10

Transportation

This chapter assesses the potential for the Proposed Project to result in significant adverse impacts on traffic operations and mobility, public transportation facilities and services, pedestrian elements and flow, safety of all roadway users (pedestrians, cyclists, transit users, and motorists), and on- and off- street parking.

Introduction

The Proposed Project is located in the Kips Bay section of Manhattan within a city block bounded by the former East 26th Street to the north, FDR Drive to the east, East 25th Street to the south, and First Avenue to the west. The Development Site is currently occupied by the City University of New York (CUNY) Hunter College Brookdale Campus which consists of academic and dormitory space. The location of the project is shown in **Figure 10-1**.

The Proposed Project would redevelop this block with approximately 2.19 million gross square feet (gsf) of new construction of academic, healthcare, Life Sciences, and retail space and public realm improvements (the Proposed Project). The Proposed Project would consist of multiple new buildings (illustratively shown as Buildings A, B1, and B2) comprising up to approximately 1,782,000 zsf (2.19 million gsf).[1] The Eastern Parcel would create an integrated educational campus within Building A, as described below, bringing together the Hunter College School of Nursing and departments of Physical Therapy, Speech-Language Pathology & Audiology (including the community clinic), and Medical Laboratory Sciences, Borough of Manhattan Community College (BMCC) Health Sciences, Health Studies, and Nursing Programs, and the CUNY Graduate School of Public Health & Health

[1] As design progresses for the Proposed Project, it is likely that the building on the eastern portion of the Development Site (i.e., Building A) would be designed as two buildings with independent utility systems to accommodate separation between the public school and CUNY facilities.

Policy,[2] along with a NYCPS high school focused on health care and sciences education. The Western Parcel would include two Life Sciences buildings, Building B1 and Building B2, and the one-story SPARC Square Pavilion within the open space. Building B1 would front on First Avenue, and include space dedicated to H+H. Building B2 would be located to the east of Building B1 and would include space for OCME.

Building A located on the Eastern Parcel would be comprised of approximately 698,570 gsf (561,500 zsf), containing approximately 606,450 gsf (559,185 zsf) of community facilities (UG III(B)) space and 2,600 gsf (2,300 zsf) of commercial retail (UG VI) space.

Building B1 would contain a total of approximately 810,980 gsf (667,700 zsf), including approximately 184,000 gsf (174,550 zsf) of community facility (UG III(B)), approximately 5,600 gsf (5,060 zsf) of local retail (UG VI), and approximately 530,900 gsf (488,060 zsf) of office and laboratories (UG VII).

Building B2 would contain a total of approximately 682,470 gsf (551,800 zsf), including approximately 217,300 gsf (200,340 zsf) of community facility (UG III(B)), approximately 3,000 gsf (2,760 zsf) of local retail (UG VI), and approximately 379,400 gsf (348,680 zsf) of office and laboratories (UG VII).

The square footages described above for community facility, office and laboratories, and local retail include each programmatic element anticipated to be included on the site.[3] Additionally, a total of approximately 225 parking spaces would be provided at the cellar level as a result of the Proposed Actions. The Proposed Project would be expected to be completed by the year 2031.

In the future without the Proposed Project (the No-Action condition), it is assumed that the Development Site would continue to operate as the Brookdale campus of CUNY Hunter College, which consists of academic and dormitory space (with a total of 538,464 sf of space).

Table 10-1 summarizes the program during the existing, No-Action, With-Action conditions, and the development program increment for analysis by land use.

[2] While the CUNY Hunter space on site currently contains dormitory space (711 beds), the Proposed Project would not include dormitory space on site. CUNY Hunter intends to replace the dorm space that would be lost as a result of the Proposed Project elsewhere so there would be no potential for displacement.

[3] Program areas are based on a conceptual site plan and are subject to future modification as each building is designed.

Figure 10-1 Project Location

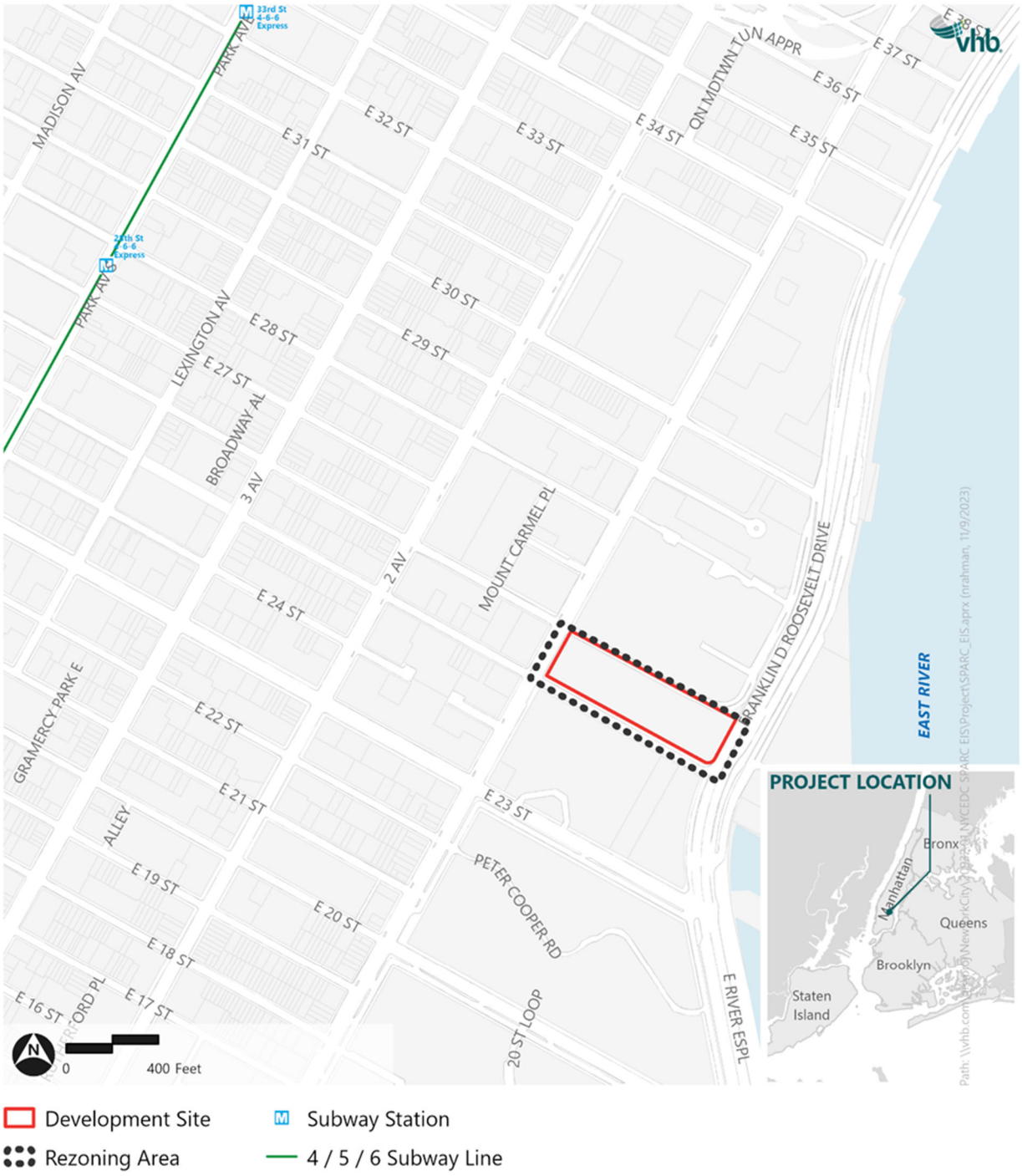


Table 10-1 Development Increment for Analysis

Use	Existing/No-Action[1]	Proposed Project	Analysis Increment
Commercial Life Sciences	--	1,040,880 sf	+1,040,880 sf
Academic			
Brookdale Campus	538,464 sf	--	-538,464 sf
Higher Education	--	605,163 sf[2]	+605,163 sf
High School	--	193,358 sf[2] 1,600 students 160 staff	+193,358 sf +1,600 students +160 staff
Health Care			
Ambulatory Care	--	185,010 sf 256 employees 639 daily patients/visitors[3]	+185,010 sf +256 employees +639 daily patients/visitors
OCME		112,300 sf[4] 254 staff	+112,300 sf +254 staff
Accessory Retail	-	15,000 sf	+15,000 sf
Open Space (Passive)	--	0.60 acres	+0.60 acres
Parking	50 spaces	225 spaces[5]	+175 spaces

Note:
1 In the future condition without the project, the "No-Action", the project site's existing uses are expected to remain unchanged.
2 Analysis conservatively assumes that higher education and the high school basement would be programmed space, and not used for parking.
3 The number of ambulatory care staff and patients are based on information provided by the applicant.
4 Does not include approximately 43,970 sf of OCME basement space which would be used for storage and parking.
5 Approximately 50 parking spaces would be provided for OCME staff, and 175 parking spaces would be provided for higher education and high school staff.

Principal Conclusions

Traffic

Traffic analyses were performed for 23 intersections (21 signalized and 2 unsignalized). The Proposed Project would result in significant adverse traffic impacts to 24, 22 and 16 traffic movements during the weekday AM, midday, and PM peak hours, respectively. Overall, 15, 13, and eight intersections would be significantly adversely impacted by the Proposed Project during the weekday AM, midday, and PM peak hours, respectively. Mitigation measures that could be implemented to mitigate these significant adverse pedestrian impacts are discussed in **Chapter 16, Mitigation**.

Parking

The Proposed Project would provide 50 on-site parking spaces which would be used by OCME and would accommodate the OCME parking demand. The Proposed Project would also provide 175 on-site parking spaces which would be used by academic higher education and high school staff; however, for the purpose of a conservative analysis, it is assumed that parking would not be provided

on-site for the academic staff use and that the parking demand for these uses would need to be accommodated off-site. The peak off-site parking demand would be 469 spaces which could be accommodated by the 2,958 off-site parking spaces available in the study area. During the late morning/early morning peak period, it is expected that off-site parking facilities would be 97 percent occupied.

Subway

Fare control areas and stairways were analyzed at the stations closest to the Development Site – the 28th Street and 23rd Street subway stations (accessed by the No. 6 subway line) – during the commuter peak hours. The analysis determined that the fare control areas analyzed at both stations would operate at acceptable levels of service during both peak hours. For stairways, at the 28th Street station in the AM peak hour, significant impacts were identified at three stairs (O4A/O4B, O5A/O5B, and P2) during the AM and PM peak hours. At the 23rd Street station, five stairs would be significantly impacted (S7, S5, P5, S8A/S8B, and P8A/P8B) during the AM peak hour. Two of these stairs (S8A/S8B and P8A/P8B) would also be significantly impacted during the PM peak hour.

Bus

Bus line haul analyses were conducted for four bus routes (the M15 local, M15-SBS, M34A-SBS and M23-SBS) based on the *CEQR Technical Manual's* screening assessment. The With-Action condition analysis determined that there would be adequate supply for the Proposed Project's projected demand in the AM peak hour for the M15 local and M15-SBS bus routes in the northbound direction, the M15-SBS bus route in the southbound direction, and the M34A-SBS and M23-SBS bus routes in the westbound direction. In the PM peak hour, the adequate supply would be expected for the M15 local and M15-SBS bus routes in the southbound direction, the M15 local bus route in the northbound direction, the M34A-SBS and M23-SBS bus routes in the eastbound direction, and the M34A-SBS bus route in the westbound direction. However, the Proposed Project would result in a capacity shortfall for the bus routes listed below; these bus routes would be significantly impacted.

- The M15 local bus route in the southbound direction during the AM peak hour.
- The M34A-SBS bus route in the eastbound direction in the AM peak hour.
- The M23-SBS bus route in the eastbound direction in the AM peak hour.
- The M15-SBS bus route in the northbound direction during the PM peak hour.
- The M23-SBS bus route in the westbound direction during the PM peak hour.

Pedestrians

Pedestrian analyses were performed for 22 sidewalk elements, 15 crosswalk elements, and 24 corner elements at key intersections for the weekday AM, midday, and PM peak hours. Of the 61 pedestrian elements analyzed, the Proposed Project would result in significant adverse impacts at eight pedestrian elements (three sidewalks, two crosswalks, and three corners) in the AM peak hour, five pedestrian elements (two sidewalks, one crosswalk and two corners) in the midday peak hour, and five elements (three sidewalks and two corners) in the PM peak hour. Mitigation measures that could be implemented to mitigate these significant adverse pedestrian impacts are discussed in **Chapter 16, Mitigation**.

Vehicular and Pedestrian Safety

Thirteen of the 28 traffic and pedestrian analysis locations have been identified as high-crash locations according to the 2021 *CEQR Technical Manual* criteria. Three intersections were identified as high-crash locations as these intersections had at least five pedestrian/bicyclist injury crashes within a consecutive 12-month period while four additional intersections were identified as high-crash locations due to their status as Vision Zero Priority Intersections. Within the study area there are five Vision Zero Priority Corridors; intersections locations along these corridors would be considered as a high-crash location if there have been at least three pedestrian/bicyclist injury crashes within a consecutive 12-month period. Six additional intersections were identified as high-crash locations under these criteria.

Methodology

According to the *2021 CEQR Technical Manual* procedures for transportation analysis, a two-tiered screening process is undertaken to determine whether a quantified analysis is necessary. The first step, the Level 1 (Trip Generation) screening, determines whether the volume of peak hour person and vehicle trips generated by the Proposed Project would remain below the minimum thresholds for further study. These thresholds are:

- 50 peak hour vehicle trip ends;
- 200 peak hour subway/rail or bus transit riders;
- 200 peak hour pedestrian trips; and
- 50 City Wide Ferry Service (CWFS) ferry riders.

If the Proposed Project results in increments that would exceed any of these thresholds, a Level 2 (Trip Assignment) screening assessment is performed. Under this assessment, project-generated trips that exceed Level 1 thresholds are assigned to and from the project site through their respective networks (streets, bus and subway lines, sidewalks, etc.) based on expected origin-destination patterns and travel routes.

Level 1 Screening Assessment

The travel demand factors used to calculate the projected number of trips were obtained primarily from the 2021 *CEQR Technical Manual*, 2012-2016 American Association of State Highway and Transportation Officials (AASHTO) Census Transportation Planning Program (CTPP) reverse-journey-to-work (RJTW) data, data provided by the New York City Department of Transportation (NYCDOT), the 2016 NYC Dept of Sanitation Proposed Manhattan Districts 6/6A/8 Transportation Demand Factors & Screening Assessment Memorandum (DSNY TDF Memo), and environmental assessments prepared for projects with similar uses such as the 2013 *Cornell NYC Tech FEIS* and the 2013 *MSK/CUNY-Hunter Project at 74th Street FEIS*. **Table 10-2** presents the travel demand assumptions used determining the trip projections for the weekday AM, midday and PM, and Saturday peak hours.

Table 10-2 Travel Demand Characteristics

Rates	Life Sciences	Brookdale Campus	Higher Education	High School	
				Staff	Student
Person Trip Generation Rate (Weekday/Saturday)	6.98/0.43[1] per 1,000 SF	9.987/5.687[1] per 1,000 SF	26.6/13.5[3] per 1,000 SF	2.0/--[3] per Staff	2.0/--[3] per Student
Temporal Distribution					
AM Peak Hour	13.0%[1]	8.0%[1]	8.0%[1]	40.0%[3]	49.5%[3]
Midday Peak Hour	10.0%[1]	8.0%[1]	8.0%[1]	40.0%[3]	49.5%[3]
PM Peak Hour	10.0%[1]	12.0%[1]	12.0%[1]	0.0%[3]	0.0%[3]
Saturday Peak Hour	11.0%[1]	9.0%[1]	8.0%[1]	--	--
Modal Split	AM, MD & PM/SAT	AM, MD & PM/SAT	AM, MD & PM/SAT	All Periods	All Periods: General / D75
Auto (Self-park)	24.0%/24.0%[1]	4.0/6.0%[1]	4.0/6.0%[1]	16.2%[4]	-- / --
Auto (Pick-up/Drop-off)	--/--	--/--	--/--	--	2.7%[7] / 5%[7]
Taxi	7.0%/8.0%[1]	--/4.0%[1]	--/4.0%[1]	0.7%[4]	-- / --
Ambulette	--/--	--/--	--/--	--	-- / --
School Bus	--/--	--/--	--/--	--	-- / --
Bus	11.0%/19.0%[1]	11.0%/3.0[1]	11.0%/3.0[1]	14.5%[4]	19.5%[7] / 95%[7]
Subway	30.0%/29.0%[1]	68.0%/38.0[1]	68.0%/38.0[1]	47.4%[4]	63.5[7] / --
Rail	2.0%/1.0%[1]	--/--	--/--	9.3[4]	-- / --
Ferry	2.0%/1.0%[1]	--/1.0[1]	--/1.0[1]	0.6%[4]	-- / --
Bicycle	2.0%/2.0%[1]	2.0%/3.0%[1]	2.0%/3.0%[1]	1.8%[4]	2.5%[7] / --
Walk/Other	22.0%/16.0%[1]	15.0%/45.0%[1]	15.0%/45.0%[1]	9.5%[4]	11.9%[7] / --
Vehicle Occupancy	AM, MD & PM/SAT	AM, MD & PM/SAT	AM, MD & PM/SAT	All Periods	All Periods
Auto	1.23/1.20[1]	1.25/1.11[1]	1.25/1.11[1]	1.13[4]	1.30[5]
Taxi	1.40/1.40[1]	1.16/1.16[1]	1.16/1.16[1]	1.13[4]	1.40[5]
Ambulette	--	--	--	--	--
School Bus	--	--	--	--	30[10]
Directional Distribution					
AM Peak Hour	89%/11%[1]	60%/40%[1]	94%/6%[3]	100%/0%[3]	100%/0%[3]
Midday Peak Hour	49%/51%[1]	55%/45%[1]	46%/54%[3]	0%/100%[3]	0%/100%[3]
PM Peak Hour	23%/77%[1]	50%/40%[1]	44%/56%[3]	--/--[3]	--/--[3]
Saturday Peak Hour	75%/25%[1]	22%/78%[1]	57%/23%[3]	--/--[3]	--/--[3]
Delivery Trip Generation Rate (Weekday/Saturday)	0.32/0.01[1] per 1,000 SF	0.10/0.10[2] per 1,000 SF	0.10/0.10[2] per 1,000 SF	0.03/--[5] per Student	
Delivery Temporal Distribution					
AM Peak Hour	10%[1]	9.7%[1]	9.7%[1]	9.6%[5]	
Midday Peak Hour	11%[1]	9.1%[1]	9.1%[1]	11%[5]	
PM Peak Hour	2%[1]	5.1%[1]	5.1%[1]	1%[5]	
Saturday Peak Hour	11%[1]	9.1%[1]	9.1%[1]	--	
Delivery Trip Directional Split (In/out) - 50%/ 50%					

Table 10-2 Travel Demand Characteristics (continued)

	Ambulatory Care				
	Staff	**Patient/Visitor**	**OCME**	**Local Retail**	**Open Space (Passive)**
Person Trip Generation Rate (Weekday/Saturday)	3.0[6]/-- per Staff	2.0[6]/-- per Patient/Visitor	6.316/6.316[1] per 1,000 SF	329.0/358.0[3] per 1,000 SF	44.0/62.0[3] per Acre
Temporal Distribution					
AM Peak Hour	12.1%[6]	4.0%[6]	28.3%[8]	4.8%[3]	3.0%[3]
Midday Peak Hour	8.1%[6]	10.0%[6]	24.9%[8]	8.0%[3]	14.0%[3]
PM Peak Hour	12.2%[6]	7.5%[6]	28.1%[8]	10.9%[3]	14.0%[3]
Saturday Peak Hour	--	--	24.9%[8]	11.7%[3]	16.0%[3]
Modal Split	All Periods	All Periods	All Periods	All Periods	All Periods
Auto (Self-park)	16.2%[4]	53.0%[6]	16.2%[4]	4.0%[7]	5.0%[9]
Auto (Pick-up/Drop-off)	--	--	--	--	--
Taxi	0.7%[4]	14.0%[6]	0.7%[4]	1.0%[7]	1.0%[9]
Ambulette	--	4.0%[6]	--	--	--
School Bus	--	--	--	--	--
Bus	14.5%[4]	6.0%[6]	14.5%[4]	1.0%[7]	4.0%[9]
Subway	47.4%[4]	16.0%[6]	47.4%[4]	1.0%[7]	3.0%[9]
Rail	9.3[4]	--	9.3[4]	--	--
Ferry	0.6%[4]	--	0.6%[4]	--	--
Bicycle	1.8%[4]	--	1.8%[4]	1.0%[7]	--
Walk/Other	9.5%[4]	7.0%[6]	9.5%[4]	92.0%[7]	87.0%[9]
Vehicle Occupancy	All Periods	All Periods	All Periods	All Periods	All Periods
Auto	1.13[4]	3.00[6]	1.13[4]	1.65[9]	2.90[9]
Taxi	1.35[6]	3.00[6]	1.13[4]	1.40[9]	3.00[9]
Ambulette	--	3.00[6]	--	--	--
School Bus	--	--	--	--	--
Directional Distribution					
AM Peak Hour	97%/3%[6]	100%/0%[6]	100%/0%[8]	52%/48%[7]	59%/41%[7]
Midday Peak Hour	52%/48%[6]	60%/40%[6]	50%/50%[8]	50%/50%[7]	55%/45%[7]
PM Peak Hour	12%/88%[6]	20%/80%[6]	11%/89%[8]	50%/50%[7]	55%/45%[7]
Saturday Peak Hour	--/--	--/--	50%/50%[8]	50%/50%[7]	55%/45%[7]
Delivery Trip Generation Rate (Weekday/Saturday)	0.20[6]/-- per 1,000 SF		0.16/0.16[1] per 1,000 SF	0.35/0.04[3] per 1,000 SF	0.01/0.01[9] per Acre
Delivery Temporal Distribution					
AM Peak Hour	10%[6]		17%[1]	8.0%[3]	6.0%[9]
Midday Peak Hour	9%[6]		17%[1]	11.0%[3]	6.0%[9]
PM Peak Hour	5%[6]		17%[1]	2.0%[3]	1.0%[9]
Saturday Peak Hour	--		17%[1]	11.0%[3]	6.0%[9]
Delivery Trip Directional Split (In/out) - 50%/ 50%					

Source:

1- 2016 NYC Department of Sanitation Proposed Manhattan Districts 6/6A/8 Transportation Demand Factors & Screening Assessment Memorandum (Higher Education Saturday temporal distribution assumed similar to weekday AM and midday)

2- 2013 *Cornell NYC Tech FEIS* (Saturday peak hour rates assumed to be similar to weekday midday peak hour)

3- 2021 *CEQR Technical Manual*

4- 2012-2016 Five-year *AASHTO CTPP RJTW* Census data for Manhattan Tracts 60, 62, 64, 66 and 70

5- 2017 *ECF East 96th Street DEIS*

6- 2013 *MSK/CUNY-Hunter Project at 74th Street FEIS,* ambulatory care center would operate only on weekdays

7- Data provided by NYCDOT

8- Temporal and directional distributions developed based on data provided by OCME of the existing OCME facility at 520 First Avenue in coordination with NYCDOT.

9- 2021*175 Park Avenue FEIS* (Saturday peak hour rates assumed to be similar to weekday midday peak hour)

10- 2020 *403 Concord Avenue EAS*

Life Sciences

For the Life Sciences use, trip generation rates, temporal distributions, directional distributions, modal splits and vehicle occupancy rates were based on the scientific research laboratory use from the *DSNY TDF Memo*. The trip generation rates of 6.98 and 0.43 daily person trips per 1,000 sf were used for weekday and Saturday, respectively. Temporal distributions of 13 percent, 10 percent, 10 percent, and 11 percent were used for weekday AM, midday and PM, and Saturday peak hours, respectively. The directional distributions used were 89 percent "in" for weekday AM peak hour, 49 percent "in" for weekday midday peak hour, 23 percent "in" for weekday PM peak hour, and 75 percent "in" for Saturday peak hour. For the weekday peak hours (AM, midday and PM) modal splits of 24 percent by auto, seven percent by taxi, 11 percent by bus, 30 percent by subway, two percent by commuter rail, two percent by ferry, two percent by bicycle, and 22 percent by walking and other modes were used. For the Saturday peak hour, modal splits of 24 percent by auto, eight percent by taxi, 19 percent by bus, 29 percent by subway, one percent by commuter rail, one percent by ferry, two percent by bicycle, and 16 percent by walking and other modes were used. For weekday peak hours, auto and taxi vehicle occupancy rates of 1.23 and 1.40 persons per vehicle, respectively, were used. For Saturday peak hour, auto and taxi occupancy rates of 1.20 and 1.40 persons per vehicle, respectively, were used.

For Life Sciences' delivery trips, trip generation rates of 0.32 and 0.01 delivery trips per 1,000 sf for weekday and Saturday, respectively; and temporal distributions of 10 percent, 11 percent, two percent, and 11 percent for weekday AM, midday and PM, and Saturday peak hours, respectively, were obtained from the *DSNY TDF Memo*.

Brookdale Campus

For the existing Brookdale Campus, the trip generation rates, temporal distributions, directional distributions, modal splits and vehicle occupancy rates were obtained from the *DSNY TDF Memo* which were based on surveys and person entry/exit counts taken at the campus. Trip generation rates of 9.987 and 5.687 daily person trips per 1,000 sf were assumed for weekday and Saturday, respectively. The temporal distributions used were 8 percent for weekday AM peak hour, 8 percent for weekday midday peak hour, 12 percent for weekday PM peak hour, and 9 percent for Saturday peak hour. The directional distributions used were 60 percent "in" for weekday AM peak hour, 55 percent "in" for weekday midday peak hour, 50 percent "in" for weekday PM peak hour, and 22 percent "in" for Saturday peak hour. Modal splits of four percent by auto, 11 percent by bus, 68 percent by subway, two percent by bicycle, and 15 percent by walking or other modes were used for the weekday peak hours. For Saturday, modal splits of six percent by auto, four percent by taxi, three percent by bus, 38 percent by subway, one percent by ferry, three percent by bicycle, and 45 percent by walking or other modes were used. Auto occupancy rates of 1.25 and 1.11 persons per vehicle were used for the weekday and Saturday peak hours, respectively. A taxi occupancy rate of 1.16 persons per vehicle was used for all peak hours.

The delivery trip generation rate of 0.10 daily delivery trips per 1,000 sf for both weekday and Saturday was obtained from the *Cornell NYC Tech FEIS*. The temporal distributions of 9.7 percent for the weekday AM peak hour, 9.1 percent for the weekday midday peak hour, 2.0 percent for the weekday PM peak hour, and 9.7 percent for Saturday peak hour were obtained from the *DSNY TDF Tech Memo*.

Academic – Higher Education

For the proposed higher education use, trip generation rates of 26.6 daily person trips per 1,000 sf for weekday and 13.5 daily person trips for Saturday were obtained from the *CEQR Technical Manual*. The directional distributions used and obtained from the *CEQR Technical Manual* were 94 percent "in" for weekday AM peak hour, 46 percent "in" for weekday midday, 44 percent "in" for weekday PM peak hour, and 57 percent "in" for Saturday peak hour. Temporal distributions, modal splits and vehicle occupancy rates were obtained from the *DSNY TDF Memo*. The temporal distributions used were 8 percent for the weekday AM peak hour, 8 percent for the weekday midday peak hour, 12 percent for the weekday PM peak hour, and 8 percent for Saturday peak hour (assumed to be similar to weekday AM and midday peak hours). Modal splits of four percent by auto, 11 percent by bus, 68 percent by subway, two percent by bicycle, and 15 percent by walking or other modes were used for the weekday peak hours. For Saturday, modal splits of six percent by auto, four percent by taxi, three percent by bus, 38 percent by subway, one percent by ferry, three percent by bicycle, and 45 percent by walking or other modes were used. Auto occupancy rates of 1.25 and 1.11 persons per vehicle were used for the weekday and Saturday peak hours, respectively. A taxi occupancy rate of 1.16 persons per vehicle was used for all peak hours.

The delivery trip generation rate of 0.10 daily delivery trips per 1,000 sf for both weekday and Saturday was obtained from the *Cornell NYC Tech FEIS*. The temporal distributions of 9.7 percent for the weekday AM peak hour, 9.1 percent for the weekday midday peak hour, 2.0 percent for the weekday PM peak hour, and 9.7 percent for Saturday peak hour were obtained from the *DSNY TDF Tech Memo*.

High School

For travel demand forecasting purposes, school arrival trips were overlaid onto the weekday AM peak projections. Departure trips, which would occur between the weekday midday and PM peak hours, were conservatively overlaid onto the weekday midday peak hour. Person trips associated with the proposed high school were categorized into two populations, staff and students. As the proposed school would be closed on weekends, no staff, student or delivery trips are expected on Saturdays.

Staff

For high school staff, trip generation, temporal distribution, and directional distribution rates were obtained from the *CEQR Technical Manual*. A trip generation rate of 2.0 daily person trips per staff, directional distributions of 100 percent "in" for weekday AM peak hour and 100 percent "out" for weekday midday peak hour, and a temporal distribution of 40 percent for both weekday peak hours were used. Modal splits of 16.2 percent by auto, 0.7 percent by taxi, 14.5 percent by bus, 47.4 percent by subway, 9.3 percent by commuter rail, 0.6 percent by ferry, 1.8 percent by bicycle, and 9.5 percent by walking and other modes; and an auto and taxi occupancy rate of 1.13 persons per vehicle were obtained from the AASHTO CTPP RJTW data for Manhattan Census tracts 60, 62, 64, 66, and 70.

Students

For high school students, trip generation, temporal distribution, and directional distribution rates were obtained from the *CEQR Technical Manual*. A trip generation rate of 2.0 daily person trips per student, directional distributions of 100 percent "in" for weekday AM peak hour and 100 percent "out" for weekday midday peak hour, and a temporal distribution of 49.5 percent for both weekday

peak hours were used. The assumed modal splits were distributed between general student population and D75 students (approximately 96 of the 1,600 seats were assumed to be designated for D75 students). For general student population trips, modal splits of 2.7 percent by auto pick-up/drop-off, 19.5 percent by bus, 63.5 percent by subway, 2.5 percent by bicycle, and 11.9 percent walking was assumed, and for D75 students, 5 percent were assumed to be picked up and dropped off by auto and 95 percent by school bus based on information provided by NYCDOT. Auto and taxi vehicle occupancy rates of 1.30 and 1.40 persons per vehicle, respectively, were obtained from the *ECF 96th Street Project DEIS*. For school bus trips a 30 persons per school bus vehicle occupancy was assumed based on the 2020 *403 Concord EAS*.

Deliveries

For school delivery trips, the trip generation rate of 0.03 daily delivery trips per student for weekday, and temporal distributions of 9.6 percent, 11 percent, and one percent for weekday AM, midday, and PM peak hours, respectively, were obtained from the *ECF 96th Street Project DEIS*.

Ambulatory Care

For travel demand forecasting purposes, person trips associated with the proposed ambulatory care, are categorized into two populations: staff, and patients and visitors. The ambulatory care use is not expected to serve patients on the weekends; therefore, this use would be expected to generate trips only on weekdays.

Staff

For ambulatory care staff, the trip generation rates, temporal distributions, directional distributions and taxi occupancy rate were obtained from the *MSK/CUNY-Hunter Project at 74th Street FEIS*. A trip generation rate of 3.0 person trips per person was used. For weekday AM, weekday midday, and weekday PM peak hours a temporal distribution of 12.1 percent, 8.1 percent, and 12.2 percent were used, respectively. The directional distributions used were 97 percent "in" for weekday AM peak hour, 52 percent "in" for weekday midday peak hour, and 12 percent "in" for weekday PM peak hour. Modal splits of 16.2 percent by auto, 0.7 percent by taxi, 14.5 percent by bus, 47.4 percent by subway, 9.3 percent by commuter rail, 0.6 percent by ferry, 1.8 percent by bicycle, and 9.5 percent by walking and other modes; and an auto occupancy rate of 1.13 persons per vehicle were assumed for ambulatory care staff trips, and were obtained from the AASHTO CTPP RJTW data for Manhattan Census tracts 60, 62, 64, 66, and 70. A taxi occupancy rate of 1.35 persons per vehicle was used.

Patients and Visitors

For ambulatory care patients and visitor trips, the trip generation rates, temporal distributions, directional distributions, modal splits and vehicle occupancy rates (auto and taxi) were obtained from the *MSK/CUNY-Hunter Project at 74th Street FEIS*. A trip generation rate of 2.0 person trips per person was used. Temporal distributions of 4.0 percent, 10.0 percent, and 7.5 percent were used for weekday AM, midday, and PM peak hours, respectively. The directional distributions used were 100 percent "in" for weekday AM peak hour, 60 percent "in" for weekday midday peak hour, and 20 percent "in" for weekday PM peak hour. Modal splits of 53 percent by auto, 14 percent by taxi, 4 percent by ambulette, 6 percent by bus, 16 percent by subway, and 7 percent by walking and other modes were used. For all peak hours, an auto, taxi, and ambulette occupancy rate of 3.0 persons per vehicle was used.

A delivery trip generation rate of 2.0 delivery trips per 1,000 sf was assumed for ambulatory care use and was obtained from the *MSK/CUNY-Hunter Project at 74th Street FEIS*. Temporal distributions of 10 percent during weekday AM peak hour, 9 percent during weekday midday peak hour, and 5 percent during weekday PM peak hour were used based on the assumptions from the *MSK/CUNY-Hunter Project at 74th Street FEIS*.

OCME

For the OCME space, a trip generation rate of 6.316 person trips per 1,000 sf was assumed for weekday and Saturday and was based on the morgue use included in the *DSNY TDF Tech Memo*. Temporal distributions and directional distributions were developed based on information provided by OCME for their facility at 520 First Avenue in coordination with NYCDOT. For the weekday AM, midday and PM peak hours, a temporal distribution of 28.3 percent, 24.9 percent, and 28.1 percent were used, respectively. The weekday directional distributions used were 66 percent "in" for weekday AM peak hour, 50 percent "in" for weekday midday peak hour and 33 percent "in" for weekday PM peak hour. For Saturday, temporal distributions and directional distributions were assumed to be similar to those used for the weekday midday peak hour (a 24.9 percent temporal distribution and 50 percent "in" directional distribution). For all peak hours modal splits of 16.2 percent by auto, 0.7 percent by taxi, 14.5 percent by bus, 47.4 percent by subway, 9.3 percent by commuter rail, 0.6 percent by ferry, 1.8 percent by bicycle, and 9.5 percent by walking and other modes; and an auto and taxi occupancy rate of 1.13 persons per vehicle were assumed and were obtained from the AASHTO CTPP RJTW data for Manhattan Census tracts 60, 62, 64, 66, and 70.

A delivery trip generation rate of 0.16 delivery trips per 1,000 sf was assumed and was obtained from the *DSNY TDF Memo*. Temporal distributions of 17 percent during the weekday AM peak hour, 17 percent during the weekday midday peak hour, 17 percent during the weekday PM peak hour, and 17 percent during the Saturday peak hour were used based on the assumptions from the *DSNY TDF Memo*.

Local Retail

For the local retail use, trip generation rates of 329 person trips per 1,000 sf for weekday and 358 person trips per 1,000 sf for Saturday, and temporal distributions of 4.8 percent for the weekday AM peak hour, 8.0 percent for the weekday midday peak hour, 10.9 percent for the weekday PM peak hour, and 11.7 percent for the Saturday peak hour were assumed and were obtained from the 2021 *CEQR Technical Manual*. A linked trip credit of 50 percent was assumed to account for pass-by trips from background traffic, as well as internal trips as the majority of the retail spaces would be accessory to the other proposed uses on the campus and would be heavily patronized by the SPARC campus employees, staff, students, patients and visitors. Modal splits were based on NYCDOT's surveys of local retail use in the Manhattan transit zones and vehicle occupancies were obtained from the *175 Park Avenue FEIS*. The modal splits used were four percent by auto, one percent by taxi, one percent by bus, one percent by subway, one percent by bicycle and 92 percent by walk. The vehicle occupancies of 1.65 persons per auto and 1.40 persons per taxi were used. The directional distributions used were 52 percent "in" for the weekday AM peak hour and 50 percent "in" for the weekday midday, weekday PM and Saturday peak hours and were obtained from data provided by NYCDOT.

For local retail delivery trips, a daily trip generation rate of 0.35 trips per 1,000 sf for weekday and 0.04 trips per 1,000 sf for Saturday, and a temporal distribution of 8 percent, 11 percent, 2 percent,

and 11 percent for the weekday AM, midday and PM, and Saturday peak hours, respectively, were obtained from the 2021 *CEQR Technical Manual*.

Open Space (passive)

For the open space use, a trip generation rate of 44 person trips per acre for weekday and 62 person trips per acre for Saturday, and temporal distributions of three percent for the weekday AM peak hour, 14 percent for the weekday midday peak hour, 14 percent for the weekday PM peak hour, and 16 percent for the Saturday peak hour were assumed and were obtained from the 2021 *CEQR Technical Manual*. Modal splits and vehicle occupancies were obtained from the *175 Park Avenue FEIS*. The modal splits used were five percent by auto, one percent by taxi, three percent by bus, four percent by subway, and 87 percent by walk. The vehicle occupancies of 2.90 persons per auto and 3.00 persons per taxi were used. The directional distributions used were 59 percent "in" for weekday AM, and 55 percent "in" for the weekday midday, weekday PM and Saturday peak hours and were based on data provided by NYCDOT.

For open space delivery trips, a daily trip generation rate of 0.01 trips per acre for weekday and a temporal distribution of six percent, six percent, and one percent for weekday AM, midday, and PM peak hours, respectively, were obtained from the *175 Park Avenue FEIS*. For Saturday, it was assumed the trip generation rate and temporal distribution would be similar as those used for the weekday midday peak hour.

Level 1 Screening Results

Transit and Pedestrians

The increased number of person trips generated by the Proposed Project are provided in **Table 10-3** and **Table 10-4** and would be expected to exceed the 2021 *CEQR Technical Manual* Level 1 screening thresholds for subway, bus and pedestrian trips during the analysis peak hours. Rail and ferry trips would not exceed the Level 1 screening thresholds and further analyses are not needed for those modes.

- During the weekday AM peak hour, the project would generate 552 bus trips, 2,019 subway trips, 57 rail trips, 22 ferry trips, and 3,566 pedestrian trips (walk plus bus, subway, ferry, rail and off-site parkers).
- During the weekday midday peak hour, the project would generate 528 bus trips, 1,941 subway trips, 48 rail trips, 17 ferry trips and 3,463 pedestrian trips (walk plus bus, subway, ferry, rail and off-site parkers).
- During the weekday PM peak hour, the project would generate 273 bus trips, 1,249 subway trips, 41 rail trips, 15 ferry trips and 2,441 pedestrian trips (walk plus bus, subway, ferry, rail and off-site parkers).
- During the Saturday peak hour, the project would generate 50 bus trips, 247 subway trips, 16 rail trips, 6 ferry trips and 817 pedestrian trips (walk plus bus, subway, ferry, rail and off-site parkers).

Table 10-3 Summary of Project-Generated Person Trips

	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
	In	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Auto (Self-park On-Site)[1]	91	14	105	38	63	101	45	65	110	36	31	67
Auto (Self-park Off-Site)	236	20	256	126	117	243	44	180	224	11	-4	7
Auto (Pick-up/drop-off)	46	0	46	0	46	46	0	0	0	0	0	0
Taxi	70	7	77	38	36	74	16	53	69	19	6	25
Ambulette	2	0	2	3	2	5	1	3	4	0	0	0
School Bus	90	0	90	0	90	90	0	0	0	0	0	0
Bus	542	10	552	102	426	528	90	183	273	31	19	50
Subway	2,019	0	2,019	419	1,522	1,941	449	800	1,249	174	73	247
Rail	49	8	57	18	30	48	10	31	41	8	8	16
Ferry	20	2	22	8	9	17	3	12	15	4	2	6
Bicycle	79	2	81	18	59	77	16	31	47	14	6	20
Walk-only	601	59	660	241	445	686	250	389	639	304	187	491
Total	**3,845**	**122**	**3,967**	**1,011**	**2,845**	**3,856**	**924**	**1,747**	**2,671**	**601**	**328**	**929**

[1] Parking would be provided on-site and could be accessed by academic higher education, OCME, and high school (staff) users. All other auto trips would be expected to park within off-site public parking lots or garages and then walk to/from the Project Site.

Table 10-4 Summary of Project-Generated Person Trips (by Land Use)

	Life Sciences		Brookdale Campus		Higher Education		High School						Ambulatory Care				OCME		Local Retail		Open Space (Passive)	
							Staff		Student				Staff		Patient/ Visitor							
									General Population		D75											
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Weekday AM Peak Hour																						
Auto (Self-park)	202	25	-10	-7	48	3	21	0	0	0	0	0	15	0	27	0	22	11	2	2	0	0
Auto (Pick-up/drop-off)	0	0	0	0	0	0	0	0	41	0	5	0	0	0	0	0	0	0	0	0	0	0
Taxi	59	7	0	0	0	0	1	0	0	0	0	0	1	0	7	0	1	0	1	0	0	0
Ambulette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
School Bus	0	0	0	0	0	0	0	0	0	0	90	0	0	0	0	0	0	0	0	0	0	0
Bus	92	11	-28	-19	133	8	19	0	290	0	0	0	13	0	3	0	19	10	1	0	0	0
Subway	252	31	-176	-117	823	53	61	0	944	0	0	0	43	1	8	0	63	32	1	0	0	0
Rail	17	2	0	0	0	0	12	0	0	0	0	0	8	0	0	0	12	6	0	0	0	0
Ferry	17	2	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
Bicycle	17	2	-5	-3	24	2	2	0	36	0	0	0	2	0	0	0	2	1	1	0	0	0
Walk-only	185	23	-39	-26	182	12	12	0	177	0	0	0	9	0	4	0	13	6	57	44	1	0
Total	**841**	**103**	**-258**	**-172**	**1,210**	**78**	**129**	**0**	**1,488**	**0**	**95**	**0**	**92**	**1**	**51**	**0**	**133**	**66**	**63**	**46**	**1**	**0**

Table 10-4 Summary of Project-Generated Person Trips (by Land Use)

	Life Sciences		Brookdale Campus		Higher Education		High School						Ambulatory Care								Open Space (Passive)	
							Staff		Student				Staff		Patient/ Visitor		OCME		Local Retail			
									General Population		D75											
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Weekday Midday Peak Hour																						
Auto (Self-park)	85	89	-9	-8	24	28	0	21	0	0	0	0	5	5	41	27	14	14	4	4	0	0
Auto (Pick-up/drop-off)	0	0	0	0	0	0	0	0	0	41	0	5	0	0	0	0	0	0	0	0	0	0
Taxi	25	26	0	0	0	0	0	1	0	0	0	0	0	0	11	7	1	1	1	1	0	0
Ambulette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0
School Bus	0	0	0	0	0	0	0	0	0	0	0	90	0	0	0	0	0	0	0	0	0	0
Bus	39	41	-26	-21	65	76	0	19	0	290	0	0	5	4	5	3	13	13	1	1	0	0
Subway	107	111	-161	-132	403	473	0	61	0	944	0	0	15	14	12	8	42	42	1	1	0	0
Rail	7	7	0	0	0	0	0	12	0	0	0	0	3	3	0	0	8	8	0	0	0	0
Ferry	7	7	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Bicycle	7	7	-5	-4	12	14	0	2	0	36	0	0	1	1	0	0	2	2	1	1	0	0
Walk-only	78	82	-35	-29	89	104	0	12	0	177	0	0	3	3	5	4	8	8	91	82	2	2
Total	**355**	**370**	**-236**	**-194**	**593**	**695**	**0**	**129**	**0**	**1,488**	**0**	**95**	**32**	**30**	**77**	**51**	**89**	**89**	**99**	**90**	**2**	**2**

Table 10-4 Summary of Project-Generated Person Trips (by Land Use)

	Life Sciences		Brookdale Campus		Higher Education		High School						Ambulatory Care								Open Space (Passive)	
							Staff		Student				Staff		Patient/ Visitor		OCME		Local Retail			
									General Population		D75											
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Weekday PM Peak Hour																						
Auto (Self-park	40	134	-13	-13	34	43	0	0	0	0	0	0	2	13	10	41	11	22	5	5	0	0
Auto (Pick-up/drop-off)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taxi	12	39	0	0	0	0	0	0	0	0	0	0	0	1	3	11	0	1	1	1	0	0
Ambulette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0
School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus	18	62	-35	-35	93	119	0	0	0	0	0	0	2	12	1	5	10	19	1	1	0	0
Subway	50	168	-219	-219	578	736	0	0	0	0	0	0	5	39	3	12	31	63	1	1	0	0
Rail	3	11	0	0	0	0	0	0	0	0	0	0	1	8	0	0	6	12	0	0	0	0
Ferry	3	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Bicycle	3	11	-6	-6	17	22	0	0	0	0	0	0	0	1	0	0	1	2	1	1	0	0
Walk-only	37	123	-48	-48	127	162	0	0	0	0	0	0	1	8	1	5	6	13	124	124	2	2
Total	**166**	**559**	**-321**	**-321**	**849**	**1,082**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**82**	**19**	**77**	**65**	**133**	**133**	**133**	**2**	**2**

Table 10-4 Summary of Project-Generated Person Trips (by Land Use)

	Life Sciences		Brookdale Campus		Higher Education		High School						Ambulatory Care				OCME		Local Retail		Open Space (Passive)	
							Staff		Student				Staff		Patient/ Visitor							
									General Population		D75											
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Saturday Peak Hour																						
Auto (Self-park	9	3	-4	-13	22	17	0	0	0	0	0	0	0	0	0	0	14	14	6	6	0	0
Auto (Pick-up/drop-off)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taxi	3	1	-2	-9	15	11	0	0	0	0	0	0	0	0	0	0	1	1	2	2	0	0
Ambulette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bus	7	2	-2	-6	11	8	0	0	0	0	0	0	0	0	0	0	13	13	2	2	0	0
Subway	11	4	-23	-82	142	107	0	0	0	0	0	0	0	0	0	0	42	42	2	2	0	0
Rail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	0	0	0	0
Ferry	0	0	-1	-2	4	3	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Bicycle	1	0	-2	-6	11	8	0	0	0	0	0	0	0	0	0	0	2	2	2	2	0	0
Walk-only	6	2	-27	-97	168	126	0	0	0	0	0	0	0	0	0	0	8	8	145	145	4	3
Total	**37**	**12**	**-61**	**-215**	**373**	**280**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**89**	**89**	**159**	**159**	**4**	**3**

As the number of peak hour bus and subway trips, and the number of combined peak hour pedestrian trips expected to be generated by the proposed project exceed the CEQR thresholds of 200 pedestrian trips per hour, a Level 2 screening assessment (trip assignments) is needed to determine the scope of the detailed pedestrian, bus and subway analyses.

Vehicles

Table 10-5 and **Table 10-6** summarize the total peak hour vehicular volumes ("ins" plus "outs") for the Proposed Project. The Proposed Project would result in an hourly trip increment of 501 vehicles per hour (vph) during the weekday AM peak hour, 446 vph in the weekday midday peak hour, 341 vph in the weekday PM peak hour, and 88 vph in the Saturday peak hour. As the volume of vehicle trips generated by the Proposed Project would exceed the 50-vehicle trip threshold during each of these peak hours, a Level 2 screening assessment (trip assignments) is needed to determine the scope of the detailed traffic analysis.

Table 10-5 Summary of Project-Generated Vehicle Trips

	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
	In	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
School Bus	3	0	3	0	3	3	0	0	0	0	0	0
Auto (Self-park)	255	27	282	113	134	247	68	181	249	40	22	62
Auto (Pick-up/drop-off)	35	35	70	35	35	70	0	0	0	0	0	0
Taxi	48	48	96	35	35	70	39	39	78	10	10	20
Ambulette	1	1	2	2	2	4	1	1	2	0	0	0
Delivery Vehicle	24	24	48	26	26	52	6	6	12	3	3	6
Total	**366**	**135**	**501**	**211**	**235**	**446**	**114**	**227**	**341**	**53**	**35**	**88**

Table 10-6 Summary of Project-Generated Vehicle Trips (by Land Use)

	Life Sciences		Brookdale Campus		Higher Education		High School						Ambulatory Care				OCME		Local Retail		Open Space (Passive)	
							Staff		Student				Staff		Patient/ Visitor							
									General Population		D75											
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Weekday AM Peak Hour																						
School Bus	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
Auto (Self-park)	164	20	-8	-6	38	2	19	0	0	0	0	0	13	0	9	0	19	10	1	1	0	0
Auto (Pick-up/drop-off)	0	0	0	0	0	0	0	0	31	31	4	4	0	0	0	0	0	0	0	0	0	0
Taxi	42	42	0	0	0	0	1	1	0	0	0	0	1	1	2	2	1	1	1	1	0	0
Ambulette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Delivery Vehicle	17	17	-3	-3	3	3	0	0	2	2	0	0	3	3	0	0	2	2	0	0	0	0
Total	**223**	**79**	**-11**	**-9**	**41**	**5**	**20**	**1**	**33**	**33**	**7**	**4**	**17**	**4**	**12**	**3**	**22**	**13**	**2**	**2**	**0**	**0**
Weekday Midday Peak Hour																						
School Bus	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
Auto (Self-park)	69	72	-7	-6	19	22	0	19	0	0	0	0	4	4	14	9	12	12	2	2	0	0
Auto (Pick-up/drop-off)	0	0	0	0	0	0	0	0	31	31	4	4	0	0	0	0	0	0	0	0	0	0
Taxi	28	28	0	0	0	0	1	1	0	0	0	0	0	0	4	4	1	1	1	1	0	0
Ambulette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0
Delivery Vehicle	18	18	-2	-2	3	3	0	0	3	3	0	0	2	2	0	0	2	2	0	0	0	0
Total	**115**	**118**	**-9**	**-8**	**22**	**25**	**1**	**20**	**34**	**34**	**4**	**7**	**6**	**6**	**20**	**15**	**15**	**15**	**3**	**3**	**0**	**0**

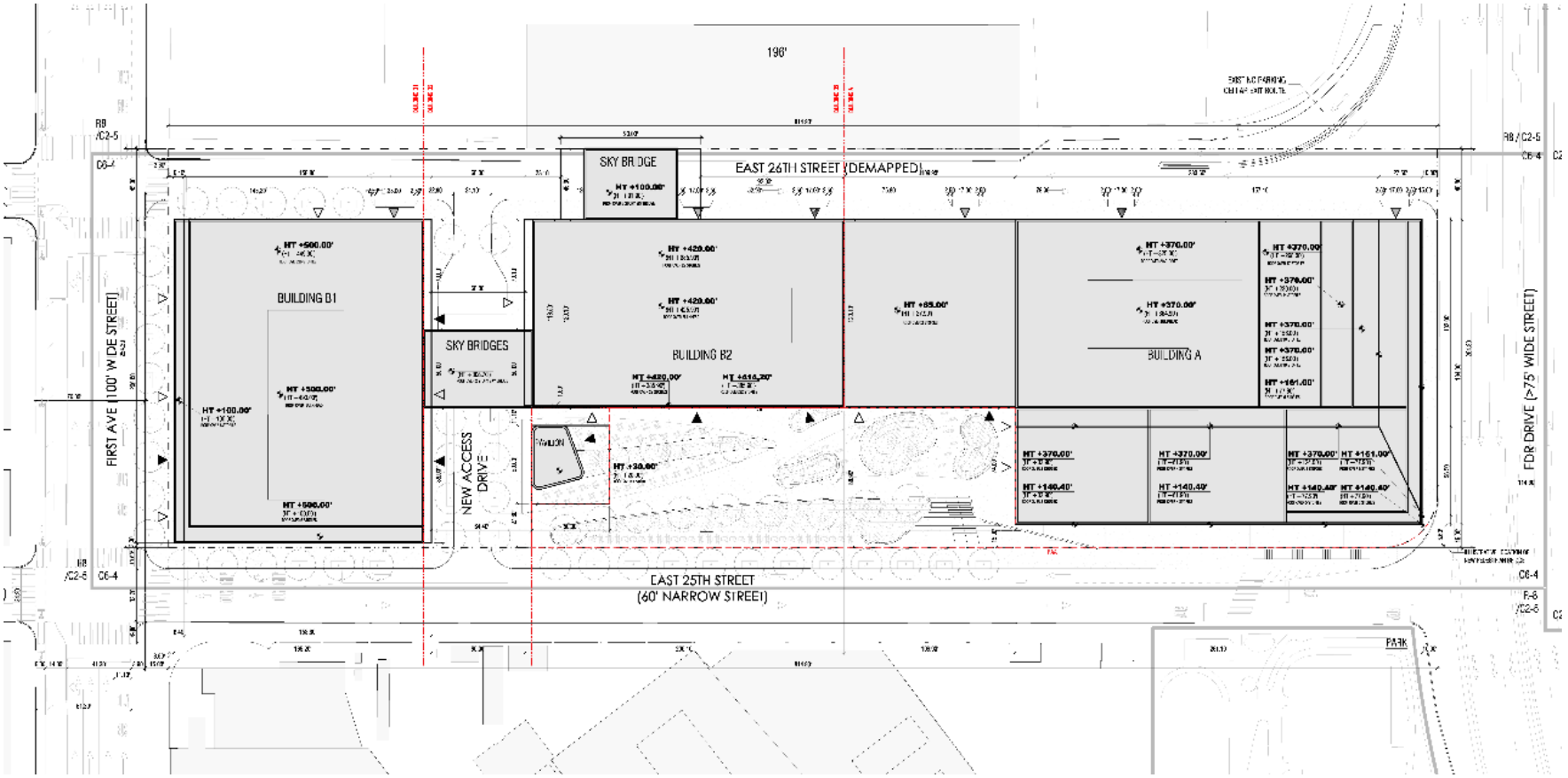
Table 10-6 Summary of Project-Generated Vehicle Trips (by Land Use)

							High School						Ambulatory Care									
	Life Sciences		Brookdale Campus		Higher Education		Staff		Student				Staff		Patient/ Visitor		OCME		Local Retail		Open Space (Passive)	
									General Population		D75											
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Weekday PM Peak Hour																						
School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto (Self-park)	33	109	-10	-10	27	34	0	0	0	0	0	0	2	12	3	14	10	19	3	3	0	0
Auto (Pick-up/drop-off)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taxi	32	32	0	0	0	0	0	0	0	0	0	0	1	1	4	4	1	1	1	1	0	0
Ambulette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Delivery Vehicle	3	3	-1	-1	1	1	0	0	0	0	0	0	1	1	0	0	2	2	0	0	0	0
Total	**68**	**144**	**-11**	**-11**	**28**	**35**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**14**	**8**	**19**	**13**	**22**	**4**	**4**	**0**	**0**
Saturday Peak Hour																						
School Bus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto (Self-park)	8	3	-4	-12	20	15	0	0	0	0	0	0	0	0	0	0	12	12	4	4	0	0
Auto (Pick-up/drop-off)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taxi	2	2	-9	-9	15	15	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
Ambulette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delivery Vehicle	1	1	-3	-3	3	3	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
Total	**11**	**6**	**-16**	**-24**	**38**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**15**	**5**	**5**	**0**	**0**

Level 2 Screening Assessment

As shown above, the number of trips generated by the Proposed Project would exceed the 2021 *CEQR Technical Manual* Level 1 screening thresholds for vehicle, bus, subway, and pedestrian trips during the peak hours analyzed. Project-generated trips were assigned through the surrounding street and transit network based on expected routes to and from the project site. The Development Site layout is shown in **Figure 10-2**.

Figure 10-2 Illustrative Development Site Layout



Source: Studio V

Transit and Pedestrians

The Proposed Project would be comprised of new buildings. The building located to the west of the project block would consist of life science and ambulatory care spaces with the lobbies located along First Avenue, with secondary access along a potential private driveway between the west and middle buildings (primarily for ambulette entries and exits). The middle building would consist of life science and OCME space. The life science lobby would be located within the middle of the block (fronting SPARC Square) while the OCME space could be accessed from the private driveway or from within the middle of the block. The building to be located to the east of the side of the block would consist of the academic uses and would be accessed from SPARC Square. Retail spaces would be distributed through the project block.

Transit and pedestrian trips were assigned through the pedestrian network based on logical and direct travel routes to and from the project site from neighborhood attractions, commuter rail stations, ferry landings, subway stations and/or bus stops, to determine if the number of additional pedestrian trips generated by the Proposed Project would exceed 200 peak hour pedestrian trips at key pedestrian elements (e.g. crosswalks, sidewalks, corner reservoir areas) approaching the site – the threshold for detailed pedestrian analysis per the *CEQR Technical Manual*. The project site is bounded by First Avenue to the west, FDR Drive to the east, East 25th Street to the south, and the former East 26th Street to the north.

The project site is served by local and Select Bus Service (SBS) bus routes. Bus options within the project site vicinity include the M9, M15 SBS, M23 SBS, and the M34A SBS. The M15 SBS and M23 SBS also provide connections to nearby subway service – the M15 SBS provides a connection to the First Avenue L subway station and the M23 SBS provides a connection to the 23rd Street No. 6 subway station. The closest station to the project site is the 28th Street No. 6 subway station which is an approximately a one-half mile walk from the project site. Approximately seven percent of bus-only trips were assigned along the M9 bus route and 60 percent were assigned along the M15 bus route split between the M15 local bus service and M15 SBS; these two bus routes have stops along the Development Site's First Avenue frontage. Along the main east-west bus routes, 15 percent of bus-only trips were assigned to the M23 SBS bus route and 17 percent to the M34A SBS bus route. For subway trips, 25 percent were assigned to the 28th Street No. 6 subway station while 60 percent were assigned to the 23rd Street No. 6 subway station of which one-third of these trips were assumed to walk to the station and two-thirds would use the M23 SBS. A modest percentage of trips was assigned to other stations located further away from the Development Site using bus-to-subway connections such as the First and Third Avenue stations (L subway stations with connections via the M15 local and M15 SBS buses), the 33rd Street No. 6 subway station (connection via the M34A bus) and the 23rd Street subway R/W subway station (connection via the M23 SBS bus).

As the Proposed Project would provide on-site parking for only certain uses, the majority of the project-generated auto trips would need to park off-site and walk to the Development Site. Project-generated auto trips were assigned to 12 parking garages based on surveyed parking availability. The majority of the parking trips (60 percent) were assigned to the parking garages located north of the Development Site; these parkers would then walk along First Avenue between the site and parking. Approximately 13 percent of the parking trips were assigned to parking garages to the south of the Development Site; these trips would then walk along First Avenue. The remaining 27 percent of the auto trips were assigned to park in garages to the west of the site and would then walk along east-west side streets.

Walk-only pedestrian trips were distributed evenly to the north, west and south of the project site due to the number of attractions in the project site vicinity and then assigned throughout the network.

Pedestrian volume increment maps for the weekday AM, midday and PM, and Saturday peak hours are shown in **Figure 10-3** through **Figure 10-10**.

