5 TRANSPORTATION

5.1 Introduction

The objective of a transportation analysis is to determine whether a proposed action may have a potentially significant adverse impact on traffic operations and mobility, public transportation facilities and services; pedestrian elements and flow; safety of roadway users (pedestrians, bicyclists and vehicles); and parking. The *2020 CEQR Technical Manual* identifies minimum development densities that potentially require a transportation analysis. Development at less than the development densities shown in Table 16-1 of the *CEQR Technical Manual* generally result in fewer than 50 peak-hour vehicle trips, 200 peak-hour subway/rail or bus transit riders, or 200 peak-hour pedestrian trips, where significant adverse impacts are considered unlikely. Since the development facilitated by the Proposed Actions exceeds the minimum development densities, a Transportation Screening Assessment was conducted pursuant to the *CEQR Technical Manual* guidelines.

To assess the potential effects of the Proposed Actions, it is necessary to determine the incremental development that could occur on the Project Site (Staten Island Block 13, Lots 8, 60, 68, 71, 73, 82, 92, 100, 116, and 119, and Block 12, Lot 1). A Reasonable Worse Case Development Scenario (RWCDS) for both the Future No-Action Condition (the "No-Action Condition") and the Future With-Action Condition (the "With-Action Condition"), was developed for 2025 analysis (build) year, the year that the project is expected to be completed and operational.

As discussed in Chapter 1, "Project Description," Projected Development Site 1 is owned by the Applicant and includes Block 13, Lots 82, 92, and 100, and the "panhandle" portion of the Castleton lot (the portion of Lot 8 within 185 feet of Stuyvesant Place). Projected Development Site 1 is comprised of two zoning lots: Site A and Site B. Site A includes Block 13, Lot 100, and has 39,771 square feet (sf) of lot area. It is a vacant corner lot and has street frontage along Stuyvesant Place to the east and along Hamilton Avenue to the south. Site B comprises Block 13, Lots 82, and 92 and has 49,530 sf of lot area. Projected Development Site 2 is not owned by the Applicant and comprises Block 13, Lots 68, 71, and 73.

The No-Action Condition would include the development of a 143,030 gsf mixed-use development containing 122,665 gsf of residential use [167 dwelling units (DUs)] and 8,240 gsf of local retail use on Projected Development Site 1-B. In addition, the No-Action Condition would provide 29 on-site accessory parking spaces (Site 1-B) and would also include four existing dwelling units and two existing parking spaces on Projected Development Site 2. An additional 103 parking spaces would be provided off-site within 600 feet of the zoning lot.

In the With-Action Condition, the RWCDS established the Proposed Actions would facilitate the development of 925,069 gsf across three development sites. The development would include 787,813 gsf of residential use (897 DUs) and 28,074 gsf of local retail use. The With-Action Condition would also provide 409 accessory parking spaces. 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 5-1.

Table 5-1: Incremental Difference between No-Action and With-Action Conditions

Condition	Projected Development Site	Residential (DU)	Local Retail (gsf)	Parking (spaces)
No-Action Condition	1-A, Bldg 1	0	0	0
	1-B, Bldg 2	0	0	0
	1-B, Bldg 3	167	8,240	29
	2	4	0	2
	Subtotal – No Action	**171**	**8,240**	**31**
With-Action Condition	1, Bldg 1	348	11,888	224
	1, Bldg 2	313	2,102	0
	1, Bldg 3	136	9,155	142
	2	100	4,929	43
	Subtotal – With Action	**897**	**28,074**	**409**
Increment	1-A, Bldg 1	348	11,888	224
	1-B, Bldg 2	313	2,102	0
	1-B, Bldg 3	-31	915	113
	2	96	4,929	41
	Total Increment	**726**	**19,834**	**378**

5.2 Principal Conclusions

Traffic

The Proposed Actions would generate approximately 190, 199, 190 and 213 net incremental vehicle trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. Traffic conditions were evaluated for these four (4) peak hours at thirteen (13) intersections in the general vicinity of the Project Site, where the net incremental increase in vehicle trips due to the Proposed Actions would exceed the CEQR threshold for conducting detailed traffic analysis. The capacity analyses indicate that ten (10) intersection approaches/lane groups in the study area would experience potentially significant adverse traffic impacts in at least one peak hour as a result of the Proposed Actions, and are summarized as follows:

- The westbound left-turn of Richmond Terrace at Jersey Street during the weekday AM peak hour.

- The westbound through-right movement of Richmond Terrace at Jersey Street during the weekday AM, midday, PM and Saturday midday peak hours.
- The eastbound approach of Richmond Terrace at Westervelt Avenue during the weekday AM and Saturday midday peak hours.
- The westbound approach of the Empire Mall Driveway at Richmond Terrace during the weekday AM, midday, PM and Saturday midday peak hours.
- The northbound right-turn of Richmond Terrace at Wall Street/Empire Mall Driveway during the weekday midday, PM and Saturday midday peak hours.
- The northbound left-turn of Bay Street at Victory Boulevard during the weekday midday and PM peak hours.
- The northbound through-right movement of Bay Street at Victory Boulevard during the weekday midday and Saturday midday peak hours.
- The southbound left-through movement of Bay Street at Victory Boulevard during the weekday midday and Saturday midday peak hours.
- The eastbound approach of Hamilton Avenue at St. Marks Place during the weekday AM and midday peak hours.
- The westbound approach of Hamilton Avenue at St. Marks Place during the weekday AM and midday peak hours.

Chapter 13, "Mitigation," discusses potential measures to mitigate these significant adverse traffic impacts.

Transit

The Project Area is well-served by 22 New York City Transit (NYCT)/MTA bus lines, as well as the Staten Island Railway (SIR) and the Staten Island Ferry which can be accessed at the St. George Terminal approximately 0.5 miles from the Project Site. However, the net incremental subway/rail and bus trips generated by the Proposed Actions, respectively, are below the CEQR threshold for conducting detailed analyses of transit conditions. Therefore, the Proposed Actions would not result in a potentially significant adverse transit impact.

Pedestrians

The Proposed Actions would generate approximately 110, 555, 268 and 311 net incremental walk-only trips; and approximately 626, 1,052, 780 and 884 net incremental person trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. Pedestrian conditions were evaluated for these four (4) peak hours at four (4) pedestrian elements in the vicinity of the Project Site, where the net incremental increase in pedestrian trips due to the Proposed Actions would exceed the CEQR threshold for conducting detailed analysis. The capacity analyses indicate that each of these pedestrian elements would operate at acceptable service conditions in the With-Action Condition, and therefore, the Proposed Actions would not result in a potentially significant adverse pedestrian impact.

Parking

The parking analysis evaluates the off-street public parking supply and utilization at the five (5) public parking facilities within a ¼-mile radius of the Project Site. In the With-Action

Condition, 409 parking spaces would be provided on the Project Site and the Proposed Actions would generate a peak parking demand during the overnight period of approximately 475 spaces for both the typical weekday and Saturday conditions. This demand would result in a peak parking shortfall of approximately 66 spaces during the overnight period; however, this demand would be accommodated at the public parking facilities within ¼-mile of the Project Site. Therefore, the parking demand generated by the Proposed Actions would not result in a parking shortfall in the study area.

Vehicular and Pedestrian Safety Evluation

Crash data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the three-year period from January 1, 2016 to December 31, 2018. Based on this information, none of the study area intersections are identified as high-crash locations within any consecutive 12-month period of the most recent three-year period. Therefore, the Proposed Actions would not adversely affect the vehicle and pedestrian safety conditions in the study area.

5.3 Transportation Screening Assessment

The *2020 City Environmental Quality Review Technical Manual* ("*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) 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 and fewer than 200 peak hour transit or pedestrian trips does not warrant further quantified analyses. When these thresholds are exceeded, detailed trip assignments (Level 2) are performed to estimate the incremental trips at specific transportation elements and to identify potential locations for further 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 subway trips at a station, 50 or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian trips traversing a pedestrian element, then further quantified analyses of transportation conditions 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 the increment in the With-Action Condition as compared to the No-Action Condition would exceed CEQR 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 estimates were developed for the residential and local retail components for the No-Action and With-Action conditions.

Trip Generation Analysis

Travel Demand Factors for residential and local retail uses are summarized in Table 5-2. These factors are based on information provided in the *CEQR Technical Manual*, U.S. Census Bureau's 2014-2018 American Community Survey (ACS) database, the *Bay Street Corridor Rezoning and Related Actions FEIS* (CEQR No. 16DCP156R) and guidance from the New York City Department of Transportation (NYCDOT). The original sources of the factors used by the *Bay Street Corridor*

Rezoning and Related Actions FEIS include the 1999 *River Center FEIS* and the 2001 *Long Island City Rezoning FEIS*.

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 NYCDOT. Temporal distributions of 9 percent for the weekday AM peak hour, 6 percent for the weekday midday peak hour, 8 percent for the weekday PM peak hour and 8 percent for the Saturday midday peak hour were also obtained from NYCDOT. Directional distributions for the weekday AM, midday, PM and Saturday midday peak hours were provided by NYCDOT.

Modal splits of 33.8 percent by auto, 0.1 percent by taxi, 11.2 percent by subway, 23.5 percent by bus, 0.8 percent by railroad, 21.8 percent by ferry, 1.2 percent by bicycle and 7.6 percent by walk were based on U.S. Census Bureau 2014-2018 ACS Journey-to-Work (JTW) data for the study area Census Tracts. Vehicle occupancies of 1.05 per auto and 1.40 per taxi were obtained from U.S. Census Bureau 2014-2018 ACS JTW data and from the *Bay Street Corridor Rezoning and Related Actions FEIS*, 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 205 person trips per 1,000 gsf for weekday and 240 person trips per 1,000 gsf for Saturday were obtained from the *CEQR Technical Manual*. A trip-linkage credit of 25 percent was applied to the local retail trip generation estimates for the weekday AM, PM and Saturday midday peak hours, based on the *Bay Street Corridor Rezoning and Related Actions FEIS*. A trip-linkage credit of 10 percent was applied to the local retail trip generation estimates for the weekday midday peak hour, based on guidance from NYCDOT. Temporal distributions of 3 percent for the weekday AM peak hour, 19 percent for the weekday midday peak hour, 10 percent for the weekday PM peak hour and 10 percent for the Saturday midday peak hour were obtained from the *CEQR Technical Manual*.

Directional distributions for the weekday AM, midday, PM and Saturday midday peak hours were obtained from the *Bay Street Corridor Rezoning and Related Actions FEIS*. Modal splits of 18 percent by auto, 6 percent by bus and 76 percent by walk were provided by NYCDOT. Vehicle occupancies of 1.60 per auto and 1.40 per taxi were obtained from NYCDOT and the *Bay Street Corridor Rezoning and Related Actions FEIS*, respectively.

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*.

Net Incremental Trips

Trip generation for the No-Action Condition, With-Action Condition and the resulting Net Incremental trips are shown in Table 5-3 to Table 5-5, respectively. Table 5-5 shows the net incremental trips would result in approximately 626, 1,052, 780 and 884 person trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. The vehicle trips would total approximately 190, 199, 190 and 213 during the weekday AM, midday, PM and Saturday midday peak hours, respectively.

Table 5-2: Transportation Planning Assumptions

Use		Residential				Local Retail			
Total Daily Person Trip Rate		(4)				(1)			
		Weekday			SAT	Weekday			SAT
		8.18			9.08	205			240
		Trips / DU				Trips / KSF			
Trip Linkage		N/A				(2)(4)			
		0%			0%	25%	10%	25%	25%
Net Daily Person Trip Rate		Weekday			SAT	AM	MD	PM	SAT
		8.18			9.08	154	185	154	180
		Trips / DU				Trips / KSF			
Temporal		(4)				(1)			
		AM	MD	PM	SAT	AM	MD	PM	SAT
		9%	6%	8%	8%	3%	19%	10%	10%
Direction		(4)				(2)			
	In	22%	50%	63%	51%	50%	50%	50%	50%
	Out	78%	50%	37%	49%	50%	50%	50%	50%
	Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Modal Split		(3)				(4)			
		AM	MD	PM	SAT	AM	MD	PM	SAT
	Auto	33.8%	33.8%	33.8%	33.8%	18%	18%	18%	18%
	Taxi	0.1%	0.1%	0.1%	0.1%	0%	0%	0%	0%
	Subway	11.2%	11.2%	11.2%	11.2%	0%	0%	0%	0%
	Bus	23.5%	23.5%	23.5%	23.5%	6%	6%	6%	6%
	Railroad	0.8%	0.8%	0.8%	0.8%	0%	0%	0%	0%
	Ferry	21.8%	21.8%	21.8%	21.8%	0%	0%	0%	0%
	Bicycle	1.2%	1.2%	1.2%	1.2%	0%	0%	0%	0%
	Walk	7.6%	7.6%	7.6%	7.6%	76%	76%	76%	76%
	Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Vehicle Occupancy		(2)(3)				(2)(4)			
		AM	MD	PM	SAT	AM	MD	PM	SAT
	Auto	1.05	1.05	1.05	1.05	1.60	1.60	1.60	1.60
	Taxi	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
Daily Delivery Trip Generation Rate		(1)				(1)			
		Weekday			SAT	Weekday			SAT
		0.06			0.02	0.35			0.04
		Delivery Trips / DU				Delivery Trips / KSF			
Delivery Temporal		(1)				(1)			
		AM	MD	PM	SAT	AM	MD	PM	SAT
		12%	9%	2%	9%	8%	11%	2%	11%
Delivery Direction		(1)				(1)			
	In	50%	50%	50%	50%	50%	50%	50%	50%
	Out	50%	50%	50%	50%	50%	50%	50%	50%
	Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Notes:
1. *2020 CEQR Technical Manual*
2. *Bay Street Corridor Rezoning and Related Actions FEIS* (CEQR No.: 16DCP156R) – City Disposition Sites – 54 Central Avenue/55 Stuyvesant Place Sites
3. U.S. Census Bureau 2014-2018 American Community Survey 5-Year Journey-to-Work Data (weighted average of Census Tracts 3, 7, 9, 11 and 21 of Richmond County, New York).
4. Per guidance from the New York City Department of Transportation.

