

## **A. INTRODUCTION**

The Proposed Project would generate new subway and bus riders as well as new pedestrians in the vicinity of the Project Site. This chapter evaluates the Proposed Project's potential impacts on transit and pedestrian facilities and includes an assessment of critical transit elements within the study area along with a determination of significant adverse impacts that require mitigation.

The analysis results show that new trips associated with the Proposed Action would not result in significant subway stairway or pedestrian impacts at any analysis location. However, there is the potential for significant adverse impacts bus line haul impacts as detailed below.

The Proposed Project would result in the following impacts on bus operations in the 2011 Build condition.

- The eastbound B6 Limited in the PM Peak hour;
- The westbound B6 Limited in the AM and PM peak hour;
- The northbound B13 in the AM peak hour;
- The southbound B13 in the PM peak hour; and
- The northbound B83 in the AM peak hour.

The Proposed Project also would result in the following impacts on bus operations in the 2013 Build condition.

- The eastbound and westbound B6 Limited in the AM peak hour;
- The eastbound and westbound B6 Limited in the PM Peak hour;
- The northbound and southbound B13 in the AM peak hour;
- The northbound and southbound B13 in the PM peak hour;
- The northbound and southbound B83 in the AM peak hour;
- The northbound B83 in the PM peak hour;
- The northbound Q8 in the AM peak hour; and
- The southbound Q8 in the PM peak hour.

Recommended measures to mitigate these impacts are discussed in Chapter 22, "Mitigation."

## **B. METHODOLOGY**

As described in Chapter 16, "Traffic and Parking," a travel demand projection was developed to identify the transportation elements likely to be affected by the Proposed Action. Based on criteria specified in the 2001 *City Environmental Quality Review (CEQR) Technical Manual*, it was determined that quantified assessments of transit station operations and bus line-haul were

required. Since the estimated trips generated by the Proposed Action would not exceed impact thresholds for subway line-haul, this was not analyzed. Although the majority of trips to and from the Project Site are anticipated to be by auto or transit and the area surrounding the Project Site is characterized by low to moderate pedestrian activity, quantified pedestrian analyses were conducted for the 2013 weekday PM and Saturday midday and late afternoon analysis periods.

### **SUBWAY STATION ELEMENTS**

Subway station operations were assessed according to methods and evaluation criteria presented in the *CEQR Technical Manual*.

To assess subway stairway and control area (turnstiles, service gates, etc.) operations, the user volume is compared to 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 New York City Transit (NYCT) optimum capacity per element. For both stairways and control area 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. Table 17-1 shows the LOS and corresponding v/c ratios for stairways and control area elements.

**Table 17-1**  
**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
<b>Source:</b> New York City Mayor's Office of Environmental Coordination, <i>CEQR Technical Manual</i> (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 difficulty passing slower moving pedestrians. At LOS E and F, there is 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 turnstiles, service gates, and escalators, an increase in volume that results in a v/c of greater than 1.00 may be considered significant, since a value of 1.00 represents the design capacity of the element. For stairways, impacts are considered significant based on the minimum amount of additional capacity that would mitigate the location to its No Build operating conditions. For a

location with a Build LOS D, a widening of six inches or more needed to restore conditions to future No Build conditions is considered significant; for a Build LOS E condition, a widening of three inches or more is considered significant; and for a Build LOS F condition, a widening of 1 inch or more is considered significant.

### BUS LINE-HAUL

Line haul capacities are evaluated when a proposed action is anticipated to generate a perceptible increase in 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 bus trips are anticipated for an already heavily used bus route, its peak load point is evaluated to identify the potential for the buses to exceed their guideline capacities. NYCT operates two types of buses: 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. According to NYCT guidelines, an increase in bus load levels to above the guideline capacity at any load point is defined as a significant 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 NYCT's approval.

### PEDESTRIAN OPERATIONS

Sidewalks, corner reservoirs, and crosswalks are the pedestrian facilities commonly analyzed for potential impacts from a proposed action. The new sidewalks, corners, and crosswalks within the Fresh Creek Urban Renewal Area (FCURA) would be designed to accommodate project-generated pedestrian trips, but where appropriate, new crosswalks at the periphery of the Project Site were assumed in the analysis of the probable impacts of the Proposed Action.

The adequacy of crosswalks in relation to the demand imposed on them is assessed using methodologies presented in the 2000 *Highway Capacity Manual (HCM)*. Crosswalks are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Thus, a crosswalk's LOS is 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 (SFP). The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk. Table 17-2 shows the LOS standards for crosswalks. The description of these LOS is similar to those described above for subway station elements.

**Table 17-2**  
**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
<b>Notes:</b> PFM = pedestrians per foot per minute; SFP = square feet per pedestrian <b>Source:</b> Transportation Research Board. <i>Highway Capacity Manual</i> , 2000.		

The *CEQR Technical Manual* specifies that a mid-LOS D condition or better is considered reasonable for crosswalks outside of the Manhattan Central Business District (CBD). For corners and crosswalks, a mid-LOS D condition requires a minimum of 20 SFP. Project-related crosswalks impacts are considered significant if there is 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). In addition, a service deterioration from LOS A, B, or C to mid-LOS D or worse would be considered a significant adverse impact. However, if there is less than a 200-person increase at a location within the peak hour, any impact is not considered significant since such increases typically would not be perceptible.

### C. EXISTING CONDITIONS

Field surveys were conducted to collect existing subway station and bus line-haul volumes. Subway station data were collected during November, 2006.

The DEIS bus line haul analyses included two bus routes serving the project site—the B6 and the B13. The B6 operates along Cozine Avenue and Ashford Street, a few blocks north of the project site, and the B13 route operates along Erskine Street adjacent to the project site. The B83 was extended to the project site in November 2007 and the Q8 was extended in June 2008. There was not sufficient data to assess the project’s potential impacts on these routes in accordance with the *CEQR Technical Manual* methodology for the DEIS; however, the applicant committed to an analysis of these routes for the FEIS. New bus line haul data were collected from NYCT, and new bus surveys were conducted within the study area to update the existing conditions analyses for the FEIS. As with the DEIS, bus line haul impacts for the FEIS were assessed based on estimated average passenger volumes at the peak load point identified by NYCT. However, because peak load point data were not available from MTA Bus Company for the Q8 route, impacts on this route were assessed based on surveys conducted at the project site.

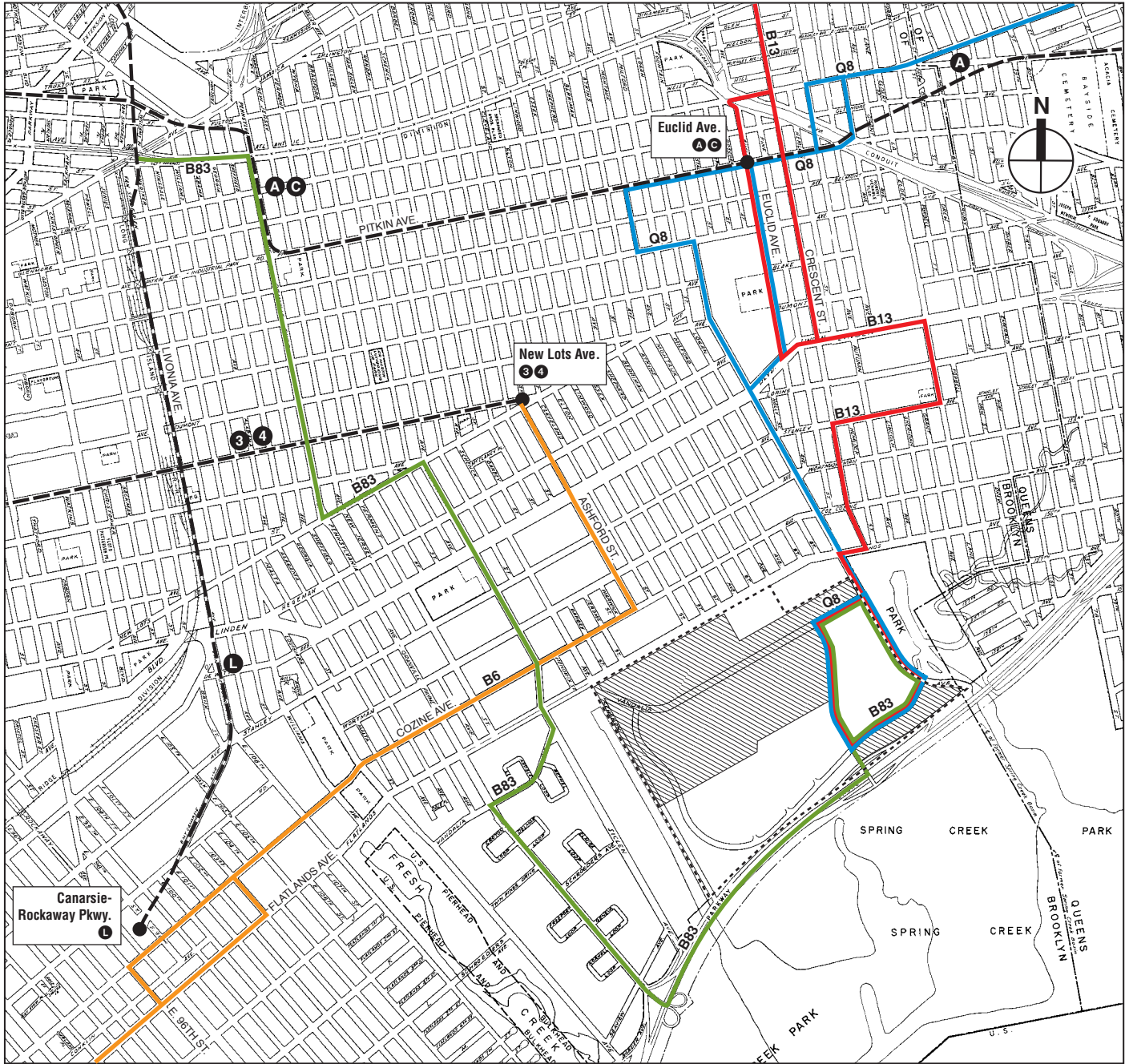
Subsequent to the preparation of the DEIS analysis, NYCT updated the guideline capacity for standard buses from 65 passengers per bus to 54 passengers per bus. This decrease in guideline capacity resulted in a lower threshold for determining significant adverse bus line haul impacts as compared to the analysis presented in the DEIS.