Figure 10-3 Year 2031 Pedestrian Increment Volumes – AM Peak Hour (East side)

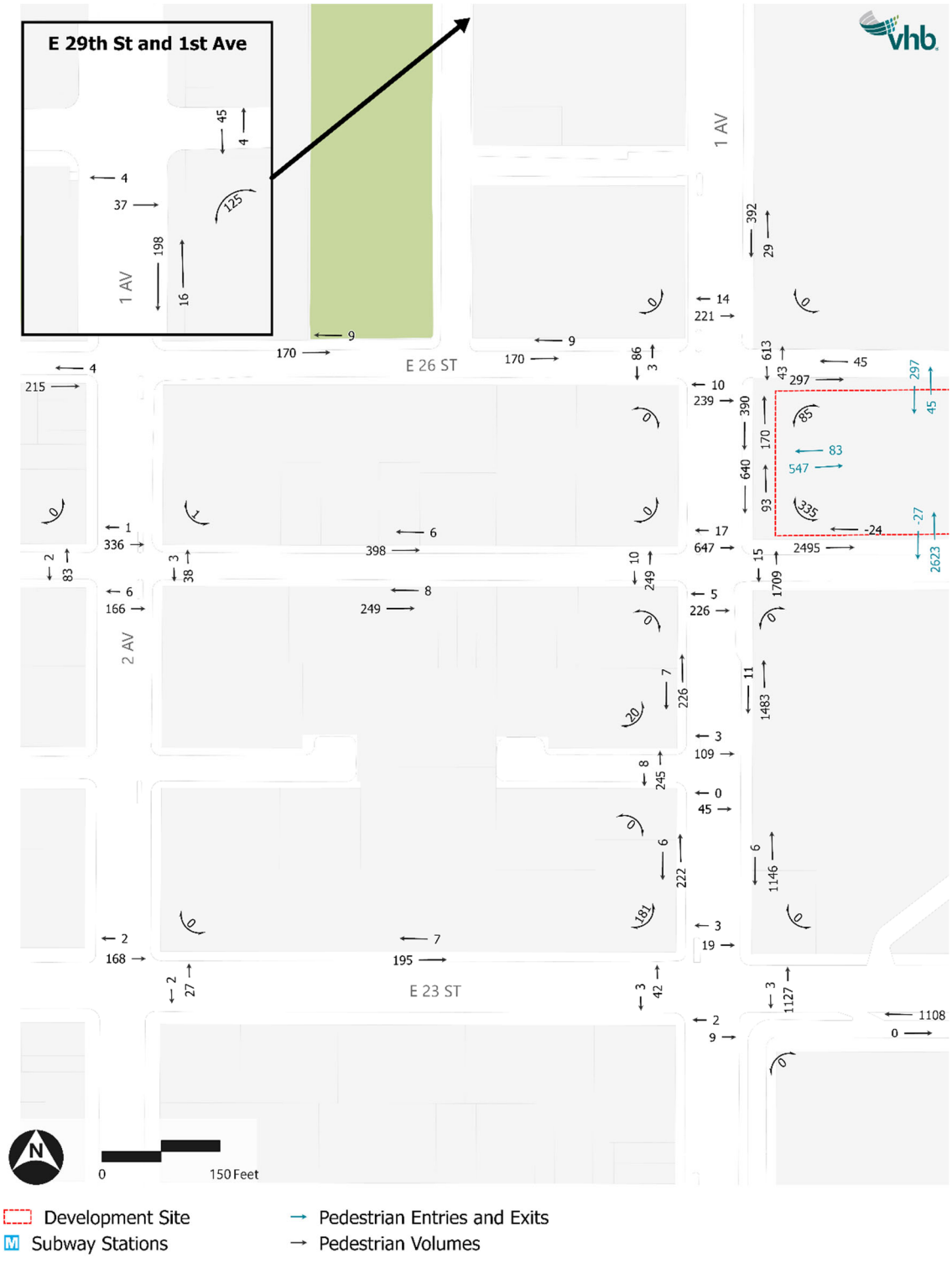


Figure 10-4 Year 2031 Pedestrian Increment Volumes – AM Peak Hour (West side)

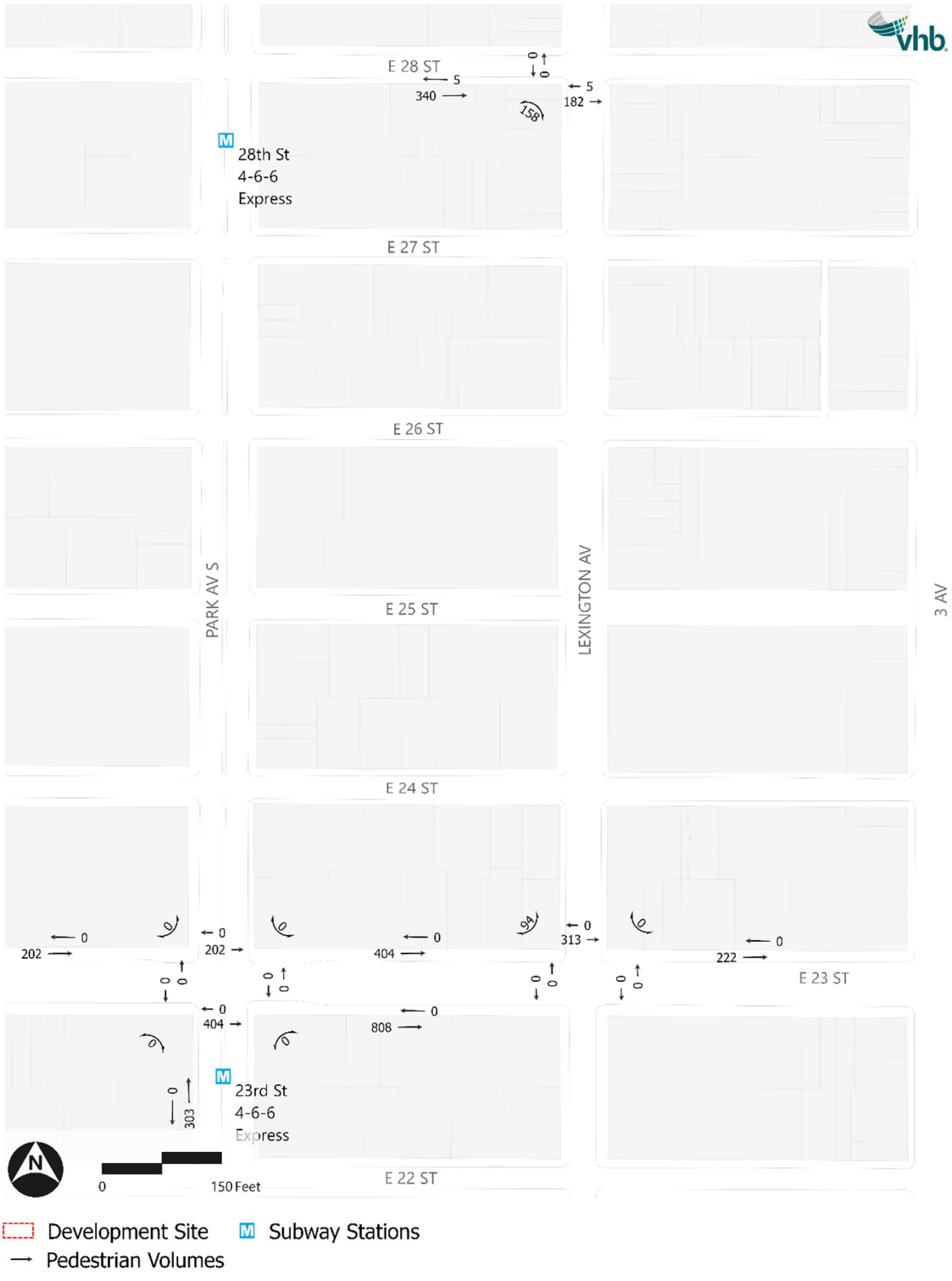


Figure 10-5 Year 2031 Pedestrian Increment Volumes – Midday Peak Hour (East side)

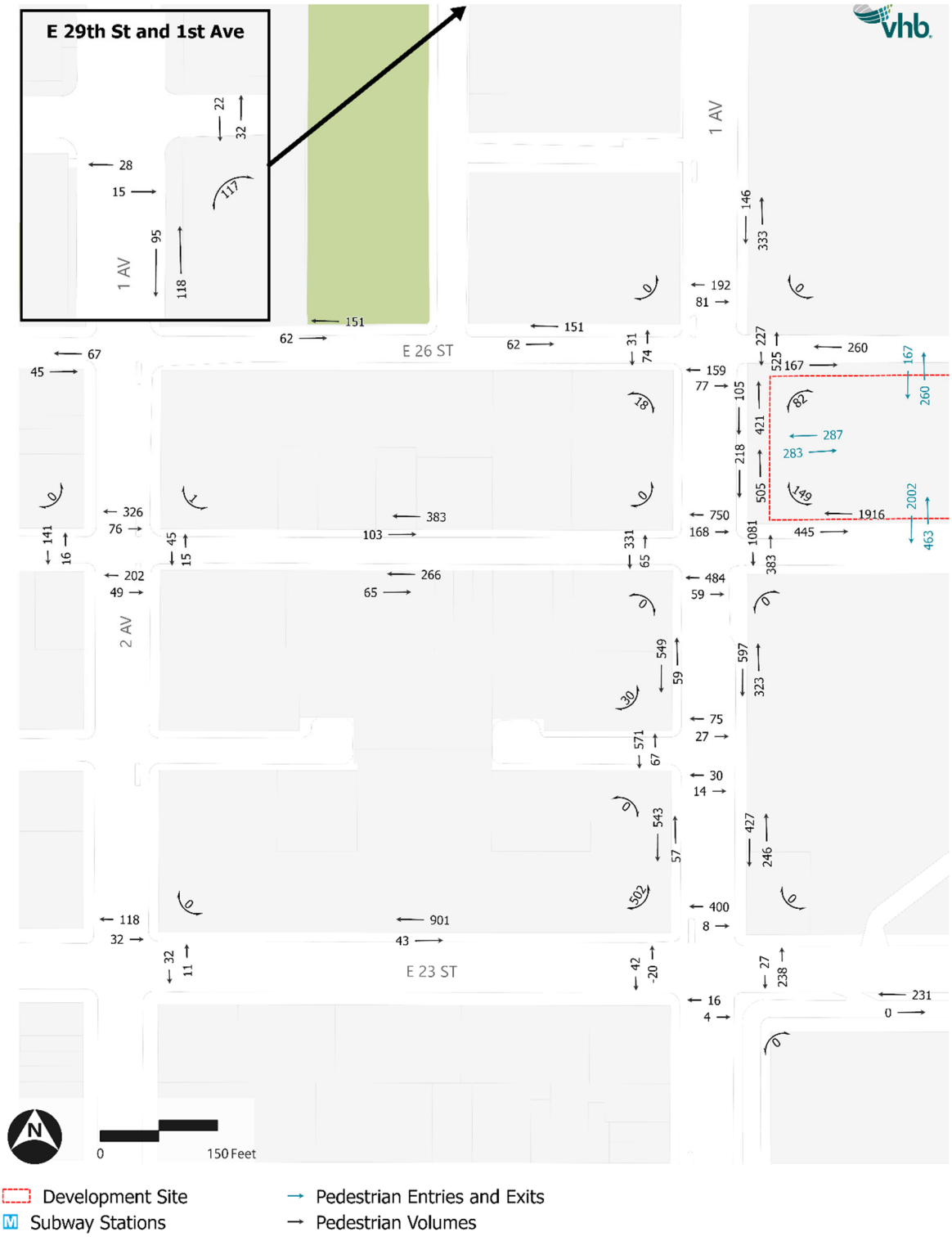


Figure 10-6 Year 2031 Pedestrian Increment Volumes – Midday Peak Hour (West side)

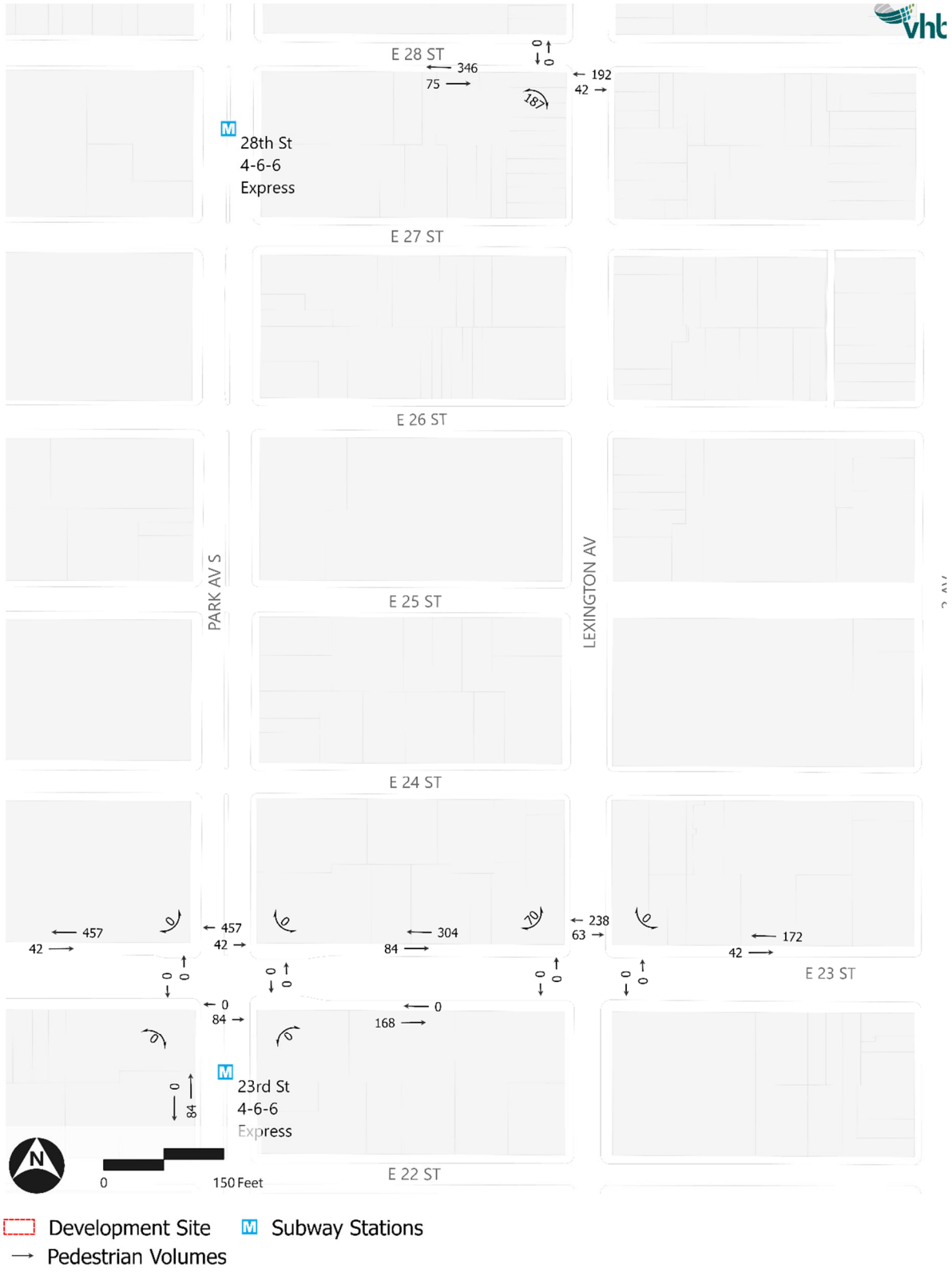


Figure 10-7 Year 2031 Pedestrian Increment Volumes – PM Peak Hour (East side)

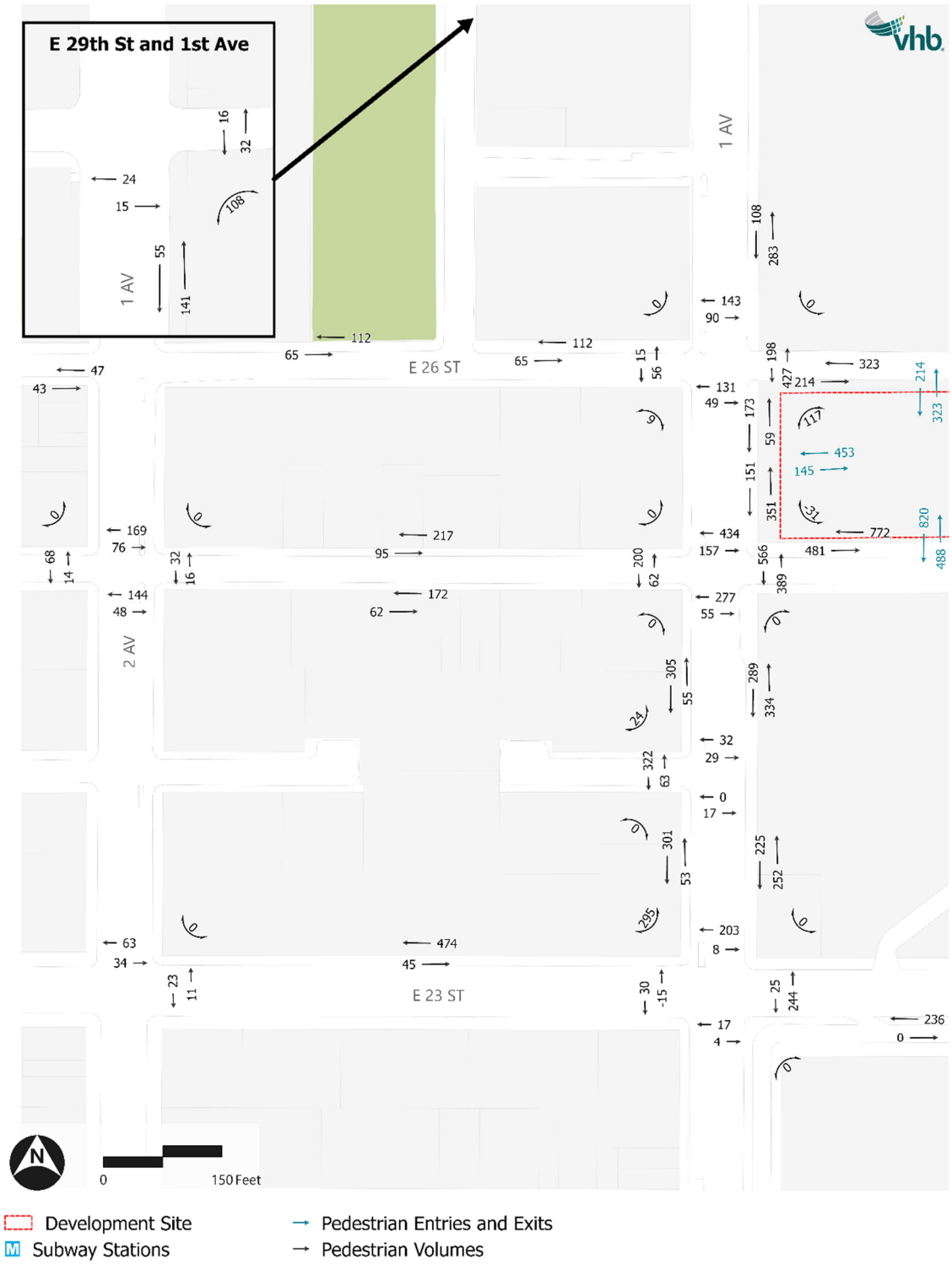


Figure 10-8 Year 2031 Pedestrian Increment Volumes – PM Peak Hour (West side)



Figure 10-9 Year 2031 Pedestrian Increment Volumes – Saturday Peak Hour (East side)

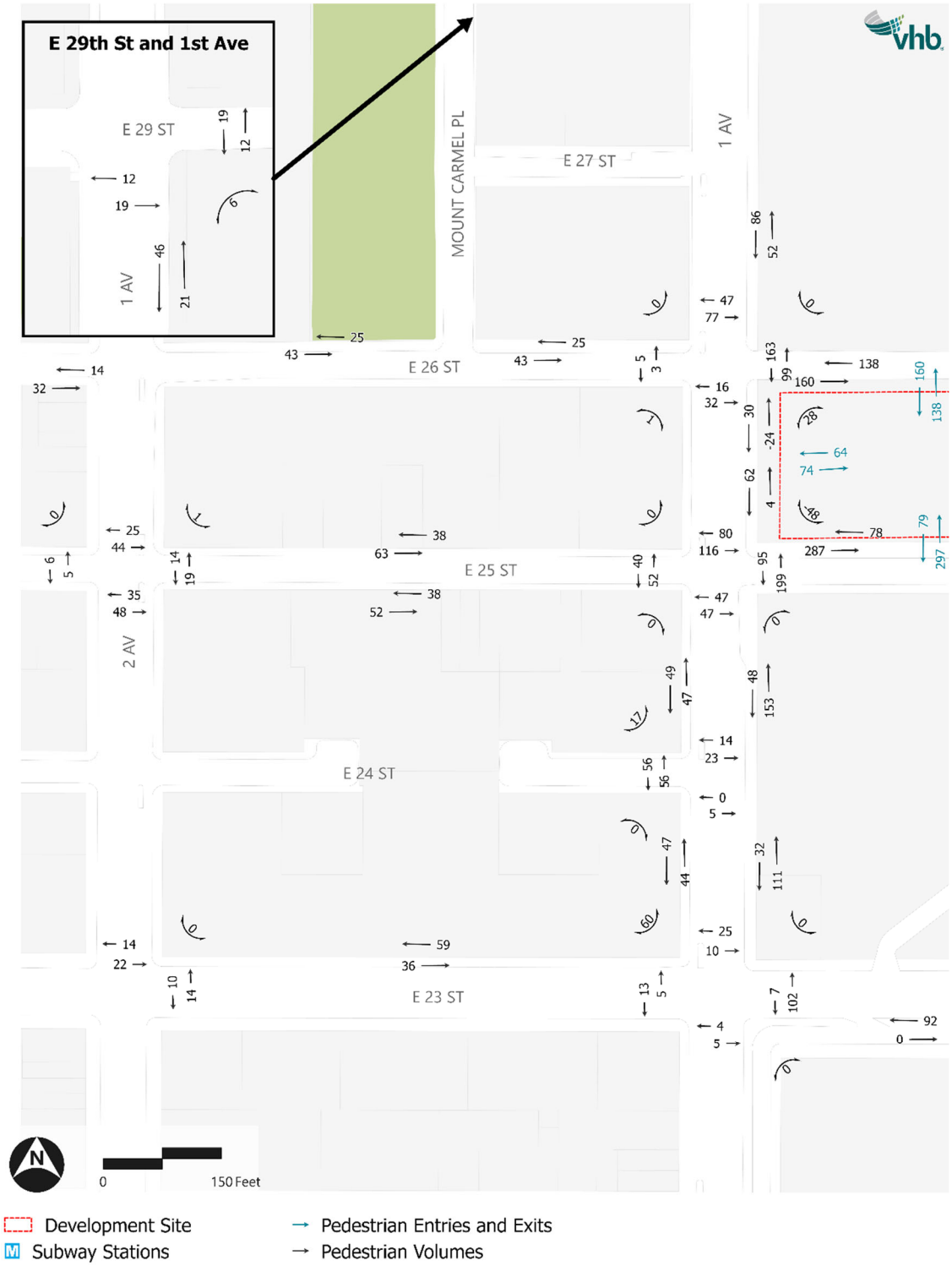


Figure 10-10 Year 2031 Pedestrian Increment Volumes – Saturday Peak Hour (West side)



Traffic

The project site abuts FDR Drive to its east with immediate access to the site provided at East 25th Street for incoming vehicles driving in the southbound direction. Outgoing vehicles can access the southbound FDR Drive at East 30th Street and at East 20th Street. Access to the project site for incoming vehicles from the northbound FDR Drive is provided at East 20th Street and access to the northbound FDR Drive for outgoing vehicles is provided at East 38th Street. Project-generated vehicle trips were assigned through the surrounding street network based on expected routes to and from the project site, the configuration of the street network, and parking facilities within the project site vicinity. As the Proposed Project would provide on-site parking for just some proposed uses, auto trips not accommodated on-site were assigned to park at nearby off-street parking facilities.

The Proposed Project assumes that parking would be provided for OCME staff in one garage and for academic staff in another garage (access to both garages are assumed to be from the former East 26th Street). Project-generated auto trips for other uses were assigned to 12 parking garages located within a one-quarter mile of the Development Site. Approximately 47 percent of the auto trips were assigned to park at the garage located at East 28th Street along FDR Drive service road. The remaining auto trips were distributed to other parking garages. The distribution of worker-centric auto trips (i.e., Life Sciences, ambulatory care and high school staff, OCME, higher education and Brookdale campus) was based upon the AASHTO CTPP RJTW data for Manhattan Census tracts 60, 62, 64, 66, and 70. This data set informed the travel assumptions applied to the commercial Life Sciences space, higher education space, high school staff, ambulatory care staff, and OCME staff and visitors. Within New York City, approximately 9.6 percent of these auto trips can be expected to originate from Manhattan, 21.8 percent from Queens, 13.5 percent from Brooklyn, 6.7 percent from the Bronx, and 3.4 percent from Staten Island. New York counties to the north of New York City (Westchester and Upstate New York) make up approximately 13.9 percent of worker trips while trips from Long Island are approximately 10.9 percent of worker trips. Approximately 19.2 percent of office trips are assumed to originate from out of state areas to the west (New Jersey and Pennsylvania) and approximately 1.0 percent from Connecticut.

Most worker-centric auto trips were assumed to use East River and Hudson River crossings. Approximately 36.1 percent of trips were assigned to the Queens-Midtown Tunnel and 0.6 percent to the Ed Koch Queensboro Bridge crossing the East River from Queens to access the study area. Approximately 9.7 percent and 6.5 percent of the trips were assigned to the study area using the Lincoln Tunnel and Holland Tunnel, respectively. Trips from the north arriving via FDR Drive account for approximately 27.5 percent of worker trips (including trips to/from the Ed Koch Queensboro Bridge). FDR Drive worker trips from the south account for approximately 9.5 percent of the trips (including trips arriving from/en route to Brooklyn). The remaining trips would use local north-south streets including First, Second and Third Avenues; and the cross-streets between East 23rd and 34th Streets.

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The distribution of auto and ambulette trips that would be generated by ambulatory care visitors and patients were assumed to be within a three-mile radius of the project site based on population densities. Approximately 70 percent of the trips would be within the island of Manhattan and would arrive using local cross-streets and avenues. Approximately 1 percent, 10 percent and 20 percent would be expected to travel to the project site from Roosevelt Island and neighborhoods in western Brooklyn and Queens, respectively. The trips from Roosevelt Island and Queens would be expected to enter Manhattan via the 59th Street Bridge and utilize FDR Drive form the north and local avenues to reach the site's study area. Trips originating in Brooklyn would be expected to enter Manhattan via the Williamsburg or Manhattan Bridges and reach the site's study area via FDR Drive and local avenues from the south. Local trips (, high school students, local retail and open space) are expected to travel from the immediate surrounding area (within a 1.5-mile radius from the project site within Manhattan); these trips were assigned along local streets in the study area.

Taxi and student auto pick-ups and drop-offs were primarily assigned along the project site's East 25th Street and First Avenue frontages. Delivery trips were assigned along New York City Department of Transportation's (NYCDOT) designated delivery routes such as 23rd Street, First Avenue, and Second Avenue. Delivery trips were assigned along delivery routes as long as possible until reaching the project site's loading area, which is accessed from the former East 26th Street for each of the new buildings. Ambulette trips related to the ambulatory care were assigned along the new private driveway between East 25th and the former East 26th Streets. School bus trips were assigned to drop-off/pick-up at the Development Site along East 25th Street.

Traffic volume increment maps for the weekday AM, midday and PM, and Saturday peak hours are shown in **Figure 10-11** through **Figure 10-18**.

Figure 10-11 Year 2031 Traffic Increment Volumes – AM Peak Hour (north side)

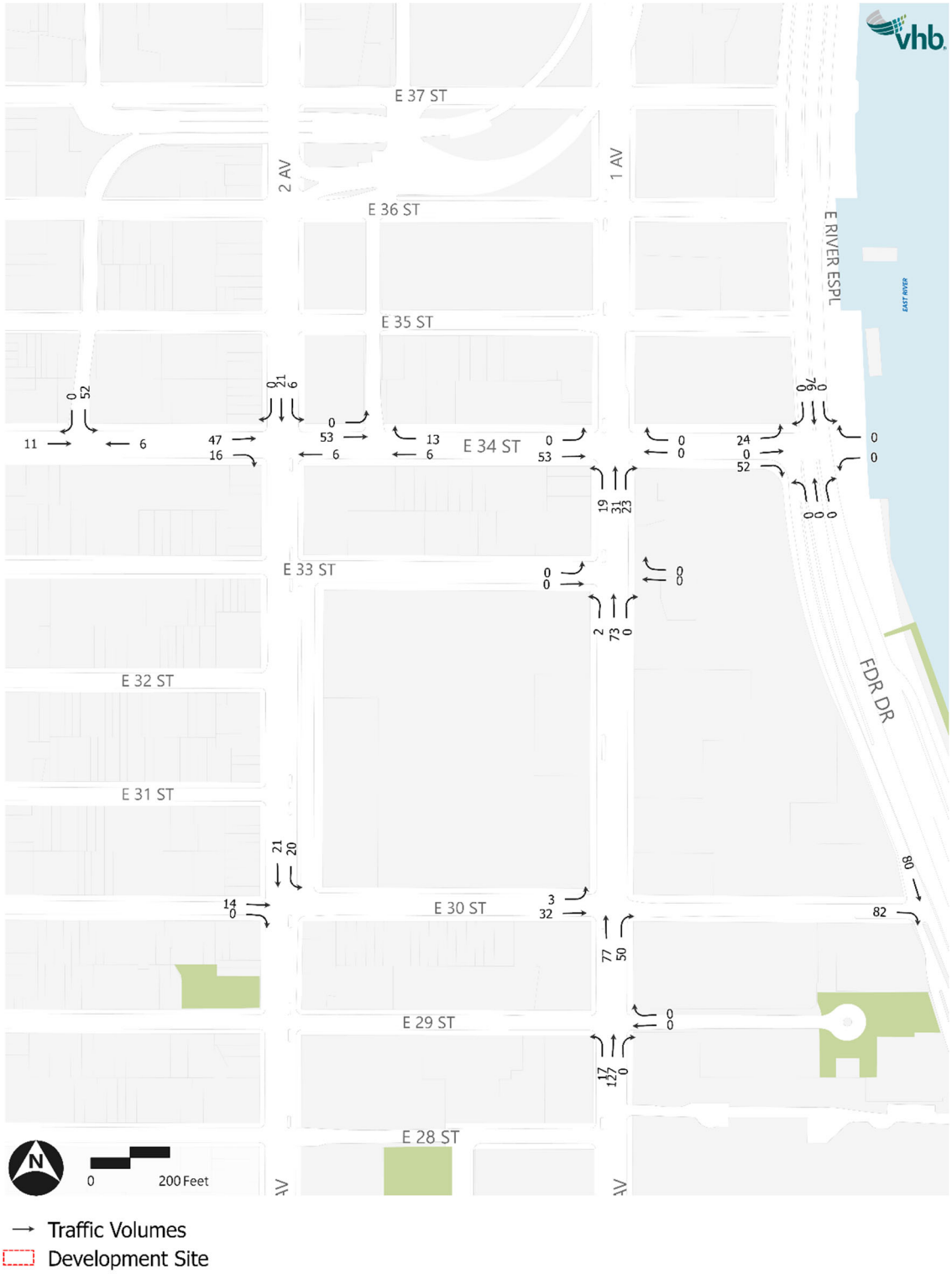


Figure 10-12 Year 2031 Traffic Increment Volumes – AM Peak Hour (south side)

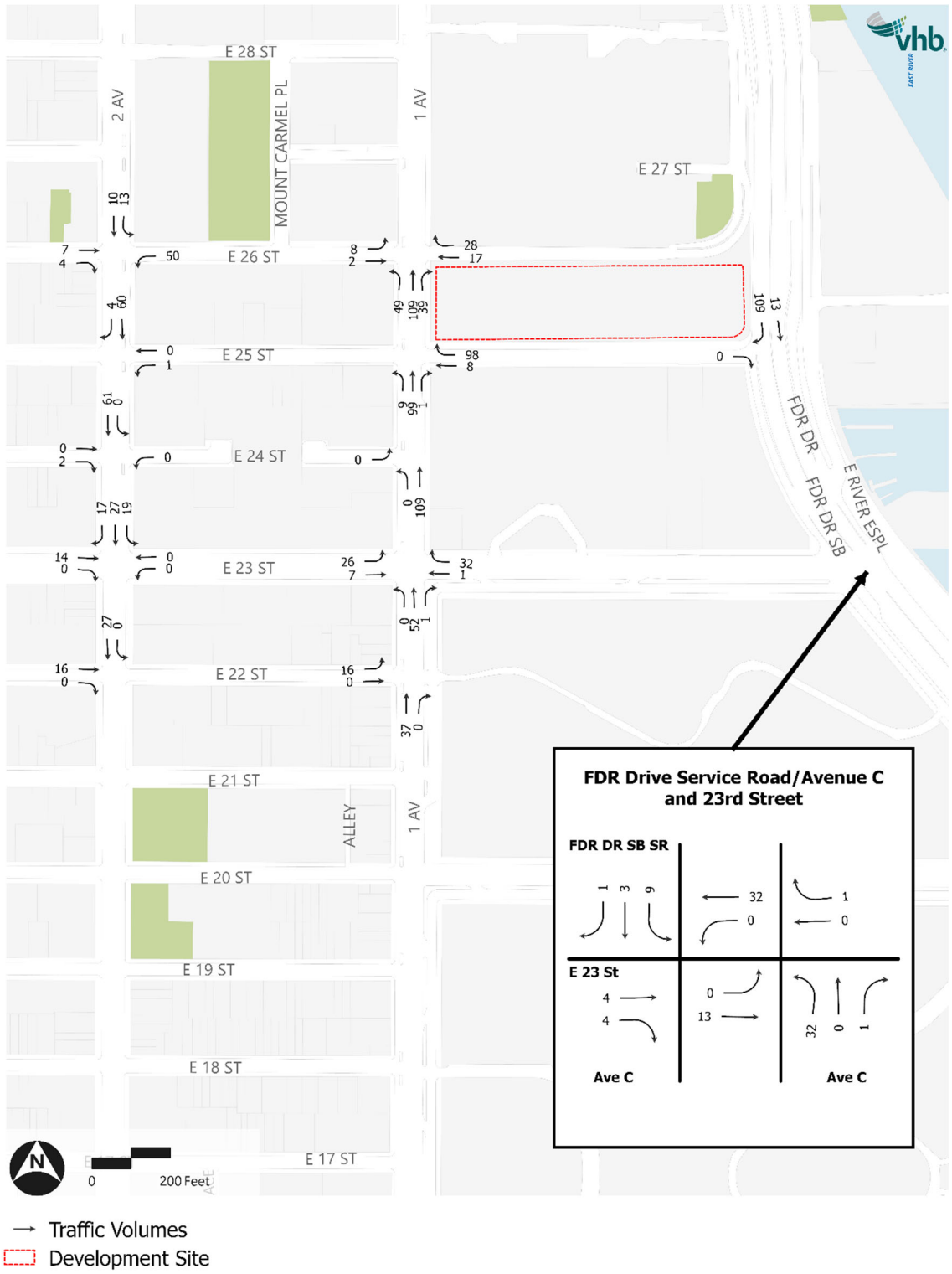


Figure 10-13 Year 2031 Traffic Increment Volumes – Midday Peak Hour (north side)

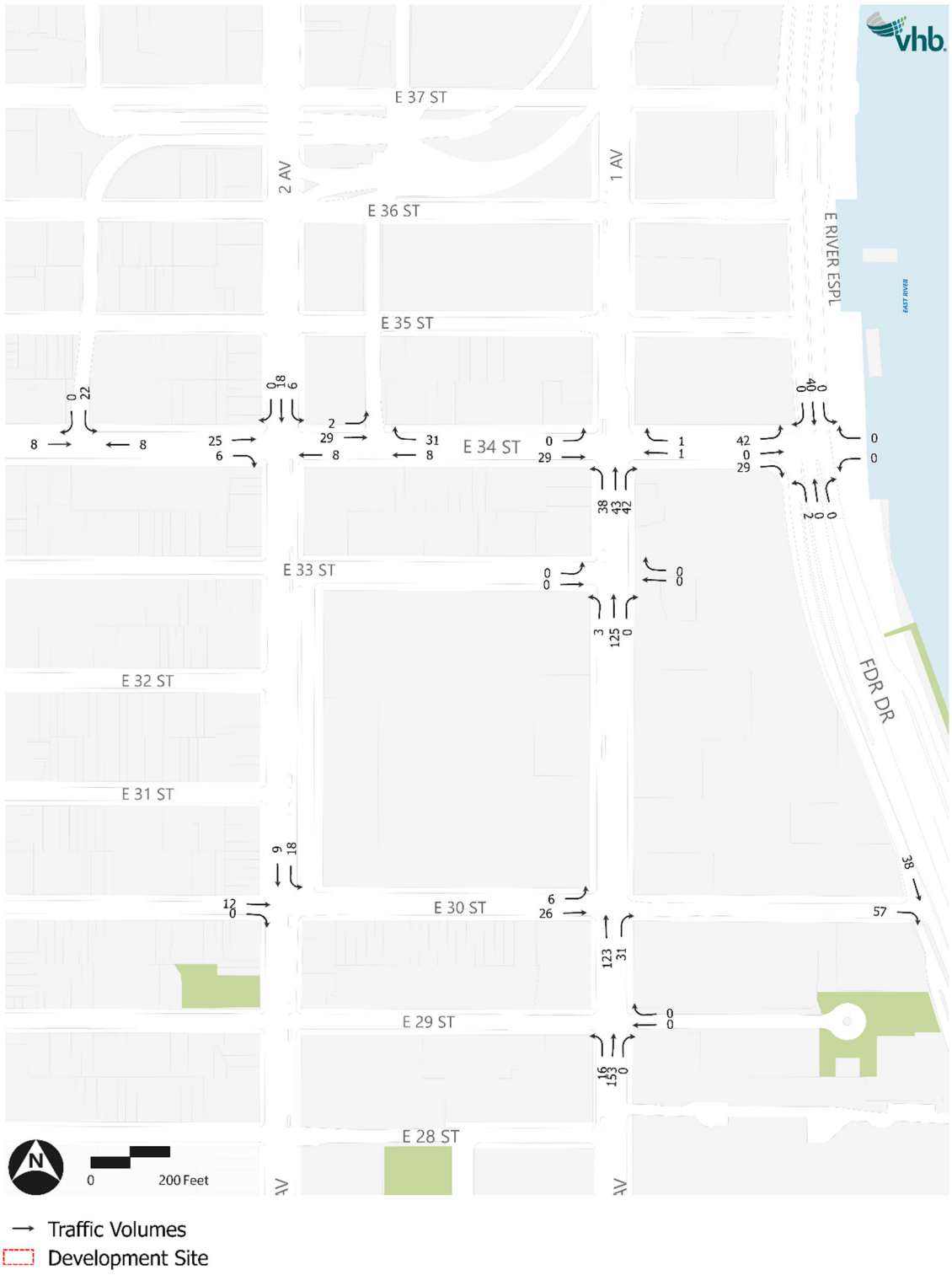


Figure 10-14 Year 2031 Traffic Increment Volumes – Midday Peak Hour (south side)

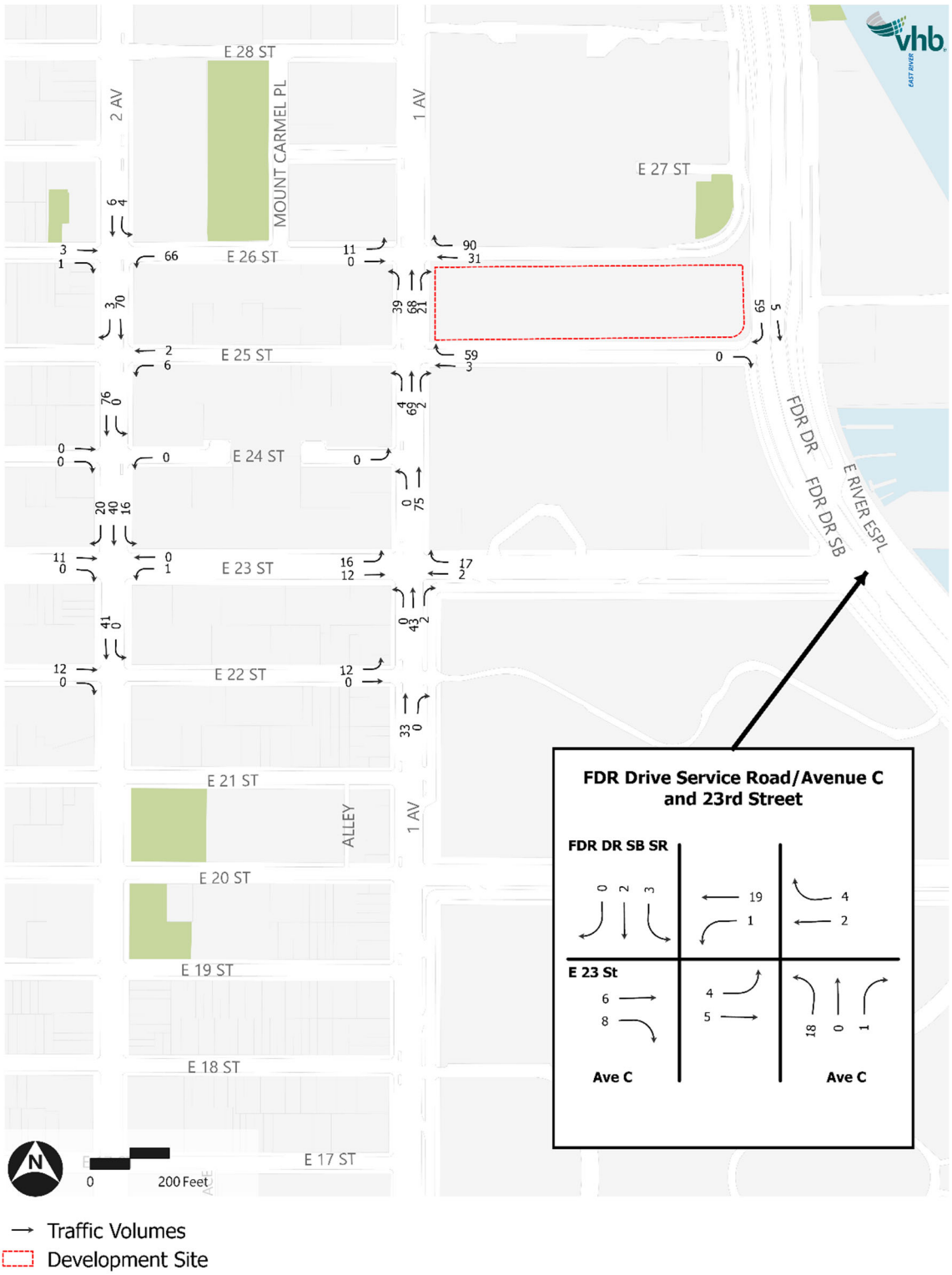


Figure 10-15 Year 2031 Traffic Increment Volumes – PM Peak Hour (north side)

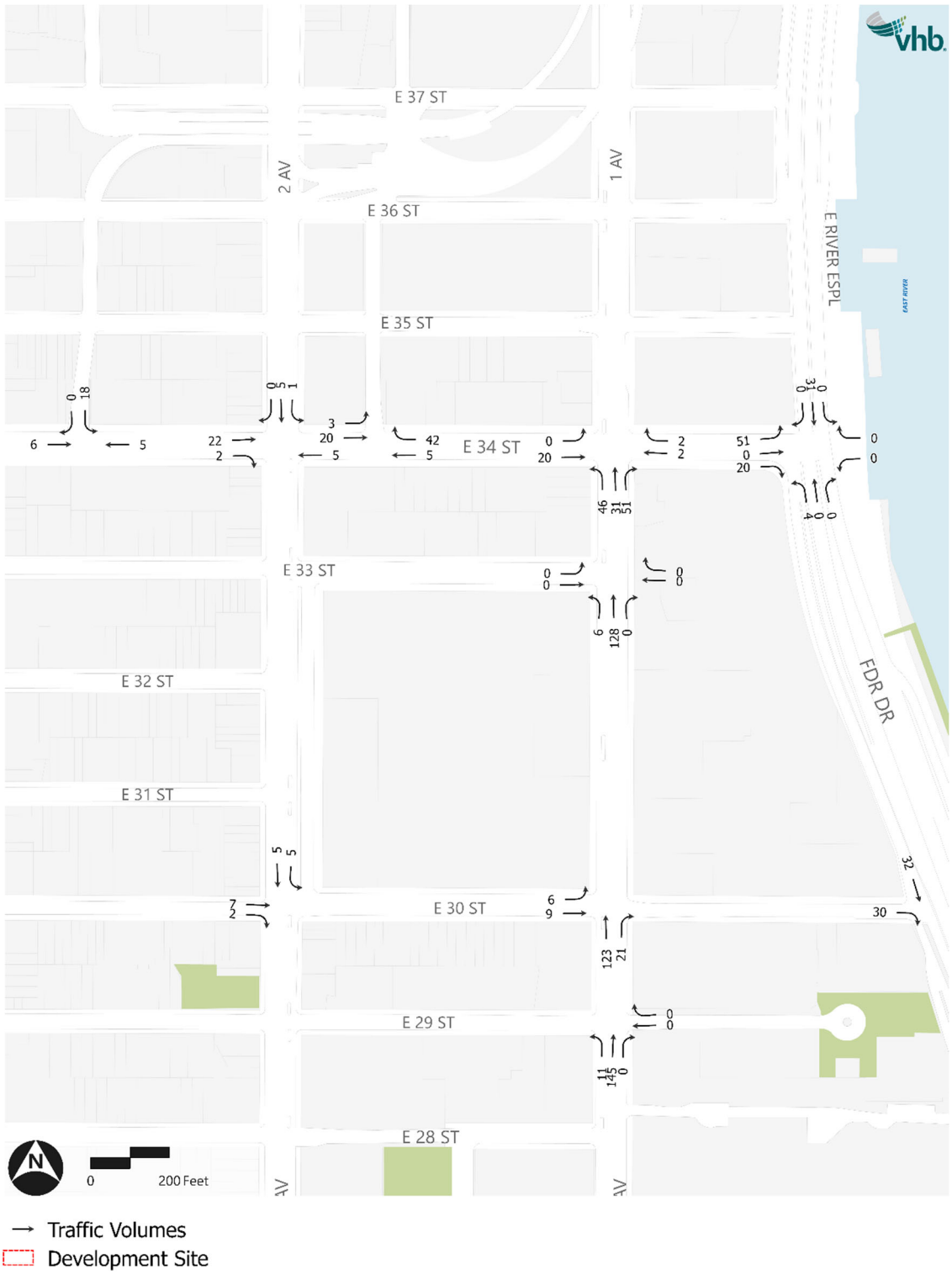


Figure 10-16 Year 2031 Traffic Increment Volumes – PM Peak Hour (south side)

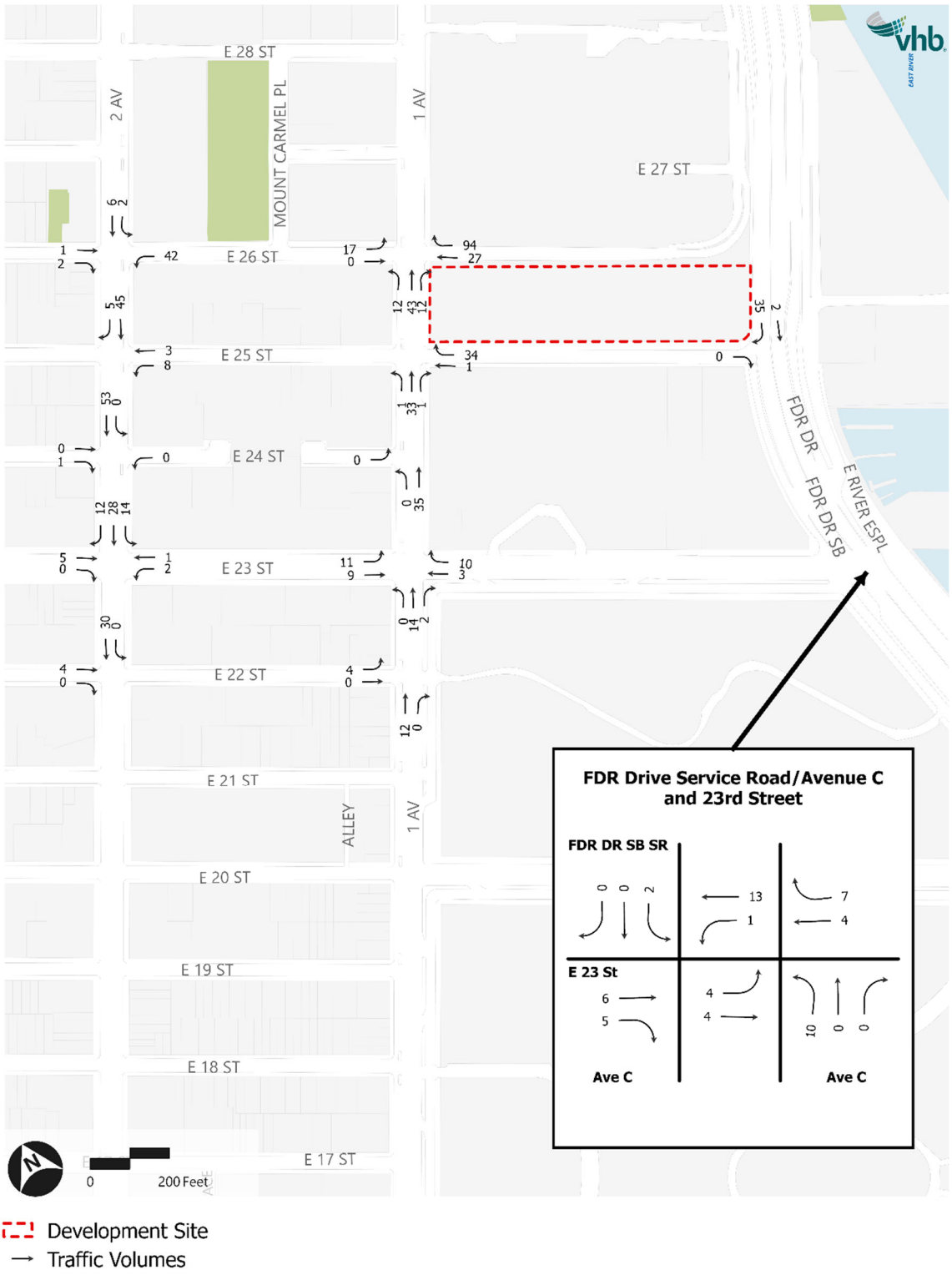


Figure 10-17 Year 2031 Traffic Increment Volumes – Saturday Peak Hour (north side)

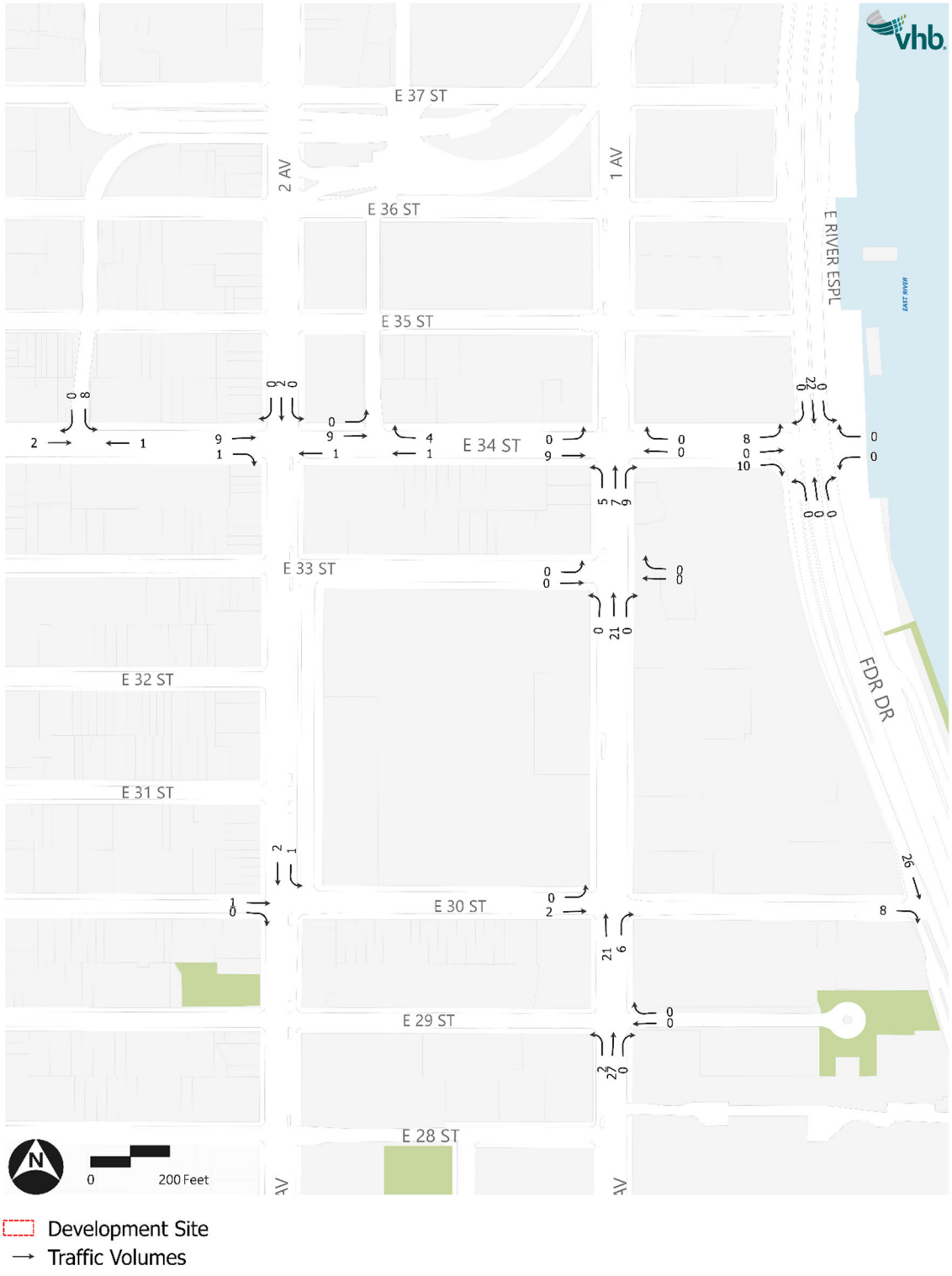
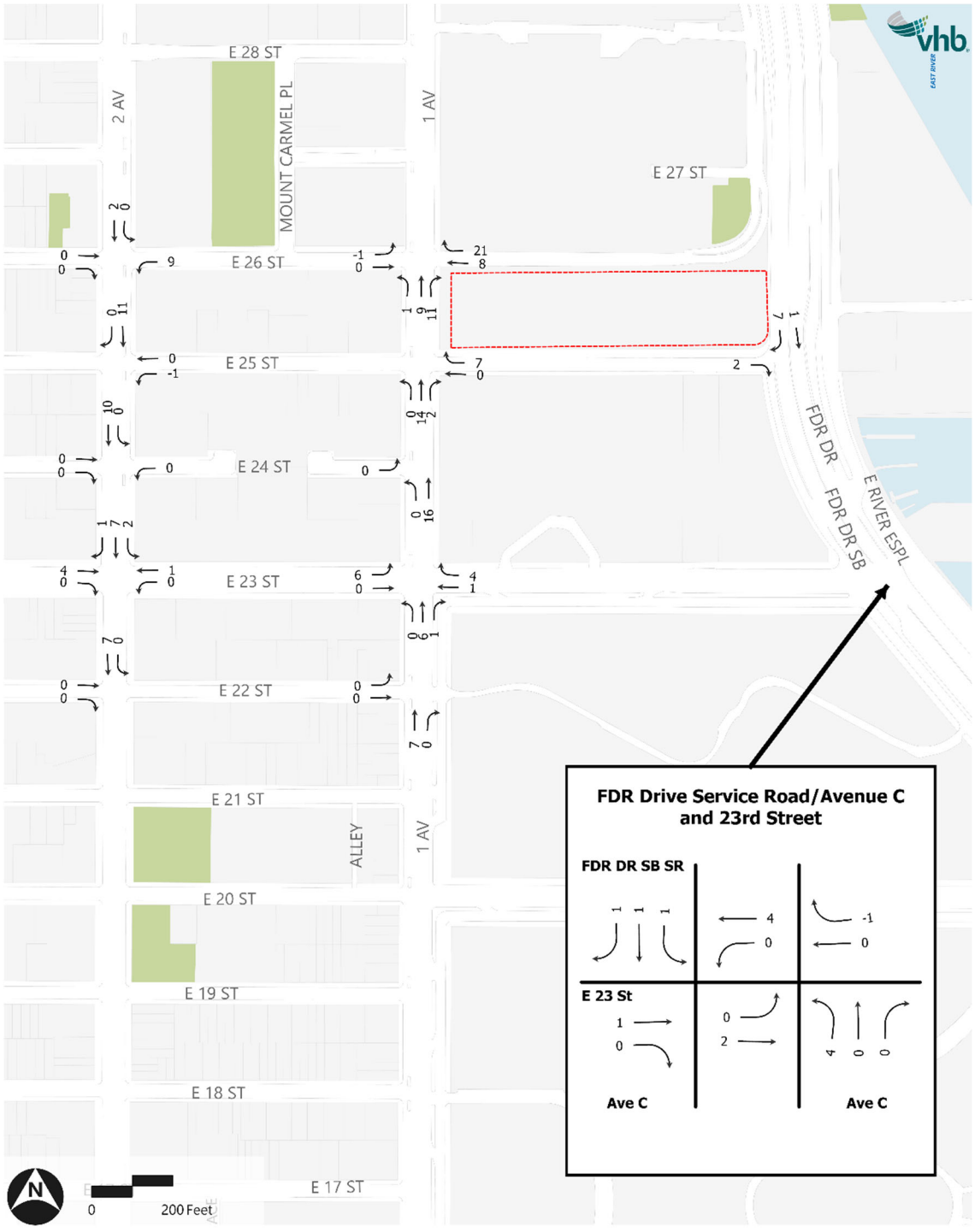


Figure 10-18 Year 2031 Traffic Increment Volumes – Saturday Peak Hour (south side)



Level 2 Screening Results

Traffic

Based on the vehicular traffic assignments described above, detailed level of service analyses were conducted at 23 intersections for the weekday AM, midday, and PM peak hours. Detailed analyses for the Saturday peak hour were not warranted as no intersection would exceed the Level 2 CEQR threshold during that period. The analyzed intersections are shown in **Figure 10-19** and listed below.

- FDR Drive / Avenue C and East 23rd Street (analyzed as two intersections)
- FDR Drive and East 34th Street
- First Avenue and East 22nd Street
- First Avenue and East 23rd Street
- First Avenue and East 24th Street
- First Avenue and East 25th Street
- First Avenue and East 26th Street
- First Avenue and East 29th Street
- First Avenue and East 30th Street
- First Avenue and East 33rd Street
- First Avenue and East 34th Street
- Second Avenue and East 22nd Street
- Second Avenue and East 23rd Street
- Second Avenue and East 24th Street
- Second Avenue and East 25th Street
- Second Avenue and East 26th Street
- Second Avenue and East 30th Street
- Second Avenue and East 34th Street
- 34th Street and Queens-Midtown Tunnel Entrance
- 34th Street and Queens-Midtown Tunnel Exit
- FDR Drive and East 25th Street
- FDR Drive and East 30th Street

Subways

Based on the assignment of subway trips described above, analysis of subway stations elements was conducted for two subway stations during the weekday AM and PM commuter peak hours – the 23rd Street station and the 28th Street station (both stations serve the No. 6 subway line). The locations of the subway stations are shown in **Figure 10-20**.

