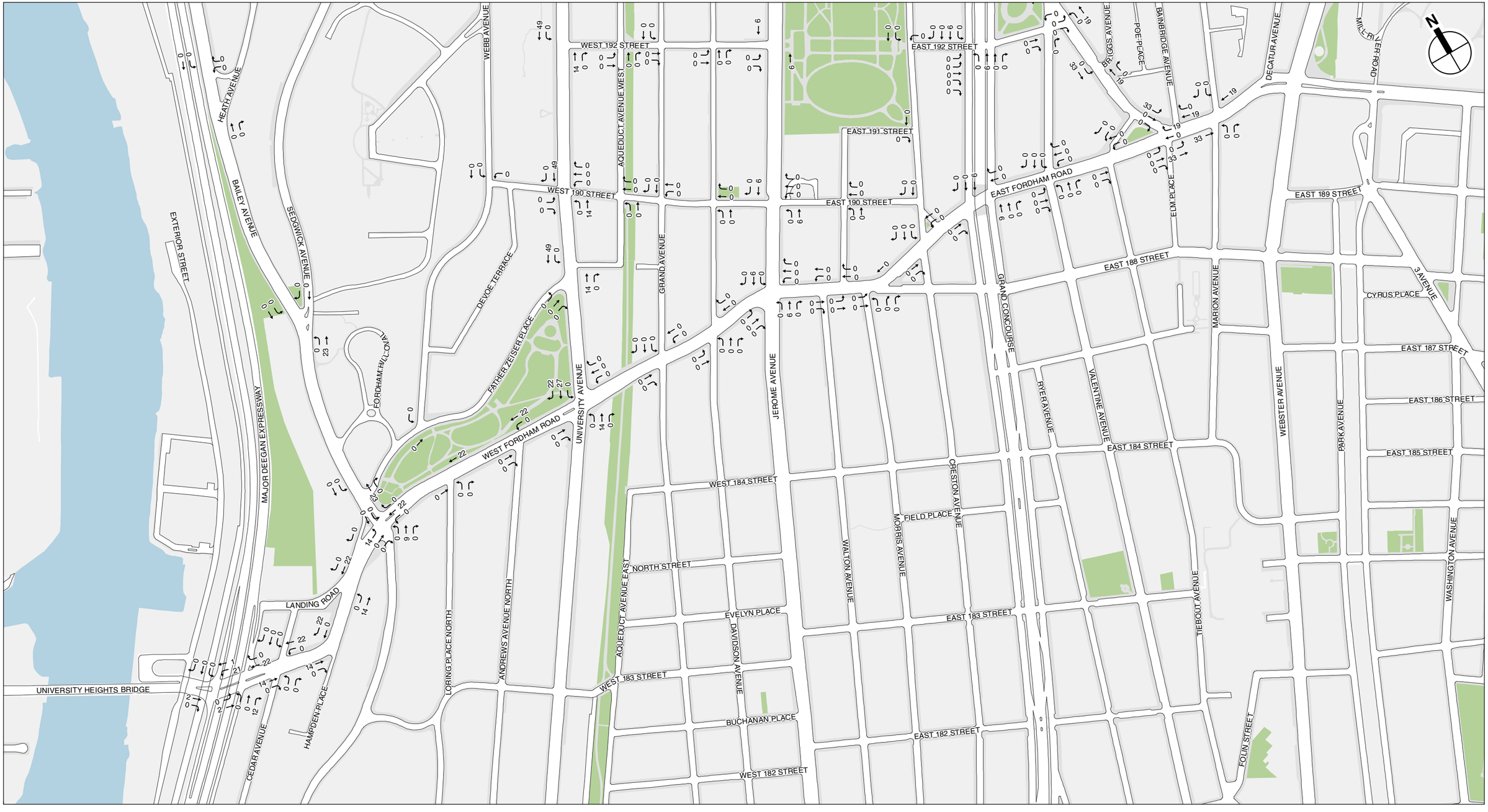
0 500 FEET

Proposed Project Generated Vehicle Trips
Weekday PM Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-4a

5.12.25

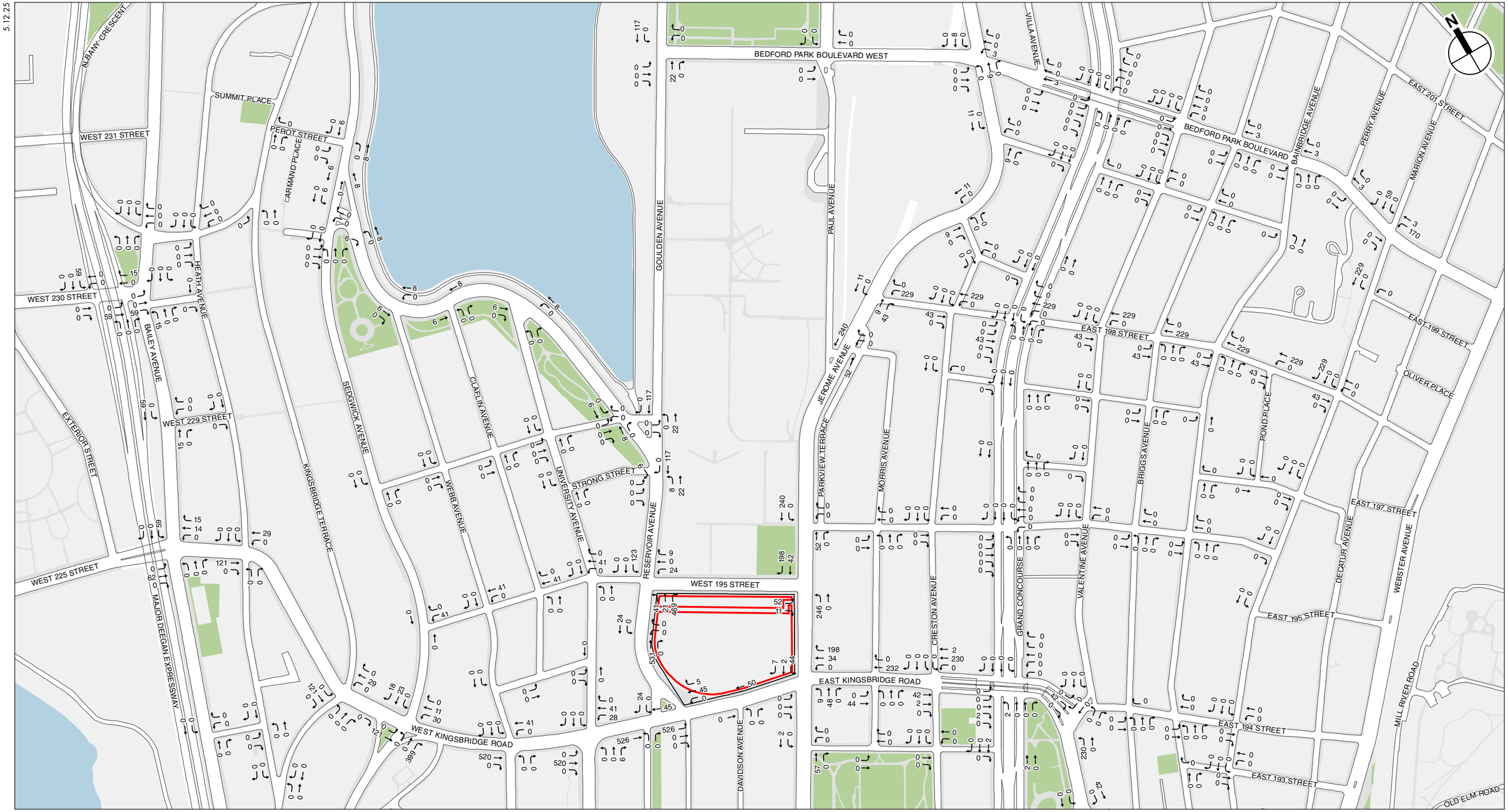


Proposed Project Generated Vehicle Trips
Weekday PM Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-4b

5.12.25



Project Site

Armory and National Guard Sites

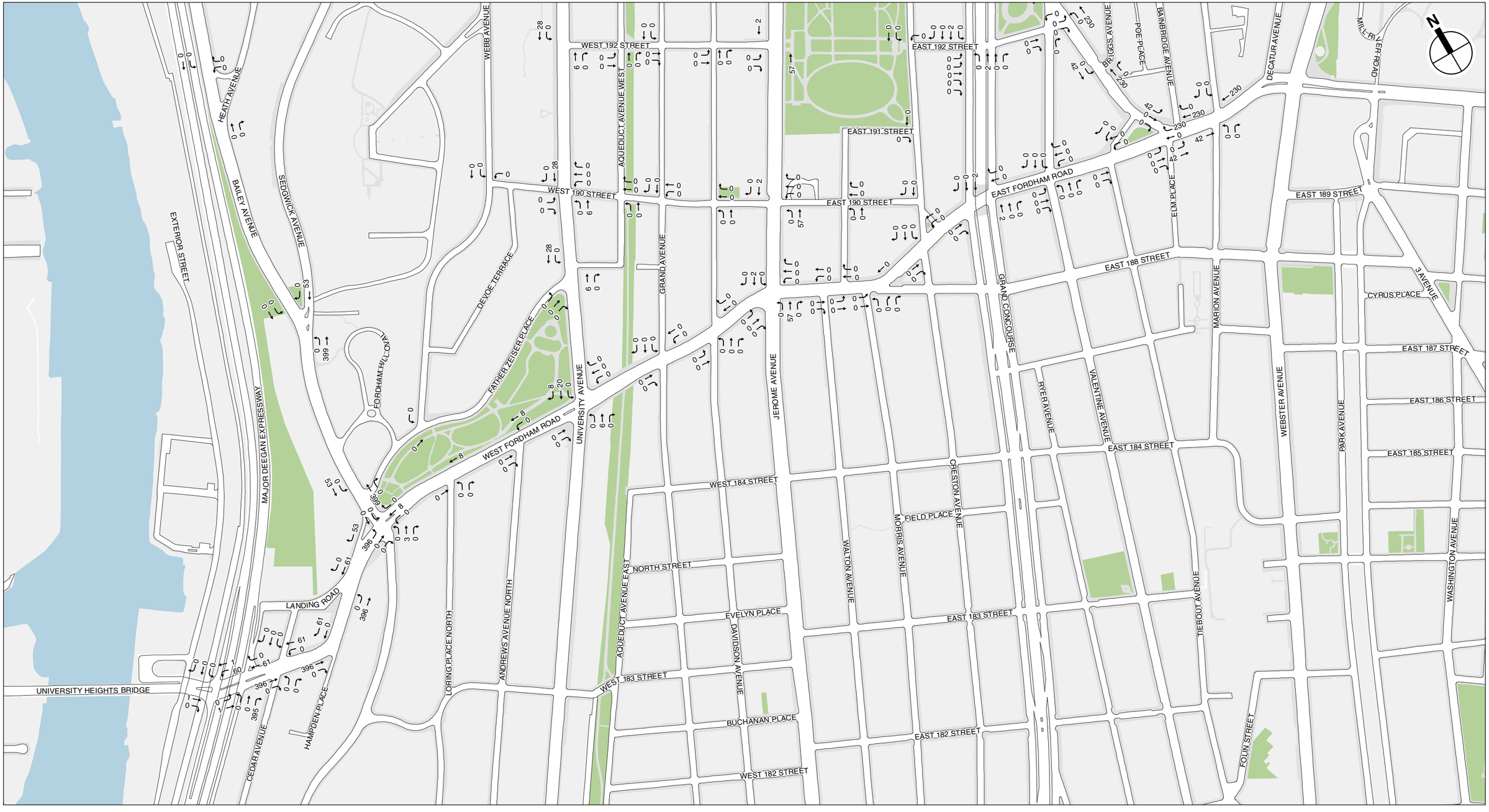
0 500 FEET

Proposed Project Generated Vehicle Trips
Weekday Evening Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-5a

5.12.25

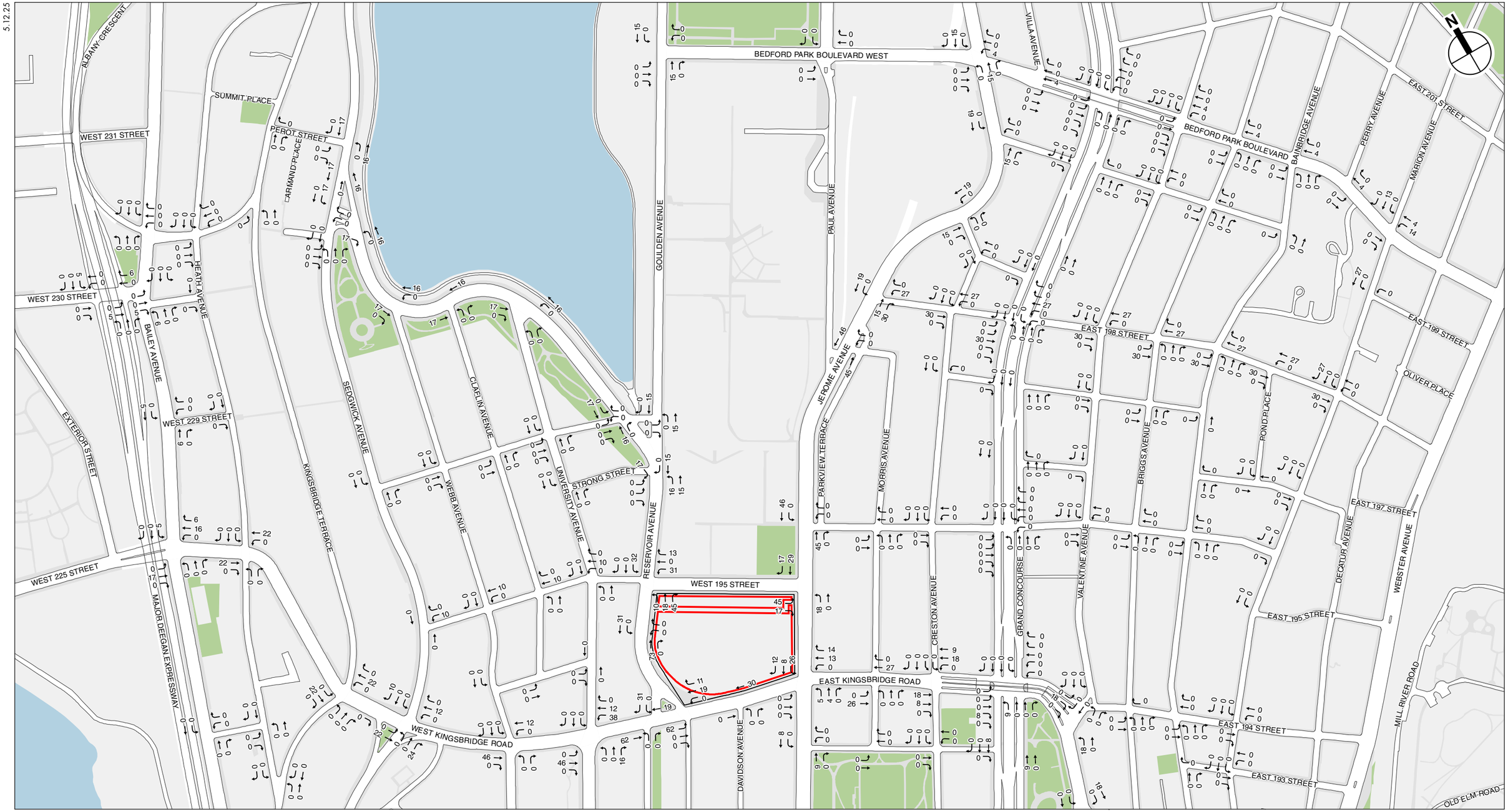


Proposed Project Generated Vehicle Trips
Weekday Evening Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-5b

5.12.25



Project Site

Armory and National Guard Sites

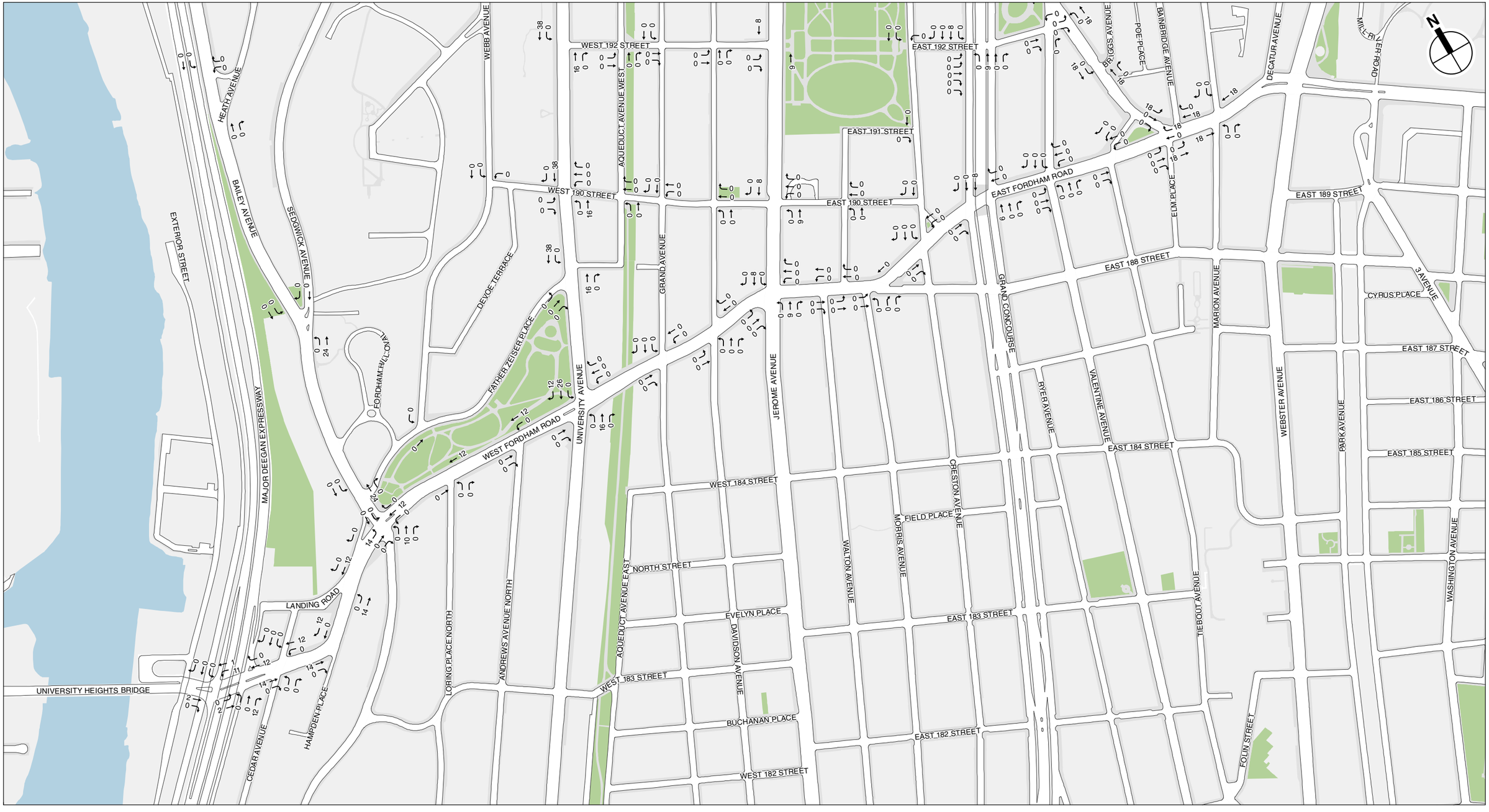
0 500 FEET

Proposed Project Generated Vehicle Trips
Saturday Midday/Afternoon Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-6a

