

A. INTRODUCTION

Potential impacts resulting from the Proposed Actions in the 2015 and 2030 analysis years on transit and pedestrian facilities in the vicinity of the Project Area were evaluated. This chapter includes a description of the existing and future operating conditions of these facilities, and identifies potential significant adverse impacts that require mitigation. Detailed analyses of affected transit and pedestrian elements were prepared for each of these development scenarios and are discussed separately below. As discussed in Chapter 17, “Traffic and Parking,” the future 2015 and 2030 conditions discussed in the DEIS were revised to reflect changes in background conditions associated with the 125th Street Corridor Rezoning and Related Actions and East 125th Street Development projects. The effects of these changes on transit and pedestrian conditions were analyzed and incorporated into the analysis results presented below.

PRINCIPAL CONCLUSIONS

Analysis results show that the Proposed Actions would result in significant adverse bus line-haul impacts on the Bx15 cross-town route in the 2015 Build year. The Proposed Actions, when fully completed in 2030, would also result in significant adverse transit impacts at the E101 down escalator during the AM peak hour and the E102 up escalator at the 125th Street No. 1 train subway station during the PM peak hour. In addition, significant adverse bus line-haul impacts would occur on the Bx15 cross-town route in 2030. No significant adverse subway line-haul or pedestrian impacts are anticipated in either the 2015 or the 2030 Build year.

Potential measures to mitigate these projected significant adverse impacts are described in Chapter 23, “Mitigation.”

B. METHODOLOGY

As described in Chapter 17, “Traffic and Parking,” travel demand projections were developed to identify the transportation elements likely to be affected by the Proposed Actions. Based on criteria specified in the 2001 *City Environmental Quality Review (CEQR) Technical Manual*, it was determined that quantified assessments of transit station operations, subway and bus line-haul capacities, and pedestrian circulation would be required. For transit services, detailed analyses were conducted for the weekday AM and PM peak periods. These are the time periods when project-generated and background commuter trips would be the highest. For pedestrian elements, the weekday midday period was included as well to account for high walk-only volumes during lunchtime hours. The following sections summarize the various aspects of the “Transit and Pedestrians” assessment, such as defining study areas, detailing analysis methodologies, summarizing future trip projections, and describing the existing and future analysis results.

TRANSIT AND PEDESTRIAN STUDY AREAS

SUBWAY SERVICE

Three New York City Transit (NYCT) subway stations to/from which project-generated subway trips would most likely travel were identified for analysis, as shown in Figure 18-1. Two of these stations are located along Broadway serving the Seventh Avenue Local (No. 1 line) at West 125th and West 137th Streets. The third station is located at St. Nicholas Avenue and West 125th Street, serving the Sixth and Eighth Avenue lines (A/B/C/D).

No. 1 Subway Line

The No. 1 train, which serves stations primarily along Broadway and Seventh Avenue in Manhattan, operates between Van Cortlandt Park in the Bronx and South Ferry in Manhattan. Within the study area, the No. 1 line is accessible via the 125th Street and 137th Street Stations. Transfer to the Nos. 2 and 3 express trains is available at the 96th Street Station.

A/C/B/D Subway Lines

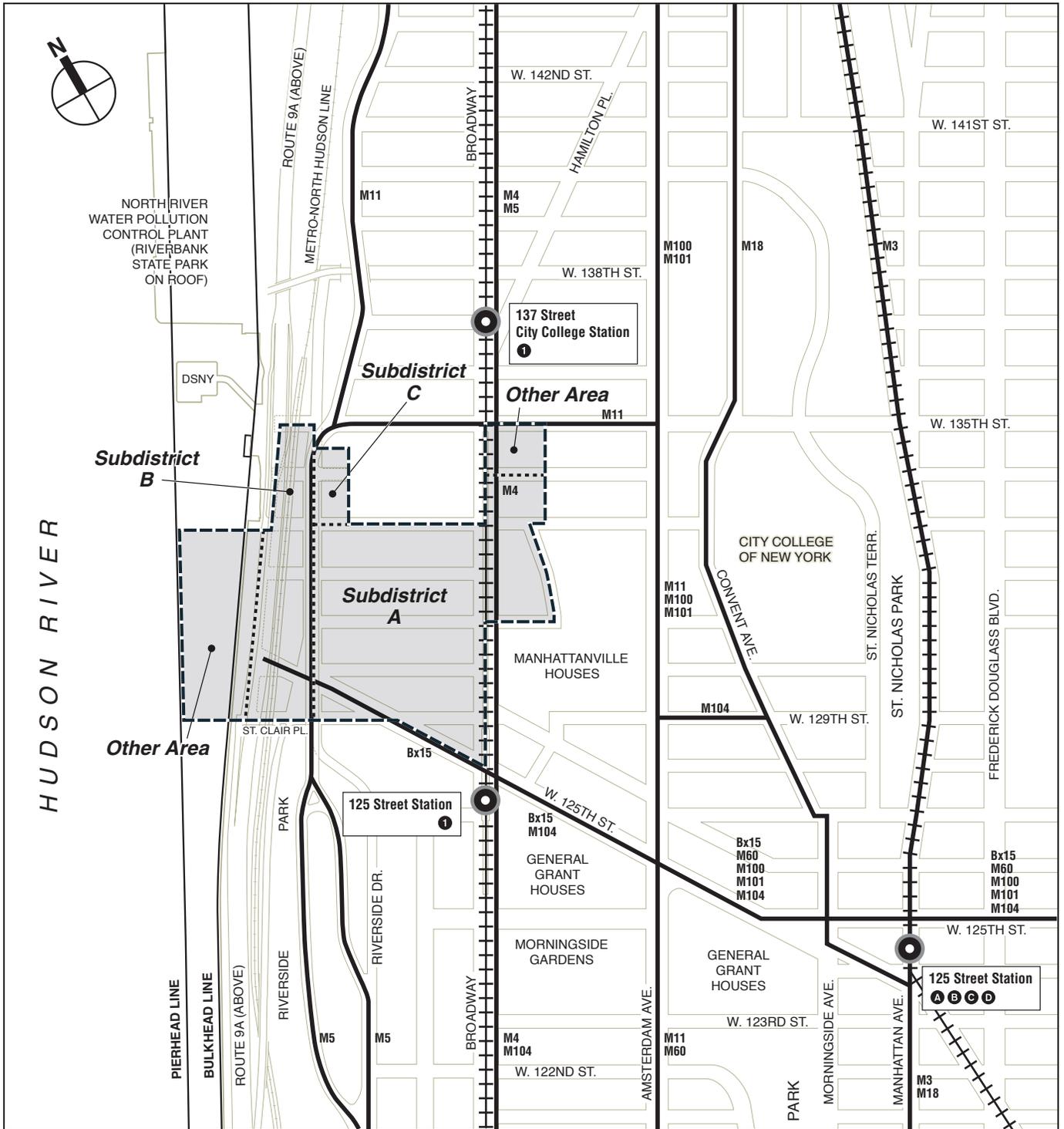
The A and C trains operate primarily along Central Park West and Eighth Avenue in Manhattan, with the A train serving only express stops. Both trains operate between Upper Manhattan and southeastern Queens, with the C train terminating at Euclid Avenue and the A train extending to the Rockaways. The B and D trains operate primarily along Sixth Avenue and Central Park West in Manhattan. The D train provides express service at all times between the Bronx and Coney Island. The B train operates on weekdays only between the Bronx and Brighton Beach during peak hours, but terminates at West 145th Street in Manhattan during off-peak hours. Within the study area, all four trains are accessible via the 125th Street/St. Nicholas Avenue Station.

