12 TRANSPORTATION

12.1 Introduction

The objective of a transportation analysis is to determine whether a proposed action may have a potentially significant adverse impact on the operation of traffic, transit, pedestrians, and parking facilities, and safety for roadway users. The 2021 *City Environmental Quality Review Technical Manual* ("*CEQR Technical Manual*") identifies minimum development densities that potentially require a transportation analysis. Future development at less than the development densities shown in Table 16-1 of the *CEQR Technical Manual* generally result in trip levels where potentially significant adverse transportation impacts are considered unlikely. Since the project-generated development would exceed the minimum development densities, a Transportation Screening Assessment was conducted pursuant to the *CEQR Technical Manual* guidelines.

The Proposed Rezoning Area comprises Bronx Block 3017, Lots 29, 60, 65, 68 and 74, and parts of Lots 1 and 6. To assess the potential effects of the Proposed Actions, a Reasonable Worse Case Development Scenario (RWCDS) projected conditions for both the No-Action Condition and the With-Action Condition for the 2028 analysis (build) year, the year that the project is expected to be completed and operational.

As discussed in Chapter 1, "Project Description," the Proposed Actions would facilitate the development of two projected development sites in the Proposed Rezoning Area that are owned by the Applicant. Projected Development Site 1 (1460 Sheridan Boulevard) includes Block 3017, Lot 74, and Projected Development Site 2 (1480 Sheridan Boulevard) includes Block 3017, Lot 29. Projected Development Sites 1 and 2 are separated by three intervening tax lots that comprise Potential Development Site A (Block 3017, Lots 60, 65 and 68). Projected Development Sites 1 and 2 are currently developed with industrial buildings, and Potential Development Site A is developed with an approximately 26,353 gross square foot (gsf), three-story hotel and an approximately 16,398 gsf, one-story industrial building that is currently vacant. Potential Development Site A is not owned by the Applicant, and there is no specific development proposal for this site. The Existing

Conditions in the Proposed Rezoning Area would remain in the No-Action Condition, and conservatively, no travel demand reduction credit was applied.

In the With-Action Condition, the RWCDS established that the existing industrial buildings on Projected Development Sites 1 and 2 would be demolished to facilitate the development of 970 dwelling units (DUs), approximately 21,229 gsf of local retail, approximately 1.28 acres of open space use and 100 accessory parking spaces on the Projected Development Sites ("the Proposed Development"). The detailed development program for the With-Action Condition, as well as the incremental difference between the No-Action and With-Action conditions used for transportation analyses, is shown in Table 12-1.

Table 12-1: Proposed Development Program

Condition	Projected Development Site	Residential (DU)	Local Retail (gsf)	Open Space (acres)	Parking (spaces)
No-Action	Site 1 – Bldg. 1	0	0	0	0
	Site 2 – Bldg. 2	0	0	0	0
	Site 2 – Bldg. 3	0	0	0	0
	Subtotal	**0**	**0**	**0**	**0**
With-Action	Site 1 – Bldg. 1	304	5,000	1.28	0
	Site 2 – Bldg. 2	345	9,209	0	100
	Site 2 – Bldg. 3	321	7,020	0	0
	Subtotal	**970**	**21,229**	**1.28**	**100**
Increment	Site 1 – Bldg. 1	304	5,000	1.28	0
	Site 2 – Bldg. 2	345	9,209	0	100
	Site 2 – Bldg. 3	321	7,020	0	0
	Total Increment	**970**	**21,229**	**1.28**	**100**

12.2 Principal Conclusions

Traffic

The Proposed Actions would generate approximately 161, 118, 166 and 186 vehicle trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. Traffic conditions were evaluated for these four peak hours at five intersections in the general vicinity of the Proposed Rezoning Area, where the vehicle trips generated by the Proposed Actions would exceed the CEQR threshold for conducting detailed traffic analysis. The capacity analyses indicate that five intersection approaches/lane groups in the study area would experience a potentially significant adverse traffic impact in at least one peak hour as a result of the Proposed Actions, summarized as follows:

- The westbound approach at the Sheridan Boulevard and Edgewater Road intersection, opposite Jennings Street, during the weekday AM peak hour.
- The northbound left-turn at the Sheridan Boulevard and Edgewater Road intersection, opposite Jennings Street, during the weekday AM, midday, PM and Saturday midday peak hours.
- The northbound through/right-turn at the Westchester Avenue and Edgewater Road intersection during the weekday PM peak hour.
- The southbound left-turn at the Westchester Avenue and Whitlock Avenue intersection during the weekday PM and Saturday midday peak hours.

- The southbound through and through/right-turn at the Westchester Avenue and Whitlock Avenue intersection during the weekday AM and midday peak hours.

Chapter 19, "Mitigation," discusses potential measures to mitigate these potentially significant adverse traffic impacts.

Transit

The Proposed Actions would generate approximately 107, 73, 108 and 120 bus trips; and 8, 5, 8 and 8 railroad trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. The quantities of bus and railroad trips during the four analysis peak hours are below the CEQR Level 1 screening threshold of 200 peak hour trips. Therefore, the Proposed Actions would not result in potentially significant adverse railroad or bus transit impacts per *CEQR Technical Manual* criteria.

The Proposed Actions would generate approximately 429, 270, 407 and 449 subway trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. Specifically, the Proposed Actions would result in more than 200 project-generated subway trips at the Freeman Street Subway Station during the weekday AM, PM and Saturday midday peak hours. Per *CEQR Technical Manual* guidelines and as directed by the MTA/New York City Transit (NYCT), transit conditions were evaluated for the weekday AM and PM peak hours at the stairway and fare control elements at the Freeman Street Subway Station. The capacity analyses indicate that these stairway and fare control elements are projected to operate at acceptable service conditions in the With-Action Condition, and therefore, the Proposed Actions would not result in potentially significant adverse subway station impacts per *CEQR Technical Manual* criteria.

In addition, the Proposed Actions would result in more than 200 project-generated subway trips on the Manhattan-bound No. 2 Subway Line in the weekday AM peak hour and on the Bronx-bound No. 2 Subway Line in the weekday PM peak hour. Therefore, transit conditions were evaluated for the weekday AM and PM peak hours on the Manhattan-bound and Bronx-bound No. 2 Subway Line, respectively. Capacity analyses indicate that the Manhattan-bound and Bronx-bound trains would operate over capacity during the weekday AM and PM peak hours, respectively. However, the Proposed Actions would not generate five or more peak hour average passengers per car in either direction on the No. 2 Subway Line. Therefore, the Proposed Actions would not result in a potentially significant adverse subway line-haul impact per *CEQR Technical Manual* criteria.

Pedestrians

The Proposed Actions would generate approximately 338, 520, 707 and 831 walk-only trips; and approximately 1,079, 1,028, 1,461 and 1,669 total person trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. Pedestrian conditions were evaluated for these 4 peak hours at 42 pedestrian elements – crosswalks, corners, and sidewalks – in the general vicinity of the Proposed Rezoning Area, where the pedestrian trips generated by the Proposed Actions would exceed the CEQR screening thresholds. The capacity analyses indicate that a total of seven pedestrian elements in the study area would experience a potentially significant adverse pedestrian impact in at least one peak hour as a result of the Proposed Actions, summarized as follows:

- The north crosswalk (across Sheridan Boulevard) at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, during the weekday midday peak hour.
- The south crosswalk (across Sheridan Boulevard) at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, during the weekday AM, midday, PM and Saturday midday peak hours.
- The north crosswalk (across Edgewater Road) at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, during the weekday PM and Saturday midday peak hours.
- The south crosswalk (across Edgewater Road) at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, during the weekday AM, midday, PM and Saturday midday peak hours.
- The northeast corner at the intersection of Longfellow Avenue and Freeman Street during the weekday AM peak hour.
- The northeast, east-west sidewalk at the intersection of Freeman Street and Hoe Avenue during the weekday AM, PM and Saturday midday peak hours.
- The northeast, north-south sidewalk at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, during the weekday AM and midday peak hours.

Chapter 19, "Mitigation," discusses potential measures to mitigate these potentially significant adverse pedestrian impacts.

Parking

The parking analysis evaluates the on- and off-street public parking supply and utilization within a ½-mile radius of the Proposed Rezoning Area. In the With-Action Condition, 100 accessory parking spaces would be provided on Projected Development Site 2 and the Proposed Actions would generate a peak parking demand during the overnight period of approximately 315 spaces for both the typical weekday and Saturday conditions. This would generate a peak demand of approximately 215 public parking spaces during the overnight periods.

The public parking demand generated by the Proposed Actions would be accommodated by the future supply of on- and off-street public parking spaces within ½-mile of the Proposed Rezoning Area during the weekday midday, weekday overnight, Saturday midday and Saturday overnight periods. Therefore, the Proposed Actions would not result in a potentially significant public parking shortfall in the study area per *CEQR Technical Manual criteria*.

Vehicular and Pedestrian Safety Evaluation

Crash data for the study area intersections were obtained from the New York City Department of Transportation (NYC DOT) for the January 1, 2017 to December 31, 2019 period. Based on this information, the intersection of Westchester Avenue and Whitlock Avenue is categorized as the study area's sole high-crash location because at least five total bicycle and pedestrian injury crashes occurred at this intersection within a consecutive 12-month period.

As part of the *Westchester Avenue, Southern Boulevard to Whitlock Avenue Safety Improvement Project (SIP)*, NYC DOT will implement pedestrian and bicycle safety improvement measures at the intersection of Westchester Avenue and Whitlock Avenue. The improvements include introducing a Lead Pedestrian Interval (LPI) signal phase, painting a corner extension on the east side of Whitlock Avenue, just south of Westchester Avenue, creating a parking-protected bicycle lane on the eastbound Westchester Avenue approach to Whitlock Avenue, and enhancing a Class II bicycle lane on westbound Westchester Avenue. These improvements are expected to improve overall safety for pedestrians and bicyclists at this intersection in the future conditions. Therefore, with implementation of the *Westchester Avenue, Southern Boulevard to Whitlock Avenue SIP*, the Proposed Actions are not expected to result in potentially significant vehicular and pedestrian safety concerns in the study area.

12.3 Transportation Screening Assessment

The *CEQR Technical Manual* describes a two-tier screening process to determine if quantified analyses of transportation conditions are warranted. The preliminary assessment begins with a trip generation analysis (Level 1 screening assessment) to estimate person and vehicle trips that would result from the Proposed Actions. According to the *CEQR Technical Manual*, a project that is expected to result in fewer than 50 peak hour vehicle trips, fewer than 200 peak hour transit or pedestrian trips and fewer than 50 Citywide Ferry Service (CWFS) trips does not warrant further quantified analyses. When these thresholds are exceeded, detailed trip assignments (Level 2 screening assessment) are performed to estimate the incremental trips at specific transportation elements and to identify potential locations for further detailed analyses. If the trip assignments show that the Proposed Actions could generate 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour passengers at a subway station or on a subway line, 50 or more peak hour bus trips in one direction along a bus route, 200 or more peak hour pedestrian trips traversing a pedestrian element, 50 or more peak hour passengers at a single CWFS landing or more than 25 peak hour CWFS trips in one direction along a CWFS route, then further quantified analyses may be warranted to assess transportation conditions in the study area.

Level 1 (Trip Generation) Screening Assessment

A Level 1 screening assessment was conducted in accordance with CEQR guidelines to determine if project-generated trips in the With-Action Condition would exceed CEQR screening thresholds for conducting quantified transportation analyses. To undertake this assessment, a trip generation analysis was conducted for the weekday AM, midday, PM and Saturday midday peak hours.

Trip Generation Analysis

Travel demand factors for residential, local retail and open space uses are summarized in Table 12-2. These factors are based on information provided in the *CEQR Technical Manual*, the *U.S. Census Bureau's 2015–2019 American Community Survey (ACS)* database, the *1965 Lafayette Avenue EAS* (CEQR No. 17DCP172X) and the *Lower Concourse North FGEIS* (CEQR No. 16DME012X).

Residential

Daily person trip generation rates of 8.18 person trips per dwelling unit (DU) for weekday and 9.08 person trips per DU for Saturday were obtained from the *CEQR Technical Manual.* Temporal distributions of 9.3 percent for the weekday AM peak hour, 5.6 percent for the weekday midday peak hour, 8.5 percent for the weekday PM peak hour, and 8.4 percent for the Saturday midday peak hour; and directional distributions for the weekday AM, midday, PM and Saturday midday peak hours were also obtained from the *CEQR Technical Manual.*

Modal splits of 19.7 percent by auto, 1.4 percent by taxi, 56.8 percent by subway, 13.6 percent by bus, 1.1 percent by railroad, 0.4 percent by bicycle and 7.1 percent by walk were based on *U.S. Census Bureau 2015-2019 ACS Journey-to-Work (JTW)* data for the study area Census Tracts. Average vehicle occupancies of 1.19 persons per auto and 1.40 persons per taxi were obtained from *U.S. Census Bureau 2015-2019 ACS JTW* data and from the *1965 Lafayette Avenue EAS*, respectively.

For truck deliveries, daily trip generation rates of 0.06 trips per DU for weekday and 0.02 trips per DU for Saturday were obtained from the *CEQR Technical Manual*. Temporal and directional distribution factors for truck deliveries were also obtained from the *CEQR Technical Manual*.

Local Retail

Daily person trip generation rates of 329 person trips per 1,000 gsf for weekday and 358 person trips per 1,000 gsf for Saturday were obtained from the *CEQR Technical Manual*. 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; and directional distributions for the weekday AM, midday, PM and Saturday midday peak hours were also obtained from the *CEQR Technical Manual*.

Modal splits of 11.0 percent by auto, 3.0 percent by subway, 2.0 percent by bus, and 84.0 percent by walk; and average vehicle occupancies of 2.10 persons per auto and 2.10 persons per taxi were based on guidance from NYC DOT.

For truck deliveries, daily trip generation rates of 0.35 trips per 1,000 gsf for weekday and 0.04 trips per 1,000 gsf for Saturday were obtained from *the CEQR Technical Manual*. Temporal and directional distribution factors for truck deliveries were also obtained from the *CEQR Technical Manual*.

Open Space

Daily person trip generation rates of 139 person trips per acre for weekday and 196 person trips per acre for Saturday were obtained from the *CEQR Technical Manual*. Temporal distributions of 3.0 percent for the weekday AM peak hour, 14.0 percent for the weekday midday peak hour, 14.0 percent for the weekday PM peak hour, and 16.0 percent for the Saturday midday peak hour; and directional distributions for the weekday AM, midday, PM and Saturday midday peak hours were also obtained from the *CEQR Technical Manual*.

Modal splits of 12.0 percent by auto, 5.0 percent by subway, 5.0 percent by bus, and 78.0 percent by walk; and average vehicle occupancies of 2.80 persons per auto and 2.80 persons per taxi were obtained from the *Lower Concourse North FGEIS*.

Per the *Lower Concourse North FGEIS*, open space does not generate any delivery trips.

Incremental Trips Generated by the Proposed Actions

Trip generation estimates for the Proposed Development are summarized in Table 12-3. Based on this summary, the Proposed Actions would result in approximately 1,079, 1,028, 1,461 and 1,669 person trips and approximately 161, 118, 166 and 186 vehicle trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively.

Table 12-2: Transportation Planning Assumptions

Use	Residential				Retail				Open Space			
	970 DUs				21,229 gsf				1.28 acres			
Total Daily Person Trip	(1)				(1)				(1)			
	Weekday		**SAT**		**Weekday**		**SAT**		**Weekday**		**SAT**	
	8.18		9.08		329		358		139		196	
	Trips/DU				Trips/KSF				Trips/acre			
Trip Linkage	0				0				0			
	0%		0%		0%		0%		0%		0%	
Net Daily Person Trip	**Weekday**		**SAT**		**Weekday**		**SAT**		**Weekday**		**SAT**	
	8.18		9.08		329.00		358.00		139.00		196.00	
	Trips/DU				Trips/KSF				Trips/acre			
Temporal	(1)				(1)				(1)			
	AM	**MD**	**PM**	**SAT**	**AM**	**MD**	**PM**	**SAT**	**AM**	**MD**	**PM**	**SAT**
	9.3%	5.6%	8.5%	8.4%	4.8%	8.0%	10.9%	11.7%	3%	14%	14%	16%
Direction	(1)				(1)				(1)			
In	22%	50%	62%	55%	52%	50%	50%	50%	59%	55%	55%	55%
Out	78%	50%	38%	45%	48%	50%	50%	50%	41%	45%	45%	45%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Modal Split	(3)				(4)				(5)			
	AM	**MD**	**PM**	**SAT**	**AM**	**MD**	**PM**	**SAT**	**AM**	**MD**	**PM**	**SAT**
Auto	19.7%	19.7%	19.7%	19.7%	11.0%	11.0%	11.0%	11.0%	12.0%	12.0%	12.0%	12.0%
Taxi	1.4%	1.4%	1.4%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subway	56.8%	56.8%	56.8%	56.8%	3.0%	3.0%	3.0%	3.0%	5.0%	5.0%	5.0%	5.0%
Bus	13.6%	13.6%	13.6%	13.6%	2.0%	2.0%	2.0%	2.0%	5.0%	5.0%	5.0%	5.0%
Railroad	1.1%	1.1%	1.1%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bicycle	0.4%	0.4%	0.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Walk	7.1%	7.1%	7.1%	7.1%	84.0%	84.0%	84.0%	84.0%	78.0%	78.0%	78.0%	78.0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Vehicle Occupancy	(2)(3)				(4)				(5)			
	AM	**MD**	**PM**	**SAT**	**AM**	**MD**	**PM**	**SAT**	**AM**	**MD**	**PM**	**SAT**
Auto	1.19	1.19	1.19	1.19	2.10	2.10	2.10	2.10	2.80	2.80	2.80	2.80
Taxi	1.40	1.40	1.40	1.40	2.10	2.10	2.10	2.10	2.80	2.80	2.80	2.80
Daily Delivery Trip Generation Rate	(1)				(1)				(5)			
	Weekday		**SAT**		**Weekday**		**SAT**		**Weekday**		**SAT**	
	0.06		0.02		0.35		0.04		0		0	
	Delivery Trips/DU				Delivery Trips/KSF				Delivery Trips/acre			
Delivery Temporal	(1)				(1)				(5)			
	AM	**MD**	**PM**	**SAT**	**AM**	**MD**	**PM**	**SAT**	**AM**	**MD**	**PM**	**SAT**
	12%	9%	2%	9%	8%	11%	2%	11%	0%	0%	0%	0%
Delivery Direction	(1)				(1)				(5)			
In	50%	50%	50%	50%	50%	50%	50%	50%	0%	0%	0%	0%
Out	50%	50%	50%	50%	50%	50%	50%	50%	0%	0%	0%	0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**0%**	**0%**	**0%**	**0%**

Notes:
1. *2021 CEQR Technical Manual*
2. *1965 Lafayette Avenue EAS* (CEQR No. 17DCP172X)
3. *U.S. Census Bureau 2015-2019 American Community Survey 5-Year Journey to Work* data (weighted average of Census Tracts 52, 54, 56, 123 & 157 of Bronx County, NY)
4. Local Retail modal split and vehicle occupancy provided by NYC DOT
5. *Lower Concourse North FGEIS* (CEQR No. 16DME012X)

Table 12-3: Transportation Demand Forecast, Project-Generated Trips

			Person Trips								Vehicle Trips			
Use	**Peak Hour**	**In/Out**	**Auto**	**Taxi**	**Subway**	**Bus**	**Railroad**	**Bicycle**	**Walk**	**Total**	**Auto**	**Taxi**	**Delivery**	**Total**
Residential	Weekday AM	In	32	2	92	22	2	1	12	162	27	7	3	37
		Out	113	8	327	78	7	2	41	576	95	7	3	106
		Total	**145**	**10**	**419**	**100**	**8**	**3**	**52**	**738**	**122**	**14**	**7**	**143**
	Weekday Midday	In	44	3	126	30	3	1	16	222	37	4	3	44
		Out	44	3	126	30	3	1	16	222	37	4	3	44
		Total	**87**	**6**	**252**	**60**	**5**	**2**	**32**	**444**	**73**	**9**	**5**	**87**
	Weekday PM	In	82	6	238	57	5	2	30	418	69	7	1	76
		Out	50	3	146	35	3	1	18	256	42	7	1	49
		Total	**133**	**9**	**383**	**91**	**8**	**2**	**48**	**674**	**111**	**13**	**1**	**125**
	Saturday	In	80	5	231	55	5	1	29	407	67	7	1	75
		Out	66	4	189	45	4	1	24	333	55	7	1	63
		Total	**146**	**10**	**420**	**100**	**8**	**3**	**53**	**740**	**122**	**14**	**2**	**138**
Retail	Weekday AM	In	19	0	5	3	0	0	146	174	9	0	0	9
		Out	18	0	5	3	0	0	135	161	8	0	0	9
		Total	**37**	**0**	**10**	**7**	**0**	**0**	**282**	**335**	**18**	**0**	**1**	**18**
	Weekday Midday	In	31	0	8	6	0	0	235	279	15	0	0	15
		Out	31	0	8	6	0	0	235	279	15	0	0	15
		Total	**61**	**0**	**17**	**11**	**0**	**0**	**469**	**559**	**29**	**0**	**1**	**30**
	Weekday PM	In	42	0	11	8	0	0	320	381	20	0	0	20
		Out	42	0	11	8	0	0	320	381	20	0	0	20
		Total	**84**	**0**	**23**	**15**	**0**	**0**	**639**	**761**	**40**	**0**	**0**	**40**
	Saturday	In	49	0	13	9	0	0	373	445	23	0	0	23
		Out	49	0	13	9	0	0	373	445	23	0	0	23
		Total	**98**	**0**	**27**	**18**	**0**	**0**	**747**	**889**	**47**	**0**	**0**	**47**
Open Space	Weekday AM	In	0	0	0	0	0	0	2	3	0	0	0	0
		Out	0	0	0	0	0	0	2	2	0	0	0	0
		Total	**1**	**0**	**0**	**0**	**0**	**0**	**4**	**5**	**0**	**0**	**0**	**0**
	Weekday Midday	In	2	0	1	1	0	0	11	14	1	0	0	1
		Out	1	0	1	1	0	0	9	11	0	0	0	0
		Total	**3**	**0**	**1**	**1**	**0**	**0**	**19**	**25**	**1**	**0**	**0**	**1**
	Weekday PM	In	2	0	1	1	0	0	11	14	1	0	0	1
		Out	1	0	1	1	0	0	9	11	0	0	0	0
		Total	**3**	**0**	**1**	**1**	**0**	**0**	**19**	**25**	**1**	**0**	**0**	**1**
	Saturday	In	3	0	1	1	0	0	17	22	1	0	0	1
		Out	2	0	1	1	0	0	14	18	1	0	0	1
		Total	**5**	**0**	**2**	**2**	**0**	**0**	**31**	**40**	**2**	**0**	**0**	**2**
Total	Weekday AM	In	52	2	98	26	2	1	160	340	36	7	4	47
		Out	131	8	332	81	7	2	178	739	103	7	4	114
		Total	**183**	**10**	**429**	**107**	**8**	**3**	**338**	**1,079**	**139**	**14**	**8**	**161**
	Weekday Midday	In	76	3	135	36	3	1	261	515	52	4	3	59
		Out	76	3	135	36	3	1	259	513	52	4	3	59
		Total	**152**	**6**	**270**	**73**	**5**	**2**	**520**	**1,028**	**104**	**9**	**6**	**118**
	Weekday PM	In	126	6	250	65	5	2	360	813	89	7	1	97
		Out	94	3	158	43	3	1	347	648	63	7	1	70
		Total	**220**	**9**	**407**	**108**	**8**	**2**	**707**	**1,461**	**152**	**13**	**1**	**166**
	Saturday	In	132	5	246	65	5	1	420	874	91	7	1	99
		Out	117	4	203	55	4	1	411	796	79	7	1	87
		Total	**248**	**10**	**449**	**120**	**8**	**3**	**831**	**1,669**	**170**	**14**	**2**	**186**

Note: In and Out volumes may not sum to Total due to rounding.