5.12.25

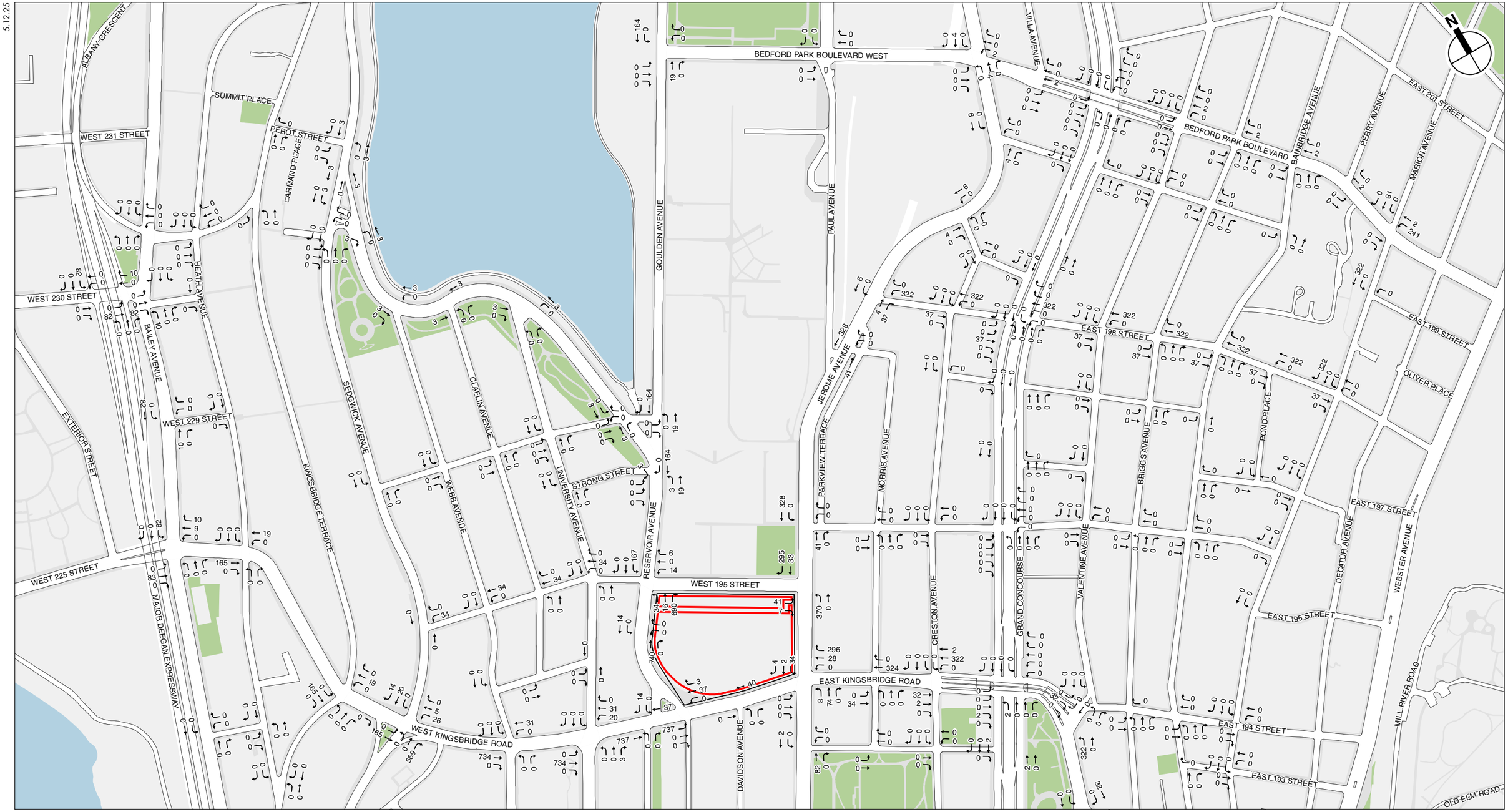


Proposed Project Generated Vehicle Trips
Saturday Midday/Afternoon Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-6b

5.12.25



Project Site

Armory and National Guard Sites

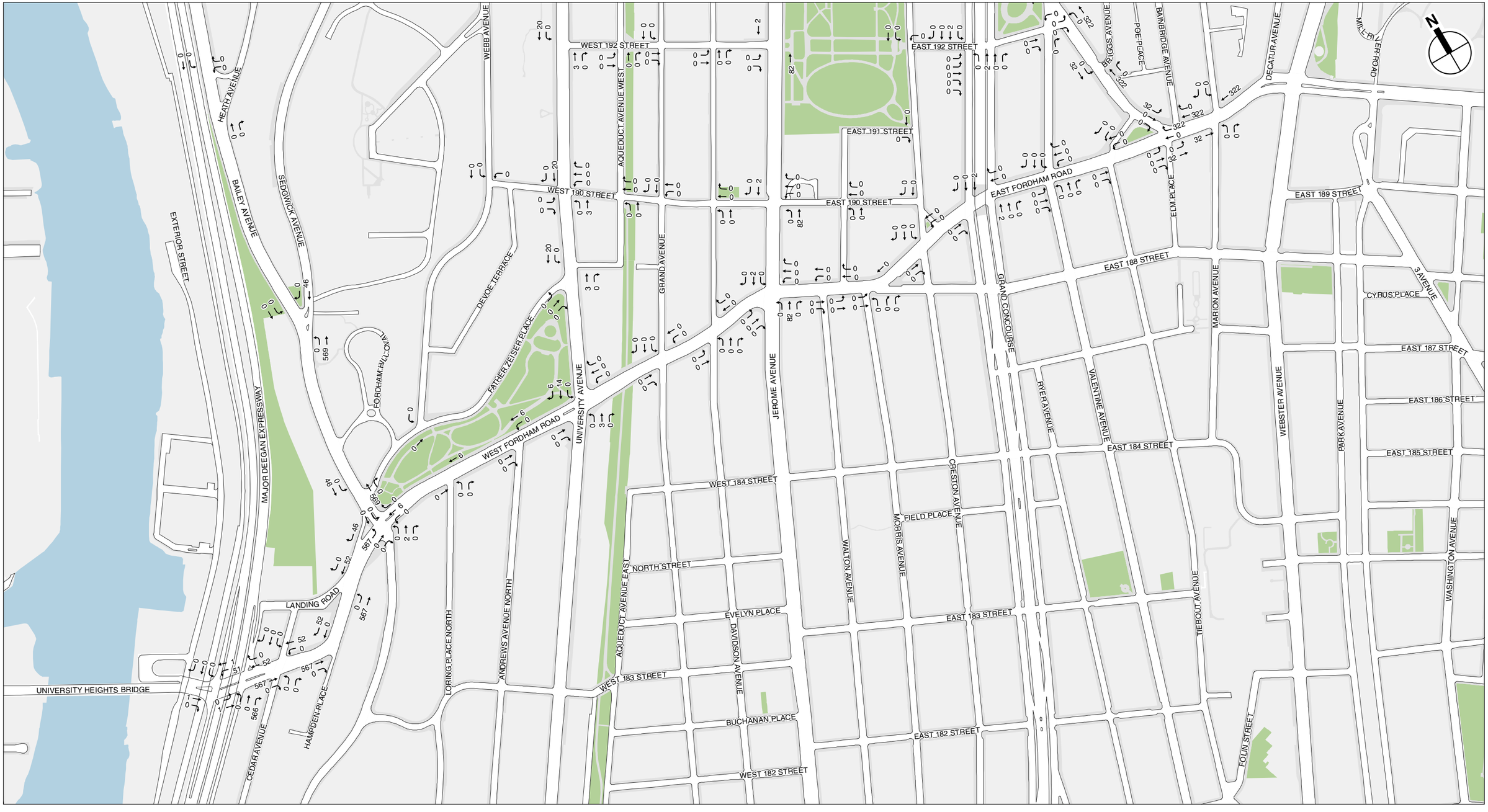
0 500 FEET

Proposed Project Generated Vehicle Trips
Saturday Evening Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-7a

5.12.25



Proposed Project Generated Vehicle Trips
Saturday Evening Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-7b



Project Site

Armory and National Guard Sites

Intersection Analyzed for All Peak Hours

Intersection Analyzed in Event Peak hours

0 1,000 FEET

Traffic Analysis Locations

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-8

Table 13-8
Traffic Level 2 Screening Analysis Results

Traffic Intersections	Incremental Vehicle Trips						Selected Analysis Locations (Excluding Event Hours)	Selected Analysis Locations (Including Event Hours)
	Weekday				Saturday			
	AM	MD	PM	EVE (Event)	MD/AN	EVE (Event)		
Andrews Avenue North and West Fordham Road	19	14	22	8	12	6		
Claflin Avenue and Reservoir Avenue	35	31	38	14	33	6		
Claflin Avenue and West 195th Street	10	7	8	41	10	34		
University Avenue and Reservoir Avenue	35	31	38	14	33	6		
University Avenue and Reservoir Avenue (NB right-turn)	21	15	15	6	17	3		
University Avenue and West 195th Street	10	7	8	41	10	34		
University Avenue and West Kingsbridge Road	135	112	136	595	112	788	✓	✓
University Avenue and West 192nd Street*	54	48	63	34	54	23		
University Avenue and West 190th Street*	54	48	63	34	54	23		
University Avenue and West 188th Street*	54	48	63	34	54	23		
University Avenue and West Fordham Road	54	48	63	34	54	23	✓	✓
Goulden Avenue and Bedford Park Boulevard*	32	35	37	139	30	183		✓
Goulden Avenue and West 197th Street*	32	35	37	139	30	183		✓
Reservoir Avenue and West 197th Street	35	31	38	14	33	6		✓
Reservoir Avenue/Goulden Avenue and Strong Street	67	66	75	153	63	189	✓	✓
Reservoir Avenue and West 195th Street	187	164	192	687	149	927	✓	✓
Reservoir Avenue/Aqueduct Avenue and West Kingsbridge Road^	135	112	136	595	112	788	✓	✓
Reservoir Avenue/Grand Avenue and West Kingsbridge Road (East)^	109	81	81	576	92	777	✓	✓
Davidson Avenue and West Kingsbridge Road*	24	23	25	50	30	40		
Jerome Avenue and Bedford Park Boulevard	35	32	32	20	34	10		
Jerome Avenue and East 199th Street	35	32	32	20	34	10		
Jerome Avenue and Minerva Place	35	32	32	20	34	10		
Jerome Avenue and East 198th Street	76	75	83	292	91	369	✓	✓
Jerome Avenue and Morris Avenue*	76	75	83	292	91	369	✓	✓
Jerome Avenue and East 196th Street	81	80	83	292	91	369	✓	✓
Jerome Avenue and East 195th Street	127	120	133	549	126	746	✓	✓
Jerome Avenue and West Kingsbridge Road/East Kingsbridge Road	81	72	87	342	82	446	✓	✓
Jerome Avenue and East 193rd Street*	9	7	12	59	17	84		
Jerome Avenue and West 192nd Street*	9	7	12	59	17	84		
Jerome Avenue and West 190th Street/East 190th Street*	9	7	12	59	17	84		
Jerome Avenue and West Fordham Road/East Fordham Road*	9	7	12	59	17	84		
Morris Avenue and East Kingsbridge Road*	62	54	64	276	53	358	✓	✓
Creston Avenue and East 198th Street*	41	43	51	272	57	359	✓	✓
Creston Avenue and East Kingsbridge Road*^	62	54	64	276	53	358	✓	✓
Grand Concourse and East 198th Street*	41	43	51	272	57	359	✓	✓
Grand Concourse and East 196th Street^	5	5	0	0	0	0	✓	✓
Grand Concourse and East Kingsbridge Road^	11	9	12	4	17	4	✓	✓
Grand Concourse and East 192nd Street*^	9	7	12	4	17	4	✓	✓
Valentine Avenue and East 198th Street*	41	43	51	272	57	359	✓	✓
Valentine Avenue and East Kingsbridge Road	55	49	52	272	36	354	✓	✓
East Kingsbridge Road and East 192nd Street*	55	49	52	272	36	354	✓	✓
East Kingsbridge Road and Briggs Avenue*	55	49	52	272	36	354		
Elm Place/Bainbridge Ave/East Kingsbridge Rd and East Fordham Rd	55	49	52	272	36	354	✓	✓
Briggs Avenue and East 198th Street*	41	43	51	272	57	359	✓	✓
Bainbridge Avenue and East 198th Street*	41	43	51	272	57	359	✓	✓
Pond Place and East 198th Street*	41	43	51	272	57	359		
Marion Avenue and Bedford Park Boulevard	27	23	24	232	31	324		✓
Marion Avenue and East 199th Street*	16	16	19	229	27	322		
Marion Avenue and East 198th Street	44	46	51	272	57	359	✓	✓
Marion Avenue and East Fordham Road*	55	49	52	272	36	354		

Notes:
Intersections with fewer than 25 project-generated vehicles trips in both peak hours are not presented in this table
✓ denotes intersection selected for the detailed traffic analysis
* denotes an intersection with 50 or more incremental peak hour vehicle trips that consist of only through movements where no conflicting pedestrians or conflicting vehicles can affect traffic capacity or delays
^ denotes high crash locations that have been recommended for analysis

TRANSIT

The Project Site is served by the NYCT No. 4, B, and D lines at two Kingsbridge Road subway stations. The most likely travel routes to and from the Project Site, prevailing travel patterns, commuter O-D summaries from the census data, and the anticipated locations of site access and egress were examined to develop subway trip assignment patterns. Project-generated subway trips are expected to be distributed between Kingsbridge Road (No. 4 line, approximately 65 percent) and Kingsbridge Road (B and

D lines, approximately 35 percent). Based on the assigned trips to the two stations' fare control area (turnstiles) and vertical circulation elements (stairways), two sets of turnstiles and 15 stairways were selected for analysis, as summarized below.

- Kingsbridge Road (No. 4) Station – Fare control area R290; stairways S1/M1, S3/M3, P1/P3, P2/P4, P5/P7, and P6/P8.
- Kingsbridge Road (B/D) Station – Fare control area N220; S7, M2A/B, M3A/B, M6/M7, M8/M9, M10/M11, M12/M13, M14/M15, and M16/M17.

The analysis of the above station elements would be prepared for the weekday AM and PM peak hours, as well as the weekday and Saturday evening event peak hours. Regarding subway line-haul conditions, project-generated trips would not exceed 200 for any of the three subway lines in a direction of travel during the typically evaluated weekday AM and PM peak hours. For the weekday and Saturday evening event peak hours, NYCT will, between Draft and Final EIS, provide background ridership data for an assessment of ridership conditions during these event peak hours.

The Project Site is also served by the Bx1, Bx2, Bx3, Bx9, Bx12, Bx22, Bx26, Bx28, and Bx32 local bus routes, and the BxM4 express bus route. The distribution of the projected bus trips across these area bus routes yielded incremental trips of 20 or fewer bus trips along each of the 10 bus routes in a direction of travel. Accordingly, a detailed bus line-haul analysis is not warranted, and the Proposed Project is not expected to result in any significant adverse bus line-haul impacts.

PEDESTRIANS

Level 2 pedestrian trip assignments to area sidewalks, corner reservoirs, and crosswalks were individually developed for all the proposed uses and were prepared for the six peak hours considered for the Level 1 screening assessment. Some of the specific pedestrian assignment patterns are noted below.

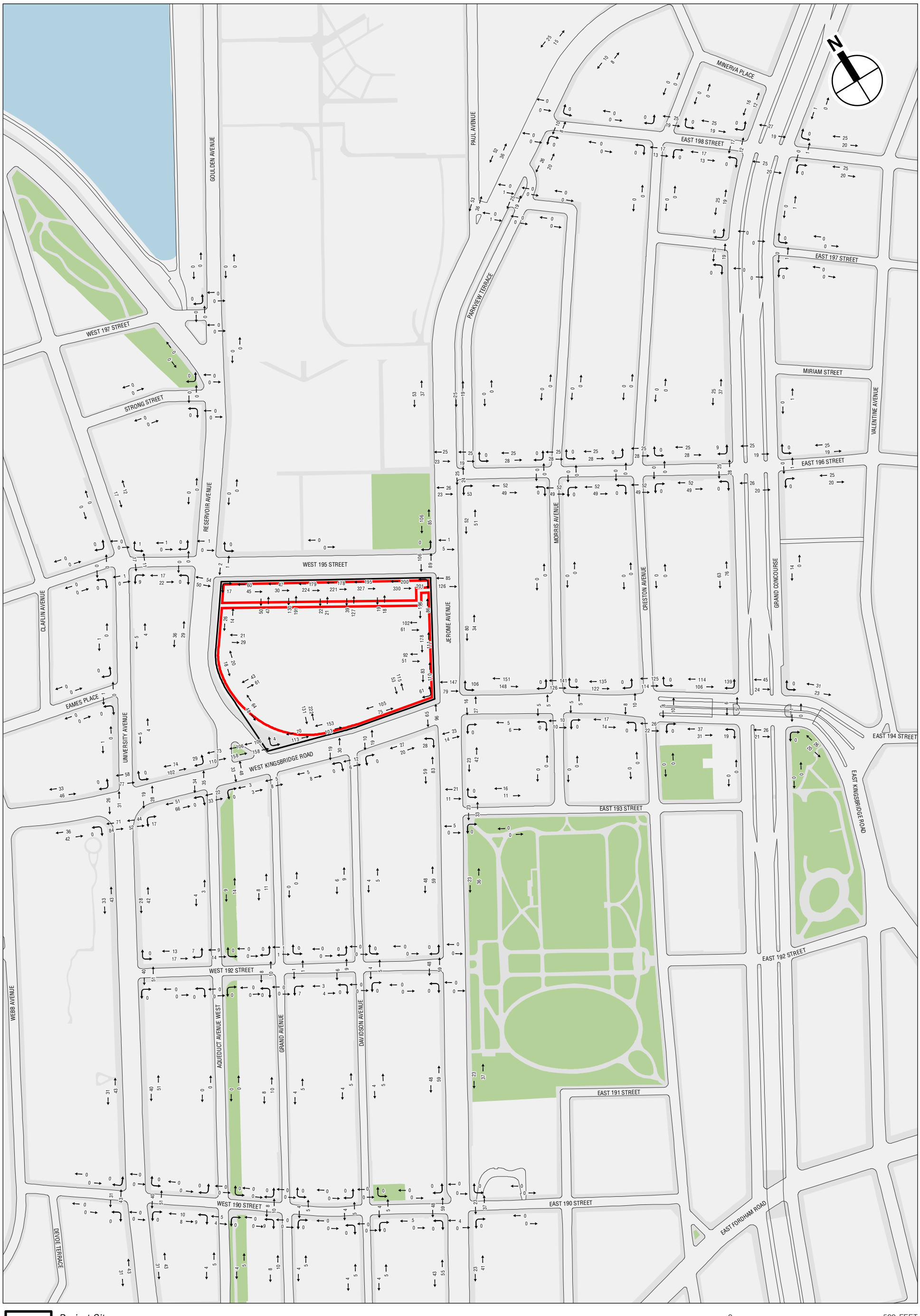
- Auto trips (non-event related) were assigned to on-site parking, with direct connections to the uses on the Project Site
- Taxi trips would get dropped off and picked up along Jerome Avenue, Kingsbridge Road, Reservoir Avenue, and West 195th Street.
- Subway trips would take the Kingsbridge Road (No.4 line) and exit from the west sidewalk of Jerome Avenue between Kingsbridge Road and West 195th Street, while approximately 35 percent of subway trips would take Kingsbridge Road (B and D lines) and exit the subway station from the northwest corner of East Kingsbridge Road and Grand Concourse or northwest corner of East 196th Street and Grand Concourse and walk to the Development Site.
- Railroad trips would be made to/from the Metro-North Railroad Fordham Station. For the weekday and Saturday evening event peak periods, the projected railroad trips were assumed to connect with subway lines serving stations that are much closer to the Project Site.
- Bus trips would connect with nearby stops located along Jerome Avenue, West Kingsbridge Road, Reservoir Avenue, West 195th Street, Grand Concourse, Bedford Park Boulevard West, and Fordham Road.

- Walk-only trips were distributed to the surrounding area in consideration of population density and land use characteristics.

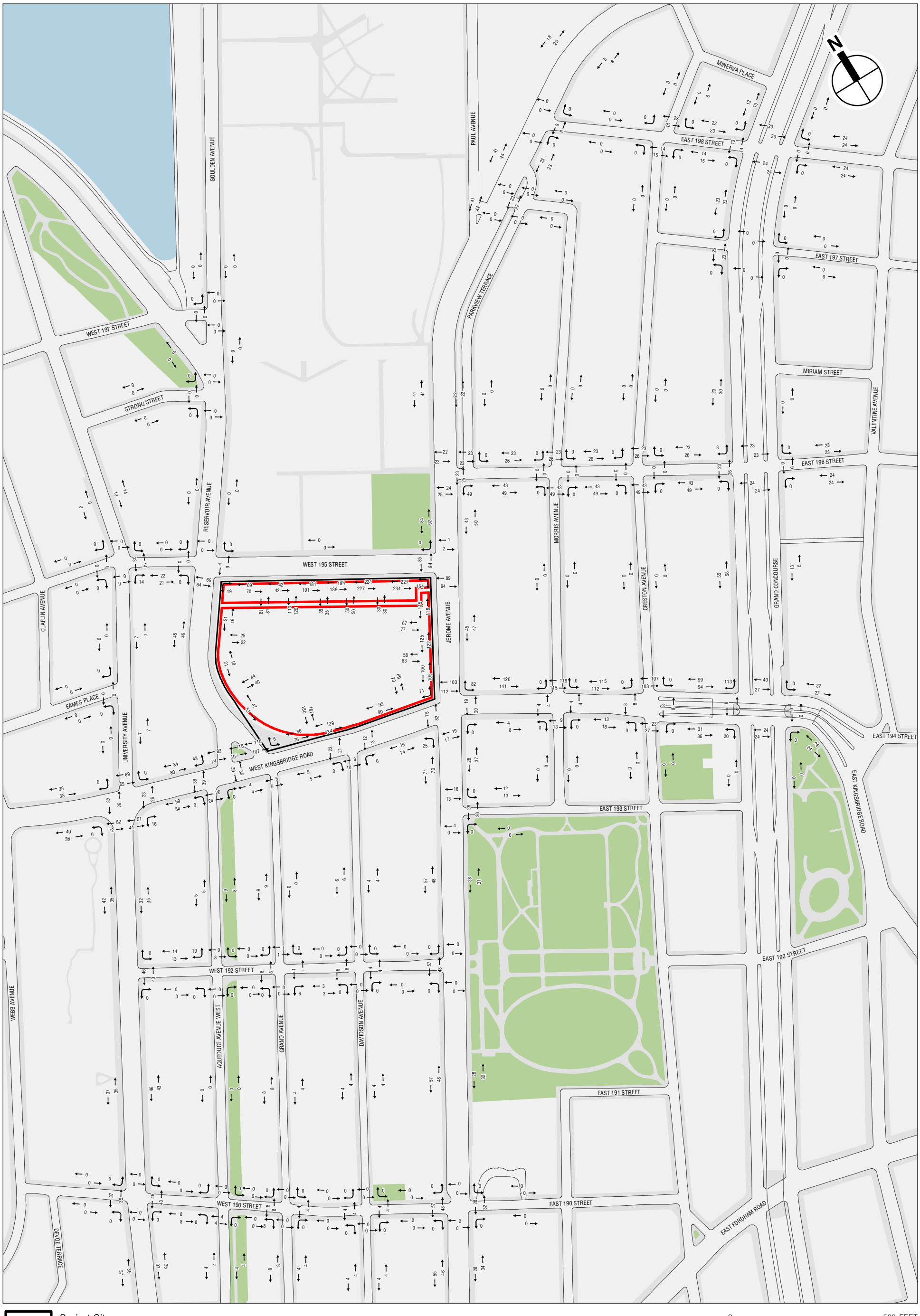
Based on the detailed pedestrian trip assignments shown in **Figures 13-9 through 13-14**, 18 sidewalk segments, 17 corner reservoirs, and eight crosswalks, comprising the pedestrian study area for the weekday AM, midday, PM and Saturday midday/afternoon peak hours, and 25 sidewalk segments, 19 corner reservoirs, and 12 crosswalks, comprising the pedestrian study area for the weekday and Saturday evening event peak hours. The pedestrian Level 2 assignment results and the selected pedestrian analysis locations are summarized in **Table 13-9** and Illustrated in **Figure 13-15**.