To determine peak conditions for subway stairways and control areas, counts were conducted at 15-minute intervals on weekdays from 7:00-9:30 AM and 4:00-6:30 PM. The highest 15-minute volumes were selected for analysis from each of these peak periods.

To determine peak conditions for bus line-haul, counts were conducted on weekdays from 7:00-9:30 AM and from 4:00-6:30 PM. The highest hourly volumes for each route were selected for analysis. Since projected and background transit use during the weekday and Saturday midday peak periods is considerably lower than during the AM and PM peak periods, detailed weekday and Saturday midday transit analyses were not conducted.

### TRANSIT

The Project Site is located in an area primarily served by three subway stations and four bus routes (see Figure 17-1). A description of each of these transit modes followed by a detailed analysis of key subway station stairways and bus routes that would be affected by trips associated with the Proposed Action is provided below.



- Project Site
- Fresh Creek Urban Renewal Area Boundary
- Subway Line
- Subway Station
- B13 Bus Route and Number

Transit Study Area  
Figure 17-1

### SUBWAY SERVICE

Three NYCT subway stations are situated to the west and north of the Project Site as shown in Figure 17-1. These stations are the Canarsie-Rockaway Parkway Station (L), the New Lots Station (3, 4) and the Euclid Avenue Station (A, C).

#### *L Subway line:*

- The L train operates between Eighth Avenue in Manhattan and Canarsie-Rockaway Parkway in Brooklyn. In the vicinity of the Project Site, the L train operates primarily along Bushwick, Wyckoff, and Van Sinderen Avenues.

#### *Nos. 3 and 4 Subway lines:*

- The No. 3 train runs between Harlem-148th Street in Manhattan and New Lots Avenue in Brooklyn. The No. 4 train runs between Woodlawn in the Bronx and Crown Heights in Brooklyn, with some rush hour trains extending to New Lots Avenue. In the vicinity of the Project Site, the Nos. 3 and 4 trains operate along Flatbush Avenue, Eastern Parkway, and Livonia Avenue.

#### *A/C Subway lines:*

- The A train operates between Inwood in Manhattan and Lefferts Boulevard, Rockaway Park, and Far Rockaway in Queens. The C train operates between Washington Heights in Manhattan and Euclid Avenue in Brooklyn. In the vicinity of the Project Site, the A and C trains operate primarily along Fulton Street and Pitkin Avenue.

### BUS SERVICE

The quantitative analysis of buses considers the publicly operated local bus routes serving the study area since these would be most affected by project-related trips.

Local bus routes operated by NYCT and MTA Bus Company that provide regular service to the study area are shown in Figure 17-1. All local routes use standard buses with a guideline capacity of 54 passengers per bus. Table 17-3 provides a summary of the NYCT local bus routes and their weekday and Saturday frequencies of operation.

**Table 17-3**  
**Local Bus Routes Serving the Study Area**

Bus Route	Start Point	End Point	Routing	Frequency of Bus Service (Headway in Minutes)			
				AM	Midday	PM	Saturday
B6	Bensonhurst	East New York	Bay Parkway/ Ave J/ Flatlands Ave	<u>10</u>	<u>9</u>	<u>9</u>	10
B6 Limited	Bensonhurst	East New York	Bay Parkway/ Ave J/ Flatlands Ave	<u>8</u>	<u>10</u>	<u>7</u>	10
B13	Williamsburg	Gateway Shopping Center	Wyckoff Ave/ Crescent Street	<u>13</u>	<u>17</u>	<u>14</u>	<u>25</u>
B83	Broadway Junction	Gateway Shopping Center	Fountain Ave./ Pennsylvania Ave	12	12	8	12
Q8	165 Street Bus Terminal, Jamaica, Queens	Gateway Shopping Center	Jamaica Ave. / 101st Ave. / Fountain Ave.	9	15	8	15
<b>Source:</b> New York City Transit, Brooklyn Bus Map (2008).							

## ANALYSIS RESULTS

### Subway Station Operations

Quantified analyses were performed for all street-level stairways and for the primary control areas at the three NYCT subway stations anticipated to receive the most project-generated trips. The Canarsie-Rockaway Parkway station is located at street level, so stairway analyses were not applicable at this location. As shown in Tables 17-4 and 17-5, all stairways and control areas currently operate at LOS B or better during both the AM and PM peak hours.

**Table 17-4**  
**2006 Existing Conditions: Subway Station Stairway Analysis**

Stairways	Width (feet)	Effective Width (feet)	15-Minute Pedestrian Volumes		Friction Factor	15-Minute		
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS
AM PEAK								
New Lots Av (3, 4)								
Livonia Avenue/Ashford Street (NW corner)	4.80	3.80	186	20	0.80	456	0.45	B
Livonia Avenue/Ashford Street (SW corner)	4.80	3.80	181	57	0.80	456	0.52	B
Euclid Av (A, C)								
Euclid Avenue/Pitkin Avenue (NE corner)	4.80	3.80	17	84	0.80	456	0.22	A
Euclid Avenue/Pitkin Avenue (SE corner)	4.80	3.80	38	228	0.80	456	0.58	B
Euclid Avenue/Pitkin Avenue (SW corner)	4.80	3.80	40	148	0.80	456	0.41	A
Euclid Avenue/Pitkin Avenue (NW corner)	4.80	3.80	150	114	0.90	513	0.51	B
PM PEAK								
New Lots Av (3, 4)								
Livonia Avenue/Ashford Street (NW corner)	4.80	3.80	25	106	0.80	456	0.29	A
Livonia Avenue/Ashford Street (SW corner)	4.80	3.80	35	144	0.80	456	0.39	A
Euclid Av (A, C)								
Euclid Avenue/Pitkin Avenue (NE corner)	4.80	3.80	64	22	0.80	456	0.19	A
Euclid Avenue/Pitkin Avenue (SE corner)	4.80	3.80	162	42	0.80	456	0.45	A
Euclid Avenue/Pitkin Avenue (SW corner)	4.80	3.80	119	23	0.80	456	0.31	A
Euclid Avenue/Pitkin Avenue (NW corner)	4.80	3.80	61	55	0.90	513	0.23	A
Note: Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001), in accordance with the <i>CEQR Technical Manual</i> .								

### Bus Line-Haul

The Project Site is served directly by the B13, B83, and Q8 bus routes, which operate standard buses with a guideline capacity of 54 passengers. In addition, the B6 operates a few blocks north of the Project Site.

For much of its route, the B6 operates a Local and Limited Stops service. However, between the Canarsie-Rockaway Parkway L train station and the New Lots Avenue Nos. 3 and 4 train station, the B6 only operates its Limited Stops service during the analyzed peak hours. The B6 Limited has stops on Cozine Avenue, one block north of the Project Site, and connects to the L train at Rockaway Parkway and the No. 3 and 4 trains at New Lots Avenue.

The B13 has stops on Gateway Drive and Erskine Street, on the eastern edge of the Project Site, and connects to the A and C trains at Euclid Avenue.

**Table 17-5**

**2006 Existing Conditions: Subway Station Control Area Analysis**

Station Elements	Quantity	15-Minute Pedestrian Volumes		15-Minute		
		In	Out	SVCD Capacity	V/SVCD Ratio	LOS
AM PEAK						
Canarsie-Rockaway Parkway (L)						
H41 Control Area						
Two-Way Turnstiles	5	557	234	2400	0.33	B
New Lots Av (3, 4)						
R634 Control Area						
Two-Way Turnstiles	4	367	77	1920	0.23	B
Euclid Av (A, C)						
N128 Control Area						
Two-Way Turnstiles	6	574	245	2880	0.28	B
PM PEAK						
Canarsie-Rockaway Parkway (L)						
H41 Control Area						
Two-Way Turnstiles	5	149	558	2400	0.29	B
New Lots Av (3, 4)						
R634 Control Area						
Two-Way Turnstiles	4	60	250	1920	0.16	A
Euclid Av (A, C)						
N128 Control Area						
Two-Way Turnstiles	6	142	406	2880	0.19	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.						

The B83 has stops on Gateway Drive and Erskine Street, on the eastern edge of the Project Site, and connects to the A, C, and L trains and the Long Island Rail Road at the East New York Station. During the AM peak, every other northbound bus operates from Gateway Center with the remaining buses starting their runs at Pennsylvania Avenue effectively reducing service from the Project Site to 16-minute headways. During the PM peak, every other southbound bus terminates at Gateway Center with the remaining buses ending their runs at Pennsylvania Avenue effectively reducing service to the Project Site to 15-minute headways.

The Q8 has stops on Gateway Drive and Erskine Street, on the eastern edge of the Project Site, and connects to the E, J, and Z trains and the Long Island Rail Road at the Jamaica Station.

To assess the potential impacts for the bus routes described above, ridership data were acquired from NYCT, and field surveys of bus line-haul volumes were conducted. The existing conditions analyses for the B6 Limited and B13 bus routes are based upon data collected in 2006 for the DEIS analyses; the existing conditions for the two bus routes added for the FEIS analyses, the B83 and the Q8, are based upon data collected in 2008.