BUS SERVICE

Ten NYCT local bus routes provide regular service to the study area. Five of these routes, the M4, M5, M11, M104, and Bx15, pass through or operate adjacent to the Project Area, and the other five routes, the M3, M18, M60, M100, and M101, travel within half a mile of the Project Area. These study area bus routes are shown in Figure 18-1, and their routing and weekday frequency of operation are summarized in Table 18-1. The M3, M4, M5, M11, M104, and M101 provide service from the study area to Midtown or Lower Manhattan, while the M18 and M100 begin and end in Northern Manhattan. The Bx15 travels between Harlem and the Fordham section of the Bronx, and the M60 between Northern Manhattan and LaGuardia Airport.

PEDESTRIAN ELEMENTS

Numerous sidewalks, corner reservoirs, and crosswalks surrounding the Project Area were identified for analysis. These pedestrian elements, extending primarily from West 125th Street to West 133rd Street and from Broadway to Twelfth Avenue, represent locations where most of the project-generated trips are anticipated. Outside of this primary study area, crosswalks at the West 125th Street intersections with Amsterdam and St. Nicholas Avenues were also assessed.



-  Project and Rezoning Area Boundary
-  Subdistrict Boundary
-  Subway Route
-  Subway Station
-  Bus Route and Number

0 400 1000 FEET
SCALE

Figure 18-1
Transit Analysis Locations

Table 18-1

NYCT Local Bus Routes Serving the Manhattanville Area

| Bus Route | Start Point | End Point | Routing | Freq of Bus Service (Headway in Minutes) | | | |
|---------------|--------------------------|------------------------------|--|--|--------|----|---------|
| | | | | AM | Midday | PM | Evening |
| M3 | E.8th St/ Fourth Av | 193rd St/ St Nicholas Av | via St. Nicholas Av, 110th St, Fifth & Madison Av | 8 | 9 | 8 | 11 |
| M4 | Penn Station | Cloisters/Port Tryon Park | via Broadway, 110th St, Fifth & Madison Av | 7 | 9 | 9 | 10 |
| M4 Limited | Penn Station | Cloisters/Port Tryon Park | via Broadway, 110th St, Fifth & Madison Av | 10 | – | 11 | – |
| M5 | Houston St/W Broadway | G. W. Bridge | via Fifth & Sixth Av & Riverside Dr | – | – | – | 10 |
| M5 Limited | Houston St/W Broadway | G. W. Bridge | via Fifth & Sixth Av & Riverside Dr | 7 | 10 | 9 | – |
| M11 | Bethune/ Hudson St | 145th St | via Amsterdam & Columbus Av | 9 | 8 | 10 | 9 |
| M18 | 110 St/ Fifth Ave | 168th St/ Broadway | via Convent/ Manhattan Av & 110th St | 20 | 30 | 30 | – |
| M60 | LaGuardia Airport | 106th St/ Broadway | via 125th St & Broadway | 9 | 10 | 9 | 9 |
| M100 | 220th St/ Broadway | 125th St/ Second Av | via Amsterdam Av & 125th St | 8 | 9 | 9 | 10 |
| M101 | E.8th St/ Third Av | 193rd St/ Amsterdam Av | via Amsterdam Av, 125th St, Lexington & Third Av | 8 | 7 | 8 | 10 |
| Bx15 | 125th St/ Twelfth Av | Third Av/ Fordham Rd | Via 125th St & Third Av, Bronx | 8 | 8 | 8 | 8 |

Sources: Manhattan Bus Map (November 2005)

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, escalator, 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 required area for circulation. For escalators, processing capacity is determined by the speed and the available pedestrian lane(s), the latter of which depends on the width of the escalator tread. For control area elements, capacity is measured by the number and width of an element and the NYCT optimum capacity per element. For these analysis elements, volumes and capacities are presented for 15-minute intervals.

The estimated v/c ratio is compared with NYCT criteria to determine a level-of-service (LOS) for the operation of an element. Table 18-2 shows the LOS and corresponding v/c ratios for stairways, escalators, and control area elements.

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.

**Table 18-2
Level of Service Criteria for Subway Station Elements**

| LOS | V/C Ratio | |
|-----|-----------------|-------------------------------|
| | Stairways | Escalators & 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 |

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

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 insufficient area to bypass others, and opposing movement is difficult. Often, forward progress is achievable only through shuffling, with queues forming.

NYCT's minimum standard for pedestrian conditions has traditionally been established as the breakpoint between LOS C and LOS D (v/c of 1.00). A v/c ratio of 1.00 is used to determine the design capacity of station elements during peak travel periods.

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 ratio 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, which would mitigate the location to its no action or to acceptable operating conditions. For a location with a Build LOS D, a widening of 6 inches or more is considered significant; for a Build LOS E condition, a widening of 3 inches or more is considered significant; and for a Build LOS F condition, a widening of 1 inch or more is considered significant.

SUBWAY AND BUS LINE HAUL CAPACITIES

Per the *CEQR Technical Manual*, line haul capacities are evaluated when a proposed action is anticipated to generate a perceptible number of passengers to particular subway and bus routes. For subways, if, on average, a subway car for a particular route is expected to incur five or more riders from a proposed project, a review of ridership level at its maximum load point and/or other project-specific load points would be required to determine if the route's practical capacity would be exceeded. NYCT operates three different types of subway cars with different seating and practical capacities. The practical capacity of a subway car, which ranges from 110 to 175 passengers, is compared with ridership levels to determine the acceptability of conditions. Projected increases from a no action condition within practical capacity to a build condition that exceeds practical capacity may be considered a significant impact. Since there are constraints on what service improvements are available to NYCT, significant line-haul capacity impacts on subway routes are generally disclosed but would usually remain unmitigated.

For buses, the need for a detailed line-haul analysis is similar to that described for subways. Typically, when an abundance of bus routes are available within the transit study area, projected trips would be dispersed and not overburden one or more nearby bus routes. However, if a perceptible amount of bus trips are anticipated for an already heavily-utilized bus route, its peak load point and bus stops closest to the project site would be evaluated to identify the potential for the route's buses to exceed their practical capacities. NYCT operates two types of buses. During peak hours, standard buses operate up to a maximum of 65 passengers per bus, while articulated buses operate up to 93 passengers per bus. According to NYCT guidelines, an increase in bus load levels to above the maximum capacity at any load point is defined as a significant impact. Although increasing bus service is also subjected to operational and fiscal constraints, its implementation is typically more feasible than increasing the service frequency of a subway route. Therefore, mitigation of bus line-haul capacity impacts, where appropriate, would be recommended for NYCT's approval.

PEDESTRIAN OPERATIONS

The adequacy of the study area's sidewalks, corner reservoirs, and crosswalks in relation to the demand imposed on them was assessed using the methodologies presented in the 2000 *Highway Capacity Manual (HCM)*. Sidewalks were 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 in 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 is the net area of the corner (in square feet) multiplied by the cycle length and expressed in square feet per minute. 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. Similar to the street corner analysis, crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in square feet 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 18-3 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. The *CEQR Technical Manual* specifies that a mid-LOS D condition or better is considered reasonable for sidewalks, corner reservoirs, and crosswalks outside of the Manhattan Central Business District (CBD). For crosswalks and corner reservoirs, 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 18-3
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. <i>Highway Capacity Manual</i> , 2000. | | |

Project-related sidewalk impacts are considered significant and require the examination of mitigation measures if there is an increase of 2 PFM over a no action condition that is characterized by 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 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 would not typically be perceptible.