Table 5-3: Transportation Demand Forecast, No-Action Condition

			Person Trips									Vehicle Trips			
Use	**Peak Hour**	**In/Out**	**Auto**	**Taxi**	**Subway**	**Bus**	**Railroad**	**Ferry**	**Bicycle**	**Walk**	**Total**	**Auto**	**Taxi**	**Delivery**	**Total**
Residential	Weekday AM	In	9	0	3	7	0	6	0	2	28	9	0	1	10
		Out	33	0	11	23	1	21	1	7	98	32	0	1	32
		Total	**43**	**0**	**14**	**30**	**1**	**27**	**2**	**10**	**126**	**41**	**0**	**1**	**42**
	Weekday Midday	In	14	0	5	10	0	9	1	3	42	14	0	0	14
		Out	14	0	5	10	0	9	1	3	42	14	0	0	14
		Total	**28**	**0**	**9**	**20**	**1**	**18**	**1**	**6**	**84**	**27**	**0**	**1**	**28**
	Weekday PM	In	24	0	8	17	1	15	1	5	70	23	0	0	23
		Out	14	0	5	10	0	9	0	3	41	13	0	0	14
		Total	**38**	**0**	**13**	**26**	**1**	**24**	**1**	**8**	**112**	**36**	**0**	**0**	**37**
	Saturday Midday	In	21	0	7	15	1	14	1	5	63	20	0	0	21
		Out	21	0	7	14	0	13	1	5	61	20	0	0	20
		Total	**42**	**0**	**14**	**29**	**1**	**27**	**1**	**9**	**124**	**40**	**0**	**0**	**41**
Local Retail	Weekday AM	In	3	0	0	1	0	0	0	14	19	2	0	0	2
		Out	3	0	0	1	0	0	0	14	19	2	0	0	2
		Total	**7**	**0**	**0**	**2**	**0**	**0**	**0**	**29**	**38**	**4**	**0**	**0**	**5**
	Weekday Midday	In	26	0	0	9	0	0	0	110	144	16	0	0	16
		Out	26	0	0	9	0	0	0	110	144	16	0	0	16
		Total	**52**	**0**	**0**	**17**	**0**	**0**	**0**	**220**	**289**	**32**	**0**	**0**	**33**
	Weekday PM	In	11	0	0	4	0	0	0	48	63	7	0	0	7
		Out	11	0	0	4	0	0	0	48	63	7	0	0	7
		Total	**23**	**0**	**0**	**8**	**0**	**0**	**0**	**96**	**127**	**14**	**0**	**0**	**14**
	Saturday Midday	In	13	0	0	4	0	0	0	56	74	8	0	0	8
		Out	13	0	0	4	0	0	0	56	74	8	0	0	8
		Total	**27**	**0**	**0**	**9**	**0**	**0**	**0**	**113**	**148**	**17**	**0**	**0**	**17**
Total	Weekday AM	In	13	0	3	8	0	6	0	17	47	11	0	1	12
		Out	37	0	11	24	1	21	1	22	117	34	0	1	35
		Total	**49**	**0**	**14**	**32**	**1**	**27**	**2**	**38**	**164**	**45**	**0**	**1**	**47**
	Weekday Midday	In	40	0	5	19	0	9	1	113	186	30	0	1	31
		Out	40	0	5	19	0	9	1	113	186	30	0	1	31
		Total	**80**	**0**	**9**	**37**	**1**	**18**	**1**	**226**	**373**	**60**	**0**	**1**	**61**
	Weekday PM	In	35	0	8	20	1	15	1	53	134	30	0	0	30
		Out	25	0	5	14	0	9	0	51	105	20	0	0	21
		Total	**61**	**0**	**13**	**34**	**1**	**24**	**1**	**105**	**239**	**50**	**0**	**0**	**51**
	Saturday Midday	In	35	0	7	19	1	14	1	61	138	29	0	0	29
		Out	34	0	7	19	0	13	1	61	135	28	0	0	28
		Total	**69**	**0**	**14**	**38**	**1**	**27**	**1**	**122**	**273**	**57**	**0**	**0**	**57**

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

Table 5-4: Transportation Demand Forecast, With-Action Condition

			Person Trips									Vehicle Trips			
Use	**Peak Hour**	**In/Out**	**Auto**	**Taxi**	**Subway**	**Bus**	**Railroad**	**Ferry**	**Bicycle**	**Walk**	**Total**	**Auto**	**Taxi**	**Delivery**	**Total**
Residential	Weekday AM	In	49	0	16	34	1	32	2	11	145	47	1	3	51
		Out	174	1	58	121	4	112	6	39	515	166	1	3	170
		Total	**223**	**1**	**74**	**155**	**5**	**144**	**8**	**50**	**660**	**213**	**1**	**6**	**221**
	Weekday Midday	In	74	0	25	52	2	48	3	17	220	71	0	2	74
		Out	74	0	25	52	2	48	3	17	220	71	0	2	74
		Total	**149**	**1**	**49**	**103**	**4**	**96**	**5**	**33**	**440**	**142**	**1**	**5**	**148**
	Weekday PM	In	125	1	42	87	3	81	4	28	370	119	1	1	121
		Out	73	0	24	51	2	47	3	16	217	70	1	1	71
		Total	**198**	**1**	**66**	**138**	**5**	**128**	**7**	**44**	**587**	**190**	**1**	**1**	**192**
	Saturday Midday	In	112	0	37	78	3	72	4	25	332	107	1	1	109
		Out	108	0	36	75	3	70	4	24	319	103	1	1	105
		Total	**220**	**1**	**73**	**153**	**5**	**142**	**8**	**49**	**652**	**210**	**1**	**2**	**213**
Local Retail	Weekday AM	In	12	0	0	4	0	0	0	49	65	7	0	0	8
		Out	12	0	0	4	0	0	0	49	65	7	0	0	8
		Total	**23**	**0**	**0**	**8**	**0**	**0**	**0**	**98**	**129**	**15**	**0**	**1**	**15**
	Weekday Midday	In	89	0	0	30	0	0	0	374	492	55	0	1	56
		Out	89	0	0	30	0	0	0	374	492	55	0	1	56
		Total	**177**	**0**	**0**	**59**	**0**	**0**	**0**	**748**	**984**	**111**	**0**	**1**	**112**
	Weekday PM	In	39	0	0	13	0	0	0	164	216	24	0	0	24
		Out	39	0	0	13	0	0	0	164	216	24	0	0	24
		Total	**78**	**0**	**0**	**26**	**0**	**0**	**0**	**328**	**432**	**49**	**0**	**0**	**49**
	Saturday Midday	In	45	0	0	15	0	0	0	192	253	28	0	0	28
		Out	45	0	0	15	0	0	0	192	253	28	0	0	28
		Total	**91**	**0**	**0**	**30**	**0**	**0**	**0**	**384**	**505**	**57**	**0**	**0**	**57**
Total	Weekday AM	In	61	0	16	38	1	32	2	60	210	54	1	4	59
		Out	186	1	58	125	4	112	6	88	580	174	1	4	178
		Total	**246**	**1**	**74**	**163**	**5**	**144**	**8**	**148**	**790**	**228**	**1**	**7**	**236**
	Weekday Midday	In	163	0	25	81	2	48	3	391	712	126	0	3	130
		Out	163	0	25	81	2	48	3	391	712	126	0	3	130
		Total	**326**	**1**	**49**	**162**	**4**	**96**	**5**	**781**	**1,424**	**253**	**1**	**6**	**260**
	Weekday PM	In	164	1	42	100	3	81	4	192	586	144	1	1	145
		Out	112	0	24	64	2	47	3	180	433	94	1	1	96
		Total	**276**	**1**	**66**	**164**	**5**	**128**	**7**	**372**	**1,019**	**238**	**1**	**1**	**241**
	Saturday Midday	In	158	0	37	93	3	72	4	217	585	136	1	1	137
		Out	153	0	36	90	3	70	4	216	572	132	1	1	133
		Total	**311**	**1**	**73**	**183**	**5**	**142**	**8**	**433**	**1,157**	**267**	**1**	**2**	**270**

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

Table 5-5: Transportation Demand Forecast, Net Incremental Trips

			Person Trips									Vehicle Trips			
Use	**Peak Hour**	**In/Out**	**Auto**	**Taxi**	**Subway**	**Bus**	**Railroad**	**Ferry**	**Bicycle**	**Walk**	**Total**	**Auto**	**Taxi**	**Delivery**	**Total**
Residential	Weekday AM	In	40	0	13	28	1	26	1	9	118	38	1	3	41
		Out	141	1	47	98	3	91	5	31	417	135	1	3	138
		Total	**181**	**1**	**60**	**126**	**4**	**116**	**6**	**40**	**534**	**173**	**1**	**5**	**179**
	Weekday Midday	In	60	0	20	42	1	39	2	13	178	58	0	2	60
		Out	60	0	20	42	1	39	2	13	178	58	0	2	60
		Total	**120**	**1**	**40**	**84**	**3**	**78**	**4**	**27**	**356**	**115**	**1**	**4**	**120**
	Weekday PM	In	101	0	34	70	2	65	4	23	299	97	0	0	98
		Out	59	0	20	41	1	38	2	13	176	57	0	0	58
		Total	**160**	**1**	**53**	**112**	**4**	**104**	**6**	**36**	**475**	**153**	**1**	**1**	**155**
	Saturday Midday	In	91	0	30	63	2	59	3	20	269	87	1	1	88
		Out	87	0	29	61	2	56	3	20	258	83	1	1	85
		Total	**178**	**1**	**59**	**124**	**4**	**115**	**6**	**40**	**527**	**170**	**1**	**1**	**173**
Local Retail	Weekday AM	In	8	0	0	3	0	0	0	35	46	5	0	0	5
		Out	8	0	0	3	0	0	0	35	46	5	0	0	5
		Total	**16**	**0**	**0**	**5**	**0**	**0**	**0**	**70**	**91**	**10**	**0**	**1**	**11**
	Weekday Midday	In	63	0	0	21	0	0	0	264	348	39	0	0	39
		Out	63	0	0	21	0	0	0	264	348	39	0	0	39
		Total	**125**	**0**	**0**	**42**	**0**	**0**	**0**	**528**	**695**	**78**	**0**	**1**	**79**
	Weekday PM	In	27	0	0	9	0	0	0	116	152	17	0	0	17
		Out	27	0	0	9	0	0	0	116	152	17	0	0	17
		Total	**55**	**0**	**0**	**18**	**0**	**0**	**0**	**232**	**305**	**34**	**0**	**0**	**34**
	Saturday Midday	In	32	0	0	11	0	0	0	136	179	20	0	0	20
		Out	32	0	0	11	0	0	0	136	179	20	0	0	20
		Total	**64**	**0**	**0**	**21**	**0**	**0**	**0**	**271**	**357**	**40**	**0**	**0**	**40**
Total	Weekday AM	In	48	0	13	30	1	26	1	44	163	43	1	3	47
		Out	149	1	47	101	3	91	5	66	463	140	1	3	143
		Total	**197**	**1**	**60**	**131**	**4**	**116**	**6**	**110**	**626**	**183**	**1**	**6**	**190**
	Weekday Midday	In	123	0	20	63	1	39	2	278	526	97	0	2	99
		Out	123	0	20	63	1	39	2	278	526	97	0	2	99
		Total	**246**	**1**	**40**	**125**	**3**	**78**	**4**	**555**	**1,052**	**193**	**1**	**5**	**199**
	Weekday PM	In	129	0	34	79	2	65	4	138	452	114	0	1	115
		Out	87	0	20	50	1	38	2	129	328	74	0	1	75
		Total	**215**	**1**	**53**	**130**	**4**	**104**	**6**	**268**	**780**	**188**	**1**	**1**	**190**
	Saturday Midday	In	123	0	30	74	2	59	3	156	447	107	1	1	108
		Out	119	0	29	71	2	56	3	155	437	104	1	1	105
		Total	**242**	**1**	**59**	**145**	**4**	**115**	**6**	**311**	**884**	**210**	**1**	**1**	**213**

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

Traffic

Table 5-5 shows the Proposed Actions would result in approximately 190, 199, 190 and 213 net incremental vehicle trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively. The net incremental 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 net incremental vehicle trips was conducted for these four peak hours.

Transit

As shown in Figure 5-1, the Project Area is well-served by 22 NYCT/MTA bus lines. These include the S40, S42, S44, S46, S48, S51, S52, S61, S62, S66, S74, S76, S78, S81, S84, S86, S90, S91, S92, S94, S96, and S98. The S40 and S44 lines run east-west on Richmond Terrace and the S42 and S52 run north-south on St. Marks Place.

Figure 5-1: Transit Map



The other bus lines servicing the area can be accessed at the St. George Terminal. The study area is also served by the SIR and the Staten Island Ferry at the St. George Terminal, which is located approximately 0.5 miles to the southeast from the Project Area. Connections are available to the NYCT/MTA No. 1, R and W subway lines at the Staten Island Ferry's Whitehall Terminal in Lower Manhattan for onward connections.

Table 5-5 shows the Proposed Actions would result in approximately 60, 40, 53 and 59 net incremental subway trips during the weekday AM, midday, PM and Saturday midday peak hours, respectively; below the CEQR threshold of 200 peak hour trips. During the weekday AM, midday, PM and Saturday midday peak hours, there would be approximately 131, 125, 130 and 145 net incremental bus trips, also less than the CEQR threshold of 200 peak hour trips. During these peak hours, there would be approximately 4, 3, 4 and 4 net incremental railroad trips and 116, 78, 104 and 115 net incremental ferry trips. The quantity of subway, bus and railroad trips during the four analysis peak hours are below the CEQR Level 1 threshold of 200 peak hour subway/rail or bus trips. Therefore, further detailed analysis of transit conditions is not warranted, and the Proposed Actions would not result in a significant adverse transit impact.

Pedestrians

Table 5-5 shows the Proposed Actions would result in approximately 626, 1,052, 780 and 884 net incremental person trips in the weekday AM, midday, PM and Saturday midday peak hours, respectively. The net incremental 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 net incremental pedestrian trips was conducted for the 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 incremental 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 Project Site, which has frontage along Richmond Terrace, Stuyvesant Place, and Hamilton Avenue. 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:

Autos - Residential

Residential vehicular trips were assigned based on guidance from U.S. Census JTW Origin/Destination (O/D) patterns and direct routes to/from the site. For conservative analysis purposes, all auto trips were assigned to the respective on-site garages, as follows:

- Trips generated by Projected Development Site 1-A were assigned to the two proposed on-site garages, which would be accessed from Hamilton Avenue between Stuyvesant Place and Academy Place, and from Stuyvesant Place between Hamilton Avenue and Richmond Terrace, respectively.
- Trips generated by Projected Development Site 1-B were assigned to the proposed on-site garage in Building 3 that would be accessed from Richmond Terrace between Stuyvesant Place and Nicholas Street.

- Trips generated by Projected Development Site 2 were assigned to the proposed on-site garage that would be accessed from Richmond Terrace between Stuyvesant Place and Nicholas Street.

Autos - Local Retail

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 on-site garages, in the same manner as for the residential component.

Taxis

Taxi trips generated by Projected Development Sites 1-A and 1-B were assigned to pick-up/drop-off fares along the west curb of Stuyvesant Place between the residential lobbies of Building 1 and Building 2. Taxi trips for Projected Development Site 2 were assigned to pick-up/drop-off fares along eastbound Richmond Terrace between Nicholas Street and Stuyvesant Place. 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 Project Site were assigned via NYCDOT designated truck routes via Richmond Terrace and Jersey Street. Delivery vehicles would access Projected Development Sites 1-A, 1-B and 2 via the same points of access/egress used for the auto assignments.

Using these distribution patterns, the project-generated peak hour incremental vehicle trips were assigned to the study area intersections for the weekday AM, midday, PM and Saturday midday peak hours (see Appendix D – Figures A-1 through A-4). Based on these assignments, the following 13 study area intersections could experience 50 or more peak hour incremental vehicle trips in at least one of the four peak hours, and were selected for detailed traffic analysis (see in Figure 5-2):

1. Richmond Terrace and Jersey Street;
2. Richmond Terrace and Westervelt Avenue;
3. Richmond Terrace and Nicholas Street;
4. Richmond Terrace and Stuyvesant Place;
5. Hamilton Avenue and Richmond Terrace;
6. Wall Street and Richmond Terrace;
7. Bay Street and Victory Boulevard;
8. Victory Boulevard and St. Marks Place/Bay Street;
9. St. Marks Place and Fort Place;
10. St. Marks Place and Wall Street;
11. St. Marks Place and Hamilton Avenue;
12. Hamilton Avenue and Academy Place; and,
13. Hamilton Avenue and Stuyvesant Place.

