A. INTRODUCTION

As described in Chapter 1, "Project Description," the proposed actions would result in the development or redevelopment of numerous parcels in the Coney Island section of Brooklyn. Within the proposed rezoning area, separated into the Coney East, Coney North, Coney West, and Mermaid Avenue subdistricts, projected development sites were identified. Like the traffic and parking analyses described in the previous chapter, the transit and pedestrians impact assessments are based upon trip generation estimates for a reasonable worst-case development scenario (RWCDS) that includes the maximum amount of development that could be built on the projected development sites under the proposed rezoning. This chapter evaluates the potential for this new development to result in impacts to transit and pedestrian facilities within the transportation study area.

B. METHODOLOGY

Travel demand projections, as detailed in Chapter 16, "Traffic and Parking," were developed to identify the transportation elements likely to be affected by the proposed actions. Because the number of peak hour transit and pedestrian trips generated by the proposed actions would exceed the 200-trip-per-hour threshold specified in the 2001 *City Environmental Quality Review (CEQR) Technical Manual*, quantified transit and pedestrian analyses are required.

TRANSIT AND PEDESTRIAN STUDY AREAS

Mass transit options serving the rezoning area and the surrounding neighborhood, as depicted in **Figure 17-1**, include the New York City Transit (NYCT) D, F, N, and Q subway lines and the X28, X29, X38, B36, B64, B68, B74, and B82 bus routes. The transit analyses include quantified assessments of control areas and circulation elements for the two subway stations closest to the rezoning area: Stillwell Avenue station (served by the D, F, N, and Q trains) and West 8th Street station (served by the F and Q trains). Bus line haul levels for the above bus routes were also analyzed.

The evaluation of pedestrian flow includes the analysis of the sidewalks, corner reservoirs, and crosswalks along Surf Avenue at West 8th, West 12th, West 15th, West 16th, and West 17th Streets, and Stillwell Avenue, and along Mermaid Avenue at Stillwell Avenue and West 17th Street. These pedestrian analysis locations are shown in **Figure 17-2**. Appendix G contains figures depicting the existing, No Build, and Build pedestrian volumes at these locations.

SUBWAY SERVICE

D Subway Line

The D train operates between Norwood-205th Street in the Bronx and Coney Island-Stillwell Avenue in Brooklyn. In Manhattan, it provides express service along Eighth and Sixth Avenues. In Brooklyn, the D train runs primarily along 4th Avenue, New Utrecht Avenue, and 86th Street.

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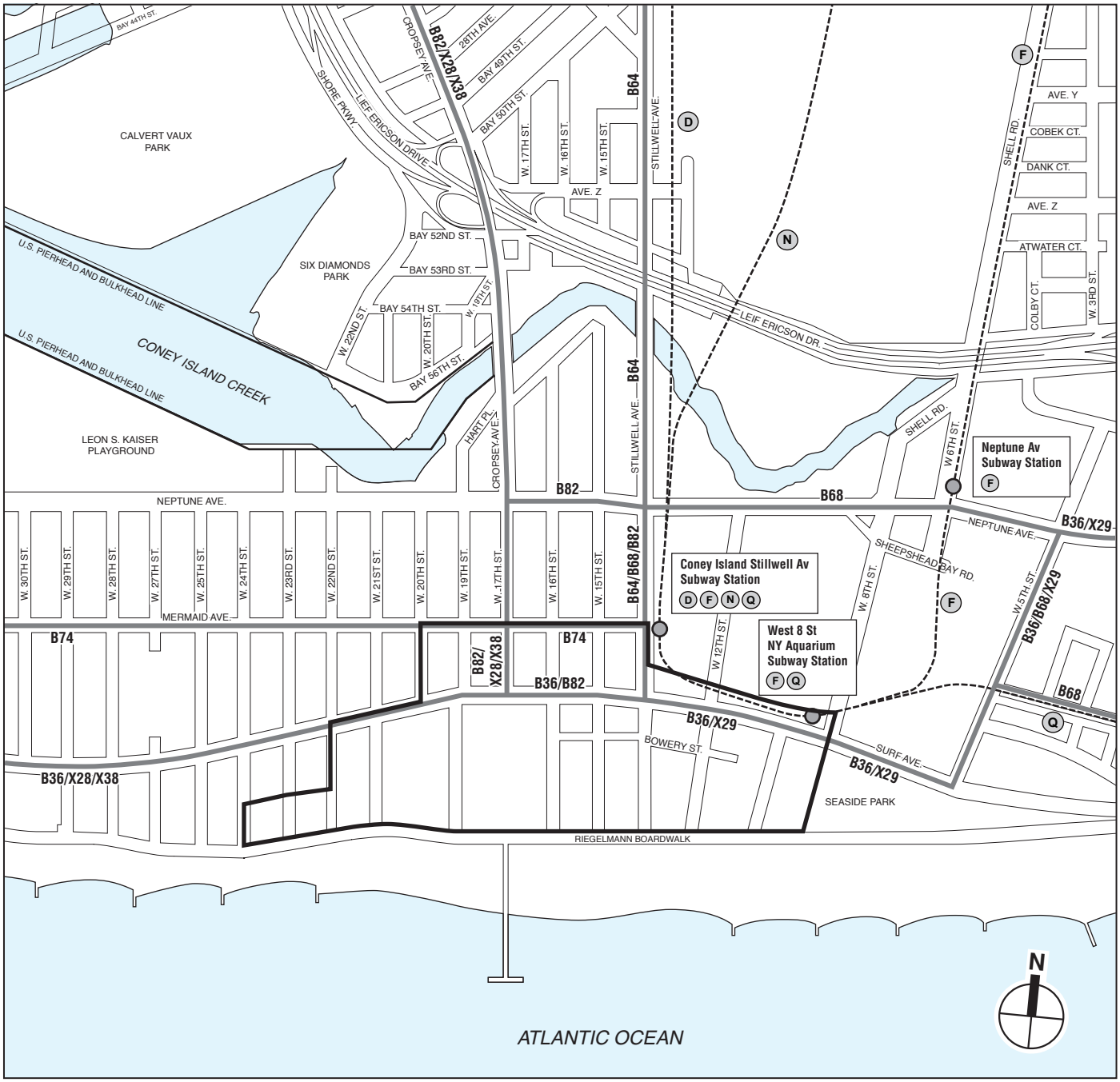


Rezoning Area Boundary

B74 *Bus Route and Route Number*

Subway Route

Subway Station

0 500 1000 FEET

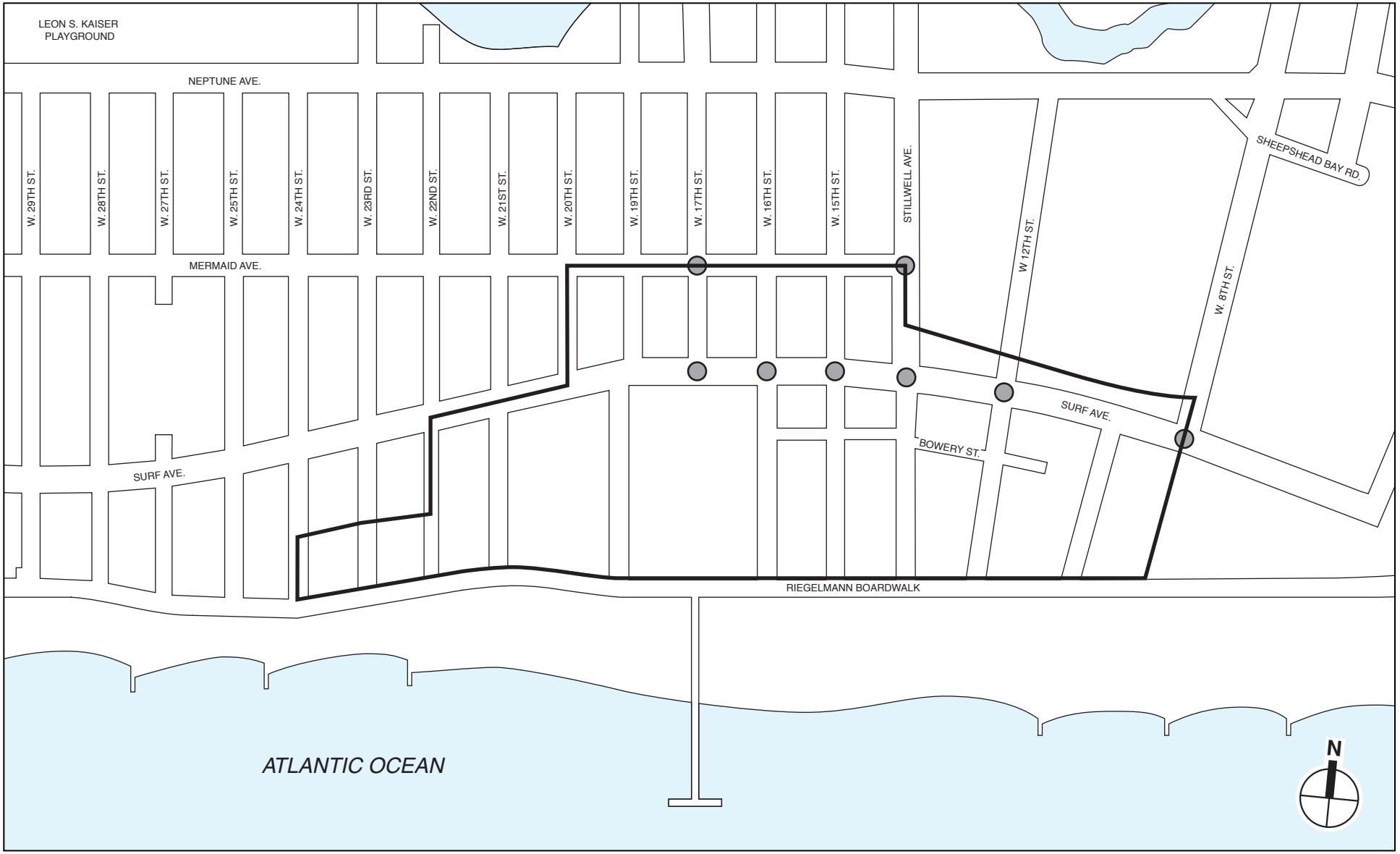
SCALE

Study Area Transit Network

Figure 17-1

CONEY ISLAND REZONING

12.22.08



Rezoning Area

Pedestrian Analysis Location

0 500 1000 FEET

SCALE

CONEY ISLAND REZONING

Pedestrian Analysis Locations

Figure 17-2

F Subway Line

The F train operates between Jamaica-179th Street in Queens and Coney Island-Stillwell Avenue in Brooklyn. In Manhattan, it provides local service along Sixth Avenue. In Brooklyn, the F train runs along Smith Street, 10th Street, and McDonald Avenue.

N Subway Line

The N train operates between Astoria-Ditmars Boulevard in Queens and Coney Island-Stillwell Avenue in Brooklyn. In Manhattan, it provides local service along Broadway. In Brooklyn, the N train runs primarily along 4th Avenue, 63rd Street, 65th Street, and West 8th Street.

Q Subway Line

The Q train operates between 57th Street-Seventh Avenue in Manhattan and Coney Island-Stillwell Avenue in Brooklyn. In Manhattan, the Q train provides local service along Broadway. In Brooklyn, it runs mostly along Flatbush Avenue and East 15th Street.

The travel demand estimates detailed in Chapter 16, "Traffic and Parking," show that there would be 1,289, 2,167, 3,320, 3,578, and 3,001 projected incremental subway trips resulting from the proposed actions during the weekday AM, weekday midday, weekday PM, Saturday midday, and Saturday PM peak hours, respectively. These trips would be distributed among the four subway lines described above. With all four trains providing connections to much of Brooklyn and Manhattan, these project-generated peak hour subway trips are expected to result in fewer than five incremental riders per subway car. Therefore, in accordance with criteria set forth in the *CEQR Technical Manual*, a quantified subway line haul analysis is not required.

All project-generated subway trips would access the NYCT subway system via the Stillwell Avenue and West 8th Street stations. These trips were split between the two stations based on their origin/destination locations in the Coney East, Coney West, and Coney North (combined with Mermaid Avenue) subdistricts, and whether they would be walk-to-subway or bus-to-subway trips. Due to proximity, the majority of project-generated subway trips traversing the Stillwell Avenue station would be made through the Surf Avenue control area. Because relatively few project-generated subway trips would be made through the Mermaid Avenue control area, only the Surf Avenue control area elements were analyzed. Within this station, the stairways leading to the D, F, N, and Q trains were also analyzed.

The West 8th Street station is located towards the eastern end of the rezoning area and is served by the F and Q trains. Since these lines also serve the Stillwell Avenue station, only those subway trips made to/from the eastern portion of Coney East would potentially access the subway system via the West 8th station, which has several stairways and ramps connecting the station control areas and platforms to the street. Based on the amount of project-generated subway trips anticipated at this station and the likely travel routes of subway trips made to/from the rezoning subdistricts, it was determined that a quantified analysis is warranted only for the street-level stairway at the northwest corner of the Surf Avenue and West 8th Street intersection.

BUS SERVICE

Based on the travel demand estimates detailed in Chapter 16, "Traffic and Parking," there would be approximately 406, 1,192, 993, 1,007, and 808 project-generated bus trips during the weekday AM, weekday midday, weekday PM, Saturday midday, and Saturday PM peak hours, respectively. In addition, some subway trips made to/from the western edges of the Coney North and Coney West subdistricts are expected to connect via local bus routes with the Stillwell Avenue station. Due to the mixture of land uses proposed for the rezoning area, project-generated trips are likely to be

distributed among all area bus routes on weekdays. Therefore, the weekday bus line haul analyses considered both local and express bus routes serving the rezoning area. On Saturdays, the fewer project-generated commuter trips and less frequent express bus service would limit the number of trips taken on express buses. Therefore, Saturday bus line haul analyses were conducted only for the local bus routes serving the rezoning area. **Table 17-1** lists the NYCT bus routes that serve the study area and their frequencies of operation.

Table 17-1
Local and Express Bus Routes Serving the Study Area

Bus Route	Start Point	End Point	Routing	Scheduled Bus Service (Headway in Minutes)				
				WD AM	WD MD	WD PM	Sat MD	Sat PM
X28	Sea Gate Surf Ave./ W 37th St.	Midtown Madison Ave./ E 57th St.	Bensonhurst – Lower Manhattan	30	60	30	30	30
X29	Coney Island Surf Ave./Stillwell Ave.	Midtown Madison Ave./ E 57th St.	Midwood – Lower Manhattan	12	No Service	15	No Service	No Service
X38	Sea Gate Surf Ave./ W 37th St.	Midtown Madison Ave./ E 57th St.	Bensonhurst – Lower Manhattan	30	No Service	30	No Service	No Service
B36	Coney Island	Sheepshead Bay	Surf Ave. – Ocean Parkway	5	9	7	10	12
B64	Coney Island	Bay Ridge	Stillwell Ave. – Bath Ave.	10	12	11	10	10
B68	Coney Island	Park Slope	Coney Island Ave.	7	9	8	7	8
B74	Coney Island	Sea Gate	Mermaid Ave.	9	15	8	15	11
B82	Coney Island	Spring Creek	Cropsey Ave.	9	13	12	17	18

Notes: WD = Weekday; Sat = Saturday; MD = Midday. The actual numbers of buses recorded for peak load ridership data, as provided by New York City Transit, may not match the scheduled service frequencies summarized above.
Source: New York City Transit, Brooklyn Bus Map (2008).