TRAVEL DEMAND PROJECTIONS

As with the analysis of vehicular traffic, the projection of future transit and pedestrian trips incorporated background growth, No Build projects that are expected to be completed by the respective 2015 and 2030 future analysis years, and the worst-case transportation scenario developed for the Proposed Actions. (Detailed summaries of all projected trips are presented in Chapter 17.) In 2015, approximately 700 subway and 110 bus trips were projected for the Columbia University development components during the AM and PM peak hours, while the surrounding non-Columbia developments would add another 240 to 360 subway and 110 to 190 bus trips to these periods. In 2030, with the Proposed Actions’ full build-out, the Columbia University facilities are anticipated to collectively generate approximately 2,250 subway and 400 to 430 bus trips during the AM and PM peak hours. Combined with the already completed non-Columbia uses in the Project Area, peak hour subway and bus trips are expected reach over 2,500 and 600, respectively. Regardless of the mode of travel, all trips would traverse on-street elements as pedestrian trips. In 2015, the Columbia University developments are expected to generate approximately 1,660 to 1,840 pedestrian trips during the AM and PM peak hours and 1,960 pedestrian trips during the midday peak hour. The non-Columbia uses would result in just over 800 pedestrian trips during the AM peak hour, approximately 1,350 during the midday peak hour, and 1,460 during the PM peak hour. In 2030, the completion of all Columbia University facilities would yield over 5,000 pedestrian trips during all three peak periods. However, with parking available on-site, some of these trips would access the Columbia University buildings via internal vertical circulation and not traverse the on-street pedestrian network.

C. EXISTING CONDITIONS

Existing transit and pedestrian levels are based on volumes collected during field surveys conducted on April 22 and 27, 2004. Subway and bus ridership data on specific routes and at peak load points were obtained from NYCT. Additional bus windshield and subway leave load surveys were also undertaken in November 2004 to supplement the NYCT data. Projections for 2006 volumes were estimated by applying a background growth of 0.5 percent per year (as recommended by the *CEQR Technical Manual*), for a total of 1.0 percent by 2006.

SUBWAY STATION OPERATIONS

An analysis of stairway and control area operations was conducted for the 125th Street/Broadway, the 137th Street/Broadway, and the 125th Street/St. Nicholas Avenue subway stations. Since these stations 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 Project Area. Service levels for the station elements identified below are based on peak 15-minute volumes developed from manual counts collected in April 2004. Projections for 2006 volumes were estimated by applying a background growth of 0.5 percent per year (as recommended by the *CEQR Technical Manual*), for a total of 1.0 percent by 2006.

The 125th Street/Broadway Station spans over West 125th Street, with its platforms elevated over an intermediate mezzanine level. Street-level access is provided via two escalators on the southwest corner and a stairway-escalator combination on the southeast corner of the intersection. Detailed analyses were conducted for the E101 down and E102 up escalators (southwest corner of the intersection), the E103 up escalator (southeast corner of intersection), the R174 control area, and the P1 and P2 stairways, which lead to the downtown and uptown platforms, respectively. Analysis results show that all stairways, escalators, and the R174 control area currently operate at LOS A during the AM and PM peak hours.

The 137th Street/Broadway Station is accessible via street-level stairways at the northeast, northwest, and southwest corners of the Broadway and West 137th Street intersection. Detailed analyses were conducted for the S1 and S2 stairways and the R176 control area accessing the west side of Broadway and the downtown platform, as well as for the S3 and S4 stairways, and the R175 control area accessing the east side of Broadway and the uptown platform. Analysis results show that all stairways and the R175 control area currently operate at LOS B or better during the AM and PM peak hours.

The 125th Street/St. Nicholas Avenue Station is accessible via street-level stairways at all four corners of the St. Nicholas Avenue and West 125th Street intersection. Detailed analyses were conducted for the S1, S2, S8, and S10 stairways leading, respectively, to the northeast, southeast, northwest, and southwest corners of the St. Nicholas Avenue and West 125th Street intersection. Service levels at the N26 control area were also quantified. Analysis results show that all stairways and the N26 control area currently operate at LOS B or better during the AM and PM peak hours.

Table 18-4 summarizes the existing AM and PM peak hour operating levels for the various vertical circulation elements described above, while Table 18-5 shows the existing operation of turnstiles and high entry/exit gates at the corresponding station control areas. At all of the analysis stations, both vertical circulation elements and the control area elements operate at LOS B or better.

Table 18-4

2006 Existing Conditions: Subway Station Vertical Circulation Analysis

| Stairways | Width (feet) | Effective Width (feet) | 15-Minute Pedestrian Volumes | | Friction Factor | 15-Minute | | LOS |
|---|-----------------|------------------------------|------------------------------------|------|--------------------|------------------|-----------------|-----|
| | | | Up | Down | | SVCD Capacity | V/SVCD Ratio | |
| AM Peak Period | | | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | | | |
| S1 (M1) Broadway & W.137th St (NW corner) | 5.20 | 4.20 | 67 | 207 | 0.80 | 504 | 0.54 | B |
| S2 (M2) Broadway & W.137th St (SW corner) | 5.54 | 4.54 | 110 | 173 | 0.90 | 613 | 0.46 | B |
| S3 (M3) Broadway & W.137th St (NE corner N) | 5.20 | 4.20 | 95 | 30 | 0.80 | 504 | 0.25 | A |
| S4 (M4) Broadway & W.137th St (NE corner S) | 5.20 | 4.20 | 105 | 49 | 0.80 | 504 | 0.31 | A |
| 125th Street/Broadway Station (1) | | | | | | | | |
| E102 Broadway & W.125th St (SW corner N Up) | 4.71 | 2.00 | 47 | 0 | 1.00 | 525 | 0.09 | A |
| E101 Broadway & W.125th St (SW corner, S Down) | 4.71 | 2.00 | 0 | 19 | 1.00 | 525 | 0.04 | A |
| E103 Broadway & W.125th St (SE corner, Up) | 4.71 | 2.00 | 139 | 0 | 1.00 | 525 | 0.27 | A |
| S1 Broadway & W.125th St (SE corner) | 5.00 | 4.00 | 14 | 105 | 0.80 | 480 | 0.25 | A |
| P1 NW and SW downtown platform stairways | 9.00 | 7.00 | 169 | 63 | 0.80 | 840 | 0.28 | A |
| P2 NE and SE uptown platform stairways | 9.34 | 7.34 | 26 | 141 | 0.80 | 881 | 0.19 | A |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | | | |
| S1 St. Nicholas & W.125th St (NE corner) | 5.75 | 4.75 | 71 | 71 | 0.90 | 641 | 0.22 | A |
| S2 St. Nicholas & W.125th St (SE corner) | 5.84 | 4.84 | 220 | 154 | 0.90 | 653 | 0.57 | B |
| S3 St. Nicholas & W.125th St (NW corner) | 5.84 | 4.84 | 70 | 74 | 0.90 | 653 | 0.22 | A |
| S4 St. Nicholas & W.125th St (SW corner) | 5.92 | 4.92 | 95 | 158 | 0.90 | 664 | 0.38 | A |
| PM Peak Period | | | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | | | |
| S1 (M1) Broadway & W.137th St (NW corner) | 5.20 | 4.20 | 119 | 115 | 0.90 | 567 | 0.41 | A |
| S2 (M2) Broadway & W.137th St (SW corner) | 5.54 | 4.54 | 87 | 73 | 0.90 | 613 | 0.26 | A |
| S3 (M3) Broadway & W.137th St (NE corner N) | 5.20 | 4.20 | 193 | 21 | 0.80 | 504 | 0.42 | A |
| S4 (M4) Broadway & W.137th St (NE corner S) | 5.20 | 4.20 | 234 | 34 | 0.80 | 504 | 0.53 | B |
| 125th Street/Broadway Station (1) | | | | | | | | |
| E102 Broadway & W.125th St (SW corner N Up) | 4.71 | 2.00 | 31 | 0 | 1.00 | 525 | 0.06 | A |
| E101 Broadway & W.125th St (SW corner, S Down) | 4.71 | 2.00 | 0 | 19 | 1.00 | 525 | 0.04 | A |
| E103 Broadway & W.125th St (SE corner, Up) | 4.71 | 2.00 | 36 | 0 | 1.00 | 525 | 0.07 | A |
| S1 Broadway & W.125th St (SE corner) | 5.00 | 4.00 | 19 | 109 | 0.80 | 480 | 0.27 | A |
| P1 NW and SW downtown platform stairways | 9.00 | 7.00 | 93 | 59 | 0.90 | 945 | 0.16 | A |
| P2 NE and SE uptown platform stairways | 9.34 | 7.34 | 48 | 178 | 0.80 | 881 | 0.26 | A |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | | | |
| S1 St. Nicholas & W.125th St (NE corner) | 5.75 | 4.75 | 66 | 141 | 0.80 | 570 | 0.36 | A |
| S2 St. Nicholas & W.125th St (SE corner) | 5.84 | 4.84 | 203 | 143 | 0.90 | 653 | 0.53 | B |
| S3 St. Nicholas & W.125th St (NW corner) | 5.84 | 4.84 | 92 | 72 | 0.90 | 653 | 0.25 | A |
| S4 St. Nicholas & W.125th St (SW corner) | 5.92 | 4.92 | 104 | 124 | 0.90 | 664 | 0.34 | 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> . | | | | | | | | |