Figure 10-19 Traffic Study Area

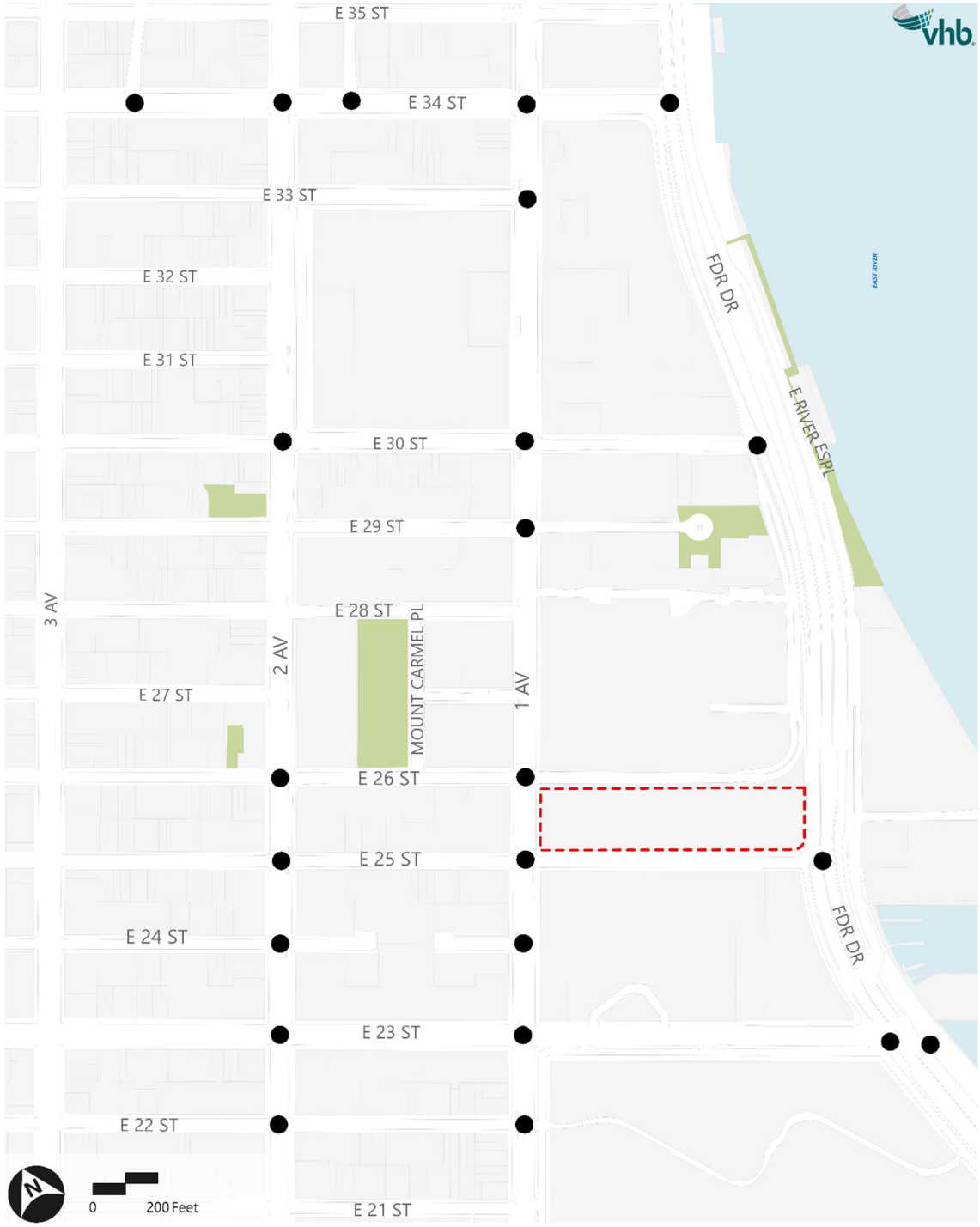
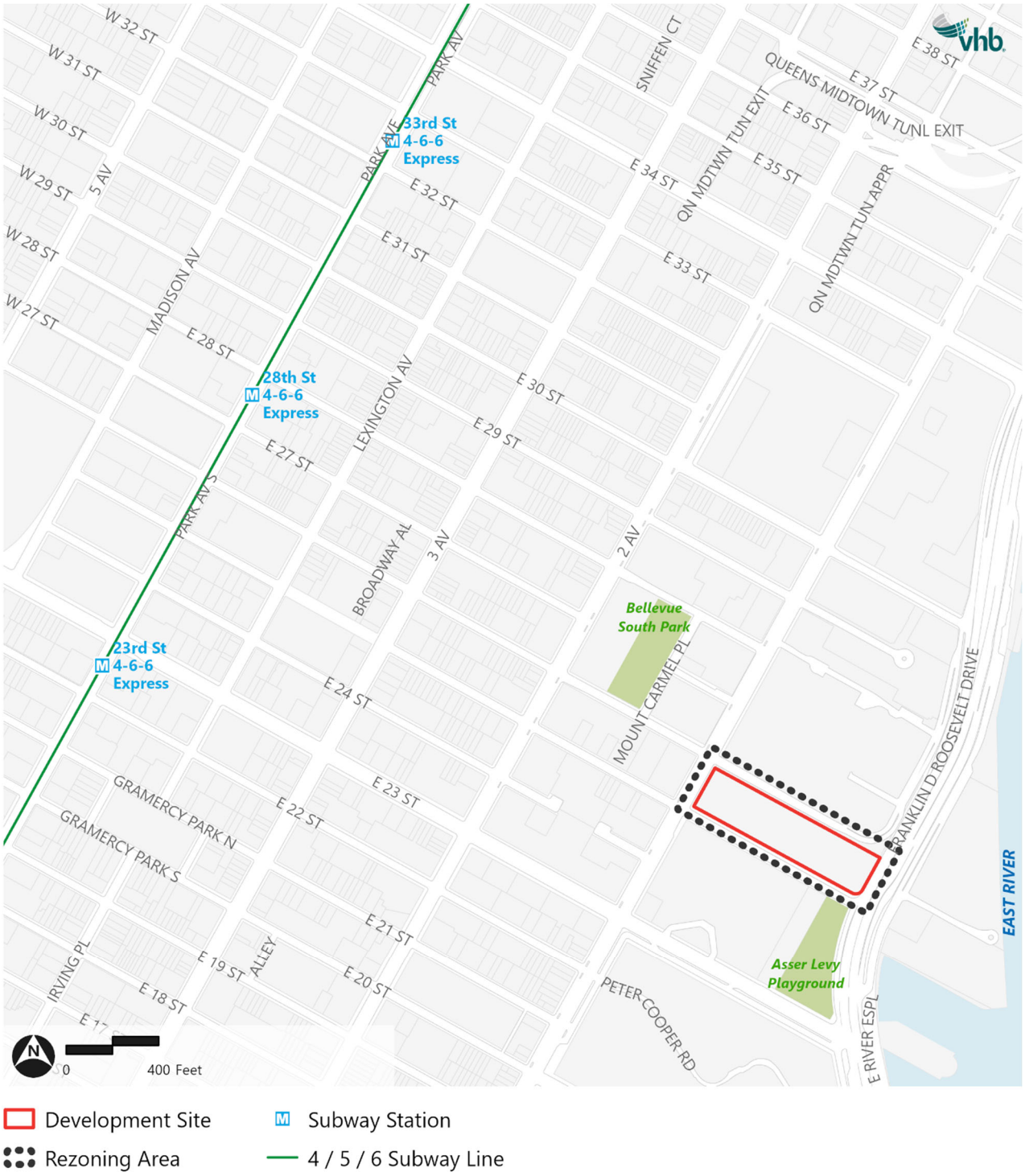


Figure 10-20 Transit Study Area



To determine whether a subway line haul analysis is warranted for the No. 6 subway line, the projected increase in subway ridership was compared to the existing subway service during the weekday AM and PM commuter peak hours for the peak direction of travel. According to the *CEQR Technical Manual*, an increase of ridership of fewer than five riders per subway car is unlikely to have the potential to result in impacts to the subway line haul. The assignment of subway riders, detailed in **Table 10-7** below, shows that the increase in riders would be below the thresholds therefore a detailed subway line haul analysis is not warranted and the Proposed Project would not have a potential to result in significant impacts to the No. 6 subway line haul.

Table 10-7 Subway Line Haul Screening – No. 6 Subway Line

Peak Hour	Peak Direction / Peak Load Point	Subway Cars per Hour	Projected Riders at Peak Load Point	Average Riders Per Car
AM	SB / 3rd Avenue – 138th Street	185	244	1.3
PM	NB / 59th Street	393	168	2.3

Note: Subway service information based on 2019 subway line haul data provided by New York City Transit

Bus

Based on the bus assignments described above, including bus-to-subway transfer trips, detailed bus line haul analyses were conducted during the weekday AM and PM commuter peak hours for four bus routes – the M15, the M15-SBS, the M23-SBS and M34A-SBS.

Pedestrians

Based on the pedestrian assignments described above, detailed pedestrian level of service analyses for the weekday AM, midday and PM peak hours were conducted at the following pedestrian elements (15 crosswalk, 24 corners, and 22 sidewalks) listed below and shown in **Figure 10-21**. Although pedestrian elements in front of the Development Site would exceed the Level 2 thresholds during the Saturday peak hour, the proposed project would generate considerably less trips and has lower background volumes than the weekday peak hours. Therefore, Saturday peak hour conditions would be expected to operate similar or better than the weekday peak hours and analysis during this period would not be needed. It should be noted that the Proposed Project would setback the buildings along the Development Site frontages and thus provide more sidewalk space than in the existing condition.

Crosswalks and Corners

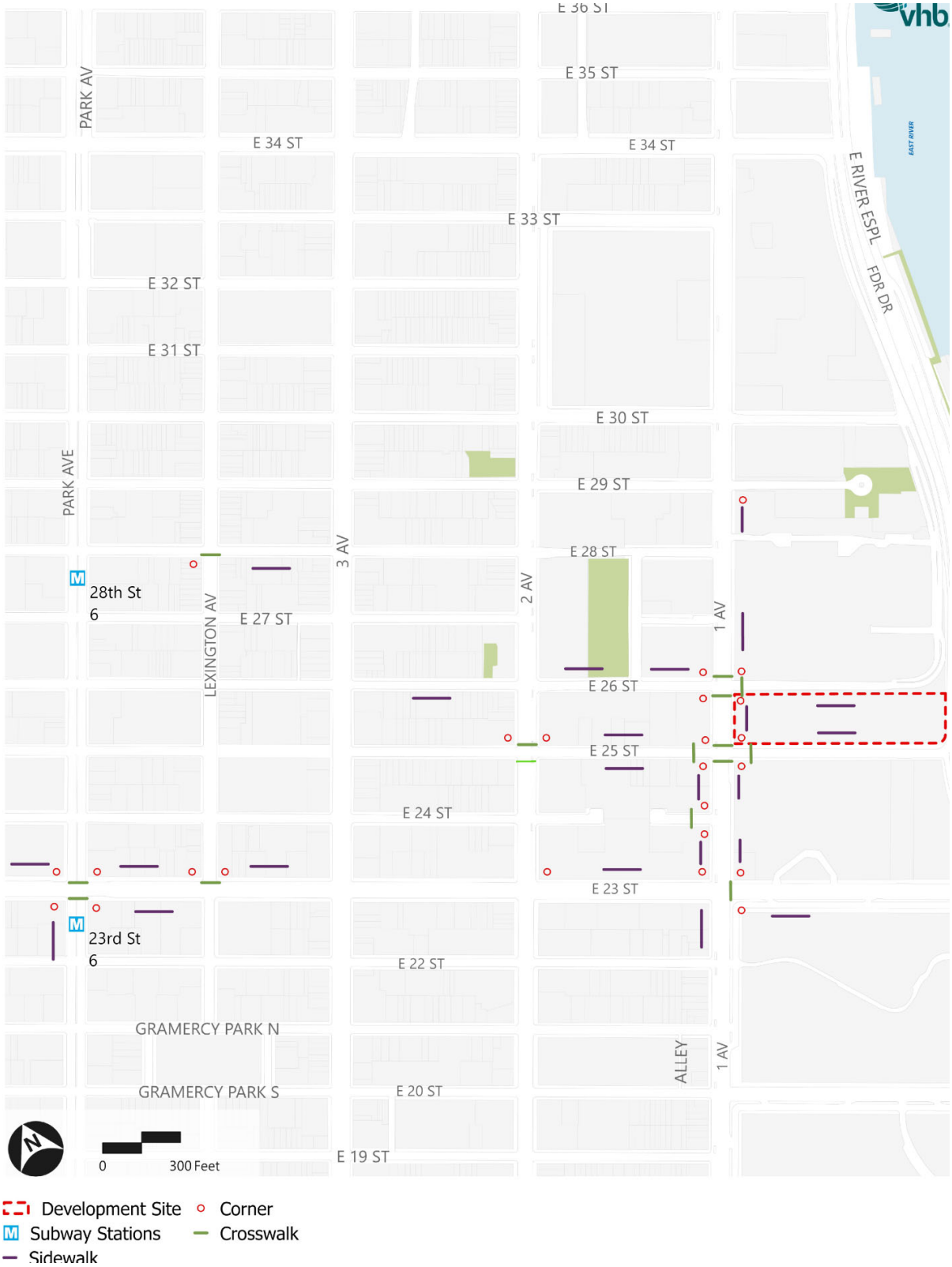
- First Avenue and East 29th Street – southeast corner
- First Avenue and East 26th Street – north, east and south crosswalks; and all corners
- First Avenue and East 25th Street – all crosswalks; and all corners
- First Avenue and East 24th Street – west crosswalk; and northwest and southwest corners
- First Avenue and East 23rd Street – east crosswalk; and northeast, northwest, and southeast corners
- Second Avenue and East 25th Street – north and south crosswalks; and northeast and northwest corners
- Second Avenue and East 23rd Street – northeast corner
- Lexington Avenue and East 28th Street – south crosswalk; and southwest corner

- Lexington Avenue and East 23rd Street – north crosswalk; and northeast and northwest corners
- Park Avenue and East 23rd Street – north and south crosswalks; and all corners

Sidewalks

- First Avenue between East 28th and 29th Streets – east sidewalk
- First Avenue between East 26th and 27th Streets – east sidewalk
- First Avenue between East 25th and 26th Streets – east sidewalk
- First Avenue between East 24th and 25th Streets – east and west sidewalks
- First Avenue between East 23rd and 24th Streets – east and west sidewalks
- Park Avenue between East 22nd and 23rd Streets – west sidewalk
- East 28th Street between Lexington Avenue and Park Avenue – south sidewalk
- The former East 26th Street between FDR Drive and First Avenue - south sidewalk
- East 26th Street between First Avenue and Mt. Carmel Place – north sidewalk
- East 26th Street between Mt. Carmel Place and Second Avenue – north sidewalk
- East 26th Street between Second Avenue and Third Avenue – south sidewalk
- East 25th Street between FDR Drive and First Avenue – north sidewalk
- East 25th Street between First Avenue and Second Avenue – north and south sidewalks
- East 23rd Street between FDR Drive and First Avenue – south sidewalk
- East 23rd Street between First Avenue and Second Avenue – north sidewalk
- East 23rd Street between Lexington Avenue and Third Avenue – north sidewalk
- East 23rd Street between Park Avenue and Lexington Avenue – north and south sidewalks
- East 23rd Street between Madison Avenue and Park Avenue – north sidewalk

Figure 10-21 Pedestrian Study Area



Detailed Analysis Methodology

This section describes the methodology used for the detailed traffic, subway, and pedestrian analyses.

Traffic

The operation of all signalized and unsignalized intersection analysis locations were assessed using Synchro software which are based on methodologies presented in the *Highway Capacity Manual (HCM)*. The HCM procedures evaluate the levels of service (LOS) for signalized and unsignalized intersections using average stop control delay, in seconds per vehicle, as described below.

- LOS A describes operations with very low delays, i.e., 10.0 seconds or less per vehicle. This occurs when signal progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all.
- LOS B describes operations with delays in excess of 10.0 seconds up to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. Again, most vehicles do not stop at the intersection.
- LOS C describes operations with delays in excess of 20.0 seconds up to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. The number of vehicles stopping is noticeable at this level, although many still pass through the intersection without stopping.
- LOS D describes operations with delays in excess of 35.0 seconds up to 55.0 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (v/c) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines.
- LOS E describes operations with delays in excess of 55.0 seconds up to 80.0 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios.
- LOS F describes operations with delays in excess of 80.0 seconds per vehicle. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios with cycle failures. Poor progression and long cycle lengths may also contribute to such delays. Often, vehicles do not pass through the intersection in one signal cycle.

Based on the *CEQR Technical Manual* guidelines, LOS A, B, and C are considered clearly acceptable conditions, LOS D is generally considered tolerably acceptable in dense urban environments, and LOS E and F indicate congestion. These guidelines are applicable to individual traffic movements and overall intersection levels of service.

For unsignalized intersections, delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line: LOS A describes operations with very low delay, i.e., 10.0 seconds or less per vehicle; LOS B describes operations with delays in excess of 10.0 seconds up to 15.0 seconds; LOS C has delays in excess of 15.0 seconds up to 25.0 seconds; LOS D, excess of 25.0 seconds up to 35.0 seconds per vehicle; and LOS E, excess of 35.0 seconds up to 50.0 seconds per vehicle. LOS F describes operation with delays in excess of 50.0 seconds per vehicle. This condition exists when there are insufficient gaps of suitable size in a major vehicular

traffic stream to allow side street traffic to cross safely. Based on *CEQR Technical Manual* guidelines, LOS A, B, C, and D are considered acceptable for unsignalized intersections.

Significant Impact Criteria

The assessment of potential significant traffic impacts of a proposed project is based on significant impact criteria defined in the *CEQR Technical Manual*. If a lane group in the future With-Action condition is within acceptable LOS A, B, C, or D, the impact is not considered significant.

For a lane group at With-Action LOS E, an increase in projected delay of 5.0 or more seconds compared to the No-Action condition is considered a significant impact. For a lane group at With-Action LOS F, an increase in projected delay of 4.0 or more seconds compared to the No-Action condition is considered a significant impact. For unsignalized intersections, for the minor street to generate a significant impact, a total approach volume of 90 passenger car equivalents (PCEs) must be identified in the With-Action condition in any peak hour.

Parking

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 additional demand generated by the Proposed Project. This analysis typically encompasses a study area within a quarter-mile of the Development Site. If the analysis concludes that there would be a shortfall in parking within the quarter-mile study area, the study area may be extended to a half-mile to identify additional parking supply.

For projects located in Manhattan or other CBD areas[4], the inability of the Proposed Project or the surrounding area (on-street and off-street) 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. For other areas in New York City, a parking shortfall that exceeds more than half the available on-street and off-street parking spaces within a quarter mile of the Development Site may be considered significant. Additional factors, such as the availability and extent of transit in the area and the patterns of automobile usage by area residents, could be considered to determine the significance of the identified parking shortfall. If there is an adequate parking supply within a half-mile of the Development Site, the projected parking shortfall may not be considered significant.

Transit

The *CEQR Technical Manual* provides methodologies to assess several components of transit operations including the line-haul capacities of bus and subways lines, and the capacity of subway station circulation elements including stairways, escalators, passageway, and fare controls (turnstiles, high entry/exit turnstiles [HEETs], and high exit turnstiles [HXTs]).

[4] Parking shortfalls in Zone 1 and Zone 2, as identified in the CEQR Technical Manual, are generally not considered to be significant. The Development Site is located within Zone 1.

Subway Station Elements

Subway station elements are assessed based on the ratio of passenger volume and the capacity of the element (the v/c ratio). The v/c ratio criteria are used to determine the levels of service which are shown in **Table 10-8**. LOS A and LOS B depict free flow and fluid flow conditions, respectively, at a subway station element. Station elements operating at LOS C still exhibit fluid flow but pedestrian activities begin to become somewhat restricted. When conditions become crowded and there is restriction to walking speeds, the station element is considered to be operating at LOS D. At LOS E the station element is considered to be congested. There is shuffling and frequent interactions between pedestrians which result in some queueing. Severe congestion with constant queuing signifies that a station element is operating at LOS F.

Table 10-8 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

Source: *CEQR Technical Manual*

Stairways and passageways are analyzed based on the width of the station element and the 15-minute pedestrian flow passing through. These analyses also take into account pedestrian surging resulting from an arriving train or platooning volumes from a major attraction such as a stadium or school (the effect of surging can reduce capacity by up to 25 percent) and friction from pedestrian interactions (the effect of friction can reduce capacity by up to 10 percent). Other station elements including escalators and turnstiles are measured against the operational capacities designated by New York City Transit (NYCT).

Significant Impact Criteria

Significant impacts to stairs and passageways are determined by the width increment threshold (WIT) between the No-Action and With-Action conditions for elements operating at v/c ratios greater than 1.0 in the With-Action condition. The WIT for significant impacts is detailed in **Table 10-9** below. If a stairway or passageway is significantly impacted, mitigation measures identified would need to restore the levels of service back to the No-Action levels of service or to a v/c ratio of 1.0. For escalators and turnstile elements, a With-Action v/c ratio of 1.0 or greater when the No-Action v/c ratio was less than 1.0 is considered a significant impact. For these elements where the No-Action v/c ratio is already in excess of 1.0, an incremental change in the v/c ratio of 0.01 would be considered a significant impact.

Table 10-9 Significant Impact Guidance for Stairs and Passageways

No-Action v/c Ratio	Width Increment Threshold (WIT) for Significant Impacts (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

Source: CEQR Technical Manual

Buses

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

Significant Impact Criteria

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

Pedestrians

Pedestrian level of service standards are determined on the basis of walking speed, pedestrian spacing, and probabilities of pedestrian and vehicular conflict, and are assessed based on the methodologies presented in the *2010 Highway Capacity Manual* and the *CEQR Technical Manual*. These standards are primarily based on the space needs of people involved in various activities and are widely used for planning and design of facilities for pedestrians. Analysis of crosswalks, street corners, and sidewalks along key walking paths to and from the Development Site will be performed to assess the adequacy of these pedestrian elements.

To evaluate sidewalks, the pedestrian flow per unit width (p/ft/min) is calculated based on the pedestrian flow and the effective walkway width[5]. The analysis of sidewalk conditions should consider "platoon" flow as is considered more representative of pedestrian activities within New York City. Platooning occurs when pedestrians move in groups or "platoons" as a result of pedestrian metering from a traffic signal, or from attractions such as subway stations or bus stops. The ratio of the

[5] The effective walkway width is the space along the walkway that pedestrians could use that is free of obstruction. This width also takes account of the "shy distance" (the space between pedestrians and the obstacle such as a wall or building façade).

walking speed[6] over the pedestrian flow per unit width determines the average pedestrian space (sf/p).

Crosswalk conditions are expressed as a measurement of the area available (the area consists of the crosswalk width multiplied by the crossing distance) and available pedestrian crossing time. The pedestrian flow is compared to the "time-space" available to determine the crosswalk level of service which is expressed as square feet per pedestrian (sf/p). This analysis also takes account of pedestrian conflicts in the crosswalk with turning vehicles.

Similar to crosswalks, street corners must provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the other street or passing around the corner). The analysis applies a measure of time and space availability based on the area of the corner reservoir, pedestrian crossing time available, and the estimated time used by circulating pedestrians.

The level of service standards for pedestrian elements are based on the time and space available per pedestrian during the analysis period. Level of service grades from A to F are assigned, with LOS A representative of free flow conditions without pedestrian conflicts and LOS F depicting significant capacity limitations and inconvenience. **Table 10-10** defines the level of service criteria for crosswalks, corner area, and sidewalk conditions, as per the *2010 HCM*. The *CEQR Technical Manual* identifies acceptable levels of service in non-Central Business District (CBD) areas as LOS C or better, and mid-LOS D or better for CBD areas (such as the area in this study).

Table 10-10 Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks (Platoon Flow)	Corner Reservoirs and Crosswalks
A	> 530 sf/p	> 60 sf/p
B	> 90 and ≤ 530 sf/p	> 40 and ≤ 60 sf/p
C	> 40 and ≤ 90 sf/p	> 24 and ≤ 40 sf/p
D	> 23 and ≤ 40 sf/p	> 15 and ≤ 24 sf/p
E	> 11 and ≤ 23 sf/p	> 8 and ≤ 15 sf/p
F	≤ 11 sf/p	≤ 8 sf/p

Source: *CEQR Technical Manual*

Significant Impact Criteria

The identification of significant pedestrian impacts is dependent on the area type (CBD or non-CBD) and is determined by the decrease of time and space available for pedestrians between the No-Action and With-Action conditions. The Project Area and surrounding analysis locations are located in a CBD area. The *CEQR Technical Manual* identifies significant impacts for the pedestrian sidewalk, crosswalk, and corner elements on a sliding scale detailed below. With-Action pedestrian level of service that is considered acceptable (LOS C or better in non-CBD areas, and mid-LOS D or better in CBD areas) would not have a potential for significant impacts.

[6] The typical average pedestrian walking speed specified in the *CEQR Technical Manual* is 4.4 feet per second (ft/s). For pedestrian elements located within the NYCDOT designated Senior Pedestrian Zone, an average pedestrian walking speed of 3.3 ft/s is used.

For sidewalks, the assessment of potential significant impacts is based on a sliding-scale formula provided in the *CEQR Technical Manual*. Consideration as to whether the sidewalk being analyzed is in a CBD or non-CBD condition is necessary.

For sidewalks, the formula used to determine the decrease in pedestrian space from the No-Action to With-Action condition that would trigger a significant impact is Y ≥ (X / 9.5) – 0.321, where Y is the decrease in pedestrian space (sf/p) to be considered a potential significant impact and X is the No-Action pedestrian space (sf/p). If the decrease in pedestrian space is greater than Y and the With-Action level of service is considered to be unacceptable, the sidewalk is considered to be significantly impacted. **Table 10-11** provides a summary of the sliding-scale guidelines provided in the *CEQR Technical Manual*.

For corners and crosswalks, the assessment of potential significant impacts is also based on a sliding-scale formula provided in the *CEQR Technical Manual*. The formula used to determine the decrease in pedestrian space from the No-Action to With-Action condition that would trigger a significant impact is Y ≥ (X / 9.0) – 0.31, where Y is the decrease in pedestrian space (sf/p) to be considered a potential significant impact and X is the No-Action pedestrian space (sf/p). If the decrease in pedestrian space is greater than Y and the With-Action level of service is considered to be unacceptable, the corner or crosswalk is considered to be significantly impacted. **Table 10-12** provides a summary of the sliding-scale guidelines provided in the *CEQR Technical Manual*.

Table 10-11 Significant Impact Criteria for Sidewalks – CBD Areas

No-Action Ped Space (sf/p)	With-Action Ped Space Reduction (sf/p)	No-Action Ped Space (sf/p)	With-Action Ped Space Reduction (sf/p)
>34.7	With-Action Condition <31.4		
34.0 to 34.6	≥ 3.3	18.8 to 19.6	≥ 1.7
33.0 to 33.9	≥ 3.2	17.8 to 18.7	≥ 1.6
32.1 to 32.9	≥ 3.1	16.9 to 17.7	≥ 1.5
31.1 to 32.0	≥ 3.0	15.9 to 16.8	≥ 1.4
30.2 to 31.0	≥ 2.9	15.0 to 15.8	≥ 1.3
29.2 to 30.1	≥ 2.8	14.0 to 14.9	≥ 1.2
28.3 to 29.1	≥ 2.7	13.1 to 13.9	≥ 1.1
27.3 to 28.2	≥ 2.6	12.1 to 13.0	≥ 1.0
26.4 to 27.2	≥ 2.5	11.2 to 12.0	≥ 0.9
25.4 to 26.3	≥ 2.4	10.2 to 11.1	≥ 0.8
24.5 to 25.3	≥ 2.3	9.3 to 10.1	≥ 0.7
23.5 to 24.4	≥ 2.2	8.3 to 9.2	≥ 0.6
22.6 to 23.4	≥ 2.1	7.4 to 8.2	≥ 0.5
21.6 to 22.5	≥ 2.0	6.4 to 7.3	≥0.4
20.7 to 21.5	≥ 1.9	< 6.3	≥0.3
19.7 to 20.6	≥ 1.8		

Source: *CEQR Technical Manual*

Table 10-12 Significant Impact Criteria for Corners and Crosswalks

CBD Areas	
No-Action Ped Space (sf/p)	**With-Action Ped Space Reduction (sf/p)**
≥21.5	With-Action Condition <19.4
21.3 to 21.4	≥ 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
≤ 5.0	≥ 0.2

Source: *CEQR Technical Manual*

Vehicle and Pedestrian Safety

An evaluation of vehicular and pedestrian safety was conducted for locations within the traffic study area. Consistent with CEQR Technical Manual guidelines this evaluation identifies high-crash locations, as locations that are Vision Zero Priority Intersections or 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, per NYCDOT's guidance, intersections located along a Vision Zero Priority Corridor are considered a high-crash location if three or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent three-year period for which data are available. For these locations, temporary changes in traffic volumes associated with the roadway closure detours were assessed to determine the effect on safety at these locations. Where appropriate, measures to improve traffic and pedestrian safety are identified.

Existing Conditions

Traffic

Roadway Network

The roadway network within the study area consists of avenues and streets serving a mix of institutional (academic and medical) land uses, commercial (retail and office), and residential space. The Life Sciences space planned as part of the Proposed Project will contribute to a growing presence of Life Sciences development in and around the study area.

First Avenue is a one-way northbound avenue located along the west side of the Development Site, and generally consists of three travel lanes with parking and a bike lane along the west curb. Left turn lanes are provided at selected intersections. The east curbline of First Avenue features a dedicated bus lane along the length of the study area, which also serves as a right-turn lane at intersections. Along the Development Site frontage, the east curb has "No Standing Anytime" regulations.

The Franklin D. Roosevelt East River Drive (FDR Drive) is a highway located along the east side of the Development Site, and generally consists of three travel lanes in each direction. Along the Development Site frontage, FDR Drive southbound exit provides access to East 25th Street.

Second Avenue is a one-way southbound avenue consisting of three to four travel lanes with parking along the east curb. The west curbline features a dedicated bus lane along the length of the study area, which also serves as a right-turn lane at intersections. The bus lane is in operation between 7 AM and 10 AM and 2 PM and 7 PM on weekdays and serves on-street parking during other times of the day.

East 25th Street, which runs east-west through the study area, is a one-way westbound roadway connecting FDR Drive to Madison Square Park with generally a single travel lane and curbside parking on both sides. The segment along the Development Site frontage provides two-way travel (one travel lane in each direction) with on-street parking along the north curbline.

East 26th Street is primarily an eastbound roadway traversing Manhattan with a single travel lane and curbside parking on both sides. Along the Development Site frontage, the former East 26th Street provides a single westbound travel lane with curbside parking along the south curbline. Between First and Second Avenues, East 26th Street provides for two-way travel.

The two key east-west roadways within the study area are 23rd Street and 34th Street, which traverse the full borough and provide two-way travel with dedicated bus lanes along their length. These key streets, along with the other east-west roadways within the study area, generally provide a single travel lane (or, at some locations, two travel lanes) with on-street parking on each side.

Traffic Volumes

To establish the existing conditions traffic network, traffic data for the weekday AM, midday, and PM peak periods were assembled using manual intersection counts and 24-hour Automatic Traffic Recorder (ATR) machine counts conducted in January 2019. In consultation with NYCDOT, the year 2019 was established as the foundation for the existing traffic volume network, as it reflects pre-COVID conditions. The peak hours of 8 AM to 9 AM, 12 PM to 1 PM, and 5 PM to 6 PM were

identified in accordance with the *CEQR Technical Manual* guidance for traffic analyses in Manhattan south of 110th Street.

Travel volumes along First Avenue between East 22nd Street and East 25th Street range from approximately 1,095 vph to 1,200 vph during the AM peak hour. North of East 25th Street, First Avenue carries approximately 1,335 to 1,695 vph during the AM peak hour. During the midday and PM peak hours, volumes between East 22nd Street and East 34th Street range from approximately 1,015 vph to 1,520 vph. The highest-volume segment of First Avenue during all peak hours is between East 26th Street and East 28th Street, on which the traffic volume is 1,695 vph during the AM peak hour, 1,520 vph during the midday peak hour, and 1,455 vph during the PM peak hour.

Travel volumes along Second Avenue between East 22nd Street and East 30th Street range from approximately 1,255 vph to 1,765 vph during the AM and midday peak hours, while north of East 30th Street travel volumes range from 1,560 vph to 2,300 vph. During the PM peak hour, traffic volumes are higher ranging from 1,500 vph to 1,880 vph south of East 30th Street. North of East 30th Street, Second Avenue carries approximately 1,920 vph to 2,200 vph during the PM peak hour.

Travel volumes along westbound East 25th Street between FDR Drive and Second Avenue range from approximately 280 vph to 460 vph during the three peak hours analyzed. Eastbound traffic volumes along East 25th Street between FDR Drive and First Avenue are modest – no more than 20 vph during the analysis peak hours. Westbound East 26th Street carries approximately 90 vph to 190 vph between FDR Drive and Second Avenue during the peak hours analyzed. Eastbound Former East 26th Street carries approximately 285 vph between First Avenue and Second Avenue during the AM and midday peak hours, while the PM peak hour volume is approximately 195 vph.

Existing traffic volumes are shown in **Figure 10-22** through **Figure 10-27**.

Figure 10-22 Year 2019 Existing Traffic Volumes – AM Peak Hour (north side)

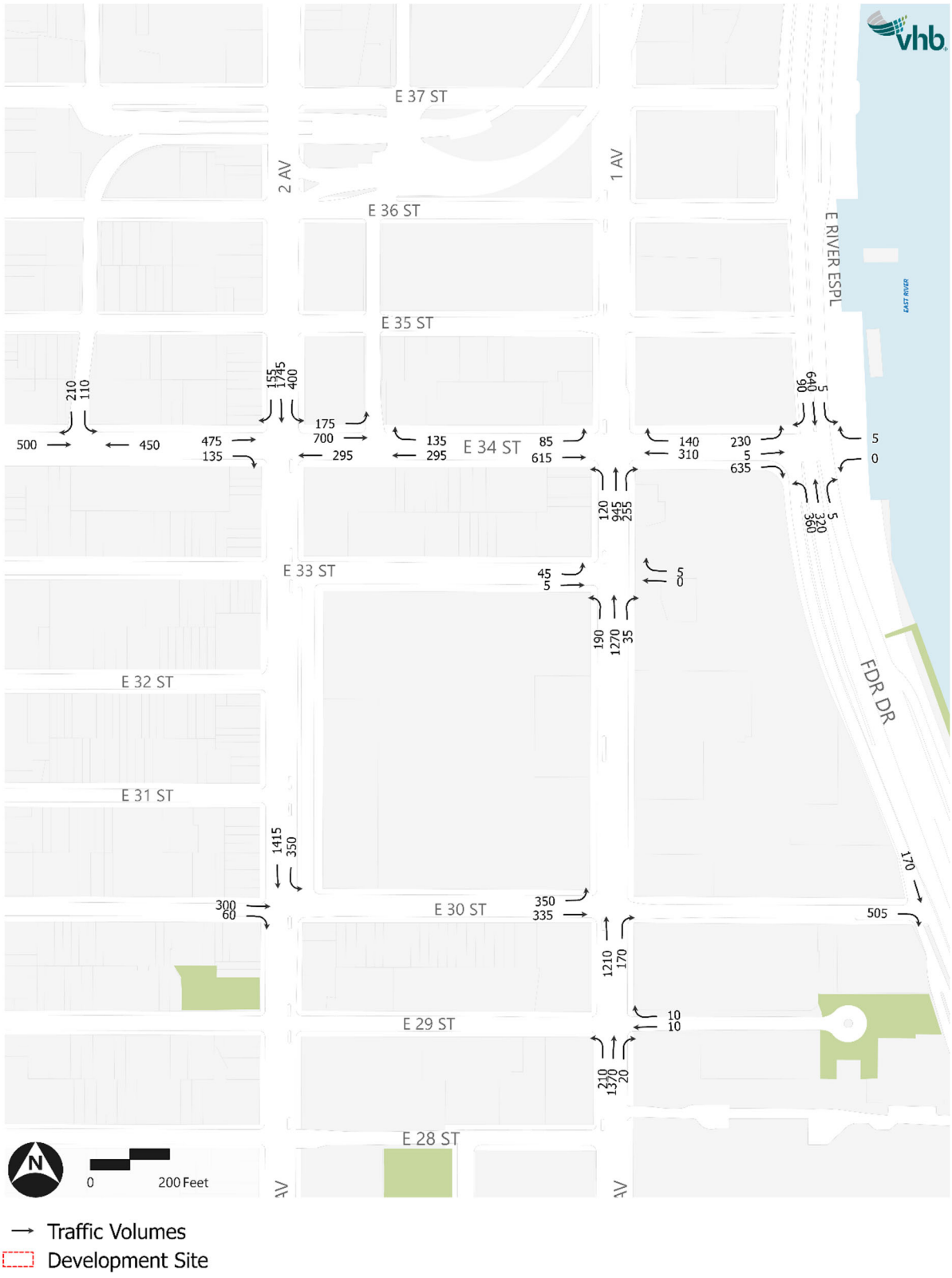


Figure 10-23 Year 2019 Existing Traffic Volumes – AM Peak Hour (south side)

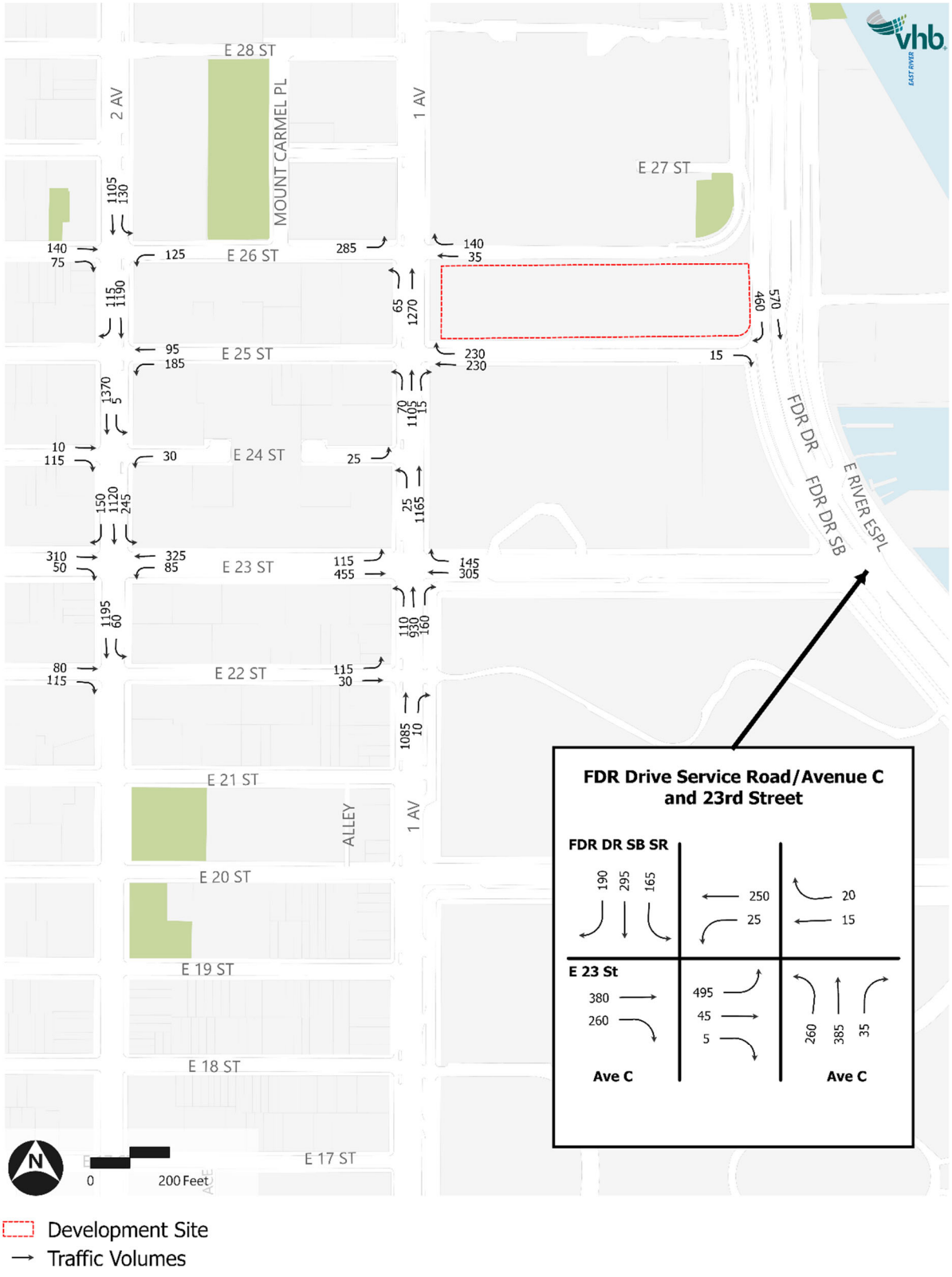


Figure 10-24 Year 2019 Existing Traffic Volumes – Midday Peak Hour (north side)

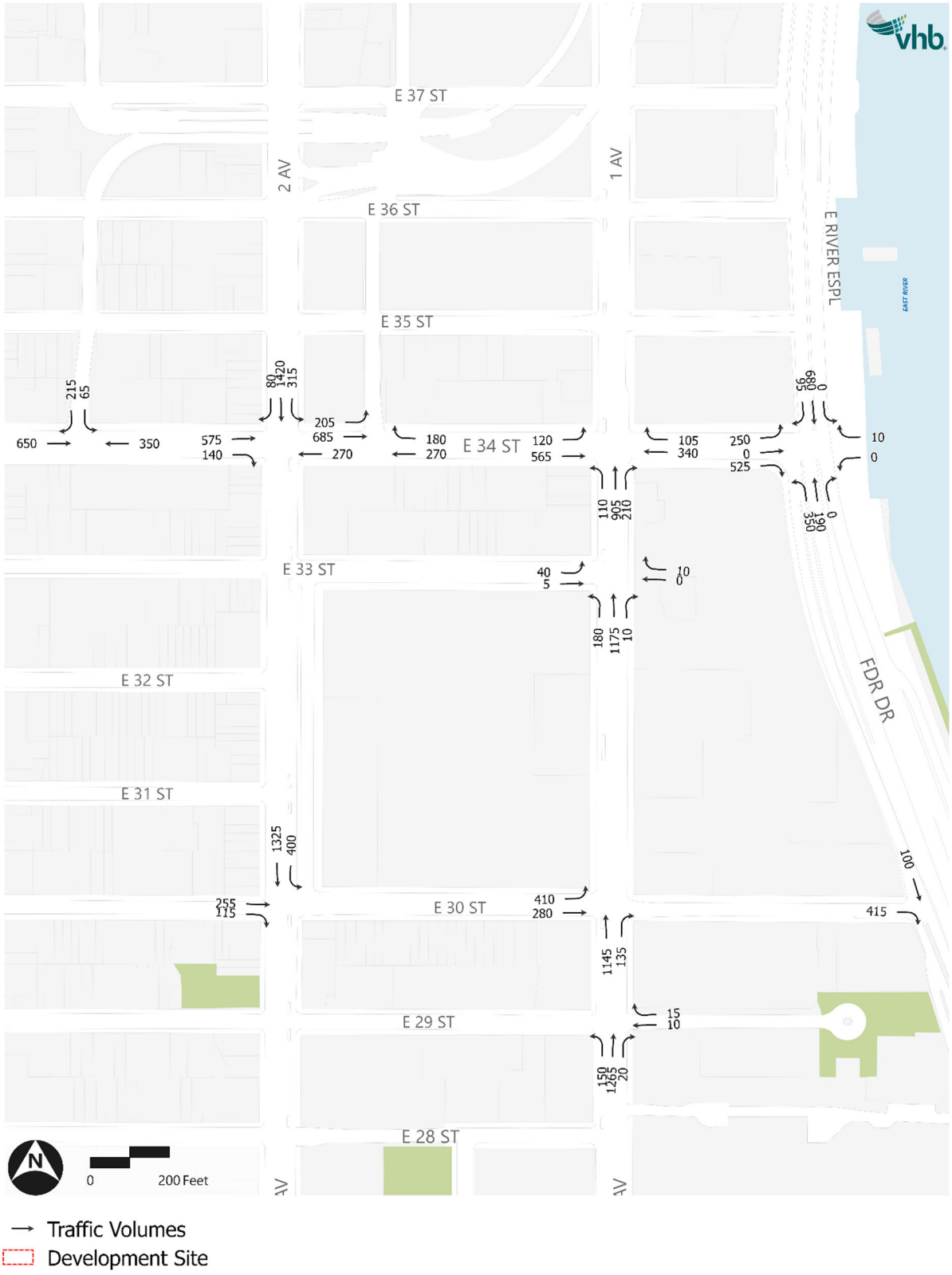


Figure 10-25 Year 2019 Existing Traffic Volumes – Midday Peak Hour (south side)

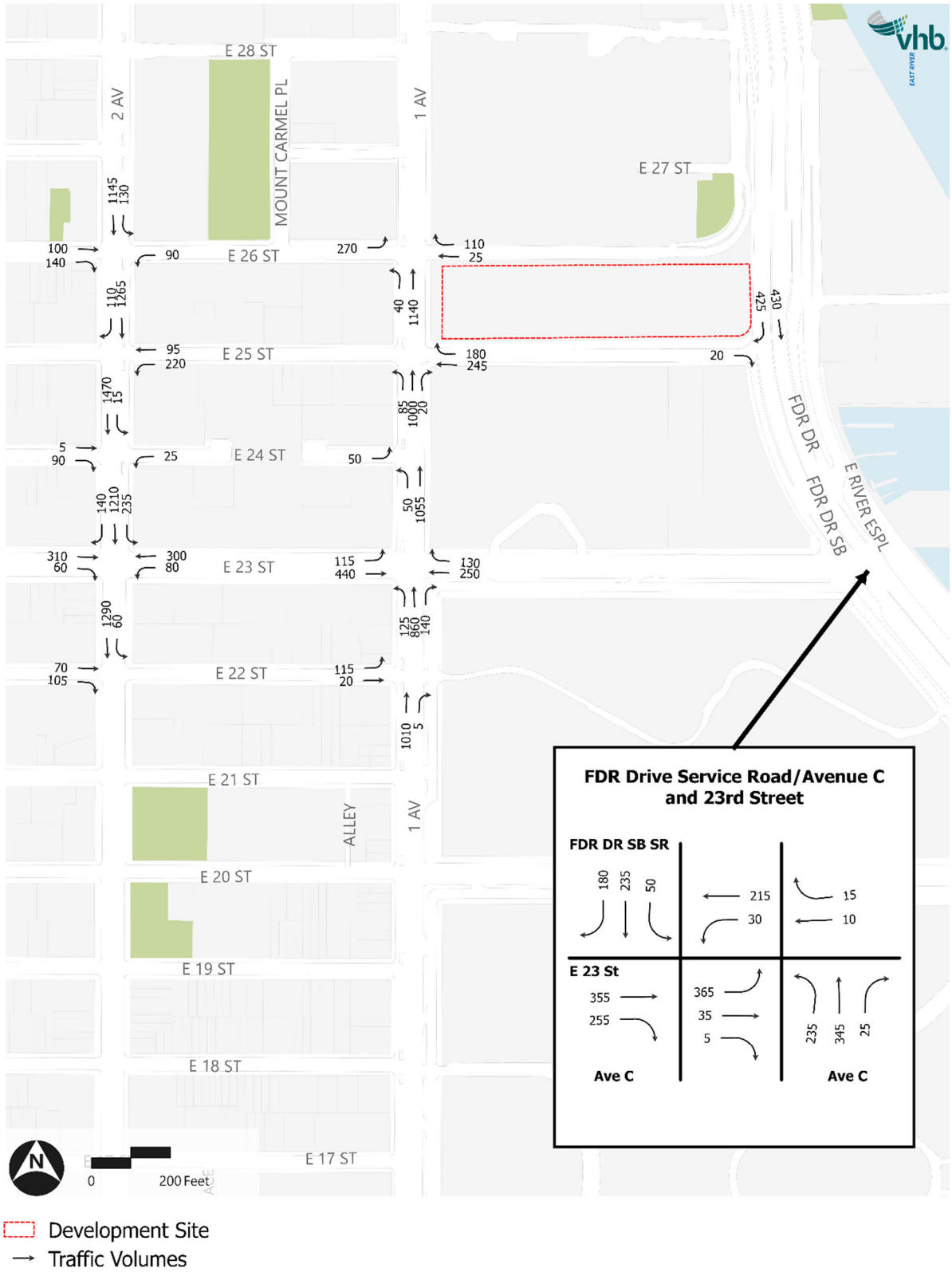


Figure 10-26 Year 2019 Existing Traffic Volumes – PM Peak Hour (north side)

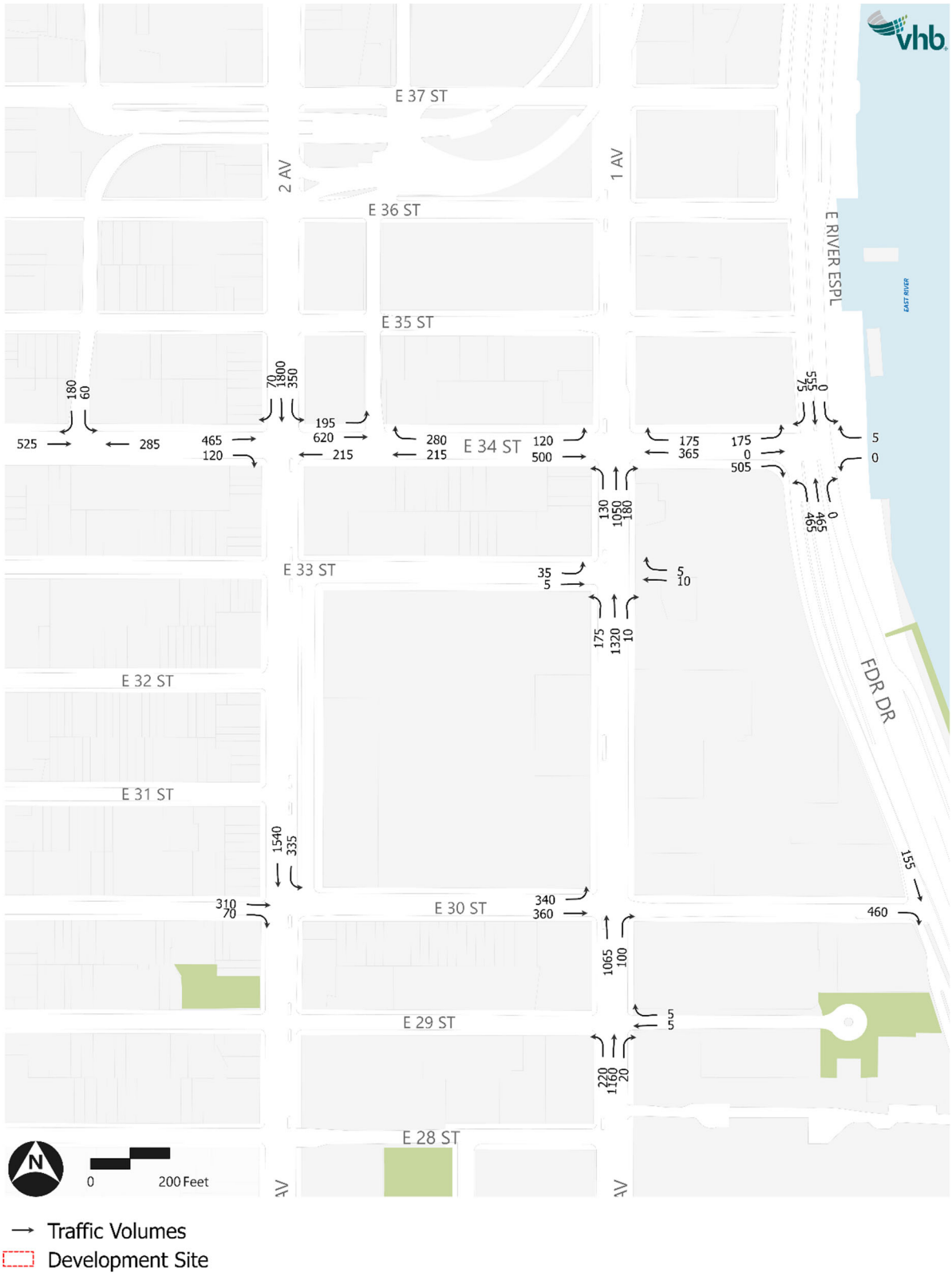
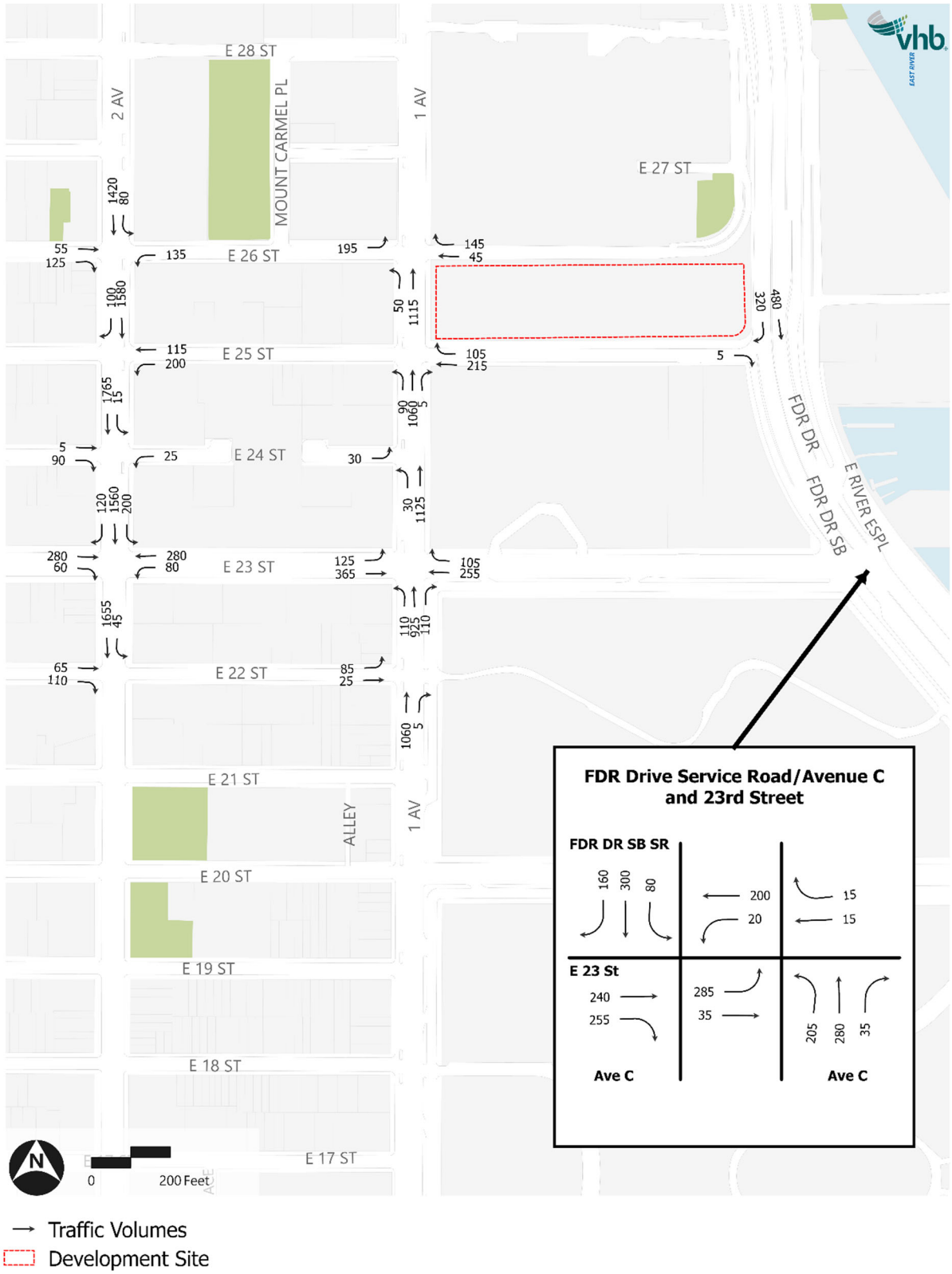


Figure 10-27 Year 2019 Existing Traffic Volumes – PM Peak Hour (south side)



Levels of Service

Table 10-13 and **Table 10-14** provide an overview of the levels of service that characterize existing "overall" intersection conditions and individual traffic movements, respectively, during the AM, midday, and PM peak hours. Detailed existing traffic levels of service are provided in **Table 10-15**.

Table 10-13 Year 2019 Existing Traffic Level of Service Summary – Overall Intersections

	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Intersections at Overall LOS A/B/C	15	19	18
Intersections at Overall LOS D	4	2	2
Intersections at Overall LOS E	2	1	3
Intersections at Overall LOS F	2	1	0

Note: Includes 21 signalized intersections and two unsignalized intersections.

Table 10-14 Year 2019 Existing Traffic Level of Service Summary – Traffic Movements

	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Traffic Movements at LOS A/B/C	62	61	66
Traffic Movements at LOS D	13	22	17
Traffic Movements at LOS E	10	6	12
Traffic Movements at LOS F	16	10	6
Number of Individual Traffic Movements	101	99	101

Note: Number of movements may vary between peak hours due to turn prohibitions, parking regulations, bus lane regulations, and the presence of de facto left-turn movements.