Traffic

Table 12-3 shows the Proposed Actions would result in approximately 161, 118, 166 and 186 vehicle trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. The vehicle trips during the weekday AM, midday, PM and Saturday midday

peak hours would exceed the CEQR Level 1 trip generation threshold (50 peak hour vehicle trip-ends). Therefore, a Level 2 screening assessment for project-generated vehicle trips was conducted for these four peak hours.

Transit

The Proposed Rezoning Area is currently served by four MTA/NYCT bus routes, which include the Bx4, Bx4A, Bx11, and Bx27. Note that on June 26, 2022, the Bronx Local Bus Network Redesign ("the Bronx Redesign") will be implemented by the MTA/NYCT. Beginning on this date, the Bx11 route will no longer serve the Proposed Rezoning Area. However, the Bx35 route will be re-routed within the study area to the same general vicinity as the previous Bx11 route. Figure 12-1 shows the routing of the Bx4, Bx4A, Bx27 and Bx35 bus routes that will serve the Proposed Rezoning Area after implementation of the Bronx Redesign. The Proposed Rezoning Area is also served by three MTA/NYCT subway lines, which include the No. 6 Subway Line, located approximately 0.2 miles to the south at the Whitlock Avenue Station, and the No. 2 and 5 Subway Lines, both located approximately 0.5 miles and 0.8 miles to the west at the Freeman Street Station and 174th Street Station, respectively.

Figure 12-1: Transit Map

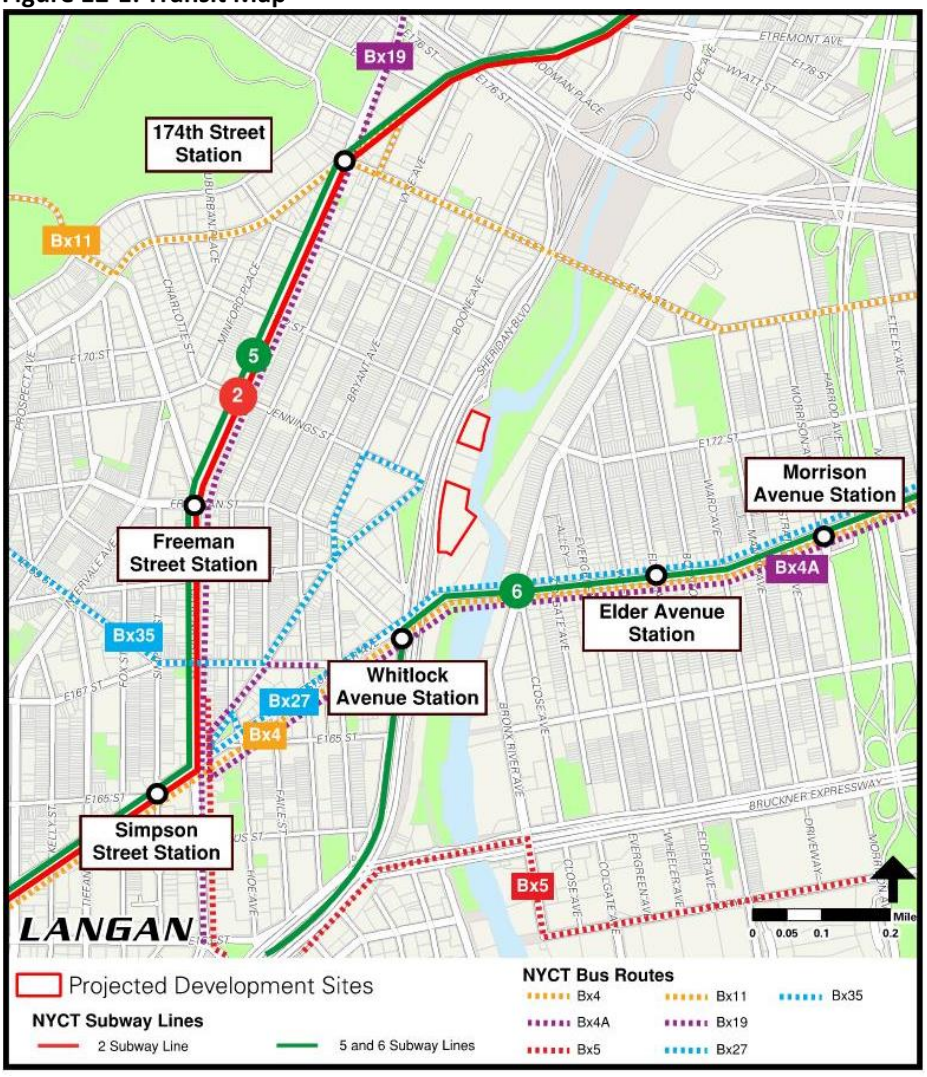


Table 12-3 shows the Proposed Actions would result in approximately 429, 270, 407 and 449 subway trips; 107, 73, 108 and 120 bus trips; and 8, 5, 8 and 8 railroad trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. The quantities of bus and railroad trips during the four analysis peak hours are below the CEQR Level 1 threshold of 200 peak hour rail or bus trips. Therefore, further detailed analysis of railroad and bus transit conditions is not warranted, and the Proposed Actions would not result in a potentially significant adverse railroad or bus transit impact. The subway trips during the weekday AM, midday, PM and Saturday midday peak hours would exceed the CEQR Level 1 threshold of 200 peak hour subway trips. Therefore, a Level 2 screening assessment for the project-generated subway trips was conducted for these four peak hours.

Pedestrians

Table 12-3 shows the Proposed Actions would result in approximately 1,079, 1,028, 1,461 and 1,669 person trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. The person trips during the weekday AM, midday, PM and Saturday midday analysis peak hours would exceed the CEQR Level 1 threshold (200 peak hour pedestrian trips). Therefore, a Level 2 screening assessment for the project-generated pedestrian trips was conducted for these four peak hours.

Level 2 (Project-Generated Trip Assignment) Screening Assessment

A Level 2 screening assessment involves the assignment of project-generated trips to the study area street network, pedestrian elements and transit facilities, and the identification of specific locations where the increase in demand may potentially exceed *CEQR Technical Manual* analysis thresholds. If these thresholds are exceeded, quantitative analyses would be warranted to identify any adverse impacts that result from the Proposed Actions.

Traffic

Multiple routes from nearby major arterial and collector roads are available to access/egress the Proposed Rezoning Area, which has frontage along Edgewater Road. For the Level 2 screening assessment, project-generated vehicle trips were assigned through various intersections in the study area based on the *CEQR Technical Manual* guidelines, prevailing travel patterns and the existing roadway configuration. Traffic assignments for autos, taxis and deliveries for individual development program components are discussed as follows:

Auto

Residential vehicular trips were assigned based on guidance from *U.S. Census Bureau JTW Origin/Destination (O/D)* patterns and direct routes to/from the sites. The proposed on-site parking garage would be on Projected Development Site 2. For conservative analysis purposes, Projected Development Site 1's trips were assigned to the east curb of Edgewater Road at the site frontage and Projected Development Site 2's trips were assigned to the on-site garage.

Vehicular trips for the local retail component were assigned to the study area roadways based on direct routes to/from the site and prevailing travel patterns. For conservative analysis purposes, all auto trips were assigned to the east curb of Edgewater Road at the respective sites' frontage.

Taxi

Taxi trips generated by Projected Development Sites 1 and 2 were assigned to pick-up/drop-off fares along the east curb of Edgewater Road at each site's frontage, respectively. Overall, the taxi trips were distributed to the study area streets/roadways following the same general distribution pattern as the residential auto trips.

Deliveries

Delivery trips to/from the Proposed Development were assigned to NYC DOT-designated truck routes via Sheridan Boulevard. Note that West Farms Road and Westchester Avenue are additional, local truck routes in close proximity to the Proposed Rezoning Area, and could potentially be generators of truck traffic to/from the Proposed Development. Conservatively, delivery vehicles were assigned to Projected Development Sites 1 and 2 via Sheridan Boulevard and the same points of access/egress used for the auto assignments.

Study Area

Using these distribution patterns, the project-generated peak hour vehicle trips were assigned to the study area intersections for the weekday AM, midday, PM and Saturday midday peak hours (see Appendix H – Figures H-1 through H-4).

Based on these assignments, the following 4 intersections could experience 50 or more peak hour vehicle trips during at least one of the four peak hours, and were selected for detailed traffic analysis.

1. Sheridan Boulevard and East 173rd Street;
2. Sheridan Boulevard, Edgewater Road and East 172nd Street;
3. Sheridan Boulevard, Edgewater Road and Jennings Street; and
4. Edgewater Road and Westchester Avenue.

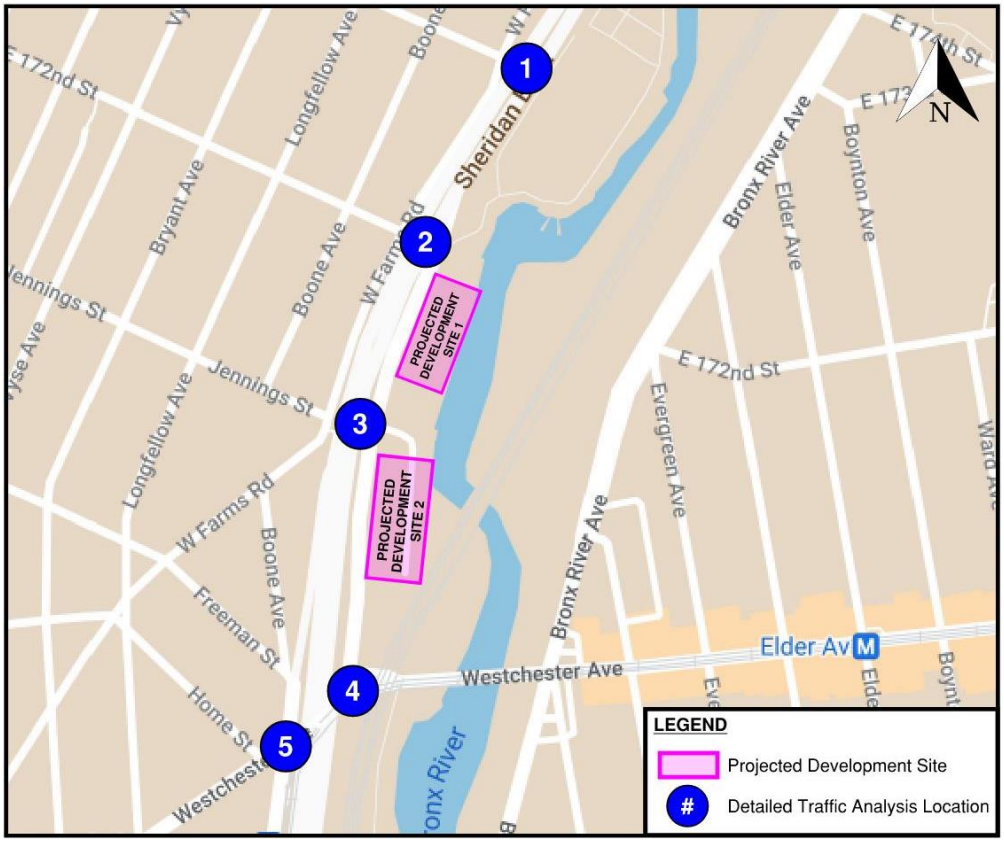
As identified in the *2019 Vision Zero Bronx Pedestrian Safety Action,* Westchester Avenue is a Vision Zero "Priority Corridor." The intersections along the Vision Zero Priority Corridor within ¼-mile of the Proposed Rezoning Area are as follows:

1. Bryant Avenue and Westchester Avenue;
2. Longfellow Avenue, East 167th Street and Westchester Avenue;
3. Home Street and Westchester Avenue;
4. Whitlock Avenue and Westchester Avenue;
5. Bronx River Avenue, Close Avenue and Westchester Avenue;
6. Colgate Avenue and Westchester Avenue;
7. Evergreen Avenue and Westchester Avenue; and
8. Wheeler Avenue and Westchester Avenue.

Based on the above criteria, the Whitlock Avenue and Westchester Avenue intersection is categorized as a high-crash location under *CEQR Technical Manual* criteria and was additionally selected for detailed traffic analysis. Detailed information on the selection of high-crash locations and supplemental assessment is provided in Appendix H.

In summary, based on the above criteria identified for Level 2 trip assignments and high-crash locations, five intersections were selected for detailed traffic analysis (see Figure 12-2).

Figure 12-2: Detailed Traffic Analysis Locations



Pedestrians

Pedestrian trips were assigned based on the location of specific development sites and key transportation elements including transit stations/stops in the study area. Pedestrian assignments for the residential and retail development components are discussed by mode.

Auto

Conservatively, auto person trips were distributed to routes to and from nearby on-street parking areas leading to Projected Development Sites 1 and 2.

Taxi

Taxi person trips generated by Projected Development Sites 1 and 2 were assigned to pick-up/drop-off points along the east sidewalk of Edgewater Road along each site's frontage, respectively. The pedestrians were assigned to the respective site entrances to access and egress the Proposed Development.

Bus Service

Project-generated bus person trips were assigned to bus routes that will serve the Proposed Rezoning Area after implementation of the Bronx Redesign. Bus commuters using the Bx35 route would use the proposed bus stop along the east side of West Farms Road between Boone Avenue and Jennings Street. Bus commuters using the Bx4, Bx4A and Bx27 routes would use the stops along Westchester Avenue between Bryant Avenue and Home Street. These commuters would use the sidewalks, crosswalks, and corners on

Sheridan Boulevard, Edgewater Road, West Farms Road, and Westchester Avenue to access/egress the Proposed Development.

Subway Service

Subway commuters using the No. 6 Subway Line would use the Whitlock Avenue Station. Subway commuters using the Nos. 2 or 5 Subway Lines would use the Freeman Street and 174th Street stations. Railroad commuters were assumed to take the subway to/from railroad stations. These commuters would use the sidewalks, crosswalks, and corners along the most direct routes to/from the subway stations to access/egress the Proposed Development.

Local Walk Trips

Local walk trips to and from the Proposed Development were based on adjacent land uses, the existing roadway network and prevailing travel patterns.

Study Area

Using these distribution patterns, the project-generated peak hour pedestrian trips were assigned to the study area sidewalks, crosswalks, and corners for the weekday AM, midday, PM and Saturday midday peak hours (see Appendix H – Figures H-5 through H-8). Based on these assignments, the following 30 elements could experience 200 or more pedestrian trips during at least one of the four peak hours and were selected for detailed analysis (see Figure 12-3 through Figure 12-5).

1. North Crosswalk of Edgewater Road and Westchester Avenue;
2. North Crosswalk of Whitlock Avenue and Westchester Avenue;
3. East Crosswalk of Whitlock Avenue and Westchester Avenue;
4. South Crosswalk of Edgewater Road and Jennings Street;
5. North Crosswalk of Edgewater Road and Jennings Street;
6. South Crosswalk of Sheridan Boulevard and Jennings Street;
7. North Crosswalk of Sheridan Boulevard and Jennings Street;
8. North Crosswalk of Longfellow Avenue and Freeman Street;
9. Northeast Corner of Edgewater Road and Westchester Avenue;
10. Northwest Corner of Edgewater Road and Westchester Avenue;
11. Northeast Corner of Whitlock Avenue and Westchester Avenue;
12. Southeast Corner of Whitlock Avenue and Westchester Avenue;
13. Northwest Corner of Whitlock Avenue and Westchester Avenue;
14. Northwest Corner of West Farms Road and Freeman Street;
15. Northeast Corner of Longfellow Avenue and Freeman Street;
16. Northwest Corner of Longfellow Avenue and Freeman Street;
17. North Sidewalk of Westchester Avenue between Whitlock Avenue and Edgewater Road;
18. East Sidewalk of Edgewater Road between Westchester Avenue and Jennings Street;
19. East Sidewalk of Edgewater Road between Jennings Street and East 172nd Street;
20. East Sidewalk of Edgewater Road between East 172nd Street and East 173rd Street;
21. North Sidewalk of Jennings Street between Boone Avenue and West Farms Road;
22. West Sidewalk of West farms Road between Jennings Street and Boone Avenue;
23. East Sidewalk of West Farms Road between Jennings Street and Boone Avenue;
24. West Sidewalk of West Farms Road between Boone Avenue and Freeman Street;
25. East Sidewalk of West Farms Road between Boone Avenue and Freeman Street;
26. North Sidewalk of Freeman Street between West Farms Road and Longfellow Avenue;
27. North Sidewalk of Freeman Street between Bryant Avenue and Longfellow Avenue;

28. North Sidewalk of Freeman Street between Vyse Avenue and Bryant Avenue;
29. North Sidewalk of Freeman Street between Hoe Avenue and Vyse Avenue; and,
30. North Sidewalk of Freeman Street between Freeman Street Subway Station and Hoe Avenue.

Figure 12-3: Detailed Pedestrian Analysis Locations

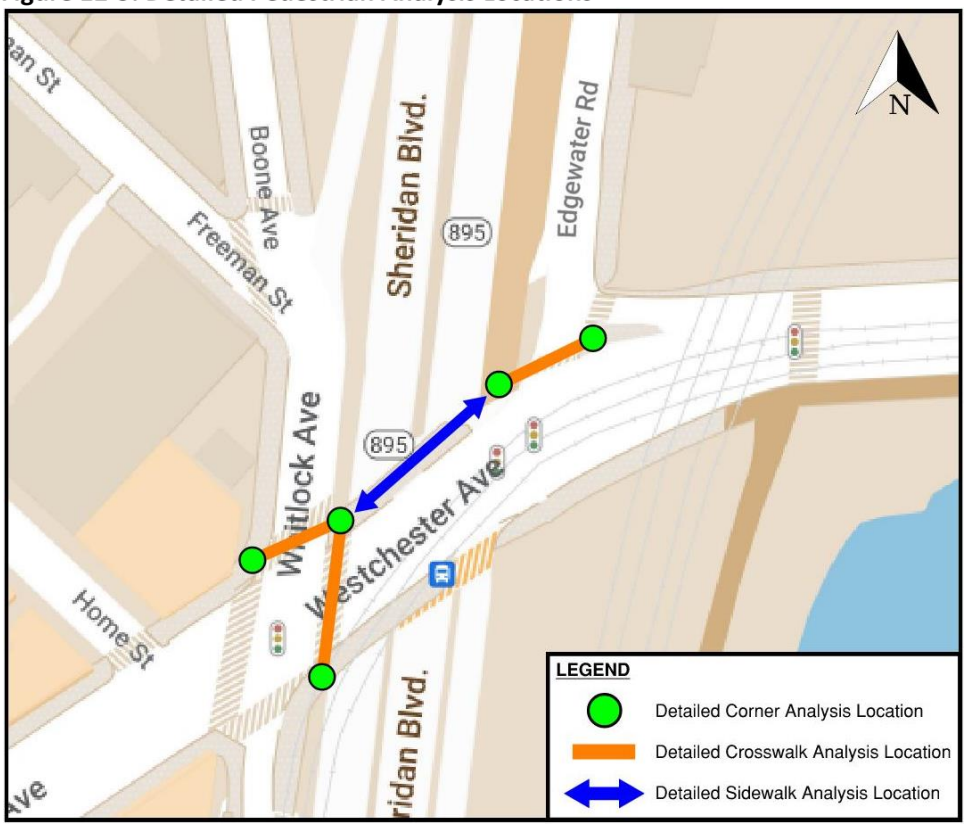


Figure 12-4: Detailed Pedestrian Analysis Locations (cont.)