The Metropolitan Transportation Agency (MTA), the parent agency of NYCT, recently approved a plan to reduce its projected budget deficit. This plan may result in fare increases and service reductions or eliminations citywide that could possibly impact subway and bus routes within the transit study area. These service cuts would affect primarily off-peak service and routes that are considered redundant or low-performing. As outlined in MTA's proposed February 2009 budget, there could be changes affecting subway operations, mostly during off-peak hours. For buses, weekend service on the X28 and overnight service on the B64 could be eliminated. These potential changes would not affect the analyses and conclusions presented below. Potential actions by the state legislature could affect the actual implementation of these announced fare increases and service reductions.

PEDESTRIAN ELEMENTS

The pedestrian study area considers the sidewalks, corner reservoirs, and crosswalks that would be most affected by new trips generated by the proposed actions, particularly those along routes leading to/from the study area subway stations. The resultant pedestrian study area includes eight signalized intersections and their connecting sidewalks, as listed below.

- West 17th Street and Mermaid Avenue;
- West 17th Street and Surf Avenue;
- West 16th Street and Surf Avenue;
- Stillwell Avenue and Mermaid Avenue;
- Stillwell Avenue and Surf Avenue;
- West 8th Avenue and Surf Avenue;

- West 15th Street and Surf Avenue; and
- West 12th Street and Surf Avenue.

OPERATIONAL ANALYSIS METHODOLOGY

SUBWAY STATION ELEMENTS

Subway station operations were assessed according to methods and evaluation criteria presented in the *CEQR Technical Manual*. The methodology for assessing subway stairway, ramp, and control area (turnstiles, service gates, etc.) operations compares the user volume with the element's design capacity, resulting in a volume-to-capacity (v/c) ratio.

For stairways, the design capacity considers the effective width of a tread, which accounts for railings or other obstructions, the friction between upward and downward patrons, and the average area required for circulation. For control area elements, capacity is measured by the number and width of an element and the NYCT optimum capacity per element. In the analysis for each of these elements, volumes and capacities are presented for 15-minute intervals.

The estimated v/c ratio is compared to NYCT criteria to determine a level-of-service (LOS) for the operation of an element. This v/c ratio is also commonly referred to as V/SVCD, where SVCD is the service volume at LOS C/D. **Table 17-2** shows the LOS and corresponding v/c ratios for subway station elements.

Table 17-2
Level of Service Criteria for Subway Station Elements

LOS	V/C Ratio	
	Stairways	Turnstiles/Gates
A	0.00 to 0.45	0.00 to 0.20
B	0.45 to 0.70	0.20 to 0.40
C	0.70 to 1.00	0.40 to 0.60
D	1.00 to 1.33	0.60 to 0.80
E	1.33 to 1.67	0.80 to 1.00
F	1.67 or Greater	Greater than 1.00

Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (December 2001).

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

The determination of significant impacts for station elements varies based on their type and use. For stairways, impacts are considered significant based on the minimum amount of additional capacity, which would mitigate the location to its LOS under the future without the proposed action or LOS C/D operating conditions. For a stairway location with LOS D for the future with the proposed action, a widening of 6 inches or more needed to restore LOS to the same level as

the future without the proposed action or LOS C/D conditions is considered significant; for a future with the proposed action LOS E condition, a widening of 3 inches or more is considered significant; and for a future with the proposed action LOS F condition, a widening of 1 inch or more is considered significant. For control areas, impacts are considered significant if the NYCT optimum capacity is exceeded and the increase in v/c ratio between the future with and without the proposed action conditions exceeds 0.01.

BUS LINE HAUL CAPACITIES

Bus line haul capacities are evaluated when a proposed action is anticipated to generate a perceptible increase in the number of passengers on a particular bus route. Typically, when numerous bus routes are available within the transit study area, projected trips would be dispersed and would not overburden one or more nearby bus routes. However, if a substantial number of new bus trips are anticipated for an already heavily used bus route, its peak load point and its bus stops closest to the project site are evaluated to identify the potential for the buses to exceed their practical capacities. NYCT and the MTA Bus Company operate two types of buses for local bus routes: standard and articulated. During peak hours, standard buses operate with up to 54 passengers per bus, while articulated buses operate with up to 93 passengers per bus. The express bus routes use coaches with a guideline capacity of 55 passengers per bus.

According to NYCT guidelines, an increase in bus load levels greater than the maximum capacity at any load point is defined as a significant adverse impact. While subject to operational and fiscal constraints, bus impacts typically can be mitigated by increasing service frequency. Therefore, mitigation of bus line haul capacity impacts, where appropriate, would be recommended for MTA or NYCT approval.

PEDESTRIAN OPERATIONS

Sidewalks, corner reservoirs, and crosswalks are the pedestrian facilities commonly analyzed for potential impacts from a proposed action. The adequacy of sidewalks and crosswalks in relation to the demand imposed on them is assessed using methodologies presented in the 2000 *Highway Capacity Manual (HCM)*. Sidewalks are analyzed in terms of pedestrian flow. The calculation of the average pedestrians per foot per minute (PFM) of effective walkway width is the basis for the LOS analysis. However, due to the tendency of pedestrians to move in congregated groups, a platoon factor (+4 PFM) is applied in the calculation of pedestrian flow to more accurately estimate the dynamics of walking. This procedure generally results in a LOS one level poorer than the average flow.

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, which is expressed in square feet per minute, is the net area of the corner (in square feet) multiplied by the cycle length. The analysis then determines the total circulation time for all pedestrian movements at the corner (expressed as pedestrians per minute). The ratio of net time-space divided by pedestrian circulation time provides the LOS measurement of square feet per pedestrian (SFP).

Crosswalk LOS is also a function of time and space. Crosswalk conditions are expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time as determined by nearby traffic signals. This measure is expressed in square

feet per minute. 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 average crossing time is the LOS measurement of available square feet per pedestrian. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk.

Table 17-3 shows the LOS standards for sidewalks, corner reservoirs, and crosswalks. The description of these LOS is similar to those described above for subway station elements. At LOS A, B, and C, pedestrians have adequate space to circulate with minimal conflicts. At LOS D, congestion begins to hinder movement such that pedestrians must alter their walking stride and direction. At LOS E, walking is severely restricted, and at LOS F, forward progress requires shuffling and contra-flow movement is difficult. The *CEQR Technical Manual* specifies that a mid-LOS D condition or better is considered reasonable for sidewalks, corners, and crosswalks outside of the Manhattan central business district (CBD). For corners and crosswalks, a mid-LOS D condition requires a minimum of 20 SFP, while for sidewalks a mid-LOS D condition requires a maximum of 13 PFM.

Table 17-3
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks	Corner Reservoirs and Crosswalks
A	5 PFM or less	60 SFP or More
B	5 to 7 PFM	40 to 60 SFP
C	7 to 10 PFM	24 to 40 SFP
D	10 to 15 PFM	15 to 24 SFP
E	15 to 23 PFM	8 to 15 SFP
F	More than 23 PFM	Less than 8 SFP

Notes: PFM = pedestrians per foot per minute; SFP = square feet per pedestrian.
Source: Transportation Research Board. *Highway Capacity Manual*, 2000.

Project-related sidewalk impacts are considered significant and require the examination of mitigation measures if there is an increase of 2 PFM more than a no action condition with pedestrian flow rates greater than 13 PFM (mid-LOS D). For corners and crosswalks, a decrease of 1 SFP under the action condition when the no action condition has an average occupancy of less than 20 SFP (mid-LOS D) is considered significant. In addition, a service deterioration from LOS A, B, or C to mid-LOS D or worse for sidewalks, corners, or crosswalks is considered a significant adverse impact. However, if there is less than a 200-person increase at a location within the peak hour, no impact is considered significant since such increases typically would not be perceptible.

C. EXISTING CONDITIONS

Existing transit and pedestrian levels are based on field surveys conducted in July 2006 and bus peak load point data requested from NYCT. The rezoning area currently contains entertainment uses (e.g., carnival rides, the beach, and the Boardwalk) that are seasonal in nature, drawing the most visitors during the summer months. Therefore, summer counts were conducted to establish a conservative baseline for analysis. The surveys were conducted during the selected analysis periods of weekday 7:00 to 9:00 AM, 11:00 AM to 2:00 PM, and 4:00 to 7:00 PM, and Saturday 11:00 AM to 2:00 PM and 3:00 to 6:00 PM. These hours represent the peak periods of transit and pedestrian activities in the study area. Transit analyses were conducted for the weekday AM and PM and Saturday midday and PM peak periods while pedestrian analyses were conducted for the weekday AM, midday, and PM and Saturday midday and PM peak periods.

For the evaluation of pedestrian flow, the six most critical intersections along Surf and Mermaid Avenues and their connecting sidewalks were selected for analysis. Original volume data for these locations were collected during the above time periods. Subsequent to the completion of the assignment of projected incremental pedestrian trips, it was determined that the analysis of pedestrian elements at the Surf Avenue intersections with West 12th and West 15th Streets is also warranted. Field observations indicate that existing pedestrian levels during the peak analysis time periods at these two intersections are low to negligible. In order to provide a baseline to which future conditions can be compared, conservative default pedestrian volumes based on sample counts were assumed for the existing conditions analyses at these locations.

SUBWAY STATION OPERATIONS

Because the two stations being analyzed have multiple entrances and control areas, quantified analyses were limited to the elements that would be most heavily used by trips to and from the rezoning area. At the Stillwell Avenue Station, the control area accessible from Surf Avenue and all the station stairways leading to the platforms were analyzed. The Surf Avenue control area includes nine turnstiles, two high entrance/exit gates, and two service gates. At the West 8th Station, the Surf Avenue stairway was analyzed.

Table 17-4 summarizes the existing weekday AM, weekday PM, Saturday midday, and Saturday PM operating conditions for the Stillwell Avenue station turnstiles, high entry/exit gates, and service gates at the Surf Avenue control area, while **Table 17-5** illustrates the peak period operating conditions for the vertical circulation elements described above. Service levels for the station elements were determined using the peak 15-minute volumes developed from the July 2006 station counts. The results show that all control area elements and stairways analyzed currently operate at acceptable LOS A or B during the analysis peak periods.

Table 17-4
2006 Existing Conditions: Subway Station Control Area Analysis

Station Elements	Quantity	15-Minute Pedestrian Volumes		15-Minute SVCD Capacity	V/SVCD ratio	LOS
		In	Out			
Weekday AM Peak Period						
Two-Way Turnstiles	9	111	81	4320	0.04	A
Service Gates	2	0	0	1500	0.00	A
High Entry/Exit Gates	2	0	0	600	0.00	A
Weekday PM Peak Period						
Two-Way Turnstiles	9	191	53	4320	0.06	A
Service Gates	2	2	151	1500	0.10	A
High Entry/Exit Gates	2	8	6	600	0.02	A
Saturday Midday Peak Period						
Two-Way Turnstiles	9	78	145	4320	0.05	A
Service Gates	2	15	562	1500	0.38	B
High Entry/Exit Gates	2	2	27	600	0.05	A
Saturday PM Peak Period						
Two-Way Turnstiles	9	493	123	4320	0.14	A
Service Gates	2	8	561	1500	0.38	B
High Entry/Exit Gates	2	16	18	600	0.06	A

Note: Capacities were calculated based on rates presented in the New York City Transit, *Station Planning and Design Guidelines* (January 2001), in accordance with the *CEQR Technical Manual*.

Table 17-5
2006 Existing Conditions: Subway Station Stairway Analysis

Stairway	Width (feet)	Effective Width (feet)	15-Minute Pedestrian Volumes		Friction Factor	15-Minute SVCD Capacity	V/SVCD Ratio	LOS
			Up	Down				
Weekday AM Peak Period								
Stillwell Avenue / Coney Island (D, F, N, Q)								
Stair to N Train (ML1)	5.3	4.3	11	4	0.80	516	0.03	A
Stair to N Train (ML2)	5.3	4.3	71	31	0.80	516	0.20	A
Stair to Q Train (ML3)	5.3	4.3	153	69	0.80	516	0.43	A
Stair to Q Train (ML4)	5.3	4.3	14	68	0.80	516	0.16	A
Stair to F Train (ML5)	9.0	7.0	101	31	0.80	840	0.16	A
Stair to D Train (ML6)	11.6	10.6	147	18	0.80	1272	0.13	A
West 8th / Aquarium (F, Q)								
Stairway (S1)	9.5	7.5	6	34	0.80	900	0.04	A
Weekday PM Peak Period								
Stillwell Avenue / Coney Island (D, F, N, Q)								
Stair to N Train (ML1)	5.3	4.3	16	12	0.90	581	0.05	A
Stair to N Train (ML2)	5.3	4.3	40	67	0.90	581	0.18	A
Stair to Q Train (ML3)	5.3	4.3	106	52	0.80	516	0.31	A
Stair to Q Train (ML4)	5.3	4.3	28	17	0.90	581	0.08	A
Stair to F Train (ML5)	9.0	7.0	122	82	0.90	945	0.22	A
Stair to D Train (ML6)	11.6	10.6	147	94	0.90	1431	0.17	A
West 8th / Aquarium (F, Q)								
Stairway (S1)	9.5	7.5	26	45	0.90	1013	0.07	A
Saturday Midday Peak Period								
Stillwell Avenue / Coney Island (D, F, N, Q)								
Stair to N Train (ML1)	5.3	4.3	10	57	0.80	516	0.13	A
Stair to N Train (ML2)	5.3	4.3	103	48	0.80	516	0.29	A
Stair to Q Train (ML3)	5.3	4.3	60	32	0.90	581	0.16	A
Stair to Q Train (ML4)	5.3	4.3	13	23	0.90	581	0.06	A
Stair to F Train (ML5)	9.0	7.0	21	57	0.80	840	0.09	A
Stair to D Train (ML6)	11.6	10.6	30	330	0.80	1272	0.28	A
West 8th / Aquarium (F, Q)								
Stairway (S1)	9.5	7.5	7	31	0.80	900	0.04	A
Saturday PM Peak Period								
Stillwell Avenue / Coney Island (D, F, N, Q)								
Stair to N Train (ML1)	5.3	4.3	57	28	0.80	516	0.16	A
Stair to N Train (ML2)	5.3	4.3	103	48	0.80	516	0.29	A
Stair to Q Train (ML3)	5.3	4.3	170	33	0.80	516	0.39	A
Stair to Q Train (ML4)	5.3	4.3	30	31	0.90	581	0.11	A
Stair to F Train (ML5)	9.0	7.0	166	76	0.80	840	0.29	A
Stair to D Train (ML6)	11.6	10.6	95	357	0.80	1272	0.36	A
West 8th / Aquarium (F, Q)								
Stairway (S1)	9.5	7.5	37	17	0.80	900	0.06	A

Note: Capacities were calculated based on rates presented in the New York City Transit, *Station Planning and Design Guidelines* (January 2001), in accordance with the *CEQR Technical Manual*.