Table 10-15 Year 2019 Existing Traffic Level of Service

Intersection & Approach		AM Peak Hour Mvt	AM V/C	AM Ctrl Delay[1]	AM LOS	Midday Peak Hour Mvt	Midday V/C	Midday Ctrl Delay[1]	Midday LOS	PM Peak Hour Mvt	PM V/C	PM Ctrl Delay[1]	PM LOS
SIGNALIZED INTERSECTIONS													
FDR Drive Southbound / Avenue C at East 23rd Street (west side)													
East 23rd Street	EB	TR	1.04	114.3	F	TR	0.95	51.9	D	TR	0.84	37.8	D
	EB	R	1.01	104.1	F	R	0.95	71.4	E	R	0.83	56.2	E
	WB	L	0.26	28.6	C	L	0.34	36.9	D	L	0.17	24.6	C
	WB	T	0.31	87.6	F	T	0.23	85.6	F	T	0.24	85.2	F
FDR Dr SB	SB	LTR	1.05	103.0	F	LTR	0.89	67.0	E	LTR	0.99	101.5	F
Overall Intersection[2]		-	-	**102.5**	**F**	-	-	**64.8**	**E**	-	-	**74.6**	**E**
FDR Drive Southbound / Avenue C at East 23rd Street (east side)													
East 23rd Street	EB	L	1.03	90.8	F	L	0.84	43.6	D	L	0.69	41.5	D
	EB	TR	1.04	88.7	F	TR	0.84	45.4	D	TR	0.68	41.6	D
	WB	LTR	0.07	14.8	B	LTR	0.05	14.7	B	LTR	0.06	14.7	B
Avenue C	NB	LTR	0.69	38.8	D	LTR	0.52	21.4	C	LTR	0.51	21.2	C
Overall Intersection		-	-	**60.6**	**E**	-	-	**30.8**	**C**	-	-	**28.5**	**C**

Table 10-15 Year 2019 Existing Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
FDR Drive at East 34th Street													
East 34th Street	EB	L	1.03	85.0	F	L	1.03	84.3	F	L	0.85	57.2	E
	EB	LTR	1.03	78.7	E	LTR	1.02	80.1	F	LTR	0.86	54.4	D
	EB	R	1.04	65.6	E	R	1.03	62.3	E	R	0.84	35.5	D
	WB	LTR	0.03	28.8	C	LTR	0.05	29.1	C	LTR	0.03	28.8	C
FDR Dr NB	NB	L	0.89	45.4	D	L	0.86	42.5	D	L	1.05	75.9	E
	NB	LTR	0.90	37.3	D	LTR	0.86	33.3	C	LTR	1.04	67.7	E
FDR Dr SB	SB	LTR	0.79	30.5	C	LTR	0.77	29.1	C	LTR	0.60	24.2	C
Overall Intersection		-	-	**49.4**	**D**	-	-	**47.3**	**D**	-	-	**50.2**	**D**
First Avenue at East 22nd Street													
East 22nd Street	EB	LT	0.35	13.6	B	LT	0.28	27.7	C	LT	0.27	28.3	C
First Avenue	NB	T	0.79	74.1	E	T	0.71	39.4	D	T	0.76	73.7	E
	NB	R	0.03	15.6	B	R	0.01	15.4	B	R	0.01	15.4	B
Overall Intersection		-	-	**65.6**	**E**	-	-	**37.9**	**D**	-	-	**68.9**	**E**

Table 10-15 Year 2019 Existing Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
First Avenue at East 23rd Street													
East 23rd Street	EB	L	0.86	49.0	D	L	0.83	53.9	D	L	0.87	56.2	E
	EB	T	0.45	16.2	B	T	0.39	18.5	B	T	0.35	19.9	B
	WB	T	0.57	18.2	B	T	0.36	29.8	C	T	0.41	31.3	C
	WB	R	0.94	74.5	E	R	0.98	102.0	F	R	0.72	58.3	E
First Avenue	NB	L	0.89	60.5	E	L	0.96	83.3	F	L	0.80	51.2	D
	NB	T	0.76	21.2	C	T	0.71	16.3	B	T	0.78	18.1	B
	NB	R	0.74	23.7	C	R	0.62	22.2	C	R	0.52	18.9	B
Overall Intersection		-	-	**27.2**	**C**	-	-	**31.2**	**C**	-	-	**26.7**	**C**
First Avenue at East 24th Street													
East 24th Street	EB	L	0.07	17.9	B	L	0.13	18.7	B	L	0.07	17.9	B
First Avenue	NB	L	0.11	7.1	A	L	0.21	6.7	A	L	0.10	4.7	A
	NB	T	0.70	23.7	C	T	0.63	7.9	A	T	0.67	6.8	A
Overall Intersection		-	-	**23.2**	**C**	-	-	**8.4**	**A**	-	-	**7.0**	**A**
First Avenue at East 25th Street													
East 25th Street	WB	T	0.43	19.8	B	T	0.44	20.0	B	T	0.38	18.9	B
	WB	R	0.65	28.4	C	R	0.47	21.8	C	R	0.29	18.1	B
First Avenue	NB	L	0.28	3.1	A	L	0.34	7.6	A	L	0.35	7.5	A
	NB	T	0.75	5.6	A	T	0.67	6.7	A	T	0.71	7.0	A
	NB	R	0.07	1.7	A	R	0.08	5.8	A	R	0.02	6.0	A
Overall Intersection		-	-	**11.0**	**B**	-	-	**10.9**	**B**	-	-	**9.6**	**A**

Table 10-15 Year 2019 Existing Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
First Avenue and East 26th Street													
East 26th Street	EB	L	1.05	85.0	F	L	1.00	77.2	E	L	0.87	59.0	E
Former East 26th Street	WB	TR	0.46	27.6	C	TR	0.36	25.5	C	TR	0.48	27.9	C
First Avenue	NB	L	0.17	6.0	A	L	0.10	8.4	A	L	0.11	7.9	A
	NB	T	0.77	40.8	D	T	0.73	11.3	B	T	0.66	9.4	A
Overall Intersection		-	-	**45.2**	**D**	-	-	**23.9**	**C**	-	-	**18.2**	**B**
First Avenue at East 29th Street													
East 29th Street	WB	TR	0.07	22.6	C	TR	0.06	22.4	C	TR	0.03	22.1	C
First Avenue	NB	L	0.74	9.9	A	L	0.44	8.2	A	L	0.58	9.9	A
	NB	T	0.82	3.9	A	T	0.72	6.8	A	T	0.65	7.0	A
	NB	R	0.06	0.8	A	R	0.05	6.0	A	R	0.06	6.4	A
Overall Intersection		-	-	**5.0**	**A**	-	-	**7.3**	**A**	-	-	**7.6**	**A**
First Avenue at East 30th Street													
East 30th Street	EB	L	0.61	27.8	C	L	0.79	37.8	D	L	0.57	26.7	C
	EB	T	1.04	81.6	F	T	0.79	43.0	D	T	1.01	70.6	E
First Avenue	NB	T	0.74	2.4	A	T	0.68	9.1	A	T	0.59	8.0	A
	NB	R	0.78	17.7	B	R	0.53	13.1	B	R	0.45	11.5	B
Overall Intersection		-	-	**21.6**	**C**	-	-	**20.9**	**C**	-	-	**23.9**	**C**

Table 10-15 Year 2019 Existing Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
First Avenue at East 33rd Street													
East 33rd Street	EB	L	0.20	20.5	C	L	0.17	19.8	B	L	0.14	19.2	B
	WB	TR	0.01	17.2	B	TR	0.04	17.6	B	TR	0.04	17.5	B
First Avenue	NB	L	0.39	6.8	A	L	0.38	8.3	A	L	0.35	8.7	A
	NB	T	0.76	9.5	A	T	0.68	10.1	B	T	0.75	11.7	B
	NB	R	0.07	4.7	A	R	0.02	5.6	A	R	0.03	6.3	A
Overall Intersection		-	-	**9.5**	**A**	-	-	**10.2**	**B**	-	-	**11.6**	**B**
First Avenue at East 34th Street													
East 34th Street	EB	L	0.55	8.0	A	L	0.85	31.9	C	L	0.84	42.9	D
	EB	T	1.05	47.3	D	T	1.05	43.4	D	T	0.96	33.2	C
	WB	T	0.88	40.5	D	T	1.02	64.1	E	T	1.04	60.0	E
	WB	R	0.84	46.1	D	R	0.54	23.9	C	R	0.88	37.8	D
First Avenue	NB	L	0.29	6.4	A	L	0.28	7.9	A	L	0.33	7.9	A
	NB	T	0.68	7.7	A	T	0.62	9.0	A	T	0.73	10.0	A
	NB	R	0.78	19.6	B	R	0.55	11.5	B	R	0.51	10.4	B
Overall Intersection		-	-	**24.8**	**C**	-	-	**27.9**	**C**	-	-	**24.9**	**C**
Second Avenue at East 22nd Street													
East 22nd Street	EB	TR	0.82	56.7	E	TR	0.64	39.3	D	TR	0.69	43.7	D
Second Avenue	SB	L	0.27	5.0	A	L	0.22	4.1	A	L	0.16	2.4	A
	SB	T	0.69	8.3	A	T	0.68	6.7	A	T	0.84	8.9	A
Overall Intersection		-	-	**15.2**	**B**	-	-	**10.7**	**B**	-	-	**12.3**	**B**

Table 10-15 Year 2019 Existing Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Second Avenue at East 23rd Street													
East 23rd Street	EB	**T**	1.05	105.8	F	T	0.92	50.3	D	T	1.05	83.1	F
	EB	**R**	0.34	48.9	D	R	0.40	23.2	C	R	0.37	23.0	C
	WB	**L**	1.05	147.4	F	L	0.93	91.2	F	L	0.92	86.4	F
	WB	**T**	1.05	108.3	F	T	0.92	51.6	D	T	0.94	55.0	D
Second Avenue	SB	**L**	1.05	92.0	F	L	1.05	90.1	F	L	0.91	54.1	D
	SB	**T**	0.67	5.7	A	TR	0.79	10.8	B	T	0.83	10.3	B
	SB	**R**	0.53	7.7	A	-	-	-	-	R	0.50	7.1	A
Overall Intersection		-	-	**49.8**	**D**	-	-	**33.8**	**C**	-	-	**30.0**	**C**
Second Avenue at East 24th Street													
East 24th Street	EB	TR	0.46	30.7	C	TR	0.36	28.1	C	TR	0.33	27.1	C
	WB	LT	0.16	24.7	C	LT	0.13	24.1	C	LT	0.13	24.0	C
Second Avenue	SB	L	0.01	3.8	A	L	0.04	3.7	A	L	0.04	3.3	A
	SB	T	0.69	8.9	A	T	0.67	7.8	A	T	0.78	9.9	A
Overall Intersection		-	-	**11.1**	**B**	-	-	**9.5**	**A**	-	-	**11.0**	**B**
Second Avenue at East 25th Street													
East 25th Street	WB	LT	0.93	57.6	E	LT	1.01	78.5	E	LT	0.97	65.0	E
Second Avenue	SB	T	0.59	9.0	A	TR	0.65	11.3	B	T	0.64	9.8	A
	SB	R	0.46	11.3	B	-	-	-	-	R	0.40	10.0	A
Overall Intersection		-	-	**18.1**	**B**	-	-	**24.2**	**C**	-	-	**19.1**	**B**

Table 10-15 Year 2019 Existing Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Second Avenue at East 26th Street													
East 26th Street	EB	TR	0.64	34.1	C	TR	0.75	42.0	D	TR	0.55	31.5	C
	WB	L	0.71	48.6	D	L	0.58	41.2	D	L	0.71	50.1	D
Second Avenue	SB	L	0.64	35.0	C	L	0.60	32.0	C	L	0.39	22.3	C
	SB	T	0.51	19.9	B	T	0.47	17.2	B	T	0.57	46.4	D
Overall Intersection		-	-	**25.4**	**C**	-	-	**23.9**	**C**	-	-	**44.0**	**D**
Second Avenue at East 30th Street													
East 30th Street	EB	T	0.92	64.6	E	T	0.77	44.5	D	T	0.96	71.2	E
	EB	R	0.32	30.0	C	R	0.64	43.2	D	R	0.34	30.1	C
Second Avenue	SB	L	0.58	19.2	B	L	0.63	20.5	C	L	0.51	17.3	B
	SB	T	0.53	11.5	B	T	0.49	10.9	B	T	0.53	11.4	B
Overall Intersection		-	-	**21.1**	**C**	-	-	**19.1**	**B**	-	-	**22.0**	**C**
Second Avenue at East 34th Street													
East 23rd Street	EB	T	0.62	25.7	C	T	0.70	41.4	D	T	0.60	37.9	D
	EB	R	0.79	50.1	D	R	0.63	47.9	D	R	0.64	48.7	D
	WB	LT	0.80	79.2	E	LT	0.68	42.6	D	LT	0.57	28.5	C
Second Avenue	SB	L	0.47	18.3	B	L	0.33	14.9	B	L	0.35	15.2	B
	SB	T	0.74	20.0	B	T	0.59	17.2	B	T	0.74	20.0	B
	SB	R	0.77	43.6	D	R	0.26	15.3	B	R	0.26	15.6	B
Overall Intersection		-	-	**29.4**	**C**	-	-	**25.8**	**C**	-	-	**24.0**	**C**

Table 10-15 Year 2019 Existing Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Midtown Tunnel Entrance at East 34th Street													
East 34th Street	EB	L	0.43	26.9	C	L	0.52	37.9	D	L	0.44	25.7	C
	EB	T	1.04	82.6	F	T	1.01	83.6	F	T	0.83	38.0	D
	WB	T	1.05	122.2	F	T	1.04	127.2	F	T	1.02	118.0	F
	WB	R	0.70	58.1	E	R	0.92	85.1	F	R	1.04	105.8	F
Overall Intersection		-	-	**81.6**	**F**	-	-	**86.0**	**F**	-	-	**64.7**	**E**
Midtown Tunnel Exit at East 34th Street													
East 34th Street	EB	T	0.56	14.4	B	T	0.65	24.2	C	T	0.51	12.8	B
	WB	T	1.05	82.6	F	T	0.79	22.6	C	T	0.66	17.2	B
Midtown Tunnel Exit	SB	L	0.34	37.1	D	L	0.28	36.4	D	L	0.27	36.3	D
	SB	R	0.33	12.9	B	R	0.27	12.3	B	R	0.27	12.3	B
Overall Intersection		-	-	**40.4**	**D**	-	-	**23.2**	**C**	-	-	**16.1**	**B**
UNSIGNALIZED INTERSECTIONS													
FDR Drive Southbound at East 25th Street													
East 25th Street	EB	R	-	15.4	C	R	-	14.2	B	R	-	13.4	B
FDR Dr SB	SB	TR	-	0.0	A	TR	-	0.0	A	TR	-	0.0	A
Overall Intersection		-	-	**0.3**	**A**	-	-	**0.3**	**A**	-	-	**0.1**	**A**

Table 10-15 Year 2019 Existing Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
FDR Drive Southbound at East 30th Street													
East 30th Street	EB	R	-	14.0	B	R	-	9.6	A	R	-	10.9	B
FDR Dr SB	SB	TR	-	10.7	B	TR	-	8.9	A	TR	-	9.8	A
Overall Intersection		**-**	**-**	**13.1**	**B**	**-**	**-**	**9.5**	**A**	**-**	**-**	**10.6**	**B**

[1] Control delay is measured in seconds per vehicle.

[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.

The summary overview of existing conditions indicates that:

- In the AM peak hour, two intersections operate at LOS E and two intersections operate at LOS F. "Overall" LOS E or F means that serious congestion exists – either one specific traffic movement has severe delays or two or more of the specific traffic movements at the intersection are at LOS E or F with significant delays (the overall intersection level of service is a weighted average of all individual traffic movements). Twenty-six individual traffic movements out of 101 total movements analyzed operate at unacceptable LOS E or LOS F (e.g. left turns from one street to another, through traffic on one street passing through the intersection, etc.).
- In the midday peak hour, one intersection operates at LOS E and one intersection operates at LOS F, and 16 individual traffic movements operate at unacceptable LOS E or LOS F.
- In the PM peak hour, three intersections operate at LOS E, and 18 individual traffic movements operate at unacceptable LOS E or LOS F.

Traffic movements operating at unacceptable levels of service under the existing conditions are listed below.

- FDR Drive Southbound / Avenue C and East 23rd Street (west side)
  - Eastbound 23rd Street shared through-right movement (AM)
  - Eastbound 23rd Street right-turn movement (AM, midday, and PM)
  - Westbound 23rd Street through movement (AM, midday, and PM)
  - Southbound FDR Drive shared left-through-right movement (AM, midday, and PM)
- FDR Drive Southbound / Avenue C and East 23rd Street (east side)
  - Eastbound 23rd Street left-turn movement (AM)
  - Eastbound 23rd Street shared through-right movement (AM)
- FDR Drive and East 34th Street
  - Eastbound 34th Street left-turn movement (AM, midday, and PM)
  - Eastbound 34th Street shared left-through-right movement (AM and midday)
  - Eastbound 34th Street right-turn movement (AM and midday)
  - Northbound FDR Drive left-turn movement (PM)
  - Northbound FDR Drive shared left-through-right movement (PM)
- First Avenue and East 22nd Street
  - Northbound First Avenue through movement (AM and PM)
- First Avenue and East 23rd Street
  - Eastbound 23rd Street left-turn movement (PM)
  - Westbound 23rd Street right-turn movement (AM, midday, and PM)
  - Northbound First Avenue left-turn movement (AM and midday)
- First Avenue and East 26th Street
  - Eastbound 26th Street left-turn movement (AM, midday, and PM)
- First Avenue and East 30th Street
  - Eastbound 30th Street through movement (AM and PM)
- First Avenue and East 34th Street

- Westbound 34th Street through movement (midday and PM)

› Second Avenue and East 22nd Street
  - Eastbound 22nd Street shared through-right movement (AM)

› Second Avenue and East 23rd Street
  - Eastbound 23rd Street through movement (AM and PM)
  - Westbound 23rd Street left-turn movement (AM, midday, and PM)
  - Westbound 23rd Street through movement (AM)
  - Westbound Second Avenue left-turn movement (AM and midday)

› Second Avenue and East 25th Street
  - Westbound 25th Street shared left-through movement (AM, midday, and PM)

› Second Avenue and East 30th Street
  - Eastbound 30th Street through movement (AM and PM)

› Second Avenue and East 34th Street
  - Westbound 34th Street shared left-through movement (AM)

› 34th Street and Queens Midtown Tunnel Entrance
  - Eastbound 34th Street through movement (AM and midday)
  - Westbound 34th Street through movement (AM, midday, and PM)
  - Westbound 34th Street right-turn movement (AM, midday, and PM)

› 34th Street and Queens Midtown Tunnel Exit
  - Westbound 34th Street through movement (AM)

Parking

A detailed inventory of off-street parking facilities within a quarter-mile radius of the Development Site was conducted on a typical weekday. Per the *CEQR Technical Manual*, the quarter-mile distance is considered an acceptable walking distance to and from parking. There are 17 public parking facilities within or close to this quarter-mile area, as shown in **Figure 10-28**. **Table 10-16** presents the capacity and occupancy of the off-street parking facilities during the midday peak period on a typical weekday. The total capacity of the 17 parking facilities is 3,168 parking spaces, and they are approximately 70 percent occupied during the midday peak period.

Figure 10-28 Off-Street Parking Inventory

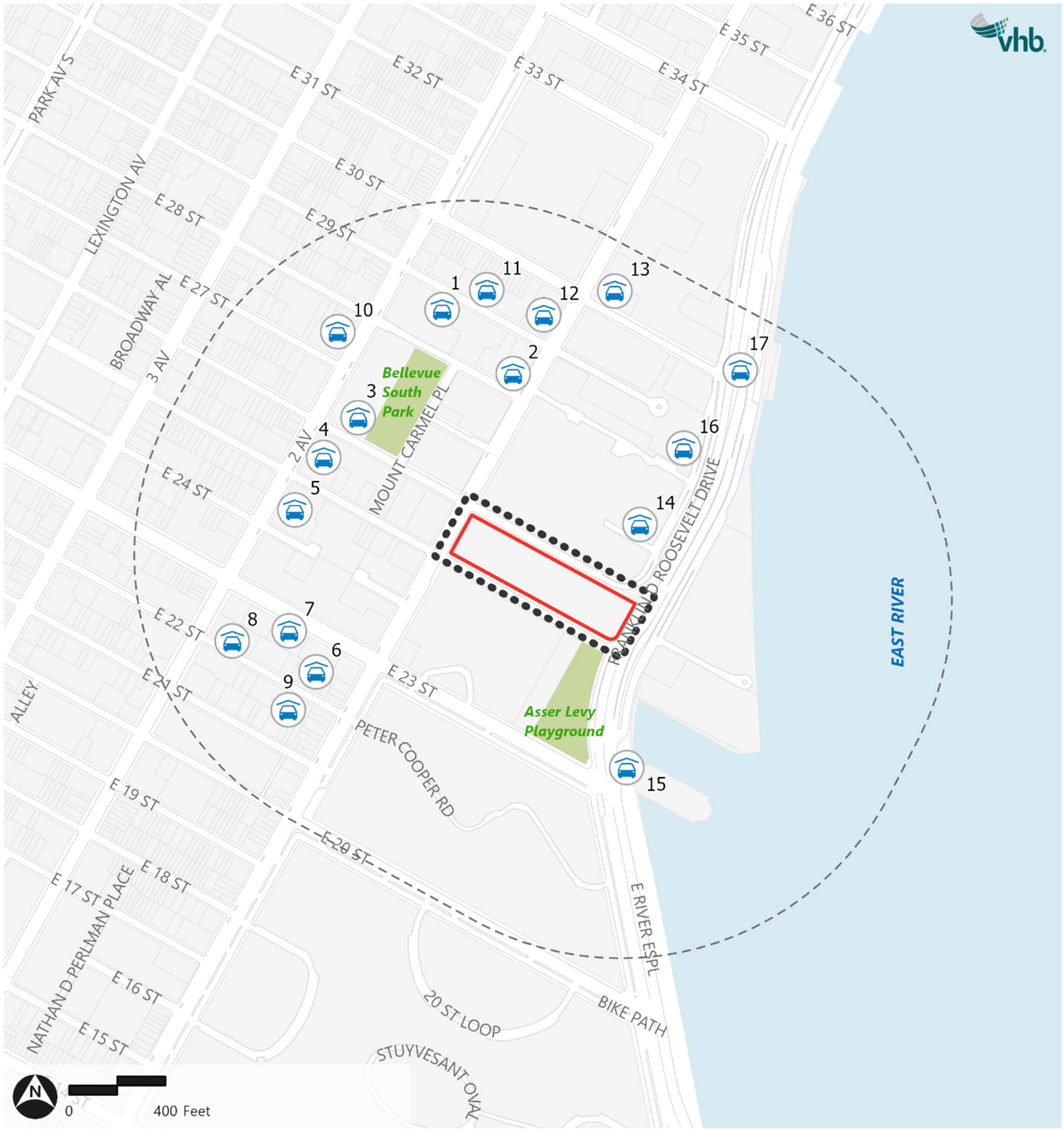


Table 10-16 Off-Street Parking Inventory

Map No.	Facility Name	Location	Licensed Capacity	Midday Peak Period Occupancy
1	West Plaza Garage LLC	500 Second Avenue	169	121
2	East Plaza Garage LLC	479 First Avenue	42	25
3	West Plaza Garage LLC	460 Second Avenue	96	48
4	South Plaza Garage LLC, MP East 26 LLC	442 Second Avenue	98	28
5	Tower 25 Parking LLC	305 East 24th Street	146	73
6	LM Bonneville Parking LLC	329 East 2Second Street	160	153
7	23rd Street Parking LLC	320 East 23rd Street	53	38
8	2nd and 22nd Parking LLC	301 East 2Second Street	53	53
9	Beneficial 21 Parking LLC	329 East 2First Street	180	125
10	KIPS BAY 27 Parking LLC	236 East 27th Street	65	46
11	SP Plus Corporation	333 East 29th Street	83	83
12	NYU Langone Health	350 East 30th Street	68	34
13	Bellevue Hospital South Lot	530 First Avenue	130	70
14	Skyport Garage	462 First Avenue	300	210
15	Alexandria Center	2430 FDR Drive	695	580
17	Bellevue Parking	450 East 29th Street	620	341
17	SP Plus Corporation	430 East 30th Street	210	210
Total			**3,168**	**2,238 (70%)**

Subways

The closest subway stations are located approximately a half-mile from the Development Site. The 28th Street and 23rd Street subway stations are the closest stations and provide access to the No. 6 subway line. Based on the subway transit assignments, these two stations were identified for analysis during the weekday AM and PM commuter peak hours.

Subway Station Elements

The No. 6 subway line operates between the Pelham Bay Park station in the Bronx and the Brooklyn Bridge-City Hall station in Lower Manhattan.

The 28th Street station is partially ADA accessible with elevators present for the southbound direction only. Station access is provided through surface stairs at the intersection of Park Avenue and East 28th Street and through the New York Life Insurance Building. There are three fare control areas serving this station. One is found underneath East 28th Street on the east side of Park Avenue, one is underneath East 28th Street on the west side of Park Avenue, and one is within the New York Life Insurance Building south of East 27th Street. All three fare control areas may be used by project-generated trips and were therefore identified for analysis.

The fare control area underneath East 28th Street on the east side of Park Avenue contains a fare array with six regular turnstiles. This is the only fare control area that serves the northbound platform at this station and there is no elevator serving this platform. The fare control area underneath East 28th Street on the west side of Park Avenue contains a fare array with seven regular turnstiles and serves the southbound platform. The southbound platform is also served by the fare control area that connects to the New York Life Insurance Building, which contains four regular turnstiles.

The 23rd Street station is fully ADA accessible with elevators. Access to the subway station is provided through surface stairs to the subway platform at the intersections of Park Avenue with East 23rd Street and with East 22nd Street. It is expected that project-generated subway trips would primarily use the fare control areas at East 23rd Street and therefore the subway station elements at these fare control areas were identified for analysis. At the East 23rd Street and Park Avenue intersection, there are two fare control areas. One is found underneath East 23rd Street on the east side of Park Avenue and one is underneath East 23rd Street on the west side of Park Avenue.

The fare control area underneath East 23rd Street on the east side of Park Avenue contains a fare array with six regular turnstiles and serves the uptown platform. The fare control area underneath East 23rd Street on the west side of Park Avenue contains six regular turnstiles and serves the downtown platform.

Pedestrian counts were conducted at the subway station elements identified above in December 2023, and were adjusted to reflect pre-pandemic levels based on guidance provided by NYCT. **Table 10-17** shows the results of the level of service analyses at the analyzed fare control areas. The fare control areas generally operate at LOS A during the AM and PM peak hours. **Table 10-18** and **Table 10-19** show the results of level of service analyses at the analyzed stairways. In the AM peak hour, there is one stairway operating at LOS E or worse at the 28th Street station. All other stairways in the 28th Street station and in the 23rd Street station operate at LOS C or better. In the PM peak hour, one stairway in the 28th Street station operates at LOS D; all other stairways in both stations operate at LOS C or better.

Table 10-17 Existing Subway Station Level of Service – Fare Control Areas

Peak Hour	Control Element	Pedestrian Volume (15-min)		Surging Factor	Friction Factor	v/c Ratio	LOS
		In	Out				
AM	28th Street Downtown 7 Turnstiles	217	455	0.75	0.90	0.23	A
	28th Street Uptown 6 Turnstiles	459	545	0.75	0.90	0.41	A
	NY Life Insurance Downtown 4 Turnstiles	194	9	0.75	1.00	0.12	A
	23rd Street Downtown 6 Turnstiles	148	608	0.75	0.90	0.30	A
	23rd Street Uptown 6 Turnstiles	273	414	0.75	0.90	0.28	A
PM	28th Street Downtown 7 Turnstiles	373	345	0.75	0.90	0.25	A
	28th Street Uptown 6 Turnstiles	629	327	0.75	0.90	0.40	A
	NY Life Insurance Downtown 4 Turnstiles	123	34	0.75	0.90	0.10	A
	23rd Street Downtown 6 Turnstiles	535	367	0.75	0.90	0.38	A
	23rd Street Uptown 6 Turnstiles	720	316	0.75	0.90	0.44	A

Note:
Methodology based on *2021 CEQR Technical Manual* guidelines
Surging factors only apply to exiting volumes. The surge factor for entry volumes is 1.0.

Table 10-18 Existing Subway Station Level of Service – Stairways – AM Peak Hour

Stairway	Effective Width (ft.)	Pedestrian Volume (15-min)		Surging Factor		Friction Factor	v/c Ratio	LOS
		Down	Up	Down	Up			
28th Street Station – Downtown Track Stairs								
O1A/O1B	7.1	66	134	1.00	0.75	0.90	0.26	A
O2A/O2B	6.8	66	134	1.00	0.75	0.90	0.27	A
O4A/O4B	8.4	151	321	1.00	0.75	0.90	0.51	B
O5A/O5B	8.4	151	321	1.00	0.75	0.90	0.51	B
28th Street Station – Uptown Track Stairs								
S5	3.3	29	84	1.00	0.75	0.90	0.32	A
S6	3.3	82	86	1.00	0.75	0.90	0.44	A
P3	7.4	111	170	1.00	0.75	0.90	0.34	A
S4	3.3	60	109	1.00	0.75	0.90	0.46	B
S2	3.3	289	266	1.00	0.75	0.90	1.44	E
P2	7.9	348	375	1.00	0.75	0.90	0.80	C
23rd Street Station - Downtown Track Stairs								
O5A/O5B	10.4	78	221	1.00	0.75	0.90	0.27	A
P9A/P9B	10.6	78	221	1.00	0.75	0.90	0.26	A
S7	3.3	19	243	1.00	0.75	0.90	0.77	C
P7F/P7E	8.2	19	243	1.00	0.75	0.90	0.31	A
S5	3.3	50	144	1.00	0.75	0.90	0.54	B
P5	3.3	50	144	1.00	0.75	0.90	0.54	B
23rd Street Station - Uptown Track Stairs								
S8A/S8B	6.1	182	305	1.00	0.75	0.90	0.71	C
P8A/P8B	5.9	182	305	1.00	0.75	0.90	0.74	C
S6	4.8	61	75	1.00	0.75	0.90	0.25	A
S10	4.0	30	34	1.00	0.75	0.90	0.14	A
P6A/P6B	9.1	91	110	1.00	0.75	0.90	0.19	A

Table 10-19 Existing Subway Station Level of Service – Stairways – PM Peak Hour

Stairway	Effective Width (ft.)	Pedestrian Volume (15-min)		Surging Factor		Friction Factor	v/c Ratio	LOS
		Down	Up	Down	Up			
28th Street Station – Downtown Track Stairs								
O1A/O1B	7.1	121	83	1.00	0.75	0.90	0.24	A
O2A/O2B	6.8	121	83	1.00	0.75	0.90	0.25	A
O4A/O4B	8.4	252	262	1.00	0.75	0.90	0.53	B
O5A/O5B	8.4	252	262	1.00	0.75	0.90	0.53	B
28th Street Station – Uptown Track Stairs								
S5	3.3	70	35	1.00	0.75	0.90	0.26	A
S6	3.3	62	70	1.00	0.75	0.90	0.35	A
P3	7.4	133	105	1.00	0.75	0.90	0.27	A
S4	3.3	219	53	1.00	0.75	0.90	0.65	B
S2	3.3	278	170	1.00	0.75	0.90	1.13	D
P2	7.9	497	223	1.00	0.75	0.90	0.74	C
23rd Street Station - Downtown Track Stairs								
O5A/O5B	10.4	303	116	1.00	0.75	0.90	0.33	A
P9A/P9B	10.6	303	116	1.00	0.75	0.90	0.32	A
S7	3.3	69	188	1.00	0.75	0.90	0.72	C
P7F/P7E	8.2	69	188	1.00	0.75	0.90	0.29	A
S5	3.3	164	64	1.00	0.75	0.90	0.56	B
P5	3.3	164	64	1.00	0.75	0.90	0.56	B
23rd Street Station - Uptown Track Stairs								
S8A/S8B	6.1	474	213	1.00	0.75	0.90	0.92	C
P8A/P8B	5.9	474	213	1.00	0.75	0.90	0.95	C
S6	4.8	125	55	1.00	0.75	0.90	0.31	A
S10	4.0	121	47	1.00	0.75	0.90	0.34	A
P6A/P6B	9.1	246	103	1.00	0.75	0.90	0.31	A

Buses

The study area is served by several MTA-NYCT local and Select Bus Service (SBS) bus routes – M9, M15 Local, M15-SBS, M34A-SBS, M101, M102, M103, X37, X38, and M23-SBS. Based on the projected trip assignments, four bus routes were identified for analysis - the M15 Local, M15-SBS, M34A-SBS, and M23-SBS – during the AM and PM commuter peak hours.

The M15 and M15-SBS bus routes operate between East Harlem and South Ferry, operating along First Avenue and Second Avenue near the Development Site, and provide bus connections between the Development Site and the First Avenue L subway station. The M34A-SBS bus route operates between the Javits Center in West Midtown and the East Side of Manhattan, operating along 34th Street, the FDR Drive Service Road, and Second Avenue near the Development Site. The M23-SBS bus route operates between Chelsea Piers and the East Side of Manhattan, operating along 23rd Street,

Avenue C, and First Avenue near the Development Site, and provides bus connection between the Development Site and the 23rd Street No. 6 subway station.

Bus line data from October 2023 was provided by NYCT and adjusted to reflect pre-pandemic bus ridership levels. These conservative adjustment factors have artificially raised demand, resulting in theoretical peak hour capacity shortfall in the existing conditions. **Table 10-20** shows the existing number of buses and ridership at the maximum load points in each direction for the M15, M15-SBS, M34A-SBS, and M23-SBS bus routes in the AM and PM peak hours. The bus routes analyzed currently operate with available capacity at their maximum load points during the peak hours analyzed.

Table 10-20 Existing Local Bus Analysis

Peak Hour	Route	Direction	Maximum Load Point	Peak Hour Buses[1]	Peak Hour Passengers[2]	Average Passengers per Bus	Available Peak Hour Capacity[3]
AM	M15	SB	Second Av/E 57th St	6	395	66	115
			Second Av/E 50th St	8	395	49	285
		NB	First Av/E 64th St	6	306	51	204
			First Av/E 20th St	6	309	52	201
	M15-SBS	SB	Second Av/E 78th St	16	1,118	70	242
			Second Av/E 57th St	14	992	71	198
		NB	First Av/E 14th St	21	1,502	72	283
	M34A-SBS	EB	W 34th St/Broadway	7	526	75	69
		WB	E 34th St/3 Av	6	496	83	14
	M23-SBS	EB	E 23rd St/Park Av S	9	637	71	128
		WB	E 23rd St/3 Av	8	743	93	-63
PM	M15	SB	Second Av/E 25th St	6	340	57	170
			Second Av/E 33rd St	6	332	55	178
		NB	First Av/ E 64th St	6	423	71	87
			First Av/E 60th St	8	432	54	248
	M15-SBS	SB	Second Av/E 28th St	12	715	60	305
			Second Av/E 42nd St	10	712	71	138
		NB	First Av/E 42nd St	10	909	91	-59
			First Av/E 57th St	12	935	78	85
	M34A-SBS	EB	W 34th St/Broadway	6	314	52	196
		WB	E 34th St/Park Av	6	586	98	-76
			E 34th St/5 Av	6	419	70	91
	M23-SBS	EB	W 23rd St/7 Av	10	683	68	167
			W 23rd St/6 Av	8	546	68	134
		WB	E 23rd St/3 Av	9	727	81	38

Notes:
[1]Based on most currently available timetables (October 2023)
[2] Based on most currently available data from NYCT (October 2023) and adjusted with a COVID adjustment factor.
[3] Available capacities based on NYCT loading guidelines of 85 passengers per standard bus.

Pedestrians

The pedestrian analysis utilizes counts conducted in December of 2023 at key potential impact locations for the weekday AM, midday, and PM peak periods for two typical weekdays, when NYC public schools were in session. The pedestrian peak hours of 8:15 AM to 9:15 AM, 12:00 PM, to 1:00 PM, and 5:15 PM to 6:15 PM were selected for the existing pedestrian conditions analysis year of 2023. The existing conditions pedestrian volumes are shown in **Figure 10-29** through **Figure 10-34**

Figure 10-29 Year 2023 Existing Pedestrian Volumes – AM Peak Hour (east side)

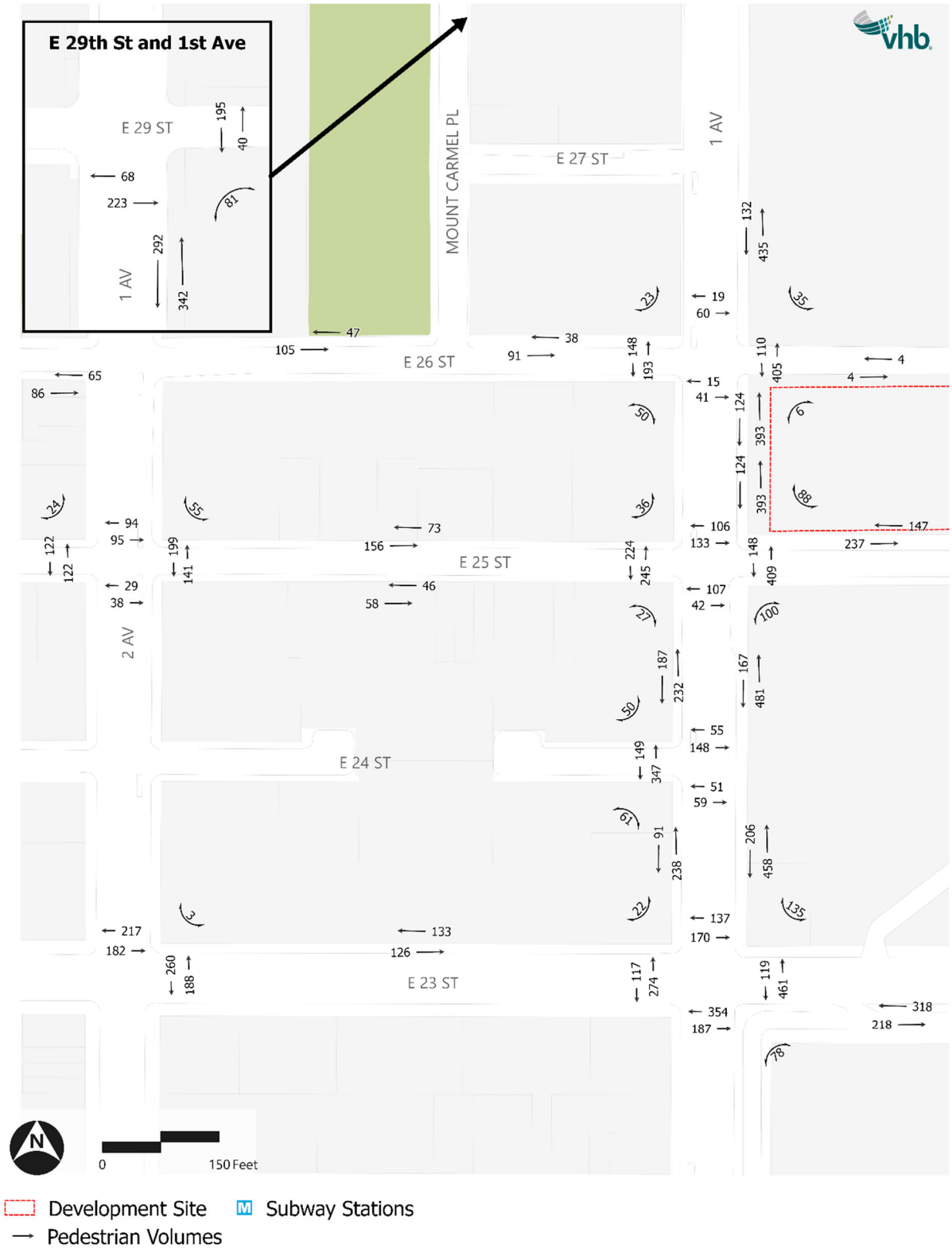


Figure 10-30 Year 2023 Existing Pedestrian Volumes – AM Peak Hour (west side)

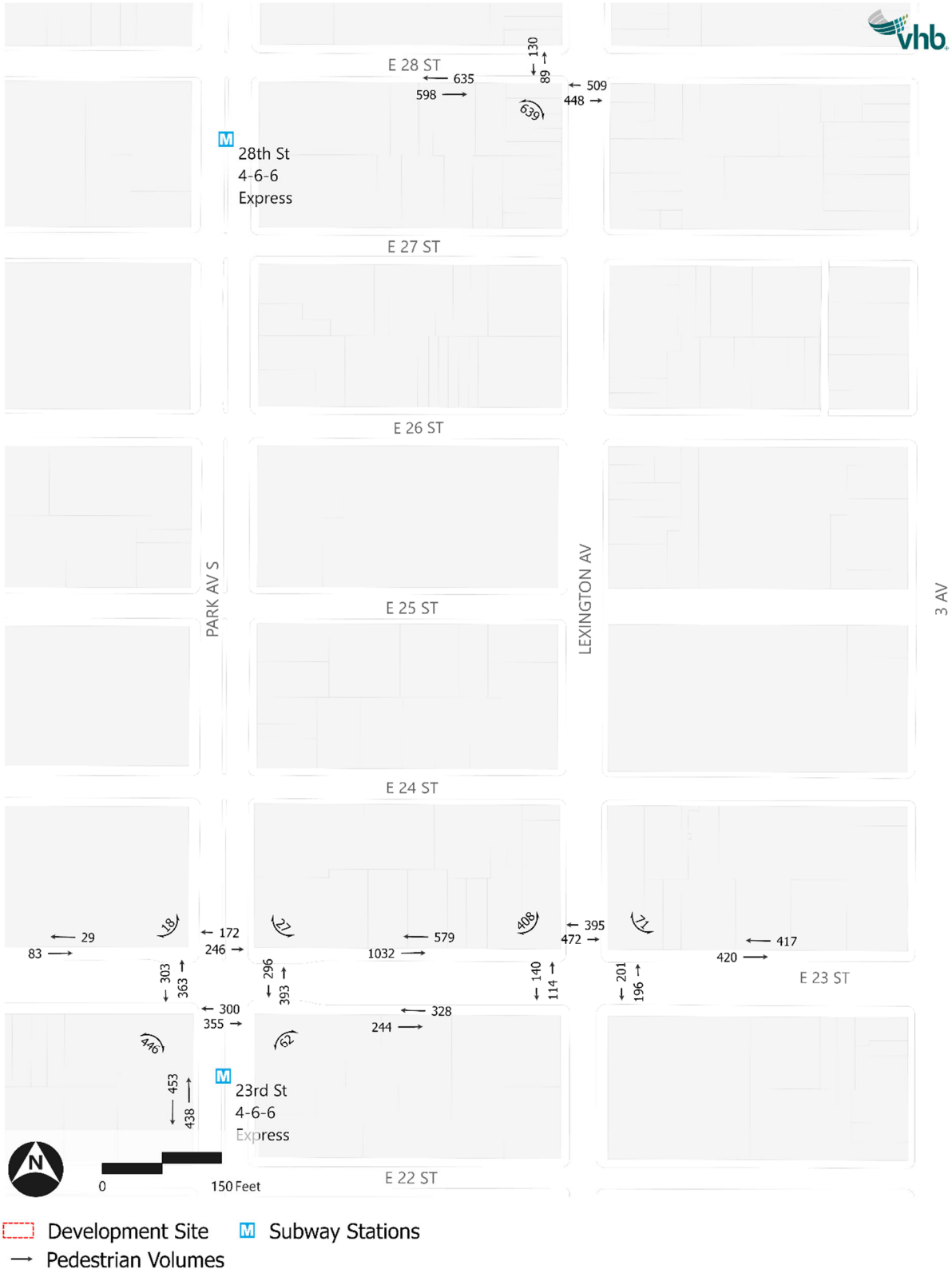


Figure 10-31 Year 2023 Existing Pedestrian Volumes – Midday Peak Hour (east side)

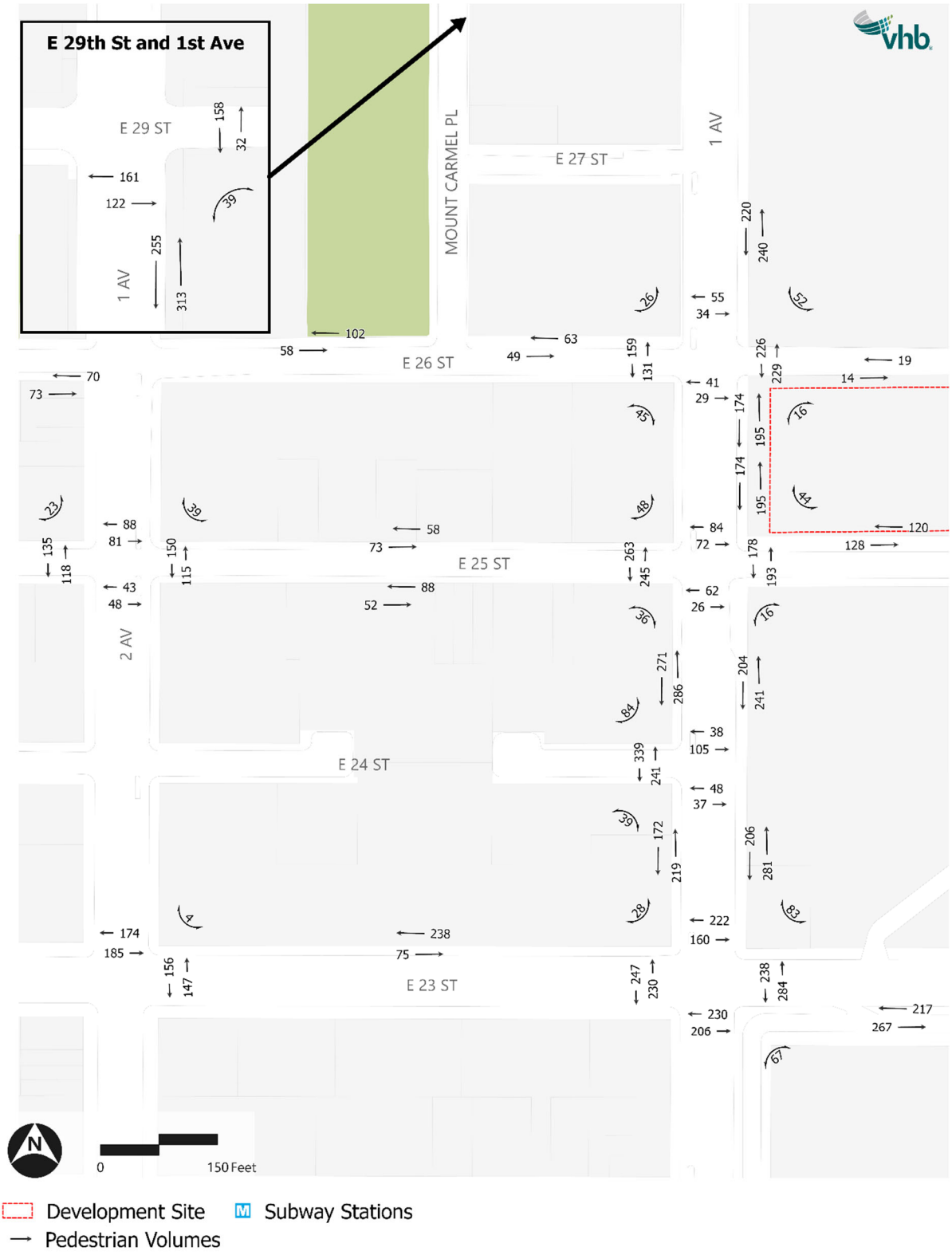


Figure 10-32 Year 2023 Existing Pedestrian Volumes – Midday Peak Hour (west side)

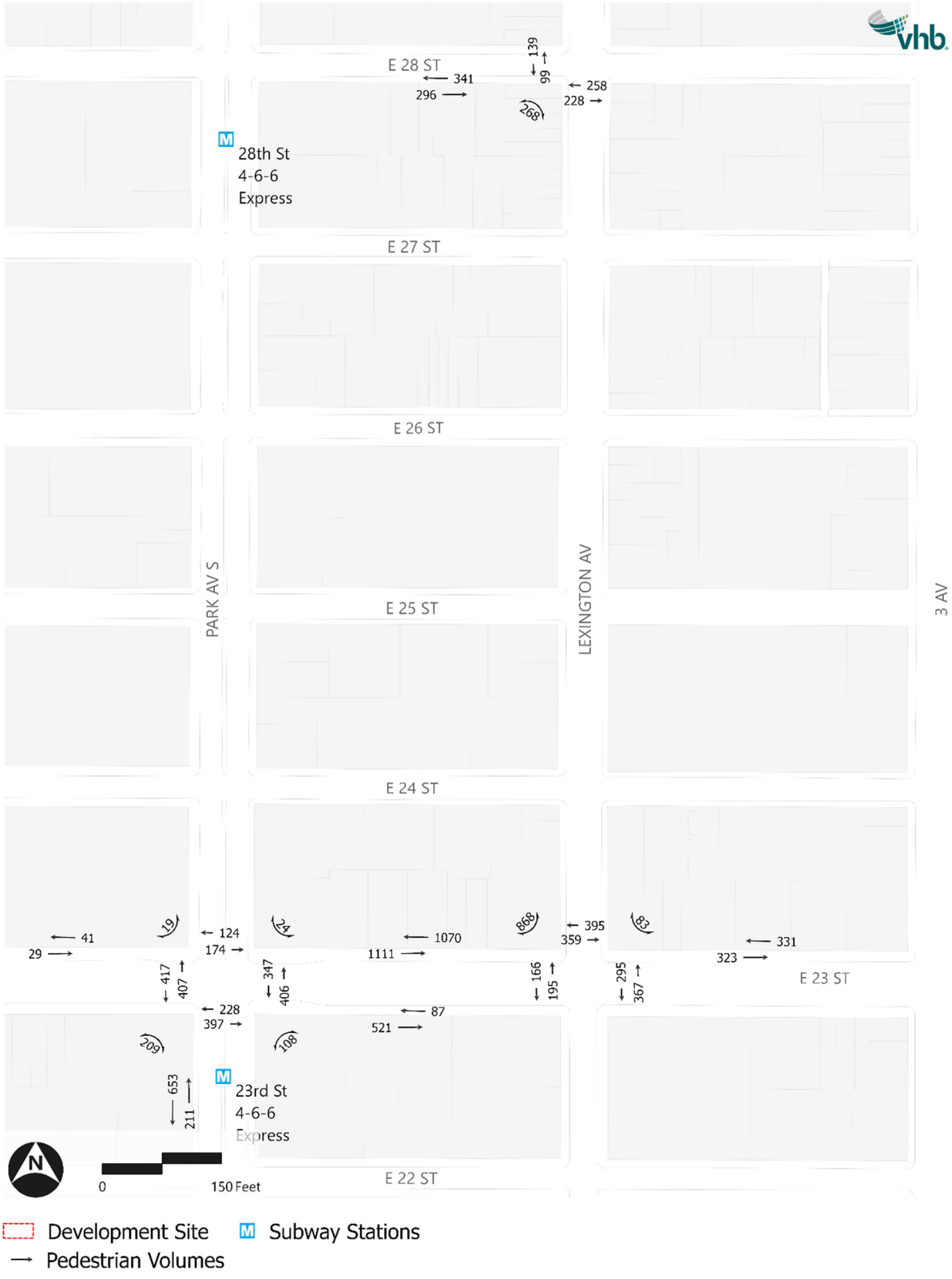


Figure 10-33 Year 2023 Existing Pedestrian Volumes – PM Peak Hour (east side)

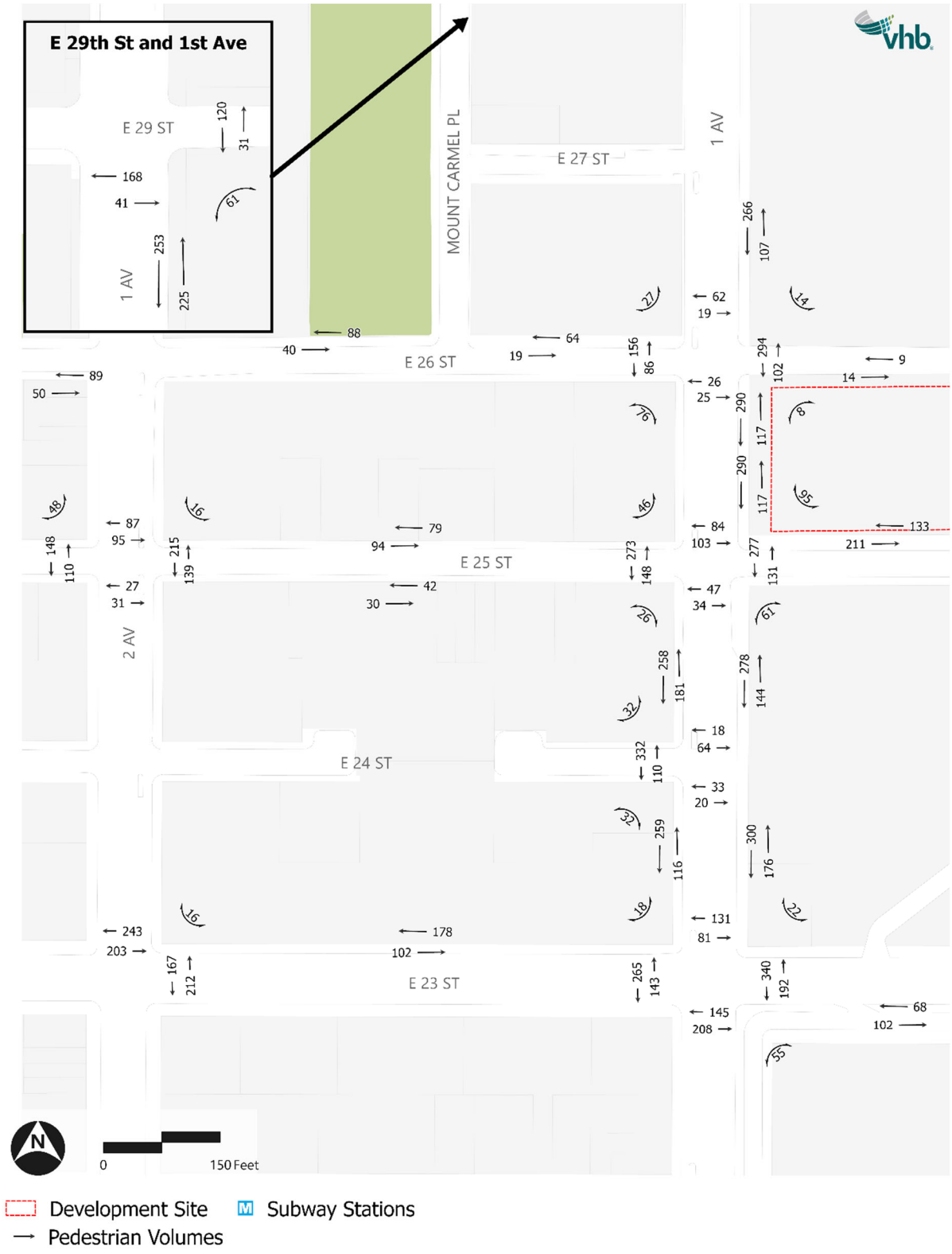
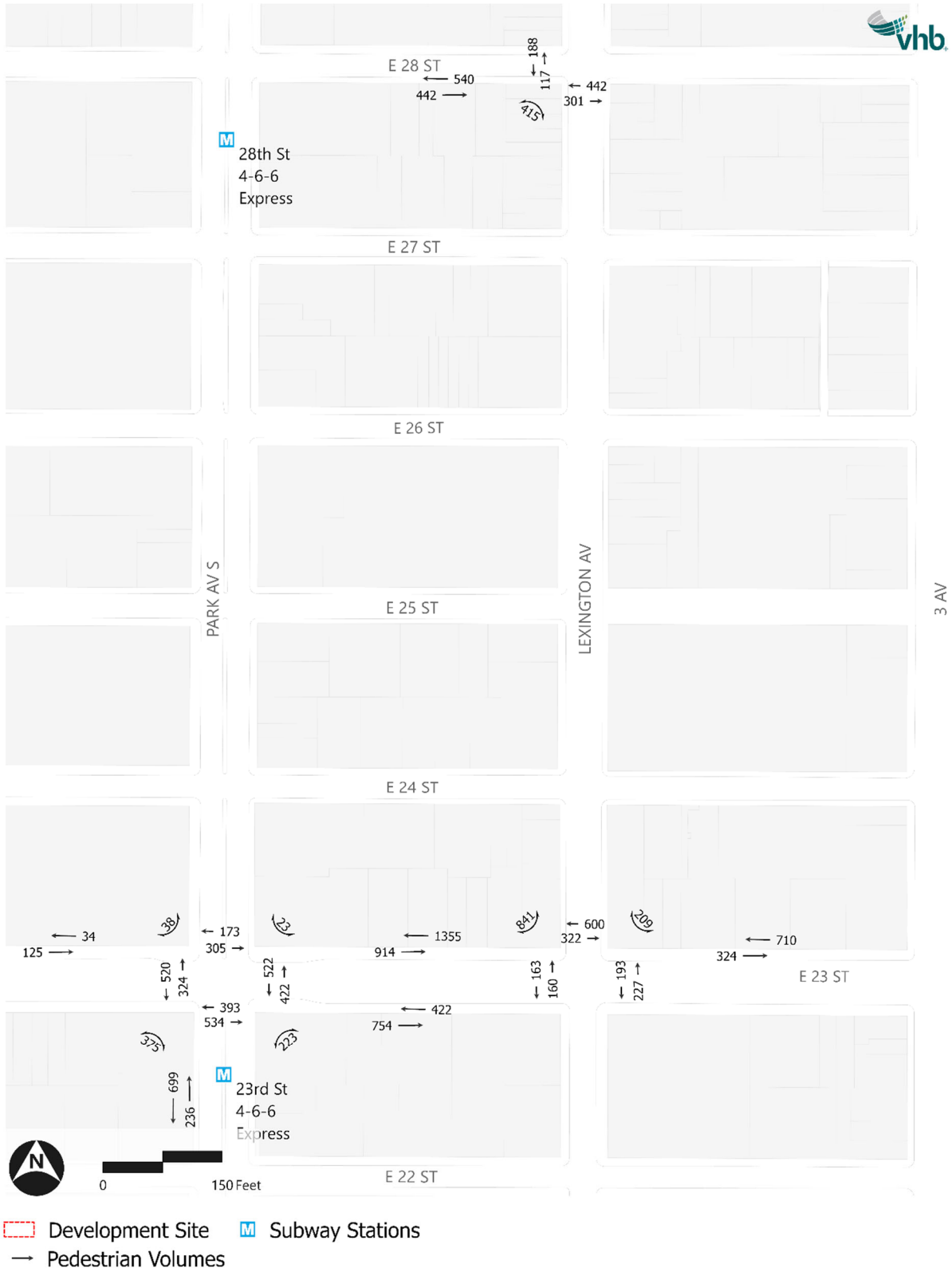


Figure 10-34 Year 2023 Existing Pedestrian Volumes – PM Peak Hour (west side)



As shown in **Table 10-21**, all sidewalk and crosswalk elements operate at acceptable LOS D or better during all peak hours. For corners, the level of service analysis determined that:

- One of the 24 corner elements analyzed for the AM peak hour operates at an unacceptable level of service (unacceptable LOS D, E or F).
- All 24 corner elements operate at acceptable levels of service during the midday peak hour.
- Two of the 24 corner elements analyzed for the PM peak hour operate at an unacceptable level of service (unacceptable LOS D, E, or F).

The existing peak hour volumes and levels of service for each pedestrian element analyzed are presented in **Table 10-22** through **Table 10-24**.