Figure 5-2: Traffic Study Area



Pedestrians

Table 5-5 shows the Proposed Actions would result in approximately 626, 1,052, 780 and 884 net incremental person trips in the weekday AM, midday, PM and Saturday midday peak hours, respectively. The net incremental person trips during the weekday AM, midday, PM and Saturday midday analysis peak hours would exceed the CEQR Level 1 trip generation threshold of 200 peak hour pedestrian trips. Therefore, a Level 2 screening assessment for potential project-generated pedestrian trips was conducted for the four peak hours.

The 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

Auto person trips were assigned to the respective on-site parking garages providing direct access and egress, eliminating the need for the patrons to use adjacent sidewalks, crosswalks and corners.

Taxi

Taxi person trips generated by Projected Development Sites 1-A and 1-B were assigned to a common pick-up/drop-off point along the west sidewalk of Stuyvesant Place between Hamilton Avenue and Richmond Terrace. Taxi person trips generated by Projected Development Site 2 were assigned to the pedestrian entrance along Richmond Terrace, between Nicholas Street and Stuyvesant Place. These pedestrians would use the sidewalks and corners on Stuyvesant Place and Richmond Terrace to access and egress the buildings.

Ferry

Ferry commuters and subway riders traveling to/from subway stations in Lower Manhattan would use the sidewalks, crosswalks and corners on Stuyvesant Place, Richmond Terrace, Hamilton Avenue, and Wall Street to access/egress the Project Site.

Bus

Bus commuters using the S40 and S44 NYCT bus lines would use the stops along Richmond Terrace north of Hamilton Avenue. Bus commuters using the S42 and S52 NYCT bus lines would use the stops at the intersection of St. Marks Place and Hamilton Avenue. These commuters would use the sidewalks, crosswalks, and corners on Richmond Terrace, St. Marks Place, Hamilton Avenue, and Stuyvesant Place to access/egress the Project Site.

Staten Island Railroad (SIR)

Railroad commuters would use the SIR Station at St. George Terminal. These commuters would use the sidewalks, crosswalks and corners on Stuyvesant Place, Richmond Terrace, Hamilton Avenue, and Wall Street to access/egress the Project Site.

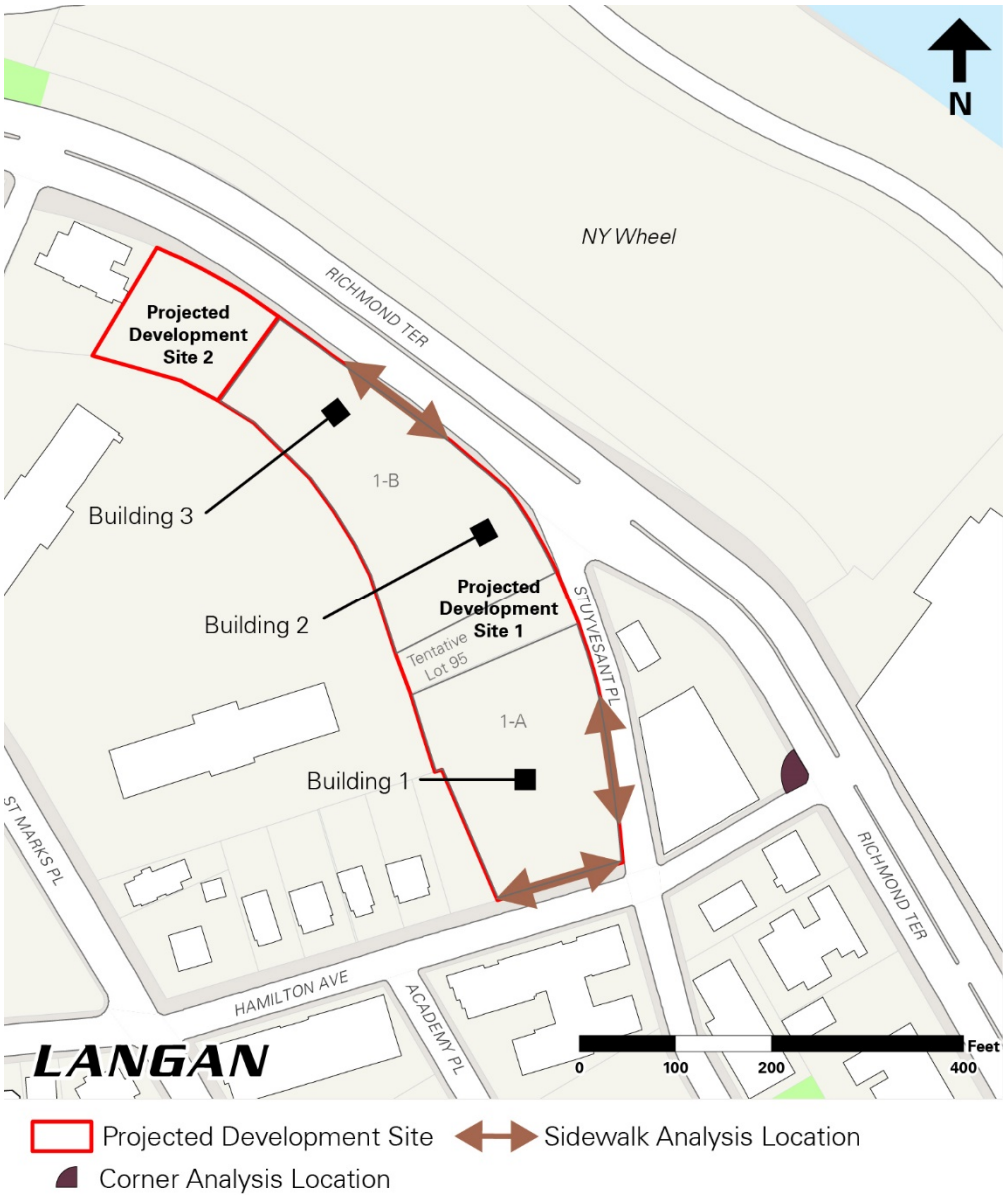
Local Walk Trips

Local walk trips to and from the Project Site were based on nearby land uses, the existing roadway network, and prevailing travel patterns.

Using these distribution patterns, the project-generated peak hour incremental 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 D – Figures B-1 through B-4). Based on these pedestrian assignments, the following four pedestrian elements could experience 200 or more pedestrian trips during at least one of the four peak hours and were selected for detailed pedestrian analysis (see Figure 5-3).

- North Sidewalk of Hamilton Avenue between Academy Place and Stuyvesant Place;
- West Sidewalk of Stuyvesant Place between Hamilton Avenue and Richmond Terrace;
- South Sidewalk of Richmond Terrace between Nicholas Street and Stuyvesant Place; and,
- Northwest Corner of Richmond Terrace and Hamilton Avenue.

Figure 5-3: Pedestrian Study Area



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

Transportation Analyses Methodologies

Traffic

The traffic capacity analyses are based on methodologies presented in the 2000 Highway Capacity Manual (HCM) using the Highway Capacity Software (HCS+) 5.5 model. 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 5-6 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 5-6: 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 mid-level LOS D or better as an acceptable LOS for signalized and unsignalized intersections. The *CEQR Technical Manual* also indicates that potential significant adverse traffic impacts could occur at signalized and unsignalized intersections if the Proposed Actions result in any of the following:

- A lane group that operates at LOS A through C in the No-Action Condition and deteriorates under the With-Action condition to worse than mid-LOS D (greater than 45.0 and 30.0 seconds/vehicle of delay for signalized and unsignalized intersections, respectively);
- A lane group that operates at LOS D in the No-Action Condition and is projected to have a delay increase of 5.0 seconds/vehicle or more if the With-Action delay exceeds mid-LOS D;

- For a lane group that operates at LOS E in the No-Action Condition, a delay increase of 4.0 seconds or more; or
- For a lane group that operates at LOS F in the No-Action Condition, a delay increase of 3.0 seconds or more.

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). The determination of walkway LOS is dependent on whether the pedestrian flow analyzed is best described as "non-platoon" or "platoon." Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform, whereas platoon flow occurs when pedestrian volumes vary significantly with the peak 15-minute period. Such variation typically occurs near transit stops (bus stops, rail stations, or ferry terminals) and/or where adjacent crosswalks account for much of the walkway's pedestrian volume. The LOS standards for sidewalks are summarized in Table 5-7 based on HCM methodology.

Table 5-7: Sidewalk/Walkway LOS for Non-Platoon and Platoon Conditions

LOS	Average Pedestrian Space (ft^2/p)	Platoon Flow (ft^2/p)
A	> 60	> 530
B	> 40 – 60	> 90 – 530
C	> 24 – 40	> 40 – 90
D	> 15 – 24	> 23 -40
E	> 8 – 15	> 11 – 23
F	≤ 8	≤ 11

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 5-8 defines the LOS criteria for pedestrian crosswalk/corner areas based on HCM methodology.

Table 5-8: Corner/Crosswalk LOS Pedestrian Space

LOS	Average Pedestrian Space (ft^2/p)
A	> 60
B	> 40 – 60
C	> 24 – 40
D	> 15 – 24
E	> 8 – 15
F	≤ 8

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 C 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 5-9.
- If the decrease in average pedestrian space is less than the value calculated from the formula or
- Table 5-9, 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 ≥ 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 5-9: Significant Impact Guidance for Sidewalks Platooned flow, Non-CBD Location

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 5-10.
- If the decrease in pedestrian space is less than the value calculated from the formula or Table 5-10, 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.

Table 5-10: Significant Impact Guidance for Corners and Crosswalks, Non-CBD Location

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 – 26.6	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
< 5.1	Reduction ≥ 0.2

Parking

Parking demand estimates for the Project Area's development program components should be prepared to determine whether project-generated demand could be accommodated by the supply of the future on-site parking facilities. If the Proposed Actions generate more

parking demand than the supply, then a detailed parking analysis of the area's parking facilities within a convenient walking distance (approximately ¼-mile) is conducted.

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

Vehicular and Pedestrian Safety Evaluation

In conjunction with the detailed traffic and pedestrian analyses warranted for this project, an assessment of vehicular and pedestrian safety was also conducted. 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 with 48 or more total reportable (involving fatality, injury or more than $1,000 in property damage) and non-reportable crashes or where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. For these locations, crash trends would be identified to determine whether projected vehicular and pedestrian traffic 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 NYCDOT.

Detailed Traffic Analysis

Existing Conditions

Study Area Street Network

The traffic study area is generally bound by Richmond Terrace to the north, Victory Boulevard to the south, Bay Street to the east and Jersey Street to the west. Major arterials/highways providing access to the study area are the Staten Island Expressway/Verrazano-Narrows Bridge (I-278) and Bay Street from the east; the Staten Island Expressway/Goethals Bridge (I-278), Richmond Terrace and Victory Boulevard from the west; the Dr. M.L.K. Jr. Expressway/Bayonne Bridge (NY 440) and Richmond Terrace from the north; and Bay Street and Jersey Street from the south. Truck access in the study area is provided via the NYCDOT designated truck routes described above (see section *Level 2 [Project-Generated Trip Assignment] Screening Assessment)*.

The key roadways in the study area include Richmond Terrace, Bay Street, Victory Boulevard, Jersey Street, Westervelt Avenue, Stuyvesant Place, Hamilton Avenue and St. Marks Place. The physical and operational characteristics of the study area roadways are described below:

- Richmond Terrace is a major two-way roadway that runs primarily eastbound-westbound along the northern edge of Staten Island. Within the study area and west of St. Peters Place, the roadway operates with one travel lane in each direction, a westbound Class II bicycle lane on the north side of the roadway, and an eastbound Class III shared bicycle lane with permitted curbside parking on the south side of the roadway. This section of Richmond Terrace generally has a curb-to-curb width of approximately 38 feet. East of St.

Peters Place, Richmond Terrace operates with two travel lanes in each direction, a center median, Class II and Class III bicycle lanes, and permitted curbside parking on both sides of the road. This section of Richmond Terrace generally has a curb-to-curb width of approximately 72 feet. Richmond Terrace generally functions as a northern extension of Bay Street.

- Bay Street is a major two-way northbound-southbound roadway that functions as an extension of Richmond Terrace. Within the study area, the roadway generally operates with two travel lanes and shared Class III bicycle lanes in each direction, with curbside parking permitted on the east side of the roadway. Additionally, there are separate left and right-turn lanes at the roadway's intersection with Victory Boulevard within the study area. The roadway generally has a curb-to-curb width of approximately 66 feet.
- Victory Boulevard is a major two-way eastbound-westbound roadway connecting the western edge of Staten Island to Bay Street. Within the study area, the roadway generally operates with two travel lanes in each direction, provides separate bus lanes on the northern and southern sides of the roadway, and generally has a curb-to-curb width of approximately 60 feet.
- Jersey Street is a local two-way northbound-southbound roadway traversing between Richmond Terrace to the north and Victory Boulevard to the south. Within the study area, the roadway generally operates with one travel lane in each direction and curbside parking permitted on both sides. The roadway has a curb-to-curb width of approximately 38 feet.
- Westervelt Avenue is a local two-way northbound-southbound roadway between Richmond Terrace to the north and Victory Boulevard to the south. Within the study area, the roadway generally operates with one travel lane in each direction and curbside parking permitted on both sides. The roadway has a curb-to-curb width of approximately 37 feet.
- Stuyvesant Place is a one-way southbound roadway providing a local connection between Richmond Terrace to the north and Bay Street to the south. Within the study area, the roadway traverses the eastern frontage of Sites 1-A and 1-B with a single southbound travel lane and curbside parking permitted on both sides. Between Richmond Terrace and Hamilton Avenue, the roadway has a curb-to-curb width of approximately 24 feet, and widens to approximately 27 feet south of Hamilton Avenue.
- Hamilton Avenue is a local one-way roadway that operates with one travel lane and curbside parking permitted on both sides. East of St. Marks Place, the roadway operates as one-way westbound and provides a connection from Richmond Terrace to St. Marks Place while traversing the southern frontage of Site 1-A. West of St. Marks Place, the roadway operates as one-way eastbound, providing connection from Westervelt Avenue to St. Marks Place. East of Stuyvesant Place, the roadway has a curb-to-curb width of approximately 24 feet, which widens to approximately 30 feet west of Stuyvesant Place.
- St. Marks Place is a local northbound-southbound roadway between Westervelt Avenue to the north and Victory Boulevard to the south. Within the study area, the roadway operates as one-way northbound between Hamilton Avenue and Westervelt Avenue, providing one travel lane and permitted curbside parking on both sides. Between Hamilton Avenue and Hyatt Street, the roadway operates as two-way with one travel lane in each direction and curbside parking permitted only on the east side of the road. South of Hyatt Street, the roadway operates as one-way southbound with a single travel lane and curbside parking permitted on both sides. Within the study area, the curb-to-curb width of the roadway varies from approximately 28 to 35 feet.

- Bank Street is a local roadway that runs primarily eastbound-westbound along the northern edge of Staten Island, between Wall Street to the east and Jersey Street to the west, and previously provided an at-grade connection to the Imperial Parking Garage. In the Existing Conditions, the New York City Economic Development Corporation (NYCEDC) has closed the roadway to all public vehicular traffic within the study area, and this closure would remain in the future with or without the Proposed Actions.