Surveys were conducted at bus stops in close proximity to the Canarsie-Rockaway Parkway (L), New Lots Avenue (3, 4), and Euclid Avenue (A, C) subway stations, which are expected to be the peak load points for the applicable bus routes and official peak load point data were obtained from NYCT. For the B6 Limited, B13, and B83 bus routes, the NYCT data were used to assess potential impacts. Because no peak load point data were available for the Q8 bus route, the Q8



## Gateway Estates II

was assessed at a location near the Project Site using data from surveys conducted in 2008. The number of passengers per bus was assessed for each route in each direction for the weekday AM and PM peak periods.

As shown in Table 17-6, the B13, B83, and Q8 bus routes presently operate within guideline capacities (54 passengers per standard bus) at the analyzed locations. However, the eastbound B6 Limited exceeds guideline capacity in the AM and PM peak hours while the westbound B6 exceeds guideline capacity during the AM peak hour.

**Table 17-6**  
**2008 Existing Conditions: Bus Line Haul**

Route	Peak Hour	Buses Per Hour	Direction Northbound Max Load Point	AP	Buses Per Hour	Direction Southbound Max Load Point	AP
B83	AM	10	New Lots Avenue/Van Siclen Avenue	53	6	New Lots Avenue/Van Siclen	42
	PM	6	New Lots Avenue/Van Siclen Avenue	37	14	New Lots Avenue/Van Siclen	41
Q8	AM	5	Erskine Street/Gateway Center	5	5	Erskine Street/Gateway Center	2
	PM	5	Erskine Street/Gateway Center	5	5	Erskine Street/Gateway Center	1
B13	AM	5	Euclid Avenue/Sutter Avenue	40	5	Euclid Avenue/Sutter Avenue	27
	PM	4	Euclid Avenue/Sutter Avenue	28	4	Euclid Avenue/Sutter Avenue	40
<b>Eastbound</b>					<b>Westbound</b>		
B6 LTD	AM	8	Glenwood Road/Nostrand Avenue	63	8	Glenwood Road/Nostrand Avenue	63
	PM	8	Glenwood Road/Nostrand Avenue	61	8	Glenwood Road/Nostrand Avenue	43

**Notes:**  
The B6 Local service does not operate in the vicinity of the Project Site during the analysis time periods.  
AP = average passengers per bus; maximum load ridership data provided by NYCT, October 2008.  
Numbers in this table were changed for the FEIS.

## PEDESTRIANS

The pedestrian study area considers the sidewalks, corner reservoirs, and crosswalks that would be most affected by new trips generated by a project. Although the majority of trips to and from the Project Site are anticipated to be by auto or transit and the area surrounding the Project Site is characterized by low to moderate pedestrian activity, quantified pedestrian analyses were performed for pedestrian elements at three intersections along Flatlands Avenue north of the Project Site. As a result of the 1996 Plan, the study area contains pedestrian facilities that are in excellent condition but are very lightly used.

## D. 2011 THE FUTURE WITHOUT THE PROPOSED ACTION

Transit conditions in the future without the Proposed Action were assessed to establish a baseline No Build condition against which to evaluate the potential project impacts. The 2011 No Build analysis year incorporates general background growth, nearby developments, and transportation improvements that may affect transit service in the study area.

## TRANSIT

### TRANSIT VOLUME PROJECTIONS

Future 2011 No Build peak hour transit levels were based on volume projections developed using the CEQR-recommended one percent annual background growth rate to increase existing transit volumes. The 2011 No Build transit networks were developed by projecting the

background growth rate onto the existing conditions and then adding the volumes generated by projects in the study area that will be completed independent of the Proposed Action.

As discussed in Chapter 2, “Land Use, Zoning, and Public Policy,” four projects located near the Project Site are expected to be operational by 2011 independent of the Proposed Action. Trips generated by these projects were assigned to the transit analysis locations described earlier. The 2011 No Build analysis also incorporates trips generated by the elements of the 1996 Plan which are anticipated to be operational by 2011 (See Chapter 1, “Project Description,” for the 1996 Plan elements scheduled for operation in 2011, and Chapter 16, “Traffic and Parking,” for trip generation details).

## ANALYSIS RESULTS

### Subway Station Operations

The station elements previously analyzed at the Canarsie-Rockaway Parkway (L), New Lots Avenue (3, 4), and Euclid Avenue (A, C) subway stations were analyzed with the addition of the background growth and projected No Build volumes for the 2011 No Build conditions. Tables 17-7 and 17-8 detail the operating conditions for each street-level stairway and control area during both the AM and PM peak periods. As shown, all stairways and control areas would continue to operate at LOS C or better during the analysis periods.

**Table 17-7**  
**2011 No Build Conditions: Subway Station Stairway Analysis**

Stairways	Width (feet)	Effective Width (feet)	15-Minute Pedestrian Volumes		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
AM PEAK									
New Lots Av (3, 4)									
Livonia Avenue/Ashford Street (NW corner)	4.80	3.80	197	25	0.80	456	0.49	B	
Livonia Avenue/Ashford Street (SW corner)	4.80	3.80	192	72	0.80	456	0.58	B	
Euclid Av (A, C)									
Euclid Avenue/Pitkin Avenue (NE corner)	4.80	3.80	20	89	0.80	456	0.24	A	
Euclid Avenue/Pitkin Avenue (SE corner)	4.80	3.80	45	242	0.80	456	0.63	B	
Euclid Avenue/Pitkin Avenue (SW corner)	4.80	3.80	47	157	0.80	456	0.45	A	
Euclid Avenue/Pitkin Avenue (NW corner)	4.80	3.80	176	121	0.90	513	0.58	B	
PM PEAK									
New Lots Av (3, 4)									
Livonia Avenue/Ashford Street (NW corner)	4.80	3.80	33	115	0.80	456	0.32	A	
Livonia Avenue/Ashford Street (SW corner)	4.80	3.80	47	156	0.80	456	0.44	A	
Euclid Av (A, C)									
Euclid Avenue/Pitkin Avenue (NE corner)	4.80	3.80	70	28	0.80	456	0.21	A	
Euclid Avenue/Pitkin Avenue (SE corner)	4.80	3.80	176	53	0.80	456	0.50	B	
Euclid Avenue/Pitkin Avenue (SW corner)	4.80	3.80	130	29	0.80	456	0.35	A	
Euclid Avenue/Pitkin Avenue (NW corner)	4.80	3.80	66	70	0.90	513	0.27	A	
<b>Note:</b> Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001), in accordance with the <i>CEQR Technical Manual</i> .									

Table 17-8

**2011 No Build Conditions: Subway Station Control Area Analysis**

Station Elements	Quantity	15-Minute Pedestrian Volumes		15-Minute		
		In	Out	SVCD Capacity	V/SVCD Ratio	LOS
AM PEAK						
Canarsie-Rockaway Parkway (L)						
H41 Control Area						
Two-Way Turnstiles	5	585	247	2400	0.35	B
New Lots Av (3, 4)						
R634 Control Area						
Two-Way Turnstiles	4	389	98	1920	0.25	B
Euclid Av (A, C)						
N128 Control Area						
Two-Way Turnstiles	6	610	288	2880	0.31	B
PM PEAK						
Canarsie-Rockaway Parkway (L)						
H41 Control Area						
Two-Way Turnstiles	5	158	587	2400	0.31	B
New Lots Av (3, 4)						
R634 Control Area						
Two-Way Turnstiles	4	80	270	1920	0.18	A
Euclid Av (A, C)						
N128 Control Area						
Two-Way Turnstiles	6	180	442	2880	0.22	B
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*

To assess the potential operating conditions on the four bus routes previously described, a quantified bus line-haul and maximum load analysis was conducted with the projected No Build volumes for 2011. Since completion of the DEIS, the study area bus network has changed. These alterations include the extension of the B83 and Q8 bus routes to the project site as well as operational changes to the B6 Limited bus route. Therefore, updated NYCT peak load point data and updated survey data were collected to develop baseline conditions incorporating the recent changes to study area bus operations. These baseline conditions were used to develop the 2011 No Build by incorporating background growth and trips from no build projects.

Furthermore, NYCT monitors bus operations and adjusts its service plans to meet customer demand and ensure that buses do not exceed guideline capacities. Therefore, it was assumed that service would be increased on the B6, B13, B83 and Q8 routes to meet increased demand in the 2011 No Build condition. As shown in Table 17-9, all analyzed bus routes would operate at or below guideline capacities in the AM and PM peak periods.

**Table 17-9**  
**2011 No Build Conditions: Bus Line Haul**

Route	Peak Hour	Buses Per Hour	Direction Northbound Max Load Point	AP	Buses Per Hour	Direction Southbound Max Load Point	AP
B83	AM	11	New Lots Avenue/Van Siclen Avenue	53	6	New Lots Avenue/Van Siclen	45
	PM	6	New Lots Avenue/Van Siclen Avenue	41	14	New Lots Avenue/Van Siclen	45
Q8	AM	5	Erskine Street/Gateway Center	22	5	Erskine Street/Gateway Center	6
	PM	5	Erskine Street/Gateway Center	15	5	Erskine Street/Gateway Center	19
B13	AM	7	Euclid Avenue/Sutter Avenue	49	4	Euclid Avenue/Sutter Avenue	48
	PM	5	Euclid Avenue/Sutter Avenue	41	6	Euclid Avenue/Sutter Avenue	53
<b>Eastbound</b>					<b>Westbound</b>		
B6 LTD	AM	9	Glenwood Road/Rockaway Parkway	37	17	Glenwood Road/Nostrand Avenue	52
	PM	13	Glenwood Road/Nostrand Avenue	54	8	Avenue H/Utica Avenue	49
<b>Note:</b> The B6 Local service does not operate in the vicinity of the Project Site during the analysis time periods. AP = average passengers per bus; maximum load ridership data provided by NYCT, October 2008. <u>Numbers in this table were changed for the FEIS.</u>							

## PEDESTRIANS

Because the number of pedestrian trips generated in 2011 would be less than the number of pedestrian trips generated in 2013, pedestrian analyses were not performed for the 2011 No Build condition. Instead, the pedestrian analyses were conducted only for the 2013 condition, the so-called “worst case scenario” for pedestrian trip generation, in order to assess the potential for impacts to study area pedestrian facilities.