BUS LINE HAUL LEVELS

All bus routes serving the rezoning area were evaluated to assess potential bus line haul impacts during the weekday AM and PM and Saturday midday and PM analysis time periods. **Table 17-6** summarizes the existing bus line haul levels based on NYCT peak load point data. All study area bus routes operate within guideline capacity on a typical weekday, except for the westbound B36 during the AM peak period. On Saturday, all study area bus routes operate within guideline capacity during both the midday and PM analysis time periods.

Table 17-6
2006 Existing Conditions: Bus Line Haul Analysis at Peak Load Points

Route	Peak Period	Buses Per Hour	Eastbound/Northbound Load Point	AP	Buses Per Hour	Westbound/Southbound Load Point	AP
Weekday Line Haul							
B36	AM	18	Surf Avenue and Stillwell Avenue	53	15	Sheepshead Bay and E. 16th Street	**(56)**
	PM	9	Sheepshead Bay and E. 15th Street	47	8	Surf Avenue and Stillwell Avenue	39
B64	AM	7	86th Street and 14th Avenue	42	7	Bath Avenue and 18th Avenue	35
	PM	6	86th Street and 14th Avenue	22	6	4th Avenue and 86th Street	37
B68	AM	8	Coney Island Avenue and Kings Hwy	52	11	Coney Island Avenue and Avenue J	52
	PM	9	Coney Island Avenue and Kings Hwy	44	8	Coney Island Avenue and Kings Hwy	45
B74	AM				7	Stillwell Terminal	51
	PM				9	Stillwell Terminal	48
B82	AM	13	Kings Hwy and Coney Island Avenue	51	13	Kings Highway and Ryder Avenue	27
	PM	13	Kings Highway and Ocean Avenue	45	10	Flatlands Avenue and Ralph Avenue	50
X28	AM	11	86th Street and 7th Avenue	46	1	Battery Place and Washington Street	1
	PM	1	86th Street and 7th Avenue	9	9	Battery Place and Washington Street	40
X29	AM	4	Church Avenue and East 7th Street	46			
	PM				5	Battery Place and Washington Street	37
X38	AM	9	86th Street and 7th Avenue	48			
	PM				7	East 23rd Street and First Avenue	40
Saturday Line Haul							
B36	MD	5	Surf Avenue and Stillwell Avenue	26	5	Sheepshead Bay and E. 16th Street	30
	PM	5	Sheepshead Bay and East 15th St.	31	5	Surf Avenue and Stillwell Avenue	30
B64	MD	6	86th Street and 4th Avenue	28	7	86th Street and 4th Avenue	33
	PM	6	86th Street and 14th Avenue	37	6	86th Street and 14th Avenue	22
B68	MD	8	Coney Island Avenue and Avenue U	33	9	Coney Island Avenue and Avenue U	33
	PM	9	Coney Island Avenue and Avenue U	37	8	Coney Island Avenue and Avenue U	38
B74	MD				4	Stillwell Terminal	27
	PM				6	Stillwell Terminal	30
B82	MD	7	Kings Highway and Ocean Avenue	38	7	Kings Hwy and Coney Island Avenue	32
	PM	7	Kings Hwy and Coney Island Avenue	36	7	Kings Highway and Ocean Avenue	32

Note: AP = average passengers per bus; **(#)** = exceeds NYCT guideline capacity.
Source: NYCT Peak Load Point data.

STREET-LEVEL PEDESTRIAN OPERATIONS

The study area sidewalks, corner reservoirs, and crosswalks were assessed for the weekday AM, midday, and PM, and Saturday midday and PM peak periods. Existing peak 15-minute volumes were developed from the 2006 survey data. As shown in **Tables 17-7** through **17-15**, all analyzed pedestrian elements currently operate at acceptable levels (13 PFM or less for sidewalks, 20 SFP or greater for corners and crosswalks) during the analysis peak periods, with the exception of the east crosswalk at the Stillwell Avenue and Surf Avenue intersection. As shown in **Table 17-15**, the east crosswalk at Stillwell Avenue and Surf Avenue currently operates at LOS F (7.3 SFP) and LOS F (5.6 SFP) during the Saturday midday and Saturday PM peak periods, respectively.

Table 17-7
2006 Existing Conditions: Weekday AM Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	20	0.1	A	4.1	A
	West	9.6	16	0.1	A	4.1	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	59	0.3	A	4.3	A
	South	10.0	92	0.6	A	4.6	A
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	42	0.5	A	4.5	A
	South	15.0	92	0.4	A	4.4	A
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	20	0.1	A	4.1	A
	West	8.0	20	0.2	A	4.2	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	21	0.1	A	4.1	A
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	7	0.1	A	4.1	A
	West	10.8	0	0.0	A	4.0	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	28	0.1	A	4.1	A
	South	16.8	40	0.2	A	4.2	A
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	28	0.1	A	4.1	A
	South	22.0	35	0.1	A	4.1	A
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	10	0.1	A	4.1	A
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	23	0.1	A	4.1	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	31	0.2	A	4.2	A
	South	14.5	324	1.5	A	5.5	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	99	0.8	A	4.8	A
	West	7.4	56	0.5	A	4.5	A
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	21	0.1	A	4.1	A
	South	17.5	9	0.0	A	4.0	A
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	62	0.2	A	4.2	A
	South	16.5	13	0.1	A	4.1	A
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	6	0.1	A	4.1	A
	West	5.3	19	0.2	A	4.2	A
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	12	0.0	A	4.0	A
	South	17.5	1	0.0	A	4.0	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	20	0.1	A	4.1	A
	South	16.8	5	0.0	A	4.0	A
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	40	0.3	A	4.3	A
	West	9.8	40	0.3	A	4.3	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	40	0.2	A	4.2	A
	West	11.5	40	0.2	A	4.2	A
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	40	0.2	A	4.2	A
	West	11.0	40	0.2	A	4.2	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	40	0.2	A	4.2	A
	West	12.0	40	0.2	A	4.2	A

Note: PFM = pedestrians per foot per minute

Table 17-8
2006 Existing Conditions: Weekday Midday Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	39	0.3	A	4.3	A
	West	9.6	11	0.1	A	4.1	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	89	0.4	A	4.4	A
	South	10.0	125	0.8	A	4.8	A
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	92	1.1	A	5.1	B
	South	15.0	146	0.6	A	4.6	A
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	37	0.2	A	4.2	A
	West	8.0	5	0.0	A	4.0	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	23	0.1	A	4.1	A
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	8	0.1	A	4.1	A
	West	10.8	4	0.0	A	4.0	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	44	0.2	A	4.2	A
	South	16.8	62	0.2	A	4.2	A
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	27	0.1	A	4.1	A
	South	22.0	65	0.2	A	4.2	A
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	28	0.2	A	4.2	A
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	34	0.2	A	4.2	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	21	0.1	A	4.1	A
	South	14.5	233	1.1	A	5.1	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	87	0.7	A	4.7	A
	West	7.4	134	1.2	A	5.2	B
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	142	0.5	A	4.5	A
	South	17.5	230	0.9	A	4.9	A
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	47	0.2	A	4.2	A
	South	16.5	86	0.3	A	4.3	A
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	8	0.1	A	4.1	A
	West	5.3	7	0.1	A	4.1	A
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	44	0.1	A	4.1	A
	South	17.5	144	0.5	A	4.5	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	62	0.3	A	4.3	A
	South	16.8	49	0.2	A	4.2	A
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	40	0.3	A	4.3	A
	West	9.8	40	0.3	A	4.3	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	40	0.2	A	4.2	A
	West	11.5	40	0.2	A	4.2	A
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	40	0.2	A	4.2	A
	West	11.0	40	0.2	A	4.2	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	40	0.2	A	4.2	A
	West	12.0	40	0.2	A	4.2	A

Note: PFM = pedestrians per foot per minute

Table 17-9
2006 Existing Conditions: Weekday PM Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	33	0.2	A	4.2	A
	West	9.6	29	0.2	A	4.2	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	67	0.3	A	4.3	A
	South	10.0	131	0.9	A	4.9	A
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	104	1.3	A	5.3	B
	South	15.0	81	0.4	A	4.4	A
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	24	0.1	A	4.1	A
	West	8.0	20	0.2	A	4.2	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	19	0.1	A	4.1	A
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	40	0.3	A	4.3	A
	West	10.8	13	0.1	A	4.1	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	56	0.2	A	4.2	A
	South	16.8	261	1.0	A	5.0	B
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	41	0.2	A	4.2	A
	South	22.0	271	0.8	A	4.8	A
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	90	0.5	A	4.5	A
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	33	0.1	A	4.1	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	17	0.1	A	4.1	A
	South	14.5	227	1.0	A	5.0	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	113	0.9	A	4.9	A
	West	7.4	85	0.8	A	4.8	A
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	52	0.2	A	4.2	A
	South	17.5	250	1.0	A	5.0	A
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	184	0.7	A	4.7	A
	South	16.5	163	0.7	A	4.7	A
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	6	0.1	A	4.1	A
	West	5.3	26	0.3	A	4.3	A
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	38	0.1	A	4.1	A
	South	17.5	44	0.2	A	4.2	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	131	0.6	A	4.6	A
	South	16.8	27	0.1	A	4.1	A
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	40	0.3	A	4.3	A
	West	9.8	40	0.3	A	4.3	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	40	0.2	A	4.2	A
	West	11.5	40	0.2	A	4.2	A
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	40	0.2	A	4.2	A
	West	11.0	40	0.2	A	4.2	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	40	0.2	A	4.2	A
	West	12.0	40	0.2	A	4.2	A

Note: PFM = pedestrians per foot per minute

Table 17-10
2006 Existing Conditions: Saturday Midday Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	35	0.2	A	4.2	A
	West	9.6	77	0.5	A	4.5	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	42	0.2	A	4.2	A
	South	10.0	114	0.8	A	4.8	A
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	41	0.5	A	4.5	A
	South	15.0	115	0.5	A	4.5	A
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	19	0.1	A	4.1	A
	West	8.0	78	0.7	A	4.7	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	37	0.2	A	4.2	A
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	60	0.5	A	4.5	A
	West	10.8	8	0.0	A	4.0	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	30	0.1	A	4.1	A
	South	16.8	186	0.7	A	4.7	A
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	42	0.2	A	4.2	A
	South	22.0	85	0.3	A	4.3	A
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	159	0.9	A	4.9	A
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	59	0.3	A	4.3	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	69	0.4	A	4.4	A
	South	14.5	203	0.9	A	4.9	A
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	89	0.7	A	4.7	A
	West	7.4	183	1.6	A	5.6	B
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	203	0.7	A	4.7	A
	South	17.5	452	1.7	A	5.7	B
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	55	0.2	A	4.2	A
	South	16.5	253	1.0	A	5.0	B
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	29	0.4	A	4.4	A
	West	5.3	104	1.3	A	5.3	B
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	55	0.2	A	4.2	A
	South	17.5	39	0.1	A	4.1	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	131	0.6	A	4.6	A
	South	16.8	138	0.5	A	4.5	A
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	40	0.3	A	4.3	A
	West	9.8	40	0.3	A	4.3	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	40	0.2	A	4.2	A
	West	11.5	40	0.2	A	4.2	A
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	40	0.2	A	4.2	A
	West	11.0	40	0.2	A	4.2	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	40	0.2	A	4.2	A
	West	12.0	40	0.2	A	4.2	A

Note: PFM = pedestrians per foot per minute

Table 17-11
2006 Existing Conditions: Saturday PM Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	20	0.1	A	4.1	A
	West	9.6	44	0.3	A	4.3	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	64	0.3	A	4.3	A
	South	10.0	140	0.9	A	4.9	A
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	66	0.8	A	4.8	A
	South	15.0	143	0.6	A	4.6	A
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	19	0.1	A	4.1	A
	West	8.0	39	0.3	A	4.3	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	24	0.1	A	4.1	A
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	133	1.1	A	5.1	B
	West	10.8	31	0.2	A	4.2	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	76	0.3	A	4.3	A
	South	16.8	284	1.1	A	5.1	B
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	78	0.3	A	4.3	A
	South	22.0	234	0.7	A	4.7	A
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	156	0.9	A	4.9	A
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	105	0.5	A	4.5	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	64	0.3	A	4.3	A
	South	14.5	199	0.9	A	4.9	A
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	123	1.0	A	5.0	A
	West	7.4	215	1.9	A	5.9	B
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	176	0.6	A	4.6	A
	South	17.5	753	2.9	A	6.9	B
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	136	0.5	A	4.5	A
	South	16.5	772	3.1	A	7.1	C
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	35	0.5	A	4.5	A
	West	5.3	163	2.1	A	6.1	B
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	26	0.1	A	4.1	A
	South	17.5	24	0.1	A	4.1	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	150	0.7	A	4.7	A
	South	16.8	181	0.7	A	4.7	A
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	40	0.3	A	4.3	A
	West	9.8	40	0.3	A	4.3	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	40	0.2	A	4.2	A
	West	11.5	40	0.2	A	4.2	A
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	40	0.2	A	4.2	A
	West	11.0	40	0.2	A	4.2	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	40	0.2	A	4.2	A
	West	12.0	40	0.2	A	4.2	A

Note: PFM = pedestrians per foot per minute

Table 17-12
2006 Existing Conditions: Weekday Peak Period Corner Reservoir Analysis