Table 10-21 Year 2023 Existing Pedestrian Levels of Service Summary

Sidewalk Elements	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Sidewalks at LOS A/B/C and Acceptable LOS D	22	22	22
Sidewalks at Unacceptable LOS D	0	0	0
Sidewalks at LOS E	0	0	0
Sidewalks at LOS F	0	0	0
Crosswalk Elements	**AM Peak Hour**	**Midday Peak Hour**	**PM Peak Hour**
Crosswalks at LOS A/B/C and Acceptable LOS D	15	15	15
Crosswalks at Unacceptable LOS D	0	0	0
Crosswalks at LOS E	0	0	0
Crosswalks at LOS F	0	0	0
Corner Elements	**AM Peak Hour**	**Midday Peak Hour**	**PM Peak Hour**
Corners at LOS A/B/C and Acceptable LOS D	23	24	22
Corners at Unacceptable LOS D	0	0	1
Corners at LOS E	0	0	1
Corners at LOS F	1	0	0

Note: Includes 22 sidewalk, 14 crosswalk, and 24 corner analysis locations

Table 10-22 Year 2023 Existing Pedestrian Levels of Service – Sidewalks

Sidewalk	Effective Width, ft	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
		Volume, ped/hr	Avg Ped Space, SF/P	Platoon LOS	Volume, ped/hr	Avg Ped Space, SF/P	Platoon LOS	Volume, ped/hr	Avg Ped Space, SF/P	Platoon LOS
East 28th Street between Park Avenue and Lexington Avenue (south side)	4.6	1,233	37.8	D	637	77.7	C	982	53.7	C
First Avenue between East 28th Street and East 29th Street (east side)	6.9	634	107.6	B	568	136.4	B	478	150.5	B
East 26th Street between Second Avenue Mt Carmel Place (north side)	7.0	152	491.4	B	160	448.7	B	128	516.0	B
East 26th Street between Third Avenue and Second Avenue (south side)	2.8	151	185.5	B	143	204.0	B	139	209.3	B
First Avenue between East 26th Street and East 27th Street (east side)	3.5	567	61.0	C	460	74.9	C	373	85.6	C
Former East 26th Street between First Ave and FDR Drive (south side)	6.3	8	6,187.5	A	33	1,546.9	A	23	1,687.5	A
East 26th Street between Mt Carmel Place and First Avenue (north side)	5.8	129	494.9	B	112	433.1	B	83	509.5	B
First Avenue between East 25th Street and East 26th Street (east side)	4.2	517	88.1	C	369	115.4	B	407	111.2	B
East 25th Street between FDR Drive and First Avenue (north side)	4.4	384	115.8	B	248	174.7	B	344	136.4	B
First Avenue between East 24th Street and East 25th Street (east side)	15.3	648	225.3	B	445	361.3	B	422	367.2	B
First Avenue between East 24th Street and East 25th Street (west side)	7.4	419	193.1	B	557	141.0	B	439	171.9	B
East 25th Street between First Avenue and Second Avenue (south side)	2.9	104	298.6	B	140	144.2	B	72	393.7	B
East 25th Street between First Avenue and Second Avenue (north side)	3.6	229	149.7	B	131	272.8	B	173	226.3	B
East 23rd Street between Lexington Avenue and Park Avenue (south side)	5.4	572	97.5	B	608	83.2	C	1,176	49.8	C
Park Avenue between East 22nd Street and East 23rd Street (west side)	4.0	891	49.7	C	864	44.8	C	935	43.8	C

Table 10-22 Year 2023 Existing Pedestrian Levels of Service – Sidewalks

Sidewalk	Effective Width, ft	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
		Volume, ped/hr	Avg Ped Space, SF/P	Platoon LOS	Volume, ped/hr	Avg Ped Space, SF/P	Platoon LOS	Volume, ped/hr	Avg Ped Space, SF/P	Platoon LOS
East 23rd Street between Park Avenue and Madison Avenue (north side)	3.2	112	223.8	B	70	408.8	B	159	115.8	B
East 23rd Street between Park Avenue and Lexington Avenue (north side)	9.7	1,611	61.9	C	2,181	38.9	D	2,269	43.6	C
East 23rd Street between Lexington Avenue and Third Avenue (north side)	3.9	837	53.8	C	654	60.4	C	1,034	35.7	D
First Avenue between 23rd Street and 24th Street (east side)	3.8	664	62.1	C	487	86.0	C	476	65.8	C
East 23rd Street between FDR Drive and First Avenue (south side)	7.0	536	133.9	B	484	139.3	B	170	340.7	B
First Avenue between 23rd Street and 24th Street (west side)	4.3	329	121.2	B	391	105.2	B	375	101.8	B
East 23rd Street between First Avenue and Second Avenue (north side)	14.4	259	539.4	A	313	332.9	B	280	553.4	A

Table 10-23 Year 2023 Existing Pedestrian Levels of Service – Crosswalks

		AM Peak Hour			Midday Peak Hour			PM Peak Hour		
Intersection	Crosswalk	Volume, ped/hr	Avg Ped Space, SF/P	LOS	Volume, ped/hr	Avg Ped Space, SF/P	LOS	Volume, ped/hr	Avg Ped Space, SF/P	LOS
Lexington Avenue at East 28th Street	South	957	30.3	C	486	65.5	A	743	39.9	C
First Avenue at East 26th Street	North	79	456.0	A	89	369.7	A	81	366.0	A
	South	56	521.9	A	70	464.1	A	51	627.7	A
	East	515	87.2	A	455	96.7	A	396	112.3	A
Second Avenue at East 25th Street	North	189	120.9	A	169	139.2	A	182	134.2	A
	South	67	321.3	A	91	217.5	A	58	317.2	A
First Avenue at East 25th Street	North	239	105.3	A	156	164.0	A	187	169.1	A
	South	149	157.4	A	88	251.1	A	81	299.6	A
	East	557	55.0	B	371	100.4	A	408	85.3	A
	West	469	70.6	A	508	71.8	A	421	86.9	A
First Avenue at East 24th Street	West	496	83.0	A	580	70.9	A	442	93.2	A
Park Avenue at East 23rd Street	North	418	52.4	B	298	71.1	A	478	52.5	B
	South	655	44.0	B	625	51.2	B	927	33.6	C
Lexington Avenue at East 23rd Street	North	867	55.3	B	754	56.0	B	922	43.5	B
First Avenue and East 23rd Street	East	580	64.6	A	522	66.0	A	532	65.8	A

Table 10-24 Year 2023 Existing Pedestrian Levels of Service – Corners

		AM Peak Hour			Midday Peak Hour			PM Peak Hour		
Intersection	Corner	Volume, ped/hr	Avg Ped Space, SF/P	LOS	Volume, ped/hr	Avg Ped Space, SF/P	LOS	Volume, ped/hr	Avg Ped Space, SF/P	LOS
Lexington Avenue at East 28th Street	Southwest	639	6.6	F	268	20.2	D	415	12.0	E
First Avenue at East 26th Street	Southeast	81	133.0	A	39	157.7	A	61	189.0	A
First Avenue at East 26th Street	Northeast	35	58.4	B	52	50.1	B	14	59.7	B
	Southeast	6	191.4	A	16	200.0	A	8	243.6	A
	Southwest	50	235.8	A	45	280.8	A	76	289.8	A
	Northwest	23	223.8	A	26	243.6	A	27	281.2	A
Second Avenue at East 25th Street	Northeast	55	113.2	A	39	163.5	A	16	134.2	A
	Northwest	24	193.6	A	23	206.8	A	48	178.5	A
First Avenue at East 25th Street	Northeast	88	100.3	A	44	170.9	A	95	141.2	A
	Southeast	100	157.9	A	16	325.3	A	61	281.0	A
	Southwest	27	147.3	A	36	165.8	A	26	202.0	A
	Northwest	36	119.2	A	48	139.3	A	46	153.7	A
First Avenue at East 24th Street	Southwest	61	150.9	A	39	153.0	A	32	205.7	A
	Northwest	50	164.0	A	84	148.9	A	32	217.4	A
Park Avenue at East 23rd Street	Northeast	27	176.2	A	24	187.0	A	23	144.1	A
	Southeast	62	30.0	C	108	34.1	C	223	18.2	D
	Southwest	446	61.2	A	209	64.8	A	375	44.4	B
	Northwest	18	96.0	A	19	92.9	A	38	70.7	A
Lexington Avenue at East 23rd Street	Northeast	71	55.1	B	83	38.6	C	209	37.1	C
	Northwest	408	79.9	A	868	58.8	B	841	58.2	B
Second Avenue at East 23rd Street	Northeast	3	89.9	A	4	140.1	A	16	111.1	A
First Avenue at East 23rd Street	Northeast	135	123.6	A	83	121.0	A	22	154.9	A
	Southeast	78	42.4	B	67	54.2	B	55	62.2	A
	Northwest	22	163.0	A	28	141.2	A	18	182.0	A

No Action Conditions

Traffic

Traffic Volumes

This section establishes the baseline (No-Action) condition against which potential impacts of the Proposed Project can be identified. Future year conditions were analyzed for the year 2031. No-Action traffic, pedestrian, and transit volumes were established by applying a background growth rate of 0.25 percent per year for the first five years (years 2019 to 2024) and a growth rate of 0.125 percent per year for the subsequent seven years (years 2024 to 2031) in accordance with *CEQR Technical Manual* guidelines for Manhattan projects. This background growth is applied to existing traffic volumes and accounts for smaller projects that would be modest traffic generators, and general increases in travel demand. Several developments are being planned and are assumed to be developed by the year 2031 within the study area. Three projects were identified to be incorporated in the 2031 No-Action condition analyses, totaling approximately 2,275 residential units, 2.5 million sf of life science or office space, and 68,000 sf of retail space; these projects are detailed in **Table 10-25**. No-Action condition traffic volume maps for the AM, midday, and PM peak hours are provided in **Figure 10-35** through **Figure 10-40**.

Table 10-25 Background Development Projects

No.	Project Name/Address	Description	Projected Completion Date
1	Innovation East / 455 First Avenue	609,988 sf Life Sciences space 5,000 sf retail space	To be completed by 2030
2	Alexandria Center (Phase II – North Tower)	330,000 sf Life Sciences space	To be completed by 2029
3	First Avenue Properties (700 and 708 First Avenue)	2,275 residential units 1,532,437 sf office space 62,744 sf retail space	To be completed by 2031

Figure 10-35 Year 2031 No-Action Traffic Volumes – AM Peak Hour (north side)

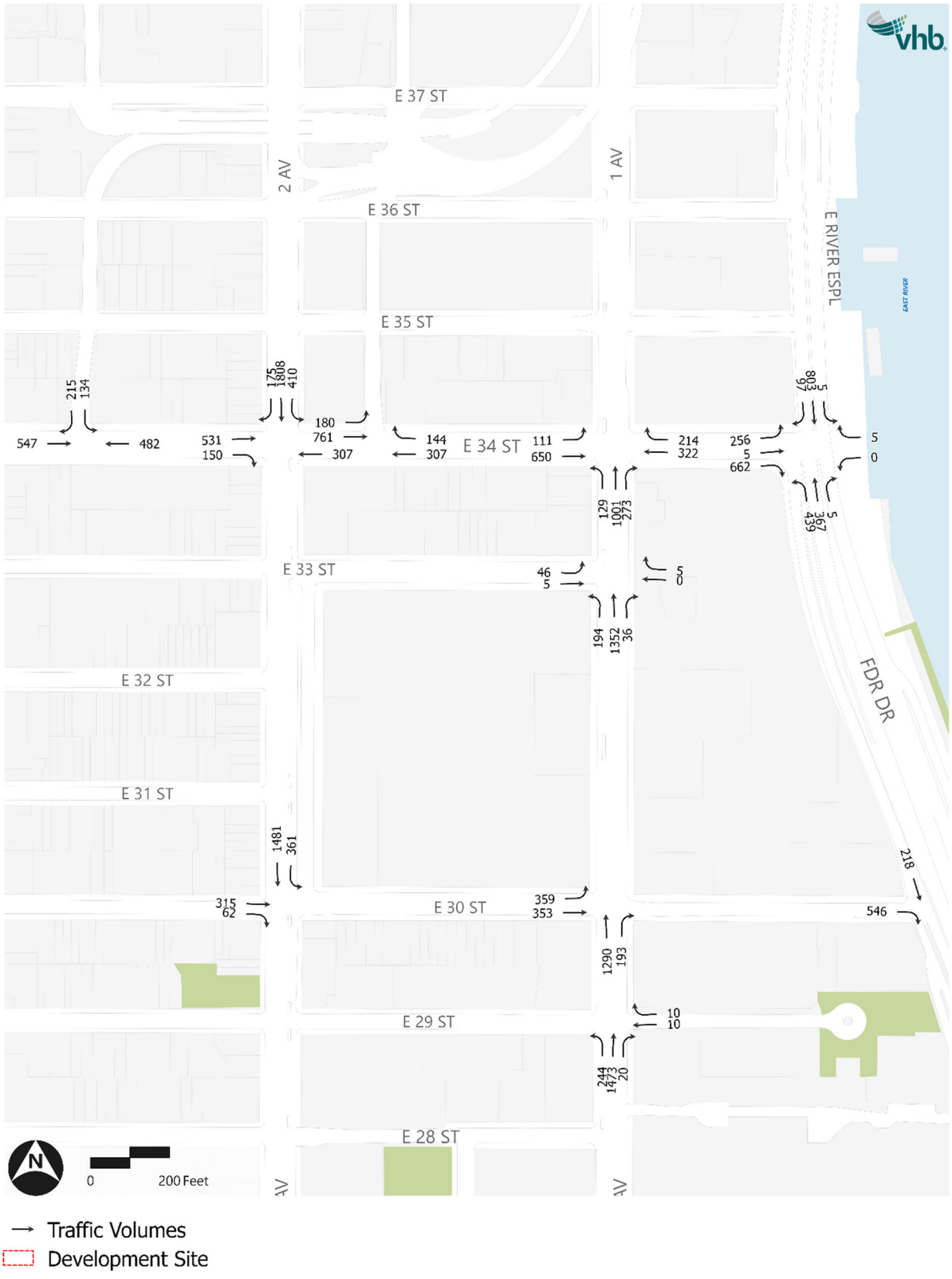


Figure 10-36 Year 2031 No-Action Traffic Volumes – AM Peak Hour (south side)

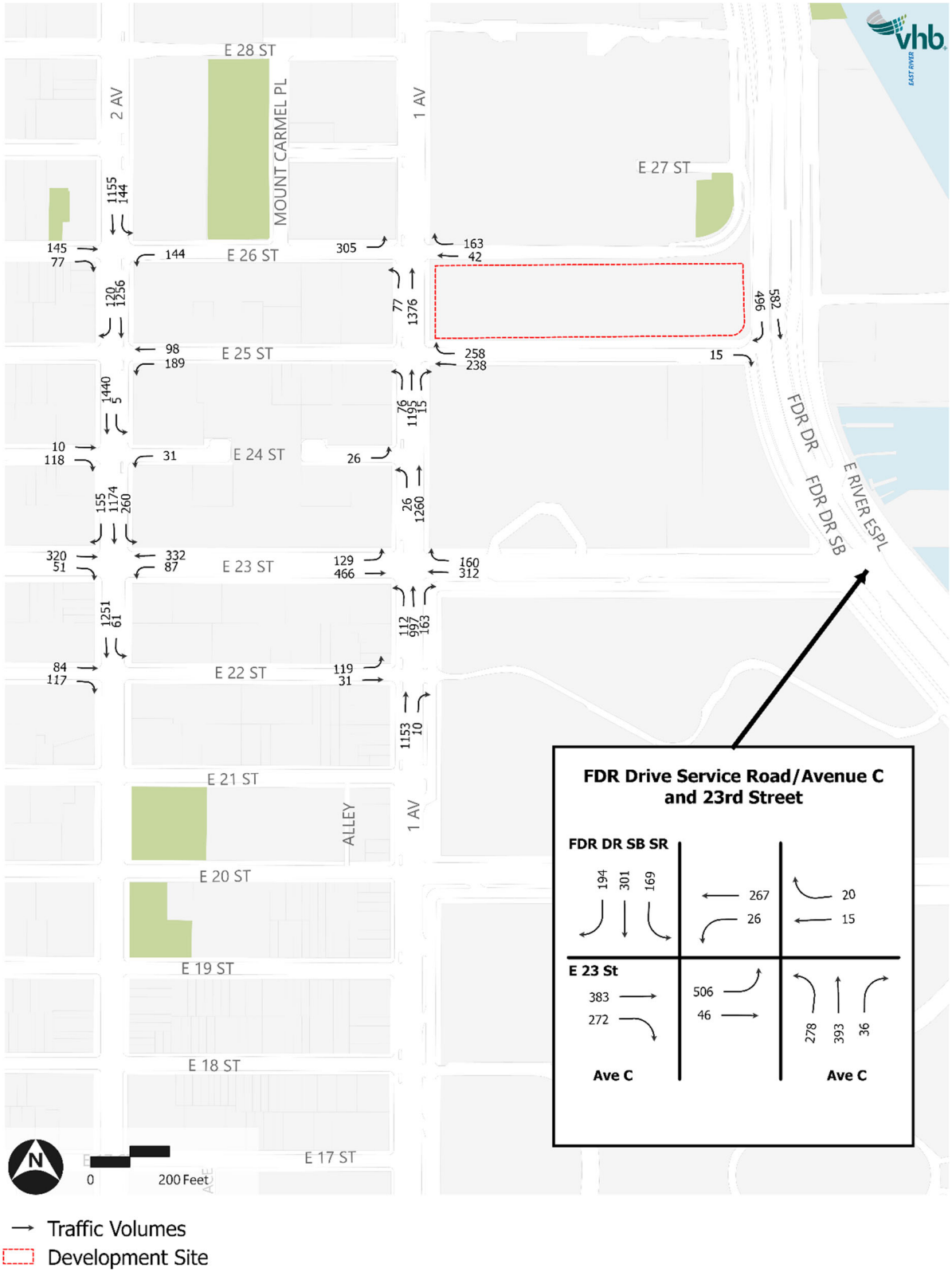


Figure 10-37 Year 2031 No-Action Traffic Volumes – Midday Peak Hour (north side)

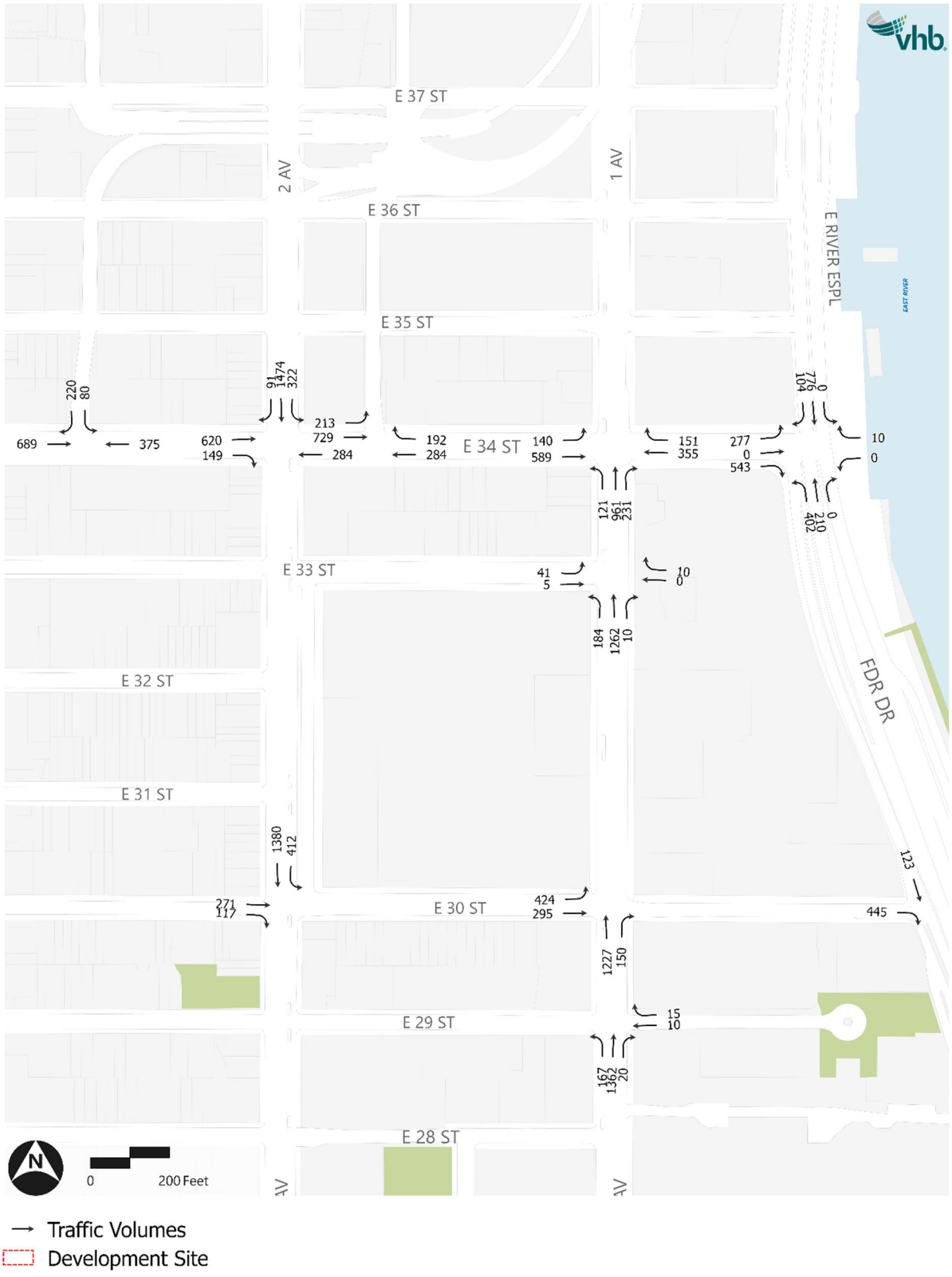


Figure 10-38 Year 2031 No-Action Traffic Volumes – Midday Peak Hour (south side)

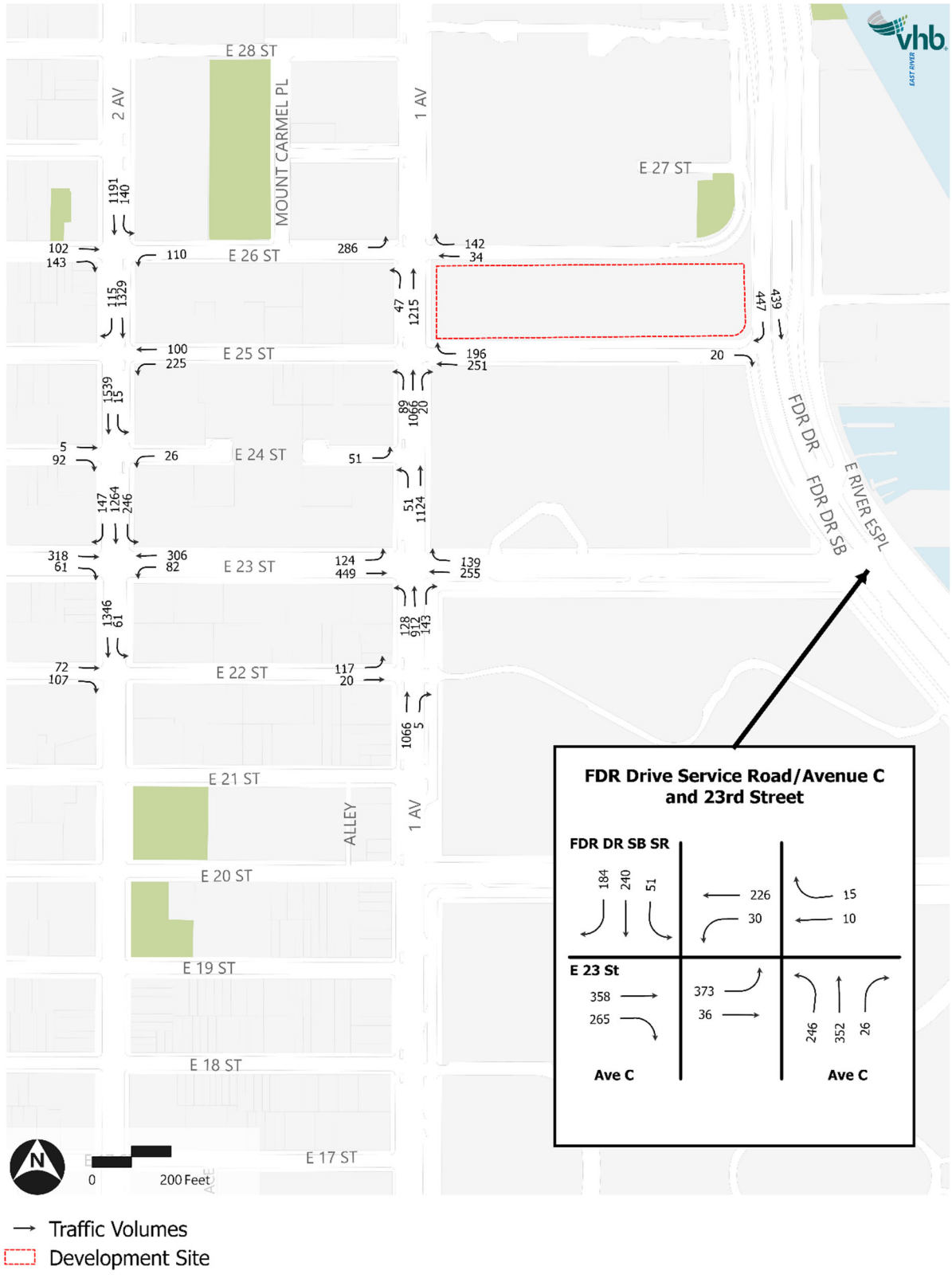


Figure 10-39 Year 2031 No-Action Traffic Volumes – PM Peak Hour (north side)

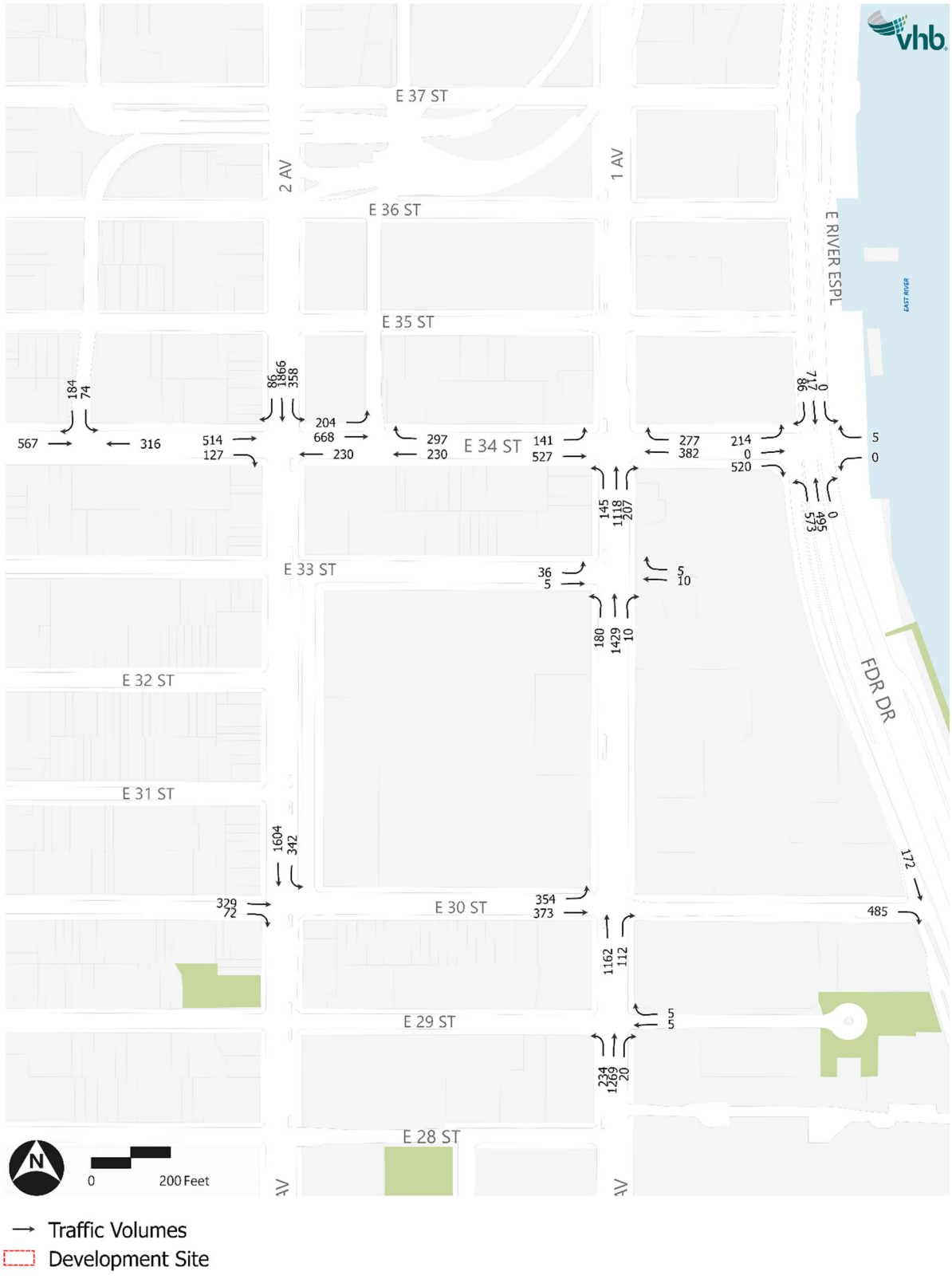
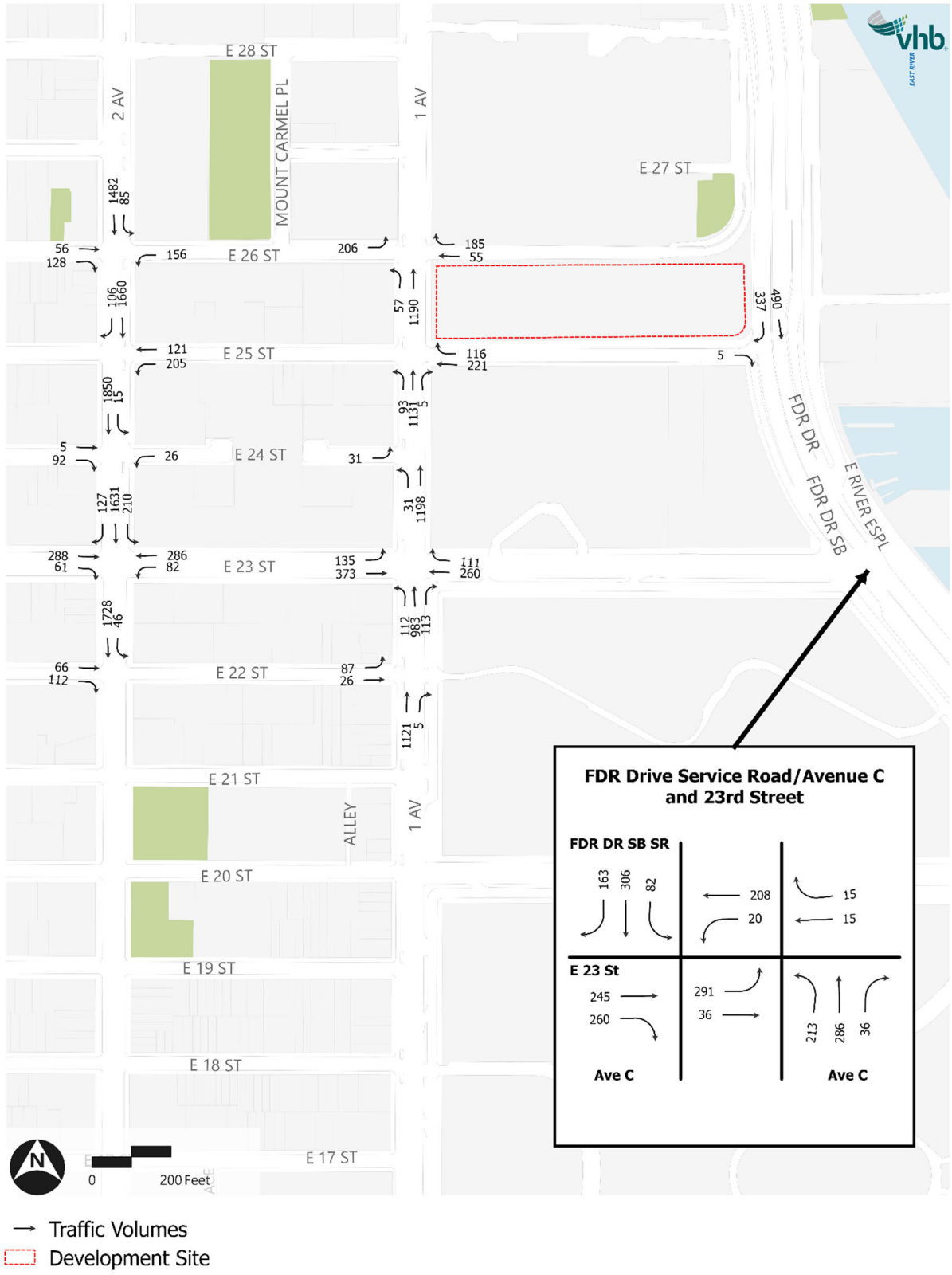


Figure 10-40 Year 2031 No-Action Traffic Volumes – PM Peak Hour (south side)



Roadway Improvements

Roadway improvement projects were identified within the study area including NYCDOT's planned improvements along Second Avenue between East 34th Street and East 43rd Street and the East Side Coastal Resiliency Project.

The Second Avenue safety improvements projects would reduce one general southbound travel lane at the intersection of Second Avenue and East 34th Street and would introduce a buffer-protected bicycle lane along the east curbline. The No-Action traffic analysis also reflects signal phasing changes proposed at this intersection (a protected bicycle phase with lagging southbound left-turn phase). This project was implemented in late 2020, after existing conditions traffic counts were conducted.

As part of the East Side Coastal Resiliency Project, the service road in front of the gas station along the east side of the intersection of East 23rd Street and Avenue C would be closed to vehicular traffic. However, as this service road is lightly trafficked, the geometry and operation of the intersection are not anticipated to change with the completion of the project. The No-Action condition traffic volumes were adjusted to reroute vehicle traffic currently using this service road to other nearby roadways.

Along First Avenue, several intersections between East 23rd Street and East 29th Street were modified to introduce a buffer-protected bicycle lane along the west curbline. The No-Action traffic analysis reflects the removal of an exclusive northbound left-turn lane at East 24th Street, East 25th Street, East 26th Street, and East 29th Street. The northbound lane configuration at these intersections was modified to include a shared through-left lane, two through lanes, and one bus-only/de-facto right turn lane. At each of these intersections, the number of on-street parking spaces and parking restrictions were modified, as well as signal phasing and timing at East 25th Street.

Along Second Avenue, two intersections at East 22nd Street and East 24th Street were modified to introduce protected bicycle infrastructure along the east curbline. The No-Action traffic analysis reflects the removal of an exclusive southbound left-turn lane at these two intersections, and the conversion of the adjacent southbound through lane to a shared left-through lane. At each of these intersections, the number of on-street parking spaces and parking restrictions were modified.

In addition to the roadway improvement projects described above, NYCDOT is in the process of developing the Second Avenue Bus and Bike Lane Enhancements project. The project would shift the Second Avenue bus lane from the curbside lane to the adjacent "offset" lane, widen bike lanes, and modify parking regulations and signal timing plans along Second Avenue between Houston Street and East 59th Street. Changes to the study area's transportation network resulting from these changes will be incorporated between the Draft and Final EIS should the plan be adopted prior to the release of the Final EIS.

Levels of Service

Based on the traffic volume increases and traffic operations changes mentioned above, the 2031 No-Action traffic levels of service were determined for the 23 analysis locations. **Table 10-26** and **Table 10-27** provide an overview of the levels of service that are projected to characterize the No-Action "overall" intersection conditions and individual traffic movements, respectively, during the AM, midday, and PM peak hours. Detailed traffic levels of service are provided in **Table 10-28**.

Table 10-26 Year 2031 No-Action Traffic Level of Service Summary – Overall Intersections

	Existing			No-Action		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Intersections at Overall LOS A/B/C	15	19	18	10	15	16
Intersections at Overall LOS D	4	2	2	5	6	2
Intersections at Overall LOS E	2	1	3	5	1	3
Intersections at Overall LOS F	2	1	0	3	1	2

Note: Includes 21 signalized intersections and two unsignalized intersections.

Table 10-27 Year 2031 No-Action Traffic Level of Service Summary – Traffic Movements

	Existing			No-Action		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Traffic Movements at LOS A/B/C	62	61	66	53	54	60
Traffic Movements at LOS D	13	22	17	6	20	15
Traffic Movements at LOS E	10	6	12	16	10	9
Traffic Movements at LOS F	16	10	6	20	9	11
Number of Individual Traffic Movements	101	99	101	95	93	95

Note: Number of movements may vary between peak hours due to turn prohibitions, parking regulations, bus lane regulations, and the presence of de facto left turn movements.

Table 10-28 Year 2031 No-Action Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
SIGNALIZED INTERSECTIONS													
FDR Drive Southbound / Avenue C at East 23rd Street (west side)													
East 23rd Street	EB	TR	1.06	113.3	F	TR	0.97	58.1	E	TR	0.86	39.7	D
	EB	R	1.06	115.5	F	R	0.92	63.5	E	R	0.77	45.6	D
	WB	L	0.29	29.8	C	L	0.35	37.3	D	L	0.17	24.9	C
	WB	T	0.33	87.7	F	T	0.24	85.7	F	T	0.25	85.3	F
FDR Dr SB	SB	LTR	1.07	101.6	F	LTR	0.91	75.8	E	LTR	1.00	105.8	F
Overall Intersection[2]		-	-	**103.0**	**F**	-	-	**69.1**	**E**	-	-	**76.0**	**E**
FDR Drive Southbound / Avenue C at East 23rd Street (east side)													
East 23rd Street	EB	L	1.06	89.3	F	L	0.84	46.6	D	L	0.71	43.7	D
	EB	TR	1.06	87.1	F	TR	0.85	49.5	D	TR	0.71	46.0	D
	WB	LTR	0.08	15.1	B	LTR	0.05	14.7	B	LTR	0.06	14.7	B
Avenue C	NB	LTR	0.72	52.0	D	LTR	0.54	22.1	C	LTR	0.53	21.7	C
Overall Intersection		-	-	**66.7**	**E**	-	-	**32.6**	**C**	-	-	**30.1**	**C**
FDR Drive at East 34th Street													
East 34th Street	EB	L	0.94	59.6	E	L	1.02	73.6	E	L	0.85	47.0	D
	EB	LTR	0.94	58.7	E	LTR	1.02	74.3	E	LTR	0.85	47.8	D
	EB	R	0.94	34.8	C	R	1.00	34.0	C	R	0.84	14.7	B
	WB	LTR	0.02	30.2	C	LTR	0.06	32.5	C	LTR	0.03	32.0	C
FDR Dr NB	NB	L	1.23	156.8	F	L	0.88	54.7	D	L	1.42	230.9	F
	NB	LTR	1.22	150.5	F	LTR	0.87	52.9	D	LTR	1.41	224.2	F
FDR Dr SB	SB	LTR	1.05	73.2	E	LTR	0.95	48.0	D	LTR	0.83	34.7	C
Overall Intersection		-	-	**87.9**	**F**	-	-	**49.6**	**D**	-	-	**113.4**	**F**

Table 10-28 Year 2031 No-Action Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
First Avenue at East 22nd Street													
East 22nd Street	EB	LT	0.36	15.7	B	LT	0.28	26.1	C	LT	0.28	26.4	C
First Avenue	NB	T	0.84	77.6	E	T	0.74	53.7	D	T	0.80	76.0	E
	NB	R	0.03	15.6	B	R	0.01	15.4	B	R	0.01	15.4	B
Overall Intersection		-	-	**69.2**	**E**	-	-	**50.3**	**D**	-	-	**70.9**	**E**
First Avenue at East 23rd Street													
East 23rd Street	EB	L	0.97	60.2	E	L	0.89	48.9	D	L	0.94	54.3	D
	EB	T	0.46	16.7	B	T	0.40	18.1	B	T	0.36	19.6	B
	WB	T	0.58	17.9	B	T	0.37	30.1	C	T	0.42	31.6	C
	WB	R	1.05	102.1	F	R	1.06	122.3	F	R	0.77	63.4	E
First Avenue	NB	L	0.90	60.5	E	L	0.99	89.2	F	L	0.82	52.6	D
	NB	T	0.81	62.0	E	T	0.76	18.5	B	T	0.83	22.7	C
	NB	R	0.76	25.2	C	R	0.64	23.7	C	R	0.54	20.5	C
Overall Intersection		-	-	**46.5**	**D**	-	-	**33.8**	**C**	-	-	**29.2**	**C**
First Avenue at East 24th Street													
East 24th Street	EB	L	0.07	17.9	B	L	0.13	18.8	B	L	0.07	17.9	B
First Avenue	NB	LT	0.79	63.8	E	T	0.73	9.6	A	T	0.75	8.0	A
Overall Intersection		-	-	**62.8**	**E**	-	-	**10.0**	**B**	-	-	**8.3**	**A**

Table 10-28 Year 2031 No-Action Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
First Avenue at East 25th Street													
East 25th Street	WB	T	0.44	20.1	C	T	0.45	20.2	C	T	0.39	19.0	B
	WB	R	0.74	33.4	C	R	0.51	22.9	C	R	0.32	18.6	B
First Avenue	NB	LT	0.90	33.6	C	LT	0.81	9.6	A	LT	0.87	10.8	B
	NB	R	0.07	2.5	A	R	0.08	7.2	A	R	0.02	7.4	A
Overall Intersection		-	-	**31.4**	**C**	-	-	**13.1**	**B**	-	-	**12.6**	**B**
First Avenue and East 26th Street													
East 26th Street	EB	L	1.22	148.3	F	L	1.20	147.0	F	L	1.08	116.7	F
Former East 26th Street	WB	TR	0.54	29.7	C	TR	0.47	27.9	C	TR	0.61	31.5	C
First Avenue	NB	LT	0.92	62.1	E	LT	0.83	21.0	C	LT	0.76	10.7	B
Overall Intersection		-	-	**72.2**	**E**	-	-	**42.9**	**D**	-	-	**26.9**	**C**
First Avenue at East 29th Street													
East 29th Street	WB	TR	0.07	22.6	C	TR	0.06	22.4	C	TR	0.03	22.1	C
First Avenue	NB	LT	1.13	69.2	E	LT	0.93	54.5	D	LT	0.91	12.1	B
	NB	R	0.07	0.7	A	R	0.05	6.2	A	R	0.06	6.2	A
Overall Intersection		-	-	**67.7**	**E**	-	-	**53.1**	**D**	-	-	**12.1**	**B**

Table 10-28 Year 2031 No-Action Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
First Avenue at East 30th Street													
East 30th Street	EB	L	0.63	28.0	C	L	0.61	24.8	C	L	0.60	26.5	C
	EB	T	1.10	97.8	F	T	0.62	27.1	C	T	1.04	79.3	E
First Avenue	NB	T	0.79	11.8	B	T	0.92	58.9	E	T	0.65	8.9	A
	NB	R	0.89	14.3	B	R	0.79	36.2	D	R	0.50	10.7	B
Overall Intersection		-	-	**29.4**	**C**	-	-	**45.0**	**D**	-	-	**25.4**	**C**
First Avenue at East 33rd Street													
East 33rd Street	EB	L	0.20	20.5	C	L	0.17	19.9	B	L	0.14	19.2	B
	WB	TR	0.01	17.2	B	TR	0.04	17.6	B	TR	0.04	17.5	B
First Avenue	NB	L	0.41	6.8	A	L	0.39	9.5	A	L	0.37	8.5	A
	NB	T	0.81	10.0	A	T	0.73	12.9	B	T	0.81	13.2	B
	NB	R	0.07	4.7	A	R	0.02	7.2	A	R	0.03	5.9	A
Overall Intersection		-	-	**9.9**	**A**	-	-	**12.7**	**B**	-	-	**12.8**	**B**
First Avenue at East 34th Street													
East 34th Street	EB	L	0.74	13.3	B	L	1.04	58.4	E	L	1.04	82.0	F
	EB	T	1.11	72.6	E	T	1.09	60.8	E	T	1.02	49.8	D
	WB	T	0.91	47.7	D	T	1.06	71.9	E	T	1.09	68.4	E
	WB	R	1.29	171.7	F	R	0.78	31.5	C	R	1.40	206.8	F
First Avenue	NB	L	0.37	9.1	A	L	0.36	4.4	A	L	0.43	10.0	A
	NB	T	0.72	10.4	B	T	0.66	4.7	A	T	0.78	12.1	B
	NB	R	0.84	35.8	D	R	0.61	7.8	A	R	0.59	12.6	B
Overall Intersection		-	-	**46.1**	**D**	-	-	**33.0**	**C**	-	-	**48.9**	**D**

Table 10-28 Year 2031 No-Action Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Second Avenue at East 22nd Street													
East 22nd Street	EB	TR	0.85	60.0	E	TR	0.66	40.4	D	TR	0.71	44.9	D
Second Avenue	SB	LT	0.78	10.8	B	T	0.78	8.9	A	T	0.93	15.6	B
Overall Intersection		-	-	**17.9**	**B**	-	-	**12.8**	**B**	-	-	**18.6**	**B**
Second Avenue at East 23rd Street													
East 23rd Street	EB	T	1.08	113.9	F	T	0.95	55.3	E	T	1.08	92.7	F
	EB	R	0.34	48.8	D	R	0.41	22.1	C	R	0.37	22.0	C
	WB	L	1.13	169.1	F	L	0.98	104.0	F	L	0.98	104.3	F
	WB	T	1.07	114.5	F	T	0.94	55.0	D	T	0.96	59.6	E
Second Avenue	SB	L	1.12	111.8	F	L	1.09	103.8	F	L	0.96	62.0	E
	SB	T	0.70	6.3	A	TR	0.83	12.3	B	T	0.87	17.4	B
	SB	R	0.56	8.7	A	-	-	-	-	R	0.53	7.9	A
Overall Intersection		-	-	**54.6**	**D**	-	-	**37.6**	**D**	-	-	**36.8**	**D**
Second Avenue at East 24th Street													
East 24th Street	EB	TR	0.47	31.0	C	TR	0.37	28.3	C	TR	0.34	27.3	C
	WB	LT	0.16	24.8	C	LT	0.14	24.3	C	LT	0.14	24.2	C
Second Avenue	SB	LT	0.73	9.3	A	T	0.71	8.2	A	T	0.82	10.2	B
Overall Intersection		-	-	**11.4**	**B**	-	-	**9.9**	**A**	-	-	**11.4**	**B**

Table 10-28 Year 2031 No-Action Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Second Avenue at East 25th Street													
East 25th Street	WB	LT	0.72	25.4	C	LT	0.77	31.1	C	LT	0.76	27.7	C
Second Avenue	SB	T	0.70	13.3	B	TR	0.76	16.2	B	T	0.77	15.2	B
	SB	R	0.40	11.1	B	-	-	-	-	R	0.33	10.3	B
Overall Intersection		-	-	**15.3**	**B**	-	-	**19.0**	**B**	-	-	**17.0**	**B**
Second Avenue at East 26th Street													
East 26th Street	EB	TR	0.59	30.7	C	TR	0.66	33.9	C	TR	0.48	27.9	C
	WB	L	0.65	33.7	C	L	0.55	35.7	D	L	0.65	39.6	D
Second Avenue	SB	L	0.50	28.3	C	L	0.43	25.9	C	L	0.28	20.5	C
	SB	T	0.56	28.8	C	T	0.51	22.4	C	T	0.61	63.7	E
Overall Intersection		-	-	**29.5**	**C**	-	-	**25.4**	**C**	-	-	**55.9**	**E**
Second Avenue at East 30th Street													
East 30th Street	EB	T	0.97	73.8	E	T	0.79	45.6	D	T	0.99	76.7	E
	EB	R	0.34	30.4	C	R	0.63	42.3	D	R	0.34	29.9	C
Second Avenue	SB	L	0.56	18.4	B	L	0.61	19.4	B	L	0.49	16.6	B
	SB	T	0.52	11.3	B	T	0.47	10.7	B	T	0.51	11.1	B
Overall Intersection		-	-	**22.2**	**C**	-	-	**18.9**	**B**	-	-	**22.7**	**C**

Table 10-28 Year 2031 No-Action Traffic Level of Service

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Second Avenue at East 34th Street													
East 23rd Street	EB	T	0.70	27.6	C	T	0.75	43.8	D	T	0.67	39.0	D
	EB	R	0.88	62.4	E	R	0.67	48.8	D	R	0.68	50.6	D
	WB	LT	0.83	90.7	F	LT	0.72	51.3	D	LT	0.61	32.8	C
Second Avenue	SB	L	0.35	15.0	B	L	0.29	14.2	B	L	0.29	14.1	B
	SB	T	0.96	35.4	D	T	0.78	21.8	C	T	0.97	36.1	D
	SB	R	0.89	60.6	E	R	0.30	16.1	B	R	0.33	17.1	B
Overall Intersection		-	-	**40.0**	**D**	-	-	**29.5**	**C**	-	-	**33.9**	**C**
Midtown Tunnel Entrance at East 34th Street													
East 34th Street	EB	L	0.44	29.4	C	L	0.55	41.4	D	L	0.47	31.6	C
	EB	T	1.13	93.2	F	T	1.11	86.4	F	T	0.93	77.7	E
	WB	T	1.09	118.6	F	T	1.09	120.6	F	T	1.09	120.7	F
	WB	R	0.75	60.3	E	R	0.98	93.6	F	R	1.10	118.9	F
Overall Intersection		-	-	**87.1**	**F**	-	-	**87.9**	**F**	-	-	**87.2**	**F**
Midtown Tunnel Exit at East 34th Street													
East 34th Street	EB	T	0.60	17.2	B	T	0.68	30.2	C	T	0.55	15.3	B
	WB	T	1.13	105.6	F	T	0.84	27.2	C	T	0.73	21.2	C
Midtown Tunnel Exit	SB	L	0.37	37.5	D	L	0.29	36.5	D	L	0.28	36.5	D
	SB	R	0.37	13.5	B	R	0.30	12.6	B	R	0.29	12.6	B
Overall Intersection		-	-	**49.2**	**D**	-	-	**27.5**	**C**	-	-	**18.4**	**B**

Table 10-28 Year 2031 No-Action Traffic Level of Service

Intersection & Approach		AM Peak Hour Mvt	AM V/C	AM Ctrl Delay[1]	AM LOS	Midday Peak Hour Mvt	Midday V/C	Midday Ctrl Delay[1]	Midday LOS	PM Peak Hour Mvt	PM V/C	PM Ctrl Delay[1]	PM LOS
UNSIGNALIZED INTERSECTIONS													
FDR Drive Southbound at East 25th Street													
East 25th Street	EB	R	-	15.9	C	R	-	14.5	B	R	-	13.6	B
FDR Dr SB	SB	TR	-	0.0	A	TR	-	0.0	A	TR	-	0.0	A
Overall Intersection		-	-	**0.3**	**A**	-	-	**0.3**	**A**	-	-	**0.1**	**A**
FDR Drive Southbound at East 30th Street													
East 30th Street	EB	R	-	17.6	C	R	-	10.3	B	R	-	11.6	B
FDR Dr SB	SB	TR	-	12.2	B	TR	-	9.3	A	TR	-	10.2	B
Overall Intersection		-	-	**16.0**	**C**	-	-	**10.1**	**B**	-	-	**11.2**	**B**

Notes:

[1] Control delay is measured in seconds per vehicle.

[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.

The summary overview of 2031 No-Action condition indicates that:

- In the AM peak hour, five intersections would operate at LOS E and three intersections would operate at LOS F, compared to two intersections at LOS E and two intersections at LOS F in the existing conditions. Thirty-six individual traffic movements out of 95 total would operate at LOS E or LOS F, compared to 26 in the existing conditions.
- In the midday peak hour, one intersection would operate at LOS E and one intersection would operate at LOS F, the same as existing conditions. Nineteen individual traffic movements would operate at LOS E or LOS F, compared to 16 in the existing conditions.
- In the PM peak hour, three intersections would operate at LOS E and two intersections would operate at LOS F, compared to three intersections at LOS E and no intersections at LOS F in the existing conditions. Twenty individual traffic movements would operate at LOS E or LOS F, compared to 18 in the existing conditions.

Based on the analysis results, the majority of traffic movements would continue to operate at acceptable levels of service in the No-Action condition. The majority of the intersections with at least one traffic movement operating at unacceptable levels of service during the peak hours analyzed under existing conditions would continue to do so during the No-Action condition. The following intersections would have at least one movement operating at unacceptable levels of service during at least one peak hour.

- FDR Drive Southbound / Avenue C and East 23rd Street (west side)
  - Eastbound 23rd Street shared through-right movement (AM and midday)
  - Eastbound 23rd Street right-turn movement (AM and midday)
  - Westbound 23rd Street through movement (AM, midday, and PM)
  - Southbound FDR Drive shared left-through-right movement (AM, midday, and PM)
- FDR Drive / Avenue C and East 23rd Street (east side)
  - Eastbound 23rd Street left-turn movement (AM)
  - Eastbound 23rd Street shared through-right movement (AM)
- FDR Drive and East 34th Street
  - Eastbound 34th Street left-turn movement (AM and midday)
  - Eastbound 34th Street shared left-through-right movement (AM and midday)
  - Northbound FDR Drive left-turn movement (AM and PM)
  - Northbound FDR Drive shared left-through-right movement (AM and PM)
  - Southbound FDR Drive shared left-through-right movement (AM)
- First Avenue and East 22nd Street
  - Northbound First Avenue through movement (AM and PM)
- First Avenue and East 23rd Street
  - Eastbound 23rd Street left-turn movement (AM)
  - Westbound 23rd Street right-turn movement (AM, midday, and PM)
  - Northbound First Avenue left-turn movement (AM and midday)
  - Northbound First Avenue through movement (AM)
- First Avenue and East 24th Street

- Northbound First Avenue shared left-through movement (AM)

› First Avenue and East 26th Street
- Eastbound 26th Street left-turn movement (AM, midday, and PM)
- Northbound First Avenue shared left-through movement (AM)

› First Avenue and East 29th Street
- Northbound First Avenue shared left-through movement (AM)

› First Avenue and East 30th Street
- Eastbound 30th Street through movement (AM and PM)
- Northbound First Avenue through movement (midday)

› First Avenue and East 34th Street
- Eastbound 34th Street left-turn movement (midday and PM)
- Eastbound 34th Street through movement (AM and midday)
- Westbound 34th Street through movement (midday and PM)
- Westbound 34th Street right-turn movement (AM and PM)

› Second Avenue and East 22nd Street
- Eastbound 22nd Street shared through-right movement (AM)

› Second Avenue and East 23rd Street
- Eastbound 23rd Street through movement (AM, midday, and PM)
- Westbound 23rd Street left-turn movement (AM, midday, and PM)
- Westbound 23rd Street through movement (AM and PM)
- Southbound Second Avenue left-turn movement (AM, midday, and PM)

› Second Avenue and East 26th Street
- Southbound Second Avenue through movement (PM)

› Second Avenue and East 30th Street
- Eastbound 30th Street through movement (AM and PM)

› Second Avenue and East 34th Street
- Eastbound 34th Street right-turn movement (AM)
- Westbound 34th Street shared left-through movement (AM)
- Southbound Second Avenue right-turn movement (AM)

› 34th Street and Queens Midtown Tunnel Entrance
- Eastbound 34th Street through movement (AM, midday, and PM)
- Westbound 34th Street through movement (AM, midday, and PM)
- Westbound 34th Street right-turn movement (AM, midday, and PM)

› 34th Street and Queens Midtown Tunnel Exit
- Westbound 34th Street through movement (AM)

Parking

Between 2023 and 2031, demand for off-street parking is expected to increase due to background growth and the No-Action condition development projects expected to be completed within the study area. It is expected that 210 off-street parking spaces would be displaced by development at the Alexandria Center and the total capacity within a quarter-mile (five-minute) walk of the Development Site would thus be reduced from 3,168 to 2,958 spaces. The increased parking demand as a result of background development projects in the study area would result in a midday parking demand of 2,389 spaces which could be accommodated by the off-site parking supply.

Subways

Subway Station Elements

Existing subway station volumes were increased based on the background growth rates recommended in the *CEQR Technical Manual*. Subway trips generated by background development projects were routed through the study area and added to the No-Action condition subway volumes.

Under the No-Action condition, the fare controls areas at both stations would operate at LOS C or better. **Table 10-29** summarizes the 2031 No-Action condition AM and PM peak hour levels of service at the fare control areas.

Table 10-29 No-Action Condition Subway Station Level of Service – Fare Control Areas

Peak Hour	Control Element	Pedestrian Volume (15-min)		Surging Factor	Friction Factor	v/c Ratio	LOS
		In	Out				
AM	28th Street Downtown 7 Turnstiles	439	926	0.75	0.90	0.47	B
	28th Street Uptown 6 Turnstiles	928	1,107	0.75	0.90	0.83	C
	NY Life Insurance Downtown 4 Turnstiles	392	20	0.75	1.00	0.24	A
	23rd Street Downtown 6 Turnstiles	300	1,243	0.75	0.90	0.61	B
	23rd Street Uptown 6 Turnstiles	554	852	0.75	0.90	0.57	B
PM	28th Street Downtown 7 Turnstiles	757	699	0.75	0.90	0.52	B
	28th Street Uptown 6 Turnstiles	1,277	663	0.75	0.90	0.82	C
	NY Life Insurance Downtown 4 Turnstiles	250	69	0.75	0.90	0.20	A
	23rd Street Downtown 6 Turnstiles	1,093	745	0.75	0.90	0.77	C
	23rd Street Uptown 6 Turnstiles	1,465	642	0.75	0.90	0.89	C

Note:
Methodology based on *2021 CEQR Technical Manual* guidelines
Surging factors only apply to exiting volumes. The surge factor for entry volumes is 1.0.

Table 10-30 and **Table 10-31** summarize the subway stairway levels of service under the No-Action condition. During the AM peak hour, four stairs would operate at LOS D or worse at the 28th Street subway station (the O4A/O4B, O5A/O5B, S2, and P2 stairs). At the 23rd Street station five stairs would operate at LOS D or worse during at least one of the peak hours at this station (the S7, S5, P5, S8A/S8B, and P8A/P8B stairs).

During the PM peak hour, five stairs at the 28th Street subway station would operate at LOS D or worse (the O4A/O4B, O5A/O5B, S4, S2, and P2 stairs) and five stairs at the 23rd Street subway station would operate at LOS D or worse (the S7, S5, P5, S8A/S8B, and P8A/P8B stairs).