SUBWAY LINE HAUL LEVELS

A subway line-haul analysis typically considers the weekday commuter period leave load levels at the analysis routes' peak load points. However, the geographic location of the project site in relation to peak directional flow and the distribution of available subway routes may also weigh heavily in the selection of appropriate analysis locations.

For the Proposed Actions, it was determined, based on the projected travel patterns and incremental increases of project-generated subway trips, that the subway line-haul analysis would be conducted based on leave load levels at four northern Manhattan stations located along the Seventh Avenue IRT local No. 1 route. While line-haul levels are higher at points south and within Manhattan's CBD, the project-generated subway trips at these locations are expected to be dispersed among more subway lines (i.e., the Seventh Avenue Nos. 2/3 express lines), such that a detailed line-haul analysis would not be warranted. An evaluation of leave-load levels at the four analysis stations is detailed below.

Table 18-5

2006 Existing Conditions: Subway Station Control Area Analysis

| Station Elements | Quantity | 15-Minute Pedestrian Volumes | | SVCD Capacity | 15-Minute V/SVCD Ratio | LOS |
|--|----------|------------------------------|-----|---------------|------------------------|-----|
| | | In | Out | | | |
| AM Peak Period | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | |
| R175 Control Area (at Broadway and West 137th Street, uptown) Two-Way Turnstiles | 5 | 80 | 200 | 2400 | 0.12 | A |
| R176 Control Area (at Broadway and West 137th Street, downtown) Two-Way Turnstiles | 4 | 380 | 149 | 1920 | 0.28 | B |
| One-Way Turnstile (exit only) | 1 | 0 | 122 | 600 | 0.20 | B |
| 125th Street/Broadway Station (1) | | | | | | |
| R174 Control Area (at Broadway and West 125th Street) Two-Way Turnstiles | 5 | 195 | 204 | 2400 | 0.17 | A |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | |
| N26 Control Area (at St Nicholas Avenue and West 125th Street) Two-Way Turnstiles | 8 | 456 | 456 | 3840 | 0.24 | B |
| PM Peak Period | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | |
| R175 Control Area (at Broadway and West 137th Street, uptown) Two-Way Turnstiles | 5 | 56 | 427 | 2400 | 0.20 | B |
| R176 Control Area (at Broadway and West 137th Street, downtown) Two-Way Turnstiles | 4 | 188 | 155 | 1920 | 0.18 | A |
| One-Way Turnstile (exit only) | 1 | 0 | 52 | 600 | 0.09 | A |
| 125th Street/Broadway Station (1) | | | | | | |
| R174 Control Area (at Broadway and West 125th Street) Two-Way Turnstiles | 5 | 141 | 236 | 2400 | 0.16 | A |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | |
| N26 Control Area (at St Nicholas Avenue and West 125th Street) Two-Way Turnstiles | 8 | 481 | 465 | 3840 | 0.25 | B |
| 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> . | | | | | | |

Since peak travel to and from the Project Area is expected to be northbound in the morning and southbound in the afternoon, leave load levels were evaluated for the uptown service at the 96th Street and 116th Street Stations during the AM peak period, and for the downtown service at the 103rd Street and 125th Street Stations during the PM peak period. The selection of these stations considered the number of project-generated subway trips anticipated per train/car and the transfer opportunities available along the Seventh Avenue line between local and express service.

The No. 1 route operates with Division A train cars, each providing a seated capacity of approximately 40 passengers. The guideline or practical capacity for these cars is 110 passengers each. However, crush loads could sometimes reach up to 165 passengers per car. A leave load survey was conducted in November 2004 to gather peak period loading data at the four analysis stations. Projections for 2006 volumes were estimated by applying a background growth factor of 0.5 percent per year (as recommended by the *CEQR Technical Manual*), for a total of 1.0 percent by 2006. As shown in Table 18-6, both the northbound and southbound No. 1 routes currently operate at well below their guideline capacity at the analysis stations during the AM and PM peak analysis periods.

NYCT BUS LINE HAUL LEVELS

Among the numerous bus routes operating within or near the study area, the Bx15 is expected to serve the bulk of the project-generated bus trips. The route has stops along 125th Street and provides east–west transfer opportunities for subway patrons accessing the Project Area. With the Proposed Actions in place, the route’s peak ridership would be westbound in the morning and eastbound in the afternoon, and its maximum load points are expected to shift from their current locations to stops at Morningside Avenue and West 125th Street, where notable transfer activities with the A, C, B, and D lines are anticipated.

Table 18-6
2006 Existing Conditions: Peak Hour Subway Line-Haul

| Route | | Trains /Hour | Volume | Leave Load | | Available Capacity |
|-----------------------|--|--------------|--------|--------------------|-----------|--------------------|
| | | | | Guideline Capacity | V/C Ratio | |
| AM PEAK PERIOD | | | | | | |
| No. 1 Northbound | At 96th Street Station | 18 | 6,141 | 19,800 | 0.31 | 13,659 |
| | At 116th Street Station | 18 | 3,303 | 19,800 | 0.17 | 16,497 |
| PM PEAK PERIOD | | | | | | |
| No. 1 Southbound | At 103rd Street Station | 13 | 6,656 | 14,300 | 0.47 | 7,644 |
| | At 125th Street Station | 13 | 3,777 | 14,300 | 0.26 | 10,523 |
| Sources: | November 2004 AKRF, Inc. leave load survey Year 2002 Weekday Cordon Count, New York City Transit, December 2003 | | | | | |

To assess the potential impacts on the Bx15 bus route, patron counts at the Morningside Avenue stops were conducted in early November 2004. Projections for 2006 volumes were estimated by applying a background growth factor of 0.5 percent per year (as recommended by the *CEQR Technical Manual*), for a total of 1.0 percent by 2006. Data on existing maximum loadings and headways were acquired from NYCT. As shown on Table 18-7, the Bx15 bus route presently operates within its guideline capacity (65 passengers per bus) at both the bus stops on West 125th Street at Morningside Avenue and at the respective eastbound and westbound maximum load points.