Locations	Corner	AM Peak		Midday Peak		PM Peak	
		SFP	LOS	SFP	LOS	SFP	LOS
West 17th Street and Mermaid Avenue	Northeast	825.0	A	599.7	A	504.9	A
	Southeast	455.1	A	323.8	A	392.8	A
	Southwest	511.4	A	373.1	A	421.6	A
	Northwest	756.9	A	532.4	A	336.5	A
West 17th Street and Surf Avenue	Northeast	2602.2	A	2338.7	A	523.0	A
	Northwest	1423.0	A	1542.7	A	990.0	A
West 16th Street and Surf Avenue	Northeast	1356.7	A	1145.2	A	658.9	A
	Southeast	1942.0	A	1073.0	A	278.9	A
	Northwest	1742.4	A	2390.5	A	1460.0	A
Stillwell Avenue and Mermaid Avenue	Southeast	192.8	A	292.1	A	272.1	A
	Southwest	179.3	A	218.2	A	257.9	A
	Northwest	1281.8	A	1018.8	A	1281.3	A
Stillwell Avenue and Surf Avenue	Northeast	1100.6	A	451.0	A	312.5	A
	Southeast	862.1	A	211.0	A	179.9	A
	Southwest	3916.6	A	601.6	A	313.9	A
	Northwest	2247.0	A	1427.5	A	321.6	A
West 8th Street and Surf Avenue	Northeast	1742.1	A	2017.2	A	1577.7	A
	Northwest	6280.1	A	2171.2	A	892.7	A
West 15th Street and Surf Avenue	Northeast	720.8	A	720.8	A	585.5	A
	Southeast	1011.4	A	1011.4	A	820.8	A
	Southwest	843.5	A	843.5	A	684.8	A
	Northwest	738.8	A	738.8	A	600.1	A
West 12th Street and Surf Avenue	Northeast	810.9	A	810.9	A	810.9	A
	Southeast	982.8	A	982.8	A	982.8	A
	Southwest	743.4	A	743.4	A	743.4	A
	Northwest	792.4	A	792.4	A	792.4	A

Note: SFP = square feet per pedestrian

Table 17-13
2006 Existing Conditions: Saturday Peak Period Corner Reservoir Analysis

Locations	Corner	Midday Peak		PM Peak	
		SFP	LOS	SFP	LOS
West 17th Street and Mermaid Avenue	Northeast	676.2	A	525.0	A
	Southeast	432.6	A	351.5	A
	Southwest	327.7	A	413.3	A
	Northwest	299.9	A	416.1	A
West 17th Street and Surf Avenue	Northeast	1657.3	A	843.1	A
	Northwest	476.6	A	788.8	A
West 16th Street and Surf Avenue	Northeast	641.2	A	303.2	A
	Southeast	360.9	A	210.3	A
	Northwest	1529.3	A	694.5	A
Stillwell Avenue and Mermaid Avenue	Southeast	662.0	A	325.4	A
	Southwest	533.7	A	254.8	A
	Northwest	1064.4	A	734.1	A
Stillwell Avenue and Surf Avenue	Northeast	113.8	A	95.0	A
	Southeast	67.0	A	48.0	B
	Southwest	158.4	A	111.4	A
	Northwest	338.7	A	195.6	A
West 8th Street and Surf Avenue	Northeast	1021.4	A	931.0	A
	Northwest	1100.7	A	831.7	A
West 15th Street and Surf Avenue	Northeast	585.5	A	585.5	A
	Southeast	820.8	A	820.8	A
	Southwest	684.8	A	684.8	A
	Northwest	600.1	A	600.1	A
West 12th Street and Surf Avenue	Northeast	810.9	A	810.9	A
	Southeast	982.8	A	982.8	A
	Southwest	743.4	A	743.4	A
	Northwest	792.4	A	792.4	A

Note: SFP = square feet per pedestrian

Table 17-14
2006 Existing Conditions: Weekday Peak Period Crosswalk Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	With Conflicting Vehicles					
				AM Peak		Midday Peak		PM Peak	
				SFP	LOS	SFP	LOS	SFP	LOS
West 17th Street and Mermaid Avenue	North	30.8	16.3	421.4	A	249.2	A	168.4	A
	East	43.0	14.0	1245.3	A	1491.3	A	1226.5	A
	South	31.3	14.8	155.1	A	104.9	A	120.6	A
	West	43.6	12.5	960.3	A	1059.1	A	718.5	A
West 17th Street and Surf Avenue	North	31.0	19.6	1539.6	A	1668.0	A	1192.9	A
	East	73.0	14.3	1303.9	A	1562.7	A	76.3	A
	West	73.3	13.4	1243.6	A	1307.3	A	561.3	A
West 16th Street and Surf Avenue	North	29.0	13.8	639.7	A	843.0	A	621.8	A
	East	74.4	13.4	1813.6	A	451.9	A	180.8	A
	South	16.3	14.3	664.3	A	385.4	A	86.1	A
	West	73.8	13.9	3742.9	A	7428.0	A	881.4	A
Stillwell Avenue and Mermaid Avenue	North	60.0	10.8	444.1	A	936.2	A	867.6	A
	East	68.0	14.0	417.9	A	795.4	A	349.0	A
	South	59.7	11.2	33.5	C	53.6	B	55.5	B
	West	43.5	16.9	597.6	A	330.6	A	407.8	A
Stillwell Avenue and Surf Avenue	North	59.8	16.0	1298.9	A	819.4	A	189.9	A
	East	72.8	15.6	78.2	A	28.7	C	25.6	C
	South	59.6	21.5	3920.7	A	312.8	A	234.6	A
	West	74.5	14.8	448.4	A	258.0	A	49.0	B
West 8th Street and Surf Avenue	North	80.0	15.5	1970.2	A	602.6	A	424.1	A
	East	74.0	14.3	604.1	A	1986.1	A	3000.6	A
	West	74.0	9.7	3895.5	A	776.6	A	109.3	A
West 15th Street and Surf Avenue	North	31.5	17.9	728.0	A	734.0	A	357.1	A
	East	83.0	14.5	161.0	A	158.2	A	315.2	A
	South	49.4	23.0	1029.3	A	1016.8	A	508.3	A
	West	78.0	15.9	184.4	A	184.4	A	370.8	A
West 12th Street and Surf Avenue	North	29.9	20.8	668.9	A	660.7	A	670.1	A
	East	74.4	14.0	164.0	A	165.3	A	165.6	A
	South	29.4	21.0	858.7	A	859.7	A	856.7	A
	West	74.8	14.0	96.0	A	99.9	A	98.0	A

Note: SFP = square feet per pedestrian

Table 17-15
2006 Existing Conditions: Saturday Peak Period Crosswalk Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	With Conflicting Vehicles			
				Midday Peak		PM Peak	
				SFP	LOS	SFP	LOS
West 17th Street and Mermaid Avenue	North	30.8	16.3	273.6	A	240.8	A
	East	43.0	14.0	981.8	A	354.2	A
	South	31.3	14.8	128.0	A	139.2	A
	West	43.6	12.5	183.0	A	362.5	A
West 17th Street and Surf Avenue	North	31.0	19.6	1014.6	A	1702.5	A
	East	73.0	14.3	1303.9	A	122.1	A
	West	73.3	13.4	140.1	A	221.1	A
West 16th Street and Surf Avenue	North	29.0	13.8	660.6	A	364.9	A
	East	74.4	13.4	160.6	A	72.7	A
	South	16.3	14.3	168.2	A	74.3	A
	West	73.8	13.9	799.3	A	226.0	A
Stillwell Avenue and Mermaid Avenue	North	60.0	10.8	624.4	A	1126.7	A
	East	68.0	14.0	364.9	A	267.8	A
	South	59.7	11.2	626.6	A	85.7	A
	West	43.5	16.9	438.2	A	223.5	A
Stillwell Avenue and Surf Avenue	North	59.8	16.0	310.9	A	125.7	A
	East	72.8	15.6	7.3	F	5.6	F
	South	59.6	21.5	114.6	A	74.2	A
	West	74.5	14.8	41.3	B	30.1	C
West 8th Street and Surf Avenue	North	80.0	15.5	391.4	A	358.7	A
	East	74.0	14.3	617.2	A	573.0	A
	West	74.0	9.7	162.5	A	104.2	A
West 15th Street and Surf Avenue	North	31.5	17.9	357.5	A	349.8	A
	East	83.0	14.5	302.2	A	307.6	A
	South	49.4	23.0	500.2	A	502.1	A
	West	78.0	15.9	370.8	A	370.8	A
West 12th Street and Surf Avenue	North	29.9	20.8	633.2	A	642.6	A
	East	74.4	14.0	163.7	A	165.9	A
	South	29.4	21.0	847.8	A	858.7	A
	West	74.8	14.0	95.5	A	90.6	A

Note: SFP = square feet per pedestrian

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

Transit and pedestrian conditions in the future without the proposed actions were assessed to establish the baseline 2019 No Build scenario against which to evaluate the potential impacts of the proposed rezoning. The No Build analyses incorporate background growth, the effects of other nearby development projects, and planned changes in the transportation environment that would affect transit service and pedestrian movements in the study area.

TRANSIT AND PEDESTRIAN VOLUME PROJECTIONS

Future No Build peak hour transit and pedestrian levels were estimated by first applying a background growth of 1.0 percent per year (as recommended by the *CEQR Technical Manual*), projected to the 2019 analysis year, and then adding transit and pedestrian trips associated with planned projects that would occur independent of the proposed actions. A description of these projects is provided in Chapter 2, "Land Use, Zoning, and Public Policy." Trips generated by these No Build projects were distributed throughout the transit and pedestrian networks to generate the 2009 No Build transit and pedestrian volumes for analysis. Among the No Build projects are as-of-right development components within the rezoning subdistricts that are

expected to generate 314, 534, 496, 320, and 324 transit (subway and bus) trips and 361, 1,916, 1,018, 1,069, and 1,073 walk only trips during the weekday AM, weekday midday, weekday PM, Saturday midday, and Saturday PM peak hours, respectively.

SUBWAY STATION OPERATIONS

The same subway station control area and vertical circulation elements analyzed for the existing conditions analyses were evaluated to determine how these elements would function in the future No Build scenario. As shown in **Tables 17-16** and **17-17**, all subway station elements would operate at acceptable LOS C or better during the analysis peak periods. Therefore, changes in operating conditions for subway station elements between the existing conditions and No Build scenario would be minimal.

Table 17-16
2019 No Build Scenario: Subway Station Control Area Analysis

Station Elements	Quantity	15-Minute Pedestrian Volumes In	15-Minute Pedestrian Volumes Out	15-Minute SVCD Capacity	V/SVCD ratio	LOS
Weekday AM Peak Period						
Two-Way Turnstiles	9	157	114	4320	0.06	A
Service Gates	2	0	0	1500	0.00	A
High Entry/Exit Gates	2	0	0	600	0.00	A
Weekday PM Peak Period						
Two-Way Turnstiles	9	268	79	4320	0.08	A
Service Gates	2	2	225	1500	0.15	A
High Entry/Exit Gates	2	11	9	600	0.03	A
Saturday Midday Peak Period						
Two-Way Turnstiles	9	133	178	4320	0.07	A
Service Gates	2	25	690	1500	0.48	C
High Entry/Exit Gates	2	3	34	600	0.06	A
Saturday PM Peak Period						
Two-Way Turnstiles	9	623	149	4320	0.18	A
Service Gates	2	10	679	1500	0.46	C
High Entry/Exit Gates	2	21	21	600	0.07	A

Note: Capacities were calculated based on rates presented in the New York City Transit, *Station Planning and Design Guidelines* (January 2001), in accordance with the *CEQR Technical Manual*.

Table 17-17
2019 No Build Scenario: Subway Station Stairway Analysis

Stairway	Width (feet)	Effective Width (feet)	15-Minute Pedestrian Volumes		Friction Factor	15-Minute SVCD Capacity	V/SVCD Ratio	LOS
			Up	Down				
Weekday AM Peak Period								
Stillwell Avenue / Coney Island (D, F, N, Q)								
Stair to N Train (ML1)	5.3	4.3	17	7	0.80	516	0.05	A
Stair to N Train (ML2)	5.3	4.3	85	37	0.80	516	0.24	A
Stair to Q Train (ML3)	5.3	4.3	179	80	0.80	516	0.50	B
Stair to Q Train (ML4)	5.3	4.3	22	79	0.80	516	0.20	A
Stair to F Train (ML5)	9.0	7.0	126	40	0.80	840	0.20	A
Stair to D Train (ML6)	11.6	10.6	184	27	0.80	1272	0.17	A
West 8th / Aquarium (F, Q)								
Stairway (S1)	9.5	7.5	16	40	0.80	900	0.06	A
Weekday PM Peak Period								
Stillwell Avenue / Coney Island (D, F, N, Q)								
Stair to N Train (ML1)	5.3	4.3	24	24	0.90	581	0.08	A
Stair to N Train (ML2)	5.3	4.3	51	86	0.90	581	0.24	A
Stair to Q Train (ML3)	5.3	4.3	126	69	0.90	581	0.34	A
Stair to Q Train (ML4)	5.3	4.3	38	29	0.90	581	0.12	A
Stair to F Train (ML5)	9.0	7.0	150	114	0.90	945	0.28	A
Stair to D Train (ML6)	11.6	10.6	186	137	0.90	1431	0.23	A
West 8th / Aquarium (F, Q)								
Stairway (S1)	9.5	7.5	35	107	0.80	900	0.16	A
Saturday Midday Peak Period								
Stillwell Avenue / Coney Island (D, F, N, Q)								
Stair to N Train (ML1)	5.3	4.3	16	70	0.80	516	0.17	A
Stair to N Train (ML2)	5.3	4.3	121	60	0.90	581	0.31	A
Stair to Q Train (ML3)	5.3	4.3	73	43	0.90	581	0.20	A
Stair to Q Train (ML4)	5.3	4.3	20	33	0.90	581	0.09	A
Stair to F Train (ML5)	9.0	7.0	35	78	0.80	840	0.13	A
Stair to D Train (ML6)	11.6	10.6	52	395	0.80	1272	0.35	A
West 8th / Aquarium (F, Q)								
Stairway (S1)	9.5	7.5	8	40	0.80	900	0.05	A
Saturday PM Peak Period								
Stillwell Avenue / Coney Island (D, F, N, Q)								
Stair to N Train (ML1)	5.3	4.3	70	37	0.90	581	0.18	A
Stair to N Train (ML2)	5.3	4.3	122	59	0.80	516	0.35	A
Stair to Q Train (ML3)	5.3	4.3	199	42	0.80	516	0.47	B
Stair to Q Train (ML4)	5.3	4.3	41	40	0.90	581	0.14	A
Stair to F Train (ML5)	9.0	7.0	203	99	0.80	840	0.36	A
Stair to D Train (ML6)	11.6	10.6	128	421	0.80	1272	0.43	A
West 8th / Aquarium (F, Q)								
Stairway (S1)	9.5	7.5	44	64	0.90	1013	0.11	A

Note: Capacities were calculated based on rates presented in the New York City Transit, *Station Planning and Design Guidelines* (January 2001), in accordance with the *CEQR Technical Manual*.