Traffic Volumes

Existing traffic volumes for the study area intersections were collected in May 2019. In addition, traffic volumes for two study area intersections were obtained from counts conducted in June 2016 as part of the *Bay Street Rezoning and Related Actions FEIS*. 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 and typical parking regulations – were collected for the study area intersections and pedestrian elements. Official signal timing plans were obtained from NYCDOT for operational analysis of the study area intersections. Based on the data collected, the peak hours for traffic analysis were identified as 8:00 AM – 9:00 AM, 2:45 PM – 3:45 PM, 4:30 PM – 5:30 PM and 12:00 PM – 1:00 PM for the weekday AM, midday, PM and Saturday midday peak hours, respectively. The Existing Conditions traffic volumes for each of the peak hours are shown in Appendix D – Figures A-5 through A-8.

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 5-11. Of the 50 total intersection approaches/lane groups in the study area, seven operate worse than mid-LOS D in at least one peak hour, namely:

- The eastbound approach at the Wall Street and Richmond Terrace intersection (LOS D with average delay of 46.7 seconds during the weekday AM peak hour).
- The eastbound left-turn at the Victory Boulevard and Bay Street intersection (LOS E with average delay of 59.1 seconds during the weekday AM peak hour and LOS D with average delay of 50.3 seconds during the weekday PM peak hour).
- The eastbound left-through movement at the Victory Boulevard and Bay Street intersection (LOS E with average delay of 64.4 seconds during the weekday AM peak hour and LOS D with average delay of 52.5 seconds during the weekday PM peak hour).
- The northbound left-turn at the Victory Boulevard and Bay Street intersection (LOS E with average delay of 79.5 seconds during the weekday midday peak hour).
- The southbound right-turn at the Victory Boulevard and St. Marks Place intersection (LOS D with average delay of 52.6 seconds during the weekday PM peak hour).
- The eastbound approach at the Hamilton Avenue and St. Marks Place intersection (LOS F with average delay of 87.7 seconds during the weekday AM peak hour and LOS D with average delay of 34.7 seconds during the weekday midday peak hour).
- The westbound approach at the Hamilton Avenue and St. Marks Place intersection (LOS D with average delay of 34.0 seconds during the weekday midday peak hour).

Table 5-11: 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	Richmond Terrace & Jersey Street	Signal	Richmond Terrace	EB	L	0.15	17.1	B	0.02	16.3	B	0.03	17.8	B	0.03	12.7	B
					TR	0.90	37.7	D	0.52	17.5	B	0.55	18.2	B	0.51	16.8	B
				WB	L	0.15	23.6	C	0.05	16.6	B	0.06	16.8	B	0.06	17.6	B
					TR	0.79	38.5	D	0.83	36.3	D	0.87	38.7	D	0.64	26.8	C
			Jersey Street	NB	L	0.09	25.1	C	0.18	28.3	C	0.18	28.3	C	0.08	18.2	B
					TR	0.18	37.2	D	0.19	36.9	D	0.14	35.8	D	0.11	26.2	C
				SB	L	0.04	24.5	C	0.01	26.2	C	0.03	26.3	C	0.01	17.5	B
					TR	0.03	34.9	C	0.03	34.1	C	0.10	35.1	D	0.02	25.2	C
				Overall Intersection		-	*36.6*	*D*	-	*28.6*	*C*	-	*30.2*	*C*	-	*21.6*	*C*
2	Richmond Terrace & Westervelt Avenue	Signal	Richmond Terrace	EB	TR	0.97	35.9	D	0.58	15.5	B	0.56	15.1	B	0.55	15.1	B
				WB	LT	0.42	13.8	B	0.40	13.2	B	0.50	14.9	B	0.36	13.2	B
			Westervelt Avenue	NB	LR	0.32	33.8	C	0.48	37.6	D	0.54	39.1	D	0.24	21.5	C
				Overall Intersection		-	*29.1*	*C*	-	*18.5*	*B*	-	*19.7*	*B*	-	*15.2*	*B*
3	Nicholas Street & Richmond Terrace	Signal	Nicholas Street	EB	LTR	0.19	31.3	C	0.16	30.9	C	0.14	30.6	C	0.16	21.1	C
			Wheel Driveway	WB	LR	0.02	29.0	C	0.09	29.9	C	0.12	30.3	C	0.02	19.6	B
			Richmond Terrace	NB	UTR	0.27	11.4	B	0.29	6.7	A	0.38	7.4	A	0.20	7.6	A
				SB	LTR	0.42	13.2	B	0.22	11.0	B	0.26	11.4	B	0.24	11.1	B
				Overall Intersection		-	*14.3*	*B*	-	*11.4*	*B*	-	*11.6*	*B*	-	*10.9*	*B*
4	Stuyvesant Place & Richmond Terrace	TWSC[1]	Richmond Terrace	NB	L	0.04	9.4	A	0.02	8.7	A	0.01	8.6	A	0.01	8.2	A
				SB	TR	-	0.0	A	-	0.0	A	-	0.0	A	-	0.0	A
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*
5	Hamilton Avenue & Richmond Terrace	Signal	Richmond Terrace	NB	LT	0.40	13.1	B	0.36	7.7	A	0.39	7.9	A	0.28	10.5	B
				SB	TR	0.31	6.8	A	0.20	11.1	B	0.25	11.7	B	0.24	13.2	B
				Overall Intersection		-	*9.8*	*A*	-	*9.0*	*A*	-	*9.5*	*A*	-	*11.8*	*B*
6	Wall Street & Richmond Terrace	Signal	Wall Street	EB	LTR	0.57	46.7	D	0.38	41.2	D	0.38	41.1	D	0.22	23.4	C
			Empire Mall Driveway	WB	LR	0.03	25.7	C	0.04	22.7	C	0.04	22.7	C	0.02	14.1	B
			Richmond Terrace	NB	UTR	0.25	13.5	B	0.28	16.3	B	0.29	16.4	B	0.21	15.6	B
				SB	LT	0.37	9.9	A	0.23	15.8	B	0.28	16.3	B	0.28	16.4	B
				Overall Intersection		-	*17.1*	*B*	-	*19.5*	*B*	-	*19.7*	*B*	-	*17.0*	*B*
7	Victory Boulevard & Bay Street	Signal	Victory Boulevard	EB	L	0.63	59.1	E	0.29	31.6	C	0.43	50.3	D	0.30	31.5	C
					LT	0.72	64.4	E	0.31	31.7	C	0.50	52.5	D	0.35	32.4	C
				WB	LTR	0.11	41.6	D	0.17	27.9	C	0.16	42.5	D	0.11	27.0	C
			Bay Street	NB	L	0.27	21.5	C	0.88	79.5	E	0.61	36.1	D	0.60	39.2	D
					TR	0.46	22.7	C	0.64	31.7	C	0.43	22.3	C	0.43	27.5	C
				SB	LT	0.35	21.1	C	0.62	31.1	C	0.53	24.2	C	0.41	27.2	C
					R	0.24	8.2	A	0.32	11.6	B	0.39	10.0	A	0.21	10.2	B
				Overall Intersection		-	*27.5*	*C*	-	*32.3*	*C*	-	*25.4*	*C*	-	*27.2*	*C*
8	Victory Boulevard & St. Marks Place	Signal	Victory Boulevard	EB	T	0.27	11.3	B	0.24	12.1	B	0.19	10.2	B	0.26	12.3	B
					R	0.28	11.5	B									
				WB	L	0.04	9.2	A	0.07	11.0	B	0.06	9.3	A	0.06	10.8	B
					T	0.15	9.9	A	0.19	11.6	B	0.39	12.6	B	0.16	11.4	B
			St. Marks Place	SB	LT	0.39	40.5	D	0.47	29.0	C	0.50	42.9	D	0.29	26.1	C
					R	0.29	38.9	D	0.36	27.8	C	0.70	52.6	D	0.19	25.1	C
				Overall Intersection		-	*17.4*	*B*	-	*17.4*	*B*	-	*23.5*	*C*	-	*15.0*	*B*
9	Fort Place & St. Marks Place	Signal	Fort Place	EB	L	0.40	24.7	C	0.27	22.6	C	0.20	21.6	C	0.22	21.9	C
					R	0.73	35.5	D	0.28	22.8	C	0.30	23.1	C	0.24	22.2	C
			St. Marks Place	NB	LT	0.30	12.1	B	0.25	11.5	B	0.50	14.8	B	0.20	11.0	B
				SB	TR	0.31	12.2	B	0.19	10.9	B	0.14	10.5	B	0.15	10.5	B
				Overall Intersection		-	*22.2*	*C*	-	*16.1*	*B*	-	*16.6*	*B*	-	*15.6*	*B*
10	Wall Street & St. Marks Place	TWSC[1]	Wall Street	EB	LTR	0.13	18.0	C	0.08	16.0	C	0.06	12.6	B	0.06	11.1	B
			St. Marks Place	NB	TR	-	0.0	A	-	0.0	A	-	0.0	A	-	0.0	A
				SB	L	0.09	9.3	A	0.05	9.5	A	0.03	8.4	A	0.03	7.9	A
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*
11	Hamilton Avenue & St. Marks Place	TWSC[1]	Hamilton Avenue	EB	LR	1.03	87.7	F	0.66	34.7	D	0.18	11.1	B	0.12	9.5	A
				WB	LR	0.46	23.6	C	0.41	34.0	D	0.16	11.9	B	0.11	10.4	B
			St. Marks Place	NB	T	-	0.0	A	-	0.0	A	-	0.0	A	-	0.0	A
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*
12	Hamilton Avenue & Academy Place	TWSC[1]	Hamilton Avenue	WB	L	0.03	7.4	A	0.00	7.6	A	0.00	7.3	A	0.01	7.3	A
			Academy Place	NB	L	0.06	10.6	B	0.02	9.9	A	0.03	9.4	A	0.03	9.3	A
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*
13	Hamilton Avenue & Stuyvesant Place	TWSC[1]	Hamilton Avenue	WB	L	0.04	7.4	A	0.02	7.4	A	0.02	7.3	A	0.01	7.5	A
			Stuyvesant Place	SB	TR	0.30	12.1	B	0.13	10.3	B	0.07	9.6	A	0.11	10.8	B
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*

Notes:
1. Two-Way Stop-Controlled
2. All-Way Stop-Controlled
3. Intersection delay and LOS information are not provided by HCS.

No-Action Condition (2025)

Changes to the Study Area Street Network

Independent of the Proposed Actions, construction of an exclusive northbound right-turn lane on Richmond Terrace at Wall Street is planned as part of the *St. George Waterfront Redevelopment FEIS*. At the direction of NYCDOT, in the No-Action Condition, a 200-foot long,

10-foot wide exclusive northbound right-turn lane was incorporated in to the capacity analyses at the intersection of Richmond Terrace and Wall Street.

Traffic Volumes

The No-Action Condition traffic volumes were determined for the 2025 analysis year. Per the *CEQR Technical Manual*, a compounded annual background growth rate of 0.50 percent for St. George (Staten Island) was applied to the existing traffic volumes for the first five years (2019 through 2024) and subsequently, a growth rate of 0.25 percent was applied for the sixth year (2024 through 2025).

In addition to background growth, No-Build Development Projects planned in close proximity to the Project Site were identified and included as part of the No-Action Condition. Note that projects which are modest in size (less than 25,000 total square feet) 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 in to the No-Action Condition as follows:

St. George Waterfront Redevelopment FEIS (CEQR No. 13SBS001R)

The St. George Waterfront Redevelopment would include 340,000 square feet of destination retail space, a catering facility (150 person weekday midday capacity, 250 person weekday PM capacity and a 400 person Saturday midday capacity) and a 200-room hotel.[1] Although some portions of this development opened in May 2019, the data collection for the proposed project was completed just prior to these openings. Therefore, the full development program of the St. George Waterfront Redevelopment was considered as part of the No-Action Condition. The traffic volumes anticipated as a result of this development program were incorporated in the No-Action Condition traffic volumes in accordance with the trip generation factors and trip assignments detailed in the *St. Geroge Waterfront Redevelopment FEIS*. However, the trip assignments were modified to account for the planned closure of Bank Street between Jersey Street and Wall Street.

Staten Island Lighthouse Point EAS (CEQR No. 13DME008R)

The Staten Island Lighthouse Point development would include 109 DUs, a 164-room hotel, 35,800 square feet of local retail space, a catering facility (300 person weekday midday capacity, 360 person weekday PM capacity and a 400 person Saturday midday capacity), an 800-seat movie theatre complex, 7,400 gsf of office space, 7,900 gsf of general restaurant space, 12,300 gsf of high-quality restaurant space and 1.28 acres of open space. The traffic volumes anticipated as a result of this development program were incorporated in the No-Action Condition traffic volumes in accordance with the trip generation factors and trip assignments detailed in the *Staten Island Lighthouse Point EAS*.

Bay Street Rezoning and Related Actions FEIS (CEQR No. 16DCP156R)

Out of the total *Bay Street Rezoning and Related Actions FEIS* development program, the Stapleton Waterfront Phase III, portions of the Bay Street Corridor and portions of the Canal Street Corridor development programs have a build year prior to 2025. The Stapleton

[1] Note that this development program reflects the update detailed in the *St. George Waterfront Redevelopment FEIS Technical Memorandum 002* (CEQR No.: 13SBS001R) excluding the Observation Wheel and Open Space components which were not considered in the No-Action Condition per guidance from NYCDOT.

Waterfront Phase III would include 43,000 gsf of retail space and 627 DUs. The applicable Bay Street Corridor development program would include 19,800 gsf of retail space, 12,000 gsf of restaurant space and 608 DUs. The applicable Canal Street Corridor development program would include 22,000 square feet of retail space and 147 DUs. The traffic volumes anticipated as a result of these development programs were incorporated in to the No-Action Condition traffic volumes in accordance with the trip generation factors and trip assignments detailed in the *Bay Street Rezoning and Related Actions FEIS*.

38 Bay Street

The 38 Bay Street development would include 4,562 gsf of retail space and 49 DUs. The traffic volumes anticipated as a result of this development program were incorporated in to the No-Action Condition traffic volumes in accordance with the trip generation factors and trip assignments for the 54 Central Avenue City Disposition Site, as analyzed in the *Bay Street Rezoning and Related Actions FEIS*.

URBY Navy Pier Court – Phase 1-B/8

The URBY Navy Pier Court – Phase 1-B/8 development would include 16,672 gsf of retail space and 379 DUs. The projected traffic volumes from this development program were incorporated in to the No-Action Condition traffic volumes with the trip generation factors and trip assignments noted in the *Bay Street Rezoning and Related Actions FEIS* for this development site.

533 Bay Street

The 533 Bay Street development would include 67 senior's DUs. The traffic volumes anticipated as a result of this development program were incorporated in to the No-Action Condition traffic volumes in accordance with the trip generation factors and trip assignments for the Bay Street Corridor/Stapleton Waterfront Phase III sites as part of the *Bay Street Rezoning and Related Actions FEIS*.

Citywide Ferry Service Expansion FEIS (CEQR No.: 15DME009Y)

The Citywide Ferry Service Expansion would result in the construction of a new ferry landing along the North Shore Waterfront Esplanade at the end of Wall Street, to the west of the existing NYCDOT ferry terminal. Furthermore, the Citywide Ferry Service Expansion would result in the addition of a new ferry route with a terminus at St. George. The traffic volumes anticipated as a result of this project were incorporated in to the No-Action Condition traffic volumes in accordance with the trip redistributions/assignments noted in the *Citywide Ferry Service Expansion FEIS*.