Table 13-9
Pedestrian Level 2 Screening Analysis Results

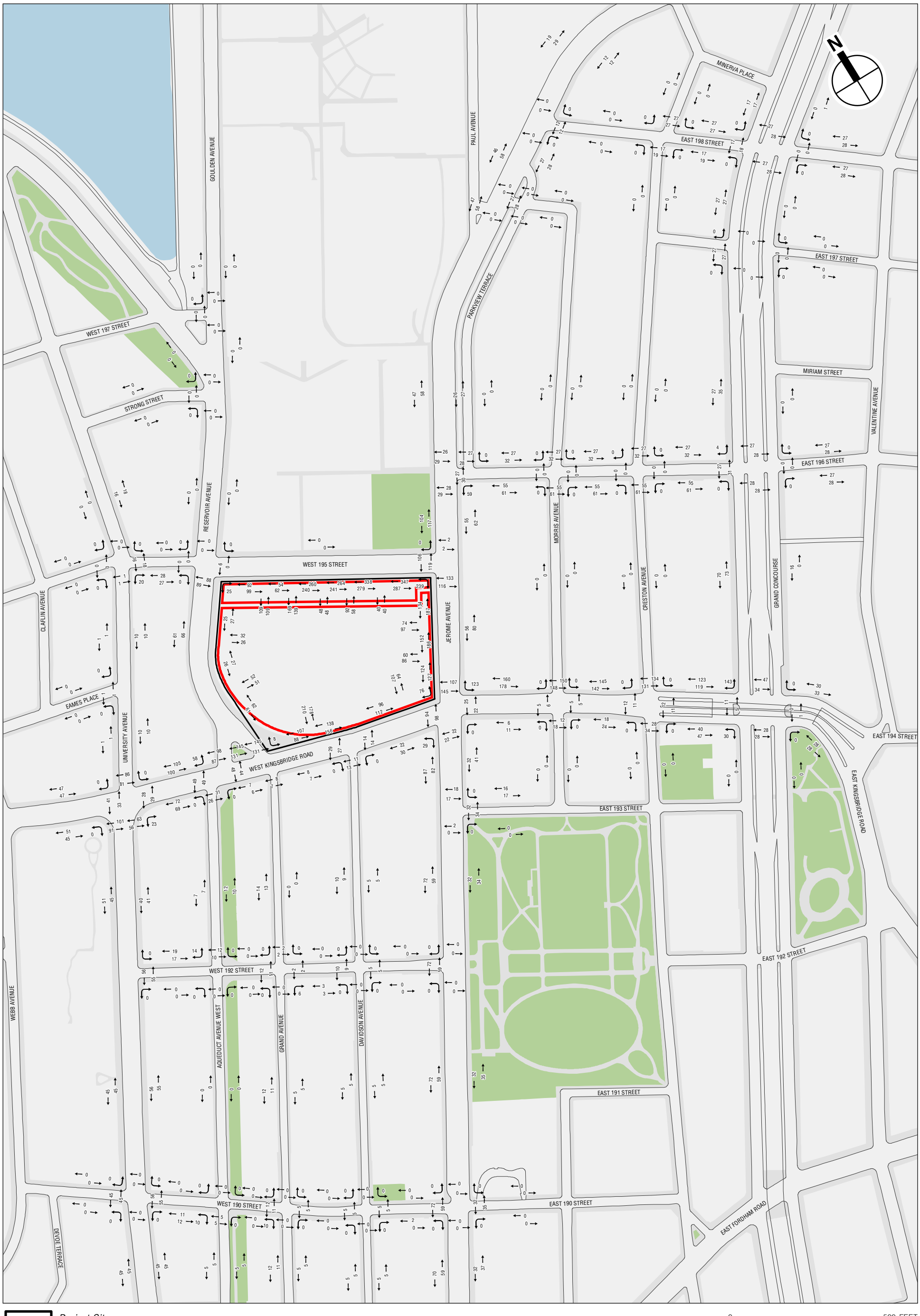
Pedestrian Elements	Incremental Pedestrian Trips						Selected Analysis Locations (Excludes Event Peaks)	Selected Analysis Locations (Includes Event Peaks)
	Weekday				Saturday			
	AM	MD	PM	EVE (Event)	Midday	EVE (Event)		
University Avenue and West Kingsbridge Road								
N Crosswalk	135	134	167	135	199	142		
S Crosswalk (E)	96	95	119	99	147	103		
S Crosswalk (W)	155	154	192	155	229	166		
NE Corner	182	183	224	180	272	195	✓	✓
SE Corner	160	160	199	163	247	176	✓	✓
SW Corner	155	154	192	155	229	166		
NW Corner	192	192	241	194	286	202	✓	✓
N Sidewalk along W Kingsbridge Rd bet University Ave and Reservoir Ave	176	164	205	167	249	181	✓	✓
E Sidewalk along University Ave bet W Kingsbridge Rd and W 192nd St	70	67	81	67	101	76		
S Sidewalk along W Kingsbridge Rd bet University Ave and Reservoir Ave	117	113	141	115	175	124		
W Sidewalk along University Ave bet W Kingsbridge Rd and W 192nd St	76	77	96	76	115	81		
S Sidewalk along W Kingsbridge Rd bet Webb Ave and University Ave	78	76	96	77	113	82		
N Sidewalk along W Kingsbridge Rd bet Webb Ave and University Ave	79	76	94	77	113	82		
University Avenue and West 192nd Street								
E Crosswalk	91	89	111	95	141	101		
W Crosswalk	74	72	90	73	110	79		
NE Corner	91	89	111	95	141	101		
SE Corner	91	89	111	95	141	101		
E Sidewalk along University Ave bet W 192nd St and W 190th St	91	89	111	95	141	101		
W Sidewalk along University Ave bet W 192nd St and W 190th St	74	72	90	73	110	79		
University Avenue and West 190th Street								
E Crosswalk	91	89	111	95	141	101		
W Crosswalk	74	72	90	73	110	79		
NE Corner	91	89	111	95	141	101		
SE Corner	91	89	111	95	141	101		
SW Corner	74	72	90	73	110	79		
NW Corner	74	72	90	73	110	79		
E Sidewalk along University Ave bet W 190th St and W 188th St	74	72	90	73	110	79		
W Sidewalk along University Ave bet W 190th St and Father Zeiser Pl	74	72	90	73	110	79		
Reservoir Avenue and Strong Street								
E Sidewalk along Reservoir Ave bet Strong St and W 195th St	0	0	0	2805	0	4590		✓
Reservoir Avenue and West 195th Street								
S Crosswalk	3	4	6	1408	6	2299		✓
S Crosswalk	104	130	177	133	210	125	✓	✓
NE Corner	4	4	6	1408	6	2299		✓
SE Corner	124	153	208	1560	246	2442	✓	✓
SW Corner	104	130	177	133	210	125	✓	✓
E Sidewalk along Reservoir Ave bet W 195th St and Amory's NW Ent	40	40	52	1439	58	2340		✓
S Sidewalk along W 195th St bet Reservoir Ave and Nat Guard's W Ret Ents	105	139	191	1545	221	2421	✓	✓
W Sidewalk along Reservoir Ave bet W 195th St and W Kingsbridge Rd	65	91	127	93	146	85		
S Sidewalk along W 195th St bet Nat Guard's W Ret and Residential/Amory N Main Ents	77	84	116	1489	133	2369		✓
S Sidewalk along W 195th St bet Residential/Amory N Main and Nat Guard's Mid Ret Ents	403	372	500	442	588	421	✓	✓
Reservoir Avenue and West Kingsbridge Road								
N Crosswalk	183	156	185	157	231	181	✓	✓
E Crosswalk	81	74	92	76	113	84		
W Crosswalk	69	78	98	78	119	79		
SW Corner	124	128	155	125	189	133		
NW Corner	281	277	341	279	417	299	✓	✓
E Sidewalk along Reservoir Ave bet Amory's SW Main Ent and Loading Dock Ents	38	40	53	238	66	250		✓
N Sidewalk along W Kingsbridge Rd at Barnhill Square	264	225	276	232	342	266	✓	✓
Goulden Avenue and East 197th Street								
N Crosswalk	0	0	0	1403	0	2295		✓
S Crosswalk	0	0	0	1403	0	2295		✓



Project Generated Pedestrian Trips
Weekday AM Peak Hour



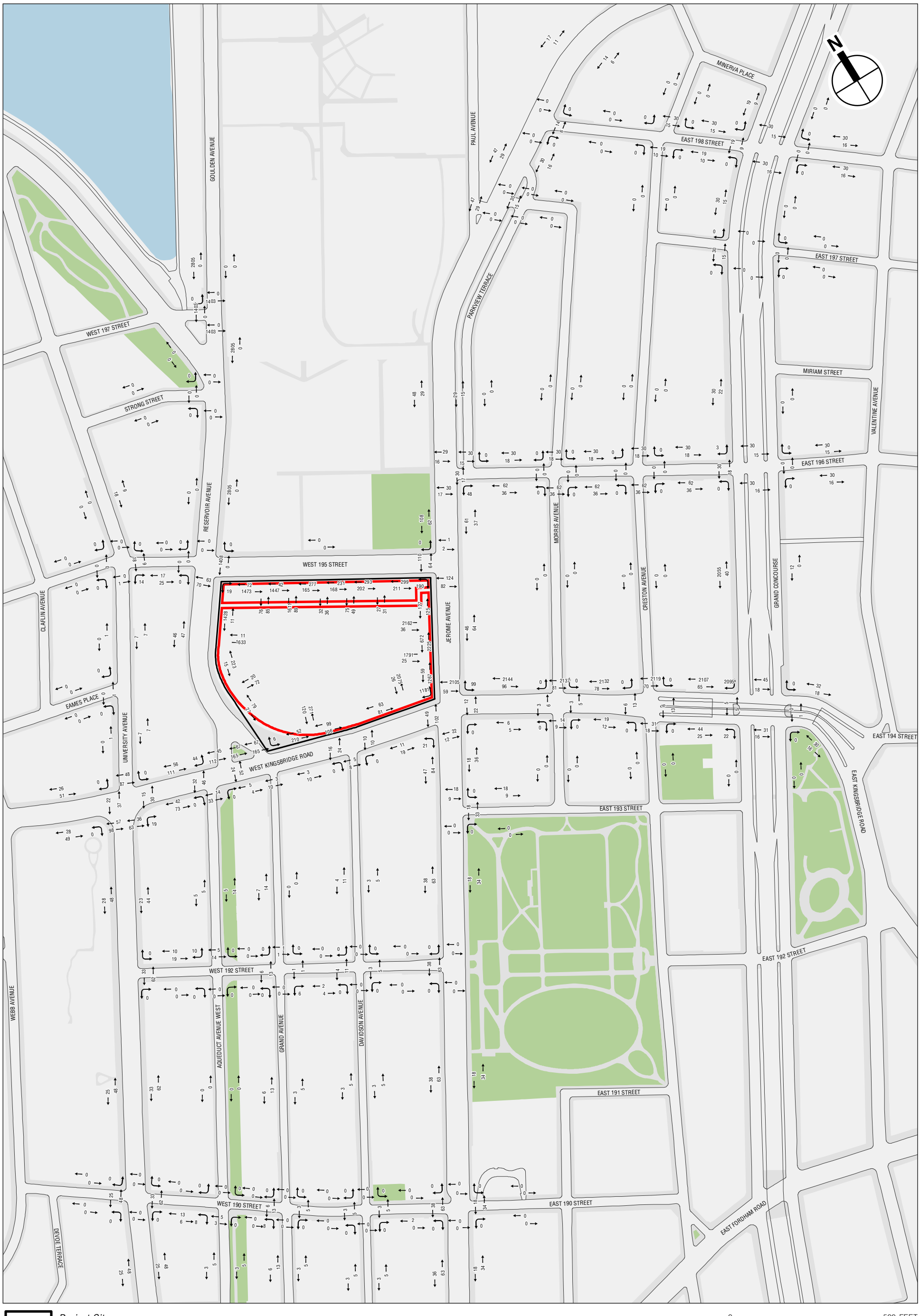
Project Generated Pedestrian Trips
Weekday Midday Peak Hour



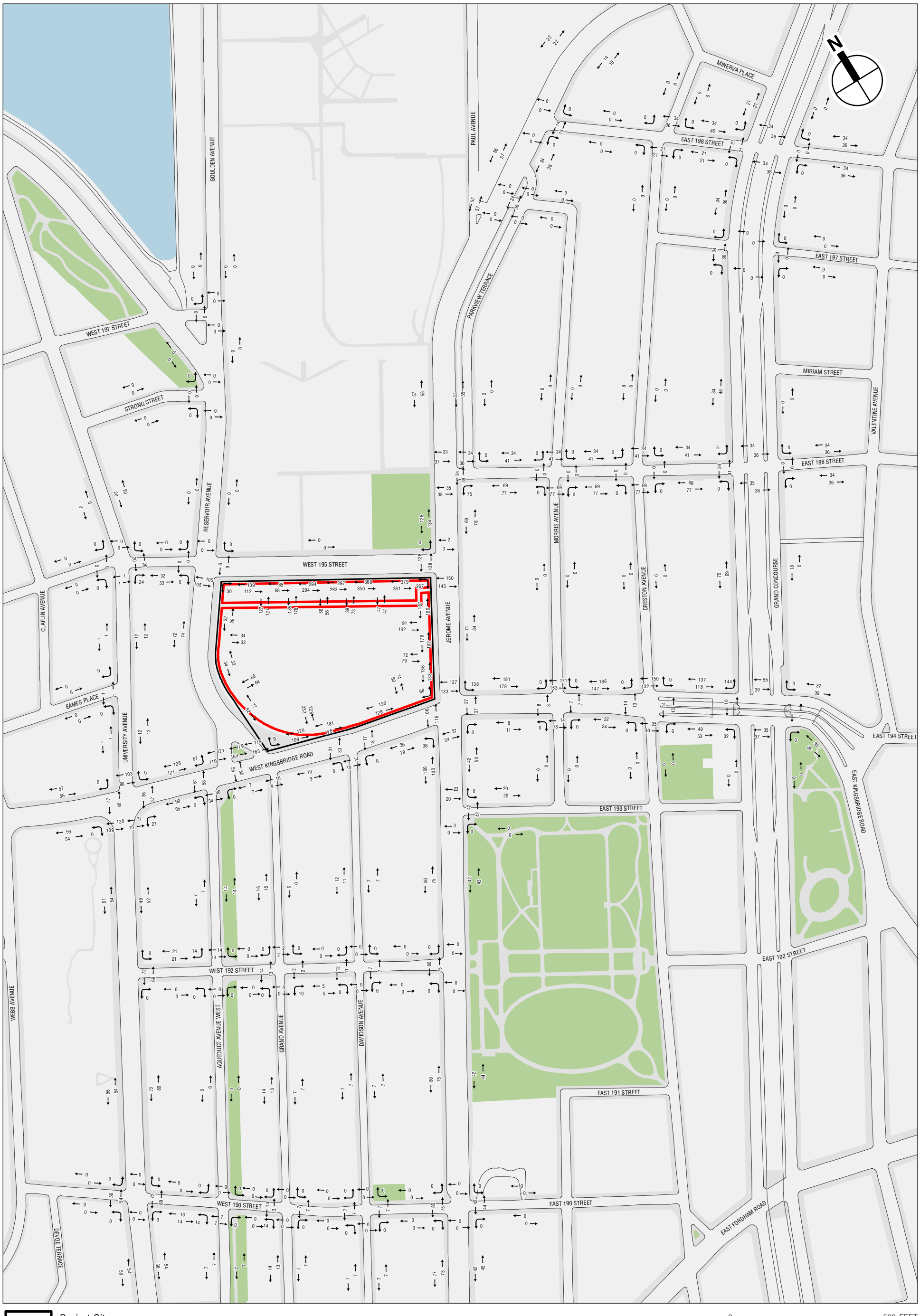
Project Generated Pedestrian Trips
Weekday PM Peak Hour