## E. 2011 PROBABLE IMPACTS OF THE PROPOSED ACTION

The future with the Proposed Action (Build condition) would result in increased transit trips as compared to the No Build condition. This section describes the projected travel patterns of the site-related trips and assesses their potential impacts on transit facilities. A component of the Proposed Project is a proposed bus layover facility, to be located in the parking area on the western side of the Project Site, adjacent to Gateway Drive. The facility would provide space for up to six buses to layover concurrently and would include a canopy to shelter bus passengers while loading and unloading. NYCT is considering extending existing service and providing new routes to this facility.

## TRANSIT

### TRIP DISTRIBUTION AND ASSIGNMENT

Project-generated transit volumes in the 2011 Build condition were estimated using peak hour volumes derived from the trip generation estimates presented in Chapter 16, “Traffic and Parking.” Projected subway trips were assigned to nearby subway stations as follows:

- 35 percent to the New Lots Avenue Nos. 3 and 4 train station,
- 60 percent to the Euclid Avenue A and C train station, and
- 5 percent to the Canarsie-Rockaway Parkway L train station.

These assignments were based on existing demand patterns, the proximity of each station to the site, transfer opportunities to other lines within the New York City subway system, and service

convenience to Downtown Brooklyn and Manhattan for journey-to-work travel. Since the Project Site is located beyond a reasonable walking distance from a subway station, all of these trips were assigned to local bus routes to complete their trip, as follows:

- Trips to/from the New Lots Avenue Nos. 3 and 4 train station would use the B6 bus,
- Trips to/from the Euclid Avenue A and C train station would use the B13 and Q8 buses, and
- Trips to/from the Canarsie-Rockaway Parkway L train station would use the B6 bus.

Projected bus-only trips were assigned as follows:

- 35 percent to the B6;
- 35 percent to the B83;
- 15 percent to the B13; and
- 15 percent to the Q8.

These assignments were based on transfer opportunities to other bus routes and likely destinations throughout the NYCT bus system.

### *TRANSIT VOLUME PROJECTIONS*

Future 2011 Build condition peak hour transit levels were based on volume projections developed using the above trip distribution and assignment patterns, superimposed onto the No Build transit networks.

### *ANALYSIS RESULTS*

#### *Subway Station Operations*

Tables 17-10 and 17-11 summarize the operating conditions for each street-level stairway and control area. As shown, all stairways and control areas would continue to operate at LOS C or better during the analysis periods.

#### *Bus Line-Haul*

The Proposed Project would include a bus layover and turnaround facility within the parking lot of the expanded shopping center, adjacent to Gateway Drive (see Figure 17-2). The facility would provide space for up to six buses to layover concurrently, and would include a canopy to shelter bus passengers while loading and unloading. This facility would allow NYCT to provide direct and increased bus service within the FCURA.

Peak hour bus ridership levels were estimated by adding the additional trips associated with the Proposed Project to the maximum load per bus estimates detailed in the No Build condition. As described in Section B, "Methodology," impacts to bus line-haul are considered significant if the Proposed Project would result in operating conditions above guideline capacities. As shown in Table 17-12, three study area bus routes would operate above guideline capacities, which would constitute significant adverse bus line-haul impacts.

- The eastbound B6 Limited route would have 63 average passengers per bus at the NYCT peak load in the PM peak period; and the westbound B6 Limited would have average passenger loads of 65 per bus in the AM peak period and 62 per bus in the PM peak period. These loads exceed NYCT's guideline capacity of 54 passengers per bus.

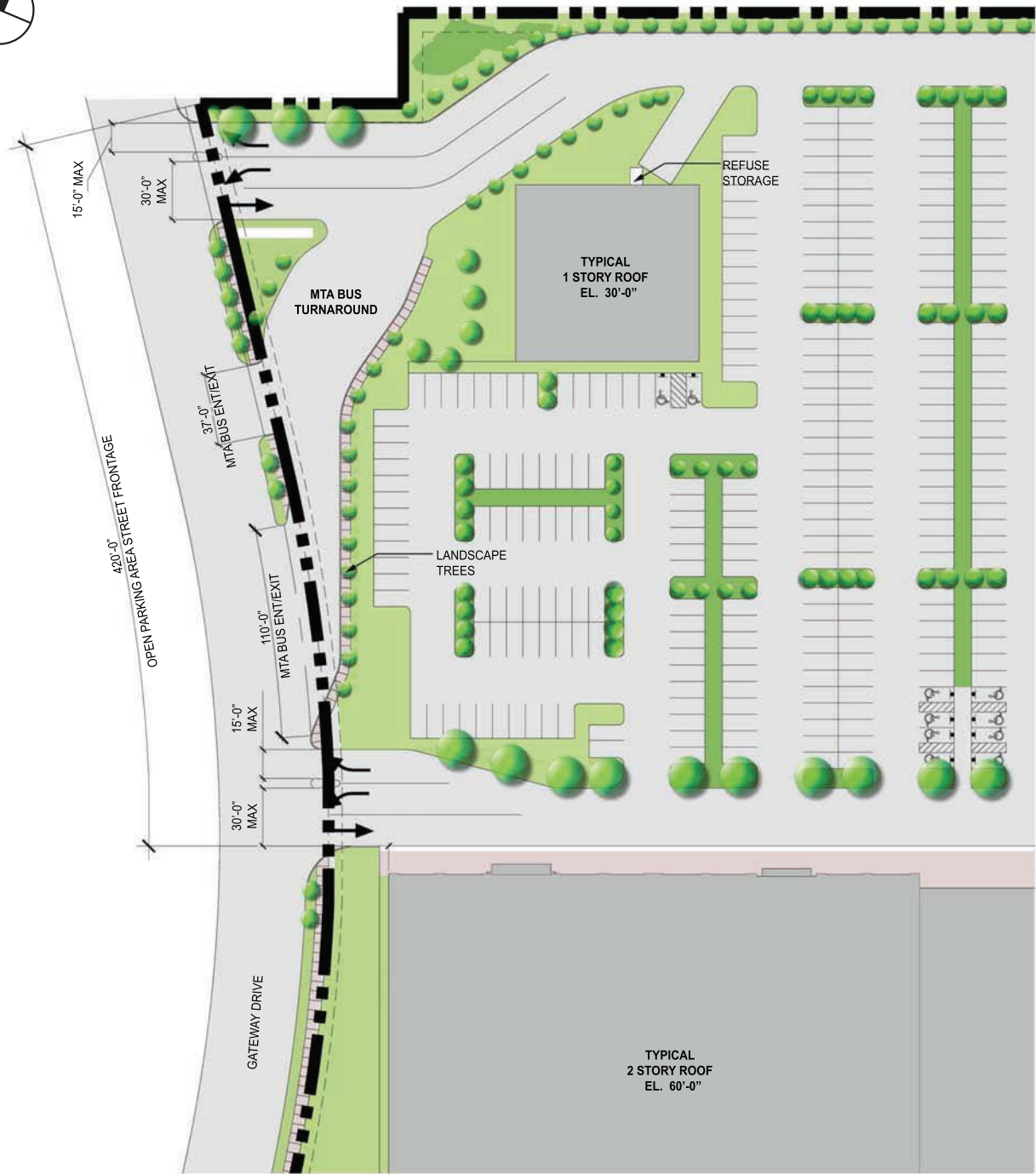


Table 17-10

**2011 Build Conditions: Subway Station Stairway Analysis**

Stairways	Width (feet)	Effective Width (feet)	15-Minute Pedestrian Volumes		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
AM PEAK									
New Lots Av (3, 4)									
Livonia Avenue/Ashford Street (NW corner)	4.80	3.80	199	30	0.80	456	0.50	B	
Livonia Avenue/Ashford Street (SW corner)	4.80	3.80	194	86	0.80	456	0.61	B	
Euclid Av (A, C)									
Euclid Avenue/Pitkin Avenue (NE corner)	4.80	3.80	22	90	0.80	456	0.25	A	
Euclid Avenue/Pitkin Avenue (SE corner)	4.80	3.80	50	245	0.80	456	0.65	B	
Euclid Avenue/Pitkin Avenue (SW corner)	4.80	3.80	52	159	0.80	456	0.46	B	
Euclid Avenue/Pitkin Avenue (NW corner)	4.80	3.80	196	122	0.90	513	0.62	B	
PM PEAK									
New Lots Av (3, 4)									
Livonia Avenue/Ashford Street (NW corner)	4.80	3.80	42	118	0.80	456	0.35	A	
Livonia Avenue/Ashford Street (SW corner)	4.80	3.80	58	161	0.80	456	0.48	B	
Euclid Av (A, C)									
Euclid Avenue/Pitkin Avenue (NE corner)	4.80	3.80	72	33	0.80	456	0.23	A	
Euclid Avenue/Pitkin Avenue (SE corner)	4.80	3.80	182	63	0.80	456	0.54	B	
Euclid Avenue/Pitkin Avenue (SW corner)	4.80	3.80	134	34	0.80	456	0.37	A	
Euclid Avenue/Pitkin Avenue (NW corner)	4.80	3.80	69	83	0.90	513	0.29	A	
Note: Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001), in accordance with the <i>CEQR Technical Manual</i> .									