The vehicle trip assignments for the No-Build Development Projects are shown in Appendix D, Figures A-9 through A-12.

The RWCDS also established that Projected Development Site 1-B would be developed in the No-Action Condition. The trips generated by this No-Action development on Projected Development Site 1-B (see Table 5-3) were assigned to the study area intersections based on the *CEQR Technical Manual* guidelines, U.S. Census Bureau's Origin/Destination data, prevailing travel patterns and existing roadway configuration. Traffic assignments for autos, taxis and deliveries approaching/departing the study area for the individual development program components are as discussed in preceding sections (see section *Level 2 [Project-Generated Trip Assignment] Screening Assessment*).

The No-Action Condition traffic volumes were projected by layering on top of the existing, balanced traffic volumes the background growth, the trips generated by the No-Build Development Projects and trips generated by the No-Action Development on the Project Site.

Vehicle trip assignments for the No-Action development on Projected Development Site 1-B are shown in Appendix D, Figures A-13 through A-16. The No-Action Condition traffic volumes during the weekday AM, midday, PM and Saturday midday are shown in Appendix D, Figures A-17 through A-20.

Traffic Conditions

The No-Action Condition intersection capacity analysis results – including v/c ratios, delays and LOS for the study area intersections – are shown in Table 5-12.

Table 5-12: 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	Richmond Terrace & Jersey Street	Signal	Richmond Terrace	EB	L	0.00	18.5	B	0.01	25.2	C	0.01	25.4	C	0.01	18.2	B
					TR	1.06	74.6	E	0.73	23.9	C	0.84	30.0	C	0.81	26.7	C
				WB	L	0.62	61.2	E	0.25	20.3	C	0.37	24.0	C	0.46	27.7	C
					TR	0.97	60.1	E	1.11	95.8	F	1.14	103.7	F	1.11	94.2	F
			Jersey Street	NB	L	0.09	25.1	C	0.18	28.4	C	0.18	28.3	C	0.08	18.2	B
					TR	0.24	38.4	D	0.32	39.6	D	0.26	37.9	D	0.25	28.4	C
				SB	L	0.00	24.2	C	0.00	26.1	C	0.00	26.1	C	0.00	17.5	B
					TR	0.00	34.5	C	0.00	33.8	C	0.00	33.8	C	0.00	25.0	C
				Overall Intersection		-	*66.1*	*E*	-	*59.9*	*E*	-	*65.6*	*E*	-	*57.1*	*E*
2	Richmond Terrace & Westervelt Avenue	Signal	Richmond Terrace	EB	TR	1.14	91.7	F	0.87	28.7	C	0.89	28.9	C	0.94	36.5	D
				WB	LT	0.56	16.2	B	0.61	17.1	B	0.73	20.9	C	0.71	20.3	C
			Westervelt Avenue	NB	LR	0.34	34.1	C	0.50	38.2	D	0.56	39.8	D	0.25	21.6	C
				Overall Intersection		-	*62.1*	*E*	-	*25.0*	*C*	-	*26.9*	*C*	-	*28.1*	*C*
3	Nicholas Street & Richmond Terrace	Signal	Nicholas Street	EB	LTR	0.23	31.9	C	0.23	32.0	C	0.21	31.6	C	0.22	21.9	C
			Wheel Driveway	WB	LR	0.10	30.0	C	0.14	30.6	C	0.24	32.3	C	0.06	19.9	B
			Richmond Terrace	NB	UTR	0.36	12.4	B	0.46	7.9	A	0.46	7.8	A	0.42	9.0	A
				SB	LTR	0.60	16.3	B	0.39	12.8	B	0.46	13.8	B	0.47	13.6	B
				Overall Intersection		-	*16.5*	*B*	-	*12.6*	*B*	-	*13.4*	*B*	-	*12.4*	*B*
4	Stuyvesant Place & Richmond Terrace	TWSC[1]	Richmond Terrace	NB	L	0.05	10.5	B	0.02	10.0	A	0.02	10.0	A	0.01	9.4	A
				SB	TR	-	0.0	A	-	0.0	A	-	0.0	A	-	0.0	A
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*
5	Hamilton Avenue & Richmond Terrace	Signal	Richmond Terrace	NB	LT	0.53	15.0	B	0.59	9.4	A	0.59	9.7	A	0.57	12.2	B
				SB	TR	0.39	7.3	A	0.34	12.6	B	0.43	13.8	B	0.45	15.5	B
				Overall Intersection		-	*11.1*	*B*	-	*10.7*	*B*	-	*11.5*	*B*	-	*13.8*	*B*
6	Wall Street & Richmond Terrace	Signal	Wall Street	EB	LTR	0.57	46.8	D	0.40	41.6	D	0.40	41.5	D	0.23	23.5	C
			Empire Mall Driveway	WB	LR	0.97	77.7	E	1.26	170.7	F	1.21	149.9	F	1.71	351.7	F
			Richmond Terrace	NB	T	0.27	13.7	B	0.38	17.5	B	0.34	17.1	B	0.30	16.5	B
					R	0.39	16.1	B	1.04	85.8	F	1.00	71.9	E	1.54	283.0	F
				SB	LT	0.59	13.0	B	0.65	24.0	C	0.76	27.9	C	0.81	29.0	C
				Overall Intersection		-	*28.7*	*C*	-	*70.9*	*E*	-	*63.3*	*E*	-	*188.3*	*F*
7	Victory Boulevard & Bay Street	Signal	Victory Boulevard	EB	L	0.81	73.0	E	0.60	39.5	D	0.88	80.5	F	0.68	41.9	D
					LT	0.89	84.2	F	0.62	40.0	D	0.94	92.5	F	0.73	44.4	D
				WB	LTR	0.11	41.6	D	0.18	27.9	C	0.16	42.5	D	0.11	27.0	C
			Bay Street	NB	L	0.52	30.1	C	1.89	474.6	F	1.94	496.3	F	1.98	512.4	F
					TR	0.60	25.5	C	1.13	107.1	F	0.73	29.2	C	0.97	55.7	E
				SB	LT	0.46	22.8	C	1.27	161.1	F	0.87	36.4	D	1.14	110.2	F
					R	0.31	8.9	A	0.68	19.7	B	0.65	15.3	B	0.62	16.9	B
				Overall Intersection		-	*32.1*	*C*	-	*122.5*	*F*	-	*58.2*	*E*	-	*90.6*	*F*
8	Victory Boulevard & St. Marks Place	Signal	Victory Boulevard	EB	T	0.35	12.1	B	0.38	13.6	B	0.32	11.5	B	0.44	14.2	B
					R	0.31	11.9	B									
				WB	L	0.05	9.3	A	0.10	10.9	B	0.08	9.4	A	0.09	11.0	B
					T	0.21	10.3	B	0.32	12.5	B	0.57	14.4	B	0.34	12.7	B
			St. Marks Place	SB	LT	0.40	40.6	D	0.48	30.0	C	0.51	44.2	D	0.29	26.5	C
					R	0.31	39.2	D	0.39	28.9	C	0.73	57.2	E	0.21	25.5	C
				Overall Intersection		-	*16.9*	*B*	-	*17.0*	*B*	-	*22.3*	*C*	-	*15.3*	*B*
9	Fort Place & St. Marks Place	Signal	Fort Place	EB	L	0.42	25.1	C	0.29	23.0	C	0.21	21.8	C	0.24	22.2	C
					R	0.75	36.6	D	0.29	22.9	C	0.31	23.3	C	0.25	22.4	C
			St. Marks Place	NB	LT	0.31	12.2	B	0.26	11.6	B	0.52	15.2	B	0.21	11.0	B
				SB	TR	0.33	12.4	B	0.20	11.0	B	0.15	10.6	B	0.16	10.6	B
				Overall Intersection		-	*22.6*	*C*	-	*16.3*	*B*	-	*16.9*	*B*	-	*15.7*	*B*
10	Wall Street & St. Marks Place	TWSC[1]	Wall Street	EB	LTR	0.14	19.1	C	0.10	17.8	C	0.06	13.3	B	0.06	11.6	B
			St. Marks Place	NB	TR	-	0.0	A	-	0.0	A	-	0.0	A	-	0.0	A
				SB	L	0.10	9.5	A	0.06	9.9	A	0.03	8.6	A	0.03	8.0	A
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*
11	Hamilton Avenue & St. Marks Place	TWSC[1]	Hamilton Avenue	EB	LR	1.44	252.5	F	1.14	139.7	F	0.21	12.1	B	0.14	10.1	B
				WB	LR	0.61	32.7	D	0.80	83.6	F	0.23	13.1	B	0.17	11.2	B
			St. Marks Place	NB	T	-	0.0	A	-	0.0	A	-	0.0	A	-	0.0	A
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*
12	Hamilton Avenue & Academy Place	TWSC[1]	Hamilton Avenue	WB	L	0.03	7.6	A	0.01	8.2	A	0.00	7.6	A	0.01	7.6	A
			Academy Place	NB	L	0.07	11.3	B	0.02	12.0	B	0.04	10.4	B	0.04	10.3	B
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*
13	Hamilton Avenue & Stuyvesant Place	TWSC[1]	Hamilton Avenue	WB	L	0.04	7.4	A	0.02	7.5	A	0.02	7.3	A	0.01	7.5	A
			Stuyvesant Place	SB	TR	0.34	12.6	B	0.16	10.7	B	0.09	9.8	A	0.14	11.3	B
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*

Notes:

1. Two-Way Stop-Controlled
2. All-Way Stop-Controlled
3. Intersection delay and LOS information are not provided by HCS.

In summary, of the 51 total intersection approaches/lane groups in the study area, 15 would operate worse than mid-LOS D in at least one peak hour, including:

- The eastbound through-right movement at the Richmond Terrace and Jersey Street intersection (LOS E with average delay of 74.6 seconds during the weekday AM peak hour).

- The westbound left-turn at the Richmond Terrace and Jersey Street intersection (LOS E with average delay of 61.2 seconds during the weekday AM peak hour).
- The westbound through-right movement at the Richmond Terrace and Jersey Street intersection (LOS E with average delay of 60.1 seconds during the weekday AM peak hour, LOS F with average delay of 95.8 seconds during the weekday midday peak hour, LOS F with average delay of 103.7 seconds during the weekday PM peak hour and LOS F with average delay of 94.2 seconds during the Saturday midday peak hour).
- The eastbound approach at the Richmond Terrace and Westervelt Avenue intersection (LOS F with average delay of 91.7 seconds during the weekday AM peak hour).
- The eastbound approach at the Wall Street and Richmond Terrace intersection (LOS D with average delay of 46.8 seconds during the weekday AM peak hour).
- The westbound approach at the Wall Street and Richmond Terrace intersection (LOS E with average delay of 77.7 seconds during the weekday AM peak hour, LOS F with average delay of 170.7 seconds during the weekday midday peak hour, LOS F with average delay of 149.9 seconds during the weekday PM peak hour and LOS F with average delay of 351.7 seconds during the Saturday midday peak hour).
- The northbound right-turn at the Wall Street and Richmond Terrace intersection (LOS F with average delay of 85.8 seconds during the weekday midday peak hour, LOS E with average delay of 71.9 seconds during the weekday PM peak hour and LOS F with average delay of 283.0 seconds during the Saturday midday peak hour).
- The eastbound left-turn at the Victory Boulevard and Bay Street intersection (LOS E with average delay of 73.0 seconds during the weekday AM peak hour and LOS F with average delay of 80.5 seconds during the weekday PM peak hour).
- The eastbound left-through movement at the Victory Boulevard and Bay Street intersection (LOS F with average delay of 84.2 seconds during the weekday AM peak hour and LOS F with average delay of 92.5 seconds during the weekday PM peak hour).
- The northbound left-turn at the Victory Boulevard and Bay Street intersection (LOS F with average delay of 474.6 seconds during the weekday midday peak hour, LOS F with average delay of 496.3 seconds during the weekday PM peak hour and LOS F with average delay of 512.4 seconds during the Saturday midday peak hour).
- The northbound through-right movement at the Victory Boulevard and Bay Street intersection (LOS F with average delay of 107.1 seconds during the weekday midday peak hour and LOS E with average delay of 55.7 seconds during the Saturday midday peak hour).
- The southbound left-through movement at the Victory Boulevard and Bay Street intersection (LOS F with average delay of 161.1 seconds during the weekday midday peak hour and LOS F with average delay of 110.2 seconds during the Saturday midday peak hour).
- The southbound right-turn at the Victory Boulevard and St. Marks Place intersection (LOS E with average delay of 57.2 seconds during the weekday PM peak hour).
- The eastbound approach at the Hamilton Avenue and St. Marks Place intersection (LOS F with average delay of 252.2 seconds during the weekday AM peak hour and LOS F with average delay of 139.7 seconds during the weekday midday peak hour).
- The westbound approach at the Hamilton Avenue and St. Marks Place intersection (LOS D with average delay of 32.7 seconds during the weekday AM peak hour and LOS F with average delay of 83.6 seconds during the weekday midday peak hour).

With-Action Condition (2025)

Traffic Volumes

In the With-Action Condition, project-generated vehicle trips (see Table 5-4) were assigned to the study area intersections based on the *CEQR Technical Manual* guidelines, U.S. Census Bureau's Origin/Destination data, prevailing travel patterns and existing roadway configuration. Traffic assignments for autos, taxis and deliveries approaching/departing the study area for the individual development program components followed the same patterns developed for the No-Action Condition. The assignments of vehicle trips generated by the Proposed Actions are shown in Appendix D, Figures A-21 through A-24.

The With-Action Condition traffic volumes were projected by layering on top of the existing, balanced traffic volumes the background growth, the trips generated by the No-Build Development Projects and the trips generated by the Proposed Actions. The With-Action Condition traffic volumes during the weekday AM, midday, PM and Saturday midday peak hours are shown in Appendix D, Figures A-25 through A-28.

Traffic Conditions

The With-Action Condition intersection capacity analysis results – including v/c ratios, delays and LOS for the study area intersections are shown in Table 5-13.