KINGSBRIDGE ARMORY REDEVELOPMENT

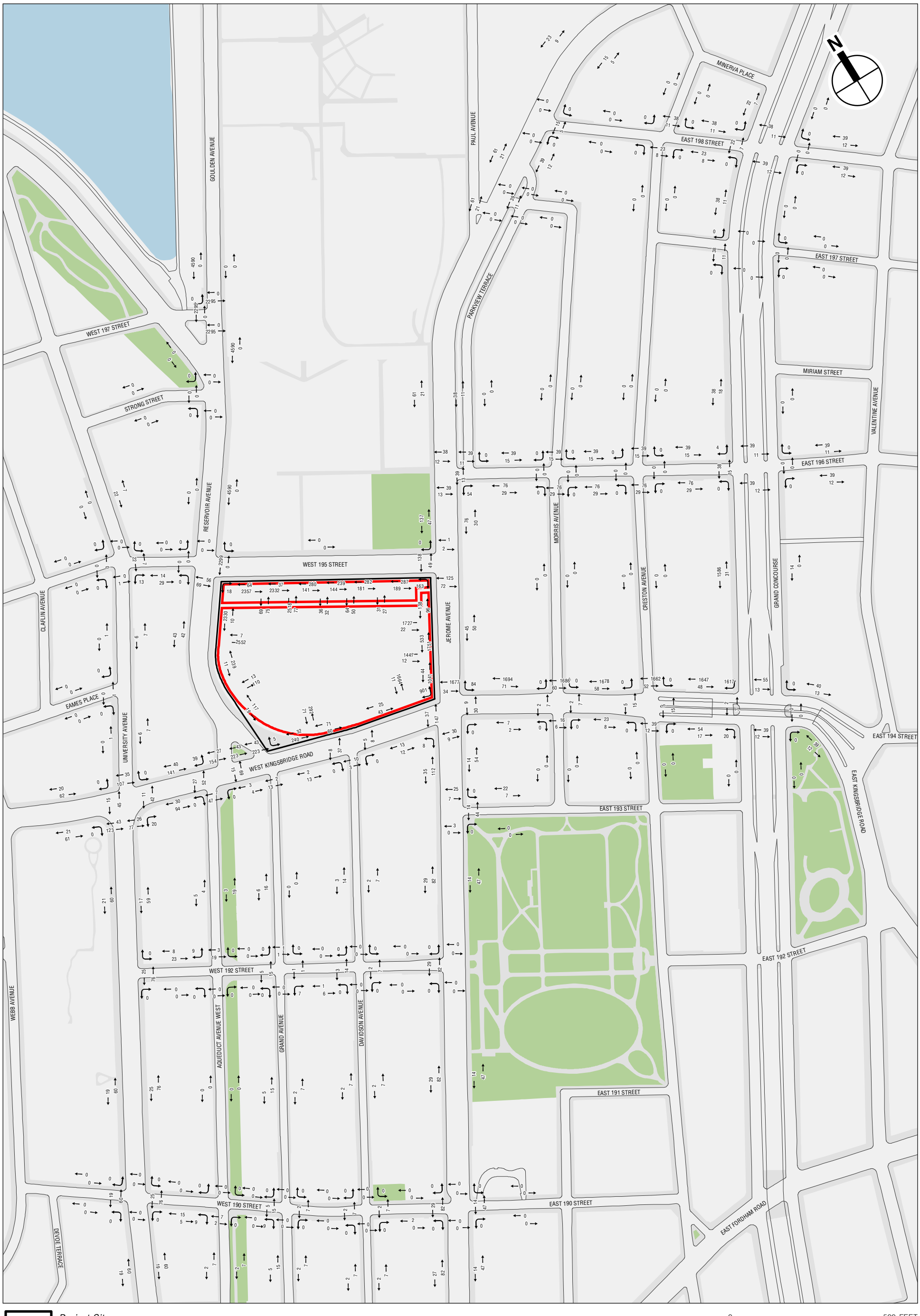
Figure 13-11



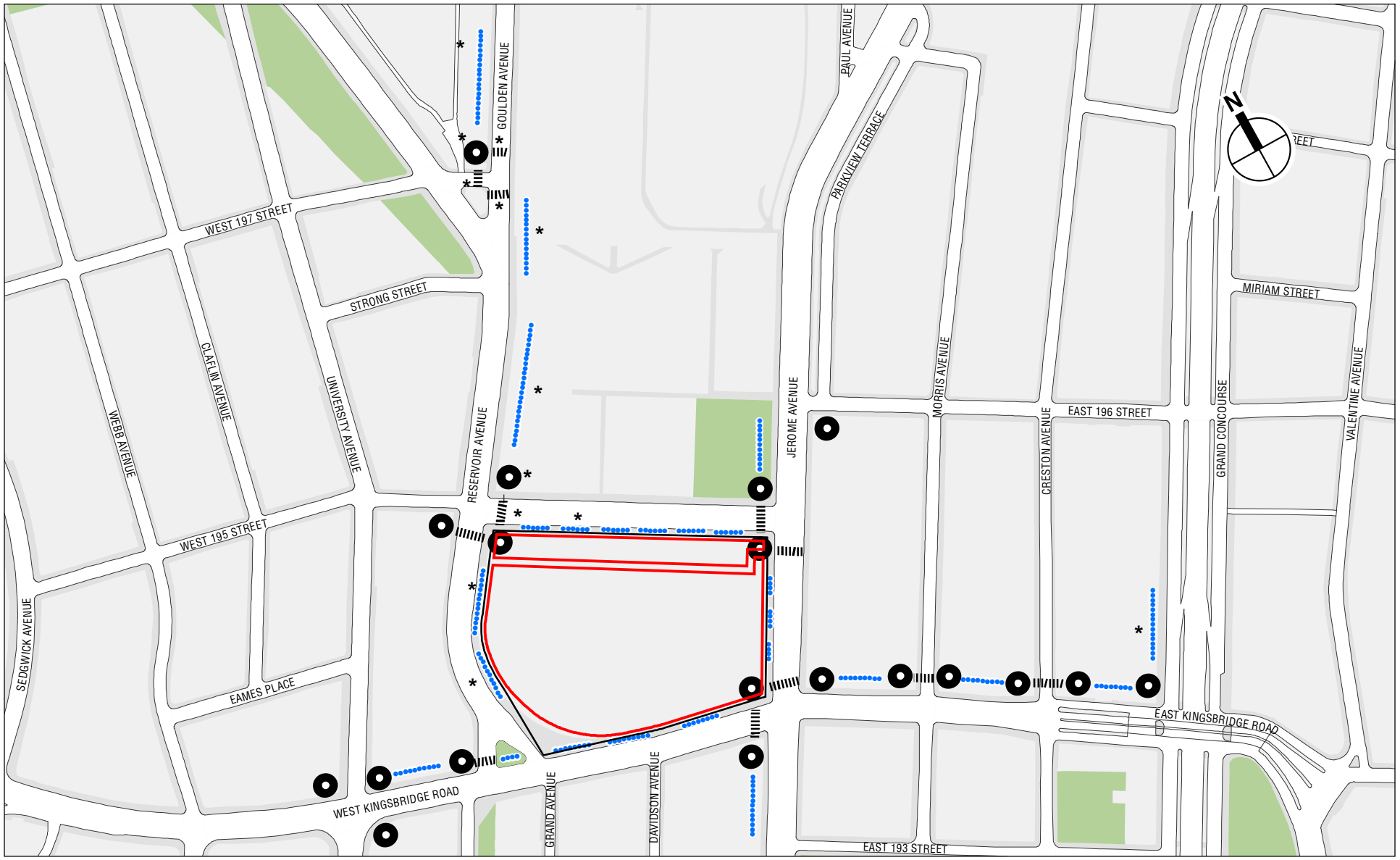
Project Generated Pedestrian Trips
Weekday Evening Peak Hour



Project Generated Pedestrian Trips
Saturday Midday/Afternoon Peak Hour



Project Generated Pedestrian Trips
Saturday Evening Peak Hour



NOTES:
" * " denotes pedestrian element analyzed in the Event Peak Hours only

KINGSBRIDGE ARMORY REDEVELOPMENT

Pedestrian Analysis Locations

Figure 13-15

Table 13-9
Pedestrian Level 2 Screening Analysis Results

Pedestrian Elements	Incremental Pedestrian Trips						Selected Analysis Locations (Excludes Event Peaks)	Selected Analysis Locations (Includes Event Peaks)
	Weekday				Saturday			
	AM	MD	PM	EVE (Event)	Midday	EVE (Event)		
W Crosswalk	0	0	0	1403	0	2295		✓
NW Corner	0	0	0	2806	0	4590		✓
E Sidewalk along Goulden Ave bet E 197th St and Strong St	0	0	0	2805	0	4590		✓
W Sidewalk along Goulden Ave N of W 197th St	0	0	0	2805	0	4590		✓
Grand Avenue and West Kingsbridge Road								
N Crosswalk	264	225	276	232	342	266		
NE Corner	268	231	284	238	351	271		
E Sidewalk along Reservoir Ave bet W Kingsbridge Rd and Armory's SW Ent	112	98	123	106	159	136		
N Sidewalk along W Kingsbridge Rd bet Reservoir Ave and Armory's S Ent	183	162	195	262	229	272	✓	✓
Davidson Avenue and West Kingsbridge Road								
N Sidewalk along W Kingsbridge Rd bet Davidson Ave and Armory's SE Ent	180	192	208	144	258	68	✓	✓
N Sidewalk along W Kingsbridge Rd bet Armory's S Ent and Davidson Ave	256	263	294	205	357	131	✓	✓
Jerome Avenue and East 198th Street								
W Sidewalk along Jerome Ave bet E 198th St and Morris Ave	88	85	104	76	113	82		
Jerome Avenue and East 196th Street								
SE Corner	151	146	173	142	221	158	✓	✓
W Sidewalk along Jerome Ave bet Morris Ave and E 196th St	90	85	105	77	115	82		
Jerome Avenue and East 195th Street								
S Crosswalk	211	183	249	206	295	197	✓	✓
W Crosswalk	195	179	225	174	266	187	✓	✓
SW Corner	607	526	713	570	828	547	✓	✓
NW Corner	201	182	229	177	271	190	✓	✓
E Sidewalk along Jerome Ave bet E 196th St and W 195th St	103	93	117	98	147	106		
S Sidewalk along W 195th St bet Nat Guard's E Residential and E Local Ret Ents	522	448	617	495	718	463	✓	✓
E Sidewalk along Jerome Ave bet W 195th St and Kingsbridge Rd	114	92	136	110	155	95		
S Sidewalk along W 195th St bet Nat Guard's Mid Local Ret and E Residential Ents	399	373	505	399	590	383	✓	✓
W Sidewalk along Jerome Ave bet W 195th St and Armory's E Main Ent	282	233	321	252	357	234	✓	✓
S Sidewalk along W 195th St bet Nat Guard's E Residential Ent and Jerome Ave	530	461	634	510	740	476	✓	✓
W Sidewalk along Jerome Ave bet E 196th St and W 195th St	191	176	221	170	260	184	✓	✓
Jerome Avenue and Kingsbridge Road								
N Crosswalk	226	215	252	2164	260	1711	✓	✓
W Crosswalk	161	157	192	151	222	184	✓	✓
NE Corner	375	336	422	2297	452	1834	✓	✓
SE Corner	80	75	91	68	105	78		
SW Corner	226	218	265	206	309	231	✓	✓
NW Corner	448	443	520	3496	550	2796	✓	✓
W Sidewalk along Jerome Ave bet Armor's NE Main and SE Main Ent	289	247	338	2897	370	2284	✓	✓
N Sidewalk along E Kingsbridge Rd bet Jerome Ave and Morris Ave	299	267	338	2240	359	1765	✓	✓
W Sidewalk along Jerome Ave bet W Kingsbridge Rd and E 193rd St	142	141	169	131	200	147	✓	✓
W Sidewalk along Jerome Ave bet SE Main Ent and W Kingsbridge Rd	193	205	251	1326	274	1085	✓	✓
Jerome Avenue and East 193rd Street								
NE Corner	88	87	101	78	127	90		
W Sidewalk along Jerome Ave bet E 193rd St and W 192nd St	107	105	131	101	155	111		
Jerome Avenue and West 192nd Street								
W Crosswalk	107	105	131	101	155	111		
SW Corner	107	105	131	101	155	111		
NW Corner	107	105	131	101	155	111		
W Sidewalk along Jerome Ave bet W 192nd St and W 190th St	107	105	131	101	155	111		
Jerome Avenue and 190th Street								
W Crosswalk	107	105	131	101	155	111		
SW Corner	111	107	131	101	155	111		
NW Corner	107	105	131	101	155	111		
W Sidewalk along Jerome Ave bet W 190th St and E Fordham Rd	98	101	129	99	152	109		
Parkview Terrace and East 196th Street								
S Sidewalk along E 196th St bet Parkview Terrace and Morris Ave	101	92	116	98	146	105		
Morris Avenue and East 196th Street								
S Crosswalk	101	92	116	98	146	105		
SE Corner	101	92	116	98	146	105		
SW Corner	101	92	116	98	146	105		
S Sidewalk along E 196th St bet Morris Ave and Creston Ave	101	92	116	98	146	105		
Morris Avenue and East Kingsbridge Road								
N Crosswalk	267	234	298	2218	324	1746	✓	✓
NE Corner	277	242	308	2226	338	1755	✓	✓
NW Corner	277	242	309	2227	340	1755	✓	✓
N Sidewalk along E Kingsbridge Rd bet Morris Ave and Creston Ave	257	227	287	2210	313	1736	✓	✓
Creston Avenue and East 196th Street								
S Crosswalk	101	92	116	98	146	105		
SE Corner	101	92	116	98	146	105		
SW Corner	101	92	116	98	146	105		
S Sidewalk along E 196th St bet Creston Ave and Grand Concourse	101	92	116	98	146	105		

Table 13-9
Pedestrian Level 2 Screening Analysis Results

Pedestrian Elements	Incremental Pedestrian Trips						Selected Analysis Locations (Excludes Event Peaks)	Selected Analysis Locations (Includes Event Peaks)
	Weekday				Saturday			
	AM	MD	PM	EVE (Event)	Midday	EVE (Event)		
Creston Avenue and East Kingsbridge Road								
N Crosswalk	239	210	265	2189	282	1714	✓	✓
NE Corner	257	226	288	2208	309	1734	✓	✓
SE Corner	66	66	85	68	102	71		
SW Corner	66	66	85	68	102	71		
NW Corner	257	226	288	2208	309	1734	✓	✓
N Sidewalk along E Kingsbridge Rd bet Creston Ave and Grand Concourse	220	193	242	2172	255	1695	✓	✓
S Sidewalk along E Kingsbridge Rd bet Creston Ave and Grand Concourse	68	67	87	69	102	71		
Grand Concourse and East 198th Street								
SW Corner	74	75	90	74	112	80		
Grand Concourse and East 196th Street								
SW Corner	99	97	114	94	146	104		
NW Corner	106	98	117	96	150	107		
Grand Concourse and East Kingsbridge Road								
SW Corner	77	80	102	79	121	80		
NW Corner	219	192	240	2168	255	1694	✓	✓
W Sidewalk along Grand Concourse bet E Kingsbridge Rd and Subway Ent	139	113	143	2095	144	1617		✓

Notes: ✓ denotes pedestrian elements selected for detailed analysis.
Pedestrian elements with fewer than 100 project generated pedestrian trips in a peak hour are not presented in this table.
N = North; S = South; E = East; W = West; NE = Northeast; NW = Northwest; SE = Southeast; SW = Southwest

SUMMARY OF DETAILED TRANSPORTATION ANALYSES

As discussed in the preceding sections, detailed analyses would be warranted for traffic, transit, and pedestrians across different analysis peak hours. **Table 13-10** summarizes the selected analysis study areas detailed above. Additionally, assessments of parking demand/supply/utilization and street user safety would be prepared pursuant to *CEQR Technical Manual* guidelines.

Table 13-10
Transportation Analysis Summary

Transportation Analysis Topic	Non-Even Peak Hours (Weekday AM, Midday, PM, and Saturday Midday/Afternoon)	Event Peak Hours (Weekday and Saturday Evening)
Traffic	31 intersections	42 intersections
Transit	2 fare control areas and 15 stairways at two subway stations; 3 subway lines	2 fare control areas and 15 stairways at two subway stations; 3 subway lines
Pedestrians	18 sidewalks, 17 corners, and 8 crosswalks	25 sidewalks, 19 corners, and 12 crosswalks

C. TRANSPORTATION ANALYSIS METHODOLOGIES

As described above, detailed analyses have been determined to be warranted to evaluate the operation of traffic intersections, subway station control area and vertical circulation elements, subway and bus line-haul levels, and pedestrian elements. Assessments of street user safety and parking supply and demand would also be undertaken. The analysis methodologies and significant adverse impact criteria for these transportation analysis topics are outlined below.

TRAFFIC OPERATIONS

The operations of all the signalized and unsignalized intersections in the study area were assessed using methodologies presented in the *2000 Highway Capacity Manual (HCM)* using the *Synchro Software, Version 11*. The *HCM* procedure evaluates the level of service (LOS) for signalized and unsignalized intersections using average stop control delay, in seconds per vehicle, as described below.

SIGNALIZED INTERSECTIONS

The average control delay per vehicle is the basis for LOS determination for individual lane groups (grouping of movements in one or more travel lanes), the approaches, and the overall intersection. The LOS criteria are defined in **Table 13-11.**

Table 13-11
Level of Service Criteria for Signalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 20.0 seconds
C	> 20.0 and ≤ 35.0 seconds
D	> 35.0 and ≤ 55.0 seconds
E	> 55.0 and ≤ 80.0 seconds
F	> 80.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*, 2000

Although the *HCM* methodology calculates a volume-to-capacity (v/c) ratio, there is no strict relationship between v/c ratios and LOS as defined in the *HCM*. A high v/c ratio indicates substantial traffic passing through an intersection, but a high v/c ratio combined with low average delay actually represents the most efficient condition in terms of traffic engineering standards, where an approach or the whole intersection processes traffic close to its theoretical maximum capacity with minimal delay. However, very high v/c ratios—especially those approaching or greater than 1.0—are often correlated with a deteriorated LOS. Other important variables affecting delay include cycle length, progression, and green time. LOS A and B indicate good operating conditions with minimal delay. At LOS C, the number of vehicles stopping is higher, but congestion is still fairly light. LOS D describes a condition where congestion levels are more noticeable and individual cycle failures (a condition where motorists may have to wait for more than one green phase to clear the intersection) can occur. Conditions at LOS E and F reflect poor service levels, and cycle breakdowns are frequent. The *HCM* methodology also provides for a summary of the total intersection operating conditions. The analysis chooses the two critical movements (the worst case from each roadway) and calculates a summary critical v/c ratio. The overall intersection delay, which determines the intersection's LOS, is based on a weighted average of control delays of the individual lane groups. Within New York City, LOS D or better (average control delay of less than or equal to 55.0 seconds) is considered to be acceptable operations.

Significant Impact Criteria

According to the criteria presented in the *CEQR Technical Manual*, impacts are considered significant and require examination of mitigation if they result in an increase in the With Action condition of five or more seconds of delay in a lane group over No

Action levels within LOS E. For No Action LOS F, a four-second increase in delay is considered significant. In addition, impacts are considered significant if levels of service deteriorate from acceptable A, B, C, or D in the No Action condition to unacceptable LOS E or F in the With Action condition, providing the delay increases are equal or greater than the above.

UNSIGNALIZED INTERSECTIONS

For unsignalized intersections, the average control delay is defined as the total elapsed time from which a vehicle stops at the end of the queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average control delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The LOS criteria for unsignalized intersections are summarized in **Table 13-12**.

Table 13-12
Level of Service Criteria for Unsignalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 15.0 seconds
C	> 15.0 and ≤ 25.0 seconds
D	> 25.0 and ≤ 35.0 seconds
E	> 35.0 and ≤ 50.0 seconds
F	> 50.0 seconds
Source: Transportation Research Board. *Highway Capacity Manual*, 2000	

The LOS thresholds for unsignalized intersections are different from those for signalized intersections. The primary reason is that drivers expect different levels of performance from different types of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection; hence, the corresponding control delays are higher at a signalized intersection than at an unsignalized intersection for the same LOS. In addition, certain driver behavioral considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, whereas drivers on minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections. For these reasons, the corresponding delay thresholds for unsignalized intersections are lower than those of signalized intersections. As with signalized intersections, within New York City, LOS D or better (average control delay of less than or equal to 35.0 seconds) is considered as acceptable operations.

Significant Impact Criteria

The same sliding scale of delays that define the presence of significant impacts described for signalized intersections applies for unsignalized intersections. For the minor street to trigger significant impacts, at least 90 passenger car equivalents (PCE) must be identified in the With Action condition in any peak hour.

TRANSIT OPERATIONS

The procedures used to evaluate transit operations, as presented in the *CEQR Technical Manual*, are established pursuant to requirements of the Metropolitan Transportation Authority (MTA) New York City Transit (NYCT). Those associated with analyzing subway station elements are described below.

The methodology for assessing station circulation (stairs, escalators, and passageways) and fare control (regular turnstiles, high entry/exit turnstiles, and high exit turnstiles) elements compares the user volume with the analyzed element's design capacity, resulting in a v/c ratio. For stairs, the design capacity considers the effective width of a tread, which accounts for railings or other obstructions, the friction or counter-flow between upward and downward pedestrians (up to 10 percent capacity reduction is applied to account for counter-flow friction), surging of entering and exiting pedestrians (up to 25 percent capacity reduction is applied to account for surged flows off of platforms and onto platforms), and the average area required for circulation. For passageways, similar considerations are made. For escalators and turnstiles, capacities are measured by the number and width of an element and the NYCT optimum capacity per element, and also account for the potential for surging of entering and exiting pedestrians. In the analysis for each of these elements, volumes and capacities are presented for 15-minute intervals. The estimated v/c ratio is compared with NYCT criteria to determine a LOS for the operation of an element, as summarized in **Table 13-13**.

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

LOS	V/C Ratio
A	0.00 to 0.45
B	0.45 to 0.70
C	0.70 to 1.00
D	1.00 to 1.33
E	1.33 to 1.67
F	Above 1.67

Sources: New York City Mayor's Office of Environmental Coordination, 2021 *CEQR Technical Manual*

At LOS A ("free flow") and B ("fluid flow"), there is sufficient area to allow pedestrians to freely select their walking speed and bypass slower pedestrians. When cross and reverse flow movement exists, only minor conflicts may occur. At LOS C ("fluid, somewhat restricted"), movement is fluid although somewhat restricted. While there is sufficient room for standing without personal contact, circulation through queuing areas may require adjustments to walking speed. At LOS D ("crowded, walking speed restricted"), walking speed is restricted and reduced. Reverse and cross flow movement is severely restricted because of congestion and the difficult passage of slower moving pedestrians. At LOS E ("congested, some shuffling and queuing") and F ("severely congested, queued"), walking speed is restricted. There is also insufficient area to bypass others, and opposing movement is difficult. Often, forward progress is achievable only through shuffling, with queues forming.

SIGNIFICANT IMPACT CRITERIA

The determination of significant impacts for station elements varies based on their type and use. For stairs and passageways, significant impacts are defined in terms of width increment threshold (WIT) based on the minimum amount of additional capacity that would be required either to mitigate the impact to its service conditions (LOS) under the No Action levels, or to bring it to a v/c ratio of 1.00 (LOS C/D), whichever is greater. Significant impacts are typically considered to occur once the WITs in **Table 13-14** are reached or exceeded.

Table 13-14
Significant Impact Guidance for Stairs and Passageways

With Action V/C Ratio	WIT for Significant Impact (inches)	
	Stairway	Passageway
1.00 to 1.09	8.0	13.0
1.10 to 1.19	7.0	11.5
1.20 to 1.29	6.0	10.0
1.30 to 1.39	5.0	8.5
1.40 to 1.49	4.0	6.0
1.50 to 1.59	3.0	4.5
1.60 and up	2.0	3.0

Note: WIT = Width Increment Threshold
Sources: New York City Mayor's Office of Environmental Coordination, 2021 *CEQR Technical Manual*

For escalators and control area elements, impacts are significant if the proposed project causes a v/c ratio to increase from below 1.00 to 1.00 or greater. Where a facility is already at or above its capacity (a v/c of 1.00 or greater) in the No Action condition, a 0.01 increase in v/c ratio is also significant.