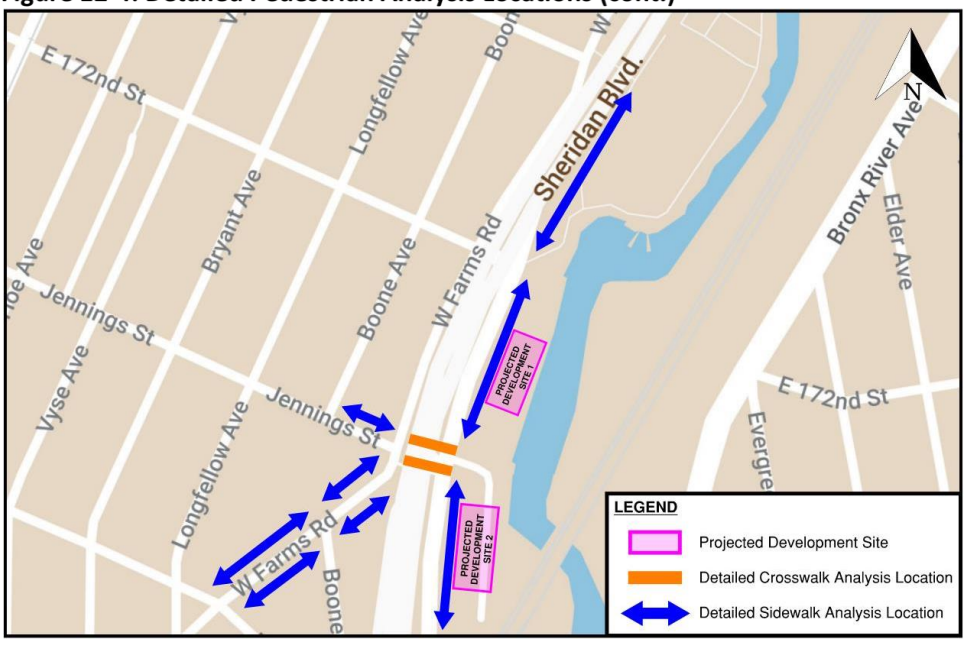
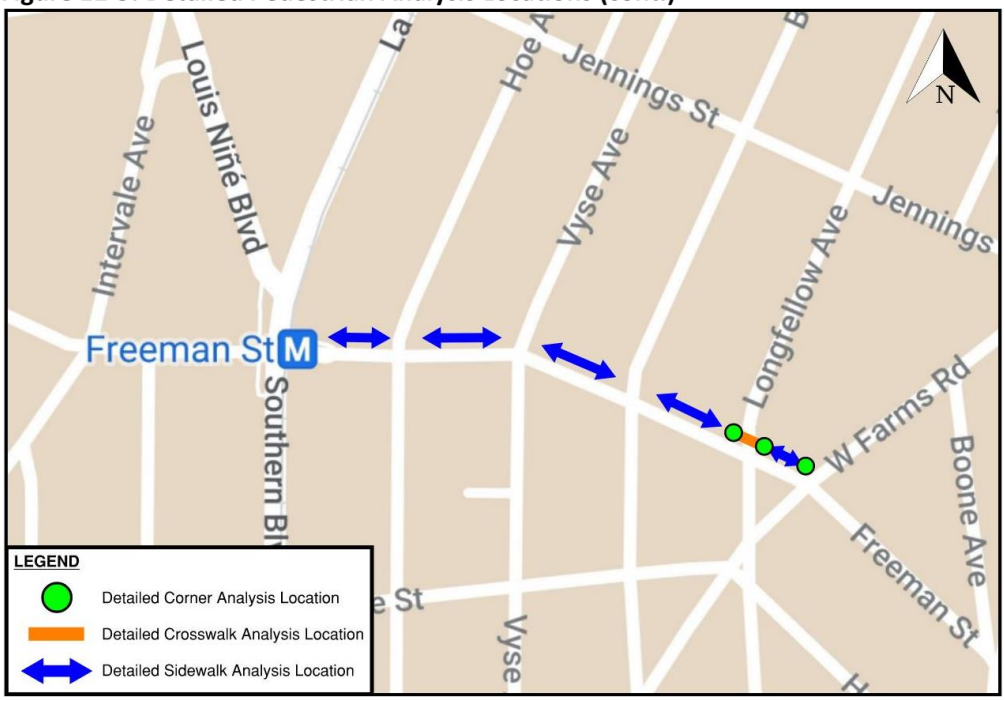


Figure 12-5: Detailed Pedestrian Analysis Locations (cont.)



Additional corner and crosswalk locations near the Proposed Development may experience 200 or more pedestrian trips during at least one of the four peak hours. However, these elements are part of unsignalized intersections; and therefore, would not require quantitative analyses based on the CEQR and Highway Capacity Manual (HCM) methodologies.

Transit

Subway and railroad trips were distributed evenly to the three subway lines in close proximity of the Proposed Development: the No. 6 Subway Line at the Whitlock Avenue Station and the Nos. 2 and 5 Subway Lines at the Freeman Street and 174th Street stations. Projected Development Site 1 is approximately equidistant from the Freeman Street and 174th Street stations; and therefore, the Site 1 subway trips destined for the Nos. 2 and 5 lines were distributed evenly between the two subway stations. Projected Development Site 2 is closer to the Freeman Street Station; and therefore, the Site 2 subway trips destined for the Nos. 2 and 5 lines were assigned to the Freeman Street Station. Note that the No. 5 Subway Line operates with peak direction express service in the Bronx on weekdays from East 180th Street to 3rd Avenue-149th Street during morning rush hours and from 3rd Avenue-149th Street to East 180th Street during evening rush hours. Therefore, the Manhattan-bound subway trips in the weekday AM peak hour and the Bronx-bound subway trips in the weekday PM peak hour, which would have been assigned to the No. 5 line, were instead assigned to the No. 2 line traveling in the same direction during the weekday AM and PM peak hours, respectively.

Using these distribution patterns, the peak hour project-generated subway trips were assigned to the subway stations and lines for the weekday AM, midday, PM and Saturday midday peak hours (see Table 12-4). Based on these assignments, the Freeman Street Subway Station could experience 200 or more peak hour project-generated subway trips during the weekday AM, PM and Saturday midday peak hours. Per *CEQR Technical Manual* guidelines and as directed by the MTA/NYCT, the Freeman Street Station was selected for

detailed subway station analysis during only the weekday AM and PM peak hours. In addition, the Manhattan-bound and Bronx-bound No. 2 Subway Line could experience 200 or more peak hour project-generated subway trips during the weekday AM and PM peak hours, respectively, and was selected for detailed subway line-haul analysis.

Table 12-4: Subway Station and Subway Line Project-Generated Trip Assignment Summary

	Peak Hour			
Subway Station	**Weekday AM**	**Weekday Midday**	**Weekday PM**	**Saturday Midday**
174th Street Station	45	28	43	47
No. 2 Subway Line	39	14	34	24
No. 5 Subway Line	7	14	9	24
Freeman Street Station	246	155	234	258
No. 2 Subway Line	209	78	186	129
No. 5 Subway Line	37	78	47	129
Whitlock Avenue Station	146	92	138	152
No. 6 Subway Line	146	92	138	152
Total Subway Trips	438	275	415	457
Total No. 2 Subway Line Trips	248	92	221	152
Total No. 5 Subway Line Trips	44	92	56	152
Total No. 6 Subway Line Trips	146	92	138	152

12.4 Transportation Analyses Methodologies

Traffic

The traffic capacity analyses are based on methodologies presented in the *2000 Highway Capacity Manual (HCM)* using the *Synchro* traffic modeling software. The HCM methodology produces a volume-to-capacity (v/c) ratio for each signalized intersection approach. The v/c ratio represents the ratio of traffic volume on an approach to the approach's carrying capacity. A v/c ratio of less than 0.90 is generally considered indicative of non-congested conditions in dense urban areas; when higher than this value, the ratio reflects increasing congestion. At a v/c ratio between 0.95 and 1.0, near-capacity conditions are reached and delays can become substantial. Ratios of greater than 1.0 indicate saturated conditions with queuing. The HCM methodology also expresses the quality of traffic flow in terms of level of service (LOS), which is based on the delay that a driver typically experiences at an intersection. The LOS scale ranges from A, representing minimal delay (10 seconds or less per vehicle), to F, which represents long delays (greater than 80 seconds per vehicle). For unsignalized intersections, the HCM methodology generally assumes that traffic on the major street is not affected by traffic flows on the minor street. Left turns from a major street are assumed to be affected by the opposing traffic flow on that major street. Traffic on minor streets is affected by all conflicting movements. Similar to signalized intersections, the HCM methodology expresses the quality of traffic flow at unsignalized intersections in terms of LOS based on the amount of delay that a driver experiences. LOS definitions used to characterize traffic flows at unsignalized intersections differ somewhat from those used for signalized intersections, primarily because drivers anticipate different levels of performance from the two different kinds of intersections.

For unsignalized intersections, LOS ranges from A, representing minimal delay (10 seconds or less per vehicle, as it is for signalized intersections), to F, which represents long delays (greater than 50 seconds per vehicle, compared to greater than 80 seconds per vehicle for signalized intersections).

Table 12-5 shows the LOS/delay relationship for signalized and unsignalized intersections using the HCM methodology. LOS A, B and C generally represent highly favorable to fair levels of traffic flow. At LOS D, the influence of congestion becomes noticeable. LOS E is considered to be the limit of acceptable delay, and LOS F is considered to be unacceptable to most drivers.

Table 12-5: Intersection LOS Criteria based on HCM Methodology

	Average Control Delay (second/vehicle)	
LOS	**Signalized Intersection**	**Unsignalized Intersection**
A	≤ 10.0	≤ 10.0
B	> 10.0 – 20.0	> 10.0-15.0
C	> 20.0 – 35.0	> 15.0 – 25.0
D	> 35.0 – 55.0	> 25.0 – 35.0
E	> 55.0 – 80.0	> 35.0 – 50.0
F	> 80.0	> 50.0

Significant Impact Criteria

The *CEQR Technical Manual* identifies LOS D or better as an acceptable LOS for signalized and unsignalized intersections. The *CEQR Technical Manual* also indicates that potentially significant adverse traffic impacts could occur at signalized and unsignalized intersections if the Proposed Actions result in any of the following:

- For a lane group that operates at LOS E in the With-Action Condition, an increase in projected delay of 5.0 seconds or more compared to the No-Action Condition; or,
- For a lane group that operates at LOS F in the With-Action Condition, an increase in projected delay of 4.0 seconds or more compared to the No-Action Condition.

Pedestrians

The adequacy of a study area's crosswalks, corners and sidewalk capacities in relation to the projected demand is evaluated based on the methodologies presented in the 2010 HCM, pursuant to procedures detailed in the *CEQR Technical Manual*.

Sidewalks are analyzed in terms of pedestrian space, expressed as square feet per pedestrian (ft^2/p) and the HCM 2010 methodology for platoon flow should be used. The LOS standards for sidewalks are summarized in Table 12-6 based on HCM methodology.

Table 12-6: Sidewalk/Walkway LOS

LOS	Average Pedestrian Space (ft^2/p)
A	≥ 530.1
B	90.1 – 530.0
C	40.1 – 90.0
D	23.1 – 40.0
E	11.1 – 23.0
F	≤ 11.0

Crosswalks and street corners are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Street corners must be able to provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the street or moving around the corner). The HCM methodologies apply a measure of time and space availability based on the area of the corner, the timing of the intersection signal and the estimated space used by circulating pedestrians.

The total "time-space" available for these activities, expressed in square feet-second, is calculated by multiplying the net area of the corner (in square feet) by the signal's cycle length. The analysis then determines the total circulation time for all pedestrian movements at the corner per signal cycle (expressed as pedestrians per second). The ratio of net time-space divided by the total pedestrian circulation volume per signal cycle provides the LOS measurement of square feet per pedestrian (ft^2/p).

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

Table 12-7 defines the LOS criteria for pedestrian crosswalk/corner areas based on HCM methodology.

Table 12-7: Corner/Crosswalk LOS Pedestrian Space

LOS	Average Pedestrian Space (ft^2/p)
A	≥ 60.0
B	> 40.0 – 60.0
C	> 24.0 – 40 .0
D	> 15.0 – 24.0
E	> 8.0 – 15.0
F	≤ 8.0

Significant Impact Criteria

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

Sidewalks

The criterion to determine the potential for significant adverse sidewalk impacts varies by type of pedestrian flow (i.e., non-platoon or platoon) and the type of area (CBD or non-CBD).

For analysis purposes, the non-CBD and platoon flow criteria have been used. Under these conditions, average pedestrian space under the With-Action Condition deteriorating within acceptable LOS (LOS C or better) should generally not be considered a significant

impact. If the pedestrian space available under the With-Action Condition deteriorates to LOS D or worse, then the determination whether the impact is significant or not is based on a sliding scale. The sliding scale varies within the range of average pedestrian space available under the No-Action Condition. Significant adverse sidewalk impacts with platoon flow may occur in a non-CBD area under the following conditions:

- If the average pedestrian space under the No-Action Condition is greater than 44.3 ft^2/p, then a decrease in pedestrian space in the With-Action Condition to 40.0 ft^2/p or less (LOS C or worse) should be considered a significant impact. If the average pedestrian space under the With-Action Condition is greater than 40.0 ft^2/p (LOS C or better), the impact is not significant.
- If the average pedestrian space under the No-Action Condition is between 6.4 and 44.3 ft^2/p, a decrease in pedestrian space under the With-Action Condition should be considered significant using the sliding scale formula in the equation below or using Table 12-8.
- If the decrease in average pedestrian space is less than the value calculated from the formula or Table 12-8, the impact should not be considered significant.
- If the average pedestrian space under the No-Action Condition is less than 6.4 ft^2/p, then a decrease in pedestrian space greater than or equal to 0.3 ft^2/p should be considered significant.

$Y \geq X / 9.5-0.321$

Where:

Y = decrease in pedestrian space in ft^2/p to be considered a potential significant impact

X = No-Action Condition pedestrian space in ft^2/p

Table 12-8: Significant Impact Guidance for Sidewalks Platooned flow, Non-CBD

No-Action Pedestrian Space (ft^2/p)	With-Action Pedestrian Space Reduction to be Considered a Significant Adverse Sidewalk Impact (ft^2/p)
> 44.3	With-Action Condition ≤ 40.0
43.5 – 44.3	Reduction ≥ 4.3
42.5 – 43.4	Reduction ≥ 4.2
41.6 – 42.4	Reduction ≥ 4.1
40.6 – 41.5	Reduction ≥ 4.0
39.7 – 40.5	Reduction ≥ 3.9
38.7 – 39.6	Reduction ≥ 3.8
37.8 – 38.6	Reduction ≥ 3.7
36.8 – 37.7	Reduction ≥ 3.6
35.9 – 36.7	Reduction ≥ 3.5
34.9 – 35.8	Reduction ≥ 3.4
34.0 – 34.8	Reduction ≥ 3.3
33.0 – 33.9	Reduction ≥ 3.2
32.1 – 32.9	Reduction ≥ 3.1
31.1 – 32.0	Reduction ≥ 3.0
30.2 – 31.0	Reduction ≥ 2.9
29.2 – 30.1	Reduction ≥ 2.8
28.3 – 29.1	Reduction ≥ 2.7
27.3 – 28.2	Reduction ≥ 2.6
26.4 – 27.2	Reduction ≥ 2.5
25.4 – 26.3	Reduction ≥ 2.4
24.5 – 25.3	Reduction ≥ 2.3
23.5 – 24.4	Reduction ≥ 2.2
22.6 – 23.4	Reduction ≥ 2.1
21.6 – 22.5	Reduction ≥ 2.0
20.7 – 21.5	Reduction ≥ 1.9

19.7 – 20.6	Reduction ≥ 1.8
18.8 – 19.6	Reduction ≥ 1.7
17.8 – 18.7	Reduction ≥ 1.6
16.9 – 17.7	Reduction ≥ 1.5
15.9 – 16.8	Reduction ≥ 1.4
15.0 – 15.8	Reduction ≥ 1.3
14.0 – 14.9	Reduction ≥ 1.2
13.1 – 13.9	Reduction ≥ 1.1
12.1 – 13.0	Reduction ≥ 1.0
11.2 – 12.0	Reduction ≥ 0.9
10.2 – 11.1	Reduction ≥ 0.8
9.3 – 10.1	Reduction ≥ 0.7
8.3 – 9.2	Reduction ≥ 0.6
7.4 – 8.2	Reduction ≥ 0.5
6.4 – 7.3	Reduction ≥ 0.4
< 6.4	Reduction ≥ 0.3

Corners and Crosswalks

The criterion to determine if a significant adverse corner or crosswalk impact may occur is also based on a sliding scale using the formula Y ≥ X/9.0 – 0.31, where Y is the decrease in pedestrian space in ft^2/p and X is the No-Action Condition pedestrian space in ft^2/p. Since a decrease in pedestrian space within acceptable levels would not constitute a significant adverse impact, this formula would apply only if the With-Action Condition pedestrian LOS is D or worse in non-CBD areas or mid-LOS D in CBD areas. Significant adverse impacts at corners and crosswalks in a non-CBD area may occur if:

- The average pedestrian space under the No-Action Condition is greater than 26.6 ft^2/p, then a decrease in pedestrian space in the With-Action Condition to equal to or less than 24.0 ft^2/p (worse than LOS C) should be considered a significant impact. If the pedestrian space in the With-Action Condition is greater than 24.0 ft^2/p (LOS C or better), the impact is not significant.
- If the average pedestrian space under the No-Action Condition is between 5.1 and 26.6 ft^2/p, a decrease in pedestrian space under the With-Action Condition should be considered significant according to the sliding scale formula in equation discussed above or using Table 12-9.
- If the decrease in pedestrian space is less than the value calculated from the formula or Table 12-9, the impact should not be considered significant.
- If the average pedestrian space under the No-Action Condition is less than 5.1 ft^2/p, then a decrease in pedestrian space greater than or equal to 0.2 ft^2/p should be considered significant.

$Y \geq X / 9.0 - 0.31$

Where:

Y = decrease in pedestrian space in ft^2/p to be considered a potential significant impact

X = No-Action Condition pedestrian space in ft^2/p

Table 12-9: Significant Impact Guidance for Corners and Crosswalks, Non-CBD

No-Action Pedestrian Space (ft^2/p)	With-Action Pedestrian Space Reduction to be Considered a Significant Adverse Corner or Crosswalk Impact (ft^2/p)
≥ 26.6	With-Action Condition ≤ 24.0
25.8 – 26.5	Reduction ≥ 2.6
24.9 – 25.7	Reduction ≥ 2.5
24.0 – 24.8	Reduction ≥ 2.4
23.1 – 23.9	Reduction ≥ 2.3

22.2 – 23.0	Reduction ≥ 2.2
21.3 – 22.1	Reduction ≥ 2.1
20.4 – 21.2	Reduction ≥ 2.0
19.5 – 20.3	Reduction ≥ 1.9
18.6 – 19.4	Reduction ≥ 1.8
17.7 – 18.5	Reduction ≥ 1.7
16.8 – 17.6	Reduction ≥ 1.6
15.9 – 16.7	Reduction ≥ 1.5
15.0 – 15.8	Reduction ≥ 1.4
14.1 – 14.9	Reduction ≥ 1.3
13.2 – 14.0	Reduction ≥ 1.2
12.3 – 13.1	Reduction ≥ 1.1
11.4 – 12.2	Reduction ≥ 1.0
10.5 – 11.3	Reduction ≥ 0.9
9.6 – 10.4	Reduction ≥ 0.8
8.7 – 9.5	Reduction ≥ 0.7
7.8 – 8.6	Reduction ≥ 0.6
6.9 – 7.7	Reduction ≥ 0.5
6.0 – 6.8	Reduction ≥ 0.4
5.1 – 5.9	Reduction ≥ 0.3
≤ 5.0	Reduction ≥ 0.2

Subway Transit

The subway transit analyses are based on methodologies presented in the *CEQR Technical Manual* for station circulation and fare control elements, including stairways, turnstiles, high entry/exit turnstiles (HEETs) and high exit turnstiles (HXTs), as well as for the line-haul capacity of subway lines.

Subway Station Elements

Subway station circulation and fare control elements are analyzed based on the volume of passengers using the elements in comparison to their specified capacities. This volume-to-capacity (v/c) ratio is used to identify the LOS of circulation and fare control elements based on the criteria outlined in Table 12-10. LOS A and LOS B represent free flow and fluid flow conditions, respectively. Circulation and fare control elements operating at LOS C exhibit fluid flow conditions, but pedestrian movement becomes somewhat restricted. LOS D represents crowded conditions when walking speeds have become restricted. Circulation and fare control elements are considered to be congested at LOS E, with some shuffling and pedestrian queuing, while LOS F represents severely congested conditions with persistent queuing.

Table 12-10: Subway Station Element LOS Criteria

LOS	Description	v/c Ratio
A	Free Flow	0.00 – 0.45
B	Fluid Flow	0.45 – 0.70
C	Fluid, Somewhat Restricted	0.70 – 1.00
D	Crowded, Walking Speed Restricted	1.00 – 1.33
E	Congested, Some Shuffling and Queuing	1.33 – 1.37
F	Severely Congested, Queued	Greater than 1.67

Source: *CEQR Technical Manual*

Stairway analysis is based on the width of the stairs, the peak 15-minute volume of passengers using the stairway, peaking characteristics of the subway station (i.e. type of facilities it serves, such as sports stadiums or large schools) and surging characteristics of the subway station (i.e. station design and availability of transfers). Turnstile analysis is based on the number of available nodes, the volume of entering and exiting passengers,

and the capacity of turnstiles, HEETs and HXTs designated by NYCT and outlined in the *CEQR Technical Manual*.