Table 5-13: With-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	Richmond Terrace & Jersey Street	Signal	Richmond Terrace	EB	L	0.00	19.3	B	0.01	25.3	C	0.01	25.4	C	0.01	18.0	B
					TR	1.07	77.5	E	0.75	24.8	C	0.86	32.0	C	0.83	28.2	C
				WB	L	0.82	94.5	F	0.29	21.5	C	0.44	26.7	C	0.56	32.7	C
					TR	1.01	69.3	E	1.13	104.6	F	1.15	109.6	F	1.14	104.0	F
			Jersey Street	NB	L	0.10	25.2	C	0.18	28.4	C	0.18	28.3	C	0.08	18.2	B
					TR	0.27	39.0	D	0.39	41.1	D	0.31	39.1	D	0.31	29.4	C
				SB	L	0.00	24.2	C	0.00	26.2	C	0.00	26.2	C	0.00	17.5	B
					TR	0.00	34.5	C	0.00	33.8	C	0.00	33.8	C	0.00	25.0	C
				Overall Intersection		-	*71.7*	*E*	-	*64.4*	*E*	-	*68.8*	*E*	-	*61.9*	*E*
2	Richmond Terrace & Westervelt Avenue	Signal	Richmond Terrace	EB	TR	1.16	100.3	F	0.91	33.4	C	0.94	34.5	C	0.99	46.2	D
				WB	LT	0.58	16.7	B	0.63	17.5	B	0.74	21.3	C	0.73	21.0	C
			Westervelt Avenue	NB	LR	0.37	34.7	C	0.53	38.9	D	0.58	40.2	D	0.26	21.9	C
				Overall Intersection		-	*66.7*	*E*	-	*27.3*	*C*	-	*29.6*	*C*	-	*33.1*	*C*
3	Nicholas Street & Richmond Terrace	Signal	Nicholas Street	EB	LTR	0.32	33.4	C	0.39	35.0	C	0.38	34.8	C	0.38	24.3	C
			Wheel Driveway	WB	LR	0.10	30.1	C	0.14	30.7	C	0.25	32.4	C	0.06	20.0	B
			Richmond Terrace	NB	UTR	0.36	12.4	B	0.46	7.9	A	0.46	7.8	A	0.42	9.1	A
				SB	LTR	0.61	16.5	B	0.41	13.0	B	0.49	14.2	B	0.49	13.9	B
				Overall Intersection		-	*17.2*	*B*	-	*13.9*	*B*	-	*14.7*	*B*	-	*13.4*	*B*
4	Stuyvesant Place & Richmond Terrace	TWSC[1]	Richmond Terrace	NB	L	0.07	12.8	B	0.06	11.8	B	0.05	11.9	B	0.03	11.1	B
				SB	TR	-	0.0	A	-	0.0	A	-	0.0	A	-	0.0	A
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*
5	Hamilton Avenue & Richmond Terrace	Signal	Richmond Terrace	NB	LT	0.59	16.4	B	0.72	11.6	B	0.78	13.5	B	0.76	14.5	B
				SB	TR	0.42	7.5	A	0.35	12.8	B	0.45	14.0	B	0.47	15.8	B
				Overall Intersection		-	*11.8*	*B*	-	*12.0*	*B*	-	*13.7*	*B*	-	*15.1*	*B*
6	Wall Street & Richmond Terrace	Signal	Wall Street	EB	LTR	0.60	48.3	D	0.41	42.2	D	0.42	42.1	D	0.24	23.7	C
			Empire Mall Driveway	WB	LR	1.00	85.8	F	1.28	178.9	F	1.23	158.5	F	1.74	367.5	F
			Richmond Terrace	NB	T	0.28	13.8	B	0.42	18.1	B	0.38	17.6	B	0.34	17.0	B
					R	0.42	16.8	B	1.06	92.0	F	1.09	101.7	F	1.59	306.5	F
				SB	LT	0.64	13.9	B	0.70	25.6	C	0.72	29.0	C	0.86	33.1	C
				Overall Intersection		-	*30.2*	*C*	-	*72.5*	*E*	-	*69.4*	*E*	-	*193.3*	*F*
7	Victory Boulevard & Bay Street	Signal	Victory Boulevard	EB	L	0.81	73.0	E	0.60	39.5	D	0.88	80.5	F	0.68	41.9	D
					LT	0.89	84.2	F	0.62	40.0	D	0.94	92.5	F	0.73	44.4	D
				WB	LTR	0.11	41.6	D	0.18	27.9	C	0.16	42.5	D	0.11	27.0	C
			Bay Street	NB	L	0.57	33.3	C	1.90	479.9	F	2.14	587.8	F	1.98	512.4	F
					TR	0.62	25.8	C	1.21	136.4	F	0.77	31.0	C	1.04	74.0	E
				SB	LT	0.50	23.5	C	1.38	209.4	F	0.90	38.4	D	1.25	152.5	F
					R	0.31	8.9	A	0.69	19.7	B	0.65	15.3	B	0.62	16.9	B
				Overall Intersection		-	*32.3*	*C*	-	*149.6*	*F*	-	*62.9*	*E*	-	*110.3*	*F*
8	Victory Boulevard & St. Marks Place	Signal	Victory Boulevard	EB	T	0.35	12.1	B	0.38	13.6	B	0.32	11.5	B	0.44	14.2	B
					R	0.31	11.9	B									
				WB	L	0.05	9.3	A	0.10	10.9	B	0.08	9.4	A	0.09	11.0	B
					T	0.21	10.3	B	0.33	12.5	B	0.57	14.4	B	0.34	12.7	B
			St. Marks Place	SB	LT	0.48	42.3	D	0.53	31.1	C	0.55	45.4	D	0.34	27.3	C
					R	0.35	40.1	D	0.42	29.6	C	0.76	59.8	E	0.23	25.9	C
				Overall Intersection		-	*18.0*	*B*	-	*17.5*	*B*	-	*23.2*	*C*	-	*15.6*	*B*
9	Fort Place & St. Marks Place	Signal	Fort Place	EB	L	0.44	25.4	C	0.33	23.5	C	0.25	22.3	C	0.28	22.8	C
					R	0.75	36.6	D	0.29	22.9	C	0.31	23.3	C	0.25	22.4	C
			St. Marks Place	NB	LT	0.33	12.5	B	0.27	11.7	B	0.53	15.6	B	0.21	11.1	B
				SB	TR	0.39	13.1	B	0.25	11.5	B	0.19	10.9	B	0.21	11.1	B
				Overall Intersection		-	*22.5*	*C*	-	*16.5*	*B*	-	*17.1*	*B*	-	*15.9*	*B*
10	Wall Street & St. Marks Place	TWSC[1]	Wall Street	EB	LTR	0.16	21.4	C	0.13	23.1	C	0.08	15.1	C	0.07	13.0	B
			St. Marks Place	NB	TR	-	0.0	A	-	0.0	A	-	0.0	A	-	0.0	A
				SB	L	0.10	9.7	A	0.07	10.8	B	0.03	8.9	A	0.03	8.3	A
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*
11	Hamilton Avenue & St. Marks Place	TWSC[1]	Hamilton Avenue	EB	LR	3.05	993.7	F	5.21	2,042.0	F	0.29	15.3	C	0.18	12.0	B
				WB	LR	1.16	145.9	F	9.28	4030.0	F	0.49	19.6	C	0.42	16.0	C
			St. Marks Place	NB	T	-	0.0	A	-	0.0	A	-	0.0	A	-	0.0	A
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*
12	Hamilton Avenue & Academy Place	TWSC[1]	Hamilton Avenue	WB	L	0.04	7.9	A	0.01	9.8	A	0.01	8.2	A	0.02	8.2	A
			Academy Place	NB	L	0.10	14.2	B	0.05	20.8	C	0.06	13.7	B	0.06	14.1	B
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*
13	Hamilton Avenue & Stuyvesant Place	TWSC[1]	Hamilton Avenue	WB	L	0.04	7.6	A	0.02	7.7	A	0.02	7.5	A	0.01	7.7	A
			Stuyvesant Place	SB	TR	0.62	22.6	C	0.39	16.8	C	0.23	13.6	B	0.39	18.7	C
				Overall Intersection		-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*	-	*Note 3*	*Note 3*

Notes:

1. Two-Way Stop-Controlled
2. All-Way Stop-Controlled
3. Intersection delay and LOS information are not provided by HCS.
4. Shading denotes a potentially significant adverse traffic impact.

In summary, of the 51 total intersection approaches/lane groups in the study area, the following 16 would operate worse than mid-LOS D in at least one peak hour:

- The eastbound through-right movement of Richmond Terrace at Jersey Street, which would:

- Continue to operate at LOS E with an average delay of 77.5 seconds during the weekday AM peak hour, an increase of 2.9 seconds relative to the No-Action Condition.

- The westbound left-turn of Richmond Terrace at Jersey Street, which would:
  - Drop from LOS E to LOS F with an average delay of 94.5 seconds during the weekday AM peak hour, an increase of 33.3 seconds relative to the No-Action Condition.
- The westbound through-right movement of Richmond Terrace at Jersey Street, which would:
  - Continue to operate at LOS E with an average delay of 69.3 seconds during the weekday AM peak hour, an increase of 9.2 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 104.6 seconds during the weekday midday peak hour, an increase of 8.8 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 109.6 seconds during the weekday PM peak hour, an increase of 5.9 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 104.0 seconds during the Saturday midday peak hour, an increase of 9.8 seconds relative to the No-Action Condition.
- The eastbound approach of Richmond Terrace at Westervelt Avenue, which would:
  - Continue to operate at LOS F with an average delay of 100.3 seconds during the weekday AM peak hour, an increase of 8.6 seconds relative to the No-Action Condition.
  - Continue to operate at LOS D with an average delay of 46.2 seconds during the Saturday midday peak hour, an increase of 9.7 seconds relative to the No-Action Condition.
- The eastbound approach of Wall Street at Richmond Terrace, which would:
  - Continue to operate at LOS D with an average delay of 48.3 seconds during the weekday AM peak hour, an increase of 1.5 seconds relative to the No-Action Condition.
- The westbound approach of the Empire Mall Driveway at Richmond Terrace, which would:
  - Drop from LOS E to LOS F with an average delay of 85.8 seconds during the weekday AM peak hour, an increase of 8.1 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 178.9 seconds during the weekday midday peak hour, an increase of 8.2 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 158.5 seconds during the weekday PM peak hour, an increase of 8.6 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 367.5 seconds during the Saturday midday peak hour, an increase of 15.8 seconds relative to the No-Action Condition.

- The northbound right-turn of Richmond Terrace at Wall Street, which would:
  - Continue to operate at LOS F with an average delay of 92.0 seconds during the weekday midday peak hour, an increase of 6.2 seconds relative to the No-Action Condition.
  - Drop from LOS E to LOS F with an average delay of 101.7 seconds during the weekday PM peak hour, an increase of 29.8 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 306.5 seconds during the Saturday midday peak hour, an increase of 23.5 seconds relative to the No-Action Condition.
- The eastbound left-turn of Victory Boulevard at Bay Street, which would:
  - Continue to operate at LOS E with an average delay of 73.0 seconds during the weekday AM peak hour, no change in delay relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 80.5 seconds during the weekday PM peak hour, no change in delay relative to the No-Action Condition.
- The eastbound left-through movement of Victory Boulevard at Bay Street, which would:
  - Continue to operate at LOS F with an average delay of 84.2 seconds during the weekday AM peak hour, no change in delay relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 92.5 seconds during the weekday PM peak hour, no change in delay relative to the No-Action Condition.
- The northbound left-turn of Bay Street at Victory Boulevard, which would:
  - Continue to operate at LOS F with an average delay of 479.9 seconds during the weekday midday peak hour, an increase of 5.3 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 587.8 seconds during the weekday PM peak hour, an increase of 91.5 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 512.4 seconds during the Saturday midday peak hour, no change in delay relative to the No-Action Condition.
- The northbound through-right movement of Bay Street at Victory Boulevard, which would:
  - Continue to operate at LOS F with an average delay of 136.4 seconds during the weekday midday peak hour, an increase of 29.3 seconds relative to the No-Action Condition.
  - Continue to operate at LOS E with an average delay of 74.0 seconds during the Saturday midday peak hour, an increase of 18.3 seconds relative to the No-Action Condition.
- The southbound left-through movement of Bay Street at Victory Boulevard, which would:
  - Continue to operate at LOS F with an average delay of 209.4 seconds during the weekday midday peak hour, an increase of 48.3 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 152.5 seconds during the Saturday midday peak hour, an increase of 42.3 seconds relative to the No-Action Condition.

- The southbound left-through movement of St. Marks Place at Victory Boulevard, which would:
  - Continue to operate at LOS D with an average delay of 45.4 seconds during the weekday PM peak hour, an increase of 1.2 seconds relative to the No-Action Condition.
- The southbound right-turn of St. Marks Place at Victory Boulevard, which would:
  - Continue to operate at LOS E with an average delay of 59.8 seconds during the weekday PM peak hour, an increase of 2.6 seconds relative to the No-Action Condition.
- The eastbound approach of Hamilton Avenue at St. Marks Place, which would:
  - Continue to operate at LOS F with an average delay of 993.7 seconds during the weekday AM peak hour, an increase of 741.2 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 2,042.0 seconds during the weekday midday peak hour, an increase of 1,902.3 seconds relative to the No-Action Condition.
- The westbound approach of Hamilton Avenue at St. Marks Place, which would:
  - Drop from LOS D to LOS F with an average delay of 145.9 seconds during the weekday AM peak hour, an increase of 113.2 seconds relative to the No-Action Condition.
  - Continue to operate at LOS F with an average delay of 4,030.0 seconds during the weekday midday peak hour, an increase of 3,946.4 seconds relative to the No-Action Condition.

Furthermore, the following 10 study area intersection approaches/lane groups would experience a potentially significant adverse traffic impact during at least one peak hour as a result of the Proposed Actions:

- The westbound left-turn of Richmond Terrace at Jersey Street during the weekday AM peak hour.
- The westbound through-right movement of Richmond Terrace at Jersey Street during the weekday AM, midday, PM and Saturday midday peak hours.
- The eastbound approach of Richmond Terrace at Westervelt Avenue during the weekday AM and Saturday midday peak hours.
- The westbound approach of the Empire Mall Driveway at Richmond Terrace during the weekday AM, midday, PM and Saturday midday peak hours.
- The northbound right-turn of Richmond Terrace at Wall Street/Empire Mall Driveway during the weekday midday, PM and Saturday midday peak hours.
- The northbound left-turn of Bay Street at Victory Boulevard during the weekday midday and PM peak hours.
- The northbound through-right movement of Bay Street at Victory Boulevard during the weekday midday and Saturday midday peak hours.
- The southbound left-through movement of Bay Street at Victory Bouelvard during the weekday midday and Saturday midday peak hours.
- The eastbound approach of Hamilton Avenue at St. Marks Place during the weekday AM and midday peak hours.

- The westbound approach of Hamilton Avenue at St. Marks Place during the weekday AM and midday peak hours.

Chapter 13, "Mitigation," discusses potential measures to mitigate these potentially significant adverse traffic impacts.

Detailed Pedestrian Analysis

Existing Conditions

The pedestrian study area is generally characterized by relatively light pedestrian flows during peak periods, with the greatest demand typically along the Richmond Terrace and Hamilton Avenue corridors that provide access to the St. George Ferry Terminal, area subway stations and area bus routes. Existing pedestrian volumes in the study area were determined based on pedestrian counts conducted in May 2019 and supplemented for two intersections with existing pedestrian counts from June 2016, collected as part of the *Bay Street Rezoning and Related Actions FEIS*.

Based on the data collected, the peak hours for pedestrian analysis are 7:45 AM – 8:45 AM, 2:45 PM – 3:45 PM, 4:00 PM – 5:00 PM and 3:00 PM – 4:00 PM for the weekday AM, midday, PM and Saturday midday peak hours, respectively. Existing Conditions pedestrian volumes for the weekday AM, midday, PM and Saturday midday peak hours are shown in Appendix D, Figures B-5 through B-8.

Table 5-14 and Table 5-15 show all pedestrian elements in the pedestrian study area operate at acceptable service conditions during the weekday AM, midday, PM and Saturday midday peak hours.