Table 18-7
2006 Existing Conditions: Peak Hour Bx15 Bus Line-Haul

| Location | Buses/ Hour | Arrival Load | Departure Load | Capacity | Over Capacity |
|---|-------------|--------------|----------------|----------|---------------|
| AM PEAK PERIOD | | | | | |
| Westbound @ Morningside Avenue & W.125th Street | 8 | - | 16 | 65 | - |
| Westbound @ NYCT Maximum Load Point | 8 | - | 45 | 65 | - |
| PM PEAK PERIOD | | | | | |
| Eastbound @ Morningside Avenue & W.125th Street | 8 | 27 | - | 65 | - |
| Eastbound @ NYCT Maximum Load Point | 8 | 44 | - | 65 | - |

PEDESTRIAN CIRCULATION

The existing operations of the study area’s sidewalks, corner reservoirs, and crosswalks were assessed for the weekday AM, midday, and PM peak periods based on counts conducted in April 2004. Projections for 2006 volumes were estimated by applying a background growth factor of 0.5 percent per year (as recommended by the *CEQR Technical Manual*), for a total of 1.0 percent by 2006. Peak 15-minute volumes were calculated, and analysis was conducted according to the methodology described above. Currently, the Project Area is not heavily traveled by pedestrians; therefore, there is little or no congestion on area sidewalks, corners, and crosswalks. As shown in Tables 18-8, 18-9, and 18-10 for sidewalks (for AM, MD, and PM, respectively), Table 18-11 for corners, and Table 18-12 for crosswalks, all analysis locations currently operate at LOS B or better during the weekday AM, midday, and PM peak periods.

Table 18-8

2006 Existing Conditions: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|--|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| AM Peak Period | | | | | | | |
| Twelfth Av between W.134th St and W.133rd St | West | 18 | 2 | 0.0 | A | 4.0 | A |
| | East | 16 | 2 | 0.0 | A | 4.0 | A |
| W.133rd St between Twelfth Av and Broadway (near Twelfth) | North | 6 | 4 | 0.0 | A | 4.0 | A |
| | South | 11 | 9 | 0.1 | A | 4.1 | A |
| Broadway between W.134th St and W.133rd St | West | 25 | 49 | 0.1 | A | 4.1 | A |
| | East | 21 | 37 | 0.1 | A | 4.1 | A |
| Broadway between W.133rd St and W.132nd St | West | 19 | 135 | 0.5 | A | 4.5 | A |
| | East | 22 | 91 | 0.3 | A | 4.3 | A |
| W.133rd St between Twelfth Av and Broadway (near Broadway) | North | 16 | 4 | 0.0 | A | 4.0 | A |
| | South | 6 | 9 | 0.1 | A | 4.1 | A |
| Twelfth Av between W.133rd St and W.132nd St | West | 11 | 0 | 0.0 | A | 4.0 | A |
| | East | 12 | 2 | 0.0 | A | 4.0 | A |
| W.132nd St between Twelfth Av and Broadway (near Twelfth) | North | 14 | 2 | 0.0 | A | 4.0 | A |
| | South | 14 | 4 | 0.0 | A | 4.0 | A |
| W.132nd St between Twelfth Av and Broadway (near Broadway) | North | 8 | 2 | 0.0 | A | 4.0 | A |
| | South | 9 | 4 | 0.0 | A | 4.0 | A |
| Twelfth Av between W.132nd St and W.131st St | West | 16 | 2 | 0.0 | A | 4.0 | A |
| | East | 16 | 0 | 0.0 | A | 4.0 | A |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 2 | 0.0 | A | 4.0 | A |
| | South | 13 | 10 | 0.1 | A | 4.1 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 23 | 0.1 | A | 4.1 | A |
| | East | 23 | 54 | 0.2 | A | 4.2 | A |
| Broadway between W.131st St and W.130th St | West | 18 | 31 | 0.1 | A | 4.1 | A |
| | East | 17 | 55 | 0.2 | A | 4.2 | A |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 2 | 0.0 | A | 4.0 | A |
| | South | 8 | 10 | 0.1 | A | 4.1 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 4 | 0.0 | A | 4.0 | A |
| | South | 15 | 4 | 0.0 | A | 4.0 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 5 | 0.0 | A | 4.0 | A |
| | East | 16 | 6 | 0.0 | A | 4.0 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 13 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 19 | 0.1 | A | 4.1 | A |
| | South | 14 | 18 | 0.1 | A | 4.1 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 37 | 0.1 | A | 4.1 | A |
| | East | 15 | 50 | 0.2 | A | 4.2 | A |
| Broadway between W.129th St and W.125th St | West | 17 | 35 | 0.1 | A | 4.1 | A |
| | East | 13 | 83 | 0.4 | A | 4.4 | A |
| W.129th St between W.125th Street and Broadway | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 15 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 66 | 0.3 | A | 4.3 | A |
| | South | 7 | 132 | 1.3 | A | 5.3 | B |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 146 | 1.0 | A | 5.0 | A |
| | West | 10 | 136 | 0.9 | A | 4.9 | A |
| W.125th St between W.129th St and Broadway | South | 13 | 19 | 0.1 | A | 4.1 | A |
| | North | 14 | 18 | 0.1 | A | 4.1 | A |