Table 10-30 No-Action Condition Subway Station Level of Service – Stairways – AM Peak Hour

Stairway	Effective Width (ft.)	Pedestrian Volume (15-min)		Surging Factor		Friction Factor	v/c Ratio	LOS
		Down	Up	Down	Up			
28th Street Station – Downtown Track Stairs								
O1A/O1B	7.1	133	273	1.00	0.75	0.90	0.52	B
O2A/O2B	6.8	133	273	1.00	0.75	0.90	0.54	B
O4A/O4B	8.4	305	654	1.00	0.75	0.90	1.04	D
O5A/O5B	8.4	305	654	1.00	0.75	0.90	1.04	D
28th Street Station – Uptown Track Stairs								
S5	3.3	59	171	1.00	0.75	0.90	0.64	B
S6	3.3	166	175	1.00	0.75	0.90	0.90	C
P3	7.4	224	346	1.00	0.75	0.90	0.69	B
S4	3.3	121	222	1.00	0.75	0.90	0.94	C
S2	3.3	584	540	1.00	0.75	0.90	2.93	F
P2	7.9	704	761	1.00	0.75	0.90	1.61	E
23rd Street Station - Downtown Track Stairs								
O5A/O5B	10.4	160	449	1.00	0.75	0.90	0.54	B
P9A/P9B	10.6	160	449	1.00	0.75	0.90	0.53	B
S7	3.3	38	491	1.00	0.75	0.90	1.55	E
P7F/P7E	8.2	38	491	1.00	0.75	0.90	0.63	B
S5	3.3	101	303	1.00	0.75	0.90	1.13	D
P5	3.3	101	303	1.00	0.75	0.90	1.13	D
23rd Street Station - Uptown Track Stairs								
S8A/S8B	6.1	370	619	1.00	0.75	0.90	1.45	E
P8A/P8B	5.9	370	619	1.00	0.75	0.90	1.50	E
S6	4.8	123	164	1.00	0.75	0.90	0.53	B
S10	4.0	61	69	1.00	0.75	0.90	0.28	A
P6A/P6B	9.1	184	234	1.00	0.75	0.90	0.40	A

Table 10-31 No-Action Condition Subway Station Level of Service – Stairways – PM Peak Hour

Stairway	Effective Width (ft.)	Pedestrian Volume (15-min)		Surging Factor		Friction Factor	v/c Ratio	LOS
		Down	Up	Down	Up			
28th Street Station – Downtown Track Stairs								
O1A/O1B	7.1	246	168	1.00	0.75	0.90	0.49	B
O2A/O2B	6.8	246	168	1.00	0.75	0.90	0.51	B
O4A/O4B	8.4	511	531	1.00	0.75	0.90	1.07	D
O5A/O5B	8.4	511	531	1.00	0.75	0.90	1.07	D
28th Street Station – Uptown Track Stairs								
S5	3.3	143	71	1.00	0.75	0.90	0.53	B
S6	3.3	126	142	1.00	0.75	0.90	0.71	C
P3	7.4	270	213	1.00	0.75	0.90	0.55	B
S4	3.3	445	107	1.00	0.75	0.90	1.32	D
S2	3.3	564	344	1.00	0.75	0.90	2.30	F
P2	7.9	1,008	452	1.00	0.75	0.90	1.51	E
23rd Street Station - Downtown Track Stairs								
O5A/O5B	10.4	623	235	1.00	0.75	0.90	0.67	B
P9A/P9B	10.6	623	235	1.00	0.75	0.90	0.65	B
S7	3.3	139	380	1.00	0.75	0.90	1.45	E
P7F/P7E	8.2	139	380	1.00	0.75	0.90	0.58	B
S5	3.3	332	132	1.00	0.75	0.90	1.14	D
P5	3.3	332	132	1.00	0.75	0.90	1.14	D
23rd Street Station - Uptown Track Stairs								
S8A/S8B	6.1	968	432	1.00	0.75	0.90	1.87	F
P8A/P8B	5.9	968	432	1.00	0.75	0.90	1.94	F
S6	4.8	253	114	1.00	0.75	0.90	0.63	B
S10	4.0	245	95	1.00	0.75	0.90	0.69	B
P6A/P6B	9.1	497	211	1.00	0.75	0.90	0.63	B

Buses

Demand on the local and SBS bus routes operating near the Proposed Project is expected to increase as a result of background growth as well as demand from new development in the vicinity of the Proposed Project. **Table 10-32** shows that the existing levels of bus service would be sufficient to meet the projected demand in the 2031 No-Action condition along the M15 Local route in both peak hours, the M15-SBS route in the AM peak hour, and the M23-SBS route in the PM peak hour. A capacity shortfall can be expected along the following bus routes:

› The M15-SBS route in the northbound direction during the PM peak hour (one additional bus would be needed to accommodate the projected No-Action demand).

- The M34A-SBS route in the westbound direction during the AM peak hour (one additional bus would be needed) and during the PM peak hour (two additional buses would be needed).
- The M23-SBS route in the westbound direction during the AM peak hour (one additional bus needed).

As a general policy, MTA-NYCT provides additional bus service where demand warrants, considering financial and operational constraints. Based on ongoing passenger monitoring programs, comprehensive service plans would be generated to respond to specific, known needs with capital and/or operational improvements where fiscally and operationally practicable. The MTA's capital program is developed on a five-year cycle; through this program, expansion of bus service would be provided as needs are determined. It is therefore anticipated that in the No-Action condition, MTA-NYCT would increase service frequency on the M15-SBS, M34A-SBS, and M23-SBS routes to address the capacity shortfall.

Table 10-32 No-Action Bus Analysis

Peak Hour	Route	Direction	Maximum Load Point	Peak Hour Buses[1]	Peak Hour Passengers[2]	Average Passengers per Bus	Available Peak Hour Capacity[3]
AM	M15	SB	Second Av/E 57th St	6	414	69	96
			Second Av/E 50th St	8	414	52	266
		NB	First Av/E 64th St	6	311	52	199
			First Av/E 20th St	6	330	55	181
	M15-SBS	SB	Second Av/E 78th St	16	1,149	72	211
			Second Av/E 57th St	14	1,021	73	169
		NB	First Av/E 14th St	21	1,543	73	243
	M34A-SBS	EB	W 34th St/Broadway	7	544	78	51
		WB	E 34th St/3 Av	6	521	87	-11
			With Service Increase	**7**	**521**	**74**	**74**
	M23-SBS	EB	E 23rd St/Park Av S	9	696	77	69
		WB	E 23rd St/3 Av	8	760	95	-80
			With Service Increase	**9**	**760**	**84**	**5**
PM	M15	SB	Second Av/E 25th St	6	346	58	164
			Second Av/E 33rd St	6	341	57	169
		NB	First Av/ E 64th St	6	438	73	72
			First Av/E 60th St	8	447	56	233
	M15-SBS	SB	Second Av/E 28th St	12	731	61	289
			Second Av/E 42nd St	10	728	73	122
		NB	First Av/E 42nd St	10	932	93	-82
			With Service Increase	**12**	**932**	**85**	**3**
		EB	First Av/E 57th St	12	958	80	62
	M34A-SBS		W 34th St/Broadway	6	321	54	189
		WB	E 34th St/Park Av	6	604	101	-94
			With Service Increase	**8**	**604**	**76**	**76**
	M23-SBS	EB	E 34th St/5 Av	6	434	72	76
			W 23rd St/7 Av	10	696	70	154
		WB	W 23rd St/6 Av	8	557	70	123
			E 23rd St/3 Av	9	750	83	15

Notes:
[1]No-Action passenger volumes are based on 0.25 percent per year background growth from 2023 through 2028 and 0.125 percent per year background growth from 2028 through 2031 period plus demand from No-Action developments expected by 2031.
[2] Assumes service levels adjusted to address capacity shortfalls during the 2023 through 2031 period.
[3] Available capacities based on NYCT loading guidelines of 85 passengers per articulated bus.

Pedestrians

The 2031 No-Action pedestrian volumes were developed by increasing existing volumes to reflect expected growth in overall travel through and within the study area and incorporating pedestrian volumes from projects expected to be completed and operating by then. Pedestrian trips resulting from the 455 First Avenue project and the Alexandria Center project were also incorporated into the analysis.

Figure 10-41 Year 2031 No-Action Pedestrian Volumes – AM Peak Hour (east side)

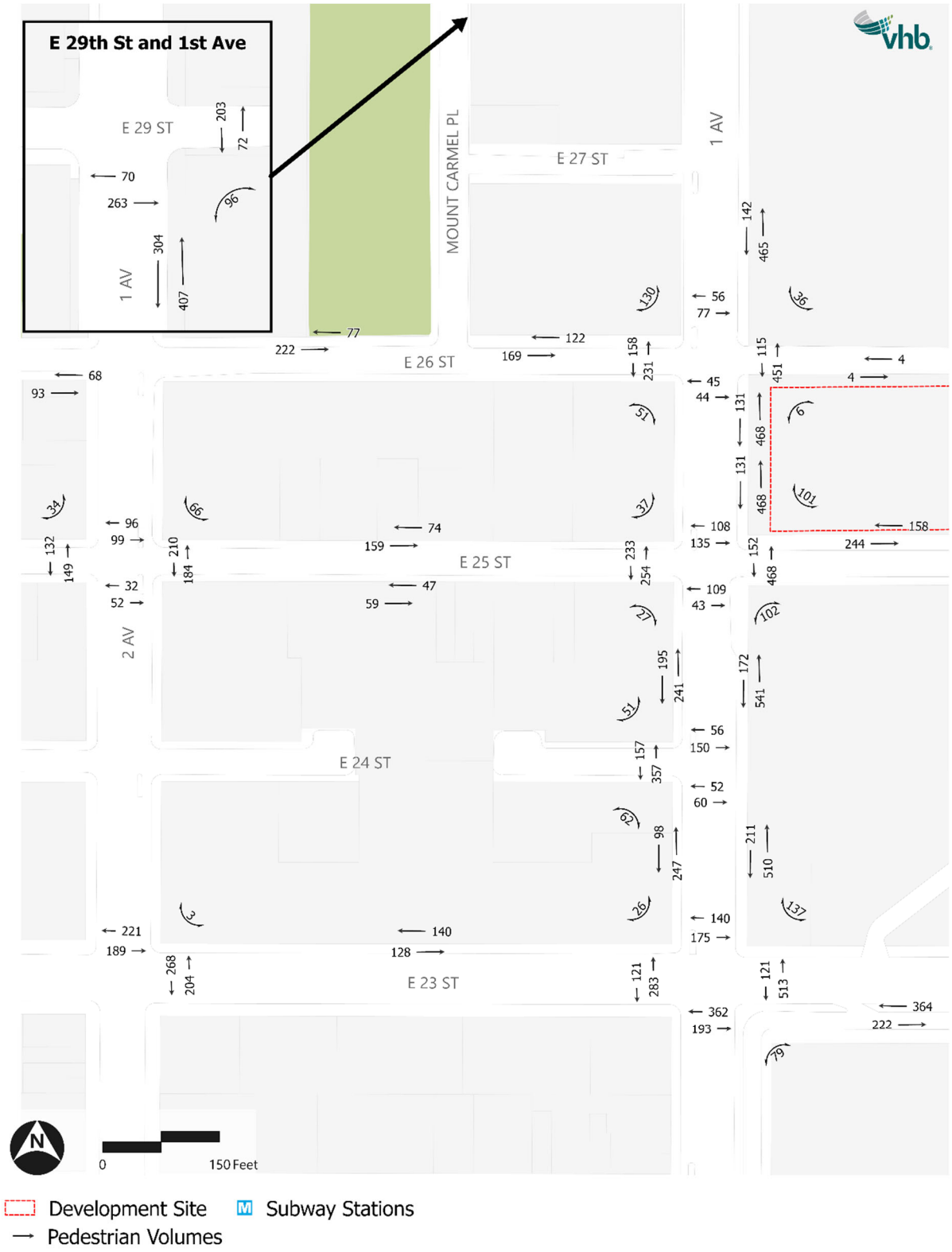


Figure 10-42 Year 2031 No-Action Pedestrian Volumes – AM Peak Hour (west side)

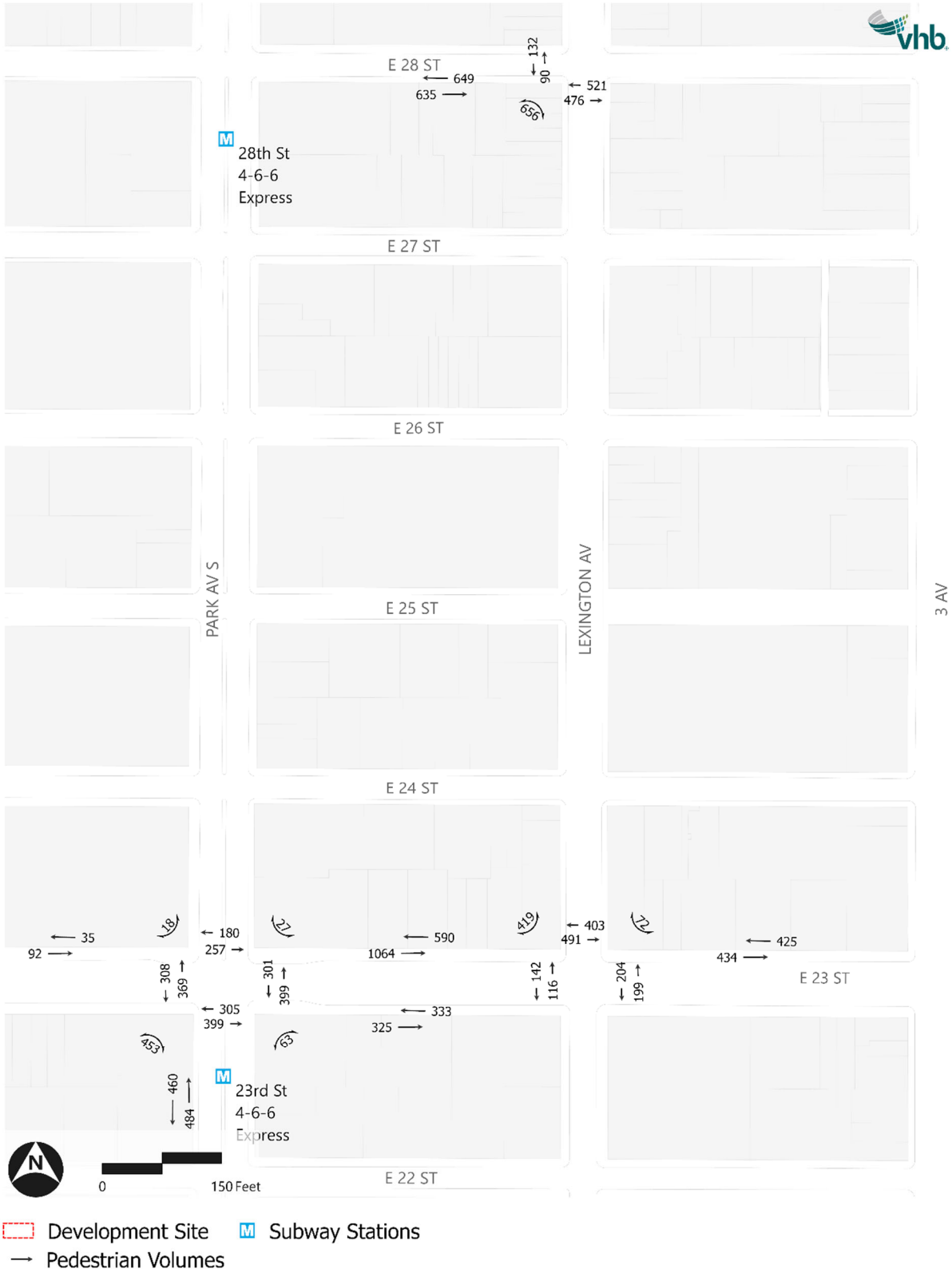


Figure 10-43 Year 2031 No-Action Pedestrian Volumes – Midday Peak Hour (east side)

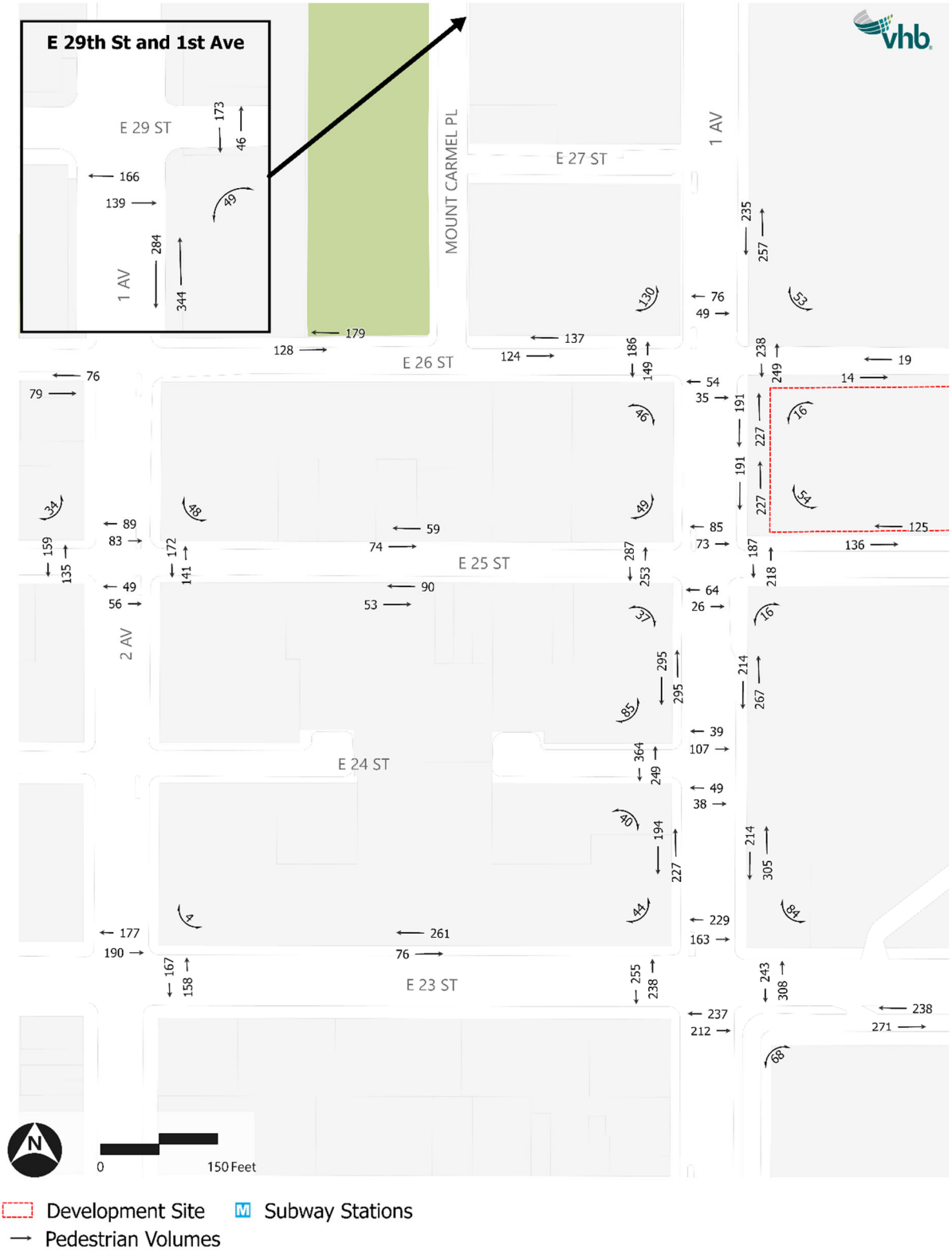


Figure 10-44 Year 2031 No-Action Pedestrian Volumes – Midday Peak Hour (west side)

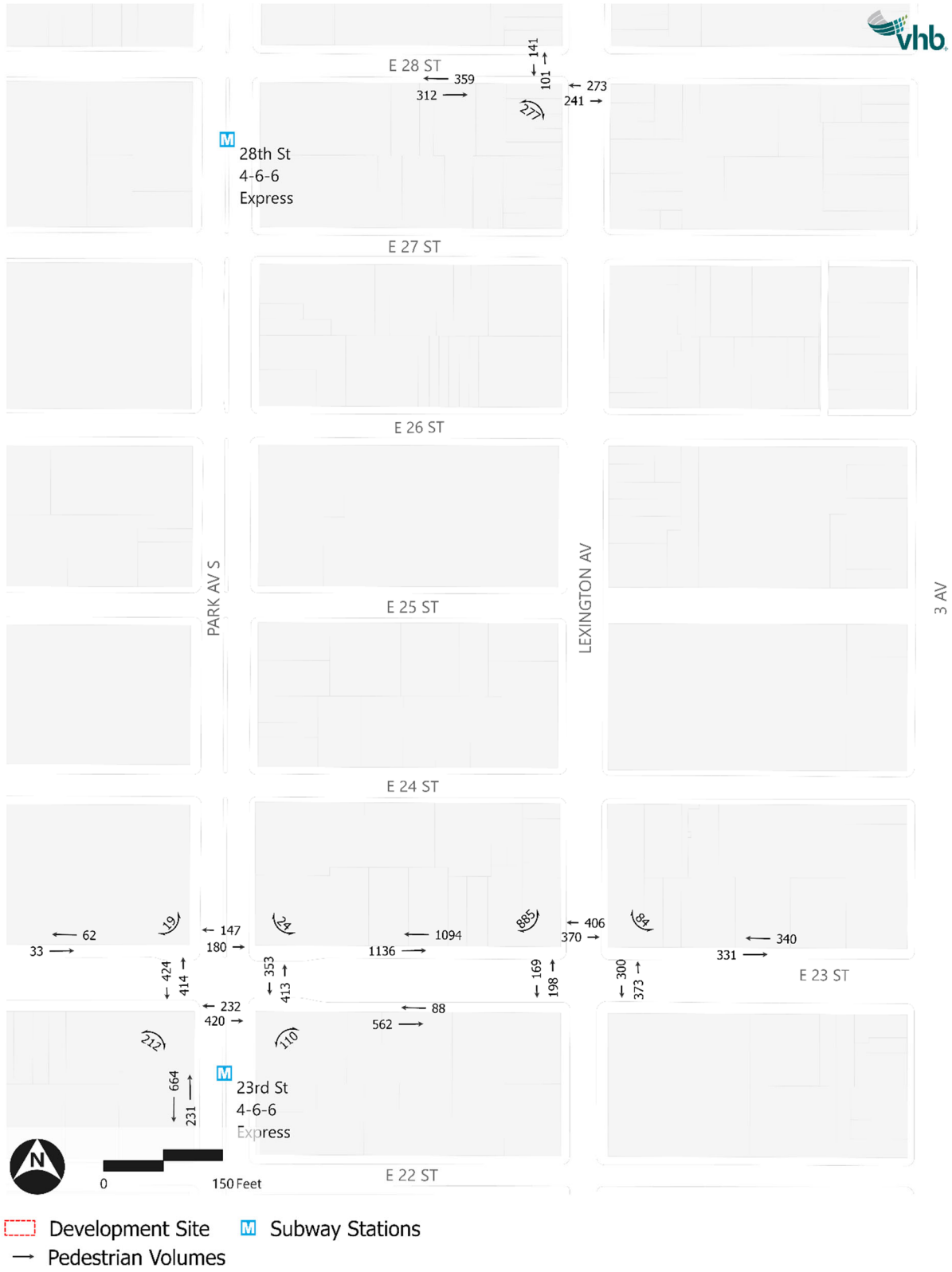


Figure 10-45 Year 2031 No-Action Pedestrian Volumes – PM Peak Hour (east side)

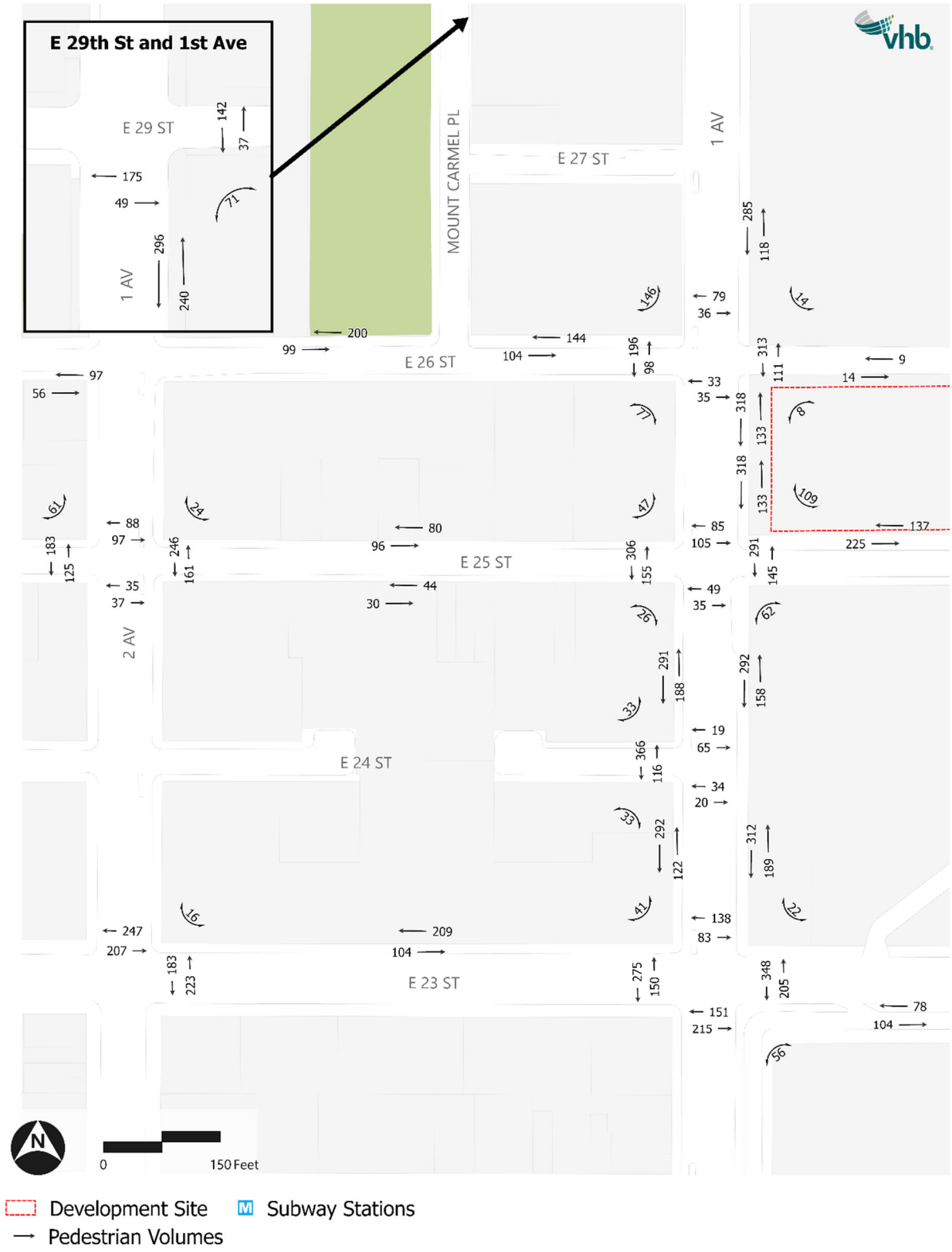
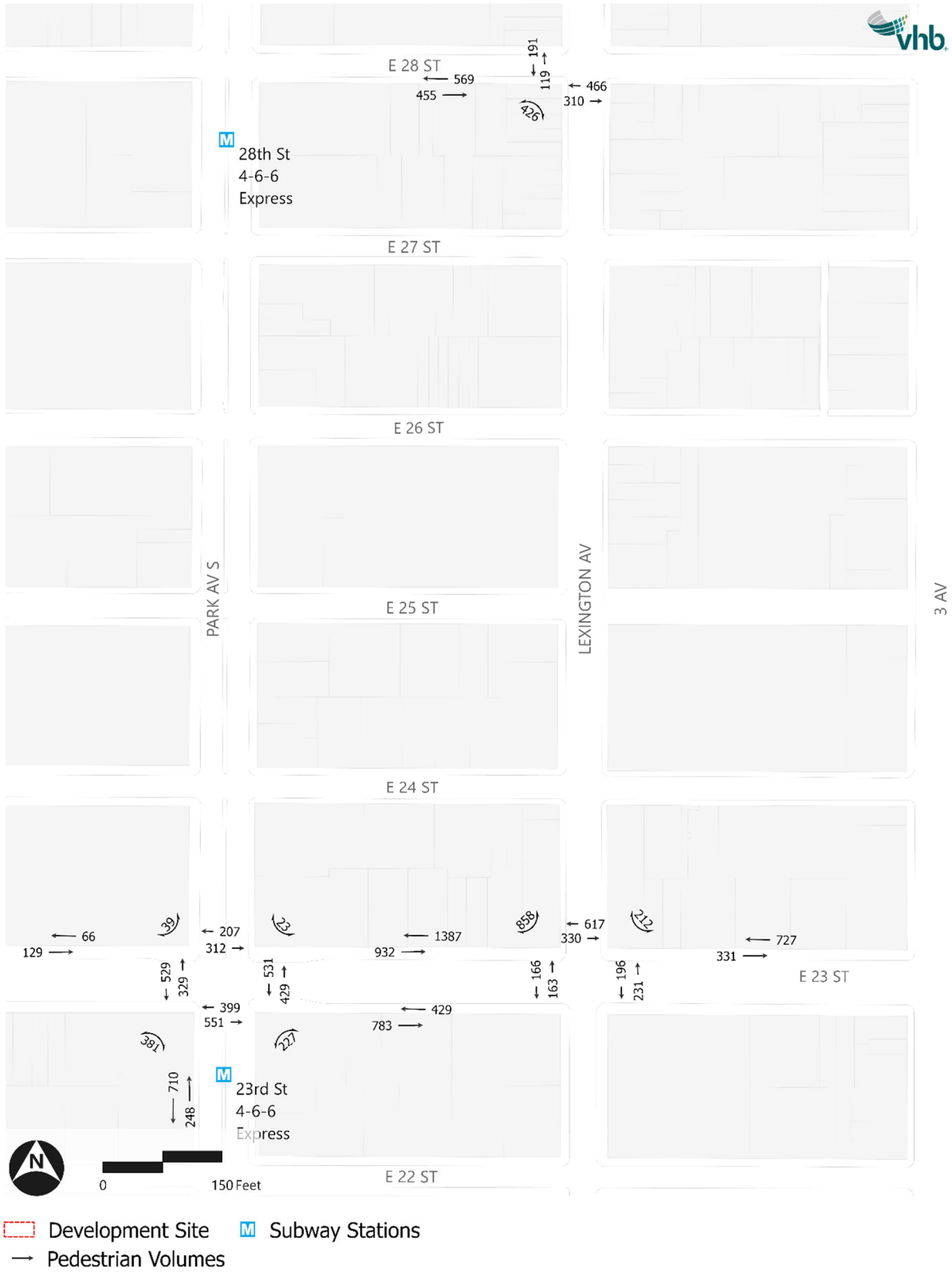


Figure 10-46 Year 2031 No-Action Pedestrian Volumes – PM Peak Hour (west side)



The No-Action pedestrian levels of service were determined for the locations analyzed in the existing conditions. **Table 10-33** provides an overview of the pedestrian levels of service for the peak hours analyzed. Pedestrian volumes and levels of service are provided in **Table 10-34** through **Table 10-36** The summary of the No-Action condition indicates that:

- Similar to existing conditions, all the sidewalk and crosswalk elements would operate at acceptable LOS D or better in all peak hours.
- During the AM peak hour, one corner element would operate at unacceptable levels of service similar to the existing conditions.
- During the midday peak hour, one corner element would operate at unacceptable levels of service, compared to none in the existing conditions.
- During the PM peak hour, two corner elements would operate at unacceptable levels of service similar to the existing conditions.

Table 10-33 Year 2031 No Action Pedestrian Levels of Service Summary

Sidewalk Elements	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Sidewalks at LOS A/B/C and Acceptable LOS D	22	22	22
Sidewalks at Unacceptable LOS D	0	0	0
Sidewalks at LOS E	0	0	0
Sidewalks at LOS F	0	0	0
Crosswalk Elements	**AM Peak Hour**	**Midday Peak Hour**	**PM Peak Hour**
Crosswalks at LOS A/B/C and Acceptable LOS D	15	15	15
Crosswalks at Unacceptable LOS D	0	0	0
Crosswalks at LOS E	0	0	0
Crosswalks at LOS F	0	0	0
Corner Elements	**AM Peak Hour**	**Midday Peak Hour**	**PM Peak Hour**
Corners at LOS A/B/C and Acceptable LOS D	23	23	22
Corners at Unacceptable LOS D	0	1	1
Corners at LOS E	0	0	1
Corners at LOS F	1	0	0

Note: Includes 22 sidewalk, 14 crosswalk, and 24 corner analysis locations

Table 10-34 Year 2031 No-Action Pedestrian Levels of Service – Sidewalks

Sidewalk	Effective Width, ft	AM Peak Hour			Midday Peak Hour			PM Peak Hour		
		Volume, ped/hr	Avg Ped Space, SF/P	Platoon LOS	Volume, ped/hr	Avg Ped Space, SF/P	Platoon LOS	Volume, ped/hr	Avg Ped Space, SF/P	Platoon LOS
East 28th Street between Park Avenue and Lexington Avenue (south side)	4.6	1,284	36.2	D	671	73.7	C	1,024	51.4	C
First Avenue between East 28th Street and East 29th Street (east side)	6.9	711	95.9	B	628	164.4	B	536	134.2	B
East 26th Street between Second Avenue Mt Carmel Place (north side)	7.0	299	242.5	B	307	227.0	B	299	214.4	B
East 26th Street between Third Avenue and Second Avenue (south side)	2.8	161	173.9	B	155	188.2	B	153	190.1	B
First Avenue between East 26th Street and East 27th Street (east side)	3.5	607	56.9	C	492	70.0	C	403	79.1	C
Former East 26th Street between First Ave and FDR Drive (south side)	6.3	8	6,187.5	A	33	1,546.9	A	23	1,687.5	A
East 26th Street between Mt Carmel Place and First Avenue (north side)	5.8	291	1,175.5	A	261	995.7	A	248	913.6	A
First Avenue between East 25th Street and East 26th Street (east side)	4.2	599	75.9	C	418	101.8	B	451	100.3	B
East 25th Street between FDR Drive and First Avenue (north side)	4.4	402	110.6	B	261	166.0	B	362	129.6	B
First Avenue between East 24th Street and East 25th Street (east side)	15.3	713	204.7	B	481	334.3	B	450	344.3	B
First Avenue between East 24th Street and East 25th Street (west side)	7.4	436	185.5	B	590	133.1	B	479	157.5	B
East 25th Street between First Avenue and Second Avenue (south side)	2.9	106	293.0	B	143	141.1	B	74	383.0	B
East 25th Street between First Avenue and Second Avenue (north side)	3.6	233	147.1	B	133	268.7	B	176	222.4	B
East 23rd Street between Lexington Avenue and Park Avenue (south side)	5.4	658	112.9	B	650	103.8	B	1,212	64.7	C
Park Avenue between East 22nd Street and East 23rd Street (west side)	4.0	944	44.7	C	895	41.2	C	958	40.7	C

Table 10-34 Year 2031 No-Action Pedestrian Levels of Service – Sidewalks

		AM Peak Hour			Midday Peak Hour			PM Peak Hour		
Sidewalk	Effective Width, ft	Volume, ped/hr	Avg Ped Space, SF/P	Platoon LOS	Volume, ped/hr	Avg Ped Space, SF/P	Platoon LOS	Volume, ped/hr	Avg Ped Space, SF/P	Platoon LOS
East 23rd Street between Park Avenue and Madison Avenue (north side)	1.8	127	108.9	B	95	166.3	B	195	51.7	C
East 23rd Street between Park Avenue and Lexington Avenue (north side)	9.7	1,654	60.3	C	2,230	38.0	D	2,319	42.6	C
East 23rd Street between Lexington Avenue and Third Avenue (north side)	3.9	859	52.4	C	671	58.8	C	1,058	34.9	D
First Avenue between 23rd Street and 24th Street (east side)	3.8	721	57.1	C	519	80.6	C	501	62.5	C
East 23rd Street between FDR Drive and First Avenue (south side)	7.0	586	122.4	B	509	132.4	B	182	318.3	B
First Avenue between 23rd Street and 24th Street (west side)	4.3	345	97.7	B	421	82.5	C	414	77.9	C
East 23rd Street between First Avenue and Second Avenue (north side)	14.4	268	366.3	B	337	217.2	B	313	347.8	B

Table 10-35 Year 2031 No-Action Pedestrian Levels of Service – Crosswalks

		AM Peak Hour			Midday Peak Hour			PM Peak Hour		
Intersection	Crosswalk	Volume, ped/hr	Avg Ped Space, SF/P	LOS	Volume, ped/hr	Avg Ped Space, SF/P	LOS	Volume, ped/hr	Avg Ped Space, SF/P	LOS
Lexington Avenue at East 28th Street	South	997	28.9	C	514	61.6	A	776	38.0	C
First Avenue at East 26th Street	North	133	265.4	A	125	254.0	A	115	255.3	A
	South	89	335.1	A	89	364.1	A	68	469.6	A
	East	566	78.6	A	487	90.0	A	424	104.5	A
Second Avenue at East 25th Street	North	195	117.1	A	172	136.8	A	185	131.9	A
	South	84	257.3	A	105	187.6	A	72	253.7	A
First Avenue at East 25th Street	North	243	101.5	A	158	160.1	A	190	165.2	A
	South	152	154.2	A	90	244.9	A	84	288.3	A
	East	620	48.8	B	405	91.7	A	436	79.5	A
	West	487	67.4	A	540	67.1	A	461	78.7	A
First Avenue at East 24th Street	West	514	79.8	A	613	66.7	A	482	84.9	A
Park Avenue at East 23rd Street	North	437	50.1	B	327	64.6	A	519	48.3	B
	South	704	40.9	B	652	48.9	B	950	32.7	C
Lexington Avenue at East 23rd Street	North	894	53.5	B	776	54.4	B	947	42.2	B
First Avenue at East 23rd Street	East	634	58.6	B	551	62.4	A	553	63.2	A

Table 10-36 Year 2031 No-Action Pedestrian Levels of Service – Corners

		AM Peak Hour			Midday Peak Hour			PM Peak Hour		
Intersection	Corner	Volume, ped/hr	Avg Ped Space, SF/P	LOS	Volume, ped/hr	Avg Ped Space, SF/P	LOS	Volume, ped/hr	Avg Ped Space, SF/P	LOS
Lexington Avenue at East 28th Street	Southwest	656	5.9	F	277	19.0	D	426	11.4	E
First Avenue at East 26th Street	Southeast	96	113.8	A	49	139.7	A	71	167.5	A
First Avenue at East 26th Street	Northeast	36	48.9	B	53	44.0	B	14	51.5	B
	Southeast	6	162.4	A	16	180.6	A	8	219.8	A
	Southwest	51	195.5	A	46	239.7	A	77	243.0	A
	Northwest	130	149.9	A	130	150.9	A	146	183.3	A
Second Avenue at East 25th Street	Northeast	66	100.0	A	48	144.9	A	24	118.3	A
	Northwest	34	177.1	A	34	186.2	A	61	158.4	A
First Avenue at East 25th Street	Northeast	101	91.8	A	54	157.9	A	109	131.9	A
	Southeast	102	145.3	A	16	303.2	A	62	265.1	A
	Southwest	27	142.5	A	37	157.2	A	26	187.3	A
	Northwest	37	115.3	A	49	132.2	A	47	143.1	A
First Avenue at East 24th Street	Southwest	62	145.9	A	40	145.2	A	33	190.6	A
	Northwest	51	158.9	A	85	141.7	A	33	201.0	A
Park Avenue at East 23rd Street	Northeast	27	171.5	A	24	178.8	A	23	137.8	A
	Southeast	63	29.3	C	110	33.8	C	227	18.2	D
	Southwest	453	59.0	B	212	63.6	A	381	43.9	B
	Northwest	18	93.9	A	19	90.0	A	39	68.5	A
Lexington Avenue at East 23rd Street	Northeast	72	53.5	B	84	37.5	C	212	35.9	C
	Northwest	419	77.5	A	885	57.3	B	858	56.7	B
Second Avenue at East 23rd Street	Northeast	3	86.4	A	4	134.5	A	16	106.5	A
First Avenue at East 23rd Street	Northeast	137	116.5	A	84	116.0	A	22	148.6	A
	Southeast	79	38.8	C	68	51.3	B	56	59.6	B
	Northwest	26	157.4	A	44	132.4	A	41	163.2	A

With Action Conditions

The Proposed Project would redevelop the block bounded by FDR Drive, First Avenue, East 25th Street, and the former East 26th Street with new buildings which would be occupied by a mix of commercial Life Sciences, higher education academic, high school, ambulatory care facility and local retail spaces, and space for OCME. The Proposed Project would also develop passive open space, SPARC Square, in the middle of the Development Site block. The Proposed Project would also provide 50 parking spaces that would be used by OCME and 175 parking spaces that would be used by academic staff. Access to the parking facilities would be provided off of the former East 26th Street which would be widened and converted from a one-way westbound roadway to a two-way roadway. The Proposed Project would also introduce a potential private driveway between the north and west buildings that connects East 25th Street and the former East 26th Street, and would be used primarily by the ambulatory care facility and OCME.

Traffic

Traffic Volumes

Overall, the Proposed Project would generate a total of 501 vph (366 "ins" and 135 "outs") in the AM peak hour, 446 vph (211 "in" and 235 "outs") in the midday peak hour, and 341 vph (114 "ins" and 227 "outs") in the PM peak hour. These vehicle trips were distributed as described in the **Level 2 Screening Assessment**. The With-Action traffic volumes for the AM, midday, and PM peak hours are shown in **Figure 10-47** through **Figure 10-52.**

Figure 10-47 Year 2031 With-Action Traffic Volumes – AM Peak Hour (north side)

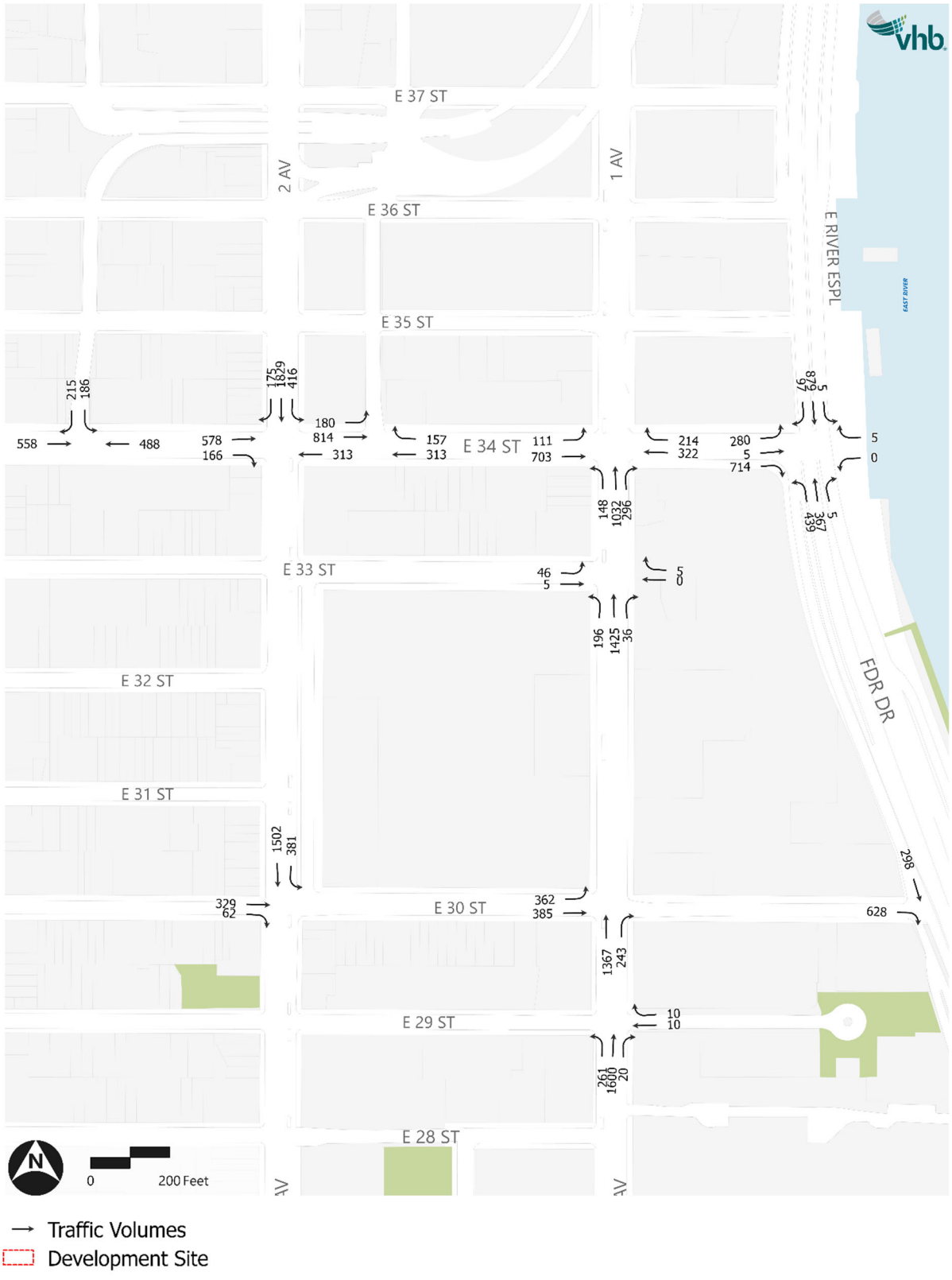


Figure 10-48 Year 2031 With-Action Traffic Volumes – AM Peak Hour (south side)

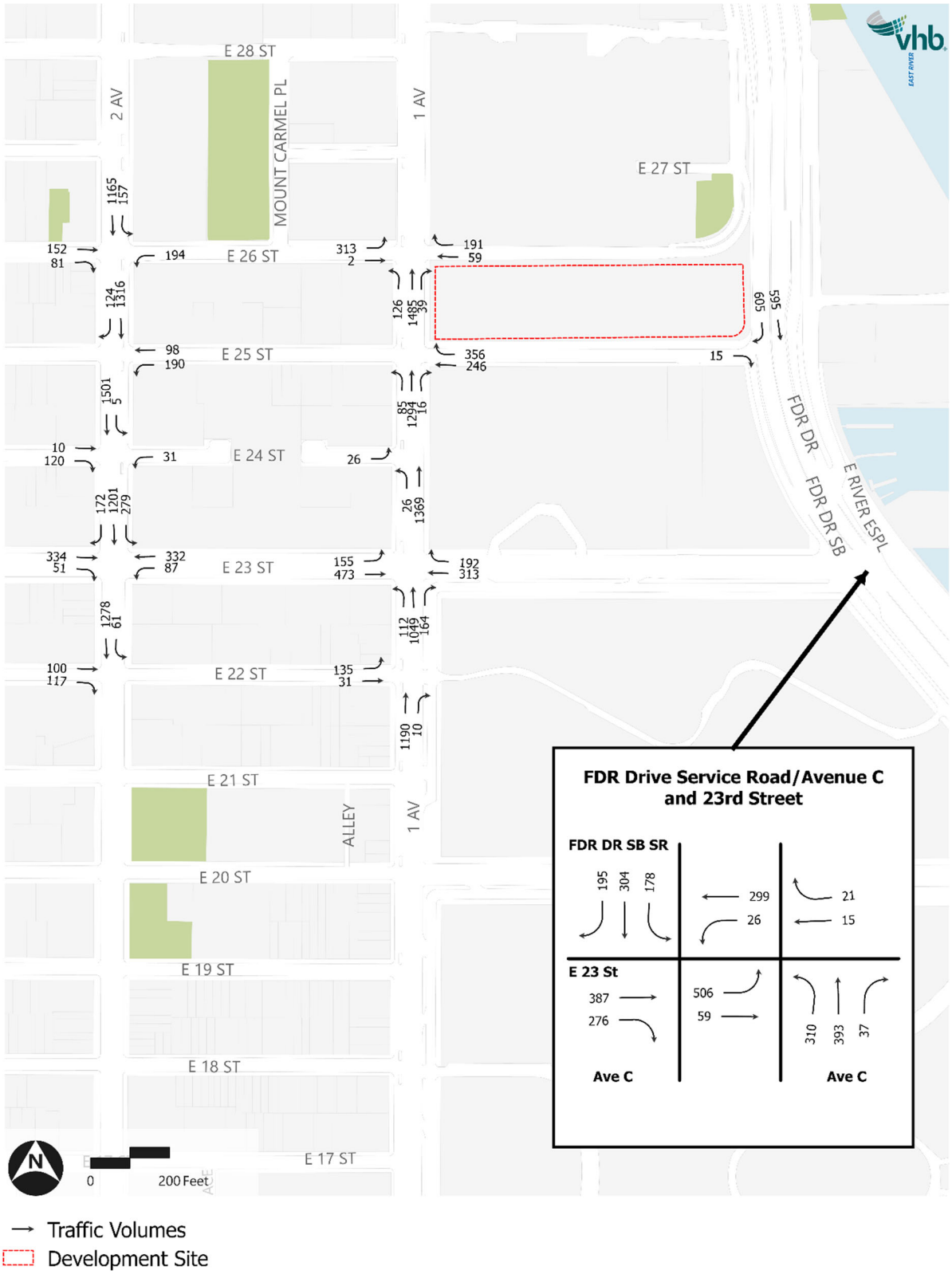


Figure 10-49 Year 2031 With-Action Traffic Volumes – Midday Peak Hour (north side)

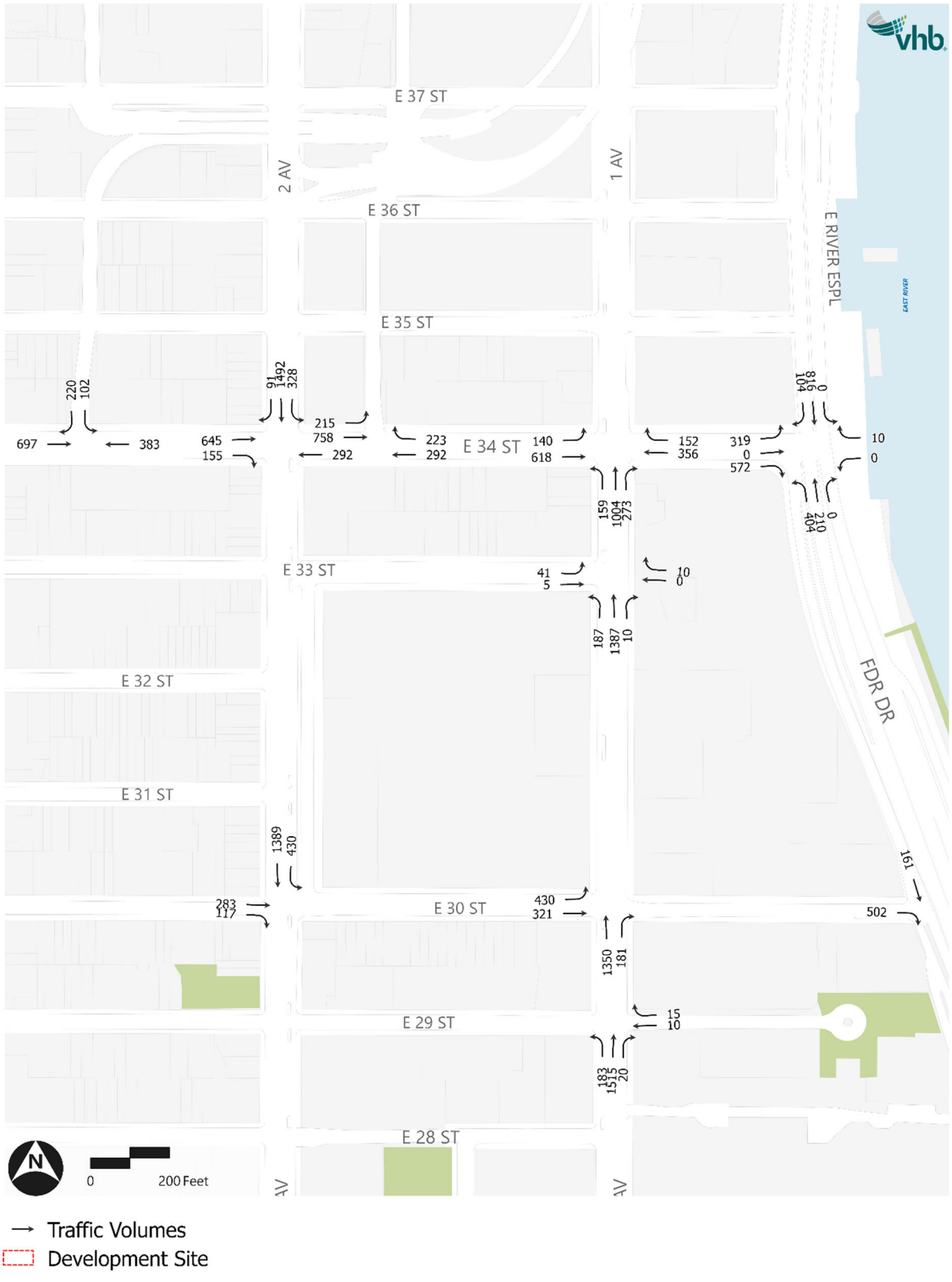


Figure 10-50 Year 2031 With-Action Traffic Volumes – Midday Peak Hour (south side)

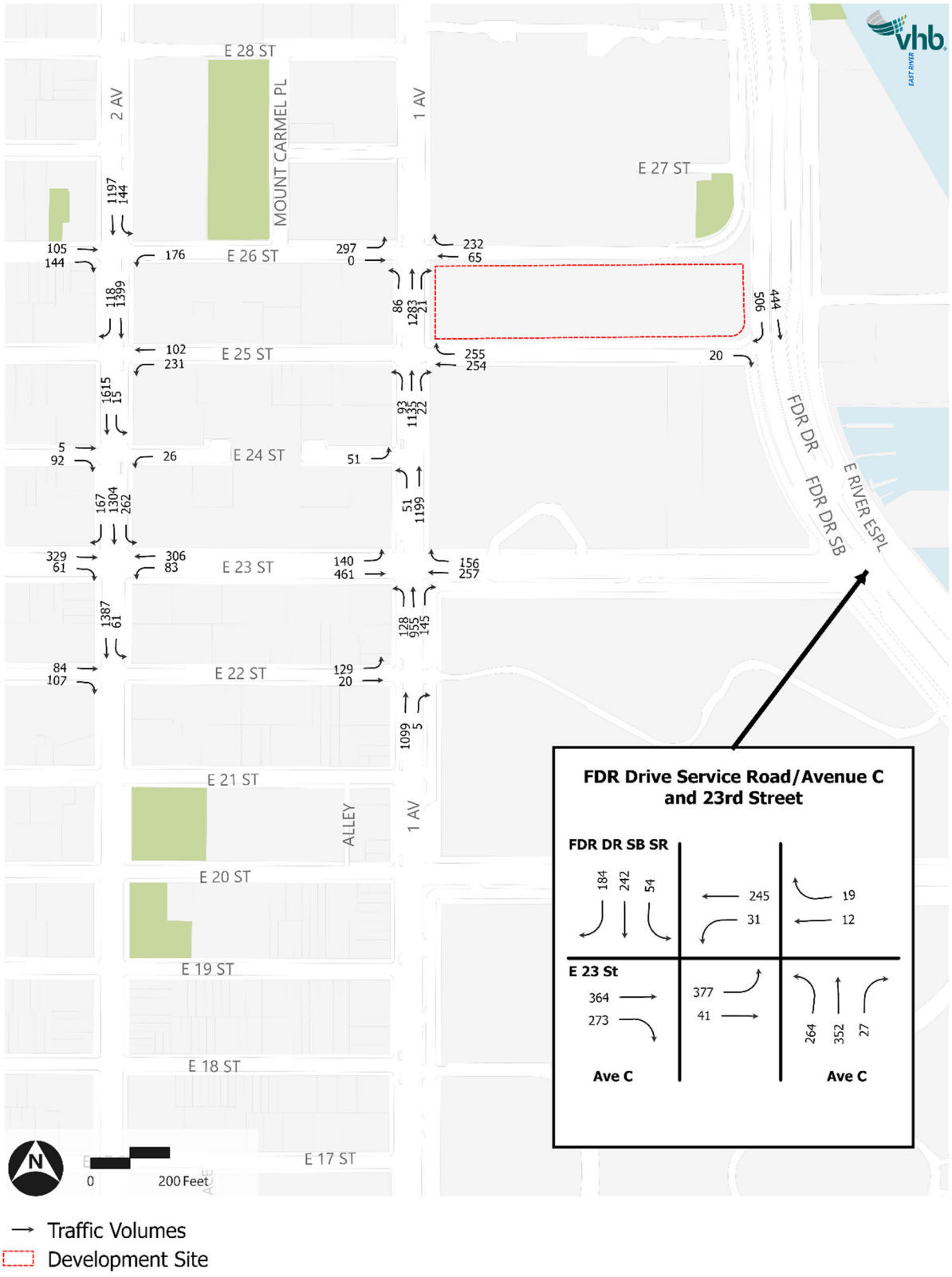


Figure 10-51 Year 2031 With-Action Traffic Volumes – PM Peak Hour (north side)

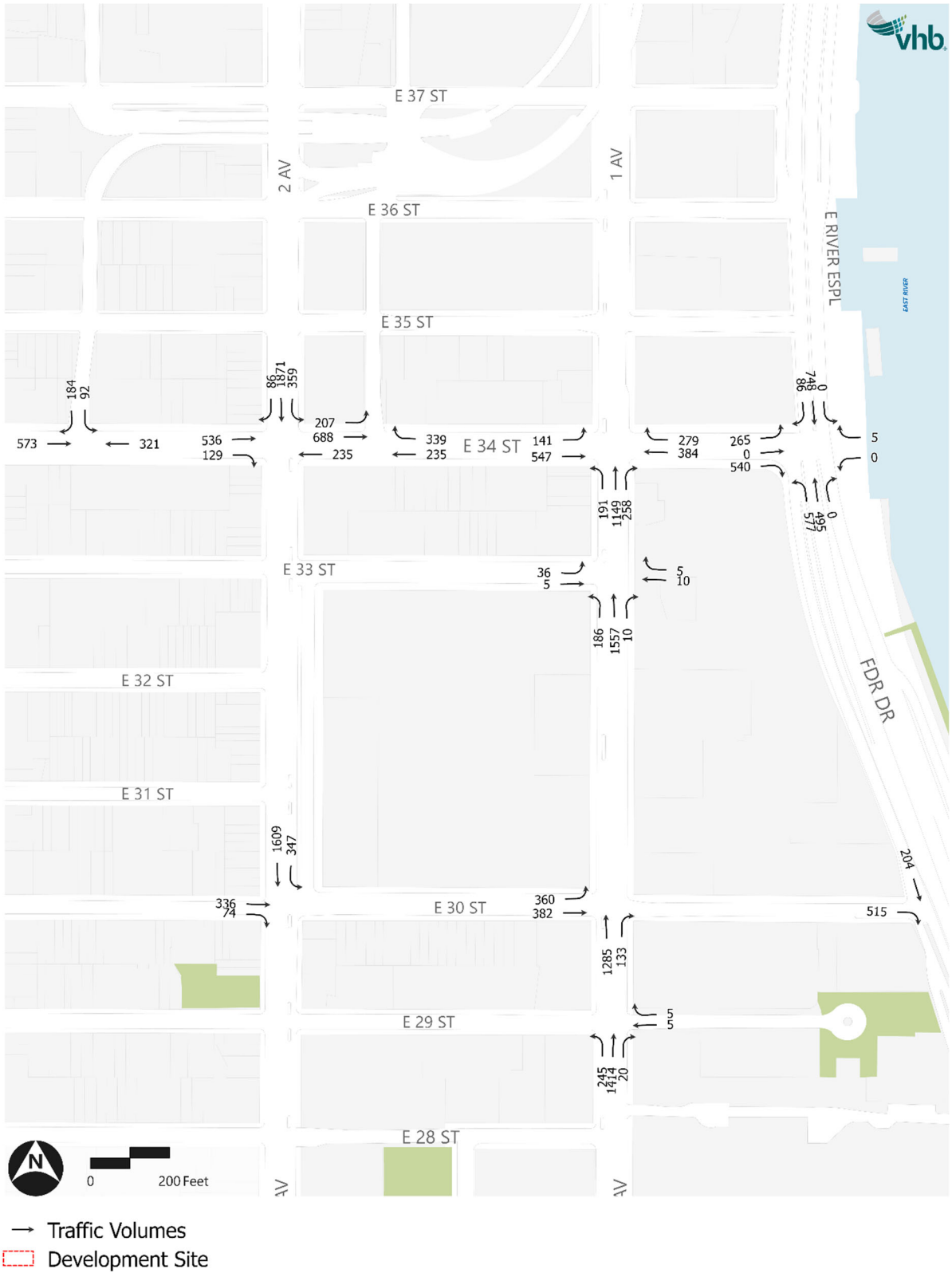
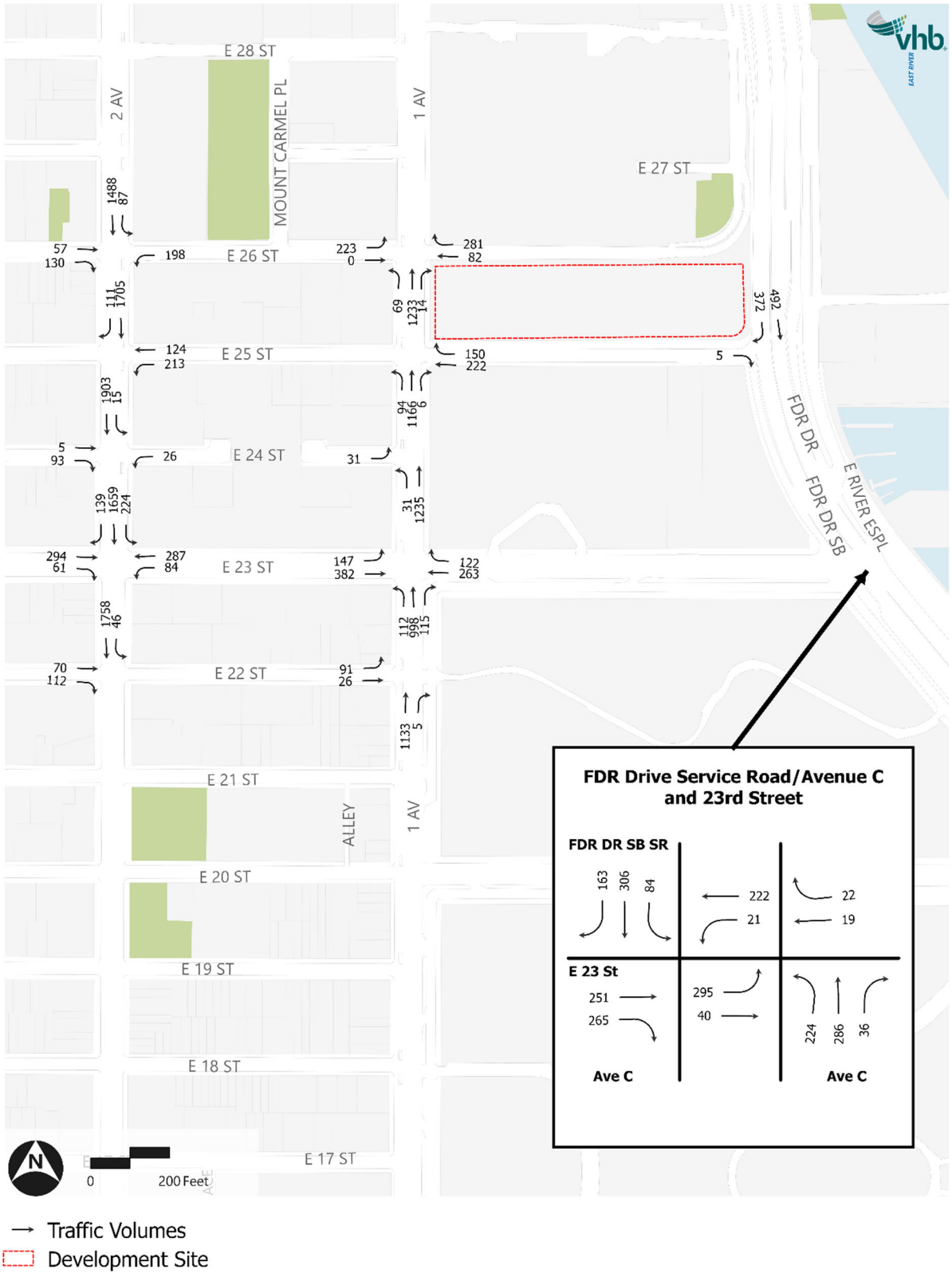


Figure 10-52 Year 2031 With-Action Traffic Volumes – PM Peak Hour (south side)



Levels of Service

Based on the traffic volume increments illustrated above, the 2031 With-Action traffic levels of service were determined for the 23 analysis locations. **Table 10-37** and **Table 10-38** provide an overview of the levels of service that characterize 2031 With-Action "overall" intersection conditions and individual traffic movements during the AM, midday, and PM peak hours, respectively. Detailed traffic levels of service comparing the No-Action and With-Action conditions during each peak hour are provided in **Table 10-39** through **Table 10-41**.