Significant Impact Criteria

Significant stairway impacts are determined based on the Width Increment Threshold (WIT) required to reduce the With-Action Condition v/c ratio to that of the No-Action Condition or 1.00, whichever is greater. The WITs that trigger significant impacts are based on the With-Action Condition v/c ratio and are shown in Table 12-11.

For turnstiles that have a No-Action Condition v/c ratio less than 1.00, a With-Action Condition v/c ratio greater than or equal to 1.00 is considered a significant impact. If the No-Action Condition v/c ratio is greater than or equal to 1.00, a v/c ratio increase of 0.01 in the With-Action Condition is considered a significant impact.

Table 12-11: Significant Impact Criteria for Stairs and Passageways

With-Action v/c Ratio	WIT for Significant Impact (Inches)	
	Stairway	Passageway
1.00 – 1.09	8	13
1.10 – 1.19	7	11.5
1.20 – 1.29	6	10
1.30 – 1.39	5	8.5
1.40 – 1.49	4	6
1.50 – 1.59	3	4.5
1.60 and Above	2	3

Source: *CEQR Technical Manual*

Subway Line-Haul Capacity

Line-haul capacity analyses consider the ability of a subway line to accommodate existing and future passenger volumes. The analysis is conducted for the maximum load point of a subway line or at the location where the number of additional project-generated subway passengers is greatest, and is based on the average capacity per car per train designated by NYCT and shown in Table 12-12.

Table 12-12: Line-Haul Capacity Guidelines

Car Class	Maximum Peak-Period Loading Guideline Capacity (per car)	Maximum Off-Peak Loading Guideline Capacity (per car)
R 62	110	54
R 142	110	48
R 32 / R 42	145	63
R 143	145	54
R 160	145	53
R 44 / R 46 / R 68	175	88

Source: *CEQR Technical Manual*

Significant Impact Criteria

If the incremental increase in average passengers per car in the With-Action Condition remains within the loading guideline capacities designated by NYCT, the impact is generally not considered to be significant. If the Proposed Actions would result in more than five additional average passengers per car in the With-Action Condition, than the impact is considered to be significant. This is based on the assumption that when a subway line is at the specified guideline capacity set by NYCT, the addition of five or more passengers would be perceptible.

Parking

Parking demand for the Proposed Actions is estimated to determine whether project-generated demand could be accommodated in the future conditions. If the Proposed Actions generate more parking demand than the on-site parking supply, then a detailed assessment of area parking facilities within a convenient walking distance (approximately ½-mile) is conducted.

A parking assessment identifies the supply of public parking in the study area and determines the extent the supply is utilized in the Baseline, No-Action, and With-Action conditions. The analysis considers anticipated changes to the study area's parking supply and demand, and compares project-generated demand with future availability to determine if a parking shortfall in the area is likely to occur.

Vehicular and Pedestrian Safety Evaluation

The key element for vehicular and pedestrian safety analyses is the extent to which vehicular and pedestrian exposure to crashes may reasonably be expected to increase in the With-Action Condition. Under *CEQR Technical Manual* guidelines, an evaluation of vehicular and pedestrian safety is needed at locations within the traffic and pedestrian study areas that have been identified as high crash locations. These are defined as locations along a Vision Zero corridor/intersection or where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. For these locations, crash trends would be identified to determine whether projected vehicular and pedestrian traffic conditions would further impact safety, or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The determination of potential significant safety impacts depends on the type of area where a project is located, traffic and pedestrian volumes, crash types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety are typically identified and coordinated with NYC DOT.

12.5 Detailed Traffic Analysis

Existing Conditions (2022)

Study Area Street Network

The traffic study area is generally bound by East 173rd Street to the north, Westchester Avenue to the south, Edgewater Road to the east and Whitlock Avenue to the west. Major arterials/highways providing access to the study area are the Bronx River Parkway from the north; the Bruckner Expressway (I-278), Sheridan Boulevard (NYS Route 895) and Westchester Avenue from the south; the Cross Bronx Expressway (I-95), Bruckner Expressway (I-278) and Westchester Avenue from the east; and the Cross Bronx Expressway (I-95) from the west. Truck access in the study area is provided via the NYC DOT-designated truck routes described above (see section *Level 2 [Project-Generated Trip Assignment] Screening Assessment*).

The key roadways in the study area include Sheridan Boulevard, Edgewater Road, Westchester Avenue and Whitlock Avenue. The physical and operational characteristics of the study area roadways are described below:

- Sheridan Boulevard is a major northbound-southbound roadway traversing between the Cross Bronx Expressway (I-95) and East 177th Street to the north and the Bruckner Expressway (I-278) to the south. Within the study area, the roadway operates with two northbound travel lanes and three southbound travel lanes that are divided by a raised and landscaped center median. Generally, curbside parking is permitted on the east side of the northbound travel lanes from Jennings Street to just north of East 173rd Street. Within the study area, the roadway has a curb-to-curb width that varies from approximately 75 to 84 feet.
- Edgewater Road is a local one-way northbound roadway that traverses along the frontages of Projected Development Sites 1 and 2 and functions as a service road for Sheridan Boulevard between Westchester Avenue to the south and East 172nd Street to the north. Generally, the roadway operates with one northbound travel lane, a two-way northbound-southbound Class II bicycle lane on the west side of the roadway and curbside parking permitted on the east side of the roadway. Additionally, there are exclusive northbound left-turn lanes at the roadway's intersections with Sheridan Boulevard opposite Jennings and East 172nd Streets. Edgewater Road has a curb-to-curb width that varies from approximately 27 to 40 feet.
- Westchester Avenue is a major two-way roadway traversing between the Bruckner Expressway (I-95) and Bruckner Boulevard to the northeast and Third Avenue to the southwest. Within the study area and west of Whitlock Avenue, the roadway operates with two travel lanes and a Class II bicycle lane in each direction, curbside parking permitted on both sides of the roadway and a curb-to-curb width of approximately 70 feet. East of Whitlock Avenue, the roadway operates under the elevated No. 6 Subway Line structure with two travel lanes and a Class II bicycle lane in each direction. Additionally, there is a channelized westbound right-turn lane at the roadway's intersection with Edgewater Road. This section of Westchester Avenue has a curb-to-curb width that varies from approximately 63 to 67 feet.
- Whitlock Avenue is a local one-way southbound roadway traversing between Freeman Street, Boone Avenue and the southbound Sheridan Boulevard off-ramp to the north and Bruckner Boulevard to the south. Within the study area and north of Westchester Avenue, the roadway operates with three southbound travel lanes, a striped shoulder on the east side of the roadway and a curb-to-curb width of approximately 50 feet. South of Westchester Avenue, the roadway operates under the elevated No. 6 Subway Line structure with two southbound travel lanes, curbside parking permitted on both sides of the roadway and a curb-to-curb width of approximately 44 feet.

Traffic Volumes

Baseline traffic volumes for the study area intersections were collected in June 2022. The data collection included Turning Movement Counts (TMC), Automatic Traffic Recorder (ATR) counts, vehicle classification counts (VCC) and field observations. In addition to the traffic counts, physical inventories – including the number of traffic lanes, pavement markings, lane widths, turn prohibitions, bus stops typical parking regulations and sidewalk geometries – were collected for the study area intersections and pedestrian elements. Official signal timing plans were obtained from NYC DOT for operational analysis of the study area intersections. Based on the data collected, the peak hours for traffic analysis were identified as 7:15 – 8:15 AM, 1:00 PM – 2:00 PM, 4:15 – 5:15 PM and 2:00 PM – 3:00 PM for the weekday AM, midday, PM and Saturday midday peak hours, respectively. The Baseline Conditions traffic volumes for each of the analysis peak hours are shown in Appendix H – Figures H-9 through H-12.

In addition, adjustment factors were developed for the peak hour traffic volumes in consultation with the New York City Department of City Planning (NYCDCP) and NYC DOT to account for the ongoing transportation impacts of the COVID-19 pandemic ("the pandemic"). These adjustment factors were based on a comparison of the peak hour traffic volumes collected in June 2022 to similar data available at common intersections from before March 2020 (i.e. before the pandemic). In summary, adjustment factors of 1.02, 1.12 and 1.19 were applied to the Baseline Conditions traffic volumes during the weekday AM, PM and Saturday midday peak hours, respectively, to develop the 2022 Existing Conditions traffic volumes for these peak hours to be used for detailed traffic analysis. Note that no adjustment factor was applied for the weekday midday peak hour because the traffic volumes counted in June 2022 were higher than the corresponding pre-pandemic volumes (adjusted to include background growth, as applicable). The Existing Conditions traffic volumes are shown in Appendix H – Figures H-13 through H-16 for the weekday AM, midday, PM and Saturday midday peak hours, respectively.

Traffic Conditions

The intersection capacity analysis results for the Existing Conditions, including v/c ratios, delays and LOS for the study area intersections, are shown in Table 12-13. Of the 20 total intersection approaches/lane groups in the study area, only the northbound left-turn at the Sheridan Boulevard and Edgewater Road intersection (opposite Jennings Street) operates worse than LOS D in at least one peak hour (LOS F with an average delay of 131.6 seconds during the weekday AM peak hour, LOS E with an average delay of 74.1 seconds during the weekday midday peak hour, LOS F with an average delay of 94.0 seconds during the weekday PM peak hour and LOS F with an average delay of 142.0 seconds during the Saturday midday peak hour).

Table 12-13: Existing Conditions – LOS Summary

						Weekday AM			Weekday Midday			Weekday PM			Saturday Midday		
ID	Intersection Name	Control	Street Name	Direction	Lane Group	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS
1	Sheridan Boulevard & East 173rd Street	Signal	Sheridan Boulevard	NB	T/T	0.35	2.4	A	0.36	1.7	A	0.56	2.0	A	0.46	1.8	A
				SB	T/T/T	0.50	2.9	A	0.47	10.4	B	0.47	10.4	B	0.58	11.9	B
				Overall Intersection		-	*2.7*	*A*	-	*7.6*	*A*	-	*6.7*	*A*	-	*8.4*	*A*
2A	Sheridan Boulevard & Edgewater Road (at East 172nd Street)	Signal	Edgewater Road	WB	LR	0.19	3.4	A	0.15	4.2	A	0.21	5.0	A	0.21	5.0	A
			Sheridan Boulevard	NB	T/T	0.33	8.1	A	0.34	8.4	A	0.56	8.1	A	0.44	8.3	A
				SB	T/T/T	0.60	10.8	B	0.60	14.7	B	0.59	14.4	B	0.72	15.1	B
				Overall Intersection		-	*10.1*	*B*	-	*13.0*	*B*	-	*11.9*	*B*	-	*13.0*	*B*
2B	Sheridan Boulevard & Edgewater Road (at East 172nd Street)	Signal	Edgewater Road	NB	L	0.23	47.6	D	0.18	50.9	D	0.25	52.8	D	0.25	52.7	D
					T	0.33	24.0	C	0.38	28.4	C	0.37	28.3	C	0.49	31.0	C
				Overall Intersection		-	*25.8*	*C*	-	*30.9*	*C*	-	*32.0*	*C*	-	*33.5*	*C*
3A	Sheridan Boulevard & Edgewater Road (at Jennings Street)	Signal	Edgewater Road	WB	LR	0.92	23.7	C	0.50	21.6	C	0.68	29.1	C	0.80	25.4	C
			Sheridan Boulevard	NB	T/T	0.30	7.5	A	0.31	16.7	B	0.53	19.9	B	0.40	17.7	B
				SB	T/T/T	0.64	10.9	B	0.57	8.1	A	0.55	8.2	A	0.72	8.7	A
				Overall Intersection		-	*11.0*	*B*	-	*10.8*	*B*	-	*13.6*	*B*	-	*11.9*	*B*
3B	Sheridan Boulevard & Edgewater Road (at Jennings Street)	Signal	Edgewater Road	NB	L	1.05	131.6	F	0.57	74.1	E	0.80	94.0	F	1.03	142.0	F
					R	0.21	3.2	A	0.26	11.3	B	0.25	11.2	B	0.31	11.8	B
				Overall Intersection		-	*58.6*	*E*	-	*26.0*	*C*	-	*38.2*	*D*	-	*54.3*	*D*
4	Westchester Avenue & Edgewater Road/ NB Sheridan Expressway Off-Ramp	Signal	Westchester Avenue	EB	LT/T	0.82	16.0	B	0.63	9.1	A	0.99	35.9	D	0.88	20.1	C
				WB	T/T	0.83	35.1	D	0.68	29.4	C	0.58	27.0	C	0.55	26.4	C
					R	0.27	23.6	C	0.15	21.8	C	0.16	21.9	C	0.20	22.4	C
			NB Sheridan Expy Off-Ramp	NB	LTR	0.83	39.7	D	0.59	28.4	C	0.88	45.6	D	0.86	42.8	D
				Overall Intersection		-	*28.1*	*C*	-	*20.4*	*C*	-	*34.5*	*C*	-	*26.3*	*C*
5	Westchester Avenue & Whitlock Avenue	Signal	Westchester Avenue	EB	T/TR	0.65	28.3	C	0.61	27.1	C	0.74	30.8	C	0.70	29.4	C
				WB	LT/T	0.99	39.0	D	0.75	24.2	C	0.58	13.9	B	0.68	16.9	B
			Whitlock Avenue	SB	L	0.45	24.3	C	0.40	23.3	C	0.89	45.1	D	0.56	26.5	C
					T/TR	0.88	37.2	D	0.82	32.8	C	0.57	25.2	C	0.62	25.7	C
				Overall Intersection		-	*34.8*	*C*	-	*27.7*	*C*	-	*27.8*	*C*	-	*24.3*	*C*

Note: Shading denotes an approach/lane group that operates at congested levels per *CEQR Technical Manual* criteria (i.e. worse than LOS D).

No-Action Condition (2028)

Changes to the Study Area Street Network

Independent of the Proposed Actions, changes to traffic signal timings and the travel lane, bicycle lane and curbside parking configurations on Westchester Avenue are being implemented by NYC DOT as part of the *Westchester Avenue, Southern Boulevard to Whitlock Avenue SIP*. At the direction of NYCDCP and NYC DOT, in the No-Action Condition, changes to the travel lane and curbside parking geometries were incorporated into the capacity analyses at Westchester Avenue's intersections with Edgewater Road and Whitlock Avenue. In addition, changes to the traffic signal timings at the intersection of Westchester Avenue and Whitlock Avenue were incorporated into the No-Action Condition capacity analyses. Note that no changes to the traffic signal timings at the intersection of Westchester Avenue and Edgewater Road are proposed as part of the *Westchester Avenue Southern Boulevard to Whitlock Avenue SIP*.

Additionally, and also independent of the Proposed Actions, NYC DOT restriped the northbound Sheridan Expressway Off-Ramp (to Westchester Avenue) to delineate separate left-turn and through/right-turn lanes. This improvement was implemented sometime between June and October 2022, but was incorporated into the No-Action Condition capacity analyses because data collection for the Transportation analysis

discussed herein was completed in June 2022, prior to NYC DOT changing the travel lane configuration.

Traffic Volumes

The No-Action Condition traffic volumes were developed for the 2028 analysis year. Per the *CEQR Technical Manual*, a compounded annual background growth rate of 0.25 percent for the Bronx was applied to the Existing Conditions traffic volumes for the first five years (2022 through 2027) and subsequently, a growth rate of 0.125 percent was applied for the sixth year (2027 through 2028).

In addition to background growth, No-Build Development Projects planned in close proximity to the Proposed Rezoning Area were identified and included as part of the No-Action Condition. Note that projects which are modest in size (less than 25,000 total gross square feet [gsf]) are not expected to generate significant traffic and therefore, it was assumed that any increase in traffic and pedestrian volumes within the study area as a result of these projects would be encompassed by background growth. The remaining No-Build Development Projects were incorporated into the No-Action Condition as follows:

P S. 320X

As part of the *Crotona Park Crotona Park East/West Farms Rezoning and Related Actions FEIS* (CEQR No. 10DCP017X), a 540-seat elementary school was proposed in coordination with New York City School Construction Authority (SCA) on the east side of Boone Avenue between East 172nd and East 173rd Streets. The school is open as of September 2022 with a reduced capacity of 433-seats. Although P.S. 320X is open, data collection for the Transportation analysis discussed herein was completed in June 2022, prior to the opening of the school. Therefore, P.S. 320X was considered a No-Build Development Project at the direction of NYCDCP. The traffic and pedestrian volumes expected to be generated by the school's development program were incorporated into the No-Action Condition in accordance with travel demand factors from the *CEQR Technical Manual*, *Crotona Park Crotona Park East/West Farms Rezoning and Related Actions FEIS, Jerome Avenue Rezoning FEIS* (CEQR No. 17DCP019X) and assumptions per SCA guidelines. Student and parent trips were distributed to local portals connecting the school to local residential neighborhoods and nearby transit stations. Staff trips were distributed based on *U.S. Census Bureau Reverse Journey to Work (RJTW) O/D* patterns.

Starlight Park Expansion Phase 2

The Starlight Park Expansion Phase 2 consists of approximately 2.7 additional acres of open space. For Transportation analysis purposes, it was assumed that two-thirds (approximately 1.8 acres) of the park expansion would be passive open space, and that the remaining one-third (approximately 0.9 acres) would be active open space. Although the park expansion is expected to be open in the fall of 2022, data collection for the Transportation analysis discussed herein was completed in June 2022, prior to the opening of the park expansion. Therefore, the Starlight Park Expansion Phase 2 was considered a No-Build Development Project at the direction of NYCDCP. The traffic and pedestrian volumes expected to be generated by the park expansion were incorporated into the No-Action Condition in accordance with travel demand factors from the *CEQR Technical Manual* and *Lower Concourse North FGEIS* (CEQR No. 16DME1012X). Vehicle and pedestrian trips for the park expansion were distributed to local portals connecting the park to local residential neighborhoods and nearby transit stations.

Additionally, multiple bridges were recently constructed to fill a significant gap in the shared-use (non-vehicular) Bronx River Greenway between Starlight Park and Concrete Plant Park. This new connectivity to the Bronx River Greenway via Starlight Park could result in fewer pedestrian trips along the Development Sites' frontages on Edgewater Road. However, for the purpose of conducting a conservative pedestrian capacity analysis, changes were not made to existing pedestrian volumes, No-Build Development Project pedestrian trip assignments, nor project-generated pedestrian trip distributions.

1731 and 1745 West Farms Road

The proposed residential developments at 1731 and 1745 West Farms Road consist of 53 and 35 DUs, respectively. Each of these projects have active construction permit filings and were therefore considered No-Build Development Projects for the Transportation analyses discussed herein. The traffic and pedestrian volumes expected to be generated by each residential development were incorporated into the No-Action Condition in accordance with travel demand factors from the *CEQR Technical Manual*, *U.S. Census Bureau 2015-2019 ACS JTW* data and the *1965 Lafayette Avenue EAS*. Auto and truck trips for each residential development were distributed based on *U.S. Census Bureau JTW O/D* patterns and NYC DOT-designated truck routes, respectively. Pedestrian trips for each residential development were distributed based on adjacent land uses, the existing roadway network, prevailing travel patterns and the location of transit stations/stops in the study area.

The total vehicle trip assignments for the No-Build Development Projects are shown in Appendix H – Figures H-17 through H-20 for the weekday AM, midday, PM and Saturday midday peak hours, respectively.

The No-Action Condition traffic volumes were projected by layering the background growth and trips generated by the No-Build Development Projects on top of the Existing Conditions traffic volumes. The No-Action Condition traffic volumes are shown in Appendix H – Figures H-21 through H-24 for the weekday AM, midday, PM and Saturday midday peak hours, respectively.

Traffic Conditions

The intersection capacity analysis results for the No-Action Condition, including v/c ratios, delays and LOS for the study area intersections, are shown in Table 12-14. Of the 21 total intersection approaches/lane groups in the study area, 3 are projected to operate worse than LOS D in at least one peak hour, namely:

- The northbound left-turn at the Sheridan Boulevard and Edgewater Road intersection, opposite Jennings Street (LOS F with an average delay of 135.1 seconds during the weekday AM peak hour, LOS E with an average delay of 74.6 seconds during the weekday midday peak hour, LOS F with an average delay of 96.0 seconds during the weekday PM peak hour and LOS F with an average delay of 148.0 seconds during the Saturday midday peak hour).
- The southbound left-turn at the Westchester Avenue and Whitlock Avenue intersection (LOS F with an average delay of 80.5 seconds during the weekday PM peak hour).
- The southbound through and through/right-turn at the Westchester Avenue and Whitlock Avenue intersection (LOS F with an average delay of 123.5 seconds during the weekday AM peak hour and LOS E with an average delay of 73.4 seconds during the weekday midday peak hour).