Note: PFM = pedestrians per foot per minute

Table 18-9

2006 Existing Conditions: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|---|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| Midday Peak Period | | | | | | | |
| Twelfth Av between W.134th St and W.133rd St | West | 18 | 9 | 0.0 | A | 4.0 | A |
| | East | 16 | 2 | 0.0 | A | 4.0 | A |
| W.133rd St between Twelfth Av and Broadway (near Twelfth) | North | 6 | 12 | 0.1 | A | 4.1 | A |
| | South | 11 | 2 | 0.0 | A | 4.0 | A |
| Broadway between W.134th St and W.133rd St | West | 25 | 64 | 0.2 | A | 4.2 | A |
| | East | 21 | 36 | 0.1 | A | 4.1 | A |
| Broadway between W.133rd St and W.132nd St | West | 19 | 67 | 0.2 | A | 4.2 | A |
| | East | 22 | 119 | 0.4 | A | 4.4 | A |
| W. 133rd St between Twelfth Av and Broadway (near Broadway) | North | 16 | 4 | 0.0 | A | 4.0 | A |
| | South | 6 | 4 | 0.0 | A | 4.0 | A |
| Twelfth Av between W.133rd St and W.132nd St | West | 11 | 2 | 0.0 | A | 4.0 | A |
| | East | 12 | 2 | 0.0 | A | 4.0 | A |
| W.132nd St between Twelfth Av and Broadway (near Twelfth) | North | 14 | 1 | 0.0 | A | 4.0 | A |
| | South | 14 | 0 | 0.0 | A | 4.0 | A |
| W.132nd St between Twelfth Av and Broadway (near Broadway) | North | 8 | 4 | 0.0 | A | 4.0 | A |
| | South | 9 | 4 | 0.0 | A | 4.0 | A |
| Twelfth Av between W.132nd St and W.131st St | West | 16 | 6 | 0.0 | A | 4.0 | A |
| | East | 16 | 6 | 0.0 | A | 4.0 | A |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 9 | 0.1 | A | 4.1 | A |
| | South | 13 | 3 | 0.0 | A | 4.0 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 26 | 0.1 | A | 4.1 | A |
| | East | 23 | 39 | 0.1 | A | 4.1 | A |
| Broadway between W.131st St and W.130th St | West | 18 | 32 | 0.1 | A | 4.1 | A |
| | East | 17 | 43 | 0.2 | A | 4.2 | A |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 4 | 0.0 | A | 4.0 | A |
| | South | 8 | 4 | 0.0 | A | 4.0 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 4 | 0.0 | A | 4.0 | A |
| | South | 15 | 4 | 0.0 | A | 4.0 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 4 | 0.0 | A | 4.0 | A |
| | East | 16 | 16 | 0.1 | A | 4.1 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 13 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 22 | 0.1 | A | 4.1 | A |
| | South | 14 | 39 | 0.2 | A | 4.2 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 44 | 0.2 | A | 4.2 | A |
| | East | 15 | 50 | 0.2 | A | 4.2 | A |
| Broadway between W.129th St and W.125th St | West | 17 | 33 | 0.1 | A | 4.1 | A |
| | East | 13 | 62 | 0.3 | A | 4.3 | A |
| W. 129th St between W. 125th Street and Broadway | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 15 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 66 | 0.3 | A | 4.3 | A |
| | South | 7 | 163 | 1.6 | A | 5.6 | B |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 97 | 0.6 | A | 4.6 | A |
| | West | 10 | 167 | 1.1 | A | 5.1 | B |
| W.125th St between W.129th St and Broadway | South | 13 | 22 | 0.1 | A | 4.1 | A |
| | North | 14 | 39 | 0.2 | A | 4.2 | A |

Note: PFM = pedestrians per foot per minute

Table 18-10

2006 Existing Conditions: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|---|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| PM Peak Period | | | | | | | |
| Twelfth Av between W.134th St and W.133rd St | West | 18 | 14 | 0.1 | A | 4.1 | A |
| | East | 16 | 17 | 0.1 | A | 4.1 | A |
| W. 133rd St between Twelfth Av and Broadway (near Twelfth) | North | 6 | 4 | 0.0 | A | 4.0 | A |
| | South | 11 | 11 | 0.1 | A | 4.1 | A |
| Broadway between W.134th St and W.133rd St | West | 25 | 60 | 0.2 | A | 4.2 | A |
| | East | 21 | 52 | 0.2 | A | 4.2 | A |
| Broadway between W.133rd St and W.132nd St | West | 19 | 145 | 0.5 | A | 4.5 | A |
| | East | 22 | 155 | 0.5 | A | 4.5 | A |
| W. 133rd St between Twelfth Av and Broadway (near Broadway) | North | 16 | 4 | 0.0 | A | 4.0 | A |
| | South | 6 | 11 | 0.1 | A | 4.1 | A |
| Twelfth Av between W.133rd St and W.132nd St | West | 11 | 3 | 0.0 | A | 4.0 | A |
| | East | 12 | 1 | 0.0 | A | 4.0 | A |
| W.132nd St between Twelfth Av and Broadway (near Twelfth) | North | 14 | 2 | 0.0 | A | 4.0 | A |
| | South | 14 | 2 | 0.0 | A | 4.0 | A |
| W.132nd St between Twelfth Av and Broadway (near Broadway) | North | 8 | 2 | 0.0 | A | 4.0 | A |
| | South | 9 | 2 | 0.0 | A | 4.0 | A |
| Twelfth Av between W.132nd St and W.131st St | West | 16 | 8 | 0.0 | A | 4.0 | A |
| | East | 16 | 6 | 0.0 | A | 4.0 | A |
| W. 131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 2 | 0.0 | A | 4.0 | A |
| | South | 13 | 3 | 0.0 | A | 4.0 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 37 | 0.1 | A | 4.1 | A |
| | East | 23 | 60 | 0.2 | A | 4.2 | A |
| Broadway between W.131st St and W.130th St | West | 18 | 33 | 0.1 | A | 4.1 | A |
| | East | 17 | 72 | 0.3 | A | 4.3 | A |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 2 | 0.0 | A | 4.0 | A |
| | South | 8 | 3 | 0.0 | A | 4.0 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 4 | 0.0 | A | 4.0 | A |
| | South | 15 | 4 | 0.0 | A | 4.0 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 8 | 0.0 | A | 4.0 | A |
| | East | 16 | 16 | 0.1 | A | 4.1 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 13 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 31 | 0.1 | A | 4.1 | A |
| | South | 14 | 28 | 0.1 | A | 4.1 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 56 | 0.2 | A | 4.2 | A |
| | East | 15 | 78 | 0.3 | A | 4.3 | A |
| Broadway between W.129th St and W.125th St | West | 17 | 80 | 0.3 | A | 4.3 | A |
| | East | 13 | 99 | 0.5 | A | 4.5 | A |
| W. 129th St between W. 125th Street and Broadway | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 15 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 100 | 0.5 | A | 4.5 | A |
| | South | 7 | 214 | 2.0 | A | 6.0 | B |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 115 | 0.8 | A | 4.8 | A |
| | West | 10 | 226 | 1.5 | A | 5.5 | B |
| W.125th St between W.129th St and Broadway | South | 13 | 31 | 0.1 | A | 4.1 | A |
| | North | 14 | 28 | 0.1 | A | 4.1 | A |

Note: PFM = pedestrians per foot per minute

Table 18-11

2006 Existing Conditions: Pedestrian LOS Analysis for Corner Reservoirs

| Location | Corner | AM Peak Period | | Midday Peak Period | | PM Peak Period | |
|---------------------------|-----------|----------------|-----|--------------------|-----|----------------|-----|
| | | SFP | LOS | SFP | LOS | SFP | LOS |
| Twelfth Av and W.133rd St | Northeast | 6064.1 | A | 3269.3 | A | 1845.7 | A |
| | Southeast | 3734.4 | A | 2993.4 | A | 1314.9 | A |
| | Southwest | 4651.9 | A | 5033.1 | A | 1885.3 | A |
| | Northwest | 9024.1 | A | 6553.6 | A | 3433.4 | A |
| Broadway and W.133rd St | Northeast | 426.2 | A | 831.4 | A | 487.1 | A |
| | Southeast | 772.7 | A | 981.5 | A | 705.1 | A |
| | Southwest | 478.7 | A | 868.6 | A | 486.8 | A |
| | Northwest | 417.0 | A | 1355.3 | A | 436.1 | A |
| Twelfth Av and W.132nd St | Northeast | 3602.9 | A | 5867.7 | A | 2129.3 | A |
| | Southeast | 5217.7 | A | 2131.7 | A | 2931.9 | A |
| | Southwest | 2283.4 | A | 1157.6 | A | 3807.9 | A |
| | Northwest | 2608.6 | A | 2042.2 | A | 2471.3 | A |
| Broadway and W.132nd St | Southwest | 1392.3 | A | 1996.9 | A | 1292.8 | A |
| | Northwest | 1455.0 | A | 1530.2 | A | 1154.2 | A |
| Broadway and W.131st St | Northeast | 861.0 | A | 1210.1 | A | 746.2 | A |
| | Southeast | 658.6 | A | 763.3 | A | 637.0 | A |
| | Southwest | 750.8 | A | 751.3 | A | 550.9 | A |
| | Northwest | 1431.5 | A | 1501.0 | A | 937.2 | A |
| Broadway and W.130th St | Southwest | 1265.7 | A | 998.6 | A | 877.0 | A |
| | Northwest | 1846.8 | A | 1605.4 | A | 1208.0 | A |
| Twelfth Av and W.125th St | Northeast | 3568.0 | A | 2378.4 | A | 2039.7 | A |
| | Southeast | 4845.1 | A | 4846.4 | A | 2283.3 | A |
| | Southwest | 3632.4 | A | 5451.5 | A | 3348.5 | A |
| | Northwest | 4029.3 | A | 6049.3 | A | 3023.5 | A |
| Broadway and W.129th St | Northeast | 564.8 | A | 589.9 | A | 456.6 | A |
| | Southeast | 448.7 | A | 473.6 | A | 402.4 | A |
| | Southwest | 692.7 | A | 633.3 | A | 506.2 | A |
| | Northwest | 1650.1 | A | 865.7 | A | 996.2 | A |
| Broadway and W.125th St | Northeast | 253.3 | A | 234.9 | A | 198.4 | A |
| | Southeast | 172.4 | A | 148.6 | A | 151.7 | A |
| | Southwest | 480.6 | A | 241.0 | A | 234.9 | A |
| | Northwest | 871.5 | A | 548.6 | A | 546.5 | A |