Table 10-37 Year 2031 With-Action Traffic Level of Service Summary – Overall Intersections

	No-Action			With Action		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Intersections at Overall LOS A/B/C	10	15	16	7	12	15
Intersections at Overall LOS D	5	6	2	4	6	2
Intersections at Overall LOS E	5	1	3	6	3	3
Intersections at Overall LOS F	3	1	2	6	2	3
Number of Significantly Impacted Intersections	-	-	-	15	13	8

Table 10-38 Year 2031 With-Action Traffic Level of Service Summary – Traffic Movements

	No-Action			With Action		
	AM Peak Hour	Midday Peak Hour	PM Peak Hour	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Traffic Movements at LOS A/B/C	53	54	60	46	51	58
Traffic Movements at LOS D	6	20	15	8	15	13
Traffic Movements at LOS E	16	10	9	14	15	10
Traffic Movements at LOS F	20	9	11	28	13	15
Number of Significantly Impacted Movements	-	-	-	24	22	16
Number of Individual Traffic Movements	95	93	95	96	94	96

Table 10-39 Year 2031 With-Action Traffic Level of Service Summary – AM Peak Hour

Intersection & Approach		2031 No-Action Mvt	V/C	Ctrl Delay[1]	LOS	2031 With-Action Mvt	V/C	Ctrl Delay[1]	LOS
SIGNALIZED INTERSECTIONS									
FDR Drive Southbound / Avenue C at East 23rd Street									
East 23rd Street	EB	TR	1.06	113.3	F	TR	1.08	111.3	F
	EB	R	1.06	115.5	F	R	1.07	117.7	F
	WB	L	0.29	29.8	C	L	0.29	29.3	C
	WB	T	0.33	87.7	F	T	0.37	87.9	F
FDR Dr SB	SB	LTR	1.07	101.6	F	LTR	1.09	100.7	F
Overall Intersection[2]		-	-	**103.0**	**F**	-	-	**102.1**	**F**
FDR Drive Southbound / Avenue C at East 23rd Street									
East 23rd Street	EB	L	1.06	89.3	F	L	1.06	88.6	F
	EB	TR	1.06	87.1	F	TR	1.09	86.1	F
	WB	LTR	0.08	15.1	B	LTR	0.08	15.1	B
Avenue C NB	NB	LTR	0.72	52.0	D	LTR	0.76	76.8	E
Overall Intersection		-	-	**66.7**	**E**	-	-	**79.5**	**E**
FDR Drive at East 34th Street									
East 34th Street	EB	L	0.94	59.6	E	L	1.09	87.1	F
	EB	LTR	0.94	58.7	E	LTR	1.01	61.9	E
	EB	R	0.94	34.8	C	R	0.99	39.2	D
	WB	LTR	0.02	30.2	C	LTR	0.02	30.2	C
FDR Dr NB	NB	L	1.23	156.8	F	L	1.22	151.4	F
	NB	LTR	1.22	150.5	F	LTR	1.23	155.6	F
FDR Dr SB	SB	LTR	1.05	73.2	E	LTR	1.13	102.4	F
Overall Intersection		-	-	**87.9**	**F**	-	-	**99.7**	**F**
First Avenue at East 22nd Street									
East 22nd Street	EB	LT	0.36	15.7	B	LT	0.41	14.6	B
First Avenue	NB	T	0.84	77.6	E	T	0.86	78.8	E
	NB	R	0.03	15.6	B	R	0.03	15.6	B
Overall Intersection		-	-	**69.2**	**E**	-	-	**69.5**	**E**

Table 10-39 Year 2031 With-Action Traffic Level of Service Summary – AM Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
First Avenue at East 23rd Street									
East 23rd Street	EB	L	0.97	60.2	E	L	1.17	121.6	F
	EB	T	0.46	16.7	B	T	0.47	16.9	B
	WB	T	0.58	17.9	B	T	0.58	17.0	B
	WB	R	1.05	102.1	F	R	1.28	183.4	F
First Avenue	NB	L	0.90	60.5	E	L	0.90	59.5	E
	NB	T	0.81	62.0	E	T	0.85	63.7	E
	NB	R	0.76	25.2	C	R	0.96	54.4	D
Overall Intersection		-	-	**46.5**	**D**	-	-	**61.0**	**E**
First Avenue at East 24th Street									
East 24th Street	EB	L	0.07	17.9	B	L	0.08	18.1	B
First Avenue	NB	LT	0.79	63.8	E	LT	0.85	65.4	E
Overall Intersection		-	-	**62.8**	**E**	-	-	**64.5**	**E**
First Avenue at East 25th Street									
East 25th Street	WB	T	0.44	20.1	C	T	0.46	20.4	C
	WB	R	0.74	33.4	C	R	1.33	194.4	F
First Avenue	NB	LT	0.90	33.6	C	LT	0.98	59.7	E
	NB	R	0.07	2.5	A	R	0.36	12.8	B
Overall Intersection		-	-	**31.4**	**C**	-	-	**80.4**	**F**
First Avenue and East 26th Street									
East 26th Street	EB	L	1.22	148.3	F	LT	1.58	299.6	F
Former East 26th Street	WB	TR	0.54	29.7	C	TR	0.66	33.6	C
First Avenue	NB	LTR	0.92	62.1	E	LT	1.04	60.6	E
	NB	R[2]	-	-	-	R	0.31	7.3	A
Overall Intersection		-	-	**72.2**	**E**	-	-	**91.2**	**F**

Table 10-39 Year 2031 With-Action Traffic Level of Service Summary – AM Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
First Avenue at East 29th Street									
East 29th Street	WB	TR	0.07	22.6	C	TR	0.07	22.6	C
First Avenue	NB	LT	1.13	69.2	E	LT	1.22	110.1	F
	NB	R	0.07	0.7	A	R	0.07	0.6	A
Overall Intersection		-	-	**67.7**	**E**	-	-	**107.7**	**F**
First Avenue at East 30th Street									
East 30th Street	EB	L	0.63	28.0	C	L	0.64	28.0	C
	EB	T	1.10	97.8	F	T	1.20	134.1	F
First Avenue	NB	T	0.79	11.8	B	T	0.84	35.2	D
	NB	R	0.89	14.3	B	R	1.11	68.7	E
Overall Intersection		-	-	**29.4**	**C**	-	-	**54.8**	**D**
First Avenue at East 33rd Street									
East 33rd Street	EB	L	0.20	20.5	C	L	0.20	20.5	C
	WB	TR	0.01	17.2	B	TR	0.01	17.2	B
First Avenue	NB	L	0.41	6.8	A	L	0.41	6.5	A
	NB	T	0.81	10.0	A	T	0.85	11.1	B
	NB	R	0.07	4.7	A	R	0.07	4.6	A
Overall Intersection		-	-	**9.9**	**A**	-	-	**10.8**	**B**
First Avenue at East 34th Street									
East 34th Street	EB	L	0.74	13.3	B	L	0.74	13.2	B
	EB	T	1.11	72.6	E	T	1.20	113.0	F
	WB	T	0.91	47.7	D	T	0.91	47.9	D
	WB	R	1.29	171.7	F	R	1.29	171.8	F
First Avenue	NB	L	0.37	9.1	A	L	0.42	9.8	A
	NB	T	0.72	10.4	B	T	0.75	11.4	B
	NB	R	0.84	35.8	D	R	0.91	61.4	E
Overall Intersection		-	-	**46.1**	**D**	-	-	**58.7**	**E**

Table 10-39 Year 2031 With-Action Traffic Level of Service Summary – AM Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Second Avenue at East 22nd Street									
East 22nd Street	EB	TR	0.85	60.0	E	TR	0.89	66.1	E
Second Avenue	SB	LT	0.78	10.8	B	LT	0.80	11.0	B
Overall Intersection		-	-	**17.9**	**B**	-	-	**19.3**	**B**
Second Avenue at East 23rd Street									
East 23rd Street	EB	T	1.08	113.9	F	T	1.13	128.4	F
	EB	R	0.34	48.8	D	R	0.34	47.9	D
	WB	L	1.13	169.1	F	L	1.22	199.7	F
	WB	T	1.07	114.5	F	T	1.07	114.4	F
Second Avenue	SB	L	1.12	111.8	F	L	1.20	139.9	F
	SB	T	0.70	6.3	A	T	0.72	6.2	A
	SB	R	0.56	8.7	A	R	0.62	10.3	B
Overall Intersection		-	-	**54.6**	**E**	-	-	**60.6**	**E**
Second Avenue at East 24th Street									
East 24th Street	EB	TR	0.47	31.0	C	TR	0.48	31.2	C
	WB	LT	0.16	24.8	C	LT	0.16	24.8	C
Second Avenue	SB	LT	0.73	9.3	A	LT	0.76	9.7	A
Overall Intersection		-	-	**11.4**	**B**	-	-	**11.7**	**B**
Second Avenue at East 25th Street									
East 25th Street	WB	LT	0.72	25.4	C	LT	0.72	25.5	C
Second Avenue	SB	T	0.70	13.3	B	T	0.73	15.0	B
	SB	R	0.40	11.1	B	R	0.48	14.3	B
Overall Intersection		-	-	**15.3**	**B**	-	-	**16.8**	**B**

Table 10-39 Year 2031 With-Action Traffic Level of Service Summary – AM Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Second Avenue at East 26th Street									
East 26th Street	EB	TR	0.59	30.7	C	TR	0.62	31.8	C
	WB	L	0.65	33.7	C	L	0.90	48.6	D
Second Avenue	SB	L	0.50	28.3	C	L	0.54	30.8	C
	SB	T	0.56	28.8	C	T	0.56	30.0	C
Overall Intersection		-	-	**29.5**	**C**	-	-	**32.4**	**C**
Second Avenue at East 30th Street									
East 30th Street	EB	T	0.97	73.8	E	T	1.01	84.7	F
	EB	R	0.34	30.4	C	R	0.34	30.4	C
Second Avenue	SB	L	0.56	18.4	B	L	0.59	19.2	B
	SB	T	0.52	11.3	B	T	0.53	11.3	B
Overall Intersection		-	-	**22.2**	**C**	-	-	**24.2**	**C**
Second Avenue at East 34th Street									
East 23rd Street	EB	T	0.70	27.6	C	T	0.76	29.4	C
	EB	R	0.88	62.4	E	R	0.97	80.6	F
	WB	LT	0.83	90.7	F	LT	0.85	88.3	F
Second Avenue	SB	L	0.35	15.0	B	L	0.35	15.1	B
	SB	T	0.96	35.4	D	T	0.97	37.4	D
	SB	R	0.89	60.6	E	R	0.89	60.6	E
Overall Intersection		-	-	**40.0**	**D**	-	-	**42.0**	**D**
Midtown Tunnel Entrance at East 34th Street									
East 34th Street	EB	L	0.44	29.4	C	L	0.44	29.9	C
	EB	T	1.13	93.2	F	T	1.21	125.4	F
	WB	T	1.09	118.6	F	T	1.11	121.2	F
	WB	R	0.75	60.3	E	R	0.82	65.8	E
Overall Intersection		-	-	**87.1**	**F**	-	-	**106.2**	**F**

Table 10-39 Year 2031 With-Action Traffic Level of Service Summary – AM Peak Hour

Intersection & Approach		2031 No-Action Mvt	V/C	Ctrl Delay[1]	LOS	2031 With-Action Mvt	V/C	Ctrl Delay[1]	LOS
Midtown Tunnel Exit at East 34th Street									
East 34th Street	EB	T	0.60	17.2	B	T	0.61	18.2	B
	WB	T	1.13	105.6	F	T	1.14	110.1	F
Midtown Tunnel Exit	SB	L	0.37	37.5	D	L	0.51	40.0	D
	SB	R	0.37	13.5	B	R	0.37	13.6	B
Overall Intersection		-	-	**49.2**	**D**	-	-	**50.9**	**D**
UNSIGNALIZED INTERSECTIONS									
FDR Drive Southbound at East 25th Street									
East 25th Street	EB	R	-	15.9	C	R	-	17.1	C
FDR Dr SB	SB	TR	-	0.0	A	TR	-	0.0	A
Overall Intersection		-	-	**0.3**	**A**	-	-	**0.2**	**A**
FDR Drive Southbound at East 30th Street									
East 30th Street	EB	R	-	17.6	C	R	-	35.8	E
FDR Dr SB	SB	TR	-	12.2	B	TR	-	16.9	C
Overall Intersection		-	-	**16.0**	**C**	-	-	**29.6**	**D**

[1] Control delay is measured in seconds per vehicle.
[2] Movement is not present under No-Action condition.
Denotes a significantly impacted movement

Table 10-40 Year 2031 With-Action Traffic Level of Service Summary – Midday Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
SIGNALIZED INTERSECTIONS									
FDR Drive Southbound / Avenue C at East 23rd Street									
East 23rd Street	EB	TR	0.97	58.1	E	TR	0.99	67.7	E
	EB	R	0.92	63.5	E	R	0.94	66.7	E
	WB	L	0.35	37.3	D	L	0.37	38.8	D
	WB	T	0.24	85.7	F	T	0.26	85.4	F
FDR Dr SB	SB	LTR	0.91	75.8	E	LTR	0.92	81.8	F
Overall Intersection[2]		-	-	**69.1**	**E**	-	-	**74.8**	**E**
FDR Drive Southbound / Avenue C at East 23rd Street									
East 23rd Street	EB	L	0.84	46.6	D	L	0.88	55.3	E
	EB	TR	0.85	49.5	D	TR	0.87	54.4	D
	WB	LTR	0.05	14.7	B	LTR	0.06	14.8	B
Avenue C NB	NB	LTR	0.54	22.1	C	LTR	0.56	22.8	C
Overall Intersection		-	-	**32.6**	**C**	-	-	**35.6**	**D**
FDR Drive at East 34th Street									
East 34th Street	EB	L	1.02	73.6	E	L	1.11	84.7	F
	EB	LTR	1.02	74.3	E	LTR	1.12	89.4	F
	EB	R	1.00	34.0	C	R	1.08	53.5	D
	WB	LTR	0.06	32.5	C	LTR	0.06	32.5	C
FDR Dr NB	NB	L	0.88	54.7	D	L	0.88	55.4	E
	NB	LTR	0.87	52.9	D	LTR	0.87	52.9	D
FDR Dr SB	SB	LTR	0.95	48.0	D	LTR	1.00	57.2	E
Overall Intersection		-	-	**49.6**	**D**	-	-	**59.5**	**E**
First Avenue at East 22nd Street									
East 22nd Street	EB	LT	0.28	26.1	C	LT	0.3	27.6	C
First Avenue	NB	T	0.74	53.7	D	T	0.77	64.1	E
	NB	R	0.01	15.4	B	R	0.01	15.4	B
Overall Intersection		-	-	**50.3**	**D**	-	-	**59.5**	**E**

Table 10-40 Year 2031 With-Action Traffic Level of Service Summary – Midday Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
First Avenue at East 23rd Street									
East 23rd Street	EB	L	0.89	48.9	D	L	1.01	66.0	E
	EB	T	0.40	18.1	B	T	0.41	17.8	B
	WB	T	0.37	30.1	C	T	0.38	30.9	C
	WB	R	1.06	122.3	F	R	1.33	217.6	F
First Avenue	NB	L	0.99	89.2	F	L	0.99	88.8	F
	NB	T	0.76	18.5	B	T	0.79	21.2	C
	NB	R	0.64	23.7	C	R	0.68	26.5	C
Overall Intersection		-	-	**33.8**	**C**	-	-	**44.1**	**D**
First Avenue at East 24th Street									
East 24th Street	EB	L	0.13	18.8	B	L	0.15	19.0	B
First Avenue	NB	LT	0.73	9.6	A	T	0.78	11.5	B
Overall Intersection		-	-	**10.0**	**B**	-	-	**11.8**	**B**
First Avenue at East 25th Street									
East 25th Street	WB	T	0.45	20.2	C	T	0.46	20.3	C
	WB	R	0.51	22.9	C	R	0.97	70.0	E
First Avenue	NB	LT	0.81	9.6	A	LT	0.87	12.8	B
	NB	R	0.08	7.2	A	R	0.29	13.1	B
Overall Intersection		-	-	**13.1**	**B**	-	-	**23.1**	**C**
First Avenue and East 26th Street									
East 26th Street	EB	L	1.20	147.0	F	LT	1.92	455.9	F
Former East 26th Street	WB	TR	0.47	27.9	C	TR	0.79	42.0	D
First Avenue	NB	LT	0.83	21.0	C	LT	0.92	62.7	E
	NB		-	-	-	R	0.20	10.3	B
Overall Intersection		-	-	**42.9**	**D**	-	-	**117.6**	**F**

Table 10-40 Year 2031 With-Action Traffic Level of Service Summary – Midday Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
First Avenue at East 29th Street									
East 29th Street	WB	TR	0.06	22.4	C	TR	0.06	22.5	C
First Avenue	NB	LT	0.93	54.5	D	LT	1.03	54.6	D
	NB	R	0.05	6.2	A	R	0.05	6.3	A
Overall Intersection		-	-	**53.1**	**D**	-	-	**53.4**	**D**
First Avenue at East 30th Street									
East 30th Street	EB	L	0.61	24.8	C	L	0.62	25.3	C
	EB	T	0.62	27.1	C	T	0.67	28.9	C
First Avenue	NB	T	0.92	58.9	E	T	1.01	67.6	E
	NB	R	0.79	36.2	D	R	0.95	37.7	D
Overall Intersection		-	-	**45.0**	**D**	-	-	**50.8**	**D**
First Avenue at East 33rd Street									
East 33rd Street	EB	L	0.17	19.9	B	L	0.17	19.9	B
	WB	TR	0.04	17.6	B	TR	0.04	17.6	B
First Avenue	NB	L	0.39	9.5	A	L	0.40	8.8	A
	NB	T	0.73	12.9	B	T	0.80	13.6	B
	NB	R	0.02	7.2	A	R	0.02	6.8	A
Overall Intersection		-	-	**12.7**	**B**	-	-	**13.2**	**B**
First Avenue at East 34th Street									
East 34th Street	EB	L	1.04	58.4	E	L	1.05	60.9	E
	EB	T	1.09	60.8	E	T	1.14	81.0	F
	WB	T	1.06	71.9	E	T	1.07	72.3	E
	WB	R	0.78	31.5	C	R	0.79	31.8	C
First Avenue	NB	L	0.36	4.4	A	L	0.47	7.1	A
	NB	T	0.66	4.7	A	T	0.69	6.3	A
	NB	R	0.61	7.8	A	R	0.72	12.6	B
Overall Intersection		-	-	**33.0**	**C**	-	-	**38.4**	**D**

Table 10-40 Year 2031 With-Action Traffic Level of Service Summary – Midday Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Second Avenue at East 22nd Street									
East 22nd Street	EB	TR	0.66	40.4	D	TR	0.69	42.5	D
Second Avenue	SB	LT	0.78	8.9	A	T	0.80	10.1	B
Overall Intersection		-	-	**12.8**	**B**	-	-	**14.2**	**B**
Second Avenue at East 23rd Street									
East 23rd Street	EB	**T**	0.95	55.3	E	T	0.98	62.0	E
	EB	**R**	0.41	22.1	C	R	0.41	22.3	C
	WB	**L**	0.98	104.0	F	L	1.04	122.5	F
	WB	**T**	0.94	55.0	D	T	0.94	54.9	D
Second Avenue	SB	**L**	1.09	103.8	F	L	1.17	127.7	F
	SB	**TR**	0.83	12.3	B	TR	0.87	15.0	B
Overall Intersection		-	-	**37.6**	**D**	-	-	**43.4**	**D**
Second Avenue at East 24th Street									
East 24th Street	EB	TR	0.37	28.3	C	TR	0.37	28.3	C
	WB	LT	0.14	24.3	C	LT	0.14	24.3	C
Second Avenue	SB	LT	0.71	8.2	A	T	0.74	8.6	A
Overall Intersection		-	-	**9.9**	**A**	-	-	**10.2**	**B**
Second Avenue at East 25th Street									
East 25th Street	WB	LT	0.77	31.1	C	LT	0.79	32.3	C
Second Avenue	SB	TR	0.76	16.2	B	TR	0.81	19.0	B
Overall Intersection		-	-	**19.0**	**B**	-	-	**21.5**	**C**

Table 10-40 Year 2031 With-Action Traffic Level of Service Summary – Midday Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Second Avenue at East 26th Street									
East 26th Street	EB	TR	0.66	33.9	C	TR	0.67	34.3	C
	WB	L	0.55	35.7	D	L	0.89	59.3	E
Second Avenue	SB	L	0.43	25.9	C	L	0.44	26.5	C
	SB	T	0.51	22.4	C	T	0.51	22.8	C
Overall Intersection		-	-	**25.4**	**C**	-	-	**28.8**	**C**
Second Avenue at East 30th Street									
East 30th Street	EB	T	0.79	45.6	D	T	0.82	48.9	D
	EB	R	0.63	42.3	D	R	0.63	42.3	D
Second Avenue	SB	L	0.61	19.4	B	L	0.64	20.2	C
	SB	T	0.47	10.7	B	T	0.47	10.7	B
Overall Intersection		-	-	**18.9**	**B**	-	-	**19.6**	**B**
Second Avenue at East 34th Street									
East 23rd Street	EB	T	0.75	43.8	D	T	0.78	44.4	D
	EB	R	0.67	48.8	D	R	0.70	49.5	D
	WB	LT	0.72	51.3	D	LT	0.74	58.7	E
Second Avenue	SB	L	0.29	14.2	B	L	0.29	14.3	B
	SB	T	0.78	21.8	C	T	0.78	22.1	C
	SB	R	0.30	16.1	B	R	0.30	16.1	B
Overall Intersection		-	-	**29.5**	**C**	-	-	**30.8**	**C**
Midtown Tunnel Entrance at East 34th Street									
East 34th Street	EB	L	0.55	41.4	D	L	0.55	42.1	D
	EB	T	1.11	86.4	F	T	1.16	103.5	F
	WB	T	1.09	120.6	F	T	1.13	127.7	F
	WB	R	0.98	93.6	F	R	1.14	133.1	F
Overall Intersection		-	-	**87.9**	**F**	-	-	**104.5**	**F**

Table 10-40 Year 2031 With-Action Traffic Level of Service Summary – Midday Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Midtown Tunnel Exit at East 34th Street									
East 34th Street	EB	T	0.68	30.2	C	T	0.69	31.9	C
	WB	T	0.84	27.2	C	T	0.86	28.4	C
Midtown Tunnel Exit	SB	L	0.29	36.5	D	L	0.32	36.9	D
	SB	R	0.30	12.6	B	R	0.32	12.9	B
Overall Intersection		-	-	**27.5**	**C**	-	-	**28.7**	**C**
UNSIGNALIZED INTERSECTIONS									
FDR Drive Southbound at East 25th Street									
East 25th Street	EB	R	-	14.5	B	R	-	15.1	C
FDR Dr SB	SB	TR	-	0.0	A	TR	-	0.0	A
Overall Intersection		-	-	**0.3**	**A**	-	-	**0.3**	**A**
FDR Drive Southbound at East 30th Street									
East 30th Street	EB	R	-	10.3	B	R	-	11.9	B
FDR Dr SB	SB	TR	-	9.3	A	TR	-	10.1	A
Overall Intersection		-	-	**10.1**	**B**	-	-	**11.4**	**B**

[1] Control delay is measured in seconds per vehicle.
[2] Movement is not present under No-Action condition.
Denotes a significantly impacted movement

Table 10-41 Year 2031 With-Action Traffic Level of Service Summary – PM Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
SIGNALIZED INTERSECTIONS									
FDR Drive Southbound / Avenue C at East 23rd Street									
East 23rd Street	EB	TR	0.86	39.7	D	TR	0.88	41.6	D
	EB	R	0.77	45.6	D	R	0.78	46.9	D
	WB	L	0.17	24.9	C	L	0.18	24.9	C
	WB	T	0.25	85.3	F	T	0.27	84.5	F
FDR Dr SB	SB	LTR	1.00	105.8	F	LTR	1.01	105.8	F
Overall Intersection[2]		-	-	**76.0**	**E**	-	-	**76.4**	**E**
FDR Drive Southbound / Avenue C at East 23rd Street									
East 23rd Street	EB	L	0.71	43.7	D	L	0.74	49.6	D
	EB	TR	0.71	46.0	D	TR	0.73	51.9	D
	WB	LTR	0.06	14.7	B	LTR	0.09	15.0	B
Avenue C NB	NB	LTR	0.53	21.7	C	LTR	0.54	22.0	C
Overall Intersection		-	-	**30.1**	**C**	-	-	**32.3**	**C**
FDR Drive at East 34th Street									
East 34th Street	EB	L	0.85	47.0	D	L	0.93	55.3	E
	EB	LTR	0.85	47.8	D	LTR	0.93	56.9	E
	EB	R	0.84	14.7	B	R	0.93	21.6	C
	WB	LTR	0.03	32.0	C	LTR	0.03	32.0	C
FDR Dr NB	NB	L	1.42	230.9	F	L	1.42	228.9	F
	NB	LTR	1.41	224.2	F	LTR	1.42	231.3	F
FDR Dr SB	SB	LTR	0.83	34.7	C	LTR	0.86	36.8	D
Overall Intersection		-	-	**113.4**	**F**	-	-	**114.3**	**F**
First Avenue at East 22nd Street									
East 22nd Street	EB	LT	0.28	26.4	C	LT	0.28	26.7	C
First Avenue	NB	T	0.80	76.0	E	T	0.81	76.2	E
	NB	R	0.01	15.4	B	R	0.01	15.4	B
Overall Intersection		-	-	**70.9**	**E**	-	-	**71.0**	**E**

Table 10-41 Year 2031 With-Action Traffic Level of Service Summary – PM Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
First Avenue at East 23rd Street									
East 23rd Street	EB	L	0.94	54.3	D	L	1.02	68.1	E
	EB	T	0.36	19.6	B	T	0.37	19.2	B
	WB	T	0.42	31.6	C	T	0.43	32.3	C
	WB	R	0.77	63.4	E	R	0.99	108.9	F
First Avenue	NB	L	0.82	52.6	D	L	0.82	52.7	D
	NB	T	0.83	22.7	C	T	0.84	24.6	C
	NB	R	0.54	20.5	C	R	0.57	21.8	C
Overall Intersection		-	-	**29.2**	**C**	-	-	**34.1**	**C**
First Avenue at East 24th Street									
East 24th Street	EB	L	0.07	17.9	B	L	0.08	18.0	B
First Avenue	NB	LT	0.75	8.0	A	T	0.77	9.1	A
Overall Intersection		-	-	**8.3**	**A**	-	-	**9.3**	**A**
First Avenue at East 25th Street									
East 25th Street	WB	T	0.39	19.0	B	T	0.39	19.1	B
	WB	R	0.32	18.6	B	R	0.54	25.7	C
First Avenue	NB	LT	0.87	10.8	B	LT	0.9	12.5	B
	NB	R	0.02	7.4	A	R	0.05	8.5	A
Overall Intersection		-	-	**12.6**	**B**	-	-	**14.7**	**B**
First Avenue and East 26th Street									
East 26th Street	EB	L	1.08	116.7	F	LT	2.03	514.4	F
Former East 26th Street	WB	TR	0.61	31.5	C	TR	0.92	57.9	E
First Avenue	NB	LT	0.76	10.7	B	LT	0.80	38.7	D
	NB	R[2]	-	-	-	R	0.09	8.3	A
Overall Intersection		-	-	**26.9**	**C**	-	-	**98.0**	**F**

Table 10-41 Year 2031 With-Action Traffic Level of Service Summary – PM Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
First Avenue at East 29th Street									
East 29th Street	WB	TR	0.03	22.1	C	TR	0.03	22.1	C
First Avenue	NB	LT	0.91	12.1	B	LT	1.00	21.9	C
	NB	R	0.06	6.2	A	R	0.06	6.3	A
Overall Intersection		-	-	**12.1**	**B**	-	-	**21.7**	**C**
First Avenue at East 30th Street									
East 30th Street	EB	L	0.60	26.5	C	L	0.61	26.7	C
	EB	T	1.04	79.3	E	T	1.07	86.7	F
First Avenue	NB	T	0.65	8.9	A	T	0.72	10.1	B
	NB	R	0.50	10.7	B	R	0.59	10.6	B
Overall Intersection		-	-	**25.4**	**C**	-	-	**26.6**	**C**
First Avenue at East 33rd Street									
East 33rd Street	EB	L	0.14	19.2	B	L	0.14	19.2	B
	WB	TR	0.04	17.5	B	TR	0.04	17.5	B
First Avenue	NB	L	0.37	8.5	A	L	0.38	8.1	A
	NB	T	0.81	13.2	B	T	0.89	16.4	B
	NB	R	0.03	5.9	A	R	0.03	5.7	A
Overall Intersection		-	-	**12.8**	**B**	-	-	**15.5**	**B**
First Avenue at East 34th Street									
East 34th Street	EB	L	1.04	82.0	F	L	1.04	82.1	F
	EB	T	1.02	49.8	D	T	1.05	71.6	E
	WB	T	1.09	68.4	E	T	1.09	70.5	E
	WB	R	1.40	206.8	F	R	1.41	212.9	F
First Avenue	NB	L	0.43	10.0	A	L	0.57	12.0	B
	NB	T	0.78	12.1	B	T	0.80	13.3	B
	NB	R	0.59	12.6	B	R	0.74	17.6	B
Overall Intersection		-	-	**48.9**	**D**	-	-	**53.1**	**D**

Table 10-41 Year 2031 With-Action Traffic Level of Service Summary – PM Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Second Avenue at East 22nd Street									
East 22nd Street	EB	TR	0.71	44.9	D	TR	0.72	45.2	D
Second Avenue	SB	LT	0.93	15.6	B	T	0.94	18.2	B
Overall Intersection		-	-	**18.6**	**B**	-	-	**20.9**	**C**
Second Avenue at East 23rd Street									
East 23rd Street	EB	T	1.08	92.7	F	T	1.1	100.7	F
	EB	R	0.37	22.0	C	R	0.37	22.2	C
	WB	L	0.98	104.3	F	L	1.03	119.2	F
	WB	T	0.96	59.6	E	T	0.97	60.1	E
Second Avenue	SB	L	0.96	62.0	E	L	1.02	76.1	E
	SB	T	0.87	17.4	B	T	0.89	22.6	C
	SB	R	0.53	7.9	A	R	0.58	9.0	A
Overall Intersection		-	-	**36.8**	**D**	-	-	**42.6**	**D**
Second Avenue at East 24th Street									
East 24th Street	EB	TR	0.34	27.3	C	TR	0.34	27.3	C
	WB	LT	0.14	24.2	C	LT	0.14	24.2	C
Second Avenue	SB	LT	0.82	10.2	B	T	0.84	11.1	B
Overall Intersection		-	-	**11.4**	**B**	-	-	**12.2**	**B**
Second Avenue at East 25th Street									
East 25th Street	WB	LT	0.76	27.7	C	LT	0.78	29.6	C
Second Avenue	SB	T	0.77	15.2	B	T	0.79	16.8	B
	SB	R	0.33	10.3	B	R	0.4	12.2	B
Overall Intersection		-	-	**17.0**	**B**	-	-	**18.7**	**B**

Table 10-41 Year 2031 With-Action Traffic Level of Service Summary – PM Peak Hour

		2031 No-Action				2031 With-Action			
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**
Second Avenue at East 26th Street									
East 26th Street	EB	TR	0.48	27.9	C	TR	0.49	28.0	C
	WB	L	0.65	39.6	D	L	0.82	51.4	D
Second Avenue	SB	L	0.28	20.5	C	L	0.28	20.6	C
	SB	T	0.61	63.7	E	T	0.61	63.7	E
Overall Intersection		-	-	**55.9**	**E**	-	-	**56.8**	**E**
Second Avenue at East 30th Street									
East 30th Street	EB	T	0.99	76.7	E	T	1.01	81.8	F
	EB	R	0.34	29.9	C	R	0.35	30.1	C
Second Avenue	SB	L	0.49	16.6	B	L	0.50	16.8	B
	SB	T	0.51	11.1	B	T	0.52	11.1	B
Overall Intersection		-	-	**22.7**	**C**	-	-	**23.6**	**C**
Second Avenue at East 34th Street									
East 23rd Street	EB	T	0.67	39.0	D	T	0.70	38.9	D
	EB	R	0.68	50.6	D	R	0.69	50.2	D
	WB	LT	0.61	32.8	C	LT	0.62	34.4	C
Second Avenue	SB	L	0.29	14.1	B	L	0.29	14.2	B
	SB	T	0.97	36.1	D	T	0.97	36.6	D
	SB	R	0.33	17.1	B	R	0.33	17.1	B
Overall Intersection		-	-	**33.9**	**C**	-	-	**34.3**	**C**
Midtown Tunnel Entrance at East 34th Street									
East 34th Street	EB	L	0.47	31.6	C	L	0.48	34.4	C
	EB	T	0.93	77.7	E	T	0.96	82.1	F
	WB	T	1.09	120.7	F	T	1.12	122.7	F
	WB	R	1.10	118.9	F	R	1.26	171.7	F
Overall Intersection		-	-	**87.2**	**F**	-	-	**102.3**	**F**

Table 10-41 Year 2031 With-Action Traffic Level of Service Summary – PM Peak Hour

Intersection & Approach		2031 No-Action Mvt	V/C	Ctrl Delay[1]	LOS	2031 With-Action Mvt	V/C	Ctrl Delay[1]	LOS
Midtown Tunnel Exit at East 34th Street									
East 34th Street	EB	T	0.55	15.3	B	T	0.56	15.8	B
	WB	T	0.73	21.2	C	T	0.74	21.6	C
Midtown Tunnel Exit	SB	L	0.28	36.5	D	L	0.31	36.9	D
	SB	R	0.29	12.6	B	R	0.31	12.9	B
Overall Intersection		-	-	**18.4**	**B**	-	-	**19.0**	**B**
UNSIGNALIZED INTERSECTIONS									
FDR Drive Southbound at East 25th Street									
East 25th Street	EB	R	-	13.6	B	R	-	13.9	B
FDR Dr SB	SB	TR	-	0.0	A	TR	-	0.0	A
Overall Intersection		-	-	**0.1**	**A**	-	-	**0.1**	**A**
FDR Drive Southbound at East 30th Street									
East 30th Street	EB	R	-	11.6	B	R	-	13.0	B
FDR Dr SB	SB	TR	-	10.2	B	TR	-	11.0	B
Overall Intersection		-	-	**11.2**	**B**	-	-	**12.4**	**B**

[1] Control delay is measured in seconds per vehicle.
[2] Movement is not present under No-Action condition.
Denotes a significantly impacted movement

The summary overview of 2031 With-Action condition indicates that:

- In the AM peak hour, six intersections would operate at LOS E and six intersections would operate at LOS F, compared to five intersections at LOS E and three intersections at LOS F in the No-Action condition. Forty-two individual traffic movements out of 96 total traffic movements would operate at LOS E or LOS F, compared to 36 out of 95 traffic movements in the No-Action conditions.
- In the midday peak hour, three intersections would operate at LOS E and two intersections would operate at LOS F, compared to one intersection at LOS E and one intersection at LOS F in the No-Action condition. Twenty-eight individual traffic movements would operate at LOS E or LOS F, compared to 19 traffic movements in the No-Action condition.
- In the PM peak hour, three intersections operate would at LOS E and three intersections would operate at LOS F, compared to three intersections at LOS E and two intersections at LOS F in the No-Action condition. Twenty-five individual traffic movements would operate at LOS E or LOS F, compared to 20 in the No-Action condition.

Traffic movements that operate at unacceptable levels of service under the No-Action condition would continue to do so under the With-Action condition; additional movements that would be expected to operate at unacceptable levels of service as a result of the Proposed Project are listed below.

- FDR Drive / Avenue C Northbound and East 23rd Street
  - Eastbound 23rd Street left-turn movement (midday)
  - Northbound Avenue C shared left-through-right movement (AM)
- FDR Drive and East 34th Street
  - Eastbound 34th Street left-turn movement (PM)
  - Eastbound 34th Street shared left-through-right movement (PM)
  - Northbound FDR Drive left-turn movement (midday)
  - Southbound FDR Drive shared left-through-right movement (midday)
- First Avenue and East 22nd Street
  - Northbound First Avenue through movement (midday)
- First Avenue and East 23rd Street
  - Eastbound 23rd Street left-turn movement (midday and PM)
- First Avenue and East 25th Street
  - Westbound 25th Street right-turn movement (AM and midday)
  - Northbound First Avenue shared left-through movement (AM)
- First Avenue and East 26th Street
  - Westbound 26th Street shared through-right movement (PM)
  - Northbound First Avenue shared left-through movement (midday)
- First Avenue and East 30th Street
  - Northbound First Avenue right-turn movement (AM)
- First Avenue and East 34th Street
  - Eastbound 34th Street through movement (PM)

- Northbound First Avenue right-turn movement (AM)

› Second Avenue and East 26th Street
- East 26th Street Westbound left-turn movement (midday)

› Second Avenue and East 34th Street
- Westbound 34th Street shared left-through movement (midday)

› FDR Drive and East 30th Street
- Eastbound 30th Street right-turn movement (AM)

Of the 23 intersections analyzed, the Proposed Project would result in significant adverse traffic impacts at 15 intersections (24 of 96 traffic movements) during the weekday AM peak hour, 13 intersections (22 of 94 traffic movements) during the weekday midday peak hour, and eight intersections (16 of 96 traffic movements) during the weekday PM peak hour. The significantly impacted traffic movements are identified below:

› FDR Drive Southbound and East 23rd Street
- Eastbound 23rd Street shared through-right movement (midday)
- Southbound FDR Drive shared left-through-right movement (midday)

› FDR Drive / Avenue C Northbound and East 23rd Street
- Eastbound 23rd Street left-turn movement (midday)
- Northbound Avenue C shared left-through-right movement (AM)

› FDR Drive and East 34th Street
- Eastbound 34th Street left-turn movement (AM, midday, and PM)
- Eastbound 34th Street shared left-through-right movement (midday and PM)
- Northbound FDR Drive shared left-through-right movement (AM and PM)
- Southbound FDR Drive shared left-through-right movement (AM and midday)

› First Avenue and East 22nd Street
- Northbound First Avenue through movement (midday)

› First Avenue and East 23rd Street
- Eastbound 23rd Street left-turn movement (AM, midday, and PM)
- Westbound 23rd Street right-turn movement (AM, midday, and PM)

› First Avenue and East 25th Street
- Westbound 25th Street right-turn movement (AM and midday)
- Northbound First Avenue shared left-through movement (AM)

› First Avenue and East 26th Street
- Eastbound 26th Street shared left-through movement (AM, midday, and PM)
- Westbound 26th Street shared through-right movement (PM)
- Northbound First Avenue shared left-through movement (midday)

› First Avenue and East 29th Street
- Northbound First Avenue shared left-through movement (AM)

› First Avenue and East 30th Street

- Eastbound 30th Street through movement (AM and PM)
- Northbound First Avenue through movement (midday)
- Northbound First Avenue right-turn movement (AM)

› First Avenue and East 34th Street
- Eastbound 34th Street through movement (AM, midday, and PM)
- Westbound 34th Street right-turn movement (PM)
- Northbound First Avenue right-turn movement (AM)

› Second Avenue and East 22nd Street
- Eastbound 22nd Street shared through-right movement (AM)

› Second Avenue and East 23rd Street
- Eastbound 23rd Street through movement (AM, midday, and PM)
- Westbound 23rd Street left-turn movement (AM, midday, and PM)
- Southbound Second Avenue left-turn movement (AM, midday and PM)

› Second Avenue and East 26th Street
- Westbound 26th Street through movement (midday)

› Second Avenue and East 30th Street
- Eastbound 30th Street through movement (AM and PM)

› Second Avenue and East 34th Street
- Eastbound 34th Street right-turn movement (AM)
- Westbound 34th Street shared left-through movement (midday)

› East 34th Street at Queens Midtown Tunnel Entrance
- Eastbound 34th Street through movement (AM, midday and PM)
- Westbound 34th Street through movement (midday)
- Westbound 34th Street right-turn movement (AM, midday, and PM)

› East 34th Street at Queens Midtown Tunnel Exit
- Westbound 34th Street through movement (AM)

› FDR Drive and East 30th Street
- Eastbound 30th Street right-turn movement (AM)

The identification and evaluation of traffic capacity improvements needed to mitigate potential significant adverse traffic impacts created by the Proposed Projected are presented in **Chapter 16, Mitigation**.

Parking

The Proposed Project would provide 50 on-site parking spaces which would be used by OCME and 175 on-site parking spaces which would be used by academic higher education and high school staff. Access to the on-site parking would be provided from the former East 26th Street. **Table 10-42** below shows the project's hourly weekday parking demand. The peak weekday project-generated parking demand was determined to be 488 parking spaces during the 10 AM to 11 AM hour.

Table 10-42 Projected Weekday Parking Demand

Hour Beginning	Life Sciences	High School (Staff)	Academic – Higher Education	Ambulatory Care (Staff)	Ambulatory Care (Patients and Visitors)	OCME	Brookdale Campus	Local Retail	Total Demand
12 AM	0	0	0	0	0	10	0	0	**10**
1 AM	0	0	0	0	0	10	-1	0	**9**
2 AM	0	0	0	0	0	10	-1	0	**9**
3 AM	0	0	0	0	0	10	-1	0	**9**
4 AM	0	0	0	1	0	10	-1	0	**10**
5 AM	0	0	0	3	0	10	-1	0	**12**
6 AM	0	0	0	6	0	10	0	0	**16**
7 AM	13	4	26	16	7	10	-2	0	**74**
8 AM	157	23	62	29	16	19	-4	0	**302**
9 AM	273	23	91	39	29	19	-11	0	**463**
10 AM	254	23	122	45	43	19	-18	0	**488**
11 AM	225	23	132	45	47	19	-20	0	**471**
12 PM	222	23	129	45	52	19	-21	0	**469**
1 PM	216	23	119	44	52	19	-20	0	**453**
2 PM	216	23	110	42	51	19	-18	0	**443**
3 PM	228	4	93	31	49	19	-16	0	**408**
4 PM	146	0	49	21	41	10	-12	0	**255**
5 PM	70	0	42	11	30	10	-12	0	**151**
6 PM	4	0	22	0	15	10	-10	0	**41**
7 PM	1	0	11	0	6	10	-9	0	**19**
8 PM	0	0	2	0	1	10	-7	0	**6**
9 PM	0	0	0	0	0	10	-6	0	**4**
10 PM	0	0	0	0	0	10	-3	0	**7**
11 PM	0	0	0	0	0	18	-1	0	**17**

The parking demand from OCME would be accommodated with the proposed 50 on-site parking spaces. For conservative analysis purposes, the analysis assumed that parking would not be provided on-site for the academic staff use and that the parking demand for these uses would need to park off-site. The peak off-site parking demand would be 469 spaces which could be accommodated by the 2,958 off-site parking spaces available in the study area. During the late morning/early morning peak period, it is expected that off-site parking facilities would be 97 percent occupied.

Subways

The Proposed Project would generate 2,019 subway trips (2,019 "ins" and no "outs") during the AM commuter peak hour and 1,249 subway trips (449 "ins" and 800 "outs") during the PM commuter peak hour. Approximately 60 percent of these trips were assigned to the 23rd Street subway station

and approximately 25 percent of trips were assigned to the 28th Street subway station. Approximately five percent of these trips were assigned to the 33rd Street subway station, approximately five percent of these trips were assigned to the First Street and Third Street L train Stations, and approximately five percent of these trips were assigned to other subway stations along 23rd Street. The approximately 15 percent of subways trips that were assigned to subway stations other than the 23rd Street Station and 28th Street Station were determined would not exceed the *CEQR Technical Manual* thresholds for analysis at those stations.

Subway Station Elements

Table 10-43 shows the levels of service of the fare control elements in the With-Action condition compared to the No-Action condition in the AM and PM peak hours. At both the 28th Street and 23rd Street subway stations, the fare controls areas would operate at acceptable levels of service in the With-Action during the AM and PM peak hours similar to the No-Action condition.

Table 10-44 and **Table 10-45** show the levels of service of the stairway elements in the With-Action condition compared to the No-Action condition in the AM and PM peak hours. The calculated width increment threshold (WIT) for stairs is shown when the stairs exceed the criteria for significant adverse impacts.

At the 28th Street station in the AM peak hour, there are five stairs that would operate at an LOS D or worse in the With-Action condition (compared to four stairs in the No-Action condition) and three of those stairs show a WIT that indicates significant adverse impacts (O4A/O4B, O5A/O5B, and P2). At the 23rd Street station in the AM peak hour, there are five stairs that would operate at an LOS D or worse in the No-Action condition and the same five stairs would continue to operate at an LOS D or worse in the With-Action condition. All five stairs show a WIT that indicates significant adverse impacts in the With-Action condition (S7, S5, P5, S8A/S8B, and P8A/P8B).

At the 28th Street station in the PM peak hour, there are five stairs that would operate at an LOS D or worse in the No-Action condition and the same five stairs would continue to operate at an LOS D or worse in the With-Action condition. Three of the stairs show a WIT that indicates significant adverse impacts in the With-Action condition (O4A/O4B, O5A/O5B, and P2). At the 23rd Street station in the PM peak hour, there are five stairs that would operate at an LOS D or worse in the No-Action condition and the same five stairs would operate at an LOS D or worse in the With-Action condition. Two of those five stairs show a WIT that indicates significant adverse impacts in the With-Action condition (S8A/S8B and P8A/P8B).

Table 10-43 No-Action vs. With-Action Subway Station Level of Service – Fare Control Areas

Peak Hour	Control Element	Pedestrian Volume (15-min) In	Pedestrian Volume (15-min) Out	Surging Factor	Friction Factor	No-Action v/c Ratio	No-Action LOS	With-Action v/c Ratio	With-Action LOS
AM	28th Street Downtown 7 Turnstiles	440	964	0.75	0.90	0.47	B	0.48	B
	28th Street Uptown 6 Turnstiles	928	1,184	0.75	0.90	0.83	C	0.86	C
	NY Life Insurance Downtown 4 Turnstiles	392	58	0.75	0.90	0.24	A	0.29	A
	23rd Street Downtown 6 Turnstiles	300	1,427	0.75	0.90	0.61	B	0.68	B
	23rd Street Uptown 6 Turnstiles	554	1,036	0.75	0.90	0.57	B	0.64	B
PM	28th Street Downtown 7 Turnstiles	783	707	0.75	0.90	0.52	B	0.53	B
	28th Street Uptown 6 Turnstiles	1,308	680	0.75	0.90	0.82	C	0.84	C
	NY Life Insurance Downtown 4 Turnstiles	255	77	0.75	0.90	0.20	A	0.21	A
	23rd Street Downtown 6 Turnstiles	1,167	785	0.75	0.90	0.77	C	0.82	C
	23rd Street Uptown 6 Turnstiles	1,539	682	0.75	0.90	0.89	C	0.94	C

Note:
Methodology based on *2021 CEQR Technical Manual* guidelines
Surging factors only apply to exiting volumes. The surge factor for entry volumes is 1.0.

Table 10-44 No-Action vs. With-Action Subway Station Level of Service – Stairways – AM Peak Hour

Stairway	Effective Width (ft.)	Pedestrian Volume (15-min)		Surging Factor		Friction Factor	No-Action		With-Action		
		Down	Up	Down	Up		v/c Ratio	LOS	v/c Ratio	LOS	WIT
28th Street Station – Downtown Track Stairs											
O1A/O1B	7.1	133	273	1.00	0.75	0.90	0.52	B	0.52	B	
O2A/O2B	6.8	133	273	1.00	0.75	0.90	0.54	B	0.54	B	
O4A/O4B	8.4	306	692	1.00	0.75	0.90	1.04	D	1.08	D	13.12*
O5A/O5B	8.4	306	692	1.00	0.75	0.90	1.04	D	1.08	D	13.12*
28th Street Station – Uptown Track Stairs											
S5	3.3	59	171	1.00	0.75	0.90	0.64	B	0.64	B	
S6	3.3	166	175	1.00	0.75	0.90	0.90	C	0.90	C	
P3	7.4	224	346	1.00	0.75	0.90	0.69	B	0.69	B	
S4	3.3	121	260	1.00	0.75	0.90	0.94	C	1.05	D	1.97
S2	3.3	584	578	1.00	0.75	0.90	2.93	F	3.04	F	1.34
P2	7.9	704	838	1.00	0.75	0.90	1.61	E	1.71	F	4.98*
23rd Street Station – Downtown Track Stairs											
O5A/O5B	10.4	160	510	1.00	0.75	0.90	0.54	B	0.60	B	
P9A/P9B	10.6	160	510	1.00	0.75	0.90	0.53	B	0.59	B	
S7	3.3	38	522	1.00	0.75	0.90	1.55	E	1.65	E	2.32*
P7F/P7E	8.2	38	522	1.00	0.75	0.90	0.63	B	0.66	B	
S5	3.3	101	395	1.00	0.75	0.90	1.13	D	1.41	E	9.02*
P5	3.3	101	395	1.00	0.75	0.90	1.13	D	1.41	E	9.02*
23rd Street Station - Uptown Track Stairs											
S8A/S8B	6.1	370	680	1.00	0.75	0.90	1.45	E	1.55	E	4.51*
P8A/P8B	5.9	370	680	1.00	0.75	0.90	1.50	E	1.60	E	4.37*
S6	4.8	123	287	1.00	0.75	0.90	0.53	B	0.78	C	
S10	4.0	61	69	1.00	0.75	0.90	0.28	A	0.28	A	
P6A/P6B	9.1	184	357	1.00	0.75	0.90	0.40	A	0.54	B	

Note:
Methodology based on *2021 CEQR Technical Manual* guidelines
* Denotes a significant adverse impact

Table 10-45 No-Action vs. With-Action Subway Station Level of Service – Stairways – PM Peak Hour

Stairway	Effective Width (ft.)	Pedestrian Volume (15-min)		Surging Factor		Friction Factor	No-Action		With-Action		
		Down	Up	Down	Up		v/c Ratio	LOS	v/c Ratio	LOS	WIT
28th Street Station – Downtown Track Stairs											
O1A/O1B	7.1	246	168	1.00	0.75	0.90	0.49	B	0.49	B	
O2A/O2B	6.8	246	168	1.00	0.75	0.90	0.51	B	0.51	B	
O4A/O4B	8.4	537	539	1.00	0.75	0.90	1.07	D	1.11	D	10.52*
O5A/O5B	8.4	537	539	1.00	0.75	0.90	1.07	D	1.11	D	10.52*
28th Street Station – Uptown Track Stairs											
S5	3.3	143	71	1.00	0.75	0.90	0.53	B	0.53	B	
S6	3.3	126	142	1.00	0.75	0.90	0.71	C	0.71	C	
P3	7.4	270	213	1.00	0.75	0.90	0.55	B	0.55	B	
S4	3.3	461	115	1.00	0.75	0.90	1.32	D	1.38	E	1.72
S2	3.3	580	352	1.00	0.75	0.90	2.30	F	2.36	F	1.05
P2	7.9	1,039	469	1.00	0.75	0.90	1.51	E	1.56	E	3.12*
23rd Street Station - Downtown Track Stairs											
O5A/O5B	10.4	697	248	1.00	0.75	0.90	0.67	B	0.73	C	
P9A/P9B	10.6	697	248	1.00	0.75	0.90	0.65	B	0.72	C	
S7	3.3	139	380	1.00	0.75	0.90	1.45	E	1.45	E	0.00
P7F/P7E	8.2	139	380	1.00	0.75	0.90	0.58	B	0.58	B	
S5	3.3	332	159	1.00	0.75	0.90	1.14	D	1.22	D	2.30
P5	3.3	332	159	1.00	0.75	0.90	1.14	D	1.22	D	2.30
23rd Street Station - Uptown Track Stairs											
S8A/S8B	6.1	1,042	445	1.00	0.75	0.90	1.87	F	1.99	F	4.55*
P8A/P8B	5.9	1,042	445	1.00	0.75	0.90	1.94	F	2.05	F	4.40*
S6	4.8	253	141	1.00	0.75	0.90	0.63	B	0.68	B	
S10	4.0	245	95	1.00	0.75	0.90	0.69	B	0.69	B	
P6A/P6B	9.1	497	238	1.00	0.75	0.90	0.63	B	0.66	B	

Note:
Methodology based on *2021 CEQR Technical Manual* guidelines
* Denotes a significant adverse impact

Buses

The Proposed Project would generate 552 bus trips (542 "ins" and 10 "outs") during the AM peak hour and 273 bus trips (90 "ins" and 183 "outs") during the PM peak hour. Because of the distance from the nearest subway stations, it is also expected that a portion of subway trips would use bus service between the Development Site and subway service. As shown in **Table 10-46**:

- During the AM peak hour, demand on the M15 local bus route is expected to increase by 118 southbound trips at the Second Avenue at East 57th Street maximum load point and at the Second Avenue at East 50th Street maximum load point. At the Second Avenue and East 57th Street load point, a capacity shortfall of 22 passengers is anticipated. Demand on the M15 local bus route is not expected to increase in the northbound direction at the First Avenue at East 64th Street maximum load point and demand is expected to increase by 50 northbound trips at the First Avenue and East 20th Street maximum load point. The projected bus service would provide adequate supply in northbound direction during this time.
- During the PM peak hour, demand on the M15 local bus route is expected to increase by 11 southbound trips at the Second Avenue at East 25th Street maximum load point and 20 southbound trips at the Second Avenue at East 33rd Street maximum load point. Demand on the M15 local bus route is expected to increase by 41 northbound trips at the First Avenue at East 64th Street load point and at the First Avenue and East 60th Street load point. The projected bus service would provide adequate supply in both directions during this time.
- During the AM peak hour, demand on the M15-SBS bus route is expected to increase by 118 southbound trips at the Second Avenue and East 78th Street maximum load point and at the Second Avenue and East 57th Street maximum load point. Demand on the M15-SBS is expected to increase by 81 northbound trips at the First Avenue and East 14th Street maximum load point. The projected bus service would provide adequate supply in both directions during this time.
- During the PM peak hour, demand on the M15-SBS bus route is expected to increase by 20 southbound trips at the Second Avenue and East 28th Street and Second Avenue and East 42nd Street maximum load points and the projected bus service would provide adequate supply in the southbound direction at this time. Demand is expected to increase by 41 northbound trips at the First Avenue and East 42nd Street maximum load point and would result in a capacity shortfall of 38 passenger spaces. At the First Avenue and East 57th Street maximum load point, the demand is expected to increase by 41 northbound trips and the projected bus service would provide adequate supply.
- During the AM peak hour, demand on the M34A-SBS is expected to increase by 91 eastbound trips at the West 34th Street and Broadway maximum load point and would result in a capacity shortfall of 40 passenger spaces. Demand is expected to increase by two westbound trips at the East 34th Street and Third Avenue maximum load point and the projected bus service would provide adequate supply.
- During the PM peak hour, demand on the M34A-SBS is expected to increase by 14 eastbound trips at the West 34th Street and Broadway maximum load point and the projected bus service would provide adequate supply. Demand is expected to increase by 31 westbound trips at the East 34th Street and Park Avenue maximum load point and the East 34th Street and Fifth Avenue maximum load point. The projected bus service would provide adequate supply.
- During the AM peak hour, demand on the M23-SBS is expected to increase by 966 eastbound trips at the East 23rd Street and Park Avenue South maximum load point and would result in a capacity shortfall of 897 passenger spaces. Demand is expected to increase by four westbound trips at the East 23rd Street and Third Avenue maximum load point and the projected bus service would provide adequate supply.
- During the PM peak hour, demand on the M23-SBS is expected to increase by 11 eastbound trips at the West 23rd Street and Seventh Avenue and West 23rd Street and Sixth Avenue maximum load points and the projected bus service would provide adequate supply. Demand is

expected to increase by 421 westbound trips at the East 23rd Street and Third Avenue maximum load point and would result in a capacity shortfall of 406 passenger spaces.