Table 12-14: No-Action Condition - LOS Summary

						Weekday AM			Weekday Midday			Weekday PM			Saturday Midday		
ID	Intersection Name	Control	Street Name	Direction	Lane Group	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS
1	Sheridan Boulevard & East 173rd Street	Signal	Sheridan Boulevard	NB	T/T	0.36	2.4	A	0.36	1.7	A	0.57	2.1	A	0.47	1.8	A
				SB	T/T/T	0.51	2.9	A	0.47	10.5	B	0.47	10.5	B	0.59	12.0	B
				Overall Intersection		-	*2.8*	*A*	-	*7.6*	*A*	-	*6.8*	*A*	-	*8.5*	*A*
2A	Sheridan Boulevard & Edgewater Road (at East 172nd Street)	Signal	Edgewater Road	WB	LR	0.19	3.4	A	0.15	4.2	A	0.21	5.0	A	0.21	5.0	A
			Sheridan Boulevard	NB	T/T	0.33	8.2	A	0.34	8.4	A	0.57	8.2	A	0.44	8.3	A
				SB	T/T/T	0.61	10.9	B	0.61	14.8	B	0.60	14.5	B	0.73	15.1	B
				Overall Intersection		-	*10.2*	*B*	-	*13.0*	*B*	-	*11.9*	*B*	-	*13.1*	*B*
2B	Sheridan Boulevard & Edgewater Road (at East 172nd Street)	Signal	Edgewater Road	NB	L	0.23	47.6	D	0.18	50.9	D	0.25	52.8	D	0.25	52.7	D
					T	0.34	24.1	C	0.39	28.6	C	0.37	28.4	C	0.50	31.2	C
				Overall Intersection		-	*25.8*	*C*	-	*31.0*	*C*	-	*32.0*	*C*	-	*33.6*	*C*
3A	Sheridan Boulevard & Edgewater Road (at Jennings Street)	Signal	Edgewater Road	WB	LR	0.93	24.8	C	0.51	21.8	C	0.70	29.7	C	0.82	26.2	C
			Sheridan Boulevard	NB	T/T	0.31	7.6	A	0.32	16.8	B	0.53	20.1	C	0.40	17.8	B
				SB	T/T/T	0.65	11.1	B	0.58	8.1	A	0.56	8.2	A	0.73	8.7	A
				Overall Intersection		-	*11.2*	*B*	-	*10.8*	*B*	-	*13.7*	*B*	-	*12.0*	*B*
3B	Sheridan Boulevard & Edgewater Road (at Jennings Street)	Signal	Edgewater Road	NB	L	1.06	135.1	F	0.58	74.6	E	0.82	96.0	F	1.05	148.0	F
					R	0.21	3.2	A	0.26	11.3	B	0.26	11.2	B	0.31	11.9	B
				Overall Intersection		-	*60.1*	*E*	-	*26.1*	*C*	-	*38.9*	*D*	-	*56.3*	*E*
4	Westchester Avenue & Edgewater Road/ NB Sheridan Expressway Off-Ramp	Signal	Westchester Avenue	EB	LT/T	0.86	22.1	C	0.66	13.6	B	1.01	41.2	D	0.90	24.3	C
				WB	T/T	0.81	34.0	C	0.67	29.0	C	0.57	26.8	C	0.54	26.2	C
					R	0.28	23.8	C	0.17	22.0	C	0.18	22.2	C	0.22	22.8	C
			NB Sheridan Expy Off-Ramp	NB	L	0.44	24.6	C	0.18	20.7	C	0.10	19.8	B	0.27	21.8	C
					TR	0.41	24.3	C	0.44	25.0	C	0.83	41.7	D	0.63	29.8	C
				Overall Intersection		-	*26.9*	*C*	-	*21.3*	*C*	-	*35.9*	*D*	-	*25.2*	*C*
5	Westchester Avenue & Whitlock Avenue	Signal	Westchester Avenue	EB	T/TR	0.57	23.5	C	0.54	23.8	C	0.66	26.2	C	0.63	25.3	C
				WB	LT/T	1.05	51.3	D	0.83	14.9	B	0.64	8.6	A	0.76	16.3	B
			Whitlock Avenue	SB	L	0.59	32.4	C	0.52	29.4	C	1.04	80.5	F	0.66	33.3	C
					T/TR	1.18	123.5	F	1.04	73.4	E	0.73	33.1	C	0.78	34.4	C
				Overall Intersection		-	*66.2*	*E*	-	*38.2*	*D*	-	*33.9*	*C*	-	*26.2*	*C*

Note: Shading denotes an approach/lane group that operates at congested levels per *CEQR Technical Manual* criteria (i.e. worse than LOS D).

With-Action Condition (2028)

Traffic Volumes

In the With-Action Condition, project-generated vehicle trips (see Table 12-3) were assigned to the study area intersections based on *CEQR Technical Manual* guidelines, *U.S. Census Bureau JTW O/D* patterns and direct routes to/from the Proposed Rezoning Area. Project-generated vehicle trip assignments for autos, taxis and deliveries are discussed in preceding sections (see section *Level 2 Screening Assessment*). The project-generated vehicle trip assignments are shown in Appendix H – Figures H-1 through H-4 for the weekday AM, midday, PM and Saturday midday peak hours, respectively.

The With-Action Condition traffic volumes were projected by layering the project-generated vehicle trip assignments on top of the No-Action Condition traffic volumes, and are shown in Appendix H – Figures H-25 through H-28 for the weekday AM, midday, PM and Saturday midday peak hours, respectively.

Traffic Conditions

The intersection capacity analysis results for the No-Action and With-Action Conditions, including v/c ratios, delays and LOS for the study area intersections, are shown in Table 12-15. In the With-Action Condition, 6 of the 21 total intersection approaches/lane groups

in the study area are projected to operate worse than LOS D in at least one peak hour, summarized as follows:

- The northbound left-turn at the Sheridan Boulevard and Edgewater Road intersection, opposite East 172nd Street, which would:
  - Drop from LOS D to LOS E with an average delay of 55.4 seconds during the weekday PM peak hour, an increase of 2.6 seconds relative to the No-Action Condition.
  - Drop from LOS D to LOS E with an average delay of 55.8 seconds during the Saturday midday peak hour, an increase of 3.1 seconds relative to the No-Action Condition.
- The westbound approach at the Sheridan Boulevard and Edgewater Road intersection, opposite Jennings Street, which would:
  - Drop from LOS C to LOS F with an average delay of 108.9 seconds during the weekday AM peak hour, an increase of 84.1 seconds relative to the No-Action Condition.
- The northbound left-turn at the Sheridan Boulevard and Edgewater Road intersection, opposite Jennings Street, which would:
  - Continue to operate at LOS F with an average delay of 252.1 seconds during the weekday AM peak hour, an increase of 117.0 seconds relative to the No-Action Condition.
  - Drop from LOS E to LOS F with an average delay of 97.1 seconds during the weekday midday peak hour, an increase of 22.5 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 145.3 seconds during the weekday PM peak hour, an increase of 49.3 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 246.3 seconds during the Saturday midday peak hour, an increase of 98.3 seconds relative to the No-Action Condition.
- The northbound through/right-turn at the Westchester Avenue and Edgewater Road intersection, which would:
  - Drop from LOS D to LOS E with an average delay of 55.7 seconds during the weekday PM peak hour, an increase of 14.0 seconds relative to the No-Action Condition.
- The southbound left-turn at the Westchester Avenue and Whitlock Avenue intersection, which would:
  - Continue to operate at LOS F with an average delay of 210.4 seconds during the weekday PM peak hour, an increase of 129.9 seconds relative to the No-Action Condition.
  - Drop from LOS C to LOS E with an average delay of 59.2 seconds during the Saturday midday peak hour, an increase of 25.9 seconds relative to the No-Action Condition.

- The southbound through and through/right-turn at the Westchester Avenue and Whitlock Avenue intersection, which would:
  - Continue to operate at LOS F with an average delay of 129.6 seconds during the weekday AM peak hour, an increase of 6.1 seconds relative to the No-Action Condition.
  - Drop from LOS E to LOS F with an average delay of 83.3 seconds during the weekday midday peak hour, an increase of 9.9 seconds relative to the No-Action Condition.

Furthermore, the following five study area intersection approaches/lane groups would experience a potentially significant adverse traffic impact in the With-Action Condition during at least one peak hour:

- The westbound approach at the Sheridan Boulevard and Edgewater Road intersection, opposite Jennings Street, during the weekday AM peak hour.
- The northbound left-turn at the Sheridan Boulevard and Edgewater Road intersection, opposite Jennings Street, during the weekday AM, midday, PM and Saturday midday peak hours.
- The northbound through/right-turn at the Westchester Avenue and Edgewater Road intersection during the weekday PM peak hour.
- The southbound left-turn at the Westchester Avenue and Whitlock Avenue intersection during the weekday PM and Saturday midday peak hours.
- The southbound through and through/right-turn at the Westchester Avenue and Whitlock Avenue intersection during the weekday AM and midday peak hours.

Chapter 19, "Mitigation," discusses potential measures to mitigate these potentially significant adverse traffic impacts.

Table 12-15: No-Action vs. With-Action Condition - LOS Summary

						Weekday AM						Weekday Midday						Weekday PM						Saturday Midday					
						No-Action			With-Action			No-Action			With-Action			No-Action			With-Action			No-Action			With-Action		
ID	Intersection Name	Control	Street Name	Direction	Lane Group	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS
1	Sheridan Boulevard & East 173rd Street	Signal	Sheridan Boulevard	NB	T/T	0.36	2.4	A	0.38	2.5	A	0.36	1.7	A	0.38	1.9	A	0.57	2.1	A	0.58	2.3	A	0.47	1.8	A	0.49	2.2	A
				SB	T/T/T	0.51	2.9	A	0.51	2.9	A	0.47	10.5	B	0.48	10.6	B	0.47	10.5	B	0.48	10.6	B	0.59	12.0	B	0.59	12.1	B
				Overall Intersection		-	*2.8*	*A*	-	*2.8*	*A*	-	*7.6*	*A*	-	*7.7*	*A*	-	*6.8*	*A*	-	*6.9*	*A*	-	*8.5*	*A*	-	*8.6*	*A*
2A	Sheridan Boulevard & Edgewater Road (at East 172nd Street)	Signal	Edgewater Road	WB	LR	0.19	3.4	A	0.32	3.7	A	0.15	4.2	A	0.21	5.0	A	0.21	5.0	A	0.30	6.5	A	0.21	5.0	A	0.31	6.7	A
			Sheridan Boulevard	NB	T/T	0.33	8.2	A	0.34	9.3	A	0.34	8.4	A	0.34	8.4	A	0.57	8.2	A	0.57	8.2	A	0.44	8.3	A	0.44	8.3	A
				SB	T/T/T	0.61	10.9	B	0.63	12.4	B	0.61	14.8	B	0.61	14.8	B	0.60	14.5	B	0.60	14.5	B	0.73	15.1	B	0.74	15.2	B
				Overall Intersection		-	*10.2*	*B*	-	*11.5*	*B*	-	*13.0*	*B*	-	*13.0*	*B*	-	*11.9*	*B*	-	*12.0*	*B*	-	*13.1*	*B*	-	*13.1*	*B*
2B	Sheridan Boulevard & Edgewater Road (at East 172nd Street)	Signal	Edgewater Road	NB	L	0.23	47.6	D	0.38	47.8	D	0.18	50.9	D	0.24	51.8	D	0.25	52.8	D	0.35	55.4	E	0.25	52.7	D	0.37	55.8	E
					T	0.34	24.1	C	0.42	24.6	C	0.39	28.6	C	0.45	29.6	C	0.37	28.4	C	0.43	29.0	C	0.50	31.2	C	0.58	32.8	C
				Overall Intersection		-	*25.8*	*C*	-	*27.6*	*C*	-	*31.0*	*C*	-	*32.4*	*C*	-	*32.0*	*C*	-	*33.6*	*C*	-	*33.6*	*C*	-	*36.0*	*D*
3A	Sheridan Boulevard & Edgewater Road (at Jennings Street)	Signal	Edgewater Road	WB	LR	0.93	24.8	C	1.19	108.9	F	0.51	21.8	C	0.68	30.9	C	0.70	29.7	C	0.89	28.3	C	0.82	26.2	C	1.03	54.2	D
			Sheridan Boulevard	NB	T/T	0.31	7.6	A	0.31	7.6	A	0.32	16.8	B	0.32	16.8	B	0.53	20.1	C	0.53	20.1	C	0.40	17.8	B	0.40	17.8	B
				SB	T/T/T	0.65	11.1	B	0.66	11.2	B	0.58	8.1	A	0.59	8.3	A	0.56	8.2	A	0.57	8.6	A	0.73	8.7	A	0.74	9.2	A
				Overall Intersection		-	*11.2*	*B*	-	*18.3*	*B*	-	*10.8*	*B*	-	*11.5*	*B*	-	*13.7*	*B*	-	*14.0*	*B*	-	*12.0*	*B*	-	*14.1*	*B*
3B	Sheridan Boulevard & Edgewater Road (at Jennings Street)	Signal	Edgewater Road	NB	L	1.06	135.1	F	1.38	252.1	F	0.58	74.6	E	0.80	97.1	F	0.82	96.0	F	1.04	145.3	F	1.05	148.0	F	1.33	246.3	F
					R	0.21	3.2	A	0.27	3.4	A	0.26	11.3	B	0.31	11.9	B	0.26	11.2	B	0.31	11.9	B	0.31	11.9	B	0.38	12.7	B
				Overall Intersection		-	*60.1*	*E*	-	*113.3*	*F*	-	*26.1*	*C*	-	*34.4*	*C*	-	*38.9*	*D*	-	*56.8*	*E*	-	*56.3*	*E*	-	*91.7*	*F*
4	Westchester Avenue & Edgewater Road/ NB Sheridan Expressway Off-Ramp	Signal	Westchester Avenue	EB	LT/T	0.86	22.1	C	0.88	23.1	C	0.66	13.6	B	0.70	14.7	B	1.01	41.2	D	1.05	49.0	D	0.90	24.3	C	0.95	28.5	C
				WB	T/T	0.81	34.0	C	0.81	34.0	C	0.67	29.0	C	0.67	29.0	C	0.57	26.8	C	0.57	26.8	C	0.54	26.2	C	0.54	26.2	C
					R	0.28	23.8	C	0.62	38.4	D	0.17	22.0	C	0.38	27.7	C	0.18	22.2	C	0.45	30.8	C	0.22	22.8	C	0.57	36.4	D
			NB Sheridan Expy Off-Ramp	NB	L	0.44	24.6	C	0.44	24.6	C	0.18	20.7	C	0.18	20.7	C	0.10	19.8	B	0.10	19.8	B	0.27	21.8	C	0.27	21.8	C
					TR	0.41	24.3	C	0.45	25.1	C	0.44	25.0	C	0.50	26.3	C	0.83	41.7	D	0.94	55.7	E	0.63	29.8	C	0.72	33.5	C
				Overall Intersection		-	*26.9*	*C*	-	*28.5*	*C*	-	*21.3*	*C*	-	*22.4*	*C*	-	*35.9*	*D*	-	*42.7*	*D*	-	*25.2*	*C*	-	*29.0*	*C*
5	Westchester Avenue & Whitlock Avenue	Signal	Westchester Avenue	EB	T/TR	0.57	23.5	C	0.57	23.6	C	0.54	23.8	C	0.55	23.8	C	0.66	26.2	C	0.67	26.3	C	0.63	25.3	C	0.64	25.4	C
				WB	LT/T	1.05	51.3	D	1.05	51.9	D	0.83	14.9	B	0.83	15.0	B	0.64	8.6	A	0.64	8.7	A	0.76	16.3	B	0.77	16.5	B
			Whitlock Avenue	SB	L	0.59	32.4	C	0.78	43.8	D	0.52	29.4	C	0.64	33.9	C	1.04	80.5	F	1.36	210.4	F	0.66	33.3	C	0.92	59.2	E
					T/TR	1.18	123.5	F	1.19	129.6	F	1.04	73.4	E	1.07	83.3	F	0.73	33.1	C	0.76	34.8	C	0.78	34.4	C	0.82	36.9	D
				Overall Intersection		-	*66.2*	*E*	-	*69.5*	*E*	-	*38.2*	*D*	-	*42.0*	*D*	-	*33.9*	*C*	-	*61.5*	*E*	-	*26.2*	*C*	-	*30.6*	*C*

Note: Shading denotes a potentially significant adverse traffic impact per *CEQR Technical Manual* criteria.

12.6 Detailed Pedestrian Analysis

Existing Conditions (2022)

Pedestrian Volumes

The pedestrian study area is generally characterized by relatively light pedestrian flows during peak periods, with the greatest demand typically along the Whitlock Avenue and Westchester Avenue corridors that provide access to the Whitlock Avenue subway station and area bus routes. Baseline pedestrian volumes in the study area were determined based on pedestrian counts conducted in June 2022. Based on the data collected, the peak hours for pedestrian analysis are 7:45 – 8:45 AM, 11:45 AM – 12:45 PM, 5:00 – 6:00 PM and 2:45 – 3:45 PM for the weekday AM, midday, PM and Saturday midday peak hours, respectively. The Baseline Conditions pedestrian volumes for each of the analysis peak hours are shown in Appendix H – Figures H-29 through H-32.

In addition, adjustment factors were developed for the peak hour pedestrian volumes in consultation with NYCDCP and NYC DOT to account for the ongoing transportation impacts of the pandemic. These adjustment factors were based on a comparison of the peak hour pedestrian volumes collected in June 2022 to similar data available at common locations from before the pandemic. Adjustment factors of 1.10, 1.14 and 1.14 were applied to the Baseline Conditions pedestrian volumes during the weekday AM, PM and Saturday midday peak hours, respectively, to develop the 2022 Existing Conditions pedestrian volumes for these peak hours. No adjustment factor was applied for the weekday midday peak hour because the pedestrian volumes counted in June 2022 were higher than the corresponding pre-pandemic volumes (adjusted to include background growth, as applicable). The Existing Conditions pedestrian volumes are shown in Appendix H – Figures H-33 through H-36 for the weekday AM, midday, PM and Saturday midday peak hours, respectively.

Pedestrian Conditions

Table 12-16, Table 12-17 and Table 12-18 show that all pedestrian elements in the study area operate at acceptable service conditions (LOS C or better) in Existing Conditions during the weekday AM, midday, PM and Saturday midday peak hours.

Table 12-16: Existing Conditions Crosswalk Analysis

			Weekday AM			Weekday Midday			Weekday PM			Saturday Midday		
ID	Location	Crosswalk	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS
4	Longfellow Avenue & Freeman Street	North	74	220.8	A	27	696.7	A	46	492.0	A	26	759.3	A
8	Sheridan Boulevard & Jennings Street	North	44	221.1	A	41	99.2	A	31	263.1	A	16	491.3	A
		South	33	168.0	A	7	982.2	A	25	311.8	A	25	263.1	A
9	Edgewater Road & Jennings Street	North	25	263.2	A	11	316.4	A	9	706.0	A	17	470.0	A
		South	13	416.7	A	5	804.9	A	22	254.4	A	16	311.7	A
12	Whitlock Avenue & Westchester Avenue	North	101	586.3	A	58	1,452.5	A	109	694.6	A	111	550.7	A
		East	7	3,279.4	A	11	1,430.7	A	3	1,901.1	A	24	731.6	A
13	Edgewater Road & Westchester Avenue	North	84	236.8	A	57	482.9	A	97	276.1	A	120	188.8	A

Table 12-17: Existing Conditions Corner Analysis

			Weekday AM			Weekday Midday			Weekday PM			Saturday Midday		
ID	Location	Corner	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS
4	Longfellow Avenue & Freeman Street	North-East	31	65.5	A	9	385.6	A	14	280.9	A	10	403.2	A
		North-West	55	335.4	A	24	880.3	A	17	800.9	A	18	1,012.5	A
5	West Farms Road & Freeman Street	North-West	25	286.9	A	18	468.8	A	27	331.2	A	13	437.9	A
12	Whitlock Avenue & Westchester Avenue	North-East	48	558.6	A	47	1,024.4	A	62	592.2	A	72	419.8	A
		South-East	84	827.9	A	57	647.5	A	35	562.3	A	62	735.9	A
		North-West	279	253.3	A	103	772.5	A	227	297.7	A	131	425.3	A
13	Edgewater Road & Westchester Avenue	North-East	25	642.7	A	12	1,080.3	A	24	639.1	A	27	517.2	A
		North-West	53	934.3	A	28	1,639.0	A	51	1,037.3	A	88	678.8	A