PEDESTRIAN OPERATIONS

The adequacy of the study area's sidewalk, crosswalk, and corner reservoir capacities in relation to the demand imposed on them is evaluated based on the methodologies presented in the 2010 *HCM*, in accordance with procedures detailed in the *CEQR Technical Manual*. The primary performance measure for sidewalks and walkways is pedestrian space, expressed as square feet per pedestrian (SFP), which is an indicator of the quality of pedestrian movement and comfort.

The calculation of the sidewalk SFP is based on the pedestrian volumes by direction, the effective sidewalk or walkway width, and average walking speed. The SFP forms the basis for a sidewalk LOS analysis. The determination of sidewalk LOS is also dependent on whether the pedestrian flow being analyzed is best described as "non-platoon" or "platoon." Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform; whereas platoon flow occurs when pedestrian volumes vary significantly with the peak 15-minute period. Such variation typically occurs near bus stops, subway stations, and/or where adjacent crosswalks account for much of the walkway's pedestrian volume.

Street corners and crosswalks are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Street corners must be able to provide sufficient space for a mix of standing pedestrians (queued to cross a street) and

circulating pedestrians (crossing the street or moving around the corner). The *HCM* methodologies apply a measure of time and space availability based on the area of the corner, the timing of the intersection signal, and the estimated space used by circulating pedestrians. The total "time-space" available for these activities, expressed in square feet-second, is calculated by multiplying the net area of the corner (in square feet) by the signal's cycle length. The analysis then determines the total circulation time for all pedestrian movements at the corner per signal cycle (expressed as pedestrians per second). The ratio of net time-space divided by the total pedestrian circulation volume per signal cycle provides the LOS measurement of available SFP.

Crosswalk LOS is also a function of time and space. Similar to the street corner analysis, crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in square feet-second. The average time required for a pedestrian to cross the street is calculated based on the width of the street and an assumed walking speed. The ratio of time-space available in the crosswalk to the total crosswalk pedestrian occupancy time is the LOS measurement of available square feet per pedestrian. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk.

The LOS standards for sidewalks, corner reservoirs, and crosswalks are summarized in **Table 13-15**. The *CEQR Technical Manual* specifies acceptable mid-LOS D or better (minimum of 31.5 SFP platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks) in Central Business District (CBD) settings, which include the project study area.

Table 13-15
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks		Corner Reservoirs and Crosswalks
	Non-Platoon Flow	Platoon Flow	
A	> 60 SFP	> 530 SFP	> 60 SFP
B	> 40 and ≤ 60 SFP	> 90 and ≤ 530 SFP	> 40 and ≤ 60 SFP
C	> 24 and ≤ 40 SFP	> 40 and ≤ 90 SFP	> 24 and ≤ 40 SFP
D	> 15 and ≤ 24 SFP	> 23 and ≤ 40 SFP	> 15 and ≤ 24 SFP
E	> 8 and ≤ 15 SFP	> 11 and ≤ 23 SFP	> 8 and ≤ 15 SFP
F	≤ 8 SFP	≤ 11 SFP	≤ 8 SFP

Note: SFP = square feet per pedestrian.
Sources: New York City Mayor's Office of Environmental Coordination, 2021 *CEQR Technical Manual*

SIGNIFICANT IMPACT CRITERIA

The determination of significant pedestrian impacts considers the level of predicted decrease in pedestrian space between the No Action and With Action conditions. For different pedestrian elements, flow conditions, and area types, the *CEQR Technical Manual* procedure for impact determination corresponds with various sliding-scale formulas, as further detailed below.

Sidewalks

The CBD sliding-scale formula for determining significant sidewalk impacts for platoon flow is $Y \geq X/(9.5–0.321)$. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, these formulas would apply only if the With

Action pedestrian space falls short of mid-LOS D. **Table 13-16** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant sidewalk impacts.

Table 13-16
Significant Impact Guidance for Sidewalks

CBD Platoon Flow Sliding Scale Formula: $Y \geq X/(9.5—0.321)$	
No Action Pedestrian Space (X, SFP)	**With Action Pedestrian Space Reduction (Y, SFP)**
No Action Pedestrian Space > 34.8	With Action Pedestrian Space < 31.5
34.0 to 34.8	≥ 3.3
33.0 to 33.9	≥ 3.2
32.1 to 32.9	≥ 3.1
31.1 to 32.0	≥ 3.0
30.2 to 31.0	≥ 2.9
29.2 to 30.1	≥ 2.8
28.3 to 29.1	≥ 2.7
27.3 to 28.2	≥ 2.6
26.4 to 27.2	≥ 2.5
25.4 to 26.3	≥ 2.4
24.5 to 25.3	≥ 2.3
23.5 to 24.4	≥ 2.2
22.6 to 23.4	≥ 2.1
21.6 to 22.5	≥ 2.0
20.7 to 21.5	≥ 1.9
19.7 to 20.6	≥ 1.8
18.8 to 19.6	≥ 1.7
17.8 to 18.7	≥ 1.6
16.9 to 17.7	≥ 1.5
15.9 to 16.8	≥ 1.4
15.0 to 15.8	≥ 1.3
14.0 to 14.9	≥ 1.2
13.1 to 13.9	≥ 1.1
12.1 to 13.0	≥ 1.0
11.2 to 12.0	≥ 0.9
10.2 to 11.1	≥ 0.8
9.3 to 10.1	≥ 0.7
8.3 to 9.2	≥ 0.6
7.4 to 8.2	≥ 0.5
6.4 to 7.3	≥ 0.4
< 6.4	≥ 0.3

Notes: SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP.
Sources: New York City Mayor's Office of Environmental Coordination, 2021 *CEQR Technical Manual*

Corner Reservoirs and Crosswalks

The determination of significant corner and crosswalk impacts in the CBD is also based on a sliding scale using the following formula: $Y \geq X/9.0–0.31$, where Y is the decrease in pedestrian space in SFP and X is the No Action pedestrian space in SFP. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, this formula would apply only if the With Action pedestrian space falls short of mid-LOS D. **Table 13-17** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant corner and crosswalk impacts.

Table 13-17
Significant Impact Guidance for Corners and Crosswalks

CBD Sliding Scale Formula: $Y \geq X/9.0–0.31$	
No Action Pedestrian Space (X, SFP)	**With Action Pedestrian Space Reduction (Y, SFP)**
No Action Pedestrian Space > 21.5	With Action Pedestrian Space < 19.5
21.3 to 21.5	≥ 2.1
20.4 to 21.2	≥ 2.0
19.5 to 20.3	≥ 1.9
18.6 to 19.4	≥ 1.8
17.7 to 18.5	≥ 1.7
16.8 to 17.6	≥ 1.6
15.9 to 16.7	≥ 1.5
15.0 to 15.8	≥ 1.4
14.1 to 14.9	≥ 1.3
13.2 to 14.0	≥ 1.2
12.3 to 13.1	≥ 1.1
11.4 to 12.2	≥ 1.0
10.5 to 11.3	≥ 0.9
9.6 to 10.4	≥ 0.8
8.7 to 9.5	≥ 0.7
7.8 to 8.6	≥ 0.6
6.9 to 7.7	≥ 0.5
6.0 to 6.8	≥ 0.4
5.1 to 5.9	≥ 0.3
< 5.1	≥ 0.2

Notes: SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP.
Sources: New York City Mayor's Office of Environmental Coordination, 2021 *CEQR Technical Manual*

STREET USER SAFETY ASSESSMENT

An evaluation of street user (vehicular, bicyclist, and pedestrian) safety is necessary for locations within traffic and pedestrian study areas that have been identified as high crash locations—defined as Vision Zero high priority intersections or intersections where five or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent three-year period for which data are available. Additionally, any locations along a Vision Zero priority corridor where three or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent three-year period should also be identified as high crash locations. For these locations, crash trends are identified to determine if projected vehicular and pedestrian traffic would further exacerbate safety issues. The determination of whether street users, with particular focus on bicyclists and pedestrians, would be at increased risk for involvement in crashes due to the proposed action depends on the type of area in which the project area is located (i.e., whether it is near hospitals, schools, parks, nursing homes, or senior housing, or if it overlaps with Vision Zero priority intersections/corridors, Senior Pedestrian Focus Areas, or Truck Priority Safety Corridors), traffic volumes, crash types and severity, and other contributing factors. Where appropriate, measures to improve traffic, bicyclist, and pedestrian safety are identified and coordinated with DOT for approval.

PARKING ASSESSMENT

The parking analysis identifies the extent to which off-street parking is available and utilized under existing and future conditions. It takes into consideration anticipated

changes in area parking supply and provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from parking displacement attributable to or additional demand generated by a proposed project. Typically, this analysis encompasses a study area within a ¼-mile of the project site. If the analysis concludes a shortfall in parking within the ¼-mile study area, the study area could sometimes be extended to a ½-mile to identify additional parking supply.

Pursuant to *CEQR Technical Manual* guidelines, for proposed projects located in Manhattan or other areas with CBD characteristics, the inability of the proposed project or the surrounding area to accommodate the project's future parking demand is considered a parking shortfall but is generally not considered significant due to the magnitude of available alternative modes of transportation, and New York City's public policy of discouraging automotive use in Manhattan and other areas with CBD characteristics. For other areas in New York City, a parking shortfall that exceeds the available on-street and off-street parking spaces within a ¼-mile of the project site may be considered significant. Additional factors, such as the availability and extent of transit in the area, proximity of the project to such transit, and patterns of automobile usage by area residents, could be considered to determine the significance of the identified parking shortfall. In some cases, if there is adequate parking supply within ½-mile of the project site, the projected parking shortfall may also not necessarily be considered significant.

D. DETAILED TRAFFIC ANALYSIS

As described in Section B, "Preliminary Analysis Methodology and Screening Assessment," six time periods, including the weekday AM, midday, PM, and Saturday midday/afternoon peak hours and the weekday and Saturday evening event peak hours, would be analyzed for potential traffic impacts. Up to 41 traffic intersections were selected for detailed analysis during these time periods.

EXISTING CONDITIONS

ROADWAY NETWORK AND TRAFFIC STUDY AREA

The traffic study area encompasses key intersections along principal access routes to and from the Project Site and which are likely to be affected by trips generated by the Proposed Project. Bordering the Project Site are four two-way roadways, with Jerome Avenue to the east, Reservoir Avenue to the west, West 195th Street to the north, and West Kingsbridge Road to the south.

North–South Roadways

- Major Deegan Expressway, also known as Interstate 87 (I-87), this limited access highway operates with generally three travel lanes in each direction, with access to the Project Site via its University Heights Bridge/West Fordham Road, West 225th Street/West Kingsbridge Road, and West 30th Street interchanges.
- Bailey Avenue operates with generally two travel lanes and a parking lane in each direction, alongside the Major Deegan Expressway north of West Fordham Road and connects with its interchanges at West 225th and West 230th Streets.
- Sedgwick Avenue operates with generally one travel lane and a parking lane in each direction. It widens to two travel lanes and a parking lane in each direction between

West Fordham Road and Bailey Avenue. Like Bailey Avenue, Sedgwick Avenue also accommodates traffic alongside the Major Deegan Expressway and connects with several interchange cross streets.

- University Avenue operates with one general traffic lane, a dedicated bus lane for the Bx3, and a parking lane in each direction south of West Kingsbridge Road. With the Bx3 continuing north via Sedgwick Avenue to the west, University Avenue narrows to generally one travel lane and a parking lane in each direction north of West Kingsbridge Road.
- Reservoir Avenue fronts the Project Site on the west and serves two-way traffic between West Kingsbridge Road and Sedgwick Avenue on the west side of Jerome Park Reservoir. It operates with generally two travel lanes and a parking lane in each direction.
- Jerome Avenue fronts the Project Site on the east and is a major north-south traffic collector extending from the Macombs Dam Bridge interchange with the Major Deegan Expressway to the Bronx/Yonkers border. The roadway operates with generally two travel lanes and a parking lane in each direction. The No. 4 subway line also operates as an elevator train above Jerome Avenue from West 169th Street to its terminal station at Woodlawn.
- Creston Avenue is a local one-way southbound roadway, with generally one travel lane and parking on both sides.
- The Grand Concourse is a major arterial with mainlines and service roads. It operates with generally two mainline and one service road travel lanes and a parking lane in each direction. South of East Fordham Road, the northbound and southbound service roads are also equipped with protected bike lanes.
- Valentine Avenue is a local roadway, with generally one travel lane and a parking lane in each direction.
- Marion Avenue operates southbound north of East Fordham Road, with generally one travel lane and parking on both sides. South of East Fordham Road, Marion Avenue operates northbound with the same general configuration. Between East 184th and East 188th Streets, Marion Avenue is two-ways with generally one travel lane and a parking lane in each direction.

East–West Roadways

- Fordham Road is a major arterial connecting to the University Heights Bridge and the Major Deegan Expressway to the west and the Bronx River Parkway to the east. Its eastern and western segments are divided by Jerome Avenue. The roadway operates with generally two travel lanes, a dedicated bus lane, and restricted parking in each direction.
- Kingsbridge Road, whose eastern and western segments, are also divided by Jerome Avenue, terminates at East Fordham Road between the Grand Concourse and Webster Avenue and continues as West 225th Street at the interchange with the Major Deegan Expressway. West Kingsbridge Road fronts the Project Site on the south and operates generally with two travel lanes and a parking lane in each direction.

- West 195th Street fronts the Project Site on the north and is mostly a one-way westbound local street with generally one travel lane and parking on both sides. It operates as a two-way roadway adjacent to the Project Site between Jerome and Reservoir Avenues.

TRAFFIC OPERATIONS

Traffic data were collected in March 2025 via a combination of video intersection counts and 24-hour Automatic Traffic Recorder (ATR) counts in accordance with procedures outlined in the *CEQR Technical Manual* for the six analysis peak periods. Peak hour traffic volumes were established for six analysis time periods—weekday AM, midday, PM, and evening and Saturday midday/afternoon and evening. Based on the collected data, balanced traffic networks were developed for the following peak hours for analysis.

- Weekday AM: 7:30 – 8:30 AM;
- Weekday midday: 1:00 – 2:00 PM;
- Weekday PM: 4:30 – 5:30 PM;
- Weekday evening: 7:00 – 8:00 PM;
- Saturday midday/afternoon: 4:00 – 5:00 PM; and
- Saturday evening: 7:00 – 8:00 PM.

The existing traffic volumes for the above peak hours are shown in **Appendix D**. Inventories of roadway geometry, traffic controls, bus stops, and parking regulation/activities were recorded to provide appropriate inputs for the operational analyses. Official signal timings were also obtained from DOT for use in the analysis of the study area signalized intersections.

A summary of the existing conditions traffic analysis results by lane group is presented in **Table 13-18**. As noted in Section C, "Transportation Analysis Methodologies," LOS D or better is considered acceptable operations and LOS E and LOS F are considered congested conditions. Under existing conditions for the signalized intersections, 113 of the 138 total analyzed lane groups during the weekday AM peak hour, 125 of the 137 total analyzed lane groups during the weekday midday peak hour, 118 of the 138 total analyzed lane groups during the weekday PM peak hour, 166 of the 181 total analyzed lane groups during the weekday evening peak hour, 121 of the 136 total analyzed lane groups during the Saturday midday/afternoon peak hour, and 165 of the 181 total analyzed lane groups during the Saturday evening peak hour would operate at LOS D or better. Marginal or congested operating conditions (LOS E or worse) will occur at 25 lane groups during the weekday AM peak hour; 12 lane groups during the weekday midday peak hour; 20 lane groups during the weekday PM peak hour; 15 lane groups during the weekday evening peak hour; 15 lane groups during the Saturday midday/afternoon peak hour; and 16 lane groups during the Saturday evening peak hour. For the unsignalized intersections included for existing conditions analysis, all analyzed lane groups would operate at LOS D or better during all six analysis peak hours. Details on LOS, v/c ratios, and average delays for the analyzed intersections are presented in **Appendix D**.

Table 13-18
Existing Conditions Traffic Analysis Results

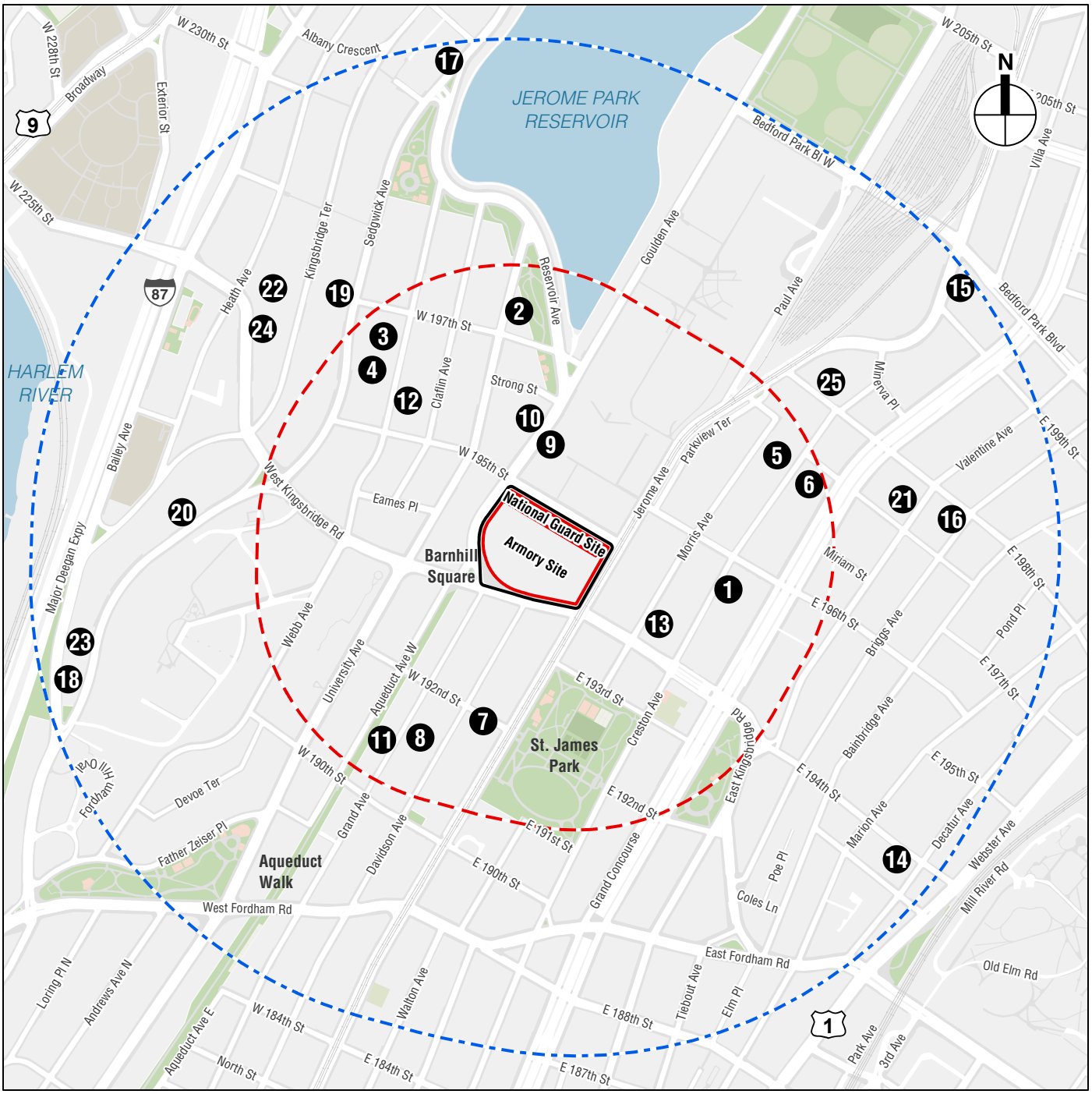
Level of Service	Analysis Peak Hours					
	Weekday				Saturday	
	AM	MD	PM	EVE	MD/AN	EVE
Signalized Intersections						
Lane Groups at LOS A/B/C	77	105	80	126	98	141
Lane Groups at LOS D	36	20	38	40	23	24
Lane Groups at LOS E	12	8	13	7	8	9
Lane Groups at LOS F	13	4	7	8	7	7
Total	138	137	138	181	136	181
Lane Groups with v/c > 0.90	16	4	8	12	9	12
Unsignalized Intersections						
Lane Groups at LOS A/B/C	13	13	13	13	13	13
Lane Groups at LOS D	0	0	0	0	0	0
Lane Groups at LOS E	0	0	0	0	0	0
Lane Groups at LOS F	0	0	0	0	0	0
Total	13	13	13	13	13	13
Lane Groups with v/c > 0.90	0	0	0	0	0	0

Notes: LOS = Level of service; v/c = volume-to-capacity ratio; MD = Midday; EVE = Evening; AN = Afternoon.