Table 17-11

**2011 Build Conditions: Subway Station Control Area Analysis**

Station Elements	Quantity	15-Minute Pedestrian Volumes		15-Minute		
		In	Out	SVCD Capacity	V/SVCD Ratio	LOS
AM PEAK						
Canarsie-Rockaway Parkway (L)						
H41 Control Area						
Two-Way Turnstiles	5	586	250	2400	0.35	B
New Lots Av (3, 4)						
R634 Control Area						
Two-Way Turnstiles	4	393	117	1920	0.27	B
Euclid Av (A, C)						
N128 Control Area						
Two-Way Turnstiles	6	616	320	2880	0.33	B
PM PEAK						
Canarsie-Rockaway Parkway (L)						
H41 Control Area						
Two-Way Turnstiles	5	162	588	2400	0.31	B
New Lots Av (3, 4)						
R634 Control Area						
Two-Way Turnstiles	4	100	280	1920	0.20	B
Euclid Av (A, C)						
N128 Control Area						
Two-Way Turnstiles	6	213	457	2880	0.23	B
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 17-12**  
**2011 Build Conditions: Bus Line Haul**

Route	Peak Hour	Buses Per Hour	Direction Northbound Max Load Point	AP	Buses Per Hour	Direction Southbound Max Load Point	AP
B83	AM	11	New Lots Avenue/Van Siclen Avenue	(61)	6	New Lots Avenue/Van Siclen	47
	PM	6	New Lots Avenue/Van Siclen Avenue	46	14	New Lots Avenue/Van Siclen	48
Q8	AM	5	Erskine Street/Gateway Center	36	5	Erskine Street/Gateway Center	10
	PM	5	Erskine Street/Gateway Center	23	5	Erskine Street/Gateway Center	34
B13	AM	7	Euclid Avenue/Sutter Avenue	(65)	4	Euclid Avenue/Sutter Avenue	52
	PM	5	Euclid Avenue/Sutter Avenue	49	6	Euclid Avenue/Sutter Avenue	(74)
<b>Eastbound</b>					<b>Westbound</b>		
B6 LTD	AM	9	Glenwood Road/Rockaway Parkway	40	17	Glenwood Road/Nostrand Avenue	(65)
	PM	13	Glenwood Road/Nostrand Avenue	(63)	8	Avenue H/Utica Avenue	(62)
<b>Notes:</b> The B6 Local service does not operate in the vicinity of the Project Site during the analysis time periods. AP = average passengers per bus; maximum load ridership data provided by NYCT, October 2008. Numbers in this table were changed for the FEIS.							

- The northbound B13 route would have 65 average passengers per bus at the NYCT peak load in the AM peak period; the southbound B13 route would have average passenger loads of 74 per bus in the PM peak period. These loads exceed NYCT's guideline capacity of 54 passengers per bus.
- The northbound B83 route would have 61 average passengers per bus at the NYCT peak load in the AM peak period, which exceeds NYCT's guideline capacity of 54 passengers per bus.

Chapter 22, "Mitigation," describes recommended mitigation measures for the projected bus line haul impacts.

## PEDESTRIANS

As discussed previously, crosswalk analyses for new crosswalks at the periphery of the Project Site were included in the analysis of the probable impacts of the Proposed Action. Because the number of pedestrian trips generated in 2011 would be less than the number of pedestrian trips generated at full build-out in 2013, pedestrian analyses were not performed for the 2011 Build condition. Instead, the pedestrian analyses were conducted only for the 2013 build condition, the so-called "worst case scenario" for pedestrian trip generation, in order to assess the potential for impacts to study area pedestrian facilities.

## F. 2013 THE FUTURE WITHOUT THE PROPOSED ACTION

Transit conditions in the future without the Proposed Action were assessed to establish a baseline No Build condition against which to evaluate the potential project impacts. The 2013 No Build analysis year incorporates general background growth, effects of nearby developments, the full build-out of the 1996 Plan for the FCURA, and transportation improvements that may affect transit service in the study area.



## **TRANSIT**

### *TRANSIT VOLUME PROJECTIONS*

Future 2013 No Build peak hour transit levels were based on volume projections developed using the CEQR-recommended 1.0 percent annual background growth rate projected to 2013. The 2013 No Build transit networks were developed by projecting the background growth rate onto the existing conditions and then adding the volumes generated by projects within and near the study area that could be completed independent of the Proposed Action.

As discussed in Chapter 2, “Land Use, Zoning, and Public Policy,” several projects located near the Project Site are expected to be operational by 2013 independent of the Proposed Action. Trips generated by these projects were assigned to the transit analysis locations described earlier in this chapter.

The 2013 No Build analysis also incorporates trips generated by the elements of the 1996 Plan, which are anticipated to be operational by 2013 (See Chapter 1, “Project Description,” for more information on the 1996 Plan elements scheduled for operation in 2013 and Chapter 16, “Traffic and Parking,” for trip generation details).

### *ANALYSIS RESULTS*

#### *Subway Station Operations*

The station elements previously analyzed at the Canarsie-Rockaway Parkway (L), New Lots Avenue (3, 4), and Euclid Avenue (A, C) subway stations were analyzed with the addition of the background growth and projected No Build volumes for the 2013 No Build conditions. Tables 17-13 and 17-14 detail the operating conditions for each street-level stairway and control area during both the AM and PM peak periods. As shown, all stairways and control areas would continue to operate at LOS C or better during both peak analysis periods.

#### *Bus Line-haul*

To assess the potential operating conditions on the four study area bus routes, a quantified bus line-haul and maximum load analysis was conducted with the addition of the background growth and projected No Build volumes for the 2013 No Build conditions. As with the 2011 No Build, the 2013 No Build analyses incorporated updated NYCT peak load point and survey data in developing baseline conditions that recognize recent changes to study area bus operations. Furthermore, NYCT monitors bus operations and adjusts its service plans to meet customer demand and ensure that buses do not exceed guideline capacities. Therefore, it was assumed that service would be increased on the B6, B13, B83 and Q8 bus routes to meet increased demand in the 2013 No Build condition. This is consistent with the Findings of the 1996 FEIS, which recommended additional service on the routes that serve the Project Site. As shown in Table 17-15, all study area bus routes would operate at or below guideline capacities in the AM and PM peak periods.

**Table 17-13**

**2013 No Build Conditions: Subway Station Stairway Analysis**

Stairways	Width (feet)	Effective Width (feet)	15-Minute Pedestrian Volumes		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
AM PEAK									
New Lots Av (3, 4)									
Livonia Avenue/Ashford Street (NW corner)	4.80	3.80	211	41	0.80	456	0.55	B	
Livonia Avenue/Ashford Street (SW corner)	4.80	3.80	206	116	0.90	513	0.63	B	
Euclid Av (A, C)									
Euclid Avenue/Pitkin Avenue (NE corner)	4.80	3.80	27	96	0.80	456	0.27	A	
Euclid Avenue/Pitkin Avenue (SE corner)	4.80	3.80	61	260	0.80	456	0.71	C	
Euclid Avenue/Pitkin Avenue (SW corner)	4.80	3.80	63	169	0.80	456	0.51	B	
Euclid Avenue/Pitkin Avenue (NW corner)	4.80	3.80	239	130	0.90	513	0.72	C	
PM PEAK									
New Lots Av (3, 4)									
Livonia Avenue/Ashford Street (NW corner)	4.80	3.80	58	128	0.80	456	0.41	A	
Livonia Avenue/Ashford Street (SW corner)	4.80	3.80	81	174	0.80	456	0.56	B	
Euclid Av (A, C)									
Euclid Avenue/Pitkin Avenue (NE corner)	4.80	3.80	78	43	0.90	513	0.23	A	
Euclid Avenue/Pitkin Avenue (SE corner)	4.80	3.80	197	83	0.80	456	0.61	B	
Euclid Avenue/Pitkin Avenue (SW corner)	4.80	3.80	144	45	0.80	456	0.42	A	
Euclid Avenue/Pitkin Avenue (NW corner)	4.80	3.80	74	108	0.90	513	0.36	A	
<b>Note:</b> Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001), in accordance with the <i>CEQR Technical Manual</i> .									

**Table 17-14**

**2013 No Build Conditions: Subway Station Control Area Analysis**

Station Elements	Quantity	15-Minute Pedestrian Volumes		15-Minute		
		In	Out	SVCD Capacity	V/SVCD Ratio	LOS
AM PEAK						
Canarsie-Rockaway Parkway (L)						
H41 Control Area						
Two-Way Turnstiles	5	599	260	2400	0.36	B
New Lots Av (3, 4)						
R634 Control Area						
Two-Way Turnstiles	4	416	156	1920	0.30	B
Euclid Av (A, C)						
N128 Control Area						
Two-Way Turnstiles	6	655	391	2880	0.36	B
PM PEAK						
Canarsie-Rockaway Parkway (L)						
H41 Control Area						
Two-Way Turnstiles	5	171	602	2400	0.32	B
New Lots Av (3, 4)						
R634 Control Area						
Two-Way Turnstiles	4	139	305	1920	0.23	B
Euclid Av (A, C)						
N128 Control Area						
Two-Way Turnstiles	6	279	493	2880	0.27	B
<b>Note:</b> Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001), in accordance with the <i>CEQR Technical Manual</i> .						