Note: SFP = square feet per pedestrian

Table 18-12
2006 Existing Conditions: Pedestrian Crosswalk LOS Analysis

| Location | Crosswalk | Street Width (feet) | Crosswalk Width (feet) | Conditions with conflicting vehicles | | | | | |
|--------------------------------|-----------|---------------------|------------------------|--------------------------------------|-----|--------|-----|--------|-----|
| | | | | AM | | Midday | | PM | |
| | | | | SFP | LOS | SFP | LOS | SFP | LOS |
| Twelfth Av and W.133rd St | North | 60 | 10 | 2016.4 | A | 1335.4 | A | 2682.5 | A |
| | East | 38 | 18 | 9958.7 | A | 5969.6 | A | 1494.7 | A |
| | South | 60 | 10 | 880.9 | A | 995.4 | A | 570.6 | A |
| | West | 30 | 13 | 4582.5 | A | 3578.3 | A | 625.7 | A |
| Broadway and W.133rd St | North | 103 | 10 | 125.1 | A | 831.4 | A | 193.8 | A |
| | East | 30 | 24 | 560.0 | A | 525.1 | A | 378.3 | A |
| | South | 103 | 11 | 332.5 | A | 949.7 | A | 709.6 | A |
| | West | 38 | 17 | 310.0 | A | 680.4 | A | 305.1 | A |
| Twelfth Av and W.132nd St | North | 60 | 13 | 1285.5 | A | 2523.8 | A | 1261.9 | A |
| | East | 30 | 16 | 5085.6 | A | 8448.8 | A | 1796.9 | A |
| | South | 60 | 13 | 2454.9 | A | 544.2 | A | 4973.0 | A |
| | West | 30 | 14 | 2220.8 | A | 1235.5 | A | 2470.7 | A |
| Broadway and W.132nd St | North | 102 | 13 | 4474.2 | A | 6538.0 | A | 6538.0 | A |
| | South | 102 | 14 | 1806.8 | A | 2872.7 | A | 1791.6 | A |
| | West | 30 | 14 | 491.9 | A | 792.8 | A | 404.1 | A |
| Broadway and W.131st St | North | 102 | 11 | 1209.3 | A | 1928.7 | A | 687.2 | A |
| | East | 52 | 14 | 361.9 | A | 496.5 | A | 360.6 | A |
| | South | 109 | 11 | 627.7 | A | 718.4 | A | 1170.6 | A |
| | West | 34 | 19 | 938.9 | A | 839.7 | A | 560.6 | A |
| Broadway and W.130th St | North | 110 | 11 | 3854.6 | A | 1907.4 | A | 3814.8 | A |
| | South | 110 | 11 | 1085.1 | A | 1266.2 | A | 2533.9 | A |
| | West | 29 | 11 | 477.1 | A | 462.9 | A | 317.2 | A |
| Twelfth Av and W.125th St | North | 110 | 12 | 2624.2 | A | 4005.0 | A | 2222.7 | A |
| | East | 70 | 12 | 3735.0 | A | 2377.1 | A | 708.2 | A |
| | South | 134 | 11 | 3404.5 | A | 4077.4 | A | 2265.2 | A |
| | West | 70 | 12 | 1496.5 | A | 3747.8 | A | 1896.3 | A |
| Broadway and W.129th St | North | 110 | 11 | 1874.2 | A | 813.9 | A | 618.7 | A |
| | East | 50 | 15 | 235.8 | A | 278.7 | A | 233.8 | A |
| | South | 115 | 15 | 974.7 | A | 649.8 | A | 591.6 | A |
| | West | 30 | 15 | 448.4 | A | 276.1 | A | 281.1 | A |
| Broadway and W.125th St | North | 118 | 17 | 570.9 | A | 318.9 | A | 324.8 | A |
| | East | 70 | 13 | 74.3 | A | 88.6 | A | 84.7 | A |
| | South | 118 | 14 | 531.5 | A | 194.3 | A | 183.6 | A |
| | West | 70 | 19 | 293.9 | A | 165.8 | A | 165.0 | A |
| Amsterdam Av and W.125th St | North | 60 | 12 | 116.0 | A | 95.7 | A | 70.5 | A |
| | East | 70 | 16 | 112.4 | A | 295.5 | A | 202.5 | A |
| | South | 60 | 16 | 144.9 | A | 188.9 | A | 141.1 | A |
| | West | 70 | 19 | 264.4 | A | 513.2 | A | 236.7 | A |
| St. Nicholas Av and W.125th St | North | 60 | 18 | 334.6 | A | 164.6 | A | 189.1 | A |
| | East | 60 | 19 | 266.7 | A | 167.3 | A | 109.3 | A |
| | South | 60 | 18 | 324.6 | A | 166.4 | A | 161.0 | A |
| | West | 60 | 18 | 389.1 | A | 254.4 | A | 232.6 | A |

Note: SFP = square feet per pedestrian

D. 2015 FUTURE WITHOUT THE PROPOSED ACTIONS

Transit and pedestrian conditions in the 2015 future without the Proposed Actions were assessed to establish a baseline, or the 2015 No Build condition, against which the potential project impacts were evaluated. This analysis incorporates general background growth and the effects of nearby developments (as described in Chapter 17) that may affect transit service and pedestrian movements in the study area. Although the West Harlem Master Plan contemplates the possibility of improved bus service, a new ferry landing, and a potential Metro-North stop at West 125th Street, these transportation improvements are currently still being studied and were not included in the future No Build analysis. Similarly, the New York City Departments of City Planning and Transportation (DCP and NYCDOT) are undertaking a “river-to-river” study for the Harlem section of Manhattan (Harlem Morningside Heights Transportation Study) to

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develop potential strategies to improve both vehicular and pedestrian travel. The outcomes of this study were also not accounted for in the future No Build analysis.

TRANSIT AND PEDESTRIAN VOLUME PROJECTIONS

Future No Build peak hour transit and pedestrian levels were estimated by first applying a background growth of 0.5 percent per year (as recommended by the *CEQR Technical Manual*), for a total of 4.6 percent by 2015. A number of nearby projects, as detailed in Chapter 17, would also be completed and generate new transit and pedestrian trips in the study area. Trips generated by each of these No Build projects were assigned to the transit and pedestrian analysis locations described earlier.