BUS LINE HAUL LEVELS

The 2019 No Build scenario bus line haul analysis incorporates a 1.0-percent annual growth, as well as bus-only and bus-to-subway trips generated by No Build projects near and within the

rezoning area. As shown in **Table 17-18**, the analyses conclude that increased bus ridership by 2019 under the No Build scenario would result in several study area bus routes exceeding guideline capacity during the weekday analysis peak periods, as compared to only one bus route exceeding its guideline capacity under existing conditions. Under the No Build scenario, all study area bus routes would continue to operate within guideline capacity during the Saturday analysis peak periods.

Table 17-18
2019 No Build Scenario: Bus Line Haul Analysis at Peak Load Points

Route	Peak Period	Buses Per Hour	Eastbound/Northbound Load Point	AP	Buses Per Hour	Westbound/Southbound Load Point	AP
Weekday Line Haul							
B36	AM	18	Surf Avenue and Stillwell Avenue	**(61)**	15	Sheepshead Bay and E. 16th Street	**(68)**
	PM	9	Sheepshead Bay and E. 15th Street	**(63)**	8	Surf Avenue and Stillwell Avenue	**(55)**
B64	AM	7	86th Street and 14th Avenue	48	7	Bath Avenue and 18th Avenue	41
	PM	6	86th Street and 14th Avenue	27	6	4th Avenue and 86th Street	44
B68	AM	8	Coney Island Avenue and Kings Hwy	**(61)**	11	Coney Island Avenue and Avenue J	**(61)**
	PM	9	Coney Island Avenue and Kings Hwy	52	8	Coney Island Avenue and Kings Hwy	**(56)**
B74	AM				7	Stillwell Terminal	**(64)**
	PM				9	Stillwell Terminal	**(63)**
B82	AM	13	Kings Hwy and Coney Island Avenue	**(59)**	13	Kings Highway and Ryder Avenue	31
	PM	13	Kings Highway and Ocean Avenue	52	10	Flatlands Avenue and Ralph Avenue	**(58)**
X28	AM	11	86th Street and 7th Avenue	52	1	Battery Place and Washington Street	3
	PM	1	86th Street and 7th Avenue	14	9	Battery Place and Washington Street	45
X29	AM	4	Church Avenue and East 7th Street	53			
	PM				5	Battery Place and Washington Street	42
X38	AM	9	86th Street and 7th Avenue	54			
	PM				7	East 23rd Street and First Avenue	45
Saturday Line Haul							
B36	MD	5	Surf Avenue and Stillwell Avenue	45	5	Sheepshead Bay and E. 16th Street	45
	PM	5	Sheepshead Bay and E. 15th Street	47	5	Surf Avenue and Stillwell Avenue	50
B64	MD	6	86th Street and 4th Avenue	33	7	86th Street and 4th Avenue	38
	PM	6	86th Street and 14th Avenue	42	6	86th Street and 14th Avenue	26
B68	MD	8	Coney Island Avenue and Avenue U	39	9	Coney Island Avenue and Avenue U	39
	PM	9	Coney Island Avenue and Avenue U	44	8	Coney Island Avenue and Avenue U	47
B74	MD				4	Stillwell Terminal	46
	PM				6	Stillwell Terminal	42
B82	MD	7	Kings Highway and Ocean Avenue	45	7	Kings Hwy and Coney Island Avenue	38
	PM	7	Kings Hwy and Coney Island Avenue	43	7	Kings Highway and Ocean Avenue	38

Note: AP = average passengers per bus; **(#)** = exceeds NYCT guideline capacity.
Source: NYCT Peak Load Point data.

In comparison to existing conditions, which showed only the westbound B36 route during the weekday AM peak period to exceed guideline capacity, the B36 route would exceed guideline capacity during both the weekday AM and PM peak periods under the No Build scenario. In addition, the B68 would exceed capacity eastbound during both the weekday AM peak period and westbound during both the weekday AM and PM peak periods. The B74 would exceed capacity westbound during both the weekday AM and PM peak periods, and the B82 would exceed capacity northbound during the AM peak period and southbound during the PM peak period.

STREET-LEVEL PEDESTRIAN OPERATIONS

The No Build peak period volume projections were applied to the pedestrian analysis networks described previously and the study area sidewalks, corner reservoirs, and crosswalks were assessed

for the weekday AM, midday, and PM peak periods, as well as the Saturday midday and PM peak periods. As shown in **Tables 17-19** through **17-27** and similar to existing conditions, all analyzed pedestrian elements would operate at acceptable levels (13 PFM or less for sidewalks, 20 SFP or greater for corners and crosswalks) during the analysis peak periods, with the exception of the east crosswalk at the Stillwell Avenue and Surf Avenue intersection. As shown in **Table 17-27**, this crosswalk would operate at LOS F (6.4 SFP) and LOS F (4.7 SFP) during the Saturday midday and Saturday PM peak periods, respectively.

Table 17-19
2019 No Build Scenario: Weekday AM Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	27	0.2	A	4.2	A
	West	9.6	20	0.1	A	4.1	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	67	0.3	A	4.3	A
	South	10.0	127	0.8	A	4.8	A
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	47	0.6	A	4.6	A
	South	15.0	118	0.5	A	4.5	A
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	33	0.2	A	4.2	A
	West	8.0	40	0.3	A	4.3	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	64	0.3	A	4.3	A
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	12	0.1	A	4.1	A
	West	10.8	2	0.0	A	4.0	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	78	0.3	A	4.3	A
	South	16.8	45	0.2	A	4.2	A
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	70	0.3	A	4.3	A
	South	22.0	47	0.1	A	4.1	A
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	11	0.1	A	4.1	A
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	41	0.2	A	4.2	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	37	0.2	A	4.2	A
	South	14.5	385	1.8	A	5.8	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	112	0.9	A	4.9	A
	West	7.4	68	0.6	A	4.6	A
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	69	0.2	A	4.2	A
	South	17.5	11	0.0	A	4.0	A
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	96	0.4	A	4.4	A
	South	16.5	15	0.1	A	4.1	A
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	7	0.1	A	4.1	A
	West	5.3	21	0.3	A	4.3	A
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	15	0.1	A	4.1	A
	South	17.5	1	0.0	A	4.0	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	22	0.1	A	4.1	A
	South	16.8	6	0.0	A	4.0	A
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	46	0.3	A	4.3	A
	West	9.8	50	0.3	A	4.3	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	46	0.3	A	4.3	A
	West	11.5	48	0.3	A	4.3	A
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	46	0.3	A	4.3	A
	West	11.0	50	0.3	A	4.3	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	46	0.2	A	4.2	A
	West	12.0	46	0.3	A	4.3	A

Note: PFM = pedestrians per foot per minute

Table 17-20
2019 No Build Scenario: Weekday Midday Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	80	0.5	A	4.5	A
	West	9.6	29	0.2	A	4.2	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	106	0.5	A	4.5	A
	South	10.0	205	1.4	A	5.4	B
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	113	1.4	A	5.4	B
	South	15.0	195	0.9	A	4.9	A
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	112	0.7	A	4.7	A
	West	8.0	100	0.8	A	4.8	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	54	0.2	A	4.2	A
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	33	0.3	A	4.3	A
	West	10.8	14	0.1	A	4.1	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	120	0.4	A	4.4	A
	South	16.8	70	0.3	A	4.3	A
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	64	0.2	A	4.2	A
	South	22.0	119	0.4	A	4.4	A
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	31	0.2	A	4.2	A
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	59	0.3	A	4.3	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	48	0.2	A	4.2	A
	South	14.5	271	1.2	A	5.2	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	99	0.8	A	4.8	A
	West	7.4	152	1.4	A	5.4	B
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	202	0.7	A	4.7	A
	South	17.5	260	1.0	A	5.0	A
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	53	0.2	A	4.2	A
	South	16.5	99	0.4	A	4.4	A
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	9	0.1	A	4.1	A
	West	5.3	8	0.1	A	4.1	A
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	57	0.2	A	4.2	A
	South	17.5	163	0.6	A	4.6	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	70	0.3	A	4.3	A
	South	16.8	56	0.2	A	4.2	A
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	46	0.3	A	4.3	A
	West	9.8	66	0.4	A	4.4	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	46	0.3	A	4.3	A
	West	11.5	54	0.3	A	4.3	A
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	46	0.3	A	4.3	A
	West	11.0	64	0.4	A	4.4	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	46	0.2	A	4.2	A
	West	12.0	46	0.3	A	4.3	A

Note: PFM = pedestrians per foot per minute

Table 17-21
2019 No Build Scenario: Weekday PM Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	53	0.3	A	4.3	A
	West	9.6	40	0.3	A	4.3	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	79	0.4	A	4.4	A
	South	10.0	194	1.3	A	5.3	B
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	123	1.5	A	5.5	B
	South	15.0	116	0.5	A	4.5	A
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	61	0.4	A	4.4	A
	West	8.0	73	0.6	A	4.6	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	82	0.3	A	4.3	A
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	57	0.5	A	4.5	A
	West	10.8	21	0.1	A	4.1	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	142	0.5	A	4.5	A
	South	16.8	295	1.2	A	5.2	B
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	109	0.4	A	4.4	A
	South	22.0	330	1.0	A	5.0	B
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	104	0.6	A	4.6	A
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	54	0.2	A	4.2	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	32	0.2	A	4.2	A
	South	14.5	276	1.3	A	5.3	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	130	1.0	A	5.0	B
	West	7.4	98	0.9	A	4.9	A
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	168	0.6	A	4.6	A
	South	17.5	284	1.1	A	5.1	B
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	237	0.9	A	4.9	A
	South	16.5	186	0.8	A	4.8	A
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	6	0.1	A	4.1	A
	West	5.3	29	0.4	A	4.4	A
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	90	0.3	A	4.3	A
	South	17.5	50	0.2	A	4.2	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	187	0.9	A	4.9	A
	South	16.8	31	0.1	A	4.1	A
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	46	0.3	A	4.3	A
	West	9.8	56	0.4	A	4.4	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	46	0.3	A	4.3	A
	West	11.5	67	0.4	A	4.4	A
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	46	0.3	A	4.3	A
	West	11.0	55	0.3	A	4.3	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	46	0.2	A	4.2	A
	West	12.0	46	0.3	A	4.3	A

Note: PFM = pedestrians per foot per minute

Table 17-22
2019 No Build Scenario: Saturday Midday Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	57	0.4	A	4.4	A
	West	9.6	94	0.7	A	4.7	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	51	0.2	A	4.2	A
	South	10.0	166	1.1	A	5.1	B
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	52	0.6	A	4.6	A
	South	15.0	149	0.7	A	4.7	A
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	57	0.3	A	4.3	A
	West	8.0	137	1.1	A	5.1	B
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	86	0.4	A	4.4	A
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	80	0.6	A	4.6	A
	West	10.8	16	0.1	A	4.1	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	99	0.4	A	4.4	A
	South	16.8	210	0.8	A	4.8	A
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	93	0.4	A	4.4	A
	South	22.0	119	0.4	A	4.4	A
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	182	1.0	A	5.0	B
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	79	0.4	A	4.4	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	98	0.5	A	4.5	A
	South	14.5	237	1.1	A	5.1	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	57	0.5	A	4.5	A
	West	7.4	137	1.2	A	5.2	B
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	334	1.2	A	5.2	B
	South	17.5	511	1.9	A	5.9	B
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	83	0.3	A	4.3	A
	South	16.5	288	1.2	A	5.2	B
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	33	0.5	A	4.5	A
	West	5.3	118	1.5	A	5.5	B
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	69	0.2	A	4.2	A
	South	17.5	45	0.2	A	4.2	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	149	0.7	A	4.7	A
	South	16.8	156	0.6	A	4.6	A
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	46	0.3	A	4.3	A
	West	9.8	56	0.4	A	4.4	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	46	0.3	A	4.3	A
	West	11.5	73	0.4	A	4.4	A
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	46	0.3	A	4.3	A
	West	11.0	57	0.3	A	4.3	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	46	0.2	A	4.2	A
	West	12.0	46	0.3	A	4.3	A

Note: PFM = pedestrians per foot per minute

Table 17-23
2019 No Build Scenario: Saturday PM Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	40	0.3	A	4.3	A
	West	9.6	57	0.4	A	4.4	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	76	0.3	A	4.3	A
	South	10.0	195	1.3	A	5.3	B
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	81	1.0	A	5.0	A
	South	15.0	180	0.8	A	4.8	A
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	56	0.3	A	4.3	A
	West	8.0	92	0.8	A	4.8	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	72	0.3	A	4.3	A
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	162	1.3	A	5.3	B
	West	10.8	42	0.3	A	4.3	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	152	0.6	A	4.6	A
	South	16.8	321	1.3	A	5.3	B
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	137	0.5	A	4.5	A
	South	22.0	287	0.9	A	4.9	A
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	179	1.0	A	5.0	B
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	124	0.6	A	4.6	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	91	0.5	A	4.5	A
	South	14.5	233	1.1	A	5.1	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	141	1.1	A	5.1	B
	West	7.4	243	2.2	A	6.2	B
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	305	1.1	A	5.1	B
	South	17.5	851	3.2	A	7.2	C
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	175	0.7	A	4.7	A
	South	16.5	874	3.5	A	7.5	C
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	39	0.6	A	4.6	A
	West	5.3	184	2.3	A	6.3	B
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	76	0.3	A	4.3	A
	South	17.5	27	0.1	A	4.1	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	207	0.9	A	4.9	A
	South	16.8	205	0.8	A	4.8	A
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	46	0.3	A	4.3	A
	West	9.8	56	0.4	A	4.4	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	46	0.3	A	4.3	A
	West	11.5	73	0.4	A	4.4	A
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	46	0.3	A	4.3	A
	West	11.0	57	0.3	A	4.3	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	46	0.2	A	4.2	A
	West	12.0	46	0.3	A	4.3	A

Note: PFM = pedestrians per foot per minute

Table 17-24
2019 No Build Scenario: Weekday Peak Period Corner Reservoir Analysis

Locations	Corner	AM Peak		Midday Peak		PM Peak	
		SFP	LOS	SFP	LOS	SFP	LOS
West 17th Street and Mermaid Avenue	Northeast	684.9	A	377.7	A	389.9	A
	Southeast	322.8	A	174.9	A	235.3	A
	Southwest	360.0	A	221.9	A	269.9	A
	Northwest	613.1	A	371.7	A	272.8	A
West 17th Street and Surf Avenue	Northeast	953.6	A	804.4	A	298.6	A
	Northwest	484.2	A	398.4	A	287.8	A
West 16th Street and Surf Avenue	Northeast	613.9	A	406.2	A	302.8	A
	Southeast	1485.8	A	531.6	A	223.3	A
	Northwest	783.5	A	824.4	A	533.0	A
Stillwell Avenue and Mermaid Avenue	Southeast	160.3	A	223.3	A	211.0	A
	Southwest	147.6	A	168.5	A	198.4	A
	Northwest	910.1	A	645.8	A	831.2	A
Stillwell Avenue and Surf Avenue	Northeast	717.1	A	350.1	A	221.0	A
	Southeast	756.3	A	185.4	A	157.7	A
	Southwest	3240.1	A	532.3	A	253.0	A
	Northwest	943.5	A	801.7	A	192.0	A
West 8th Street and Surf Avenue	Northeast	1533.4	A	1743.5	A	735.0	A
	Northwest	5652.1	A	1913.2	A	615.5	A
West 15th Street and Surf Avenue	Northeast	418.5	A	360.8	A	284.3	A
	Southeast	876.2	A	876.2	A	729.9	A
	Southwest	715.6	A	649.4	A	499.6	A
	Northwest	422.2	A	344.2	A	259.9	A
West 12th Street and Surf Avenue	Northeast	702.3	A	702.3	A	702.3	A
	Southeast	851.3	A	851.3	A	851.3	A
	Southwest	643.7	A	643.7	A	643.7	A
	Northwest	659.3	A	584.8	A	622.7	A