THE FUTURE WITHOUT THE PROPOSED ACTIONS

The 2032 No Action condition traffic volumes were developed by increasing existing traffic levels by the expected growth in overall travel through and within the study area. As per *CEQR Technical Manual* guidelines, an annual background growth rate of 0.25 percent was assumed for the first five years (2026 through 2030) and then 0.125 percent for the remaining years (2031 and 2032). Additionally, relevant trips from discrete No Build projects that are expected to traverse study area intersections were included as part of the No Action condition. Based on information researched from the NYC Departments of City Planning (DCP) and Buildings (DOB), 25 future development projects, expected to be completed and operational by 2032 (No Build projects), were identified as being planned for the approximately ½-mile study area (see **Figure 13-16** and **Table 13-19**).

Of those listed, 19 of the planned development projects are modest in size and will be very modest traffic generators. Accordingly, it was determined that background growth will address the increase in traffic levels for these 19 No Build projects in the study area. For the remaining six No Build development projects, trip estimates were prepared and incorporated into the No Action analysis. No Build projects were clustered together as appropriate based on their proximity to one another and their locations relative to the roadway network.



Project Site

Armory and National Guard Sites

Quarter-mile Study Area

Half-mile Study Area

No Builds

No Build Locations

KINGSBRIDGE ARMORY REDEVELOPMENT

Figure 13-16

Table 13-19
Projects Planned for Study Area by 2032

Map No.	Project	Description	Build Year	Transportation Notes
¼-Mile Radius				
1	2702 Creston Ave	New construction of a 12-story building with 73 DUs and 54,734 gsf	2032	Cluster A
2	2828 University Ave	New multifamily construction with 17 DUs and 2,120 gsf of community facility	2032	Background Growth
3	2797 Webb Ave	Alteration of existing building resulting in the addition of 8 DUs and a total of 9,100 gsf of residential space	2032	Background Growth
4	2783 Webb Ave	Alteration of 4-story building resulting in the addition of 17 DUs	2032	Background Growth
5	2769 Creston Ave	New construction of 9-story building with 44 DUs and 1,477 gsf of community facility	2032	Background Growth
6	2758 Creston Ave	Construction of a new 6-story building with 21 DUs and 9,456 gsf of residential space	2032	Background Growth
7	18 W 192 St	Alteration of existing building resulting in 12 DUs	2032	Background Growth
8	2532 Grand Ave	Construction of new building resulting in 16 DUs	2032	Background Growth
9	2773 Reservoir Ave	New construction resulting in 22 DUs	2032	Background Growth
10	2775 Reservoir Ave	Alteration of existing 2-story building resulting in 15 DUs and one enclosed parking space	2032	Background Growth
11	2527 Grand Ave	New Construction of a 4-story multifamily building with 24 DUs and 13 parking spaces	2032	Background Growth
12	2768 Webb Ave	Alteration of existing building resulting in a total of 16 DUs	2032	Background Growth
13	2680 Morris Ave	New construction of a 12-story mixed use building resulting in 36 DUs with 1,766 gsf of commercial space and 3,130 gsf of community facility space	2032	Cluster A
½-Mile Radius				
14	364 E 194 St	Construction of new 6-story building resulting in 12 DUs	2032	Background Growth
15	2962 Jerome Ave	New construction of a 12-story mixed use building with 28 DUs and 1,771 gsf of commercial space	2032	Background Growth
16	244 E 198 St	Construction of a new mixed use 6-story building with 46 DUs and 2,580 gsf of commercial space	2032	Cluster B
17	3055 Sedgewick Ave	Construction of new 6-story building with 20 DUs and 10 parking spaces	2032	Background Growth
18	2495 Sedgewick Ave	New construction of 7-story mixed use building with 113 DUs and 15,304 gsf of commercial space	2032	Cluster C
19	2809 Sedgewick Ave	Construction of new residential building with 10 DUs	2032	Background Growth
20	2605 Sedgewick Ave	New construction of a 7-story residential building with 20 DUs	2032	Background Growth
21	2829 Valentine Ave	Construction of a new 13-story building with 81 DUs	2032	Cluster B
22	229 W Kingsbridge Rd	Construction of a new 7-story mixed use building with 37 DUs and 1,363 gsf of community facility	2032	Background Growth
23	2519 Sedgewick Ave	Construction of new 7-story residential building with 40 DUs and 20 parking spaces	2032	Cluster C
24	215 W Kingsbridge Rd	Construction of a new 6-story residential building with 23 DUs and 12 parking spaces	2032	Background Growth
25	19 E 198 St	Construction of a new 9-story residential building with 99 DUs	2032	Background Growth

Note: Subject to change if new information becomes available.
Sources: DCP Housing Database; DOB Active Major Construction Database.

CHANGES TO THE STUDY AREA STREET NETWORK

There are no known changes anticipated along the roadways that are part of the traffic study area. Accordingly, the No Action condition traffic analyses accounted for the same geometric and operational characteristics assumed for existing conditions.

TRAFFIC OPERATIONS

The 2032 No Action traffic volumes for the six analysis peak hours are shown in **Appendix D**. The No Action condition traffic volumes were projected by layering the background growth and trips generated by discrete No Build projects in the area, on top of the existing traffic volumes. Based on the analysis results presented in the appendix, and as summarized by lane group in **Table 13-20**, the majority of the approaches/lane-

groups under the 2032 No Action condition are projected to operate at the same LOS compared to existing conditions.

Table 13-20
2032 No Action Condition Traffic Analysis Results

Level of Service	Analysis Peak Hours					
	Weekday				Saturday	
	AM	MD	PM	EVE	MD/AN	EVE
Signalized Intersections						
Lane Groups at LOS A/B/C	76	101	78	124	95	140
Lane Groups at LOS D	35	24	38	41	25	25
Lane Groups at LOS E	12	7	13	8	7	9
Lane Groups at LOS F	15	5	9	8	9	7
Total	138	137	138	181	136	181
Lane Groups with v/c > 0.90	18	7	10	15	11	12
Unsignalized Intersections						
Lane Groups at LOS A/B/C	13	13	13	13	13	13
Lane Groups at LOS D	0	0	0	0	0	0
Lane Groups at LOS E	0	0	0	0	0	0
Lane Groups at LOS F	0	0	0	0	0	0
Total	13	13	13	13	13	13
Lane Groups with v/c > 0.90	0	0	0	0	0	0

Notes: LOS = Level of service; v/c = volume-to-capacity ratio; MD = Midday; EVE = Evening; AN = Afternoon.

Under the 2032 No Action condition for signalized intersections, 111 of the 138 total analyzed lane groups during the weekday AM peak hour; 125 of the 137 total analyzed lane groups during the weekday midday peak hour; 116 of the 138 total analyzed lane groups during the weekday PM peak hour; 165 of the 181 total analyzed lane groups during the weekday evening peak hour; 120 of the 136 total analyzed lane groups during the Saturday midday/afternoon peak hour; and 165 of the 181 total analyzed lane groups during the Saturday evening peak hour, will operate at LOS D or better. Marginal or congested operating conditions (LOS E or worse) will occur at 27 lane groups during the weekday AM peak hour; 12 lane groups during the weekday midday peak hour; 22 lane groups during the weekday PM peak hour; 16 lane groups during the weekday evening peak hour; 16 lane groups during the Saturday midday/afternoon peak hour; and 16 lane groups during the Saturday evening peak hour. For the analyzed unsignalized intersections, all lane groups will operate at LOS D or better during all six analysis peak hours. Details on LOS, v/c ratios, and average delays for the analyzed intersections are presented in **Appendix D**.

THE FUTURE WITH THE PROPOSED ACTIONS

The 2032 With Action traffic volumes for the six analysis peak hours are shown in **Appendix D**. Proposed Project incremental vehicle trips were added onto the 2032 No Action traffic volumes to obtain the 2032 With Action traffic volumes.

CHANGES TO THE STUDY AREA STREET NETWORK

Planning and design efforts on developing public realm improvements surrounding the Project Site are underway. Resulting changes to adjacent roadways and pedestrian facilities would be subject to the review and approval of DOT. Additionally, to accommodate large events held at the Project Site, a transportation management plan is being developed to determine the necessary accommodations that would need to be in

place prior to, during, and after each event. Since the specific public realm improvements and operational changes associated with event-day measures have not yet been defined, this Draft EIS assumes that study area roadways under the With Action condition would have the same geometric and operational characteristics as the No Action condition. The related changes and effects from the public realm improvements and/or event-day transportation management plan, when known, will be accounted for in the analysis revisions made for the Final EIS.

TRAFFIC OPERATIONS

Based on the analysis results presented in **Appendix D**, and as summarized by lane group in **Table 13-21**, under the Proposed Project for signalized intersections, 106 of the 138 total analyzed lane groups during the weekday AM peak hour; 121 of the 137 total analyzed lane groups during the weekday midday peak hour; 108 of the 138 total analyzed lane groups during the weekday PM peak hour; 143 of the 181 total analyzed lane groups during the weekday evening peak hour; 117 of the 136 total analyzed lane groups during the Saturday midday/afternoon peak hour; and 149 of the 181 total analyzed lane groups during the Saturday evening peak hour, would operate at LOS D or better. Marginal or congested operating conditions (LOS E or worse) would occur at 32 lane groups during the weekday AM peak hour; 16 lane groups during the weekday midday peak hour; 30 lane groups during the weekday PM peak hour; 38 lane groups during the weekday evening peak hour; 19 lane groups during the Saturday midday/afternoon peak hour; and 32 lane groups during the Saturday evening peak hour. For the analyzed unsignalized intersections, all lane groups would operate at LOS D or better except for one lane group during the weekday AM, weekday evening, and Saturday evening peak hours.

Table 13-21
2032 With Action Condition Traffic Analysis Results

	Analysis Peak Hours					
	Weekday				Saturday	
Level of Service	**AM**	**MD**	**PM**	**EVE**	**MD/AN**	**EVE**
Signalized Intersections						
Lane Groups at LOS A/B/C	70	100	77	109	91	125
Lane Groups at LOS D	36	21	31	34	26	24
Lane Groups at LOS E	14	10	14	10	8	8
Lane Groups at LOS F	18	6	16	28	11	24
Total	138	137	138	181	136	181
Lane Groups with v/c > 0.90	23	10	17	34	14	33
Unsignalized Intersections						
Lane Groups at LOS A/B/C	12	13	13	12	13	11
Lane Groups at LOS D	0	0	0	0	0	1
Lane Groups at LOS E	1	0	0	0	0	0
Lane Groups at LOS F	0	0	0	1	0	1
Total	13	13	13	13	13	13
Lane Groups with v/c > 0.90	0	0	0	1	0	1

Notes: LOS = Level of service; v/c = volume-to-capacity ratio; MD = Midday; EVE = Evening; AN = Afternoon.

Based on *CEQR Technical Manual* criteria, significant adverse impacts were identified for 21 lane groups at 11 intersections in the weekday AM peak hour; seven lane groups at six intersections in the weekday midday peak hour; 19 lane groups at 10 intersections in the weekday PM peak hour; 32 lane groups at 23 intersections in the weekday evening

peak hour; 13 lane groups at nine intersections in the Saturday midday/afternoon peak hour; and 25 lane groups at 20 intersections in the Saturday evening peak hour. **Table 13-22** summarizes the significant adverse traffic impacts for the six analysis peak hours. Potential improvement measures that may be implemented to mitigate these impacts are discussed in Chapter 22, "Mitigation."

Table 13-22
2032 With Action Condition—Significant Adverse Traffic Impacts

Intersection		Analysis Peak Hour					
		Weekday				Saturday	
North-South Roadway	East-West Roadway	AM	MD	PM	EVE	MD/AN	EVE
Major Deegan Expressway SB Ramp	West 230th Street						SB-LTR
Major Deegan Expressway SB Ramp	West Fordham Road				WB-L		
Major Deegan Expressway NB Ramp	West 230th Street				EB-LT		EB-LT
Major Deegan Expressway NB Ramp	West Fordham Road				NB-LTR		NB-LTR
Bailey Avenue	West 230th Street				NB-LTR		NB-LTR
Bailey Avenue	West 225th Street/West Kingsbridge Road	SB-LTR	SB-LTR	SB-LTR	SB-LTR	SB-LTR	SB-LTR
Sedgwick Avenue	West Kingsbridge Road				NB-LTR		NB-LTR
		SB-LTR		SB-LTR	SB-LTR	SB-LTR	SB-LTR
Bailey Avenue	Sedgwick Avenue				NB-R		NB-R
Sedgwick Avenue	West Fordham Road	EB-L	EB-L		EB-L	EB-L	EB-L
		NB-LTR		NB-LTR		NB-LTR	
		SB-L		SB-L			
Webb Avenue	West Kingsbridge Road	EB-TR			EB-TR		EB-TR
		WB-LT					
University Avenue	West Kingsbridge Road				EB-LTR		EB-LTR
		WB-LTR	WB-LTR	WB-LTR	WB-LTR	WB-LTR	WB-LTR
		NB-L					
		NB-TR		NB-TR			
		SB-LTR					
University Avenue	West Fordham Road	NB-L					
Reservoir Avenue	West 195th Street			WB-LTR			
					NB-LTR		NB-LTR
Jerome Avenue	East 198th Street				WB-LT		WB-LT
Jerome Avenue	East 196th Street				SB-LT		SB-LT
Jerome Avenue	East 195th Street	EB-LT		EB-LT		EB-LT	
		NB-LT		NB-LT	NB-LT	NB-LT	NB-LT
				SB-TR	SB-TR		SB-TR
Jerome Avenue	West Kingsbridge Road/East Kingsbridge Road	EB-LTR		EB-LTR	EB-LTR	EB-LTR	
					WB-LTR		WB-LTR
		NB-LTR	NB-LTR	NB-LTR	NB-LTR	NB-LTR	NB-LTR
				SB-LT	SB-LT		
Grand Concourse	East 198th Street				WB-TR		WB-TR
Grand Concourse	East Kingsbridge Road			NB-L	NB-L	NB-L	
Valentine Avenue	East 198th Street				WB-LT		WB-LT
Elm Place/Bainbridge Avenue/East Kingsbridge Road	East Fordham Road	WB-R	WB-R	WB-R	WB-R	WB-R	WB-R
		SB-L	SB-L	SB-L	SB-L	SB-L	SB-L
				SB-LT	SB-LT		
East Kingsbridge Road/Valentine Avenue	East Kingsbridge Road/East 194th Street	EB-R		EB-R	EB-R		
		NB-L	NB-L	NB-L	NB-L	NB-L	NB-L
Goulden Avenue	West 197th Street				SB-TR		
Marion Avenue	Bedford Park Boulevard				WB-LT		
Reservoir Avenue/Grand Avenue	West Kingsbridge Road	EB-LTR			EB-LTR		EB-LTR
Total No. of Impacted Intersections/ Lane Groups		**AM**	**MD**	**PM**	**EVE**	**MD/AN**	**EVE**
		11/21	6/7	10/19	23/32	9/13	20/25
		Totals During Any Peak Hour			24/41		21/29

Notes:
MD = Midday; EVE = Evening; AN = Afternoon; EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; L = Left-turn; T = Through; R = Right Turn

E. DETAILED TRANSIT ANALYSIS

As discussed above in Section B, "Preliminary Analysis Methodology and Screening Assessment," the Project Site is served by the No. 4 subway line at the Kingsbridge Road Station along Jerome Avenue and the B and D subway lines at the Kingsbridge Road Station along the Grand Concourse. Nearby bus service is provided by the BxM4, Bx1, Bx2, Bx3, Bx9, Bx12, Bx22, Bx26, Bx28, and Bx32 bus routes. In addition, the Harlem, New Canaan, and New Haven Metro North Railroads are available at the Fordham Station. Based on the distribution of project-generated transit trips, an analysis of subway station elements at the Kingsbridge Road (No. 4 train) Station, located along Jerome Avenue, and the Kingsbridge Road (B/D train) Station, located along the Grand Concourse, was determined to be warranted. In total, 15 stairways and two fare control areas were analyzed for the weekday AM and PM peak hours, as well as the weekday and Saturday evening event peak hours. For subway line-haul, while project-generated trips would not warrant an analysis of the typically evaluated weekday AM and PM peak hours, an assessment of event ridership conditions during the weekday and Saturday evening event peak hours will be presented between Draft and Final EIS.

SUBWAY STATION OPERATIONS

EXISTING CONDITIONS

For the analysis of station elements associated with the two Kingsbridge Road subway stations, station plans were obtained from NYCT and field reconnaissance was conducted to identify specific station elements where project-generated trips are expected to traverse. Those identified to warrant an analysis of potential impacts are described below.

- Kingsbridge Road (No. 4) Station – The R290 fare control area, containing five turnstiles, is situated on the mezzanine level above Jerome Avenue and below the Bronx-bound and Manhattan-bound platforms. Also included for analysis are the S1/M1 and S3/M3 street/mezzanine stairways on the west side of Jerome Avenue, the P2/P4 and P6/P8 stairways connecting to the Bronx-bound platform, and the P1/P3 and P5/P7 stairways connecting to the Manhattan-bound platform.
- Kingsbridge Road (B/D) Station – The N220 fare control area, containing five turnstiles, is situated on the mezzanine level below the Grand Concourse and above the Bronx-bound and Manhattan-bound platforms. Also included for analysis are the S7, M2A/B, and M3A/B street-level and mezzanine stairways, the M8/M9, M12/M13, and M16/M17 stairways connecting to the Bronx-bound platform, and the M6/M7, M10/M11, and M14/M15 stairways connecting to the Manhattan-bound platform.

Existing volume data at the above stations were collected in March and April 2025 to establish representative weekday and Saturday conditions. Peak hour volumes were developed for the weekday AM, PM, and evening, and Saturday evening peak periods. As shown in **Table 13-23**, both control areas and all 15 stairways analyzed currently operate at acceptable levels (LOS C or better) during the weekday and Saturday analysis peak hours. The specific analysis details are presented in **Appendix D**.

Table 13-23
Existing Conditions Subway Station Analysis Results

Analysis Element	Level of Service	Kingsbridge Road (No. 4) and Kingsbridge Road (B/D) Subway Stations			
		Weekday AM Peak Hour	Weekday PM Peak Hour	Weekday Evening Peak Hour	Saturday Evening Peak Hour
Fare Control Areas	LOS A/B/C	2	2	2	2
	LOS D	0	0	0	0
	LOS E	0	0	0	0
	LOS F	0	0	0	0
Stairways	LOS A/B/C	15	15	15	15
	LOS D	0	0	0	0
	LOS E	0	0	0	0
	LOS F	0	0	0	0

Notes: LOS = Level of Service; LOS A/B/C correspond with 0.00 to 1.00 v/c (volume-to-capacity) ratio; LOS D corresponds with 1.00 to 1.33 v/c ratio; LOS E corresponds with 1.33 to 1.67 v/c ratio; LOS F corresponds with above 1.67 v/c ratio; control area elements correspond with sets of turnstiles.

THE FUTURE WITHOUT THE PROPOSED ACTIONS

The 2032 No Action transit volumes for subway station elements were developed following a similar methodology as described above for traffic volumes. The CEQR background growth rates of 0.25 percent for the first five years and then 0.125 percent for the remaining years were applied to the existing volumes. In addition to these growth rates, relevant transit trips from discrete No Build projects near the two analyzed subway stations were also added. As shown in **Table 13-24**, both control areas and all 15 stairways analyzed will continue to operate at acceptable levels (LOS C or better) during the weekday and Saturday analysis peak hours. The specific analysis details are presented in **Appendix D**.

Table 13-24
2032 No Action Condition Subway Station Analysis Results

Analysis Element	Level of Service	Kingsbridge Road (No. 4) and Kingsbridge Road (B/D) Subway Stations			
		Weekday AM Peak Hour	Weekday PM Peak Hour	Weekday Evening Peak Hour	Saturday Evening Peak Hour
Fare Control Areas	LOS A/B/C	2	2	2	2
	LOS D	0	0	0	0
	LOS E	0	0	0	0
	LOS F	0	0	0	0
Stairways	LOS A/B/C	15	15	15	15
	LOS D	0	0	0	0
	LOS E	0	0	0	0
	LOS F	0	0	0	0

Notes: LOS = Level of Service; LOS A/B/C correspond with 0.00 to 1.00 v/c (volume-to-capacity) ratio; LOS D corresponds with 1.00 to 1.33 v/c ratio; LOS E corresponds with 1.33 to 1.67 v/c ratio; LOS F corresponds with above 1.67 v/c ratio; control area elements correspond with sets of turnstiles.

THE FUTURE WITH THE PROPOSED ACTIONS

Incremental subway trips from the Proposed Project were assigned to subway station elements and added to the 2032 No Action transit volumes to arrive at the 2032 With Action transit volumes. As shown in **Table 13-25**, all analyzed station elements would

continue to operate at acceptable levels for the weekday AM and PM peak hours. The specific analysis details are presented in **Appendix D**.