Table 12-18: Existing Conditions Sidewalk Analysis

ID	Location	Sidewalk Movement	Effective Width (ft)	Weekday AM			Weekday Midday			Weekday PM			Saturday Midday		
				Two-Way Peak Hour Volume	Average Space (ft^2/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	Platoon LOS
1	North Sidewalk on Freeman Street between Freeman Street Subway Station and Hoe Avenue	East-West	6.5	218	319.0	B	115	584.9	A	206	273.0	B	150	368.1	B
	North Sidewalk on Freeman Street between Hoe Avenue and Vyse Avenue	East-West	1.3	122	105.6	B	66	208.3	B	89	105.0	B	89	128.4	B
2	North Sidewalk on Freeman Street between Hoe Avenue and Vyse Avenue	East-West	2.1	98	187.3	B	56	343.7	B	86	187.0	B	67	271.3	B
	North Sidewalk on Freeman Street between Vyse Avenue and Bryant Avenue	East-West	6.6	113	521.2	B	52	1,110.9	A	81	519.7	B	66	742.4	A
3	North Sidewalk on Freeman Street between Vyse Avenue and Bryant Avenue	East-West	6.4	120	525.0	B	59	962.5	A	75	542.7	A	74	660.7	A
	North Sidewalk on Freeman Street between Bryant Avenue and Longfellow Avenue	East-West	6.7	81	620.6	A	35	1,980.0	A	58	723.6	A	56	1,085.5	A
4	North Sidewalk on Freeman Street between Bryant Avenue and Longfellow Avenue	East-West	5.2	114	376.9	B	53	767.2	A	60	708.4	A	51	961.4	A
	North Sidewalk on Freeman Street between West Farms Road and Longfellow Avenue	East-West	2.2	70	253.1	B	37	487.4	B	55	342.0	B	31	570.1	A
5	North Sidewalk on Freeman Street between West Farms Road and Longfellow Avenue	East-West	2.3	75	262.9	B	43	433.9	B	63	313.4	B	34	532.8	A
	West Sidewalk on West Farms Road between Boone Avenue and Freeman Street	North-South	2.8	56	374.9	B	54	464.0	B	73	342.7	B	43	434.2	B
	East Sidewalk on West Farms Road between Boone Avenue and Freeman Street	North-South	10.2	68	998.2	A	39	1,960.7	A	68	926.1	A	58	1,094.5	A
6	West Sidewalk on West Farms Road between Boone Avenue and Freeman Street	North-South	3.5	50	505.3	B	14	1,575.0	A	55	518.0	B	34	753.6	A
	East Sidewalk on West Farms Road between Boone Avenue and Freeman Street	North-South	9.1	80	719.2	A	25	3,065.6	A	100	672.2	A	62	977.8	A
	West Sidewalk on West Farms Road between Jennings Street and Boone Avenue	North-South	5.1	150	277.2	B	31	915.0	A	120	388.3	B	35	859.9	A
	East Sidewalk on West Farms Road between Jennings Street and Boone Avenue	North-South	14.8	112	1,206.8	A	24	3,620.4	A	84	1,663.5	A	64	1,343.6	A
7	West Sidewalk on West Farms Road between Jennings Street and Boone Avenue	North-South	4.9	164	215.4	B	36	1,021.1	A	111	323.4	B	46	776.3	A
	East Sidewalk on West Farms Road between Jennings Street and Boone Avenue	North-South	4.8	33	1,165.9	A	8	4,275.0	A	21	1,875.0	A	13	2,812.5	A
	North Sidewalk on Jennings Street between Boone Avenue and West Farms Road	East-West	5.0	67	472.0	B	28	1,350.0	A	33	910.9	A	22	1,973.7	A
9	East Sidewalk on Edgewater Road between Westchester Avenue and Jennings Street	North-South	2.8	37	633.6	A	21	1,161.6	A	46	539.4	A	48	705.4	A
	East Sidewalk on Edgewater Road between Jennings Street and East 172nd Street	North-South	3.3	1	12,000.0	A	31	455.1	B	14	2,894.7	A	6	5,789.5	A
10	East Sidewalk on Edgewater Road between Jennings Street and East 172nd Street	North-South	6.9	8	8,300.0	A	58	668.0	A	52	1,413.3	A	52	1,501.6	A
	East Sidewalk on Edgewater Road between East 172nd Street and East 173rd Street	North-South	4.8	10	3,420.0	A	72	437.3	B	58	749.9	A	52	1,031.2	A
11	East Sidewalk on Edgewater Road between East 172nd Street and East 173rd Street	North-South	6.8	10	4,920.0	A	72	629.2	A	58	1,078.9	A	52	1,483.5	A
12	North Sidewalk on Westchester Avenue between Whitlock Avenue and Edgewater Road	East-West	14.5	87	1,740.0	A	63	3,190.0	A	105	1,678.9	A	141	1,439.1	A
13	East Sidewalk on Edgewater Road between Westchester Avenue and Jennings Street	North-South	5.2	35	1,444.3	A	22	2,723.6	A	40	929.0	A	55	1,277.5	A
	North Sidewalk on Westchester Avenue between Whitlock Avenue and Edgewater Road	East-West	12.0	95	1,270.5	A	62	2,795.3	A	106	1,389.4	A	140	1,226.0	A

No-Action Condition (2028)

Changes to the Study Area Pedestrian Network

Independent of the Proposed Actions, changes to traffic signal timings on Westchester Avenue are being implemented by NYC DOT as part of the *Westchester Avenue, Southern Boulevard to Whitlock Avenue SIP*. At the direction of NYCDCP and NYC DOT, changes to the traffic signal timings at the intersection of Westchester Avenue and Whitlock Avenue were incorporated into the No-Action Condition pedestrian analyses.

Pedestrian Volumes

The No-Action Condition pedestrian volumes were developed for the 2028 analysis year. Per the *CEQR Technical Manual*, a compounded annual background growth rate of 0.25 percent for the Bronx was applied to the Existing Conditions pedestrian volumes for the first five years (2022 through 2027) and subsequently, a growth rate of 0.125 percent was applied for the sixth year (2027 through 2028).

In addition to background growth, pedestrian trips expected to be generated by the No-Build Development Projects were assigned to the study area pedestrian analysis locations. The No-Action Condition pedestrian volumes were projected by layering the background growth and trips generated by the No-Build Development Projects on top of the Existing Conditions pedestrian volumes. The No-Action Condition pedestrian volumes are shown in Appendix H – Figures H-37 through H-40 for the weekday AM, midday, PM and Saturday midday peak hours, respectively.

Pedestrian Conditions

Table 12-19, Table 12-20 and Table 12-21 show that all pedestrian elements in the study area are projected to operate at acceptable service conditions (LOS C or better) in the No-Action Condition during the weekday AM, midday, PM and Saturday midday peak hours.

Table 12-19: No-Action Condition Crosswalk Analysis

			Weekday AM			Weekday Midday			Weekday PM			Saturday Midday		
ID	Location	Crosswalk	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS
4	Longfellow Avenue & Freeman Street	North	75	217.4	A	27	686.0	A	46	484.4	A	27	747.8	A
8	Sheridan Boulevard & Jennings Street	North	45	214.0	A	45	89.1	A	35	230.7	A	22	333.3	A
		South	34	160.4	A	11	526.4	A	30	260.8	A	33	201.1	A
9	Edgewater Road & Jennings Street	North	27	250.5	A	15	248.0	A	13	424.3	A	24	309.5	A
		South	14	380.5	A	9	403.7	A	26	207.8	A	23	204.7	A
12	Whitlock Avenue & Westchester Avenue	North	105	562.1	A	71	1,146.8	A	124	597.6	A	132	445.8	A
		East	8	2,918.5	A	17	1,083.0	A	9	879.2	A	33	668.3	A
13	Edgewater Road & Westchester Avenue	North	89	222.2	A	76	363.1	A	116	228.4	A	151	148.1	A

Table 12-20: No-Action Condition Corner Analysis

			Weekday AM			Weekday Midday			Weekday PM			Saturday Midday		
ID	Location	Corner	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS
4	Longfellow Avenue & Freeman Street	North-East	31	47.8	B	9	168.4	A	14	276.6	A	10	397.1	A
		North-West	56	232.0	A	24	356.2	A	17	788.8	A	19	997.3	A
5	West Farms Road & Freeman Street	North-West	26	276.5	A	18	455.0	A	28	320.4	A	13	417.9	A
12	Whitlock Avenue & Westchester Avenue	North-East	49	537.3	A	48	855.8	A	62	512.5	A	73	365.8	A
		South-East	85	804.1	A	58	598.3	A	36	515.9	A	62	667.3	A
		North-West	284	227.7	A	105	565.3	A	230	278.9	A	133	376.6	A
13	Edgewater Road & Westchester Avenue	North-East	26	611.1	A	12	1,051.8	A	24	556.9	A	28	426.9	A
		North-West	54	895.3	A	28	890.3	A	52	919.6	A	89	589.5	A

Table 12-21: No-Action Condition Sidewalk Analysis

ID	Location	Sidewalk Movement	Effective Width (ft)	Weekday AM			Weekday Midday			Weekday PM			Saturday Midday		
				Two-Way Peak Hour Volume	Average Space (ft^2/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	Platoon LOS
1	North Sidewalk on Freeman Street between Freeman Street Subway Station and Hoe Avenue	East-West	6.5	221	314.2	B	117	576.2	A	209	269.0	B	153	362.6	B
	North Sidewalk on Freeman Street between Hoe Avenue and Vyse Avenue	East-West	1.3	124	104.0	B	67	205.2	B	90	103.4	B	90	126.5	B
2	North Sidewalk on Freeman Street between Hoe Avenue and Vyse Avenue	East-West	2.1	99	184.5	B	57	338.5	B	87	184.2	B	68	267.2	B
	North Sidewalk on Freeman Street between Vyse Avenue and Bryant Avenue	East-West	6.6	115	513.5	B	53	1,094.4	A	82	512.0	B	67	731.4	A
3	North Sidewalk on Freeman Street between Vyse Avenue and Bryant Avenue	East-West	6.4	122	517.1	B	60	948.2	A	76	534.6	A	75	650.9	A
	North Sidewalk on Freeman Street between Bryant Avenue and Longfellow Avenue	East-West	6.7	83	611.4	A	36	1,950.5	A	59	712.9	A	57	1,069.4	A
4	North Sidewalk on Freeman Street between Bryant Avenue and Longfellow Avenue	East-West	5.2	116	371.3	B	54	755.8	A	61	697.9	A	52	947.1	A
	North Sidewalk on Freeman Street between West Farms Road and Longfellow Avenue	East-West	2.2	71	249.4	B	38	480.2	B	56	336.9	B	31	561.7	A
5	North Sidewalk on Freeman Street between West Farms Road and Longfellow Avenue	East-West	2.3	76	259.0	B	44	427.4	B	64	308.7	B	35	524.9	B
	West Sidewalk on West Farms Road between Boone Avenue and Freeman Street	North-South	2.8	59	353.9	B	56	445.0	B	76	327.6	B	46	404.8	B
	East Sidewalk on West Farms Road between Boone Avenue and Freeman Street	North-South	10.2	72	949.2	A	41	1,861.2	A	72	883.4	A	62	1,034.5	A
6	West Sidewalk on West Farms Road between Boone Avenue and Freeman Street	North-South	3.5	53	474.3	B	16	1,403.8	A	58	490.3	B	37	692.7	A
	East Sidewalk on West Farms Road between Boone Avenue and Freeman Street	North-South	9.1	84	687.5	A	27	2,851.9	A	104	647.8	A	65	926.4	A
	West Sidewalk on West Farms Road between Jennings Street and Boone Avenue	North-South	5.1	211	196.1	B	85	332.1	B	134	345.7	B	50	606.9	A
	East Sidewalk on West Farms Road between Jennings Street and Boone Avenue	North-South	14.8	116	1,163.5	A	26	3,360.3	A	88	1,596.5	A	67	1,274.6	A
7	West Sidewalk on West Farms Road between Jennings Street and Boone Avenue	North-South	4.9	226	156.2	B	90	406.3	B	125	285.6	B	60	585.2	A
	East Sidewalk on West Farms Road between Jennings Street and Boone Avenue	North-South	4.8	48	806.5	A	21	1,645.9	A	26	1,481.4	A	19	1,890.1	A
	North Sidewalk on Jennings Street between Boone Avenue and West Farms Road	East-West	5.0	123	256.6	B	87	435.9	B	37	805.8	A	28	1,520.0	A
9	East Sidewalk on Edgewater Road between Westchester Avenue and Jennings Street	North-South	2.8	45	525.3	B	55	446.4	B	80	308.9	B	102	330.2	B
	East Sidewalk on Edgewater Road between Jennings Street and East 172nd Street	North-South	3.3	10	1,318.6	A	73	193.1	B	55	714.9	A	73	454.3	B
10	East Sidewalk on Edgewater Road between Jennings Street and East 172nd Street	North-South	6.9	17	3,824.7	A	100	385.9	B	95	782.3	A	120	655.8	A
	East Sidewalk on Edgewater Road between East 172nd Street and East 173rd Street	North-South	4.8	21	1,645.4	A	122	257.5	B	108	403.1	B	132	408.5	B
11	East Sidewalk on Edgewater Road between East 172nd Street and East 173rd Street	North-South	6.8	21	2,367.1	A	122	370.6	B	108	580.0	A	132	587.8	A
12	North Sidewalk on Westchester Avenue between Whitlock Avenue and Edgewater Road	East-West	14.5	92	1,642.0	A	82	2,450.2	A	125	1,414.0	A	173	1,178.6	A
13	East Sidewalk on Edgewater Road between Westchester Avenue and Jennings Street	North-South	5.2	43	1,185.9	A	56	1,076.7	A	74	502.1	B	109	640.1	A
	North Sidewalk on Westchester Avenue between Whitlock Avenue and Edgewater Road	East-West	12.0	100	1,203.1	A	81	2,139.4	A	126	1,172.0	A	171	1,002.7	A

With-Action Condition (2028)

Changes to the Study Area Pedestrian Network

As part of the Proposed Actions, Development Site 2 will be constructed such that Building 2 is set back from the property line. As such, the existing sidewalk on the east side of Edgewater Road, along the Building 2 frontage, will be widened to a minimum total width of approximately 16 feet (see Appendix H – Figure H-41). In terms of the pedestrian walking path, the minimum passable width on the sidewalk along the Building 2 frontage will be approximately 10 feet, 8 ¾ inches (see Figure H-41). This proposed Building 2 setback and associated sidewalk geometry change was incorporated into the With-Action Condition pedestrian analyses.

Pedestrian Volumes

In the With-Action Condition, project-generated pedestrian trips (see Table 12-3) were assigned to the study area pedestrian analysis locations for the weekday AM, midday, PM and Saturday midday peak hours (see Appendix H – Figures H-5 through H-8). The With-Action Condition pedestrian volumes were projected by layering the project-generated pedestrian trip assignments on top of the No-Action Condition pedestrian volumes, and are shown in Appendix H – Figures H-42 through H-45 for the weekday AM, midday, PM and Saturday midday peak hours, respectively.

Pedestrian Conditions

The crosswalk, corner and sidewalk analysis results for the No-Action and With-Action Conditions, including average space (ft^2/p) and LOS for the study area analysis elements, are shown in Table 12-22, Table 12-23 and Table 12-24, respectively.

In the With-Action Condition, four of the eight crosswalk elements in the study area are projected to operate worse than LOS C in at least one peak hour, summarized as follows:

- The north crosswalk (across Sheridan Boulevard) at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, which would:
  - Drop from LOS A to LOS D with an average space of 21.2 ft^2/p during the weekday midday peak hour, a decrease of 67.9 ft^2/p relative to the No-Action Condition.
- The south crosswalk (across Sheridan Boulevard) at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, which would:
  - Drop from LOS A to LOS E with an average space of 11.4 ft^2/p during the weekday AM peak hour, a decrease of 149.0 ft^2/p relative to the No-Action Condition.
  - Drop from LOS A to LOS E with an average space of 12.7 ft^2/p during the weekday midday peak hour, a decrease of 513.7 ft^2/p relative to the No-Action Condition.
  - Drop from LOS A to LOS E with an average space of 12.9 ft^2/p during the weekday PM peak hour, a decrease of 247.9 ft^2/p relative to the No-Action Condition.
  - Drop from LOS A to LOS E with an average space of 9.0 ft^2/p during the Saturday midday peak hour, a decrease of 192.1 ft^2/p relative to the No-Action Condition.
- The north crosswalk (across Edgewater Road) at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, which would:
  - Drop from LOS A to LOS D with an average space of 18.6 ft^2/p during the weekday PM peak hour, a decrease of 405.6 ft^2/p relative to the No-Action Condition.

- Drop from LOS A to LOS D with an average space of 22.9 ft^2/p during the Saturday midday peak hour, a decrease of 286.6 ft^2/p relative to the No-Action Condition.

- The south crosswalk (across Edgewater Road) at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, which would:
  - Drop from LOS A to LOS E with an average space of 12.0 ft^2/p during the weekday AM peak hour, a decrease of 368.5 ft^2/p relative to the No-Action Condition.
  - Drop from LOS A to LOS F with an average space of 7.7 ft^2/p during the weekday midday peak hour, a decrease of 396.0 ft^2/p relative to the No-Action Condition.
  - Drop from LOS A to LOS F with an average space of 7.9 ft^2/p during the weekday PM peak hour, a decrease of 199.9 ft^2/p relative to the No-Action Condition.
  - Drop from LOS A to LOS F with an average space of 4.9 ft^2/p during the Saturday midday peak hour, a decrease of 199.8 ft^2/p relative to the No-Action Condition.

Table 12-22: No-Action vs. With-Action Condition - Crosswalk Analysis

			Weekday AM						Weekday Midday						Weekday PM						Saturday Midday					
			No-Action			With-Action			No-Action			With-Action			No-Action			With-Action			No-Action			With-Action		
ID	Location	Crosswalk	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS
4	Longfellow Avenue & Freeman Street	North	75	217.4	A	346	38.7	C	27	686.0	A	220	83.5	A	46	484.4	A	331	65.7	A	27	747.8	A	344	54.6	B
8	Sheridan Boulevard & Jennings Street	North	45	214.0	A	172	54.5	B	45	89.1	A	176	21.2	D	35	230.7	A	218	35.0	C	22	333.3	A	233	26.8	C
		South	34	160.4	A	413	11.4	E	11	526.4	A	351	12.7	E	30	260.8	A	516	12.9	E	33	201.1	A	585	9.0	E
9	Edgewater Road & Jennings Street	North	27	250.5	A	153	40.2	B	15	248.0	A	146	30.1	C	13	424.3	A	197	18.6	D	24	309.5	A	235	22.9	D
		South	14	380.5	A	393	12.0	E	9	403.7	A	349	7.7	F	26	207.8	A	512	7.9	F	23	204.7	A	576	4.9	F
12	Whitlock Avenue & Westchester Avenue	North	105	562.1	A	236	249.9	A	71	1,146.8	A	209	386.3	A	124	597.6	A	319	226.6	A	132	445.8	A	356	160.7	A
		East	8	2,918.5	A	213	104.1	A	17	1,083.0	A	167	104.2	A	9	879.2	A	227	32.3	C	33	668.3	A	279	81.5	A
13	Edgewater Road & Westchester Avenue	North	89	222.2	A	424	40.2	B	76	363.1	A	363	72.8	A	116	228.4	A	530	45.3	B	151	148.1	A	619	31.6	C

Note: Shading denotes a potentially significant adverse pedestrian impact per *CEQR Technical Manual* criteria.

In the With-Action Condition, of the eight corner elements in the study area, only the northeast corner at the intersection of Longfellow Avenue and Freeman Street would operate worse than LOS C in at least one peak hour. Specifically, it would drop from LOS A to LOS D with an average space of 15.0 ft^2/p during the weekday AM peak hour, a decrease of 32.8 ft^2/p relative to the No-Action Condition.

Table 12-23: No-Action vs. With-Action Condition - Corner Analysis

			Weekday AM						Weekday Midday						Weekday PM						Saturday Midday					
			No-Action			With-Action			No-Action			With-Action			No-Action			With-Action			No-Action			With-Action		
ID	Location	Corner	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS	Two-Way Peak Hour Volume	Average Space (ft^2/p)	LOS
4	Longfellow Avenue & Freeman Street	North-East	31	47.8	B	31	15.0	D	9	168.4	A	9	60.7	A	14	276.6	A	14	66.5	A	10	397.1	A	10	51.5	B
		North-West	56	232.0	A	56	99.4	A	24	356.2	A	24	163.4	A	17	788.8	A	17	197.4	A	19	997.3	A	19	162.1	A
5	West Farms Road & Freeman Street	North-West	26	276.5	A	168	73.6	A	18	455.0	A	121	116.3	A	28	320.4	A	179	91.1	A	13	417.9	A	181	69.2	A
12	Whitlock Avenue & Westchester Avenue	North-East	49	537.3	A	49	175.8	A	48	855.8	A	48	224.8	A	62	512.5	A	62	108.6	A	73	365.8	A	73	126.2	A
		South-East	85	804.1	A	85	288.3	A	58	598.3	A	58	250.5	A	36	515.9	A	36	152.0	A	62	667.3	A	62	245.1	A
		North-West	284	227.7	A	284	170.1	A	105	565.3	A	105	338.1	A	230	278.9	A	230	184.6	A	133	376.6	A	133	197.4	A
13	Edgewater Road & Westchester Avenue	North-East	26	611.1	A	74	131.7	A	12	1,051.8	A	87	206.6	A	24	556.9	A	126	113.9	A	28	426.9	A	147	92.2	A
		North-West	54	895.3	A	54	246.3	A	28	890.3	A	28	260.9	A	52	919.6	A	52	273.8	A	89	589.5	A	89	197.5	A

Note: Shading denotes a potentially significant adverse pedestrian impact per *CEQR Technical Manual* criteria.

In the With-Action Condition, 2 of the 26 sidewalk elements in the study area are projected to operate worse than LOS C in at least one peak hour, summarized as follows:

- The northeast, east-west sidewalk at the intersection of Freeman Street and Hoe Avenue, which would:

- Drop from LOS B to LOS D with an average space of 31.8 ft^2/p during the weekday AM peak hour, a decrease of 72.2 ft^2/p relative to the No-Action Condition.
- Drop from LOS B to LOS D with an average space of 23.8 ft^2/p during the weekday PM peak hour, a decrease of 79.7 ft^2/p relative to the No-Action Condition.
- Drop from LOS B to LOS D with an average space of 27.0 ft^2/p during the Saturday midday peak hour, a decrease of 99.5 ft^2/p relative to the No-Action Condition.

- The northeast, north-south sidewalk at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, which would:
  - Drop from LOS A to LOS D with an average space of 38.1 ft^2/p during the weekday AM peak hour, a decrease of 1,280.5 ft^2/p relative to the No-Action Condition.
  - Drop from LOS B to LOS D with an average space of 33.7 ft^2/p during the weekday midday peak hour, a decrease of 159.4 ft^2/p relative to the No-Action Condition.