Table 10-46 With-Action Condition Bus Analysis

Peak Hour	Route	Direction	Maximum Load Point	Peak Hour Buses[1]	No-Action Available Capacity[2,3]	Project Increment	Available Capacity[3]
AM	M15	SB	Second Av/E 57th St	6	96	118	-22
			Second Av/E 50th St	8	266	118	148
		NB	First Av/E 64th St	6	199	0	199
			First Av/E 20th St	6	181	50	130
	M15-SBS	SB	Second Av/E 78th St	16	211	118	93
			Second Av/E 57th St	14	169	118	51
		NB	First Av/E 14th St	21	243	81	161
	M34A-SBS	EB	W 34th St/Broadway	7	51	91	-40
		WB	E 34th St/3 Av	7	74	2	72
	M23-SBS	EB	E 23rd St/Park Av S	9	69	966	-897
		WB	E 23rd St/3 Av	9	5	4	1
PM	M15	SB	Second Av/E 25th St	6	164	11	153
			Second Av/E 33rd St	6	169	20	149
		NB	First Av/ E 64th St	6	72	41	31
			First Av/E 60th St	8	233	41	192
	M15-SBS	SB	Second Av/E 28th St	12	289	20	269
			Second Av/E 42nd St	10	122	20	102
		NB	First Av/E 42nd St	11	3	41	-38
			First Av/E 57th St	12	62	41	21
	M34A-SBS	EB	W 34th St/Broadway	6	189	14	175
		WB	E 34th St/Park Av	8	76	31	45
			E 34th St/5 Av	6	76	31	45
	M23-SBS	EB	W 23rd St/7 Av	10	154	11	143
			W 23rd St/6 Av	8	123	11	112
		WB	E 23rd St/3 Av	9	15	421	-406

Notes:
[1]Assume service levels adjusted to address capacity shortfalls in the No-Action condition.
[2] No-Action available capacity with potential service improvements.
[3] Available capacity based on NYCT loading guidelines of 85 passengers per standard bus.

The With-Action condition analysis determined that there would be adequate supply for the Proposed Project's demand in the AM peak hour along the following bus routes: the M15 local and M15-SBS bus routes in the northbound direction, the M15-SBS bus route in the southbound direction, and the M34A-SBS and M23-SBS bus routes in the westbound direction. In the PM peak hour, the adequate supply would be expected for the M15 local and M15-SBS bus routes in the southbound direction, the M15 local bus route in the northbound direction, the M34A-SBS and M23-

SBS bus routes in the eastbound direction, and the M34A-SBS bus route in the westbound direction. However, the Proposed Project would result in a capacity shortfall for the bus routes listed below:

- The M15 local bus route in the southbound direction during the AM peak hour.
- The M34A-SBS bus route in the eastbound direction in the AM peak hour.
- The M23-SBS bus route in the eastbound direction in the AM peak hour.
- The M15-SBS bus route in the northbound direction during the PM peak hour.
- The M23-SBS bus route in the westbound direction during the PM peak hour.

Pedestrians

The project-generated pedestrian volumes were distributed through the pedestrian network and added to the 2031 No-Action volumes to develop the 2031 With-Action pedestrian volumes which are shown in **Figure 10-53** through **Figure 10-58**. Pedestrian analyses were performed based on these volumes and the With-Action pedestrian levels of service were determined for the analysis locations. Sidewalk widenings along the entrances of the Proposed Project site along First Avenue, the former East 26th Street, and East 25th Street were also incorporated into the analysis.

Figure 10-53 Year 2031 With-Action Pedestrian Volumes – AM Peak Hour (east side)

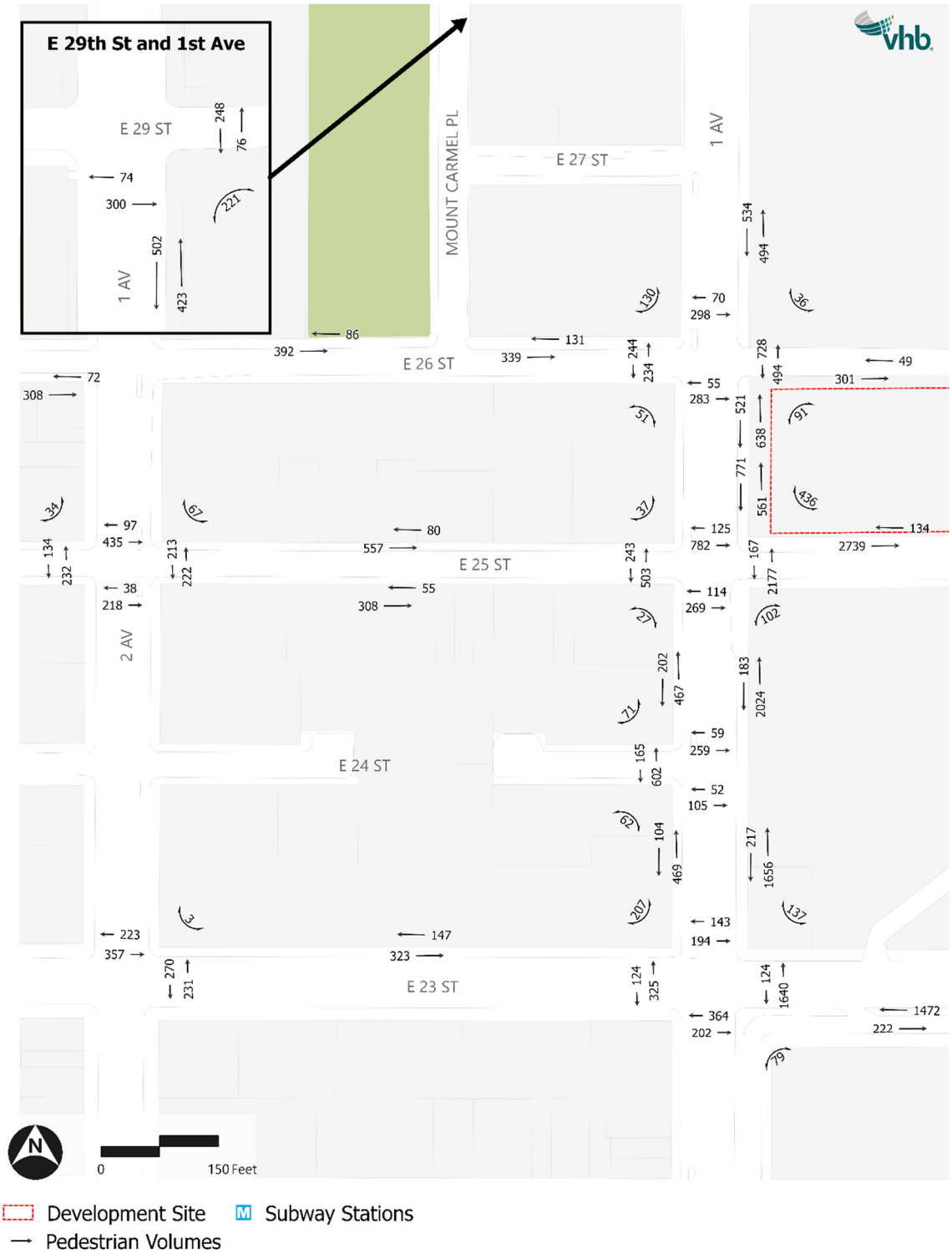


Figure 10-54 Year 2031 With-Action Pedestrian Volumes – AM Peak Hour (west side)

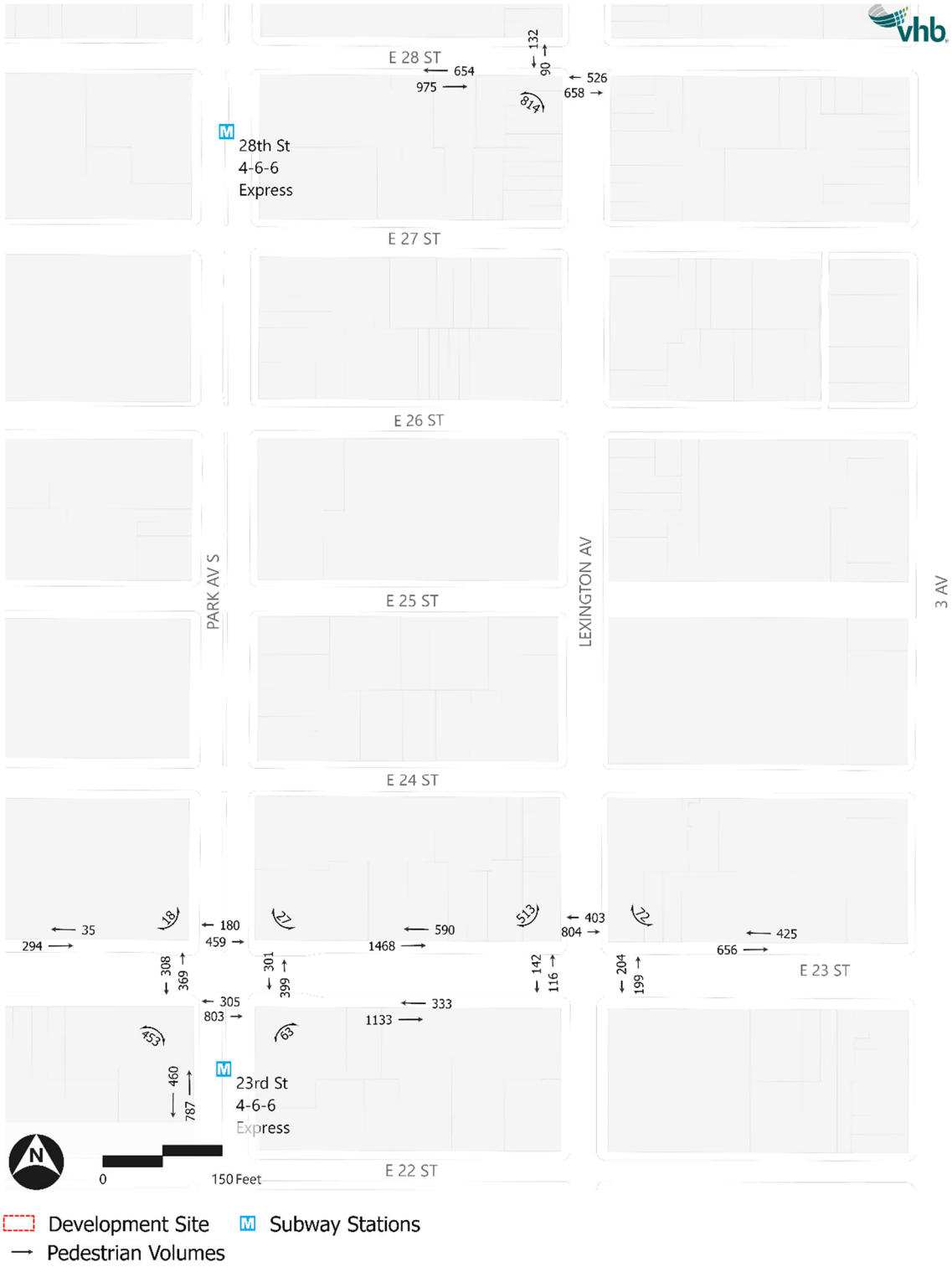


Figure 10-55 Year 2031 With-Action Pedestrian Volumes – Midday Peak Hour (east side)

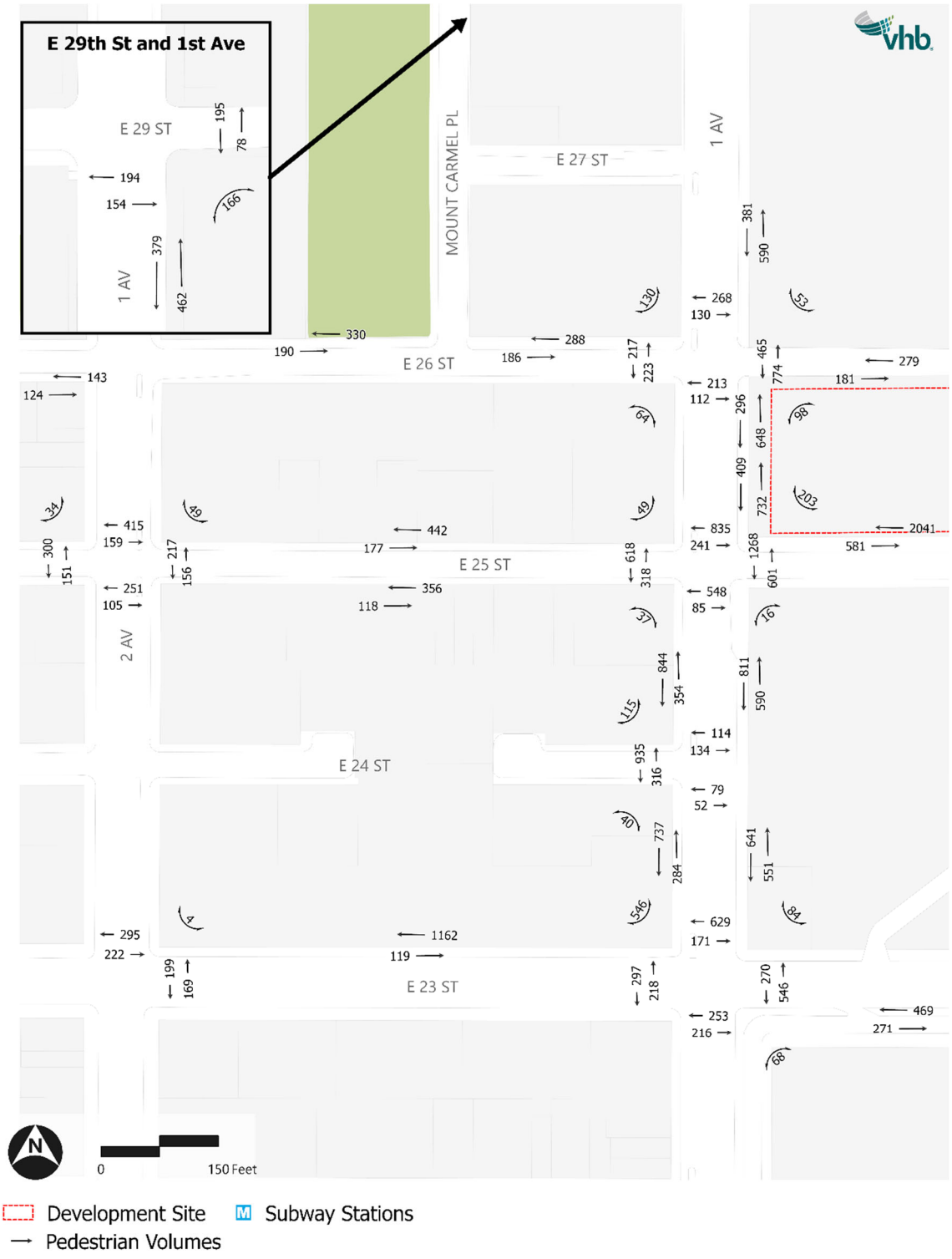


Figure 10-56 Year 2031 With-Action Pedestrian Volumes – Midday Peak Hour (west side)

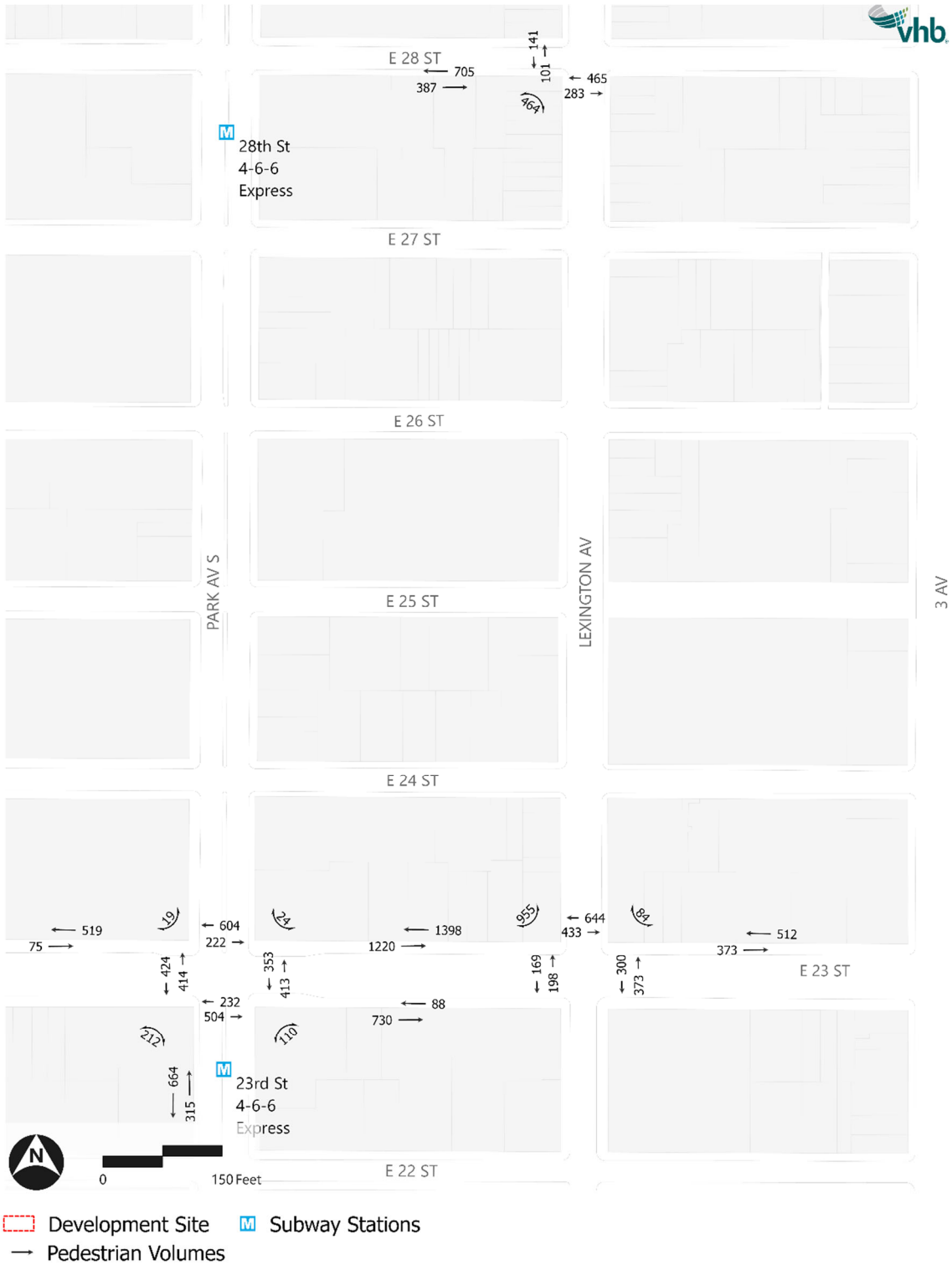


Figure 10-57 Year 2031 With-Action Pedestrian Volumes – PM Peak Hour (east side)

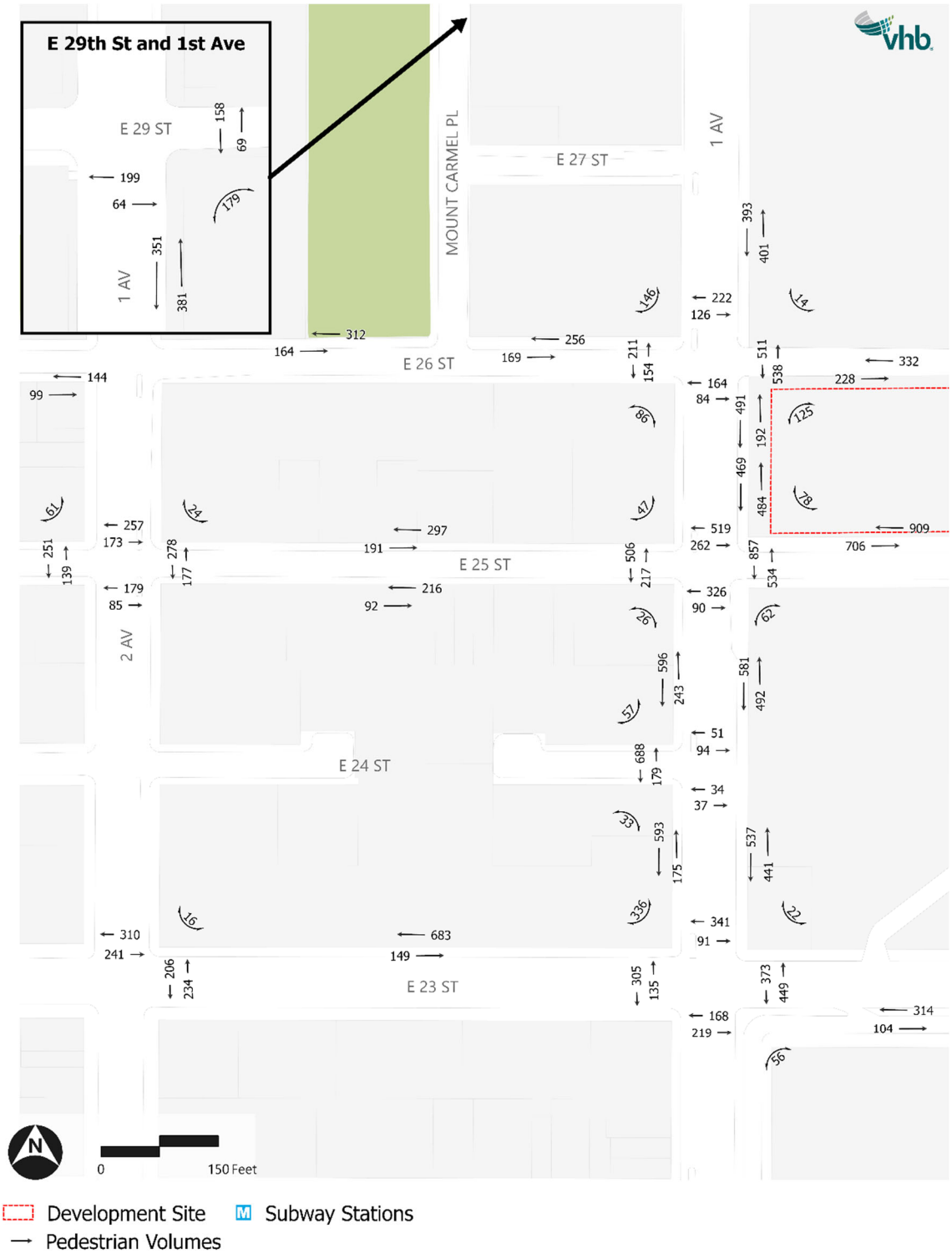


Figure 10-58 Year 2031 With-Action Pedestrian Volumes – PM Peak Hour (west side)

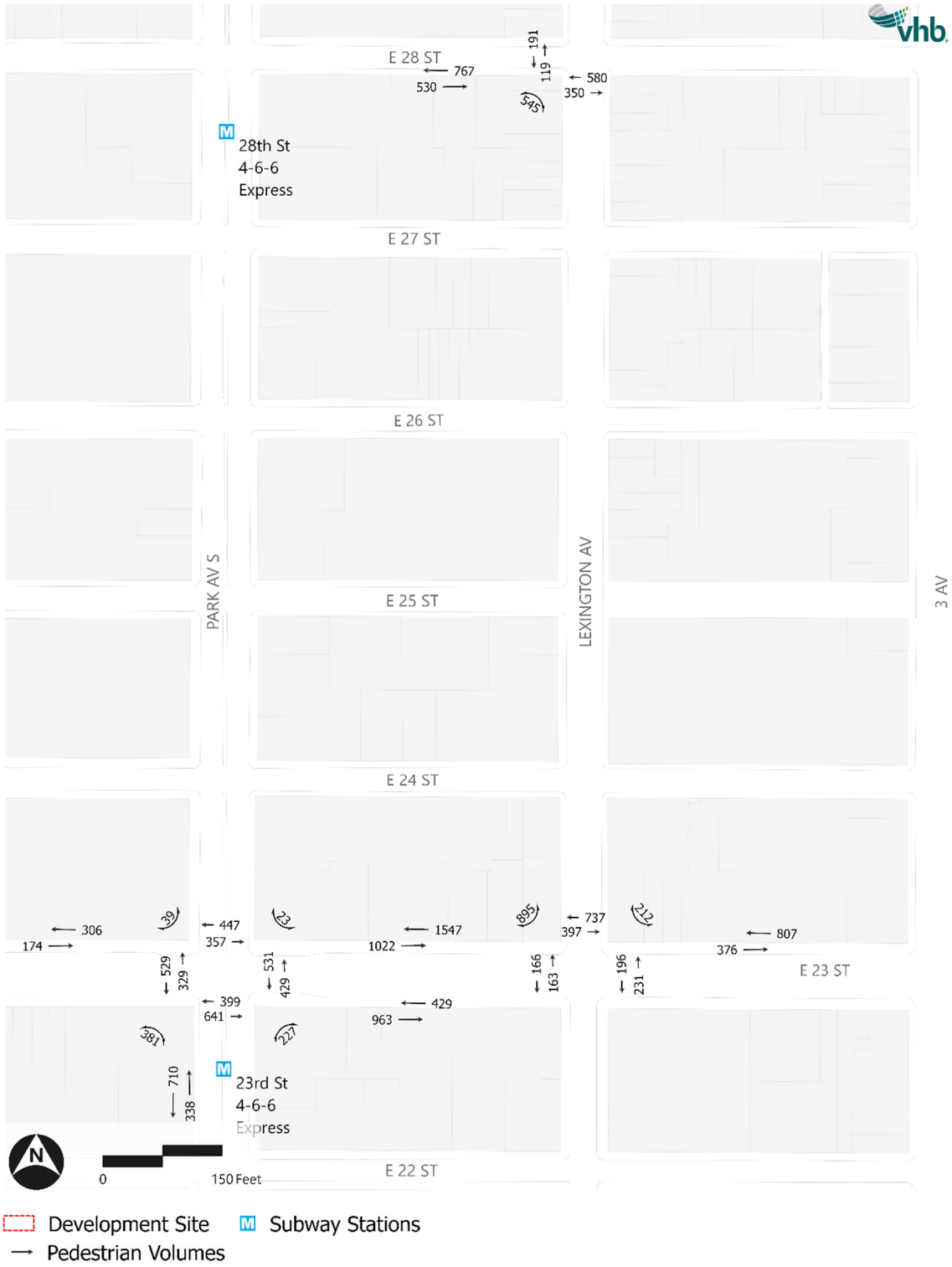


Table 10-47 provides an overview of the pedestrian levels of service for the peak hours analyzed. Pedestrian volumes and levels of service are provided in **Table 10-48** through **Table 10-50** The summary of the With-Action condition indicates that:

- Of the 22 sidewalk elements analyzed, there are three, two, and three significantly impacted elements in the AM, midday, and PM peak hours, respectively.
- Of the 15 crosswalk elements analyzed, there are two, one, and no significantly impacted elements in the AM, midday, and PM peak hours, respectively.
- Of the 24 corner elements analyzed, there are three, two, and two significantly impacted elements in the AM, midday, and PM peak hour, respectively.

Of the 61 pedestrian elements analyzed, the Proposed Project would result in eight, five, and five significantly impacted elements in the AM, midday, and PM peak hours, respectively. Mitigation measures that could be implemented to mitigate these significant adverse pedestrian impacts are discussed in **Chapter 16, Mitigation**.

Table 10-47 Year 2031 With-Action Pedestrian Levels of Service Summary

Sidewalk Elements	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Sidewalks at LOS A/B/C and Acceptable LOS D	19	20	19
Sidewalks at Unacceptable LOS D	1	1	2
Sidewalks at LOS E	2	1	1
Sidewalks at LOS F	0	0	0
Number of significantly impacted sidewalk elements	**3**	**2**	**3**
Crosswalk Elements	**AM Peak Hour**	**Midday Peak Hour**	**PM Peak Hour**
Crosswalks at LOS A/B/C and Acceptable LOS D	13	13	14
Crosswalks at Unacceptable LOS D	1	1	0
Crosswalks at LOS E	1	0	0
Crosswalks at LOS F	0	0	0
Number of significantly impacted sidewalk elements	**2**	**1**	**0**
Corner Elements	**AM Peak Hour**	**Midday Peak Hour**	**PM Peak Hour**
Corners at LOS A/B/C and Acceptable LOS D	21	22	21
Corners at Unacceptable LOS D	1	0	1
Corners at LOS E	0	2	2
Corners at LOS F	2	0	0
Number of significantly impacted sidewalk elements	**3**	**2**	**2**

Note: Includes 22 sidewalk, 15 crosswalk, and 24 corner analysis locations

Table 10-48 Year 2031 No-Action vs. With-Action Pedestrian Levels of Service – Sidewalks

	AM Peak Hour				Midday Peak Hour				PM Peak Hour			
	No-Action		With-Action		No-Action		With-Action		No-Action		With-Action	
Sidewalk	Avg Ped Space, SF/P	Platoon LOS	Avg Ped Space, SF/P	Platoon LOS	Avg Ped Space, SF/P	Platoon LOS	Avg Ped Space, SF/P	Platoon LOS	Avg Ped Space, SF/P	Platoon LOS	Avg Ped Space, SF/P	Platoon LOS
East 28th Street between Park Avenue and Lexington Avenue (south side)	36.2	D	28.2	D	73.7	C	44.9	C	51.4	C	40.3	C
First Avenue between East 28th Street and East 29th Street (east side)	95.9	B	73.5	C	164.4	B	92.0	B	134.2	B	98.1	B
East 26th Street between Second Avenue Mt Carmel Place (north side)	242.5	B	151.6	B	227.0	B	133.9	B	214.4	B	134.5	B
East 26th Street between Third Avenue and Second Avenue (south side)	173.9	B	73.4	C	188.2	B	109.0	B	190.1	B	119.4	B
First Avenue between East 26th Street and East 27th Street (east side)	56.9	C	33.0	D	70.0	C	34.8	D	79.1	C	39.6	D
East 26th Street between First Ave and FDR Drive (south side)	6,187.5	A	158.4	B	1,546.9	A	124.1	B	1,687.5	A	77.2	C
East 26th Street between Mt Carmel Place and First Avenue (north side)	1,175.5	A	728.0	A	995.7	A	548.4	A	913.6	A	532.9	A
First Avenue between East 25th Street and East 26th Street (east side)	75.9	C	165.4	B	101.8	B	189.8	B	100.3	B	278.9	B
East 25th Street between FDR Drive and First Avenue (north side)	110.6	B	19.6	E	166.0	B	21.1	E	129.6	B	38.8	D
First Avenue between East 24th Street and East 25th Street (east side)	204.7	B	65.7	C	334.3	B	114.5	B	344.3	B	144.3	B
First Avenue between East 24th Street and East 25th Street (west side)	185.5	B	120.8	B	133.1	B	65.2	C	157.5	B	89.7	C

Table 10-48 Year 2031 No-Action vs. With-Action Pedestrian Levels of Service – Sidewalks

	AM Peak Hour				Midday Peak Hour				PM Peak Hour			
	No-Action		With-Action		No-Action		With-Action		No-Action		With-Action	
Sidewalk	Avg Ped Space, SF/P	Platoon LOS	Avg Ped Space, SF/P	Platoon LOS	Avg Ped Space, SF/P	Platoon LOS	Avg Ped Space, SF/P	Platoon LOS	Avg Ped Space, SF/P	Platoon LOS	Avg Ped Space, SF/P	Platoon LOS
East 25th Street between First Avenue and Second Avenue (south side)	293.0	B	85.2	C	141.1	B	41.9	C	383.0	B	91.7	B
East 25th Street between First Avenue and Second Avenue (north side)	147.1	B	53.3	C	268.7	B	57.3	C	222.4	B	79.9	C
East 23rd Street between Lexington Avenue and Park Avenue (south side)	112.9	B	50.2	C	103.8	B	82.4	C	64.7	C	56.2	C
Park Avenue between East 22nd Street and East 23rd Street (west side)	44.7	C	33.4	D	41.2	C	37.5	D	40.7	C	37.1	D
East 23rd Street between Park Avenue and Madison Avenue (north side)	108.9	B	41.4	C	166.3	B	25.5	D	51.7	C	19.8	E
East 23rd Street between Park Avenue and Lexington Avenue (north side)	60.3	C	48.2	C	38.0	D	32.2	D	42.6	C	38.4	D
East 23rd Street between Lexington Avenue and Third Avenue (north side)	52.4	C	41.4	C	58.8	C	44.3	C	34.9	D	31.0	D
First Avenue between 23rd Street and 24th Street (east side)	57.1	C	20.8	E	80.6	C	34.4	D	62.5	C	31.3	D
East 23rd Street between FDR Drive and First Avenue (south side)	122.4	B	41.7	C	132.4	B	91.0	B	318.3	B	138.3	B
First Avenue between 23rd Street and 24th Street (west side)	97.7	B	58.5	C	82.5	C	33.3	D	77.9	C	41.5	C
East 23rd Street between First Avenue and Second Avenue (north side)	366.3	B	208.8	B	217.2	B	56.7	C	347.8	B	130.6	B

Table 10-49 Year 2031 No-Action vs. With-Action Pedestrian Levels of Service – Crosswalks

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
		No-Action		With-Action		No-Action		With-Action		No-Action		With-Action	
Intersection	Cross walk	Avg Ped Space, SF/P	LOS	Avg Ped Space, SF/P	LOS	Avg Ped Space, SF/P	LOS	Avg Ped Space, SF/P	LOS	Avg Ped Space, SF/P	LOS	Avg Ped Space, SF/P	LOS
Lexington Avenue at East 28th Street	South	28.9	C	23.7	D	61.6	A	41.7	B	38.0	C	31.1	C
First Avenue at East 26th Street	North	265.4	A	89.6	A	254.0	A	72.0	A	255.3	A	77.4	A
	South	335.1	A	82.2	A	364.1	A	97.3	A	469.6	A	127.3	A
	East	78.6	A	34.3	C	90.0	A	32.4	C	104.5	A	39.2	C
Second Avenue at East 25th Street	North	117.1	A	38.7	C	136.8	A	38.1	C	131.9	A	55.6	B
	South	257.3	A	85.3	A	187.6	A	50.0	B	253.7	A	66.2	A
First Avenue at East 25th Street	North	101.5	A	20.7	D	160.1	A	21.2	D	165.2	A	36.6	C
	South	154.2	A	63.5	A	244.9	A	28.7	C	288.3	A	49.0	B
	East	48.8	B	9.0	E	91.7	A	16.2	D	79.5	A	22.1	D
	West	67.4	A	44.1	B	67.1	A	36.7	C	78.7	A	48.4	B
First Avenue at East 24th Street	West	79.8	A	52.1	B	66.7	A	28.8	C	84.9	A	44.8	B
Park Avenue at East 23rd Street	North	50.1	B	32.8	C	64.6	A	24.0	D	48.3	B	30.5	C
	South	40.9	B	25.8	C	48.9	B	43.0	B	32.7	C	29.9	C
Lexington Avenue at East 23rd Street	North	53.5	B	38.6	C	54.4	B	37.3	C	42.2	B	34.7	C
First Avenue at East 23rd Street	East	58.6	B	18.3	D	62.4	A	41.7	B	63.2	A	43.1	B

Table 10-50 Year 2031 With-Action Pedestrian Levels of Service – Corners

		AM Peak Hour				Midday Peak Hour				PM Peak Hour			
		No-Action		With-Action		No-Action		With-Action		No-Action		With-Action	
Intersection	Corner	Avg Ped Space, SF/P	LOS	Avg Ped Space, SF/P	LOS	Avg Ped Space, SF/P	LOS	Avg Ped Space, SF/P	LOS	Avg Ped Space, SF/P	LOS	Avg Ped Space, SF/P	LOS
Lexington Avenue at East 28th Street	Southwest	5.9	F	2.4	F	19.0	D	12.7	E	11.4	E	9.0	E
First Avenue at East 26th Street	Southeast	113.8	A	84.4	A	139.7	A	97.7	A	167.5	A	114.7	A
First Avenue at East 26th Street	Northeast	48.9	B	15.9	D	44.0	B	12.4	E	51.5	B	14.4	E
	Southeast	162.4	A	148.9	A	180.6	A	139.5	A	219.8	A	155.6	A
	Southwest	195.5	A	99.5	A	239.7	A	122.5	A	243.0	A	141.9	A
	Northwest	149.9	A	94.8	A	150.9	A	92.6	A	183.3	A	110.8	A
Second Avenue at East 25th Street	Northeast	100.0	A	62.7	A	144.9	A	61.9	A	118.3	A	73.6	A
	Northwest	177.1	A	81.3	A	186.2	A	82.1	A	158.4	A	95.0	A
First Avenue at East 25th Street	Northeast	91.8	A	68.4	A	157.9	A	75.8	A	131.9	A	115.8	A
	Southeast	145.3	A	35.4	C	303.2	A	48.3	B	265.1	A	68.9	A
	Southwest	142.5	A	73.8	A	157.2	A	54.8	B	187.3	A	80.0	A
	Northwest	115.3	A	38.7	C	132.2	A	40.5	B	143.1	A	59.0	B
First Avenue at East 24th Street	Southwest	145.9	A	97.6	A	145.2	A	73.5	A	190.6	A	110.8	A
	Northwest	158.9	A	104.9	A	141.7	A	66.5	A	201.0	A	107.3	A
Park Avenue at East 23rd Street	Northeast	171.5	A	145.5	A	178.8	A	110.8	A	137.8	A	111.7	A
	Southeast	29.3	C	23.4	D	33.8	C	32.1	C	18.2	D	17.5	D
	Southwest	59.0	B	42.3	B	63.6	A	59.1	B	43.9	B	41.2	B
	Northwest	93.9	A	73.2	A	90.0	A	61.2	A	68.5	A	57.0	B
Lexington Avenue at East 23rd Street	Northeast	53.5	B	43.9	B	37.5	C	27.8	C	35.9	C	30.2	C
	Northwest	77.5	A	58.0	B	57.3	B	47.7	B	56.7	B	50.4	B
Second Avenue at East 23rd Street	Northeast	86.4	A	71.2	A	134.5	A	95.8	A	106.5	A	89.6	A
First Avenue at East 23rd Street	Northeast	116.5	A	58.4	B	116.0	A	62.1	A	148.6	A	88.1	A
	Southeast	38.8	C	7.7	F	51.3	B	35.5	C	59.6	B	41.4	B
	Northwest	157.4	A	107.1	A	132.4	A	50.4	B	163.2	A	74.5	A

Vehicular and Pedestrian Safety

Crash data were obtained for the study area intersections from NYCDOT for the most recent pre-pandemic three-year period for which such data are available (2017 through 2019). This information is based on data provided by the New York State Department of Transportation (NYSDOT), New York State Department of Motor Vehicles (NYSDMV), and the New York City Police Department (NYPD).

The crash data detail reported crashes (crashes resulting in death, injury, or property damage in excess of $1,000), fatalities, injuries, and pedestrian and bicycle injuries annually. According to the *CEQR Technical Manual,* an intersection is considered a high-crash location if it is a Vision Zero Priority Intersection, or there were five or more pedestrian/bicyclist injury crashes in any consecutive 12 months during the most recent three-year period for which data are available. Per NYCDOT's guidance, an intersection along a Vision Zero Priority Corridor is considered a high-crash location when three or more pedestrian/bicyclist injury crashes occur in any 12 consecutive month period during the most recent three-year period for which data are available.

Table 10-51 presents a summary of total crashes at the study area intersections during the three-year period of 2017 through 2019, and also shows total fatalities, injuries, and pedestrian and bicycle crashes. The intersections of First Avenue at East 29th Street, First Avenue at East 34th Street, and Second Avenue at East 34th Street were identified as high-crash locations as to these intersections having at least five pedestrian/bicyclist injury crashes within a consecutive 12-month period. This threshold is not exceeded at the other analysis intersections.

In the study area, the intersections of First Avenue at East 30th Street, Third Avenue at East 23rd Street, FDR Drive service road and East 34th Street, and Park Avenue at East 23rd Street were identified as Vision Zero Priority intersection and therefore considered high-crash locations. There are five Vision Zero Priority corridors in the study area: 23rd Street between FDR Drive and 11th Avenue, Second Avenue between Houston Street and the Harlem River Drive, Third Avenue between St Marks Place and East 128th Street, Lexington Avenue between Gramercy Park North and East 131st Street, and First Avenue between East Houston Street and the RFK Bridge. Six intersections, not including the high-crash intersections identified above, were identified as high-crash locations as these Vision Zero Priority Corridor intersections experienced at least three pedestrian/bicyclist crashes within a consecutive 12-month period: First Avenue at East 23rd Street, First Avenue at East 33rd Street, Second Avenue at East 23rd Street, Second Avenue at East 24th Street, Second Avenue at East 26th Street, and Second Avenue at East 30th Street. In total, 13 intersections were identified as high-crash locations in the study area.

Table 10-51 Vehicle and Pedestrian Crash Summary

Intersection		Total Crashes by Year					Pedestrian Crashes by Year			Bicycle Crashes by Year		
North-South Roadway	East-West Roadway	2017	2018	2019	Total Fatalities	Total Injuries	2017	2018	2019	2017	2018	2019
First Avenue	East 22nd Street	4	1	5	0	3	0	0	1	0	0	1
First Avenue	East 23rd Street	11	12	8	0	25	1	4	2	0	0	1
First Avenue	East 24th Street	0	2	2	0	4	0	1	1	0	0	0
First Avenue	East 25th Street	3	5	4	0	8	0	0	0	0	1	0
First Avenue	East 26th Street	5	8	5	0	13	1	1	0	1	1	2
First Avenue	East 28th Street	0	1	3	0	1	0	0	1	0	0	0
First Avenue	East 29th Street*	7	4	3	0	10	2	1	0	5	0	0
First Avenue	East 30th Street	7	9	11	0	15	2	0	3	0	0	0
First Avenue	East 33rd Street	4	6	10	0	11	0	1	1	3	1	3
First Avenue	East 34th Street*	10	24	23	0	25	1	3	3	0	2	3
Second Avenue	East 22nd Street	1	4	6	0	4	0	1	0	0	1	0
Second Avenue	East 23rd Street	9	12	10	0	16	3	2	1	0	1	0
Second Avenue	East 24th Street	3	5	6	0	5	2	0	0	1	0	0
Second Avenue	East 25th Street	5	5	4	0	7	0	0	0	1	0	2
Second Avenue	East 26th Street	8	6	1	0	14	2	3	1	1	0	0
Second Avenue	East 30th Street	8	10	4	1	8	3	3	0	0	0	0
Second Avenue	East 34th Street*	16	32	32	0	34	2	4	4	2	3	3
FDR Drive	East 25th Street	5	6	8	0	11	0	0	0	0	0	1
FDR Drive	East 30th Street	0	4	2	0	2	0	0	0	0	0	0
FDR Drive	East 34th Street	8	16	7	0	14	2	4	0	0	1	1
Third Avenue	East 23rd Street	6	17	9	0	19	1	1	1	0	3	0
Avenue C	East 23rd Street	12	24	22	0	26	0	0	1	0	2	0
FDR Drive	East 23rd Street	2	3	3	0	4	1	0	0	0	0	0
Lexington Avenue	East 23rd Street	6	9	1	0	15	0	1	0	0	0	1
Park Avenue	East 23rd Street	9	9	7	0	22	1	2	1	0	0	0
Lexington Avenue	East 28th Street	1	1	3	0	6	1	1	1	0	0	0
Queens-Midtown Tunnel Exit	East 34th Street	3	3	5	0	2	0	0	0	0	0	0
Queens-Midtown Tunnel Entrance	East 34th Street	1	3	4	0	2	0	0	0	0	0	0

Denotes a high crash location

* Intersection has five or more pedestrian-/bicyclist-related crashes in a consecutive 12-month period

Source: NYSDOT/NYSDMV (2017-2019)

High-Crash Locations Due to Pedestrian/Bicycles Crashes

The following intersections were identified as high-crash locations because they had five or more pedestrian/bicycle injury crashes in a 12-month period.

First Avenue and East 29th Street

The intersection of First Avenue and East 29th Street was identified as a high-crash location. A total of 14 crashes, including 10 injury crashes and eight pedestrian/bicyclist-related crashes (of which five crashes involved bicyclists), occurred at this intersection between 2017 and 2019. Based on a review of the crash data, of the eight pedestrian/bicycle crashes, six involved conflicts with vehicles making left turns. Five crashes took place during the late evening or nighttime hours, while three occurred during daylight hours.

The intersection is signalized with three phases (including a leading pedestrian interval crossing First Avenue) with pedestrian countdown clocks and high visibility crosswalks striped along each approach. First Avenue is a one-way northbound roadway. West of First Avenue, East 29th Street is a one-way westbound roadway and is hospital entrance/exit east of First Avenue. In 2018, NYCDOT relocated the bike lanes along East 26th Street from between the travel lane and parking lane, to along the south side of the roadway between the parking and curbside. In 2022, NYCDOT implemented improvements along the First Avenue corridor reducing conflicts between bicyclists and vehicle traffic by providing buffers and painted refuge areas to slow down turning vehicles. As a result of these changes, the overall level of pedestrian and bicyclist safety is expected to improve at this intersection.

First Avenue and East 34th Street

A total of 57 crashes, including 25 injury crashes and 12 pedestrian/bicyclist-related crashes, occurred at this intersection between 2017 and 2019. Based on a review of the crash data, of the twelve pedestrian/bicycle crashes (five crashes involving bicyclists), four involved conflicts with vehicles making left turns, and three occurred when pedestrians crossed without a signal or crosswalk or against a signal. Five crashes occurred during daylight hours, while seven took place during the late evening or nighttime hours.

The intersection is signalized with four phases (including a leading pedestrian and bicyclist interval crossing East 34th Street and a protected eastbound left turn phase) with pedestrian countdown clocks and high visibility crosswalks striped along each approach. First Avenue is a one-way northbound roadway while East 34th Street is a two-way roadway. In 2016, NYCDOT installed a hardened centerline using flexible delineators to calm left turn movements from First Avenue onto East 34th Street. In 2022, NYCDOT implemented improvements along the First Avenue corridor reducing conflicts between bicyclists and vehicle traffic by providing buffers and painted refuge areas to slow down turning vehicles. NYCDOT As a result of these changes, the overall level of pedestrian and bicyclist safety is expected to improve at this intersection.

Second Avenue and East 34th Street

A total of 80 crashes, including 34 injury crashes and 18 pedestrian/bicyclist-related crashes, occurred at the intersection of Second Avenue and East 34th Street between 2017 and 2019. Based on a review of the crash data, of the 18 pedestrian/bicycle crashes (eight crashes involving bicyclists), four involved conflicts with vehicles making left turns, and three involved conflicts with vehicles making right turns. Nine crashes occurred during daylight hours, while nine took place during the evening or nighttime hours. All left turn crashes took place during the evening or nighttime hours while the pedestrian was crossing with the signal.

The intersection is signalized and operates in three phases (including a leading pedestrian interval crossing East 34th Street) with pedestrian countdown clocks and high visibility crosswalks striped along each approach. Second Avenue is a one-way southbound roadway while East 34th Street is a two-way roadway. In 2021, NYCDOT implemented improvements along Second Avenue, installing a buffer-protected bike lane. As a result of this change, the overall level of pedestrian and bicyclist safety is expected to improve at this intersection.

High-Crash Locations - Vision Zero Priority Intersections

The following intersections were identified as high-crash locations because they are Vision Zero Priority intersections.

First Avenue and East 30th Street

A total of 27 crashes, including 15 injury crashes and five pedestrian/bicyclist-related crashes, occurred at the intersection of First Avenue and East 30th Street between 2017 and 2019. Based on a review of the crash data, of the five pedestrian/bicycle crashes that occurred, three involved conflicts with vehicles making left turns while pedestrians were crossing with the signal, and one occurred when a pedestrian was crossing without a signal or crosswalk. Four crashes occurred during daylight hours, while one took place during the evening or nighttime hours.

The intersection is signalized and operates in three phases (including a leading pedestrian interval crossing First Avenue) with high visibility crosswalks striped along each approach and with pedestrian countdown signals. Both First Avenue and East 30th Street are one-way roadways. In December 2018, NYCDOT installed a slow-turn wedge to calm the left turn movement from East 30th Street onto First Avenue. In 2022, NYCDOT implemented improvements along the First Avenue corridor reducing conflicts between bicyclists and vehicle traffic by providing buffers and painted refuge areas to slow down turning vehicles. As a result of these changes, the overall level of pedestrian and bicyclist safety is expected to improve at this intersection.

Third Avenue and East 23rd Street

A total of 32 crashes, including 19 injury crashes and six pedestrian/bicyclist-related crashes, occurred at the intersection of Third Avenue and East 23rd Street between 2017 and 2019. Based on a review of the crash data, of the six pedestrian/bicycle crashes, three involved bicycles, two involved a conflict with a vehicle making a left turn, and three occurred when a pedestrian was crossing with the signal. Three crashes occurred during daylight hours, while three took place during late evening or nighttime hours.

The intersection is signalized and operates in four phases (including a leading pedestrian interval crossing Third Avenue and a protected eastbound left turn phase) with pedestrian countdown clocks and high visibility crosswalks striped along each approach. Both Third Avenue and East 23rd Street are two-way roadways. Measures to improve safety at this intersection could include improving the lighting for better visibility outside of daylight hours, and installation of left turn calming measures including turn wedges and hardening the centerline.

Park Avenue and East 23rd Street

A total of 25 crashes, including 22 injury crashes and four pedestrian/bicyclist-related crashes, occurred at this intersection between 2017 and 2019. Based on a review of the crash data, all four

pedestrian/bicycle crashes involved vehicles heading straight and crashing into pedestrians; two crashes involved pedestrians crossing with the signal and one crash involved a pedestrian crossing against the signal. Two crashes occurred during the late evening or nighttime hours and two took place during daylight hours. The intersection is signalized and operates in two phases with pedestrian countdown clocks and high visibility crosswalks striped along each approach. Both Park Avenue and East 23rd Street are two-way roadways. Measures to improve safety at this intersection could include improving the lighting for better visibility outside of daylight hours.

FDR Drive Service Road and East 34th Street

A total of 31 crashes, including 14 injury crashes and eight pedestrian/bicyclist-related crashes, occurred at the intersection of FDR Drive service road and East 34th Street between 2017 and 2019. Based on a review of the crash data, of the eight pedestrian/bicycle crashes, four crashes involved conflicts with vehicles making left turns or right turns, two crashes involved vehicles traveling through the intersection and one crash involved a vehicle backing up. Six crashes occurred during daylight hours, while two took place during the evening or nighttime hours.

The intersection is signalized and operates in three phases (including a phase where the eastbound right turn operates concurrently with the northbound left turn) with pedestrian countdown clocks and high visibility crosswalks striped along each approach. FDR Drive service road and East 34th Street are two-way roadways. As this intersection is located under FDR Drive, improving the lighting for better visibility may improve the safety at this intersection.

High-Crash Locations - Vision Zero Priority Corridor Intersections

The following intersections are along a Vision Zero Priority Corridor and had three or more pedestrian/bicyclist injury crashes in a 12-month period during the most recent three-year period.

First Avenue and East 23rd Street

The intersection of First Avenue and East 23rd Street is located along the First Avenue Vision Zero Priority Corridor and is identified as a high-crash location. A total of 31 crashes, including 25 personal injuries, and seven pedestrian/bicyclist related crashes occurred at this intersection between 2017 and 2019. Based on a review of the crash data, of the seven pedestrian/bicycle crashes, four occurred when pedestrians were crossing with the signal, one occurred when a pedestrian was crossing against the signal, one involved a conflict with a vehicle making a right turn, and one involved a bicycle. Three crashes occurred during daylight hours, while four took place during the evening or nighttime hours. Five crashes occurred in either rain or snow conditions.

The intersection is signalized and operates in six phases (including a leading pedestrian interval for crossing East 23rd Street and crossing First Avenue, a leading bicycle interval crossing East 23rd Street, and a protected eastbound left turn phase) with high visibility crosswalks striped along each approach and with pedestrian countdown signals. First Avenue is a one-way northbound roadway while East 23rd Street is a two-way roadway. Measures to improve pedestrian and bicyclist safety at this intersection could include improving the lighting for better visibility outside of daylight hours.

First Avenue and East 33rd Street

The intersection of First Avenue and East 33rd Street is located along the First Avenue Vision Zero Priority corridor and is identified as a high-crash location. A total of 20 crashes, including 11 injury

crashes and nine pedestrian/bicyclist-related crashes (seven crashes involved bicyclists) occurred at the intersection of First Avenue and East 33rd St between 2017 and 2019. Based on a review of the crash data, of the nine pedestrian/bicycle crashes that occurred, eight involved conflicts with vehicles making left turns. Eight crashes occurred during daylight hours, while two took place during the evening or nighttime hours.

The intersection is signalized and operates in two phases with high visibility crosswalks striped along each approach and with pedestrian countdown signals. First Avenue is a one-way northbound roadway while East 33rd Street is a two-way roadway. In 2022, NYCDOT implemented improvements along the First Avenue corridor reducing conflicts between bicyclists and vehicle traffic by providing buffers and painted refuge areas to slow down turning vehicles. In 2022, NYCDOT implemented left turn calming measures for the left turn movement from First Avenue onto East 33rd Street. As a result of this change, the overall level of pedestrian and bicyclist safety is expected to improve at this intersection.

Second Avenue and East 23rd Street

The intersection of Second Avenue and East 23rd Street is located along the Second Avenue Vision Zero Priority corridor and is identified as a high-crash location. A total of 31 crashes, including 16 injury crashes and seven pedestrian/bicyclist-related crashes, occurred at this intersection between 2017 and 2019. Based on a review of the crash data, of the seven pedestrian/bicycle crashes, three involved conflicts with vehicles making right turns, four occurred when pedestrians were crossing with the signal, two occurred when pedestrians were crossing against the signal, one involved a conflict with a vehicle making a left turn, and one involved a bicycle. Three crashes took place during the evening or nighttime hours, while two occurred during daylight hours, and two during dusk hours.

The intersection is signalized and operates in four phases (including a leading pedestrian interval crossing Second Avenue and a southbound lead phase) with pedestrian countdown clocks and high visibility crosswalks striped along each approach. Second Avenue is a one-way southbound roadway while East 23rd Street is a two-way roadway. In 2019, the southbound approach was restriped to provide a buffer for the bike lane from vehicle traffic and a bus stop platform was installed along the north side of the west leg of East 23rd Street. As a result of this change, the overall level of pedestrian and bicyclist safety is expected to improve at this intersection.

Second Avenue and East 24th Street

The intersection of Second Avenue and East 24th Street is located along the Second Avenue Vision Zero Priority corridor and is identified as a high-crash location. A total of 14 crashes, including five injury crashes and three pedestrian/bicyclist-related crashes, occurred at this intersection between 2017 and 2019. Based on a review of the crash data, of the three pedestrian/bicycle crashes, two occurred during the late evening/nighttime hours and one crash involved a bicyclist.

The intersection is signalized and operates in three phases (including a leading pedestrian interval crossing Second Avenue) with pedestrian countdown clocks and high visibility crosswalks striped along each approach. Second Avenue is a one-way southbound roadway while East 24th Street is a one-way eastbound roadway west of Second Avenue and a two-way roadway east of Second Avenue. In 2019, NYCDOT restriped the Second Avenue approach to replace the left turn lane with a buffer for the bicycle lane and implemented left turn calming measures, including slow turn wedges,

to encourage left turning vehicles to make slower turns into East 24th Street. As a result of this change, the overall level of pedestrian and bicyclist safety is expected to improve at this intersection.

Second Avenue and East 26 Street

The intersection of Second Avenue and East 26th Street was identified as a high-crash location and is located along the Second Avenue Vision Zero Priority Corridor. A total of 15 crashes, including 14 injury crashes and seven pedestrian/bicyclist-related crashes, occurred at this intersection between 2017 and 2019. Based on a review of the crash data, of the seven pedestrian/bicycle crashes, five involved conflicts with vehicles making left turns while pedestrians were crossing with the signal, one involved a bicycle, and one occurred when a pedestrian was crossing with the signal in the evening or nighttime hours. Three crashes occurred during daylight hours, while three crashes took place during the late evening or nighttime hours.

The intersection is signalized and operates in three phases (including a leading pedestrian interval and leading bicycle interval crossing Second Avenue that operates concurrently with the southbound through movement) with pedestrian countdown clocks and high visibility crosswalks striped along each approach. Second Avenue is a one-way southbound roadway while East 26th Street is a two-way roadway in the westbound leg and a one-way roadway in the eastbound leg. In 2018, NYCDOT implemented improvements along East 26th Street installing a buffer-protected bike lane. As a result of these changes, the overall level of bicyclist safety is expected to improve at this intersection. Measures to improve pedestrian safety at this intersection include left turn calming measures to address the crashes resulting from vehicles turning from First Avenue onto East 26th Street.

Second Avenue and East 30th Street

The intersection of Second Avenue and East 30th Street is located along the Second Avenue Vision Zero Priority corridor and is identified as a high-crash location. A total of 22 crashes, including one fatality, eight injury crashes and six pedestrian/bicyclist-related crashes, occurred at the intersection between 2017 and 2019. Based on a review of the crash data, of the six pedestrian/bicycle crashes, three involved conflicts with vehicles making left turns, one involved a conflict with a vehicle making a right turn, and one occurred when a pedestrian was crossing against the signal. Three crashes occurred during daylight hours, while two took place during the evening or nighttime hours.

The intersection is signalized and operates in three phases (including a leading pedestrian and bicyclist interval crossing East 30th Street that operates concurrently with the southbound through movement) with pedestrian countdown clocks and high visibility crosswalks striped along each approach. Both Second Avenue and East 30 Street are one-way roadways. NYCDOT is exploring measures to improve is expected to at this intersection. Measures being considered include extension of concrete median tips and realignment of the north crosswalk to meet the pedestrian desire line.