**Table 17-15**  
**2013 No Build Conditions: Bus Line Haul**

Route	Peak Hour	Buses Per Hour	Direction Northbound Max Load Point	AP	Buses Per Hour	Direction Southbound Max Load Point	AP
B83	AM	13	New Lots Avenue/Van Siclen Avenue	53	9	New Lots Avenue/Van Siclen Avenue	54
	PM	6	New Lots Avenue/Van Siclen Avenue	51	14	New Lots Avenue/Van Siclen Avenue	53
Q8	AM	6	Erskine Street/Gateway Center	54	5	Erskine Street/Gateway Center	36
	PM	5	Erskine Street/Gateway Center	35	6	Erskine Street/Gateway Center	52
B13	AM	11	Euclid Avenue/Sutter Avenue	51	7	Euclid Avenue/Sutter Avenue	49
	PM	6	Euclid Avenue/Sutter Avenue	52	10	Euclid Avenue/Sutter Avenue	54
<b>Eastbound</b>					<b>Westbound</b>		
B6 LTD	AM	12	Glenwood Road/Rockaway Parkway	51	19	Glenwood Road/Nostrand Avenue	54
	PM	16	Glenwood Road/Nostrand Avenue	54	10	Avenue H/Utica Avenue	52
<b>Notes:</b> The B6 Local service does not operate in the vicinity of the Project Site during the analysis time periods. AP = average passengers per bus; maximum load ridership data provided by NYCT, October 2008. Numbers in this table were changed for the FEIS.							

## PEDESTRIANS

Crosswalk level of service conditions for the weekday PM and Saturday midday and late afternoon 2013 No Build conditions were analyzed for three intersections along Flatlands Avenue. These time periods were selected because incremental pedestrian volumes are greater than for the other analysis time periods.

Existing pedestrian volumes in the area are extremely low. For the purposes of analysis, it was assumed that existing peak 15-minute volumes are 50 pedestrians in each direction for each crosswalk. The CEQR recommended 1-percent growth rate for non-downtown sections of Brooklyn was applied to existing pedestrian volumes to generate the 2013 pedestrian volumes. Then pedestrian volumes from development projects that would be completed by 2013 independent of the Proposed Project and trips associated with the 1996 Plan were added to the network to generate No Build condition pedestrian volumes for analysis. Figures 1 through 3 in Appendix F show the No Build condition pedestrian volumes for the weekday PM and Saturday midday and afternoon peak 15-minute analysis period.

The No Build condition crosswalk analyses utilized street width and signal timing assumptions from the No Build traffic analyses. A 12-foot crosswalk width was assumed for all locations. Between completion of the draft and final environmental impact statements, assumptions for the pedestrian analyses were refined to reflect the extension of the B83 and Q8 bus routes to the eastern edge of the Project Site, which would remove the pedestrian portion of many bus and bus-subway trips from the intersections along Flatlands Avenue. Furthermore, refinements were made in the assignment of walk-only trips to pedestrian elements near the Project Site.

Other changes for the FEIS analyses include updating the average pedestrian walking speed from 4.5 to 4.0 feet per second as required by NYCDOT. Because a school would be located on the Project Site at intersection of Flatlands Avenue and Elton Street, crosswalks at the intersections of Flatlands Avenue and Elton Street and Flatlands Avenue and Erskine Street were analyzed using the 3.0 feet per second average walking speed for school crosswalks as required by NYCDOT.

As shown in Table 17-16, all crosswalks would operate acceptably under the 2013 No Build condition during the weekday PM and Saturday midday and late afternoon peak periods.

**Table 17-16**  
**2013 No Build Conditions: Pedestrian LOS Analysis for Crosswalks**

Location	Crosswalk	Street Width (feet)	Cross-walk Width (feet)	With Conflicting Vehicles					
				Weekday PM		Saturday MD		Saturday PM	
				SFP	LOS	SFP	LOS	SFP	LOS
Jerome Street and Flatlands Avenue	North	50	12	77.9	A	78.0	A	78.7	A
	East	80	12	66.7	A	55.8	B	56.5	B
	South	50	12	44.5	B	48.5	B	47.4	B
Elton Street and Flatlands Avenue	North	50	12	93.8	A	93.0	A	92.7	A
	East	80	12	46.1	B	42.2	B	42.6	B
	South	60	12	72.1	A	74.9	A	75.6	A
	West	80	12	44.2	B	40.4	B	41.1	B
Atkins Street and Flatlands Avenue	North	36	12	71.8	A	65.4	A	65.3	A
	East	80	12	58.1	B	52.4	B	52.7	B
	South	44	12	67.2	A	60.8	A	60.0	A
	West	80	12	56.6	B	50.9	B	50.9	B
<b>Note:</b> SFP = square feet per pedestrian.									

## G. 2013 PROBABLE IMPACTS OF THE PROPOSED ACTION

Project-generated transit volumes in the 2013 Build condition were estimated using peak hour volumes derived from the trip generation estimates presented in Chapter 16, "Traffic and Parking." Projected subway and bus trips were assigned to nearby subway stations and bus routes as described above for the 2011 Build condition. Project-generated pedestrian trips were converted to 15-minute volumes and assigned to pedestrian elements near the Project Site.

### TRANSIT

#### TRANSIT VOLUME PROJECTIONS

Future 2013 Build condition peak hour transit levels were based on volume projections developed using the above trip distribution and assignment patterns, superimposed onto the No Build transit networks.

#### ANALYSIS RESULTS

##### Subway Station Operations

Tables 17-17 and 17-18 summarize the operating conditions for each street-level stairway and control area. As shown, all stairways and control areas would continue to operate at LOS C or better during both peak analysis periods.

##### Bus Line-Haul

As discussed above, the Proposed Project includes a bus layover facility on the Project Site, which would result in improved operating conditions on existing routes.

**Table 17-17**

**2013 Build Conditions: Subway Station Stairway Analysis**

Stairways	Width (feet)	Effective Width (feet)	15-Minute Pedestrian Volumes		Friction Factor	15-Minute		
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS
AM PEAK								
New Lots Av (3, 4)								
Livonia Avenue/Ashford Street (NW corner)	4.80	3.80	213	41	0.80	456	0.56	B
Livonia Avenue/Ashford Street (SW corner)	4.80	3.80	208	116	0.90	513	0.63	B
Euclid Av (A, C)								
Euclid Avenue/Pitkin Avenue (NE corner)	4.80	3.80	27	97	0.80	456	0.27	A
Euclid Avenue/Pitkin Avenue (SE corner)	4.80	3.80	61	264	0.80	456	0.71	C
Euclid Avenue/Pitkin Avenue (SW corner)	4.80	3.80	64	171	0.80	456	0.51	B
Euclid Avenue/Pitkin Avenue (NW corner)	4.80	3.80	240	132	0.90	513	0.72	C
PM PEAK								
New Lots Av (3, 4)								
Livonia Avenue/Ashford Street (NW corner)	4.80	3.80	59	129	0.80	456	0.41	A
Livonia Avenue/Ashford Street (SW corner)	4.80	3.80	81	176	0.80	456	0.56	B
Euclid Av (A, C)								
Euclid Avenue/Pitkin Avenue (NE corner)	4.80	3.80	79	43	0.90	513	0.24	A
Euclid Avenue/Pitkin Avenue (SE corner)	4.80	3.80	199	84	0.80	456	0.62	B
Euclid Avenue/Pitkin Avenue (SW corner)	4.80	3.80	146	45	0.80	456	0.42	A
Euclid Avenue/Pitkin Avenue (NW corner)	4.80	3.80	75	109	0.90	513	0.36	A
<b>Note:</b> Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001), in accordance with the <i>CEQR Technical Manual</i> .								

**Table 17-18**

**2013 Build Conditions: Subway Station Control Area Analysis**

Station Elements	Quantity	15-Minute Pedestrian Volumes		15-Minute		
		In	Out	SVCD Capacity	V/SVCD Ratio	LOS
AM PEAK						
Canarsie-Rockaway Parkway (L)						
H41 Control Area						
Two-Way Turnstiles	5	600	260	2400	0.36	B
New Lots Av (3, 4)						
R634 Control Area						
Two-Way Turnstiles	4	421	157	1920	0.30	B
Euclid Av (A, C)						
N128 Control Area						
Two-Way Turnstiles	6	664	392	2880	0.37	B
PM PEAK						
Canarsie-Rockaway Parkway (L)						
H41 Control Area						
Two-Way Turnstiles	5	171	603	2400	0.32	B
New Lots Av (3, 4)						
R634 Control Area						
Two-Way Turnstiles	4	140	305	1920	0.23	B
Euclid Av (A, C)						
N128 Control Area						
Two-Way Turnstiles	6	281	499	2880	0.27	B
<b>Note:</b> Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001), in accordance with the <i>CEQR Technical Manual</i> .						

## Gateway Estates II

Peak hour bus ridership levels were estimated by adding the additional trips associated with the Proposed Project to the maximum load per bus estimates detailed in the No Build condition. As described in Section B, "Methodology," impacts to bus line-haul are considered significant if the Proposed Project would result in operating conditions above guideline capacities. As shown in Table 17-19, study area bus routes would operate above guideline capacities, resulting in the following significant adverse bus line-haul impacts.

- The eastbound B6 Limited route would have 56 average passengers per bus at the NYCT peak load in the AM peak period and 69 in the PM peak period. The westbound B6 Limited would have average passenger loads of 71 and 72 per bus in the AM and PM peak periods, respectively. These loads exceed NYCT's guideline capacity of 54 passengers per bus.
- The northbound B13 route would have 73 average passengers per bus at the NYCT peak load in the AM peak period and 63 in the PM peak period; and southbound buses would have average passenger loads of 66 per bus in the AM peak period and 81 per bus in the PM peak period. These loads exceed NYCT's guideline capacity of 54 passengers per bus.
- The northbound B83 route would have 66 average passengers per bus at the NYCT peak load in the AM peak period and 56 in the PM peak period; and southbound buses would have average passenger loads of 64 per bus in the AM peak period. These loads exceed NYCT's guideline capacity of 54 passengers per bus.
- The northbound Q8 route would have 59 average passengers per bus at the NYCT peak load in the AM peak period; the southbound Q8 route would have average passenger loads of 58 per bus in the PM peak period. These loads exceed NYCT's guideline capacity of 54 passengers per bus.