Note: SFP = square feet per pedestrian

Table 17-25
2019 No Build Scenario: Saturday Peak Period Corner Reservoir Analysis

Locations	Corner	Midday Peak		PM Peak	
		SFP	LOS	SFP	LOS
West 17th Street and Mermaid Avenue	Northeast	485.6	A	391.4	A
	Southeast	260.3	A	223.5	A
	Southwest	233.0	A	278.8	A
	Northwest	245.7	A	333.7	A
West 17th Street and Surf Avenue	Northeast	669.0	A	444.1	A
	Northwest	236.7	A	305.2	A
West 16th Street and Surf Avenue	Northeast	325.1	A	193.7	A
	Southeast	277.2	A	170.2	A
	Northwest	627.2	A	397.2	A
Stillwell Avenue and Mermaid Avenue	Southeast	483.1	A	259.4	A
	Southwest	393.9	A	205.0	A
	Northwest	758.9	A	578.6	A
Stillwell Avenue and Surf Avenue	Northeast	88.7	A	76.0	A
	Southeast	58.7	B	41.2	B
	Southwest	131.0	A	93.1	A
	Northwest	195.5	A	131.0	A
West 8th Street and Surf Avenue	Northeast	880.6	A	534.7	A
	Northwest	966.8	A	585.2	A
West 15th Street and Surf Avenue	Northeast	294.1	A	294.3	A
	Southeast	729.9	A	729.9	A
	Southwest	479.5	A	478.5	A
	Northwest	260.2	A	260.7	A
West 12th Street and Surf Avenue	Northeast	702.3	A	702.3	A
	Southeast	851.3	A	851.3	A
	Southwest	643.7	A	643.7	A
	Northwest	616.9	A	616.9	A

Note: SFP = square feet per pedestrian

Table 17-26
2019 No Build Scenario: Weekday Peak Period Crosswalk Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	With Conflicting Vehicles					
				AM Peak		Midday Peak		PM Peak	
				SFP	LOS	SFP	LOS	SFP	LOS
West 17th Street and Mermaid Avenue	North	30.8	16.3	366.2	A	216.2	A	146.0	A
	East	43.0	14.0	827.4	A	313.8	A	503.6	A
	South	31.3	14.8	109.5	A	65.5	A	77.5	A
	West	43.6	12.5	593.3	A	332.0	A	375.4	A
West 17th Street and Surf Avenue	North	31.0	19.6	487.8	A	547.4	A	303.1	A
	East	73.0	14.3	868.7	A	337.8	A	63.1	A
	West	73.3	13.4	543.5	A	182.9	A	176.6	A
West 16th Street and Surf Avenue	North	29.0	13.8	277.1	A	313.7	A	205.8	A
	East	74.4	13.4	905.6	A	132.2	A	117.9	A
	South	16.3	14.3	545.3	A	243.9	A	71.2	A
	West	73.8	13.9	1865.4	A	818.2	A	463.4	A
Stillwell Avenue and Mermaid Avenue	North	60.0	10.8	269.8	A	301.5	A	339.3	A
	East	68.0	14.0	363.9	A	715.6	A	310.9	A
	South	59.7	11.2	27.3	C	39.0	C	40.7	B
	West	43.5	16.9	490.0	A	256.8	A	325.1	A
Stillwell Avenue and Surf Avenue	North	59.8	16.0	386.0	A	350.2	A	97.2	A
	East	72.8	15.6	68.7	A	25.0	C	22.2	D
	South	59.6	21.5	3265.6	A	276.0	A	206.1	A
	West	74.5	14.8	362.5	A	226.1	A	34.6	C
West 8th Street and Surf Avenue	North	80.0	15.5	1745.5	A	520.1	A	191.2	A
	East	74.0	14.3	524.7	A	1697.6	A	2994.0	A
	West	74.0	9.7	3859.8	A	698.3	A	95.0	A
West 15th Street and Surf Avenue	North	31.5	17.9	303.6	A	245.8	A	148.3	A
	East	83.0	14.5	139.6	A	136.9	A	283.3	A
	South	49.4	23.0	893.8	A	881.6	A	449.9	A
	West	78.0	15.9	153.3	A	126.5	A	156.7	A
West 12th Street and Surf Avenue	North	29.9	20.8	579.8	A	571.6	A	580.8	A
	East	74.4	14.0	142.1	A	143.3	A	143.6	A
	South	29.4	21.0	745.4	A	746.3	A	743.7	A
	West	74.8	14.0	82.9	A	86.6	A	84.8	A

Note: SFP = square feet per pedestrian

Table 17-27
2019 No Build Scenario: Saturday Peak Period Crosswalk Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	With Conflicting Vehicles			
				Midday Peak		PM Peak	
				SFP	LOS	SFP	LOS
West 17th Street and Mermaid Avenue	North	30.8	16.3	236.0	A	201.8	A
	East	43.0	14.0	417.2	A	220.9	A
	South	31.3	14.8	86.6	A	92.1	A
	West	43.6	12.5	137.5	A	241.7	A
West 17th Street and Surf Avenue	North	31.0	19.6	369.0	A	386.1	A
	East	73.0	14.3	487.7	A	96.2	A
	West	73.3	13.4	87.6	A	121.3	A
West 16th Street and Surf Avenue	North	29.0	13.8	249.8	A	182.4	A
	East	74.4	13.4	104.1	A	55.0	B
	South	16.3	14.3	132.8	A	61.2	A
	West	73.8	13.9	444.1	A	165.8	A
Stillwell Avenue and Mermaid Avenue	North	60.0	10.8	328.9	A	534.2	A
	East	68.0	14.0	323.2	A	236.3	A
	South	59.7	11.2	247.0	A	63.3	B
	West	43.5	16.9	348.4	A	186.0	A
Stillwell Avenue and Surf Avenue	North	59.8	16.0	127.4	A	74.2	A
	East	72.8	15.6	6.4	F	4.7	F
	South	59.6	21.5	101.0	A	65.1	A
	West	74.5	14.8	29.1	C	22.2	D
West 8th Street and Surf Avenue	North	80.0	15.5	338.8	A	177.1	A
	East	74.0	14.3	530.4	A	493.7	A
	West	74.0	9.7	140.9	A	90.3	A
West 15th Street and Surf Avenue	North	31.5	17.9	154.6	A	150.2	A
	East	83.0	14.5	271.6	A	274.9	A
	South	49.4	23.0	442.4	A	443.7	A
	West	78.0	15.9	138.5	A	138.9	A
West 12th Street and Surf Avenue	North	29.9	20.8	544.3	A	553.5	A
	East	74.4	14.0	141.8	A	144.0	A
	South	29.4	21.0	734.7	A	745.4	A
	West	74.8	14.0	82.3	A	77.5	A

Note: SFP = square feet per pedestrian

E. PROBABLE IMPACTS OF THE PROPOSED ACTIONS

The future with the proposed actions, or the Build scenario, would result in increased transit and pedestrian trips compared to the No Build scenario. This section describes the projected travel patterns of the project-generated trips and assesses their potential impacts on nearby transit and pedestrian facilities.

TRIP DISTRIBUTION AND ASSIGNMENT

The proposed actions would generate 4,373, 12,587, 11,487, 12,926, and 11,092 person trips during the weekday AM, weekday midday, weekday PM, Saturday midday, and Saturday PM peak hours, respectively. These trips include 1,695, 3,359, 4,313, 4,585, and 3,809 transit (subway and bus) trips and 1,250, 5,914, 3,419, 3,742, and 3,586 walk only trips over the same time periods.

Project-generated transit and pedestrian trips were assigned separately for each of the four subdistricts in the Coney Island rezoning area: Coney East, Coney West, and Coney North (combined with Mermaid Avenue). There are two primary travel patterns, one associated with

the planned residential uses and the other related to the various commercial destinations. Therefore, for the Coney North and Coney West subdistricts, one set of trip assignment patterns was developed for the projected residential trips and another was developed for the remaining trips generated by the retail and hotel uses.

TRANSIT TRIPS

Project-generated subway trips were assigned to the Stillwell Avenue or West 8th Street subway stations based upon their relative proximity to each subdistrict. Within each station, trips were assigned to control areas and stairways depending on their connecting travel mode (either bus or walk) and direction of travel to/from each of the stations.

For each subdistrict, project-generated bus trips were assigned to local and express buses for the weekday analysis peak periods and to local buses only for the Saturday analysis peak periods. Trips were split among the bus routes based on the proximity to the subdistricts, destinations served, and frequency of service. In addition, those subway trips expected to be made via connection to area bus routes were added to the bus trip assignments.

PEDESTRIAN TRIPS

Pedestrian circulation would occur primarily along Surf and Mermaid Avenues, and along the various north-south cross streets. The following assumptions were used to assign the auto, transit, and walk-only pedestrian trips:

- Vehicular trips were assigned to on-site and off-site parking facilities. For the walk portion of these trips, likely travel paths were developed between the parking facilities and their destinations in the development subdistricts to determine the number of trips passing through each of the pedestrian analysis locations.
- Similarly, potential travel paths between each subdistrict and study area subway stations and bus stops were developed to assign subway and bus riders to the pedestrian analysis locations.
- Likewise, logical travel paths were developed in assigning walk-only trips to the pedestrian analysis locations.

CHANGES TO THE STREET-LEVEL PEDESTRIAN ENVIRONMENT

As described in Chapter 1, "Project Description," the proposed actions include changes to the block configuration and elevation of portions of the rezoning area as summarized below.

- Mapping as parkland of 9.39 acres of land fronting on the Boardwalk between KeySpan Park and Cyclone Park.
- Demapping portions of West 10th Street, West 12th Street, Stillwell Avenue, and West 15th Street as streets and mapping these areas as part of the open amusement park.
- Mapping as parkland of 1.41 acre of land on the Boardwalk between West 22nd and West 23rd Streets for the purpose of creating a new neighborhood park, tentatively named "Highland View Park."
- Demapping Highland View Avenue and portions of West 22nd Street as streets and mapping these areas as part of Highland View Park.
- Demapping the portion of Bowery between West 15th and West 16th Streets to facilitate the creation of a larger development block to accommodate large-scale amusement uses.

- Mapping new streets to facilitate the redevelopment of vacant and underutilized land through the creation of new block configurations, to enhance the access to the Boardwalk and to develop new connections between the residential community and the amusement area.
- Raising the grades of some existing streets to meet the elevation of the proposed new streets, which would be close to the level or at the level of the floodplain elevation to facilitate the development of active ground-floor uses.

These changes would alter the existing pedestrian environment by eliminating some city blocks and creating new city blocks. Because these changes would affect secondary streets rather than the main thoroughfares of Surf, Stillwell, and Mermaid Avenues, minimal effects on pedestrian flow are expected at the analysis locations where most pedestrian trips would congregate.

SUBWAY STATION OPERATIONS

The same subway station control area and vertical circulation elements analyzed for the existing and No Build scenarios were evaluated to determine how these elements would function under the Build scenario. Project-generated subway trips were added to the 2019 No Build volumes to generate the 2019 Build volumes for the analysis of station operations. Although there would be some deterioration in service levels at some station elements, as compared to the No Build scenario, as shown in **Tables 17-28** and **17-29**, all subway station elements would continue to operate at acceptable levels of service during the analysis peak periods under the Build scenario. Therefore, the proposed actions would not result in any significant adverse subway impacts.

Table 17-28
2019 Build Scenario: Subway Station Control Area Analysis

Station Elements	Quantity	15-Minute Pedestrian Volumes		15-Minute SVCD Capacity	V/SVCD ratio	LOS
		In	Out			
Weekday AM Peak Period						
Two-Way Turnstiles	9	337	189	4320	0.12	A
Service Gates	2	0	0	1500	0.00	A
High Entry/Exit Gates	2	0	0	600	0.00	A
Weekday PM Peak Period						
Two-Way Turnstiles	9	556	170	4320	0.17	A
Service Gates	2	5	488	1500	0.33	B
High Entry/Exit Gates	2	23	20	600	0.07	A
Saturday Midday Peak Period						
Two-Way Turnstiles	9	394	258	4320	0.15	A
Service Gates	2	76	1000	1500	0.72	D
High Entry/Exit Gates	2	10	48	600	0.10	A
Saturday PM Peak Period						
Two-Way Turnstiles	9	941	197	4320	0.26	B
Service Gates	2	17	892	1500	0.61	D
High Entry/Exit Gates	2	31	29	600	0.10	A

Note: Capacities were calculated based on rates presented in the New York City Transit, *Station Planning and Design Guidelines* (January 2001), in accordance with the *CEQR Technical Manual*.