Furthermore, the following seven study area pedestrian elements would experience a potentially significant adverse pedestrian impact in the With-Action Condition during at least one peak hour:

- The north crosswalk (across Sheridan Boulevard) at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, during the weekday midday peak hour.
- The south crosswalk (across Sheridan Boulevard) at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, during the weekday AM, midday, PM and Saturday midday peak hours.
- The north crosswalk (across Edgewater Road) at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, during the weekday PM and Saturday midday peak hours.
- The south crosswalk (across Edgewater Road) at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, during the weekday AM, midday, PM and Saturday midday peak hours.
- The northeast corner at the intersection of Longfellow Avenue and Freeman Street during the weekday AM peak hour.
- The northeast, east-west sidewalk at the intersection of Freeman Street and Hoe Avenue during the weekday AM, PM and Saturday midday peak hours.
- The northeast, north-south sidewalk at the intersection of Sheridan Boulevard and Edgewater Road, opposite Jennings Street, during the weekday AM and midday peak hours.

Chapter 19, “Mitigation,” discusses potential measures to mitigate these potentially significant adverse pedestrian impacts.

Table 12-24: No-Action vs. With-Action Condition - Sidewalk Analysis

				Weekday AM						Weekday Midday						Weekday PM						Saturday Midday					
				No-Action			With-Action			No-Action			With-Action			No-Action			With-Action			No-Action			With-Action		
ID	Location	Sidewalk Movement	Effective Width (ft)	Two-Way Peak Hour Volume	Average Space (ft²/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft²/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft²/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft²/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft²/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft²/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft²/p)	Platoon LOS	Two-Way Peak Hour Volume	Average Space (ft²/p)	Platoon LOS
1	North Sidewalk on Freeman Street between Freeman Street Subway Station and Hoe Avenue	East-West	6.5	221	314.2	B	492	141.1	B	117	576.2	A	309	217.3	B	209	269.0	B	494	113.8	B	153	362.6	B	470	117.6	B
	North Sidewalk on Freeman Street between Hoe Avenue and Vyse Avenue	East-West	1.3	124	104.0	B	395	31.8	D	67	205.2	B	260	52.4	C	90	103.4	B	375	23.8	D	90	126.5	B	408	27.0	D
2	North Sidewalk on Freeman Street between Hoe Avenue and Vyse Avenue	East-West	2.1	99	184.5	B	370	49.0	C	57	338.5	B	249	76.8	C	87	184.2	B	371	42.4	C	68	267.2	B	386	46.7	C
	North Sidewalk on Freeman Street between Vyse Avenue and Bryant Avenue	East-West	6.6	115	513.5	B	386	152.9	B	53	1,094.4	A	245	235.3	B	82	512.0	B	367	114.5	B	67	731.4	A	384	127.5	B
3	North Sidewalk on Freeman Street between Vyse Avenue and Bryant Avenue	East-West	6.4	122	517.1	B	392	160.2	B	60	948.2	A	252	224.8	B	76	534.6	A	361	112.9	B	75	650.9	A	393	124.5	B
	North Sidewalk on Freeman Street between Bryant Avenue and Longfellow Avenue	East-West	6.7	83	611.4	A	353	142.8	B	36	1,950.5	A	228	303.7	B	59	712.9	A	344	122.2	B	57	1,069.4	A	374	161.9	B
4	North Sidewalk on Freeman Street between Bryant Avenue and Longfellow Avenue	East-West	5.2	116	371.3	B	387	111.2	B	54	755.8	A	246	164.8	B	61	697.9	A	346	123.5	B	52	947.1	A	369	133.3	B
	North Sidewalk on Freeman Street between West Farms Road and Longfellow Avenue	East-West	2.2	71	249.4	B	357	49.4	C	38	480.2	B	243	73.9	C	56	336.9	B	358	51.8	C	31	561.7	A	369	47.0	C
5	North Sidewalk on Freeman Street between West Farms Road and Longfellow Avenue	East-West	2.3	76	259.0	B	362	53.9	C	44	427.4	B	249	74.6	C	64	308.7	B	366	53.2	C	35	524.9	B	373	48.4	C
	West Sidewalk on West Farms Road between Boone Avenue and Freeman Street	North-South	2.8	59	353.9	B	222	94.4	B	56	445.0	B	184	136.1	B	76	327.6	B	262	95.1	B	46	404.8	B	256	73.2	C
	East Sidewalk on West Farms Road between Boone Avenue and Freeman Street	North-South	10.2	72	949.2	A	235	290.2	B	41	1,861.2	A	169	453.3	B	72	883.4	A	258	245.8	B	62	1,034.5	A	271	235.0	B
6	West Sidewalk on West Farms Road between Boone Avenue and Freeman Street	North-South	3.5	53	474.3	B	216	115.8	B	16	1,403.8	A	143	153.7	B	58	490.3	B	244	116.1	B	37	692.7	A	246	104.4	B
	East Sidewalk on West Farms Road between Boone Avenue and Freeman Street	North-South	9.1	84	687.5	A	247	233.9	B	27	2,851.9	A	154	496.1	B	104	647.8	A	290	232.5	B	65	926.4	A	274	219.5	B
	West Sidewalk on West Farms Road between Jennings Street and Boone Avenue	North-South	5.1	211	196.1	B	374	110.6	B	85	332.1	B	213	133.0	B	134	345.7	B	320	145.0	B	50	606.9	A	259	117.0	B
	East Sidewalk on West Farms Road between Jennings Street and Boone Avenue	North-South	14.8	116	1,163.5	A	279	485.0	B	26	3,360.3	A	153	566.2	A	88	1,596.5	A	274	512.5	B	67	1,274.6	A	276	310.2	B
7	West Sidewalk on West Farms Road between Jennings Street and Boone Avenue	North-South	4.9	226	156.2	B	389	90.6	B	90	406.3	B	218	168.4	B	125	285.6	B	311	114.8	B	60	585.2	A	270	131.1	B
	East Sidewalk on West Farms Road between Jennings Street and Boone Avenue	North-South	4.8	48	806.5	A	232	165.8	B	21	1,645.9	A	163	209.8	B	26	1,481.4	A	233	164.7	B	19	1,890.1	A	252	139.9	B
	North Sidewalk on Jennings Street between Boone Avenue and West Farms Road	East-West	5.0	123	256.6	B	228	138.5	B	87	435.9	B	212	178.3	B	37	805.8	A	211	142.5	B	28	1,520.0	A	230	186.1	B
9	East Sidewalk on Edgewater Road between Westchester Avenue and Jennings Street	North-South	2.8	45	525.3	B	644	106.5	B	55	446.4	B	635	111.1	B	80	308.9	B	903	78.5	C	102	330.2	B	1,044	93.4	B
	East Sidewalk on Edgewater Road between Jennings Street and East 172nd Street	North-South	3.3	10	1,318.6	A	334	38.1	D	73	193.1	B	400	33.7	D	55	714.9	A	517	75.8	C	73	454.3	B	603	53.7	C
10	East Sidewalk on Edgewater Road between Jennings Street and East 172nd Street	North-South	6.9	17	3,824.7	A	196	325.6	B	100	385.9	B	291	132.6	B	95	782.3	A	363	204.1	B	120	655.8	A	429	183.5	B
	East Sidewalk on Edgewater Road between East 172nd Street and East 173rd Street	North-South	4.8	21	1,645.4	A	170	199.4	B	122	257.5	B	288	109.0	B	108	403.1	B	339	128.0	B	132	408.5	B	399	135.0	B
11	East Sidewalk on Edgewater Road between East 172nd Street and East 173rd Street	North-South	6.8	21	2,367.1	A	170	287.1	B	122	370.6	B	288	157.1	B	108	580.0	A	339	184.5	B	132	587.8	A	399	194.5	B
12	North Sidewalk on Westchester Avenue between Whitlock Avenue and Edgewater Road	East-West	14.5	92	1,642.0	A	427	353.8	B	82	2,450.2	A	369	544.3	A	125	1,414.0	A	538	327.3	B	173	1,178.6	A	641	317.1	B
13	East Sidewalk on Edgewater Road between Westchester Avenue and Jennings Street	North-South	5.2	43	1,185.9	A	427	118.8	B	56	1,076.7	A	417	143.2	B	74	502.1	B	588	62.3	C	109	640.1	A	697	99.8	B
	North Sidewalk on Westchester Avenue between Whitlock Avenue and Edgewater Road	East-West	12.0	100	1,203.1	A	435	276.1	B	81	2,139.4	A	368	470.6	B	126	1,172.0	A	539	273.2	B	171	1,002.7	A	640	268.4	B

Note: Shading denotes a potentially significant adverse pedestrian impact per *CEQR Technical Manual* criteria.

12.7 Detailed Subway Transit Analysis

Existing Conditions (2022)

Transit Volumes

The transit study area consists of the stairway and fare control elements at the Freeman Street Subway Station (serving the No. 2 and No. 5 Subway Lines), located at the intersection of Southern Boulevard and Freeman Street, as well as a detailed line-haul analysis of the No. 2 Subway Line.

Baseline stairway and fare control volumes for the study area elements were determined based on counts conducted in June 2022. The data collection included entry and exit counts for the stairways, turnstiles, high exit turnstiles and emergency gates at the Freeman Street Subway Station, as well as physical inventories of the stairway elements to be used for detailed analysis. Based on the data collected, the peak hours for transit analysis are 7:15 – 8:15 AM and 4:00 – 5:00 PM for the weekday AM and PM peak hours, respectively. In addition, adjustment factors were developed for the baseline stairway and

fare control volumes in consultation with NYCDCP and NYCT to account for the ongoing transportation impacts of the pandemic. These adjustment factors were based on a comparison of the peak hour turnstile volumes collected in June 2022 to Freeman Street Station turnstile data provided by NYCDCP from before the pandemic. Adjustment factors of 1.18 and 1.16 were applied to the Baseline Conditions stairway and fare control volumes during the weekday AM and PM peak hours, respectively, to develop the 2022 Existing Conditions stairway and fare control volumes for these peak hours. The Existing Conditions stairway and fare control volumes for the weekday AM and PM peak hours are shown in Table 12-25 and Table 12-26 for the study area stairway and fare control elements, respectively.

Existing Conditions line-haul capacity data was obtained from NYCT for the Maximum Load Point of the Manhattan-bound No. 2 Subway Line in the weekday AM peak hour and the Bronx-bound No. 2 Subway Line in the weekday PM peak hour. The Maximum Load Point of the Manhattan-bound No. 2 Subway Line in the weekday AM peak hour is leaving the 72nd Street Subway Station in Manhattan, and the Maximum Load Point of the Bronx-bound No. 2 Subway Line in the weekday PM peak hour is leaving the Times Square – 42nd Street Subway Station in Manhattan. The Existing Conditions line-haul capacity for the No. 2 Subway Line is shown in Table 12-27 for the weekday AM and PM peak hours.

Transit Conditions

Table 12-25 and Table 12-26 show that all stairway and fare control elements, respectively, at the Freeman Street Subway Station operate at acceptable service conditions (v/c ratio less than 1.00) in Existing Conditions during the weekday AM and PM peak hours.

Table 12-27 shows that the Manhattan-bound No. 2 Subway Line during the weekday AM peak hour and Bronx-bound No. 2 Subway Line during the weekday PM peak hour operate over capacity (v/c ratio greater than 1.00) in Existing Conditions with v/c ratios of 1.03 and 1.01, respectively.

Table 12-25: Existing Conditions – Freeman Street Subway Station Stairway Analysis

Peak Hour	Stairway	Total Width (ft)	Effective Width (ft)	Friction Factor	Baseline Peak Hour Volumes		COVID Adjustment Factor	Adjusted Peak Hour Volumes		Surging Factor		v/c Ratio	LOS
					Up	Down		Up	Down	Up	Down		
Weekday AM	Manhattan-Bound (North)	4.83	3.83	0.9	49	273	1.18	58	323	0.75	0.75	0.31	A
	Manhattan-Bound (South)	4.42	3.42	0.9	160	69	1.18	189	82	0.75	0.75	0.24	A
	Bronx-Bound (North)	4.58	3.58	0.9	49	135	1.18	58	160	0.75	0.75	0.19	A
	Bronx-Bound (South)	4.67	3.67	0.9	51	45	1.18	60	53	0.75	0.75	0.10	A
Weekday PM	Manhattan-Bound (North)	4.83	3.83	0.9	46	148	1.16	53	172	0.75	0.75	0.18	A
	Manhattan-Bound (South)	4.42	3.42	0.9	55	47	1.16	64	55	0.75	0.75	0.11	A
	Bronx-Bound (North)	4.58	3.58	0.9	51	214	1.16	59	249	0.75	0.75	0.27	A
	Bronx-Bound (South)	4.67	3.67	0.9	35	86	1.16	41	100	0.75	0.75	0.12	A

Table 12-26: Existing Conditions – Freeman Street Subway Station Fare Control Analysis

Peak Hour	Fare Control Area	Control Elements		Friction Factor	Baseline Peak Hour Volumes		COVID Adjustment Factor	Adjusted Peak Hour Volumes		Surging Factor	v/c Ratio	LOS
		Turnstiles	HXT		In	Out		In	Out			
Weekday AM	Bronx-Bound	4	0	0.9	93	185	1.18	110	219	0.75	0.06	A
	Manhattan-Bound	4	2	0.9	432	111	1.18	511	131	0.75	0.12	A
Weekday PM	Bronx-Bound	4	0	0.9	90	301	1.16	105	350	0.75	0.08	A
	Manhattan-Bound	4	2	0.9	223	92	1.16	259	107	0.75	0.07	A

Table 12-27: Existing Conditions – No. 2 Subway Line-Haul Analysis

Peak Hour	Subway Line	Direction	Maximum Load Point (Leaving Station)	Trains per Hour (Average)	Cars per Hour (Average)	Passengers per Hour (Average)	Passengers per Car (Average)	Passengers per Car (Guideline)	v/c Ratio
Weekday AM	No. 2	Manhattan-Bound	72nd Street	11.6	116	13,166	114	110	1.03
Weekday PM	No. 2	Bronx-Bound	Times Square-42nd Street	10.7	107	11,938	112	110	1.01

Note: Shading denotes a subway line that operates at congested levels per *CEQR Technical Manual* criteria (i.e. v/c ratio greater than 1.00).

No-Action Condition (2028)

Transit Volumes

The No-Action Condition transit volumes were developed for the 2028 analysis year. Per the *CEQR Technical Manual*, a compounded annual background growth rate of 0.25 percent for the Bronx was applied to the Existing Conditions transit volumes for the first five years (2022 through 2027) and subsequently, a growth rate of 0.125 percent was applied for the sixth year (2027 through 2028).

In addition to background growth, transit trips expected to be generated by the No-Build Development Projects were assigned to the study area transit analysis elements. The No-Action Condition transit volumes were projected by layering the background growth and trips generated by the No-Build Development Projects on top of the Existing Conditions transit volumes. The No-Action Condition stairway and fare control volumes for the weekday AM and PM peak hours are shown in Table 12-28 and Table 12-29 for the study area stairway and fare control elements, respectively. Furthermore, the No-Action Condition line-haul capacity for the No. 2 Subway Line is shown in Table 12-30 for the weekday AM and PM peak hours.

Transit Conditions

Table 12-28 and Table 12-29 show that all stairway and fare control elements, respectively, at the Freeman Street Subway Station are projected to operate at acceptable service conditions (v/c ratio less than 1.00) in the No-Action Condition during the weekday AM and PM peak hours.

Table 12-30 shows that the Manhattan-bound No. 2 Subway Line during the weekday AM peak hour and Bronx-bound No. 2 Subway Line during the weekday PM peak hour are projected to operate over capacity (v/c ratio greater than 1.00) in the No-Action Condition with v/c ratios of 1.05 and 1.03, respectively.

Table 12-28: No-Action Condition – Freeman Street Subway Station Stairway Analysis

Peak Hour	Stairway	Total Width (ft)	Effective Width (ft)	Friction Factor	Peak Hour Volumes		Surging Factor		v/c Ratio	LOS
					Up	Down	Up	Down		
Weekday AM	Manhattan-Bound (North)	4.83	3.83	0.9	59	328	0.75	0.75	0.31	A
	Manhattan-Bound (South)	4.42	3.42	0.9	192	83	0.75	0.75	0.25	A
	Bronx-Bound (North)	4.58	3.58	0.9	59	162	0.75	0.75	0.19	A
	Bronx-Bound (South)	4.67	3.67	0.9	61	54	0.75	0.75	0.10	A
Weekday PM	Manhattan-Bound (North)	4.83	3.83	0.9	54	174	0.75	0.75	0.18	A
	Manhattan-Bound (South)	4.42	3.42	0.9	65	55	0.75	0.75	0.11	A
	Bronx-Bound (North)	4.58	3.58	0.9	60	252	0.75	0.75	0.27	A
	Bronx-Bound (South)	4.67	3.67	0.9	41	101	0.75	0.75	0.12	A

Table 12-29: No-Action Condition – Freeman Street Subway Station Fare Control Analysis

		Control Elements		Friction	Peak Hour Volumes		Surging	v/c	
Peak Hour	Fare Control Area	Turnstiles	HXT	Factor	In	Out	Factor	Ratio	LOS
Weekday AM	Bronx-Bound	4	0	0.9	112	222	0.75	0.06	A
	Manhattan-Bound	4	2	0.9	519	133	0.75	0.12	A
Weekday PM	Bronx-Bound	4	0	0.9	106	355	0.75	0.09	A
	Manhattan-Bound	4	2	0.9	263	108	0.75	0.07	A

Table 12-30: No-Action Condition – No. 2 Subway Line-Haul Analysis

Peak Hour	Subway Line	Direction	Maximum Load Point (Leaving Station)	Trains per Hour (Average)	Cars per Hour (Average)	Future No-Build Project-Generated Trip Assignments[1]	Passengers per Hour (Average)	Passengers per Car (Average)	Passengers per Car (Guideline)	v/c Ratio
Weekday AM	No. 2	Manhattan-Bound	72nd Street	11.6	116	50	13,415	116	110	1.05
Weekday PM	No. 2	Bronx-Bound	Times Square-42nd Street	10.7	107	13	12,131	113	110	1.03

Note: Shading denotes a subway line that operates at congested levels per *CEQR Technical Manual* criteria (i.e. v/c ratio greater than 1.00).

With-Action Condition (2028)

Transit Volumes

In the With-Action Condition, project-generated subway trips (see Table 12-3 and Table 12-4) were assigned to the Freeman Street stairway and fare control elements for the weekday AM and PM peak hours. Similarly, the project-generated subway trips (see Table 12-4) were assigned to the No. 2 Subway Line for the weekday AM and PM peak hours. The With-Action Condition transit volumes were projected by layering the project-generated subway trip assignments on top of the No-Action Condition transit volumes. The With-Action Condition stairway and fare control volumes for the weekday AM and PM peak hours are shown in Table 12-31 and Table 12-32 for the study area stairway and fare control elements, respectively. Furthermore, the With-Action Condition line-haul capacity for the No. 2 Subway Line is shown in Table 12-33 for the weekday AM and PM peak hours.

Transit Conditions

Table 12-31 and Table 12-32 show that all stairway and fare control elements, respectively, at the Freeman Street Subway Station are projected to operate at acceptable service conditions (v/c ratio less than 1.00) in the With-Action Condition during the weekday AM and PM peak hours. Therefore, the Proposed Actions would not result in potentially significant adverse impacts to the Freeman Street Subway Station stairway or fare control elements per *CEQR Technical Manual* criteria.

Table 12-33 shows that the Manhattan-bound No. 2 Subway Line during the weekday AM peak hour and Bronx-bound No. 2 Subway Line during the weekday PM peak hour are projected to operate over capacity (v/c ratio greater than 1.00) in the With-Action Condition with v/c ratios of 1.06 and 1.04, respectively. However, the Proposed Actions would not generate five or more Average Passengers per Car on the Manhattan-bound No. 2 Subway Line in the weekday AM peak hour, nor on the Bronx-bound No. 2 Subway Line in the weekday PM peak hour. Therefore, the Proposed Actions would not result in a potentially significant adverse impact to the No. 2 Subway line-haul capacity per *CEQR Technical Manual* criteria.

Table 12-31: With-Action Condition – Freeman Street Subway Station Stairway Analysis

Peak Hour	Stairway	Total Width (ft)	Effective Width (ft)	Friction Factor	Project-Generated Trip Assignments		Peak Hour Volumes		Surging Factor		v/c Ratio	LOS
					Up	Down	Up	Down	Up	Down		
Weekday AM	Manhattan-Bound (North)	4.83	3.83	0.9	152	11	211	339	0.75	0.75	0.44	A
	Manhattan-Bound (South)	4.42	3.42	0.9	0	0	192	83	0.75	0.75	0.25	A
	Bronx-Bound (North)	4.58	3.58	0.9	38	45	97	207	0.75	0.75	0.26	A
	Bronx-Bound (South)	4.67	3.67	0.9	0	0	61	54	0.75	0.75	0.10	A
Weekday PM	Manhattan-Bound (North)	4.83	3.83	0.9	72	29	127	203	0.75	0.75	0.27	A
	Manhattan-Bound (South)	4.42	3.42	0.9	0	0	65	55	0.75	0.75	0.11	A
	Bronx-Bound (North)	4.58	3.58	0.9	18	115	78	367	0.75	0.75	0.38	A
	Bronx-Bound (South)	4.67	3.67	0.9	0	0	41	101	0.75	0.75	0.12	A

Table 12-32: With-Action Condition – Freeman Street Subway Station Fare Control Analysis

Peak Hour	Fare Control Area	Control Elements		Friction Factor	Project-Generated Trip Assignments		Peak Hour Volumes		Surging Factor	v/c Ratio	LOS
		Turnstiles	HXT		In	Out	In	Out			
Weekday AM	Bronx-Bound	4	0	0.9	38	45	150	267	0.75	0.08	A
	Manhattan-Bound	4	2	0.9	152	11	671	145	0.75	0.16	A
Weekday PM	Bronx-Bound	4	0	0.9	18	115	124	470	0.75	0.11	A
	Manhattan-Bound	4	2	0.9	72	29	335	137	0.75	0.09	A

Table 12-33: With-Action Condition – No. 2 Subway Line-Haul Analysis

Peak Hour	Subway Line	Direction	Maximum Load Point (Leaving Station)	Trains per Hour (Average)	Cars per Hour (Average)	Project-Generated Trip Assignments (Total)	Project-Generated Trip Assignments (Average per Car)	Passengers per Hour (Average)	Passengers per Car (Average)	Passengers per Car (Guideline)	v/c Ratio
Weekday AM	No. 2	Manhattan-Bound	72nd Street	11.6	116	164	1.41	13,578	117	110	1.06
Weekday PM	No. 2	Bronx-Bound	Times Square-42nd Street	10.7	107	133	1.24	12,264	115	110	1.04

12.8 Detailed Parking Analysis

Existing Conditions (2022)

To assess the public parking utilization in the study area, an on- and off-street public parking survey was conducted within a ½-mile radius of the Proposed Rezoning Area in June and November 2022 during the midday and overnight periods on a typical weekday and Saturday. Based on this survey, there are eight off-street, public parking facilities within a ½-mile radius of the Proposed Rezoning Area (see Figure 12-6 and Table 12-34).