Table 5-14: 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
5	Richmond Terrace & Hamilton Avenue	North-West	3	659.0	A	3	149.2	A	0	555.2	A	0	829.2	A

Table 5-15: Existing Conditions Sidewalk Analysis

				Weekday AM				Weekday Midday				Weekday PM				Saturday Midday			
ID	Location	Sidewalk Movement	Effective Width	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	
3	West Sidewalk of Richmond Terrace between Nicholas Street & Stuyvesant Place[1]	North-South	7.8	60	1,162.5	A		69	951.1	A		48	1,395.0	A		26	2,075.9	A	
4	West Sidewalk of Richmond Terrace between Stuyvesant Place & Nicholas Street[1]	North-South	2.0	55	317.6	B		76	224.9	B		48	359.9	B		27	449.9	B	
	North Sidewalk of Stuyvesant Place between Richmond Terrace & Hamilton Avenue	East-West	2.0	0	0.0	A		0	0.0	A		0	0.0	A		0	0.0	A	
12	North Sidewalk of Hamilton Avenue between Academy Place & Stuyvesant Place	East-West	4.0	38	981.8	A		18	1,800.0	A		4	3,600.0	A		5	3,600.0	A	
13	West Sidewalk of Stuyvesant Place between Hamilton Avenue & Richmond Terrace	North-South	1.8	4	2,362.5	A		1	4,725.0	A		6	1,575.0	A		22	525.0	B	
	North Sidewalk of Hamilton Avenue between Stuyvesant Place & Academy Place	East-West	4.0	38	771.4	A		13	2,160.0	A		4	5,400.0	A		12	2,700.0	A	

Notes:

1. In the traffic analysis, Richmond Terrace was analyzed as the North-South street at the Richmond Terrace/Nicholas Street and Richmond Terrace/Stuyvesant Place intersections due to nuances in the HCS+ analysis software. To be consistent between the traffic and pedestrian analyses, Richmond Terrace was analyzed as the North-South street in the pedestrian analyses at these intersections.

No-Action Condition (2025)

Changes to the Study Area Pedestrian Network

In the No-Action Condition, Projected Development Site 1-B would be developed with one mixed-use building with 167 DU and 8,240 gsf of local retail. Other than the pedestrian volumes generated by this development, there would be no changes to the pedestrian network.

Pedestrian Volumes

The No-Action Condition pedestrian volumes were determined for the 2025 analysis year. Per the *CEQR Technical Manual*, a compounded annual background growth rate of 0.50 percent for St. George (Staten Island) was applied to the existing traffic volumes for the first five years (2019 through 2024) and subsequently, a growth rate of 0.25 percent was applied for the sixth year (2024 through 2025).

In addition to the background growth, pedestrian trips expected to be generated by the No-Build Development Projects and the No-Action development on Projected Development Site 1-B were assigned to the study area pedestrian analysis locations. The No-Action Condition pedestrian volumes were projected by layering on top of the existing pedestrian volumes the background growth, the trips generated by the No-Build Development Projects and trips generated by the No-Action Development on the Project Site. The No-Action Condition pedestrian volumes during the weekday AM, midday, PM and Saturday midday peak hours are shown in Appendix D, Figures B-17 through B-20.

Pedestrian Conditions

As shown on Table 5-16 and Table 5-17, all pedestrian elements in the study area would operate at acceptable service conditions during the weekday AM, midday, PM and Saturday midday peak hours in the No-Action Condition.

Table 5-16: 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
5	Richmond Terrace & Hamilton Avenue	North-West	3	388.8	A	3	112.6	A	0	311.7	A	0	423.4	A

Table 5-17: No-Action Condition Sidewalk Analysis

				Weekday AM			Weekday Midday			Weekday PM			Saturday Midday		
ID	Location	Sidewalk Movement	Effective Width	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
3	West Sidewalk of Richmond Terrace between Nicholas Street & Stuyvesant Place[1]	North-South	7.8	70	992.2	A	117	560.5	A	71	937.1	A	52	1,024.0	A
4	West Sidewalk of Richmond Terrace between Stuyvesant Place & Nicholas Street[1]	North-South	4.0	163	214.6	B	325	104.9	B	206	167.5	B	207	117.2	B
	North Sidewalk of Stuyvesant Place between Richmond Terrace & Hamilton Avenue	East-West	4.0	45	727.3	A	178	182.1	B	92	352.8	B	106	304.9	B
12	North Sidewalk of Hamilton Avenue between Academy Place & Stuyvesant Place	East-West	4.0	80	469.2	B	176	184.3	B	88	369.5	B	103	314.9	B
13	West Sidewalk of Stuyvesant Place between Hamilton Avenue & Richmond Terrace	North-South	3.8	49	416.1	B	179	169.7	B	98	206.6	B	129	192.0	B
	North Sidewalk of Hamilton Avenue between Stuyvesant Place & Academy Place	East-West	4.0	80	368.7	B	171	164.5	B	88	246.3	B	110	294.3	B

Notes:
1. In the traffic analysis, Richmond Terrace was analyzed as the North-South street at the Richmond Terrace/Nicholas Street and Richmond Terrace/Stuyvesant Place intersections due to nuances in the HCS+ analysis software. To be consistent between the traffic and pedestrian analyses, Richmond Terrace was analyzed as the North-South street in the pedestrian analyses at these intersections.

With-Action Condition (2025)

Changes to the Study Area Pedestrian Network

In the With-Action Condition, Projected Development Sites 1 and 2 would be developed. As part of the Proposed Actions, the Project Site frontage sidewalk on Stuyvesant Place between Richmond Terrace and Hamilton Avenue would be widened to a total width of approximately 15 feet.

Pedestrian Volumes

In the With-Action Condition, pedestrian trips generated by the Proposed Actions (see Table 5-4) were assigned to the study area pedestrian analysis locations (see Appendix D, Figures B-21 through B-24). The With-Action Condition pedestrian volumes were projected by layering on top of the existing pedestrian volumes the background growth, the trips generated by the No-Build Development Projects and the trips generated by the Proposed Actions. The With-Action Condition pedestrian volumes for the weekday AM, midday, PM and Saturday midday peak hours are presented in Appendix D, Figures B-25 through B-28.

Pedestrian Conditions

As shown in Table 5-18 and Table 5-19, all pedestrian elements would operate at acceptable service conditions during the weekday AM, midday, PM and Saturday midday peak hours in the With-Action Condition. Therefore, as per CEQR criteria, the Proposed Actions would not result in a potentially significant adverse pedestrian impact.

Table 5-18: With-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
5	Richmond Terrace & Hamilton Avenue	North-West	19	183.1	A	19	75.9	A	16	159.6	A	18	188.0	A

Table 5-19: With-Action Condition Sidewalk Analysis

ID	Location	Sidewalk Movement	Effective Width	Weekday AM Two-Way Peak Hour Volume	Weekday AM Average Space (ft^2/p)	Weekday AM Platoon LOS	Weekday Midday Two-Way Peak Hour Volume	Weekday Midday Average Space (ft^2/p)	Weekday Midday Platoon LOS	Weekday PM Two-Way Peak Hour Volume	Weekday PM Average Space (ft^2/p)	Weekday PM Platoon LOS	Saturday Midday Two-Way Peak Hour Volume	Saturday Midday Average Space (ft^2/p)	Saturday Midday Platoon LOS
3	West Sidewalk of Richmond Terrace between Nicholas Street & Stuyvesant Place[1]	North-South	7.8	114	610.0	A	307	213.3	B	167	400.0	B	163	327.2	B
4	West Sidewalk of Richmond Terrace between Stuyvesant Place & Nicholas Street[1]	North-South	8.0	359	194.7	B	619	110.3	B	438	157.7	B	469	103.4	B
	North Sidewalk of Stuyvesant Place between Richmond Terrace & Hamilton Avenue	East-West	10.9	110	804.5	A	357	246.7	B	198	446.1	B	228	387.2	B
12	North Sidewalk of Hamilton Avenue between Academy Place & Stuyvesant Place	East-West	4.0	194	191.9	B	496	65.0	C	276	117.3	B	319	101.5	B
13	West Sidewalk of Stuyvesant Place between Hamilton Avenue & Richmond Terrace	North-South	8.5	303	151.5	B	680	101.0	B	441	103.9	B	519	107.8	B
	North Sidewalk of Hamilton Avenue between Stuyvesant Place & Academy Place	East-West	5.0	194	188.5	B	491	71.2	C	276	97.7	B	326	124.1	B

Notes:

1. In the traffic analysis, Richmond Terrace was analyzed as the North-South street at the Richmond Terrace/Nicholas Street and Richmond Terrace/Stuyvesant Place intersections due to nuances in the HCS+ analysis software. In order to be consistent between the traffic and pedestrian analyses, Richmond Terrace was analyzed as the North-South street in the pedestrian analyses at these intersections.

Parking

Existing Conditions

To assess the parking utilization in the study area, an off-street parking survey was conducted within a ¼-mile radius of the Project Site in October 2019 during the weekday morning, midday, evening and overnight; and Saturday midday and overnight time periods. Based on this survey, there are five off-street, public parking facilities within a ¼-mile radius of the Project Site (see Figure 5-4 and Table 5-20).

Figure 5-4: Parking Survey Map



Table 5-20: Existing Conditions Off-Street Public Parking Facilities/Utilization within ¼-mile

					Utilized Spaces [1]						Available Spaces						Utilization Rate					
					Weekday				Saturday		Weekday				Saturday		Weekday				Saturday	
ID	Name/ Operator	Address	License Number	Licensed Capacity	AM	MD	PM	Overnight	MD	Overnight	AM	MD	PM	Overnight	MD	Overnight	AM	MD	PM	Overnight	MD	Overnight
1	Imperial Parking US LLC	155 Richmond Terrace	2043135	820	163	265	180	30	75	51	657	555	640	790	745	769	20%	32%	22%	4%	9%	6%
2	Allied St. George LLC	25 Wall Street	1386534	171	49	171	51	20	46	34	122	0	120	151	125	137	29%	100%	30%	12%	27%	20%
3	St.George Ferry Corp	55B Richmond Terrace	2086322	415	230	341	254	11	144	36	185	74	161	404	271	379	55%	82%	61%	3%	35%	9%
4	Ferry Terminal South Municipal Lot	69 Richmond Terrace	NYCDOT	222	222	222	149	143	222	148	0	0	73	79	0	74	100%	100%	67%	64%	100%	67%
5	325 St Marks Place Lot [2]	325 St. Marks Place	1372235	95	30	95	27	4	55	5	65	0	68	91	40	90	32%	100%	28%	4%	58%	5%
			Total	**1,723**	**694**	**1,094**	**661**	**208**	**542**	**274**	**1,029**	**629**	**1,062**	**1,515**	**1,181**	**1,449**	**40%**	**63%**	**38%**	**12%**	**31%**	**16%**

Notes:
1. Survey conducted by Langan on October 23rd and 26th, 2019.
2. During the Saturday daytime period, approximately 40 spaces were used for a Farmer's Market. These spaces were incorporated as "utilized" for parking assessment calculations.

These parking facilities have a combined licensed capacity of 1,723 spaces. In Existing Conditions, the parking facilities operate at 40, 63, 38, 12, 31 and 16 percent utilization, with 1,029, 629, 1,062, 1,515, 1,181 and 1,449 available parking spaces during the weekday morning, weekday midday, weekday evening, weekday overnight, Saturday midday and Saturday overnight time periods, respectively.

No-Action Condition (2025)

In the No-Action Condition, Projected Development Site 1-B would provide 29 parking spaces, and 2 parking spaces would remain on Projected Development Site 2, resulting in 31 total No-Action spaces on the Project Site. A 24-hour parking accumulation estimate was prepared for the No-Action Project based on the Trip Generation Estimates (see Table 5-3) and 24-hour temporal distributions obtained from the *Bay Street Rezoning and Related Actions FEIS*. The 24-hour parking accumulation comparison of the No-Action Condition versus the total proposed on-site parking supply is shown in Table 5-21 and Table 5-22 for a typical weekday and Saturday, respectively.

Table 5-21: No-Action Project-Generated Hourly Parking Accumulation – Weekday

Time period	Projected Site 1-A			Projected Site 1-B			Projected Site 2			Total Demand	Supply [1]	Shortfall
	Res	Retail	Total	Res	Retail	Total	Res	Retail	Total			
Overnight [2]	0	0	0	88	0	88	2	0	2	91	31	(60)
12:00 AM - 1:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
1:00 AM - 2:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
2:00 AM - 3:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
3:00 AM - 4:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
4:00 AM - 5:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
5:00 AM - 6:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
6:00 AM - 7:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
7:00 AM - 8:00 AM	0	0	0	76	0	76	2	0	2	77	31	(46)
8:00 AM - 9:00 AM	0	0	0	53	0	53	1	0	1	55	31	(24)
9:00 AM - 10:00 AM	0	0	0	35	0	35	1	0	1	36	31	(5)
10:00 AM - 11:00 AM	0	0	0	24	0	24	1	0	1	25	31	6
11:00 AM - 12:00 PM	0	0	0	22	0	22	1	0	1	22	31	9
12:00 PM - 1:00 PM	0	0	0	22	0	22	1	0	1	22	31	9
1:00 PM - 2:00 PM	0	0	0	23	0	23	1	0	1	23	31	8
2:00 PM - 3:00 PM	0	0	0	26	0	26	1	0	1	26	31	5
3:00 PM - 4:00 PM	0	0	0	27	0	27	1	0	1	28	31	3
4:00 PM - 5:00 PM	0	0	0	35	0	35	1	0	1	36	31	(5)
5:00 PM - 6:00 PM	0	0	0	44	0	44	1	0	1	45	31	(14)
6:00 PM - 7:00 PM	0	0	0	58	0	58	1	0	1	59	31	(28)
7:00 PM - 8:00 PM	0	0	0	65	0	65	2	0	2	67	31	(36)
8:00 PM - 9:00 PM	0	0	0	72	0	72	2	0	2	74	31	(43)
9:00 PM - 10:00 PM	0	0	0	78	0	78	2	0	2	80	31	(49)
10:00 PM - 11:00 PM	0	0	0	85	0	85	2	0	2	87	31	(56)
11:00 PM - 12:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)

Notes:

1. The No-Action Condition on the Project Site would provide 31 on-site parking spaces.
2. Overnight parking demand estimated based on a vehicle ownership rate of 53% for renter occupied units per U.S. Census Data.

Table 5-22: No-Action Project-Generated Hourly Parking Accumulation – Saturday

Time period	Projected Site 1-A			Projected Site 1-B			Projected Site 2			Total Demand	Supply [1]	Shortfall
	Res	Retail	Total	Res	Retail	Total	Res	Retail	Total			
Overnight [2]	0	0	0	88	0	88	2	0	2	91	31	(60)
12:00 AM - 1:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
1:00 AM - 2:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
2:00 AM - 3:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
3:00 AM - 4:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
4:00 AM - 5:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
5:00 AM - 6:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
6:00 AM - 7:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)
7:00 AM - 8:00 AM	0	0	0	73	0	73	2	0	2	75	31	(44)
8:00 AM - 9:00 AM	0	0	0	42	0	42	1	0	1	43	31	(12)
9:00 AM - 10:00 AM	0	0	0	21	0	21	0	0	0	21	31	10
10:00 AM - 11:00 AM	0	0	0	8	0	8	0	0	0	9	31	22
11:00 AM - 12:00 PM	0	0	0	5	0	5	0	0	0	5	31	26
12:00 PM - 1:00 PM	0	0	0	6	0	6	0	0	0	6	31	25
1:00 PM - 2:00 PM	0	0	0	6	0	6	0	0	0	6	31	25
2:00 PM - 3:00 PM	0	0	0	13	0	13	0	0	0	14	31	17
3:00 PM - 4:00 PM	0	0	0	14	0	14	0	0	0	14	31	17
4:00 PM - 5:00 PM	0	0	0	15	0	15	0	0	0	16	31	15
5:00 PM - 6:00 PM	0	0	0	41	0	41	1	0	1	42	31	(11)
6:00 PM - 7:00 PM	0	0	0	55	0	55	1	0	1	56	31	(25)
7:00 PM - 8:00 PM	0	0	0	66	0	66	2	0	2	67	31	(36)
8:00 PM - 9:00 PM	0	0	0	73	0	73	2	0	2	74	31	(43)
9:00 PM - 10:00 PM	0	0	0	78	0	78	2	0	2	80	31	(49)
10:00 PM - 11:00 PM	0	0	0	85	0	85	2	0	2	87	31	(56)
11:00 PM - 12:00 AM	0	0	0	88	0	88	2	0	2	91	31	(60)

Notes:
1. The No-Action Condition on the Project Site would provide 31 on-site parking spaces.
2. Overnight parking demand estimated based on a vehicle ownership rate of 53% for renter occupied units per U.S. Census Data.