Recommended mitigation measures for the projected bus line haul impacts are described in Chapter 22, "Mitigation."

**Table 17-19**  
**2013 Build Conditions: Bus Line Haul**

Route	Peak Hour	Buses Per Hour	Direction Northbound Max Load Point	AP	Buses Per Hour	Direction Southbound Max Load Point	AP
B83	AM	13	New Lots Avenue/Van Siclen Avenue	(66)	9	New Lots Avenue/Van Siclen Avenue	(64)
	PM	6	New Lots Avenue/Van Siclen Avenue	(56)	14	New Lots Avenue/Van Siclen Avenue	54
Q8	AM	6	Erskine Street/Gateway Center	(59)	5	Erskine Street/Gateway Center	34
	PM	5	Erskine Street/Gateway Center	42	6	Erskine Street/Gateway Center	(58)
B13	AM	11	Euclid Avenue/Sutter Avenue	(73)	7	Euclid Avenue/Sutter Avenue	(66)
	PM	6	Euclid Avenue/Sutter Avenue	(63)	10	Euclid Avenue/Sutter Avenue	(81)
<b>Eastbound</b>					<b>Westbound</b>		
B6 LTD	AM	12	Glenwood Road/Rockaway Parkway	(56)	19	Glenwood Road/Nostrand Avenue	(71)
	PM	16	Glenwood Road/Nostrand Avenue	(69)	10	Avenue H/Utica Avenue	(72)
<b>Notes:</b> The B6 Local service does not operate in the vicinity of the Project Site during the analysis time periods. AP = average passengers per bus; maximum load ridership data provided by NYCT, October 2008. Numbers in this table were changed for the FEIS.							

## **PEDESTRIANS**

The Proposed Project would include new pedestrian and bicycle infrastructure within the FCURA. The new sidewalks, corners, and crosswalks within the FCURA would be designed to accommodate project-generated pedestrian trips and, where appropriate, new crosswalks at the periphery of the Project Site would be provided.

As shown in Figure 17-3, the street plan for the FCURA includes a bicycle path through the Project Site. The existing bicycle lane along Gateway Drive would be extended north to Flatlands Avenue, and the existing bike lane on Essex Street would be extended south of Flatlands Avenue through the Project Site to Vandalia Avenue. A new bicycle lane would be provided along Vandalia Avenue between Gateway Drive and Essex Street. There would also be a new bicycle lane on Elton Street between Vandalia Avenue and the shopping center. All of the new bicycle lanes would be designed to the New York City Department of Transportation's (DOT's) Class II standards. Bicycle racks would be provided within the town center area of the shopping center and at other appropriate locations within the Project Site (i.e., the high school and the parks).

### **ANALYSIS RESULTS**

Crosswalk level of service conditions for the weekday PM and Saturday midday and late afternoon 2013 Build conditions were analyzed for three intersections along Flatlands Avenue. These time periods were selected because incremental pedestrian volumes are greater than for the other analysis time periods.

Incremental pedestrian volumes associated with the Proposed Action were added to the No Build network to generate Build condition pedestrian volumes for analysis. Figures 4 through 6 in Appendix F show the Build condition pedestrian volumes for the weekday PM and Saturday midday and afternoon peak 15-minute analysis period.

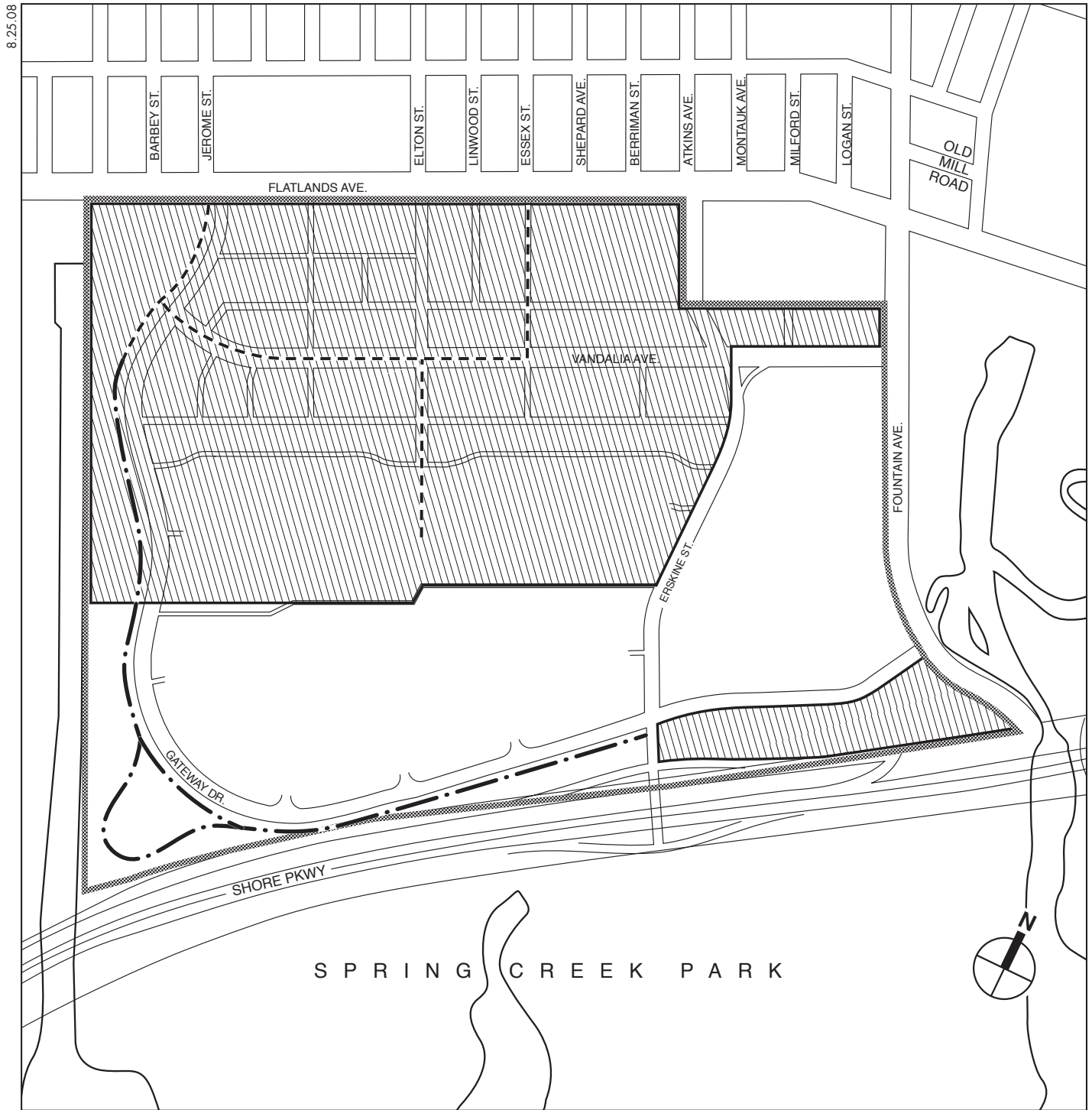
The Build condition crosswalk analyses utilized street width and signal timing assumptions from the Build traffic analyses.





A 12-foot crosswalk width was assumed for all locations, as with the No Build condition, except for the south crosswalk at the Flatlands Avenue and Jerome Street intersection, where it was assumed to be widened to 15 feet wide as part of the Proposed Action.

As shown in Table 17-20, all crosswalks would operate acceptably under the 2013 Build condition during the weekday PM and Saturday midday and late afternoon peak periods.

### **PEDESTRIAN SAFETY**

The *CEQR Technical Manual* considers a location to be a high-pedestrian-accident location if five or more pedestrian-related accidents occurred within a 12-month period in the most recent three years. Data on traffic accidents for the intersections in the vicinity of the Proposed Project were compiled from New York State Department of Transportation (NYSDOT) records for the period from October 2003 through October 2006. Based on this information, no fatalities were reported in the study area, but the intersection of Pennsylvania Avenue at Liberty Avenue is considered a high vehicle/pedestrian accident location (see Table 17-21).