Figure 12-6: Parking Survey Map

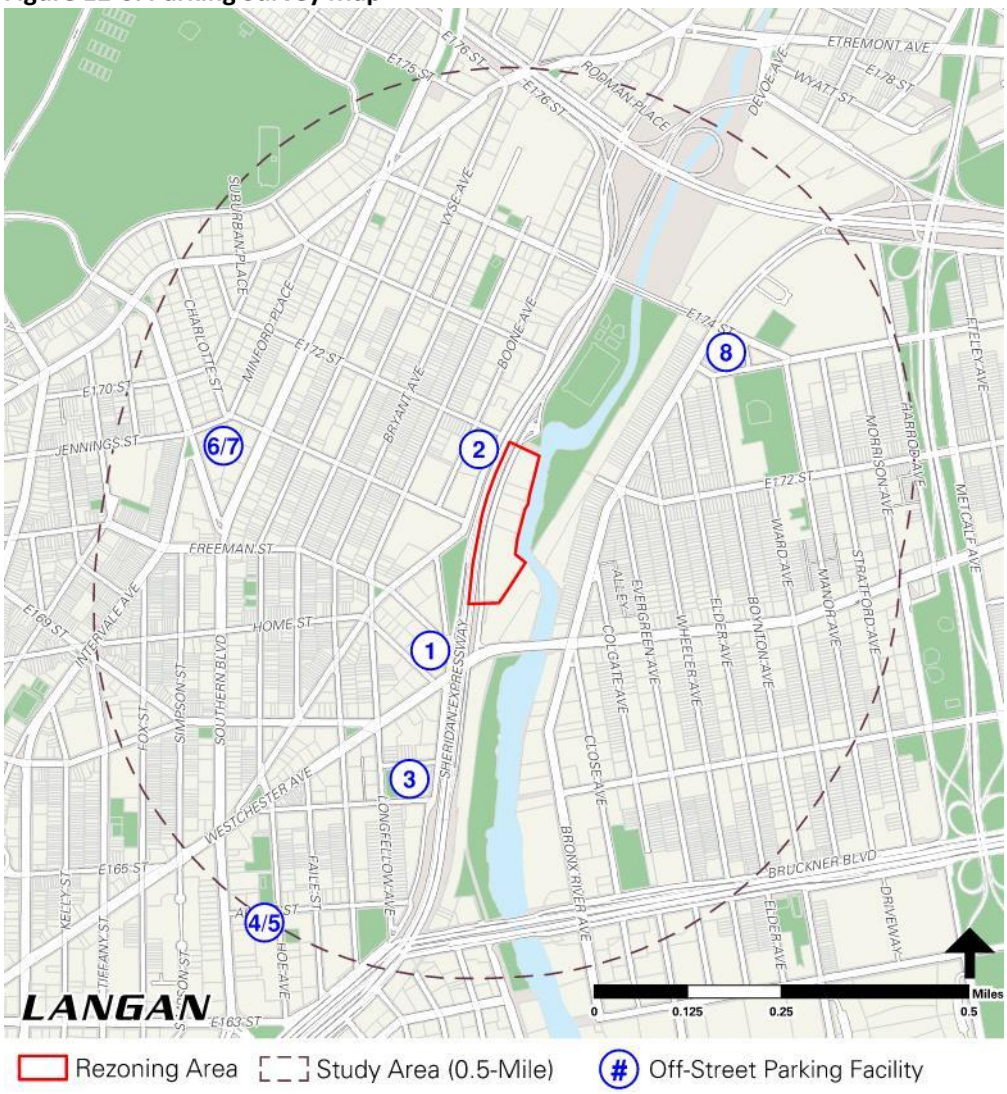


Table 12-34: Existing Conditions Off-Street Public Parking Supply/Utilization within ½-mile

						Utilized Spaces [1]				Available Spaces				Utilization Rate			
						Weekday		Saturday		Weekday		Saturday		Weekday		Saturday	
ID	Name/ Operator	Address		License Number	Licensed Capacity	MD	Overnight	MD	Overnight	MD	Overnight	MD	Overnight	MD	Overnight	MD	Overnight
1	SHERIDAN GARAGE CORP.	1040	Freeman Street	1075136	96	48	77	86	86	48	19	10	10	50%	80%	90%	90%
2	WEST FARMS PARKING LLC	1512	Boone Avenue	2086742	71	25	71	25	25	46	0	46	46	35%	100%	35%	35%
3	SOPHIE PARKING INC.	1042	Lowell Street	1321612	39	20	20	20	20	19	19	19	19	51%	51%	51%	51%
4	LM ALDUS PARKING LLC.	941	Hoe Avenue	2009038	106	123	123	49	49	122	122	196	196	50%	50%	20%	20%
5	LM ALDUS PARKING LLC.	951	Hoe Avenue	2009039	139												
6	EZ PARKING GARAGE INC.	1334	Louis Nine Boulevard	2048147	130	98	98	39	39	97	97	156	156	50%	50%	20%	20%
7	EZ PARKING GARAGE INC.	870	Jennings Street	2048149	65												
8	FRANKLIN AUTO REPAIR, INC.	1544	East 174th Street	2014575	107	107	107	55	57	0	0	52	50	100%	100%	51%	53%
				Total	**753**	**421**	**496**	**274**	**276**	**332**	**257**	**479**	**477**	**56%**	**66%**	**36%**	**37%**

1. Survey conducted by Langan on June 23rd, June 25th, November 15th and November 19th, 2022.

These parking facilities have a combined licensed capacity of 753 spaces. In Existing Conditions, the parking facilities operate at 56, 66, 36 and 37 percent utilization, with 332, 257, 479 and 477 available parking spaces during the weekday midday, weekday overnight, Saturday midday and Saturday overnight periods, respectively.

The on-street public parking capacity within a ½-mile radius of the Proposed Rezoning Area is approximately 6,582, 7,603, 6,582 and 7,603 spaces during the weekday midday, weekday overnight, Saturday midday and Saturday overnight periods, respectively. In Existing Conditions, the on-street public parking is at approximately 96, 97, 83 and 88 percent utilization, with approximately 231, 257, 1,144 and 875 available on-street spaces during the weekday midday, weekday overnight, Saturday midday and Saturday overnight periods, respectively.

No-Action Condition (2028)

In the No-Action Condition, the public parking demand within ½-mile of the Proposed Rezoning Area is expected to increase as a result of background growth and the No-Build Development Projects (see Table 12-35). There would not be any additional on- or off-street public parking supply within ½-mile of the Proposed Rezoning Area in the No-Action Condition.

In the No-Action Condition, the available on- and off-street public parking would be at approximately 94, 96, 79 and 92 percent utilization, with approximately 407, 359, 1,512 and 630 available public parking spaces during the weekday midday, weekday overnight, Saturday midday and Saturday overnight periods, respectively.

Table 12-35: No-Action Condition On- and Off-Street Public Parking Supply/Utilization within ½-mile

	Weekday		Saturday	
	MD	Overnight	MD	Overnight
2022 Existing Public Parking Supply	7,335	8,356	7,335	8,356
2022 Existing Public Parking Demand	6,772	7,842	5,712	7,575
2022 Existing Public Parking Utilization	92%	94%	78%	91%
2022 Existing Public Parking Supply	7,335	8,356	7,335	8,356
New No-Action Public Parking Supply Coming Online	0	0	0	0
2028 No-Action Public Parking Supply Total	7,335	8,356	7,335	8,356
2028 No-Action Background Demand	94	108	79	105
2028 No-Build Development Project's Total Parking Demand (1)	63	46	32	46
2028 No-Build Development Project's Accessory Parking Spaces	0	0	0	0
2028 No-Build Development Project's Parking Demand Accommodated by Accessory Parking	0	0	0	0
2028 No-Build Projects Parking Demand Accommodated by Public Parking	63	46	32	46
2028 AOR Project Parking Demand	0	0	0	0
2028 AOR Project Parking Demand Accommodated by Public Parking	0	0	0	0
2028 No-Action Incremental Public Parking Demand	156	155	111	151
2028 No-Action Public Parking Demand	6,928	7,997	5,823	7,726
2028 No-Action Public Parking Utilization	94%	96%	79%	92%
2028 No-Action Available Spaces	**407**	**359**	**1,512**	**630**

1. Parking demand estimates for the P.S. 320X and Starlight Park Phase 2 No-Build Development Projects.

With-Action Condition (2028)

In the With-Action Condition, the Proposed Actions would provide 100 accessory parking spaces on Projected Development Site 2. A 24-hour parking accumulation analysis was conducted for the Proposed Actions based on the project-generated trip estimates (see Table 12-3) and 24-hour temporal distributions from the *1965 Lafayette Avenue EAS*. The 24-hour parking accumulation for the Proposed Actions, in comparison to the total proposed on-site accessory parking supply, is shown in Table 12-36 and Table 12-37 for a typical weekday and Saturday, respectively.

Table 12-36: Project-Generated Hourly Parking Accumulation - Weekday

Time Period	Proposed Rezoning Area			Total Demand	Supply [1]	Surplus (Shortfall)
	Residential	Local Retail	Total			
Overnight [2]	315	0	315	315	100	**(215)**
12:00 AM -- 1:00 AM	315	0	315	315	100	**(215)**
1:00 AM -- 2:00 AM	315	0	315	315	100	**(215)**
2:00 AM -- 3:00 AM	315	0	315	315	100	**(215)**
3:00 AM -- 4:00 AM	315	0	315	315	100	**(215)**
4:00 AM -- 5:00 AM	315	0	315	315	100	**(215)**
5:00 AM -- 6:00 AM	311	0	311	311	100	**(211)**
6:00 AM -- 7:00 AM	286	0	286	286	100	**(186)**
7:00 AM -- 8:00 AM	218	1	219	219	100	**(119)**
8:00 AM -- 9:00 AM	133	5	138	138	100	**(38)**
9:00 AM -- 10:00 AM	125	7	132	132	100	**(32)**
10:00 AM -- 11:00 AM	111	14	125	125	100	**(25)**
11:00 AM -- 12:00 PM	105	13	119	119	100	**(19)**
12:00 PM -- 1:00 PM	109	18	127	127	100	**(27)**
1:00 PM -- 2:00 PM	109	18	127	127	100	**(27)**
2:00 PM -- 3:00 PM	114	22	136	136	100	**(36)**
3:00 PM -- 4:00 PM	138	22	160	160	100	**(60)**
4:00 PM -- 5:00 PM	165	22	186	186	100	**(86)**
5:00 PM -- 6:00 PM	218	19	237	237	100	**(137)**
6:00 PM -- 7:00 PM	253	10	263	263	100	**(163)**
7:00 PM -- 8:00 PM	290	3	293	293	100	**(193)**
8:00 PM -- 9:00 PM	312	0	312	312	100	**(212)**
9:00 PM -- 10:00 PM	313	0	313	313	100	**(213)**
10:00 PM -- 11:00 PM	315	0	315	315	100	**(215)**
11:00 PM -- 12:00 AM	315	0	315	315	100	**(215)**

1. The Proposed Actions would provide 100 on-site accessory parking spaces on Projected Development Site 2.
2. Overnight parking demand estimates based on a vehicle ownership rate of 35% for renter-occupied units per U.S. Census Data.

Table 12-37: Project-Generated Hourly Parking Accumulation - Saturday

Time Period	Proposed Rezoning Area			Total Demand	Supply [1]	Surplus (Shortfall)
	Residential	Local Retail	Total			
Overnight [2]	315	0	315	315	100	**(215)**
12:00 AM -- 1:00 AM	315	0	315	315	100	**(215)**
1:00 AM -- 2:00 AM	315	0	315	315	100	**(215)**
2:00 AM -- 3:00 AM	315	0	315	315	100	**(215)**
3:00 AM -- 4:00 AM	315	0	315	315	100	**(215)**
4:00 AM -- 5:00 AM	315	0	315	315	100	**(215)**
5:00 AM -- 6:00 AM	304	0	304	304	100	**(204)**
6:00 AM -- 7:00 AM	273	0	273	273	100	**(173)**
7:00 AM -- 8:00 AM	229	2	231	231	100	**(131)**
8:00 AM -- 9:00 AM	184	2	186	186	100	**(86)**
9:00 AM -- 10:00 AM	145	5	150	150	100	**(50)**
10:00 AM -- 11:00 AM	109	11	120	120	100	**(20)**
11:00 AM -- 12:00 PM	82	12	94	94	100	**6**
12:00 PM -- 1:00 PM	74	12	86	86	100	**14**
1:00 PM -- 2:00 PM	80	13	93	93	100	**7**
2:00 PM -- 3:00 PM	92	13	105	105	100	**(5)**
3:00 PM -- 4:00 PM	92	13	106	106	100	**(6)**
4:00 PM -- 5:00 PM	92	14	106	106	100	**(6)**
5:00 PM -- 6:00 PM	140	14	154	154	100	**(54)**
6:00 PM -- 7:00 PM	195	7	202	202	100	**(102)**
7:00 PM -- 8:00 PM	257	1	259	259	100	**(159)**
8:00 PM -- 9:00 PM	290	0	290	290	100	**(190)**
9:00 PM -- 10:00 PM	305	0	305	305	100	**(205)**
10:00 PM -- 11:00 PM	312	0	312	312	100	**(212)**
11:00 PM -- 12:00 AM	315	0	315	315	100	**(215)**

1. The Proposed Actions would provide 100 on-site accessory parking spaces on Projected Development Site 2.
2. Overnight parking demand estimates based on a vehicle ownership rate of 35% for renter-occupied units per U.S. Census Data.

Based on the 24-hour parking accumulation, peak parking demand for the Proposed Actions is anticipated to occur overnight, when there is a demand of approximately 315 spaces for both the typical weekday and Saturday conditions (see Table 12-36 and Table 12-37, respectively). This would generate a peak demand of approximately 215 public parking spaces during the overnight periods.

In summary, with the additional demand generated by the Proposed Actions in the With-Action Condition, the available on- and off-street public parking would be at approximately 95, 98, 79 and 95 percent utilization, with approximately 380, 144, 1,506 and 415 available public parking spaces during the weekday midday, weekday overnight, Saturday midday and Saturday overnight periods, respectively (see Table 12-38). Therefore, the Proposed Actions would not result in a potentially significant public parking shortfall in the study area per *CEQR Technical Manual* criteria.

Table 12-38: With-Action Condition On- and Off-Street Public Parking Supply/Utilization within ½-mile

	Weekday		Saturday	
	MD	Overnight	MD	Overnight
2028 No-Action Public Parking Supply	7,335	8,356	7,335	8,356
2028 No-Action Public Parking Demand	6,928	7,997	5,823	7,726
2028 No-Action Public Parking Utilization	94%	96%	79%	92%
2028 No-Action Public Parking Supply	7,335	8,356	7,335	8,356
New Public Parking Supply via the Proposed Actions	0	0	0	0
2028 With-Action Public Parking Supply Total	7,335	8,356	7,335	8,356
2028 Proposed Actions Parking Demand	127	315	106	315
2028 Proposed Actions Parking Demand Accommodated by On-Site Accessory Parking	100	100	100	100
2028 Proposed Actions Parking Demand Accommodated by Public Parking	27	215	6	215
2028 With-Action Public Parking Demand	6,955	8,212	5,829	7,941
2028 With-Action Public Parking Utilization	95%	98%	79%	95%
2028 With-Action Available Spaces	**380**	**144**	**1,506**	**415**

12.1 Vehicular and Pedestrian Safety Evaluation

Crash data for the study area intersections were obtained from NYC DOT for the January 1, 2017 to December 31, 2019 period. Table 12-39 summarizes the total number of reportable crashes, fatalities and injuries during the study period, as well as a yearly breakdown of vehicular crashes with pedestrians and bicycles at each location. As shown, the intersection of Westchester Avenue and Whitlock Avenue is categorized as the study area's sole high-crash location because at least 5 total bicycle and pedestrian injury crashes occurred at this intersection within a consecutive 12-month period.

Table 12-39: Crash Data Analysis Summary

		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Bicycle + Pedestrian Injury Crashes Combined			Total Crashes (Reportable + Non-Reportable)		
ID	Intersection Name	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
1	Sheridan Boulevard & East 173rd Street	0	0	0	0	0	0	0	0	0	0	0	0
2	Sheridan Boulevard & Edgewater Road (at East 172nd Street)	0	0	0	0	0	0	0	0	0	0	0	0
3	Sheridan Boulevard & Edgewater Road (at Jennings Street)	0	0	0	0	0	0	0	0	0	0	0	0
4	Westchester Avenue & Edgewater Road / NB Sheridan Boulevard Off-Ramp	1	0	0	1	2	0	2	2	0	12	15	10
5	Weschester Avenue & Whitlock Avenue	3	5	1	1	1	0	4	6	1	18	23	5
	Total	**4**	**5**	**1**	**2**	**3**	**0**	**6**	**8**	**1**	**30**	**38**	**15**

Note: Shading denotes a high-crash location per *CEQR Technical Manual* criteria.

Westchester Avenue and Whitlock Avenue

Table 12-40 shows a detailed description of pedestrian/bicyclist-related crashes at the intersection of Westchester Avenue and Whitlock Avenue during the study period. This intersection is signalized and equipped with pedestrian countdown timers on all crosswalks. Generally, safety could be affected by the overhead subway structure and supporting columns that constrain visibility at the intersection. Based on a review of the crash history data, the most prominent cause of pedestrian/bicyclist crashes were caused by vehicles making left-turns and failing to yield to the pedestrian right-of-way.

In the With-Action Condition, this intersection would experience approximately 16, 15, 23 and 24 project-generated vehicle trips and approximately 453, 403, 572 and 654 project-generated pedestrian trips (combined for all crosswalks) during the weekday AM, midday, PM and Saturday midday peak hours, respectively. As part of the *Westchester Avenue, Southern Boulevard to Whitlock Avenue SIP*, NYC DOT will implement a Lead Pedestrian Interval (LPI) signal phase at this intersection. In addition, NYC DOT will paint a corner extension on the east side of Whitlock Avenue, just south of Westchester Avenue. These improvements are expected to improve pedestrian safety with respect to vehicle turning maneuvers and enhance overall pedestrian safety at this location in the future conditions. Furthermore, and also as part of the *Westchester Avenue, Southern Boulevard to Whitlock Avenue SIP*, NYC DOT will create a parking-protected bicycle lane on the eastbound Westchester Avenue approach to Whitlock Avenue, and will enhance the existing Class II bicycle lane on westbound Westchester Avenue. These improvements are expected to improve overall safety for bicyclists traveling on Westchester Avenue in the future conditions.

Therefore, with implementation of the *Westchester Avenue, Southern Boulevard to Whitlock Avenue SIP*, the Proposed Actions are not expected to result in potentially significant vehicular and pedestrian safety concerns in the study area.

Table 12-40: Vehicle and Pedestrian/Bicyclist Crash Details – Westchester Avenue and Whitlock Avenue

		Crash Class				Action of	Cause of Crash			
Intersection Name	Date	Type	Injury	Fatality	Action of Vehicle	Pedestrian/ Bicyclist	Left/Right Turns	Failure to Yield Right of Way	Driver Inattention	Other
Whitlock Avenue and Westchester Avenue	1/16/2017	Collision w/ Pedestrian	X		Making Southbound Left-Turn	Unknown	X	X		
	1/28/2017	Collision w/ Pedestrian	X		Unknown	Crossing Against the Signal				Collision with Pedestrian
	7/13/2017	Collision w/ Bicycle	X		Traveling Eastbound	Traveling Westbound				Unknown
	10/11/2017	Collision w/ Pedestrian	X		Traveling Eastbound	Crossing with No Signal or Crosswalk				Pedestrian Error/Confusion
	1/15/2018	Collision w/ Pedestrian	X		Unknown	Crossing with the Signal		X		Traffic Control Devices Disregarded
	5/1/2018	Collision w/ Bicycle	X		Making Westbound Left-Turn	Traveling Eastbound	X	X		
	5/31/2018	Collision w/ Pedestrian	X		Backing Up	Other Actions in the Roadway				Backing Unsafely
	11/21/2018	Collision w/ Pedestrian	X		Traveling Southbound	Crossing with the Signal			X	Driver Inexperience
	12/9/2018	Collision w/ Pedestrian	X		Making Westbound Left-Turn	Crossing with the Signal	X	X		
	12/12/2018	Collision w/ Pedestrian	X		Making Southbound Left-Turn	Crossing with the Signal	X			Unknown
	7/9/2019	Collision w/ Pedestrian	X		Unknown	Unknown				Unknown