In addition to the No-Action development on Projected Development Site 1-B, in the No-Action Condition, the public parking supply and demand within ¼-mile of the Project Site is expected to increase as a result of background growth and the No-Build Development Projects (see Table 5-23). In terms of public parking supply, the No-Build Development Projects are expected to provide up to approximately 835 off-street public and 50 accessory parking spaces.

In the No-Action Condition, the off-site public parking facilities would operate at 69, 82, 70, 60, 71 and 61 percent utilization, with 799, 468, 772, 1,028, 753 and 986 available parking spaces during the weekday morning, weekday midday, weekday evening, weekday overnight, Saturday midday and Saturday overnight time periods, respectively (see Table 5-23).

Table 5-23: No-Action Condition Off-Street Public Parking Utilization within ¼-mile

	Weekday				Saturday	
	AM	MD	PM	Overnight	MD	Overnight
2019 Existing Public Parking Supply	1,723	1,723	1,723	1,723	1,723	1,723
2019 Existing Public Parking Demand	694	1,094	661	208	542	274
2019 Existing Public Parking Utilization	40%	63%	38%	12%	31%	16%
2019 Existing Public Parking Supply	1,723	1,723	1,723	1,723	1,723	1,723
New No-Action Public Parking Supply Coming Online (1)	835	835	835	835	835	835
2025 No-Action Public Parking Supply Total	2,558	2,558	2,558	2,558	2,558	2,558
2025 No-Action Background Incremental Demand	19	30	18	6	15	8
2025 No-Build Projects Total Parking Demand (2)	1,206	1,302	1,453	1,428	1,567	1,393
2025 No-Build Projects Accessory Parking Spaces (3)	395	395	395	395	395	395
2025 No-Build Projects Parking Demand Accommodated by Accessory Parking (4)	185	336	360	171	319	162
2025 No-Build Projects Parking Demand Accommodated by Public Parking	1,022	966	1,093	1,257	1,248	1,231
2025 AOR Project Parking Demand	55	22	45	91	6	91
2025 AOR Project Parking Demand Accommodated by Public Parking	24	0	14	60	0	60
2025 No-Action Incremental Public Parking Demand	1,065	996	1,125	1,322	1,263	1,298
2025 No-Action Public Parking Demand	1,759	2,090	1,786	1,530	1,805	1,572
2025 No-Action Public Parking Utilization	69%	82%	70%	60%	71%	61%
2025 No-Action Available Spaces	**799**	**468**	**772**	**1,028**	**753**	**986**

Notes:

1. The Empire Outlet Mall portion of the St. George Waterfront Development Program includes a 1,250 space public parking garage. At the time the parking surveys were conducted, only 415 spaces were available for use. It is expected that the remaining 835 spaces will come online by 2025.
2. A total of three No-Action Projects will generate parking demand for off-street public parking facilities within ¼-mile of the Project Site. These three projects include the following developments: St. George Waterfront, Lighthouse Point and 38 Bay Street. Parking demand generated by the developments at St. George Waterfront, Lighthouse Point and 38 Bay Street were obtained from the *St. George Waterfront Development FEIS* (CEQR No. 16DCP156R), *Lighthouse Point Development EAS* (CEQR No. 13DME008R) and a parking accumulation assessment for the 38 Bay Street Development completed by Langan, respectively. In accordance with the *St. George Waterfront Development FEIS*, the St. George Ferry Corp parking garage was assumed to be 100% utilized with no available parking spaces during all analysis periods in the River North Future No-Action and Future With-Action Conditions.
3. A total of 395 accessory parking spaces will be constructed by 2025: 50 accessory parking spaces as part of the 38 Bay Street Development and 345 accessory parking spaces as part of the Lighthouse Point Development.
4. Total Accessory parking is not necessarily available to serve the total No-Action project parking demand because the underutilized residential reserved parking at the Lighthouse Development is not available for the development's non-residential users.

With-Action Condition (2025)

In the With-Action Condition, the Proposed Actions would provide 224, 142 and 43 parking spaces in Building 1, Building 3 and at Projected Development Site 2, respectively, totaling to 409 parking spaces on the Project Site. A 24-hour parking accumulation analysis was conducted for the Proposed Actions based on the With-Action Trip Generation Estimates (see Table 5-4) and 24-hour temporal distributions from the *Bay Street Rezoning and Related Actions FEIS*. The With-Action Condition 24-hour parking accumulation for the Proposed Actions in comparison to the total proposed on-site parking supply is shown in Table 5-24 and Table 5-25 for a typical weekday and Saturday, respectively.

Table 5-24: Proposed Actions Project-Generated Hourly Parking Accumulation – Weekday

Time period	Projected Site 1-A			Projected Site 1-B			Projected Site 2			Total Demand	Supply [1]	Shortfall
	Res	Retail	Total	Res	Retail	Total	Res	Retail	Total			
Overnight [2]	184	0	184	238	0	238	53	0	53	475	409	**(66)**
12:00 AM -- 1:00 AM	184	0	184	238	0	238	53	0	53	475	409	**(66)**
1:00 AM -- 2:00 AM	184	0	184	238	0	238	53	0	53	475	409	**(66)**
2:00 AM -- 3:00 AM	184	0	184	238	0	238	53	0	53	475	409	**(66)**
3:00 AM -- 4:00 AM	184	0	184	238	0	238	53	0	53	475	409	**(66)**
4:00 AM -- 5:00 AM	184	0	184	238	0	238	53	0	53	475	409	**(66)**
5:00 AM -- 6:00 AM	184	0	184	238	0	238	53	0	53	475	409	**(66)**
6:00 AM -- 7:00 AM	184	0	184	238	0	238	53	0	53	475	409	**(66)**
7:00 AM -- 8:00 AM	157	0	157	203	0	203	45	0	45	406	409	**3**
8:00 AM -- 9:00 AM	111	0	111	143	0	143	32	0	32	286	409	**123**
9:00 AM -- 10:00 AM	73	0	73	94	0	94	21	0	21	189	409	**220**
10:00 AM -- 11:00 AM	50	0	50	65	0	65	14	0	14	130	409	**279**
11:00 AM -- 12:00 PM	46	0	46	59	0	59	13	0	13	118	409	**291**
12:00 PM -- 1:00 PM	46	0	46	59	0	59	13	0	13	118	409	**291**
1:00 PM -- 2:00 PM	47	0	47	61	0	61	14	0	14	122	409	**287**
2:00 PM -- 3:00 PM	54	0	54	69	0	69	15	0	15	138	409	**271**
3:00 PM -- 4:00 PM	56	0	56	72	0	72	16	0	16	144	409	**265**
4:00 PM -- 5:00 PM	73	0	73	94	0	94	21	0	21	187	409	**222**
5:00 PM -- 6:00 PM	92	0	92	118	0	118	26	0	26	236	409	**173**
6:00 PM -- 7:00 PM	120	0	120	155	0	155	35	0	35	310	409	**99**
7:00 PM -- 8:00 PM	136	0	136	175	0	175	39	0	39	350	409	**59**
8:00 PM -- 9:00 PM	151	0	151	195	0	195	43	0	43	389	409	**20**
9:00 PM -- 10:00 PM	163	0	163	210	0	210	47	0	47	419	409	**(10)**
10:00 PM -- 11:00 PM	176	0	176	228	0	228	51	0	51	455	409	**(46)**
11:00 PM -- 12:00 AM	184	0	184	238	0	238	53	0	53	475	409	**(66)**

Notes:

1. The Proposed Actions would provide 409 on-site parking spaces.
2. Overnight parking demand estimated based on a vehicle ownership rate of 53% for renter occupied units per U.S. Census Data.

Table 5-25: Proposed Actions Project-Generated Hourly Parking Accumulation – Saturday

Time period	Projected Site 1-A			Projected Site 1-B			Projected Site 2			Total Demand	Supply [1]	Shortfall
	Res	Retail	Total	Res	Retail	Total	Res	Retail	Total			
Overnight [2]	184	0	184	238	0	238	53	0	53	475	409	(66)
12:00 AM -- 1:00 AM	184	0	184	238	0	238	53	0	53	475	409	(66)
1:00 AM -- 2:00 AM	184	0	184	238	0	238	53	0	53	475	409	(66)
2:00 AM -- 3:00 AM	184	0	184	238	0	238	53	0	53	475	409	(66)
3:00 AM -- 4:00 AM	184	0	184	238	0	238	53	0	53	475	409	(66)
4:00 AM -- 5:00 AM	184	0	184	238	0	238	53	0	53	475	409	(66)
5:00 AM -- 6:00 AM	184	0	184	238	0	238	53	0	53	475	409	(66)
6:00 AM -- 7:00 AM	184	0	184	238	0	238	53	0	53	475	409	(66)
7:00 AM -- 8:00 AM	153	0	153	197	0	197	44	0	44	393	409	16
8:00 AM -- 9:00 AM	87	0	87	112	0	112	25	0	25	224	409	185
9:00 AM -- 10:00 AM	43	0	43	55	0	55	12	0	12	110	409	299
10:00 AM -- 11:00 AM	18	0	18	23	0	23	5	0	5	46	409	363
11:00 AM -- 12:00 PM	11	0	11	14	0	14	3	0	3	29	409	380
12:00 PM -- 1:00 PM	13	0	13	16	0	16	4	0	4	33	409	376
1:00 PM -- 2:00 PM	13	0	13	17	0	17	4	0	4	34	409	375
2:00 PM -- 3:00 PM	28	0	28	36	0	36	8	0	8	72	409	337
3:00 PM -- 4:00 PM	28	0	28	37	0	37	8	0	8	73	409	336
4:00 PM -- 5:00 PM	32	0	32	42	0	42	9	0	9	83	409	326
5:00 PM -- 6:00 PM	86	0	86	111	0	111	25	0	25	221	409	188
6:00 PM -- 7:00 PM	115	0	115	148	0	148	33	0	33	295	409	114
7:00 PM -- 8:00 PM	136	0	136	176	0	176	39	0	39	352	409	57
8:00 PM -- 9:00 PM	151	0	151	195	0	195	43	0	43	390	409	19
9:00 PM -- 10:00 PM	163	0	163	210	0	210	47	0	47	420	409	(11)
10:00 PM -- 11:00 PM	177	0	177	229	0	229	51	0	51	457	409	(48)
11:00 PM -- 12:00 AM	184	0	184	238	0	238	53	0	53	475	409	(66)

Notes:
1. The Proposed Actions would provide 409 on-site parking spaces.
2. Overnight parking demand estimated based on a vehicle ownership rate of 53% 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 475 spaces for both the typical weekday and Saturday conditions (see Table 5-24 and Table 5-25). During this time, a parking shortfall of approximately 66 spaces is expected; however, this demand would be accommodated at the public parking facilities within ¼-mile of the Project Site. Additionally, any anticipated on-site parking shortfalls outside of the overnight time period would also be accommodated at the public parking facilities within ¼-mile of the Project Site (see Table 5-26).

Table 5-26: With-Action Condition Off-Street Public Parking Utilization within ¼-mile

	Weekday				Saturday	
	AM	MD	PM	Overnight	MD	Overnight
2025 No-Action Public Parking Supply Total	2,558	2,558	2,558	2,558	2,558	2,558
2025 No-Action Public Parking Demand (Excluding AOR Project)	1,735	2,090	1,772	1,470	1,805	1,513
2025 No-Action Public Parking Utilization (Excluding AOR Project)	68%	82%	69%	57%	71%	59%
2025 No-Action Public Parking Supply	2,558	2,558	2,558	2,558	2,558	2,558
New Proposed Actions Public Parking Supply Total	0	0	0	0	0	0
2025 With-Action Public Parking Supply Total	2,558	2,558	2,558	2,558	2,558	2,558
2025 Proposed Actions Parking Demand	286	118	236	475	33	475
2025 Proposed Actions Parking Demand Accommodated by Public Parking	0	0	0	66	0	66
2025 With-Action Public Parking Demand Total	1,735	2,090	1,772	1,537	1,805	1,579
2025 With-Action Public Parking Utilization	68%	82%	69%	60%	71%	62%
2025 With-Action Available Spaces	**823**	**468**	**786**	**1,021**	**753**	**979**

With this additional demand, in the With-Action Condition, the off-site public parking facilities would operate at 68, 82, 69, 60, 71, and 62 percent utilization, with 823, 468, 786, 1,021, 753, and 979 available parking spaces during the weekday morning, weekday midday, weekday evening, weekday overnight, Saturday midday and Saturday overnight time periods, respectively. Accordingly, the parking demand generated by the Proposed Actions would not result in a parking shortfall in the study area.

Vehicular and Pedestrian Safety Evaluation

Crash data for the study area intersections were obtained from NYSDOT for the January 1, 2016 to December 31, 2018 period. Table 5-27 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.

Based on this information, none of the locations in the traffic study area are identified as high-crash locations within any consecutive 12-month period of the most recent three-year period. Therefore, the Proposed Actions would not adversely affect the vehicle and pedestrian safety conditions in the study area.

Table 5-27: Crash Data Analysis Summary

		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Bicycle + Pedestrian Injury Crashes Combined			Motorist Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
ID	Intersection Name	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
1	Richmond Terrace & Jersey Street	0	0	0	0	0	0	0	0	0	1	0	2	1	0	2
2	Richmond Terrace & Westervelt Avenue	2	0	1	0	0	0	2	0	1	1	2	3	3	2	4
3	Richmond Terrace & Nicholas Street	0	0	0	0	0	0	0	0	0	1	2	1	1	2	1
4	Richmond Terrace & Stuyvesant Street	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
5	Richmond Terrace & Hamilton Avenue	0	0	0	0	0	0	0	0	0	2	0	3	2	0	3
6	Richmond Terrace & Wall Street	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
7	Bay Street & Victory Boulevard	3	1	1	0	0	0	3	1	1	1	4	1	4	5	2
8	Victory Boulevard & St. Marks Place	3	2	2	1	0	0	4	2	2	2	6	2	6	8	4
9	Fort Place & St Marks Place	0	0	0	0	1	0	0	1	0	1	1	0	1	2	0
10	Wall Street & St Marks Place	0	0	0	0	0	0	0	0	0	1	2	0	1	2	0
11	Hamilton Avenue & St Marks Place	0	0	0	0	0	0	0	0	0	1	0	2	1	0	2
12	Hamilton Avenue & Academy Place	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
13	Hamilton Avenue & Stuyvesant Street	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	Total	**8**	**3**	**4**	**1**	**1**	**1**	**9**	**4**	**5**	**10**	**18**	**12**	**19**	**22**	**17**