-  *Project Site*
-  *Fresh Creek Urban Renewal Area Boundary*
-  *Proposed Bike Path*
-  *Existing Bike Path*

0 400 1000 FEET  
SCALE



**Table 17-20**  
**2013 Build Conditions: Pedestrian LOS Analysis for Crosswalks**

Location	Crosswalk	Street Width (feet)	Cross-walk Width (feet)	With Conflicting Vehicles					
				Weekday PM		Saturday MD		Saturday PM	
				SFP	LOS	SFP	LOS	SFP	LOS
Jerome Street and Flatlands Avenue	North	50	12	66.0	A	48.0	B	48.0	B
	East	80	12	57.2	B	55.0	B	55.3	B
	South	50	15	43.4	B	24.8	C	20.1	D
Elton Street and Flatlands Avenue	North	50	12	93.2	A	92.4	A	91.9	A
	East	80	12	36.5	C	29.5	C	29.6	C
	South	60	12	69.5	A	71.1	A	71.5	A
	West	80	12	34.9	C	28.0	C	28.2	C
Atkins Street and Flatlands Avenue	North	36	12	58.3	B	47.6	B	47.3	B
	East	80	12	47.3	B	37.9	C	37.6	C
	South	44	12	55.0	B	44.7	B	44.0	B
	West	80	12	46.4	B	37.3	C	37.1	C

**Note:** SFP = square feet per pedestrian.

**Table 17-21**  
**Summary of Accidents within the Study Area**

Intersection		Study Period			Accidents by Year							
North-South Roadway	East-West Roadway	Reportable Accidents	Total Fatalities	Total Injuries	Pedestrian				Bicycle			
					2003	2004	2005	2006	2003	2004	2005	2006
Atkins Ave.	Linden Blvd.	1	0	1								
Elton St.	Flatlands Ave.	0	0	0								
Elton St.	Linden Blvd.	3	0	6								
Elton St.	Vandalia Ave.	0	0	0								
Ersine St.	Vandalia Ave.	0	0	0								
Euclid Ave.	Linden Blvd.	4	0	6								1
Fountain Ave.	Atlantic Ave.	8	0	11		1						
Fountain Ave.	Cozine Ave.	3	0	6								
Fountain Ave.	Flatlands Ave.	3	0	3								
Fountain Ave.	Liberty Ave.	4	0	4				1			1	
Fountain Ave.	Linden Blvd.	23	0	32		1						
Fountain Ave.	Stanley Ave.	5	0	6								
Fountain Ave.	Vandalia Ave.	0	0	0								
Fountain Ave.	Wortman Ave.	7	0	16								1
Jerome St.	Flatlands Ave.	2	0	3								
Kings Highway	Linden Blvd.	0	0	0								
Kings Highway	Linden Blvd.	0	0	0								
Pennsylvania Ave.	Atlantic Ave.	58	0	66	1	1	2	1		1		1
Pennsylvania Ave.	Flatlands Ave.	35	0	50		2		1			1	1
Pennsylvania Ave.	Liberty Ave.	16	0	18		6*	2	1				
Pennsylvania Ave.	Linden Blvd.	59	0	99			1				1	
Remsen Ave.	Flatlands Ave.	23	0	43	2	2	2			1		
Rockaway Ave.	Linden Blvd.	25	0	39		2	2	2			1	
Rockaway Ave.	Linden Blvd.	36	0	58	1			2				
Schenk Ave.	Flatlands Ave.	20	0	36							1	
Ersine St.	Seaview Ave.	2	0	6								

**Note:** \* High vehicular-pedestrian accident location  
**Source:** NYSDOT accident data from Oct. 31, 2003 through Oct. 31, 2006.

With the Proposed Project, the intersection of Pennsylvania Avenue and Liberty Avenue would experience increases in vehicular traffic. However, this location is not within close proximity of the Project Site, so the majority of project-related trips would be distributed throughout the vehicle and pedestrian networks and would not be concentrated at this high-accident location. Nonetheless, safety improvement measures were considered to enhance safety at this location.

There were 16 reportable accidents during the study period of which nine involved pedestrians. As detailed in Table 17-22, for four of the nine vehicular-pedestrian accidents, the pedestrian crossed against the signal or outside the designated crosswalk. As shown in the table, six of the nine vehicular-pedestrian accidents occurred on Pennsylvania Avenue (as indicated by the vehicles' direction of travel - either northbound or southbound). Although six of the nine accidents occurred within a six month period in 2004, indicating the temporary circumstances (i.e., street construction) resulting in less safe conditions for a limited time period, the intersection was assessed to determine what pedestrian safety enhancements could be implemented. The field inspection revealed that none of the four intersection approaches has stop bars and the striping on all four crosswalks is faded.

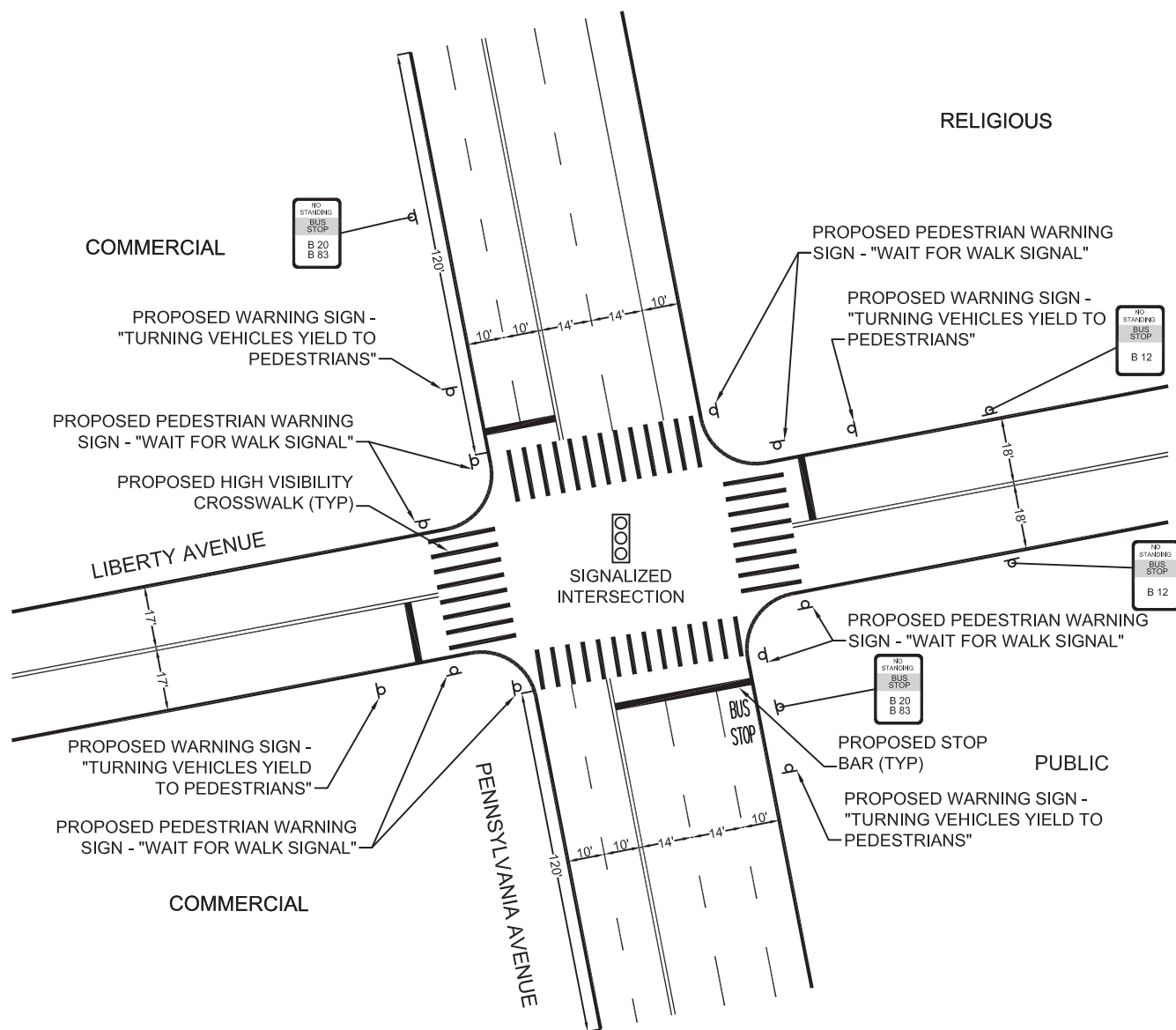
Because the accident descriptions indicate that 44-percent of pedestrian/bicycle-related accidents during the study period involved pedestrians/cyclists crossing against the signal or outside the crosswalk, pedestrian safety at this intersection could be improved by the installation of clearly marked high-visibility crosswalks. Other recommendations include adding stop bars to all intersection approaches as well as signs warning turning motorists to yield to pedestrians and signs warning pedestrians to wait for the walk indication before crossing. Figure 17-4 depicts the pedestrian safety enhancements proposed for the intersection of Pennsylvania Avenue and Liberty Avenue.

As described in Chapter 1, "Project Description," the Proposed Action would include a new high school on the Project Site. Consistent with standard operating practices and procedures of the School Construction Authority, pedestrian improvements, such as high-visibility crosswalks and signage would be incorporated as part of the school's design.

**Table 17-22**  
**Pedestrian Accident Details for Pennsylvania Avenue and Liberty Avenue**

Year	Date	Accident Class		Action of Vehicle	Action of Pedestrian	Cause of Accident
2004	March 15 4:30 PM	Injured	X	Going straight – South	Crossing, no signal or crosswalk	Other Electronic Device
	June 24 3:20 PM	Injured	X	Stopped in Traffic	Crossing, no signal or crosswalk	Pedestrian Error/ Confusion
	October 5 3:15 PM	Injured	X	Avoiding object in roadway – North	Crossing against Signal	Unknown
	October 9 12:30 PM	Injured	X	Starting from Parking – South	Other	Unknown
	October 18 6:40 PM	Injured	X	Going straight – South	Crossing, no signal or crosswalk	2 yr. old pedestrian
	November 13 3:00 PM	Injured	X	Making left turn – Southwest	Unknown	Left/Right Turns Unknown
2005	March 22 11:25 PM	Injured	X	Going straight – South	Crossing with signal	Unknown
	October 5 5:50 PM	Injured	X	Making left turn – West	Crossing with signal	Left/Right Turns 9 yr. old pedestrian
2006	September 8 4:55 PM	Injured	X	Unknown	Unknown	Unknown

\*



1. BASE DRAWING WAS PREPARED BY ENG-WONG, TAUB & ASSOCIATES.  
2. DRAWING NOT INTENDED FOR DESIGN OR CONSTRUCTION PURPOSES. DRAWING NOT TO SCALE.