Table 13-25
2032 With Action Condition Subway Station Analysis Results

Analysis Element	Level of Service	Kingsbridge Road (No. 4) and Kingsbridge Road (B/D) Subway Stations			
		Weekday AM Peak Hour	Weekday PM Peak Hour	Weekday Evening Peak Hour	Saturday Evening Peak Hour
Fare Control Areas	LOS A/B/C	2	2	2	2
	LOS D	0	0	0	0
	LOS E	0	0	0	0
	LOS F	0	0	0	0
Stairways	LOS A/B/C	15	15	12	14
	LOS D	0	0	2	0
	LOS E	0	0	0	1
	LOS F	0	0	1	0

Notes: LOS = Level of Service; LOS A/B/C correspond with 0.00 to 1.00 v/c (volume-to-capacity) ratio; LOS D corresponds with 1.00 to 1.33 v/c ratio; LOS E corresponds with 1.33 to 1.67 v/c ratio; LOS F corresponds with above 1.67 v/c ratio; control area elements correspond with sets of turnstiles.

Due to high visitation associated with capacity events on weekday and Saturday evenings, two stairways at the Kingsbridge Road (No. 4) Station and one stairway at the Kingsbridge Road (B/D) Station would operate above capacity (LOS D or worse) during one or both of these evening event peak hours. These exceedances are as follows.

- Kingsbridge Road (No. 4) Station –
  - Stairway S1/M1 operating at LOS D during the weekday evening event peak hour; and
  - Stairway S3/M3 operating at LOS F during the weekday evening event peak hour and at LOS E during the Saturday evening event peak hour.
- Kingsbridge Road (B/D) Station –
  - Stairway S7 operating at LOS D during the weekday evening event peak hour.

As detailed in Section C, “Transportation Analysis Methodologies,” the determination of a significant stairway impact is based on the minimum amount of additional capacity required to either mitigate the impact to the stairway’s No Action service condition or to capacity (i.e., LOS C/D), whichever is greater. Based on this standard, the LOS D conditions projected for two of the above stairways would not constitute significant adverse impacts. But the With Action conditions projected for the S3/M3 stairway at the Kingsbridge Road (No. 4) Station during both the weekday and Saturday evening event peak hour would constitute significant adverse impacts, as summarized in **Table 13-26**. Potential improvement measures that may be implemented to mitigate these impacts are discussed in 22, “Mitigation.”

Table 13-26
2032 With Action Condition—Significant Adverse Subway Station Impacts

Analysis Element		Kingsbridge Road (No. 4) Subway Station			
		Weekday AM Peak Hour	Weekday PM Peak Hour	Weekday Evening Peak Hour	Saturday Evening Peak Hour
Stairway	S3/M3			X	X
Note: X = Significant Adverse Impact					

SUBWAY LINE-HAUL CONDITIONS

As noted in Section B, "Preliminary Analysis Methodology and Screening Assessment," NYCT will, between Draft and Final EIS, provide background ridership data for the weekday and Saturday evening event peak hours for an assessment of potential subway line-haul impacts from event day ridership surges at the Project Site. Should this analysis conclude significant adverse line-haul impacts to the No. 4 and/or B/D subway lines, potential improvement measures that may be implemented to mitigate these impacts would be described in Chapter 22, "Mitigation."

F. DETAILED PEDESTRIAN ANALYSIS

As described above in Section B, "Preliminary Analysis Methodology and Screening Assessment," projected trip increments associated with the Proposed Project were considered to develop the overall pedestrian study area for analysis. In total, 18 sidewalks, 17 corners, and eight crosswalks were selected for analysis of the weekday AM, midday, and PM and Saturday midday/afternoon peak hours. For the weekday and Saturday evening event peak hours, additional analysis locations were included to assess conditions along paths event attendees would likely traverse to/from potential off-site parking locations, resulting in total 25 sidewalks, 19 corners, and 12 crosswalks analyzed for these study time periods.

EXISTING CONDITIONS

PEDESTRIAN NETWORK AND STUDY AREA

The pedestrian study area encompasses sidewalks, corners, and crosswalks spanning over approximately three blocks north-south, between West 197th Street and Kingsbridge Road, and seven blocks east-west, between University Avenue and the Grand Concourse. The analysis elements are characteristic of CBD settings, with high levels of pedestrian volumes, typical sidewalk obstructions, striped crossings, and signal-controlled intersections.

PEDESTRIAN OPERATIONS

Pedestrian data were collected in March/April 2025 in accordance with procedures outlined in the *CEQR Technical Manual* for the six analysis peak periods. Based on the collected data, pedestrian volumes were developed for the following peak hours for analysis.

- Weekday AM: 7:30 – 8:30 AM;

- Weekday midday: 1:00 – 2:00 PM;
- Weekday PM: 4:00 – 5:00 PM;
- Weekday evening: 6:00 – 7:00 PM;
- Saturday midday/afternoon: 1:00 – 2:00 PM; and
- Saturday evening: 6:00 – 7:00 PM.

The existing pedestrian volumes for the above peak hours are shown in **Appendix D**. Inventories and field measurements of the pedestrian analysis elements were made to document sidewalk widths, corner geometry, crosswalk geometry, and obstructions affecting the effective sizes of these pedestrian elements.

A summary of the existing conditions pedestrian analysis results is presented in **Table 13-27**. Under existing conditions for the weekday AM, midday, PM, and evening, and Saturday midday/afternoon and evening analysis peak hours, all analyzed sidewalks, corner reservoirs, and crosswalks currently operate at LOS C or better. The detailed sidewalk, corner reservoir, and crosswalk analysis summary tables are presented in **Appendix D**.

Table 13-27
Existing Conditions Pedestrian Analysis Results

	Analysis Peak Hours					
	Weekday				Saturday	
Level of Service	AM	MD	PM	EVE	MD/AN	EVE
Sidewalks						
Sidewalks at LOS A/B/C	18	18	18	25	18	25
Sidewalks at LOS D	0	0	0	0	0	0
Sidewalks at LOS E	0	0	0	0	0	0
Sidewalks at LOS F	0	0	0	0	0	0
Total	18	18	18	25	18	25
Corner Reservoirs						
Corners at LOS A/B/C	17	17	17	19	17	19
Corners at LOS D	0	0	0	0	0	0
Corners at LOS E	0	0	0	0	0	0
Corners at LOS F	0	0	0	0	0	0
Total	17	17	17	19	17	19
Crosswalks						
Crosswalks at LOS A/B/C	8	8	8	12	8	12
Crosswalks at LOS D	0	0	0	0	0	0
Crosswalks at LOS E	0	0	0	0	0	0
Crosswalks at LOS F	0	0	0	0	0	0
Total	8	8	8	12	8	12

Notes: LOS = Level of service; MD = Midday; EVE = Evening; AN = Afternoon.

THE FUTURE WITHOUT THE PROPOSED ACTIONS

The 2032 No Action condition pedestrian volumes were developed by increasing existing pedestrian levels by the expected growth in overall travel through and within the study area. Similar to traffic, an annual background growth rate of 0.25 percent was assumed for the first five years (2026 through 2030) and then 0.125 percent for the remaining years (2031 and 2032). Additionally, relevant trips from discrete No Build projects that are

expected to traverse study area analysis locations were included as part of the No Action condition.

CHANGES TO THE STUDY AREA STREET NETWORK

There are no known changes anticipated along the roadways that are part of the pedestrian study area. Accordingly, the No Action condition pedestrian analyses accounted for the same geometric and operational characteristics assumed for existing conditions.

PEDESTRIAN OPERATIONS

The 2032 No Action condition peak hour pedestrian volumes are shown in **Appendix D**. The detailed sidewalk, corner reservoir, and crosswalk analysis results are also presented in **Appendix D**. A summary of these 2032 No Action condition analysis results is presented in **Table 13-28**.

Table 13-28
2032 No Action Condition Pedestrian Analysis Results

	Analysis Peak Hours					
	Weekday				Saturday	
Level of Service	AM	MD	PM	EVE	MD/AN	EVE
Sidewalks						
Sidewalks at LOS A/B/C	18	18	17	25	18	25
Sidewalks at LOS D	0	0	1	0	0	0
Sidewalks at LOS E	0	0	0	0	0	0
Sidewalks at LOS F	0	0	0	0	0	0
Total	18	18	18	25	18	25
Corner Reservoirs						
Corners at LOS A/B/C	17	17	17	19	17	19
Corners at LOS D	0	0	0	0	0	0
Corners at LOS E	0	0	0	0	0	0
Corners at LOS F	0	0	0	0	0	0
Total	17	17	17	19	17	19
Crosswalks						
Crosswalks at LOS A/B/C	8	8	8	12	8	12
Crosswalks at LOS D	0	0	0	0	0	0
Crosswalks at LOS E	0	0	0	0	0	0
Crosswalks at LOS F	0	0	0	0	0	0
Total	8	8	8	12	8	12

Notes: LOS = Level of service; MD = Midday; EVE = Evening; AN = Afternoon.

The analyses indicate that under the 2032 No Action condition, 24 of the 25 analyzed sidewalks and all of the analyzed corner reservoirs and crosswalks will operate at LOS C or better. Marginal or congested operating conditions (LOS D or worse) will occur at one sidewalk location during the weekday PM analysis peak hour.

THE FUTURE WITH THE PROPOSED ACTIONS

The 2032 With Action pedestrian volumes for the six analysis peak hours are shown in **Appendix D**. Proposed Project incremental pedestrian trips were added onto the 2032 No Action pedestrian volumes to obtain the 2032 With Action pedestrian volumes.

CHANGES TO THE STUDY AREA STREET NETWORK

As described above for traffic, planning and design efforts on developing public realm improvements surrounding the Project Site are underway. Resulting changes to adjacent roadways and pedestrian facilities would be subject to the review and approval of DOT. Additionally, to accommodate large events held at the Project Site, a transportation management plan is being developed to determine the necessary accommodations that would need to be in place prior to, during, and after each event. Since the specific public realm improvements and operational changes associated with event-day measures have not yet been defined, this Draft EIS assumes that study area pedestrian elements under the With Action condition would have the same geometric and operational characteristics as the No Action condition. The related changes and effects from the public realm improvements and/or event-day transportation management plan, when known, will be accounted for in the analysis revisions made for the Final EIS.

PEDESTRIAN OPERATIONS

The 2032 With Action condition sidewalk, corner reservoir, and crosswalk analysis results are presented in **Appendix D**. A summary of these 2032 With Action condition analysis results is presented in **Table 13-29**.

Table 13-29
2032 With Action Condition Pedestrian Analysis Results

	Analysis Peak Hours					
	Weekday				Saturday	
Level of Service	AM	MD	PM	EVE	MD/AN	EVE
Sidewalks						
Sidewalks at LOS A/B/C	17	17	17	19	17	18
Sidewalks at LOS D	1	1	1	2	1	3
Sidewalks at LOS E	0	0	0	2	0	1
Sidewalks at LOS F	0	0	0	2	0	3
Total	18	18	18	25	18	25
Corner Reservoirs						
Corners at LOS A/B/C	17	17	17	18	17	17
Corners at LOS D	0	0	0	0	0	2
Corners at LOS E	0	0	0	1	0	0
Corners at LOS F	0	0	0	0	0	0
Total	17	17	17	19	17	19
Crosswalks						
Crosswalks at LOS A/B/C	8	8	8	5	8	5
Crosswalks at LOS D	0	0	0	2	0	2
Crosswalks at LOS E	0	0	0	3	0	2
Crosswalks at LOS F	0	0	0	2	0	3
Total	8	8	8	12	8	12

Notes: LOS = Level of service; MD = Midday; EVE = Evening; AN = Afternoon.

The analyses indicate that under the 2032 With Action condition, 17 of the 18 analyzed sidewalks, all 17 analyzed corner reservoirs, and all eight analyzed crosswalks would operate at LOS C or better during the four non-event peak hours (i.e., weekday AM, midday, and PM, and Saturday midday/afternoon). Marginal or congested operating conditions (LOS D or worse) would occur at one sidewalk location during the weekday PM peak hour.

During event conditions, 19 and 18 of the 25 analyzed sidewalks, 18 and 17 of the 19 analyzed corner reservoirs, and five and five of the 12 analyzed crosswalks would operate at LOS C or better during the weekday and Saturday evening peak hours, respectively. Marginal or congested operating conditions (LOS D or worse) would occur at six and seven sidewalk locations, one and two corners, and seven and seven crosswalks during the weekday and Saturday evening peak hours, respectively.

Based on *CEQR Technical Manual* criteria, significant adverse impacts were identified for one sidewalk during the weekday PM and Saturday midday/afternoon peak hours, and five sidewalks during the weekday evening and Saturday evening peak hours. For corners, there would be one significant adverse impact during the weekday evening peak hour and no impacts for the other five analysis peak hours. For crosswalks, there would be six significant adverse impacts during the weekday evening and Saturday evening peak hours and no impacts for the other four analysis peak hours. **Table 13-30** summarizes the significant adverse pedestrian impacts for the six analysis peak hours. Potential improvement measures that may be implemented to mitigate these impacts are discussed in Chapter 22, "Mitigation."

Table 13-30
2032 With Action Condition—Significant Adverse Pedestrian Impacts

Intersection	Pedestrian Element	Weekday				Saturday	
		AM	MD	PM	EVE	MD/AN	EVE
Sidewalks							
Reservoir Avenue and West 195th Street	East sidewalk along Reservoir Avenue between Strong Street and West 195th Street				X		X
	East sidewalk along Reservoir Avenue between West 195th Street and Loading Dock Entrance						X
East Kingsbridge Road and Grand Concourse	North sidewalk of East Kingsbridge Road between Creston Avenue and Grand Concourse			X	X	X	X
	West sidewalk of Grand Concourse between East Kingsbridge Road and Subway Entrance				X		
Goulden Avenue and West 197th Street	East sidewalk of Goulden Avenue between East 197th Street and Strong Street				X		X
	West sidewalk of Goulden Avenue north of West 197th Street				X		X
Total Number of Impacted Sidewalks		**0**	**0**	**1**	**5**	**1**	**5**
		Total During Any Analysis Peak hour			**5**		**5**
Corner Reservoirs							
East Kingsbridge Road and Creston Avenue	Northeast				X		
Total Number of Impacted Corners		**0**	**0**	**0**	**1**	**0**	**0**
		Total During Any Analysis Peak hour			**1**		**0**
Crosswalks							
Reservoir Avenue and West 195th Street	East				X		X
Jerome Avenue and East Kingsbridge Road	North				X		X
Morris Avenue and East Kingsbridge Road	North				X		
Creston Avenue and East Kingsbridge Road	North				X		X
Goulden Avenue and West 197th Street	North				X		X
	South				X		X
	West						X
Total Number of Impacted Crosswalks		**0**	**0**	**0**	**6**	**0**	**6**
		Total During Any Analysis Peak hour			**6**		**6**

Notes: MD = Midday; EVE = Evening; AN = Afternoon

G. STREET USER SAFETY ASSESSMENT

Crash data for the study area intersections were obtained from DOT for the period between January 1, 2017 and December 31, 2019. The data obtained quantify the total number of crashes, fatalities, and injuries during the study period, as well as a yearly breakdown of vehicular crashes with pedestrians and bicycles at each location. During this period, there were 395 total crashes, resulting in 336 injuries and one fatality, at the study area intersections. Among these crashes, 109 were pedestrian/bicyclist-related. A rolling yearly total of crash data identifies nine study area intersections as high crash locations. **Table 13-31** provides a summary of these high crash locations and their corresponding crash, fatality, injury, and pedestrian/bicyclist-related statistics.

Table 13-31
Summary of Crash Data

Intersection		Study Period						Crashes by Year						
		All Crashes by Year			All Crashes Highest 12- Month Rolling	Total Fatalities	Total Injuries	Pedestrian			Bicycle			Ped + Bike 12 Consecutive Month Maximum
North-South Roadway	East-West Roadway	2017	2018	2019				2017	2018	2019	2017	2018	2019	
Grand Ave	W 192nd St	3	0	1	3	0	3	0	0	0	0	0	0	0
Davidson Ave	W 192nd St	1	1	2	3	0	6	1	0	1	0	0	1	2
* Webb Ave	W Kingsbridge Rd	3	4	5	5	0	6	2	0	0	0	0	0	2
University Ave	W 192nd St	1	3	2	5	0	5	0	1	0	1	0	0	1
W 192nd St	Aqueduct Ave	1	2	2	3	0	3	0	1	0	1	0	0	1
Claflin Ave	Eames Pl	0	0	1	1	0	0	0	0	0	0	0	0	0
**** University Ave**	**W Kingsbridge Rd**	**6**	**13**	**10**	**15**	**0**	**22**	**2**	**3**	**0**	**0**	**0**	**0**	**3**
University Ave	Eames Pl	0	1	0	1	0	0	0	0	0	0	0	0	0
** **Reservoir Ave/ Aqueduct Ave**	**W Kingsbridge Rd**	**2**	**6**	**5**	**7**	**0**	**11**	**2**	**4**	**1**	**0**	**0**	**1**	**5**
Sedgwick Ave	W 195th St	1	3	2	3	0	11	0	2	1	0	0	0	2
Webb Ave	W 195th St	0	1	2	2	0	1	0	0	0	0	0	1	1
Claflin Ave	W 195th St	1	1	0	2	0	0	0	0	0	0	0	0	0
University Ave	W 195th St	1	2	4	4	0	4	1	1	1	0	0	0	2
Webb Ave	W 197th St	1	3	3	4	0	6	0	1	1	0	2	0	3
Claflin Ave	W 197th St	0	1	1	2	0	1	0	0	0	0	0	0	0
* Jerome Ave	W 192nd St	3	2	1	4	0	5	1	0	0	0	1	0	2
Creston Ave	E 192nd St	2	1	3	3	0	4	1	0	1	0	0	0	1
** Grand Ave**	**Reservoir Ave/ W Kingsbridge Rd**	**4**	**4**	**5**	**7**	**0**	**9**	**1**	**2**	**1**	**1**	**0**	**0**	**3**
* Davidson Ave	W Kingsbridge Rd	4	0	2	4	0	10	2	0	0	0	0	0	2
* Morris Ave	E Kingsbridge Rd	3	5	3	6	0	8	0	0	2	0	0	0	2
University Ave	W 197th St	3	1	1	3	0	3	0	0	1	0	0	0	1
Reservoir Ave	W 195th St	4	5	4	8	0	11	3	0	1	1	0	1	4
Goulden Ave/ Reservoir Ave	Strong St	2	3	1	4	0	2	0	0	0	0	0	0	0
Reservoir Ave	W 197th St	1	3	2	4	0	8	1	0	0	0	0	0	1
Goulden Ave	W 197th St	3	0	3	3	0	5	1	0	1	0	0	0	1
** Grand Concourse**	**E 192nd St**	**2**	**9**	**6**	**9**	**1**	**11**	**1**	**1**	**2**	**0**	**0**	**0**	**2**
Creston Ave	E 193rd St	0	3	1	3	0	2	0	2	0	0	0	0	2
* Grand Concourse	E 193rd St	2	1	7	7	0	11	0	0	1	0	0	0	1
** **Grand Concourse**	**E Kingsbridge Rd**	**9**	**9**	**10**	**13**	**0**	**32**	**4**	**2**	**6**	**0**	**0**	**0**	**6**
* **Creston Ave**	**E Kingsbridge Rd**	**3**	**5**	**4**	**8**	**0**	**12**	**1**	**0**	**1**	**0**	**1**	**1**	**3**
Morris Ave	E 196th St	0	3	8	9	0	9	0	1	1	0	0	0	1
Creston Ave	E 196th St	0	2	2	2	0	2	0	1	0	0	0	0	1
* **Grand Concourse**	**E 196th St**	**9**	**11**	**16**	**17**	**0**	**42**	**3**	**1**	**4**	**0**	**0**	**1**	**5**
Creston Ave	E 197th St	0	1	1	2	0	3	0	0	0	0	0	0	0
* **Sedgwick Ave**	**W Kingsbridge Rd**	**5**	**8**	**9**	**11**	**0**	**14**	**0**	**1**	**3**	**0**	**0**	**1**	**4**
* Jerome Ave	Parkview Terrace	3	2	3	4	0	5	0	0	0	0	0	0	0
* **Jerome Ave**	**E/W Kingsbridge Rd**	**13**	**14**	**12**	**19**	**0**	**34**	**2**	**5**	**2**	**0**	**0**	**0**	**6**
* Jerome Ave	W 195th St	4	4	4	7	0	9	1	1	0	0	0	0	2
* Jerome Ave	E 196th St	4	3	3	5	0	6	0	1	1	0	0	0	2

Notes:
Intersections where five or more pedestrian/bicycle injury crashes in any consecutive 12-month period; or intersections along a Vision Zero priority corridor with three or more pedestrian/bicycle injury crashes in any consecutive 12-month period are considered high crash locations. These locations and their corresponding crash data are **bolded**. Asterisk (*) denotes a location within the Vision Zero priority corridor. Double asterisk (**) denotes a Vision Zero high priority intersection.
Source: DOT January 1, 2017 to December 31, 2019 crash data.