Table 17-29
2019 Build Scenario: Subway Station Stairway Analysis

Stairway	Width (feet)	Effective Width (feet)	15-Minute Pedestrian Volumes		Friction Factor	15-Minute SVCD Capacity	V/SVCD Ratio	LOS
			Up	Down				
Weekday AM Peak Period								
Stillwell Avenue / Coney Island (D, F, N, Q)								
Stair to N Train (ML1)	5.3	4.3	32	13	0.80	516	0.09	A
Stair to N Train (ML2)	5.3	4.3	100	43	0.80	516	0.28	A
Stair to Q Train (ML3)	5.3	4.3	197	87	0.80	516	0.55	B
Stair to Q Train (ML4)	5.3	4.3	40	86	0.80	516	0.24	A
Stair to F Train (ML5)	9.0	7.0	159	53	0.80	840	0.25	A
Stair to D Train (ML6)	11.6	10.6	231	48	0.80	1272	0.22	A
West 8th / Aquarium (F, Q)								
Stairway (S1)	9.5	7.5	21	46	0.80	900	0.07	A
Weekday PM Peak Period								
Stillwell Avenue / Coney Island (D, F, N, Q)								
Stair to N Train (ML1)	5.3	4.3	48	55	0.90	581	0.18	A
Stair to N Train (ML2)	5.3	4.3	75	117	0.90	581	0.33	A
Stair to Q Train (ML3)	5.3	4.3	155	104	0.90	581	0.45	A
Stair to Q Train (ML4)	5.3	4.3	67	64	0.90	581	0.23	A
Stair to F Train (ML5)	9.0	7.0	203	177	0.90	945	0.40	A
Stair to D Train (ML6)	11.6	10.6	263	231	0.90	1431	0.35	A
West 8th / Aquarium (F, Q)								
Stairway (S1)	9.5	7.5	73	143	0.90	1013	0.21	A
Saturday Midday Peak Period								
Stillwell Avenue / Coney Island (D, F, N, Q)								
Stair to N Train (ML1)	5.3	4.3	43	105	0.80	516	0.29	A
Stair to N Train (ML2)	5.3	4.3	148	95	0.90	581	0.42	A
Stair to Q Train (ML3)	5.3	4.3	103	82	0.90	581	0.32	A
Stair to Q Train (ML4)	5.3	4.3	50	72	0.90	581	0.21	A
Stair to F Train (ML5)	9.0	7.0	91	150	0.90	945	0.26	A
Stair to D Train (ML6)	11.6	10.6	132	498	0.80	1272	0.50	B
West 8th / Aquarium (F, Q)								
Stairway (S1)	9.5	7.5	16	50	0.80	900	0.07	A
Saturday PM Peak Period								
Stillwell Avenue / Coney Island (D, F, N, Q)								
Stair to N Train (ML1)	5.3	4.3	98	60	0.90	581	0.27	A
Stair to N Train (ML2)	5.3	4.3	150	82	0.90	581	0.40	A
Stair to Q Train (ML3)	5.3	4.3	232	67	0.80	516	0.58	B
Stair to Q Train (ML4)	5.3	4.3	74	65	0.90	581	0.24	A
Stair to F Train (ML5)	9.0	7.0	262	145	0.90	945	0.43	A
Stair to D Train (ML6)	11.6	10.6	213	489	0.80	1272	0.55	B
West 8th / Aquarium (F, Q)								
Stairway (S1)	9.5	7.5	63	78	0.90	1013	0.14	A

Note: Capacities were calculated based on rates presented in the New York City Transit, *Station Planning and Design Guidelines* (January 2001), in accordance with the *CEQR Technical Manual*.

BUS LINE HAUL LEVELS

Peak period bus ridership for the Build scenario was generated by adding the incremental trips associated with the proposed actions to the No Build bus line haul volumes. **Table 17-30** below details Build operating conditions for all study area bus routes.

Table 17-30
2019 Build Scenario: Bus Line Haul Analysis at Peak Load Points

Route	Peak Period	Buses Per Hour	Eastbound/Northbound Load Point	AP	Buses Per Hour	Westbound/Southbound Load Point	AP
Weekday Line Haul							
B36	AM	18	Surf Avenue and Stillwell Avenue	**(66)**	15	Sheepshead Bay and E. 16th Street	**(70)**
	PM	9	Sheepshead Bay and E. 15th Street	**(71)**	8	Surf Avenue and Stillwell Avenue	**(86)**
B64	AM	7	86th Street and 14th Avenue	51	7	Bath Avenue and 18th Avenue	42
	PM	6	86th Street and 14th Avenue	32	6	4th Avenue and 86th Street	50
B68	AM	8	Coney Island Avenue and Kings Hwy	**(63)**	11	Coney Island Avenue and Avenue J	**(62)**
	PM	9	Coney Island Avenue and Kings Hwy	**(56)**	8	Coney Island Avenue and Kings Hwy	**(62)**
B74	AM				7	Stillwell Terminal	**(66)**
	PM				9	Stillwell Terminal	**(67)**
B82	AM	13	Kings Hwy and Coney Island Avenue	**(59)**	13	Kings Highway and Ryder Avenue	33
	PM	13	Kings Highway and Ocean Avenue	**(55)**	10	Flatlands Avenue and Ralph Avenue	**(61)**
X28	AM	11	86th Street and 7th Avenue	53	1	Battery Place and Washington Street	11
	PM	1	86th Street and 7th Avenue	34	9	Battery Place and Washington Street	47
X29	AM	4	Church Avenue and East 7th Street	54			
	PM				5	Battery Place and Washington Street	43
X38	AM	9	86th Street and 7th Avenue	**(56)**			
	PM				7	East 23rd Street and First Avenue	48
Saturday Line Haul							
B36	MD	5	Surf Avenue and Stillwell Avenue	**(93)**	5	Sheepshead Bay and E. 16th Street	**(59)**
	PM	5	Sheepshead Bay and E. 15th Street	**(58)**	5	Surf Avenue and Stillwell Avenue	**(94)**
B64	MD	6	86th Street and 4th Avenue	40	7	86th Street and 4th Avenue	42
	PM	6	86th Street and 14th Avenue	46	6	86th Street and 14th Avenue	31
B68	MD	8	Coney Island Avenue and Avenue U	43	9	Coney Island Avenue and Avenue U	44
	PM	9	Coney Island Avenue and Avenue U	47	8	Coney Island Avenue and Avenue U	50
B74	MD				4	Stillwell Terminal	53
	PM				6	Stillwell Terminal	47
B82	MD	7	Kings Highway and Ocean Avenue	50	7	Kings Hwy and Coney Island Avenue	42
	PM	7	Kings Hwy and Coney Island Avenue	46	7	Kings Highway and Ocean Avenue	42

Note: AP = average passengers per bus; **(#)** = exceeds NYCT guideline capacity.
Source: NYCT Peak Load Point data.

As described in section B, "Methodology," impacts to bus line haul levels would be considered significant if a proposed action is anticipated to result in operating conditions above guideline capacities. Compared to the No Build scenario, which would already have several bus routes operating above guideline capacities during the weekday peak periods, the Build scenario is expected to exhibit even higher ridership levels and additional bus routes operating over the guideline capacities. Furthermore, one of the study area bus routes would operate above guideline capacity during the Saturday peak periods under the Build scenario. Significant adverse line-haul impacts to study area bus routes during the weekday and Saturday analysis peak periods are summarized below.

WEEKDAY ANALYSIS PERIODS

- Eastbound and westbound B36 during the AM and PM peak periods;
- Eastbound and westbound B68 during the AM and PM peak periods;
- Westbound B74 during the AM and PM peak periods;
- Northbound B82 during the AM and PM peak periods, and southbound B82 during the PM peak period; and
- Northbound X38 during the AM peak period.

SATURDAY ANALYSIS PERIODS

- Eastbound and westbound B36 during the midday and PM peak periods.

STREET-LEVEL PEDESTRIAN OPERATIONS

Pedestrian trips associated with the proposed actions would result in increased volumes at the study area analysis locations. The Build scenario analyses account for the distribution of project-generated trips overlaid onto the No Build pedestrian network's sidewalks, corner reservoirs, and crosswalks for the weekday AM, weekday midday, weekday PM, Saturday midday, and Saturday PM peak periods. **Tables 17-31** through **17-39** present the future build operating conditions for the pedestrian analysis elements.

Similar to the existing and No Build scenarios, study area sidewalks and corners would operate acceptably while some crosswalks at intersections near the Coney Island-Stillwell Avenue subway station would operate at congested levels during certain peak analysis periods under the Build scenario. As discussed in section B, "Methodology," project-related sidewalk impacts are considered significant if there is an increase of 2 PFM or more over No Build scenario beyond mid-LOS D (13 PFM). For corner reservoirs and crosswalks, impacts resulting in a decrease of 1 SFP or more over the No Build scenario beyond mid-LOS D (20 SFP) are considered significant. Based on these criteria, significant adverse pedestrian impacts were identified for the east and west crosswalks at the Stillwell Avenue and Surf Avenue intersection, as detailed below.

WEEKDAY MIDDAY PEAK PERIOD

- *Stillwell Avenue and Surf Avenue*: The east crosswalk would deteriorate from LOS C (25.0 SFP) to LOS D (17.9 SFP).

WEEKDAY PM PEAK PERIOD

- *Stillwell Avenue and Surf Avenue*: The east crosswalk would deteriorate from LOS D (22.2 SFP) to LOS E (14.3 SFP) and the west crosswalk would deteriorate from LOS C (34.6 SFP) to LOS D (17.0 SFP).

SATURDAY MIDDAY PEAK PERIOD

- *Stillwell Avenue and Surf Avenue*: The east crosswalk would deteriorate within LOS F (6.4 SFP to 5.1 SFP) and the west crosswalk would deteriorate from LOS C (29.1 SFP) to LOS D (15.7 SFP).

Table 17-31
2019 Build Scenario: Weekday AM Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	45	0.3	A	4.3	A
	West	9.6	18	0.1	A	4.1	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	67	0.3	A	4.3	A
	South	10.0	214	1.4	A	5.4	B
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	47	0.6	A	4.6	A
	South	15.0	203	0.9	A	4.9	A
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	53	0.3	A	4.3	A
	West	8.0	34	0.3	A	4.3	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	136	0.6	A	4.6	A
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	44	0.4	A	4.4	A
	West	10.8	14	0.1	A	4.1	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	220	0.8	A	4.8	A
	South	16.8	111	0.4	A	4.4	A
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	170	0.7	A	4.7	A
	South	22.0	169	0.5	A	4.5	A
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	35	0.2	A	4.2	A
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	41	0.2	A	4.2	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	37	0.2	A	4.2	A
	South	14.5	490	2.3	A	6.3	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	114	0.9	A	4.9	A
	West	7.4	88	0.8	A	4.8	A
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	377	1.3	A	5.3	B
	South	17.5	35	0.1	A	4.1	A
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	331	1.3	A	5.3	B
	South	16.5	46	0.2	A	4.2	A
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	8	0.1	A	4.1	A
	West	5.3	35	0.4	A	4.4	A
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	18	0.1	A	4.1	A
	South	17.5	15	0.1	A	4.1	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	66	0.3	A	4.3	A
	South	16.8	122	0.5	A	4.5	A
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	68	0.5	A	4.5	A
	West	9.8	75	0.5	A	4.5	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	78	0.5	A	4.5	A
	West	11.5	82	0.5	A	4.5	A
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	46	0.3	A	4.3	A
	West	11.0	78	0.5	A	4.5	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	48	0.2	A	4.2	A
	West	12.0	49	0.3	A	4.3	A

Note: PFM = pedestrians per foot per minute

Table 17-32
2019 Build Scenario: Weekday Midday Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	143	0.9	A	4.9	A
	West	9.6	13	0.1	A	4.1	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	105	0.5	A	4.5	A
	South	10.0	337	2.2	A	6.2	B
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	112	1.4	A	5.4	B
	South	15.0	356	1.6	A	5.6	B
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	138	0.8	A	4.8	A
	West	8.0	18	0.2	A	4.2	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	400	1.7	A	5.7	B
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	128	1.0	A	5.0	B
	West	10.8	18	0.1	A	4.1	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	398	1.4	A	5.4	B
	South	16.8	238	0.9	A	4.9	A
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	391	1.5	A	5.5	B
	South	22.0	369	1.1	A	5.1	B
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	118	0.7	A	4.7	A
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	59	0.3	A	4.3	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	48	0.2	A	4.2	A
	South	14.5	437	2.0	A	6.0	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	108	0.9	A	4.9	A
	West	7.4	255	2.3	A	6.3	B
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	939	3.3	A	7.3	C
	South	17.5	302	1.1	A	5.1	B
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	611	2.3	A	6.3	B
	South	16.5	167	0.7	A	4.7	A
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	10	0.2	A	4.2	A
	West	5.3	81	1.0	A	5.0	B
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	70	0.2	A	4.2	A
	South	17.5	222	0.8	A	4.8	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	239	1.1	A	5.1	B
	South	16.8	454	1.8	A	5.8	B
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	129	0.9	A	4.9	A
	West	9.8	132	0.9	A	4.9	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	154	0.9	A	4.9	A
	West	11.5	177	1.0	A	5.0	B
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	46	0.3	A	4.3	A
	West	11.0	200	1.2	A	5.2	B
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	56	0.2	A	4.2	A
	West	12.0	59	0.3	A	4.3	A

Note: PFM = pedestrians per foot per minute

Table 17-33
2019 Build Scenario: Weekday PM Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	97	0.6	A	4.6	A
	West	9.6	32	0.2	A	4.2	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	78	0.4	A	4.4	A
	South	10.0	330	2.2	A	6.2	B
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	124	1.5	A	5.5	B
	South	15.0	261	1.2	A	5.2	B
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	91	0.5	A	4.5	A
	West	8.0	39	0.3	A	4.3	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	292	1.2	A	5.2	B
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	125	1.0	A	5.0	B
	West	10.8	38	0.2	A	4.2	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	441	1.6	A	5.6	B
	South	16.8	464	1.8	A	5.8	B
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	356	1.4	A	5.4	B
	South	22.0	567	1.7	A	5.7	B
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	191	1.1	A	5.1	B
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	54	0.2	A	4.2	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	32	0.2	A	4.2	A
	South	14.5	447	2.1	A	6.1	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	137	1.1	A	5.1	B
	West	7.4	161	1.5	A	5.5	B
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	1039	3.6	A	7.6	C
	South	17.5	319	1.2	A	5.2	B
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	785	3.0	A	7.0	C
	South	16.5	276	1.1	A	5.1	B
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	10	0.1	A	4.1	A
	West	5.3	71	0.9	A	4.9	A
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	98	0.3	A	4.3	A
	South	17.5	91	0.3	A	4.3	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	364	1.7	A	5.7	B
	South	16.8	529	2.1	A	6.1	B
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	98	0.7	A	4.7	A
	West	9.8	114	0.8	A	4.8	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	175	1.1	A	5.1	B
	West	11.5	224	1.3	A	5.3	B
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	46	0.3	A	4.3	A
	West	11.0	135	0.8	A	4.8	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	52	0.2	A	4.2	A
	West	12.0	55	0.3	A	4.3	A