In recent years, the City's Vision Zero initiatives have led to the implementation of many safety interventions across the five boroughs. These include separated bike lanes, high-visibility crosswalks, narrowed travel lanes, changes in signal timing to curb speeding, and addition of pedestrian signal countdown timers.

HIGH CRASH LOCATIONS

Between Draft and Final EIS, the above crash data summary will be updated to include more recent 2023 data from DOT. Prevailing trends of the identified crashes from that dataset (i.e., 2018, 2019, and 2023) will be further examined, along with a detailed description of each pedestrian/bicyclist-related crash at the high crash locations. Where feasible, potential safety measures, such as crosswalk restriping, detectable warning surface improvements, and adding countdown timers, will be recommended for DOT consideration.

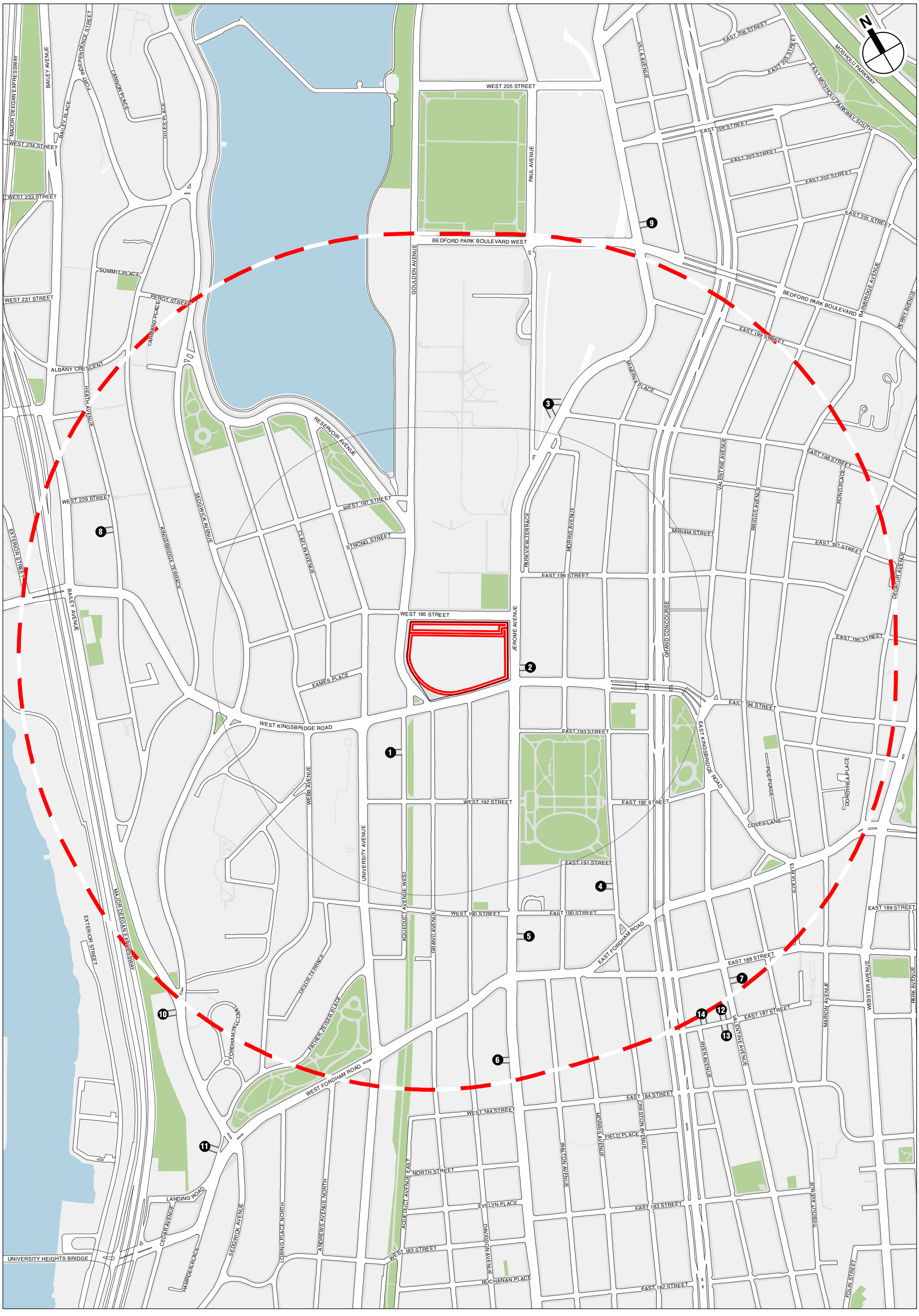
H. PARKING ASSESSMENT

As shown in **Table 13-1**, the Proposed Project is expected to provide 328 total on-site accessory parking spaces, 248 at the Armory site and 80 at the National Guard site. Access to both of these on-site parking resources would be made along West 195th Street between Reservoir and Jerome Avenues. As detailed below, while most of the parking demand from the planned programmed uses are expected to be accommodated by these two on-site parking resources, off-site resources would also be needed, in particular, to accommodate attendees to the Proposed Project's event venue in the Armory.

EXISTING CONDITIONS

An inventory of off-street parking facilities within approximately ¼-mile and ½-mile distances from the boundaries of the Project Site (or approximately 5- and 10-minute walk, respectively) was conducted in October 2024. This survey provided an inventory of the area's public parking facilities and their legal capacities and utilization levels. Based on responses given by parking attendants and visual inspections, where possible, estimates were made on the parking occupancy or utilization at each facility for the weekday AM, midday, PM, evening, and overnight peak periods, as well as the Saturday midday/afternoon and evening peak periods. A summary of the recorded information and the area's overall off-street public parking supply and utilization is presented in **Table 13-32**. As depicted in **Figure 13-17**, only two public parking facilities were identified within the approximate ¼-mile off-street parking study area. When expanded to the ½-mile radius, six other (for a total of eight) public parking facilities were identified. However, just outside the ½-mile radius, another six (for a total of 14) public parking facilities were identified. These six public parking facilities that are located just outside the ½-mile distance from the Project Site has almost the same number of total spaces as the eight that are within the ½-mile radius. Based on field inventory efforts described above, the combined capacity of the 14 public parking facilities totals 2,345 parking spaces (2,171 parking spaces available overnight). Overall, they were 66, 80, 52, 48, 48, 34, and 34-percent utilized, with 795, 477, 1,125, 1,215, 1,138, 1,551, and 1,537 parking spaces available during the weekday AM, midday, PM, evening, and overnight, and the Saturday midday/afternoon and evening time periods, respectively.

5.12.25



Project Site

Armory and National Guard Sites

Quarter-Mile Boundary

Half-Mile Boundary

❶ *Off-Street Parking Facilities*

0 500 FEET

KINGSBRIDGE ARMORY REDEVELOPMENT

Off-Street Public Parking Facilities

Figure 13-17

Table 13-32
Existing Weekday and Saturday Off-Street Parking Supply and Utilization
Approximately ¼- and ½-Mile Study Area

Map #	Name/Address	License Number	Licensed Capacity	Utilization Rate							Utilized Spaces							Available Spaces						
				Weekday					SAT		Weekday					SAT		Weekday					SAT	
				AM	MD	PM	EVE	ON	MD	EVE	AM	MD	PM	EVE	ON	MD	EVE	AM	MD	PM	EVE	ON	MD	EVE
1	Home Hospital Parking, LLC / 2621 Aqueduct Avenue	1308597	100	75%	50%	50%	90%	100%	30%	30%	75	50	50	90	100	30	30	25	50	50	10	0	70	70
2	Kingsbridge Park System Inc. / 2686 Jerome Avenue	2095595	59	35%	100%	25%	20%	15%	30%	10%	21	59	15	12	9	18	6	38	0	44	47	50	41	53
1/4-Mile Area Only Totals		-	**159**	**60%**	**69%**	**41%**	**64%**	**69%**	**30%**	**23%**	**96**	**109**	**65**	**102**	**109**	**48**	**36**	**63**	**50**	**94**	**57**	**50**	**111**	**123**
3	750 Inc. / 2801 Jerome Avenue	1396660	300	65%	80%	50%	50%	50%	35%	35%	195	240	150	150	150	105	105	105	60	150	150	150	195	195
4	MP Creston LLC / 2519 Creston Avenue	2117070	66	30%	80%	40%	25%	CLD	30%	25%	20	53	26	17	CLD	20	17	46	13	40	49	CLD	46	49
5	Jerome-190th Street Municipal Parking Garage / 2478 Jerome Avenue	N/A	416	75%	80%	55%	40%	40%	25%	25%	312	333	229	166	166	104	104	104	83	187	250	250	312	312
6	Fordham Auto Plus, Inc / 2409 Jerome Avenue	1202048	80	90%	80%	50%	70%	70%	70%	70%	72	64	40	56	56	56	56	8	16	40	24	24	24	24
7	GEM Parking Corp / 260 East 188th Street	2083823	139	80%	95%	60%	50%	50%	55%	55%	111	132	83	70	70	76	76	28	7	56	69	69	63	63
8	2820 New Parking Corp. / 2820 Bailey Avenue	2079511	63	80%	40%	70%	60%	90%	30%	60%	50	25	44	38	57	19	38	13	38	19	25	6	44	25
1/2-Mile Area Totals		-	**1,223**	**70%**	**78%**	**52%**	**49%**	**53%**	**35%**	**35%**	**856**	**956**	**637**	**599**	**608**	**428**	**432**	**367**	**267**	**586**	**624**	**549**	**795**	**791**
9	M&N Group Parking Inc. / 2990 Jerome Avenue	2052975	240	65%	80%	50%	50%	50%	35%	35%	156	192	120	120	120	84	84	84	48	120	120	120	156	156
10	Bronx Car Park Systems Inc. / 2425 Sedgwick Avenue	0976776	495	65%	80%	50%	50%	50%	35%	35%	322	396	248	248	248	173	173	173	99	247	247	247	322	322
11	B K Parking Group Inc. / 205 West Fordham Road	1339578	59	85%	85%	40%	50%	50%	35%	35%	50	50	24	30	30	21	21	9	9	35	29	29	38	38
12	HMW Parking LLC / 257 East 187th Street	2110378	100	65%	80%	50%	50%	15%	15%	15%	65	80	50	50	15	15	15	35	20	50	50	85	85	85
13	Valentine Parking LLC / 250 East 187th Street	1091447	108	60%	80%	75%	60%	CLD	45%	60%	65	86	81	65	CLD	49	65	43	22	27	43	CLD	59	43
14	Poe Garages, LLC/ 247 East 187 Street	1213404	120	30%	90%	50%	15%	10%	20%	15%	36	108	60	18	12	24	18	84	12	60	102	108	96	102
Just Outside 1/2-Mile Area Totals		-	**2,345**	**66%**	**80%**	**52%**	**48%**	**48%**	**34%**	**34%**	**1,550**	**1,868**	**1,220**	**1,130**	**1,033**	**794**	**808**	**795**	**477**	**1,125**	**1,215**	**1,138**	**1,551**	**1,537**

Notes: MD = Midday/Afternoon; EVE = Evening; ON = Overnight; SAT = Saturday; CLD = Closed.
Sources: Survey conducted by AKRF Inc. October 2024.

Regarding on-street parking, a reconnaissance was conducted together with the above efforts to gauge the likely availability of on-street parking supplies. This examination showed that most of the legal on-street parking spaces in the area, which are governed by street cleaning regulations, were observed to be near full occupancy at most times of the day. Along the area's commercial corridors, such as Kingsbridge Road and Jerome Avenue, limited numbers of short-term metered parking spaces are available. These spaces were also observed to be well-utilized. Since there would be overall a limited amount of on-street parking availability during most times of the day, it was not considered as a resource to accommodate the Proposed Project's anticipated parking demand.

THE FUTURE WITHOUT THE PROPOSED ACTIONS

Future off-street parking demand for the 2032 No Action condition was developed by increasing the existing parking demand by expected growth due to background growth and by accounting for parking demand generated by No Build projects expected to be completed in the area within a ½-mile of the Project Site. As shown in **Table 13-33**, the 2032 No Action condition parking utilization is expected to increase to 72, 84, 57, 53, 54, 39, and 40 percent during the weekday AM, midday, PM, evening, and overnight, and the Saturday midday/afternoon and evening time periods, respectively.

Table 13-33
Existing and 2032 No Action Conditions Parking Supply and Utilization
Approximately 1/2-Mile Study Area

	Weekday AM	Weekday Midday	Weekday PM	Weekday Evening	Weekday Overnight	Saturday Midday	Saturday Evening
2024 Existing Public Parking Supply	2,345	2,345	2,345	2,345	2,171	2,345	2,345
2024 Existing Public Parking Demand	1,550	1,868	1,220	1,130	1,033	794	808
2024 Existing Public Parking Utilization	66%	80%	52%	48%	48%	34%	34%
2032 Background Growth Incremental Parking Demand	25	31	20	18	17	13	13
Discrete No Build Projects Parking Demand	139	90	112	117	147	120	127
Discrete No Build Projects Accessory Parking Supply	20	20	20	20	20	20	20
Discrete No Build Projects Public Parking Demand	119	70	92	97	127	100	107
2032 No Action Public Parking Demand Total	1,694	1,969	1,332	1,245	1,177	907	928
2032 No Action Public Parking Supply	2,345	2,345	2,345	2,345	2,171	2,345	2,345
2032 No Action Public Parking Utilization	72%	84%	57%	53%	54%	39%	40%
2032 No Action Available Spaces (Shortfall)	651	376	1,013	1,100	994	1,438	1,417

Notes:
Sample Calculation
2032 No Action Public Parking Demand Total = 2024 Existing Public Parking Demand + 2032 Background Growth Incremental Parking Demand + Discrete No Build Projects Public Parking Demand
2032 No Action Weekday AM Public Parking Demand Total = 2,345 + 25 + 119 = 1,694

THE FUTURE WITH THE PROPOSED ACTIONS

Under the 2032 With Action condition, the Proposed Project is estimated to generate non-event day parking demands of up to 286 parking spaces on a weekday and 180 parking spaces on a Saturday, as summarized in **Table 13-34**. With 328 parking spaces provided on-site, these projected parking demands could be fully accommodated without the need for any off-site parking resources. On event days, the projected parking demand generated by the Proposed Project would rise to up to 2,575 parking spaces, as summarized in **Table 13-35**. With most on-site parking spaces expected to be utilized by other Proposed Project uses, the event-related parking demand would be mostly, if not solely, accommodated off-site.

Table 13-34
Proposed Project Non-Event Day Parking Demand

Hour	Weekday								Saturday							
	Residential	Office	Local Retail	Community Facility	Museum	Light Industrial	Sports Academy/ Recreational	Total	Residential	Office	Local Retail	Community Facility	Museum	Light Industrial	Sports Academy/ Recreational	Total
12 AM – 1 AM	168	0	0	0	0	0	0	168	160	0	0	0	0	0	0	160
1 AM – 2 AM	169	0	0	0	0	0	0	169	163	0	0	0	0	0	0	163
2 AM – 3 AM	170	0	0	0	0	0	0	170	167	0	0	0	0	0	0	167
3 AM – 4 AM	170	0	0	0	0	0	0	170	169	0	0	0	0	0	0	169
4 AM – 5 AM	170	0	0	0	0	0	0	170	171	1	0	0	0	0	0	172
5 AM – 6 AM	167	1	0	2	0	0	1	171	170	2	0	0	0	0	0	172
6 AM – 7 AM	158	3	0	3	0	0	2	166	169	3	0	1	0	0	1	174
7 AM – 8 AM	139	13	1	4	0	4	2	163	164	4	0	2	0	0	2	172
8 AM – 9 AM	107	39	1	8	1	49	5	210	154	7	0	6	0	5	4	176
9 AM – 10 AM	93	80	1	10	2	83	6	275	142	9	1	9	2	11	6	**180**
10 AM – 11 AM	88	88	1	9	5	88	5	284	132	10	1	13	4	11	9	**180**
11 AM – 12 PM	87	88	1	8	8	75	4	271	125	11	1	12	4	11	9	173
12 PM – 1 PM	87	83	2	7	5	64	3	251	120	10	1	12	4	9	8	164
1 PM – 2 PM	88	85	2	6	8	61	2	252	119	9	1	12	5	9	8	163
2 PM – 3 PM	88	85	2	6	12	83	1	277	120	8	1	10	5	12	6	162
3 PM – 4 PM	92	83	2	8	15	83	3	**286**	120	7	1	9	5	15	6	163
4 PM – 5 PM	96	74	2	8	16	58	4	258	125	6	1	9	4	10	6	161
5 PM – 6 PM	105	41	2	9	10	9	4	180	132	4	1	5	4	2	4	152
6 PM – 7 PM	118	18	2	9	9	2	4	162	136	3	1	3	2	0	2	147
7 PM – 8 PM	128	8	1	8	4	0	3	152	140	2	0	0	0	0	0	142
8 PM – 9 PM	138	5	1	5	2	0	2	153	144	2	0	0	0	0	0	146
9 PM – 10 PM	149	3	1	2	0	0	1	156	149	2	0	0	0	0	0	151
10 PM – 11 PM	158	1	1	0	0	0	0	160	153	2	0	0	0	0	0	155
11 PM – 12 AM	165	1	0	0	0	0	0	166	156	1	0	0	0	0	0	157

Note: Peak parking demand is bolded.

Table 13-35
Proposed Project Event Day Parking Demand

Hour	Weekday								Saturday							
	Residential	Office	Local Retail	Community Facility	Museum	Light Industrial	Concert/Event	Total	Residential	Office	Local Retail	Community Facility	Museum	Light Industrial	Concert/Event	Total
12 AM – 1 AM	168	0	0	0	0	0	0	168	160	0	0	0	0	0	0	160
1 AM – 2 AM	169	0	0	0	0	0	0	169	163	0	0	0	0	0	0	163
2 AM – 3 AM	170	0	0	0	0	0	0	170	167	0	0	0	0	0	0	167
3 AM – 4 AM	170	0	0	0	0	0	0	170	169	0	0	0	0	0	0	169
4 AM – 5 AM	170	0	0	0	0	0	0	170	171	1	0	0	0	0	0	172
5 AM – 6 AM	167	1	0	2	0	0	0	170	170	2	0	0	0	0	0	172
6 AM – 7 AM	158	3	0	3	0	0	0	164	169	3	0	1	0	0	0	173
7 AM – 8 AM	139	13	1	4	0	4	0	161	164	4	0	2	0	0	0	170
8 AM – 9 AM	107	39	1	8	1	49	0	205	154	7	0	6	0	5	0	172
9 AM – 10 AM	93	80	1	10	2	83	0	269	142	9	1	9	2	11	0	174
10 AM – 11 AM	88	88	1	9	5	88	0	279	132	10	1	13	4	11	0	171
11 AM – 12 PM	87	88	1	8	8	75	0	267	125	11	1	12	4	11	0	164
12 PM – 1 PM	87	83	2	7	5	64	0	248	120	10	1	12	4	9	0	156
1 PM – 2 PM	88	85	2	6	8	61	0	250	119	9	1	12	5	9	0	155
2 PM – 3 PM	88	85	2	6	12	83	0	276	120	8	1	10	5	12	0	156
3 PM – 4 PM	92	83	2	8	15	83	0	283	120	7	1	9	5	15	0	157
4 PM – 5 PM	96	74	2	8	16	58	0	254	125	6	1	9	4	10	0	155
5 PM – 6 PM	105	41	2	9	10	9	0	176	132	4	1	5	4	2	0	148
6 PM – 7 PM	118	18	2	9	9	2	387	545	136	3	1	3	2	0	486	631
7 PM – 8 PM	128	8	1	8	4	0	1,336	1,485	140	2	0	0	0	0	1,943	2,085
8 PM – 9 PM	138	5	1	5	2	0	1,723	**1,874**	144	2	0	0	0	0	2,429	**2,575**
9 PM – 10 PM	149	3	1	2	0	0	1,594	1,749	149	2	0	0	0	0	2,247	2,398
10 PM – 11 PM	158	1	1	0	0	0	129	289	153	2	0	0	0	0	182	337
11 PM – 12 AM	165	1	0	0	0	0	0	166	156	1	0	0	0	0	0	157

Note: Peak parking demand is bolded.

As detailed above, the Proposed Project's event-day peak parking demand is estimated at nearly 1,900 parking spaces on a weekday evening and almost 2,600 parking spaces on a Saturday evening. These are approximately 1,700 and 2,400, respectively, higher than the same time periods on non-event days. With correspondingly approximately 1,000 and 1,400 parking spaces available within the 14 public parking garages within the approximate ½-mile distance from the project site, in the future with the Proposed Project, maximum capacity events at the Project Site would result in significant shortfalls of 700 to 1,100 parking spaces. In the prior environmental review for the redevelopment of the Kingsbridge Armory, the parking lot at nearby Lehman College, which has a capacity of 982 parking spaces, was identified as an off-site parking resource for events. The Applicants are currently making outreach to Lehman College and other nearby institutions that may have excess parking availability during peak event time periods at the Project Site. The progress of this effort, including any formal agreements reached, will be described in the Final EIS. ✷