Note: PFM = pedestrians per foot per minute

Table 17-34
2019 Build Scenario: Saturday Midday Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	102	0.7	A	4.7	A
	West	9.6	87	0.6	A	4.6	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	52	0.2	A	4.2	A
	South	10.0	281	1.9	A	5.9	B
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	57	0.7	A	4.7	A
	South	15.0	262	1.2	A	5.2	B
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	84	0.5	A	4.5	A
	West	8.0	100	0.8	A	4.8	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	307	1.3	A	5.3	B
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	144	1.2	A	5.2	B
	West	10.8	28	0.2	A	4.2	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	328	1.2	A	5.2	B
	South	16.8	388	1.5	A	5.5	B
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	315	1.2	A	5.2	B
	South	22.0	364	1.1	A	5.1	B
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	327	1.9	A	5.9	B
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	78	0.3	A	4.3	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	98	0.5	A	4.5	A
	South	14.5	361	1.7	A	5.7	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	114	0.9	A	4.9	A
	West	7.4	270	2.4	A	6.4	B
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	1303	4.6	A	8.6	C
	South	17.5	550	2.1	A	6.1	B
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	621	2.4	A	6.4	B
	South	16.5	392	1.6	A	5.6	B
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	35	0.5	A	4.5	A
	West	5.3	163	2.1	A	6.1	B
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	79	0.3	A	4.3	A
	South	17.5	90	0.3	A	4.3	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	374	1.7	A	5.7	B
	South	16.8	829	3.3	A	7.3	C
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	93	0.6	A	4.6	A
	West	9.8	118	0.8	A	4.8	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	223	1.4	A	5.4	B
	West	11.5	280	1.6	A	5.6	B
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	46	0.3	A	4.3	A
	West	11.0	141	0.9	A	4.9	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	53	0.2	A	4.2	A
	West	12.0	56	0.3	A	4.3	A

Note: PFM = pedestrians per foot per minute

Table 17-35
2019 Build Scenario: Saturday PM Peak Period Sidewalk Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
W. 17th St. between Neptune Ave. and Mermaid Ave.	East	10.4	82	0.5	A	4.5	A
	West	9.6	50	0.3	A	4.3	A
Mermaid Ave. between W. 16th St. and W. 17th St.	North	14.7	76	0.3	A	4.3	A
	South	10.0	300	2.0	A	6.0	B
Mermaid Ave. between W. 17th St. and W. 19th St.	North	5.5	83	1.0	A	5.0	B
	South	15.0	288	1.3	A	5.3	B
W. 17th St. between Mermaid Ave. and Surf Ave.	East	11.4	83	0.5	A	4.5	A
	West	8.0	54	0.5	A	4.5	A
Surf Ave. between W. 17th St. and W. 19th St.	North	15.9	282	1.2	A	5.2	B
W. 16th St. between Mermaid Ave. and Surf Ave.	East	8.3	224	1.8	A	5.8	B
	West	10.8	52	0.3	A	4.3	A
Surf Ave. between W. 15th St. and W. 16th St.	North	18.4	355	1.3	A	5.3	B
	South	16.8	473	1.9	A	5.9	B
Surf Ave. between W. 16th St. and W. 17th St.	North	17.4	337	1.3	A	5.3	B
	South	22.0	506	1.5	A	5.5	B
W. 16th St. between Surf Ave. and Boardwalk	East	11.6	291	1.7	A	5.7	B
Stillwell Ave. between Neptune Ave. and Mermaid Ave.	West	15.0	124	0.6	A	4.6	A
Mermaid Ave. between Stillwell Ave. and W. 15th St.	North	13.0	91	0.5	A	4.5	A
	South	14.5	345	1.6	A	5.6	B
Stillwell Ave. between Mermaid Ave. and Surf Ave.	East	8.4	150	1.2	A	5.2	B
	West	7.4	300	2.7	A	6.7	B
Surf Ave. between W. 12th St. and Stillwell Ave.	North	19.0	1129	4.0	A	8.0	C
	South	17.5	883	3.4	A	7.4	C
Surf Ave. between Stillwell Ave. and W. 15th St.	North	17.4	653	2.5	A	6.5	B
	South	16.5	961	3.9	A	7.9	C
W. 8th St. between Neptune Ave. and Surf Ave.	East	4.4	43	0.7	A	4.7	A
	West	5.3	226	2.8	A	6.8	B
Surf Ave. between W. 5th St. and W. 8th St.	North	20.0	85	0.3	A	4.3	A
	South	17.5	65	0.2	A	4.2	A
Surf Ave. between W. 8th St. and W. 10th St.	North	14.6	390	1.8	A	5.8	B
	South	16.8	735	2.9	A	6.9	B
W. 15th St. between Mermaid Ave. and Surf Ave.	East	10.0	92	0.6	A	4.6	A
	West	9.8	108	0.7	A	4.7	A
W. 15th St. between Surf Ave. and Boardwalk	East	11.0	184	1.1	A	5.1	B
	West	11.5	240	1.4	A	5.4	B
W. 12th St. between Neptune Ave. and Surf Ave.	East	12.0	46	0.3	A	4.3	A
	West	11.0	138	0.8	A	4.8	A
W. 12th St. between Surf Ave. and Boardwalk	East	15.4	53	0.2	A	4.2	A
	West	12.0	55	0.3	A	4.3	A

Note: PFM = pedestrians per foot per minute

Table 17-36
2019 Build Scenario: Weekday Peak Period Corner Reservoir Analysis

Locations	Corner	AM Peak		Midday Peak		PM Peak	
		SFP	LOS	SFP	LOS	SFP	LOS
West 17th Street and Mermaid Avenue	Northeast	545.6	A	251.5	A	286.4	A
	Southeast	188.0	A	98.3	A	120.6	A
	Southwest	221.0	A	138.0	A	153.3	A
	Northwest	663.6	A	444.0	A	287.7	A
West 17th Street and Surf Avenue	Northeast	449.2	A	176.4	A	156.4	A
	Northwest	223.2	A	98.1	A	110.9	A
West 16th Street and Surf Avenue	Northeast	235.1	A	117.5	A	108.7	A
	Southeast	556.0	A	199.1	A	136.7	A
	Northwest	253.2	A	167.1	A	143.3	A
Stillwell Avenue and Mermaid Avenue	Southeast	131.3	A	167.1	A	146.4	A
	Southwest	117.2	A	117.5	A	129.4	A
	Northwest	910.1	A	645.8	A	831.2	A
Stillwell Avenue and Surf Avenue	Northeast	286.3	A	125.4	A	97.8	A
	Southeast	494.6	A	135.9	A	107.9	A
	Southwest	1058.2	A	264.2	A	156.3	A
	Northwest	239.2	A	115.6	A	73.3	A
West 8th Street and Surf Avenue	Northeast	878.9	A	446.0	A	290.8	A
	Northwest	1790.0	A	471.9	A	306.1	A
West 15th Street and Surf Avenue	Northeast	190.1	A	116.7	A	100.1	A
	Southeast	411.7	A	179.2	A	158.3	A
	Southwest	296.8	A	135.4	A	105.2	A
	Northwest	175.7	A	109.0	A	83.7	A
West 12th Street and Surf Avenue	Northeast	459.1	A	231.5	A	206.3	A
	Southeast	649.4	A	414.2	A	333.7	A
	Southwest	523.9	A	358.6	A	309.1	A
	Northwest	394.0	A	161.9	A	184.2	A

Note: SFP = square feet per pedestrian

Table 17-37
2019 Build Scenario: Saturday Peak Period Corner Reservoir Analysis

Locations	Corner	Midday Peak		PM Peak	
		SFP	LOS	SFP	LOS
West 17th Street and Mermaid Avenue	Northeast	333.3	A	290.5	A
	Southeast	143.3	A	134.1	A
	Southwest	155.6	A	180.7	A
	Northwest	251.7	A	352.1	A
West 17th Street and Surf Avenue	Northeast	235.3	A	203.0	A
	Northwest	103.4	A	124.2	A
West 16th Street and Surf Avenue	Northeast	126.7	A	104.1	A
	Southeast	143.5	A	112.7	A
	Northwest	189.5	A	170.3	A
Stillwell Avenue and Mermaid Avenue	Southeast	296.6	A	198.7	A
	Southwest	224.2	A	150.5	A
	Northwest	758.9	A	578.6	A
Stillwell Avenue and Surf Avenue	Northeast	53.5	B	52.4	B
	Southeast	46.8	B	34.8	C
	Southwest	94.8	A	75.1	A
	Northwest	76.0	A	67.7	A
West 8th Street and Surf Avenue	Northeast	738.2	A	478.6	A
	Northwest	419.7	A	349.7	A
West 15th Street and Surf Avenue	Northeast	93.3	A	105.5	A
	Southeast	130.8	A	152.7	A
	Southwest	100.1	A	117.5	A
	Northwest	88.0	A	101.0	A
West 12th Street and Surf Avenue	Northeast	168.8	A	195.4	A
	Southeast	276.5	A	316.8	A
	Southwest	263.6	A	298.0	A
	Northwest	157.3	A	175.0	A

Note: SFP = square feet per pedestrian

Table 17-38
2019 Build Scenario: Weekday Peak Period Crosswalk Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	With Conflicting Vehicles					
				AM Peak		Midday Peak		PM Peak	
				SFP	LOS	SFP	LOS	SFP	LOS
West 17th Street and Mermaid Avenue	North	30.8	16.3	362.7	A	214.3	A	144.2	A
	East	43.0	14.0	411.5	A	132.1	A	198.1	A
	South	31.3	14.8	61.0	A	35.6	C	38.9	C
	West	43.6	12.5	790.0	A	662.0	A	498.8	A
West 17th Street and Surf Avenue	North	31.0	19.6	214.0	A	83.0	A	91.6	A
	East	73.0	14.3	410.2	A	130.2	A	52.4	B
	West	73.3	13.4	213.6	A	137.0	A	75.1	A
West 16th Street and Surf Avenue	North	29.0	13.8	100.6	A	60.4	A	55.8	B
	East	74.4	13.4	361.2	A	75.2	A	74.1	A
	South	16.3	14.3	171.9	A	59.4	B	35.4	C
	West	73.8	13.9	148.5	A	153.9	A	87.7	A
Stillwell Avenue and Mermaid Avenue	North	60.0	10.8	269.8	A	301.5	A	339.3	A
	East	68.0	14.0	363.9	A	715.6	A	310.9	A
	South	59.7	11.2	21.6	D	27.1	C	25.1	C
	West	43.5	16.9	490.7	A	258.5	A	327.5	A
Stillwell Avenue and Surf Avenue	North	59.8	16.0	88.9	A	43.7	B	30.6	C
	East	72.8	15.6	47.5	B	17.9	D+	14.3	E+
	South	59.6	21.5	1449.0	A	195.5	A	146.1	A
	West	74.5	14.8	97.6	A	40.1	B	17.0	D+
West 8th Street and Surf Avenue	North	80.0	15.5	603.0	A	168.4	A	100.3	A
	East	74.0	14.3	322.8	A	225.8	A	182.2	A
	West	74.0	9.7	399.3	A	99.1	A	44.9	B
West 15th Street and Surf Avenue	North	31.5	17.9	114.9	A	81.2	A	57.7	B
	East	83.0	14.5	83.7	A	36.7	C	44.7	B
	South	49.4	23.0	327.9	A	136.7	A	102.7	A
	West	78.0	15.9	68.5	A	33.7	C	27.9	C
West 12th Street and Surf Avenue	North	29.9	20.8	343.5	A	149.7	A	148.6	A
	East	74.4	14.0	100.0	A	57.6	B	45.0	B
	South	29.4	21.0	611.2	A	426.8	A	353.0	A
	West	74.8	14.0	65.5	A	44.7	B	38.9	C

Note: SFP = square feet per pedestrian; **+** = significant adverse impact.

Table 17-39
2019 Build Scenario: Saturday Peak Period Crosswalk Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	With Conflicting Vehicles			
				Midday Peak		PM Peak	
				SFP	LOS	SFP	LOS
West 17th Street and Mermaid Avenue	North	30.8	16.3	232.9	A	199.1	A
	East	43.0	14.0	180.7	A	132.8	A
	South	31.3	14.8	48.5	B	51.1	B
	West	43.6	12.5	143.2	A	278.1	A
West 17th Street and Surf Avenue	North	31.0	19.6	103.4	A	103.4	A
	East	73.0	14.3	203.9	A	75.8	A
	West	73.3	13.4	56.3	B	78.5	A
West 16th Street and Surf Avenue	North	29.0	13.8	71.0	A	69.1	A
	East	74.4	13.4	65.8	A	43.6	B
	South	16.3	14.3	42.5	B	30.5	C
	West	73.8	13.9	140.7	A	89.7	A
Stillwell Avenue and Mermaid Avenue	North	60.0	10.8	328.9	A	534.2	A
	East	68.0	14.0	323.2	A	236.3	A
	South	59.7	11.2	78.9	A	41.7	B
	West	43.5	16.9	350.4	A	187.1	A
Stillwell Avenue and Surf Avenue	North	59.8	16.0	35.2	C	30.9	C
	East	72.8	15.6	5.1	F+	4.0	F+
	South	59.6	21.5	79.3	A	56.8	B
	West	74.5	14.8	15.7	D+	14.1	E+
West 8th Street and Surf Avenue	North	80.0	15.5	259.3	A	152.5	A
	East	74.0	14.3	517.2	A	481.2	A
	West	74.0	9.7	44.0	B	41.7	B
West 15th Street and Surf Avenue	North	31.5	17.9	65.5	A	68.8	A
	East	83.0	14.5	26.6	C	31.8	C
	South	49.4	23.0	96.1	A	112.6	A
	West	78.0	15.9	26.6	C	32.8	C
West 12th Street and Surf Avenue	North	29.9	20.8	115.5	A	134.8	A
	East	74.4	14.0	36.4	C	42.0	B
	South	29.4	21.0	296.0	A	342.6	A
	West	74.8	14.0	32.0	C	34.2	C

Note: SFP = square feet per pedestrian; **+** = significant adverse impact.

SATURDAY PM PEAK PERIOD

- *Stillwell Avenue and Surf Avenue*: The east crosswalk would deteriorate within LOS F (4.7 SFP to 4.0 SFP) and the west crosswalk would deteriorate from LOS D (22.2 SFP) to LOS E (14.1 SFP).

Although the reduction in pedestrian space at the east crosswalk of Stillwell Avenue and Surf Avenue during the Saturday PM peak period is predicted to be less than the CEQR impact threshold of 1.0 SFP between No Build and Build scenarios, due to the severe level of pedestrian flow identified, the condition is disclosed here as a significant adverse impact.

F. CONCLUSIONS

The proposed actions would generate 1,695, 3,359, 4,313, 4,585, and 3,809 transit (subway and bus) trips during the weekday AM, weekday midday, weekday PM, Saturday midday, and Saturday PM peak hours, respectively. The proposed actions would also generate 1,250, 5,914, 3,419, 3,742, and 3,586 walk only trips during the weekday AM, weekday midday, weekday PM, Saturday midday, and Saturday PM peak hours. Overlaying these trips onto the future

baseline transportation network is not expected to result in significant adverse impacts to subway station control areas or stairways. However, significant adverse impacts were identified for the B36, B68, B74, B82, and X38 bus routes during the weekday analysis peak periods and for the B36 bus route during the Saturday analysis peak periods. Significant adverse impacts were also identified for the east and west crosswalks at the Stillwell Avenue and Surf Avenue intersection during the weekday and Saturday analysis peak periods. Potential measures to mitigate these projected significant adverse impacts are described in Chapter 22, "Mitigation." ✷