SUBWAY STATION OPERATIONS

Future No Build peak 15-minute volumes were computed by incorporating general background growth and adding the discrete trips associated with the nearby No Build projects onto the existing subway station volumes. Tables 18-13 and 18-14 summarize the weekday AM and PM peak period operating levels for the vertical circulation elements and the control area elements (turnstiles and high entry/exit gates) under the 2015 No Build condition. As shown in these tables, all subway station elements would continue to operate at LOS B or better during both analysis peak periods.

SUBWAY AND BUS LINE HAUL LEVELS

Trips associated with general background growth and new developments in the study area were superimposed onto the existing line haul volumes to generate No Build peak period volumes for analysis. As shown in Tables 18-15 and 18-16, the northbound and southbound No. 1 subway and the eastbound and westbound Bx15 bus routes would continue to operate within guideline capacities for 2015 No Build condition.

PEDESTRIAN CIRCULATION

Trips associated with general background growth and new developments in the study area were superimposed onto the existing pedestrian networks to generate No Build peak period volumes for analysis. Proposed development in the 2015 Build condition is anticipated to reach no farther north than West 131st Street, so pedestrian locations north of West 131st Street were not included in the 2015 No Build analysis. Tables 18-17 through 18-19 illustrate projected operating levels for study area sidewalks. Service levels for corner reservoirs and crosswalks are presented in Tables 18-20 and 18-21, respectively. All analysis locations would operate at LOS C or better in the 2015 No Build condition, with the exception of the east crosswalk at Broadway and West 125th Street, which would deteriorate to LOS D in both the AM and PM peak periods, with average pedestrian space of 18.5 SFP and 17.4 SFP, respectively.

Table 18-13
2015 No Build Condition: Subway Station Vertical Circulation Analysis

| Stairways | Width (feet) | Effective Width (feet) | 15-Minute Pedestrian Volumes | | Friction Factor | 15-Minute SVCD | | LOS |
|---|--------------|------------------------|------------------------------|------------|-----------------|----------------|--------------|-----|
| | | | Up | Down | | Capacity | V/SVCD Ratio | |
| AM Peak Period | | | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | | | |
| S1 (M1) Broadway & W.137th St (NW corner) | 5.20 | 4.20 | 70 | 217 | 0.80 | 504 | 0.57 | B |
| S2 (M2) Broadway & W.137th St (SW corner) | 5.54 | 4.54 | 121 | 181 | 0.90 | 613 | 0.49 | B |
| S3 (M3) Broadway & W.137th St (NE corner N) | 5.20 | 4.20 | 101 | 31 | 0.80 | 504 | 0.26 | A |
| S4 (M4) Broadway & W.137th St (NE corner S) | 5.20 | 4.20 | 132 | 51 | 0.80 | 504 | 0.36 | A |
| 125th Street/Broadway Station (1) | | | | | | | | |
| E102 Broadway & W.125th St (SW corner N Up) | 4.71 | 2.00 | 56 | 0 | 1.00 | 525 | 0.11 | A |
| E101 Broadway & W.125th St (SW corner, S Down) | 4.71 | 2.00 | 0 | 193 | 1.00 | 525 | 0.37 | A |
| E103 Broadway & W.125th St (SE corner, Up) | 4.71 | 2.00 | 174 | 0 | 1.00 | 525 | 0.33 | A |
| S1 Broadway & W.125th St (SE corner) | 5.00 | 4.00 | 22 | 187 | 0.80 | 480 | 0.44 | A |
| P1 NW and SW downtown platform stairways | 9.00 | 7.00 | 200 | 110 | 0.90 | 945 | 0.33 | A |
| P2 NE and SE uptown platform stairways | 9.34 | 7.34 | 30 | 345 | 0.80 | 881 | 0.43 | A |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | | | |
| S1 St. Nicholas & W.125th St (NE corner) | 5.75 | 4.75 | <u>136</u> | 87 | 0.90 | 641 | <u>0.35</u> | A |
| S2 St. Nicholas & W.125th St (SE corner) | 5.84 | 4.84 | <u>278</u> | 177 | 0.90 | 653 | <u>0.70</u> | B |
| S3 St. Nicholas & W.125th St (NW corner) | 5.84 | 4.84 | 146 | 91 | 0.90 | 653 | 0.36 | A |
| S4 St. Nicholas & W.125th St (SW corner) | 5.92 | 4.92 | <u>160</u> | 181 | 0.90 | 664 | <u>0.51</u> | B |
| PM Peak Period | | | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | | | |
| S1 (M1) Broadway & W.137th St (NW corner) | 5.20 | 4.20 | 124 | 122 | 0.90 | 567 | 0.43 | A |
| S2 (M2) Broadway & W.137th St (SW corner) | 5.54 | 4.54 | 91 | 98 | 0.90 | 613 | 0.31 | A |
| S3 (M3) Broadway & W.137th St (NE corner N) | 5.20 | 4.20 | 202 | 22 | 0.80 | 504 | 0.44 | A |
| S4 (M4) Broadway & W.137th St (NE corner S) | 5.20 | 4.20 | 246 | 41 | 0.80 | 504 | 0.57 | B |
| 125th Street/Broadway Station (1) | | | | | | | | |
| E102 Broadway & W.125th St (SW corner N Up) | 4.71 | 2.00 | 196 | 0 | 1.00 | 525 | 0.37 | A |
| E101 Broadway & W.125th St (SW corner, S Down) | 4.71 | 2.00 | 0 | 35 | 1.00 | 525 | 0.07 | A |
| E103 Broadway & W.125th St (SE corner, Up) | 4.71 | 2.00 | 105 | 0 | 1.00 | 525 | 0.20 | A |
| S1 Broadway & W.125th St (SE corner) | 5.00 | 4.00 | 37 | 157 | 0.80 | 480 | 0.40 | A |
| P1 NW and SW downtown platform stairways | 9.00 | 7.00 | 291 | 69 | 0.80 | 840 | 0.43 | A |
| P2 NE and SE uptown platform stairways | 9.34 | 7.34 | 94 | 220 | 0.80 | 881 | 0.36 | A |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | | | |
| S1 St. Nicholas & W.125th St (NE corner) | 5.75 | 4.75 | 86 | <u>245</u> | 0.80 | 570 | <u>0.58</u> | B |
| S2 St. Nicholas & W.125th St (SE corner) | 5.84 | 4.84 | 228 | <u>211</u> | 0.90 | 653 | <u>0.67</u> | B |
| S3 St. Nicholas & W.125th St (NW corner) | 5.84 | 4.84 | 118 | 148 | 0.90 | 653 | 0.41 | A |
| S4 St. Nicholas & W.125th St (SW corner) | 5.92 | 4.92 | 129 | <u>198</u> | 0.90 | 664 | <u>0.49</u> | B |
| <p>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>.</p> | | | | | | | | |

Table 18-14
2015 No Build Condition: Subway Station Control Area Analysis

| Station Elements | Quantity | 15-Minute Pedestrian Volumes | | 15-Minute SVCD | | LOS |
|--|----------|------------------------------|------------|----------------|--------------|-----|
| | | In | Out | Capacity | V/SVCD Ratio | |
| AM Peak Period | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | |
| R175 Control Area (at Broadway and West 137th Street, uptown) | | | | | | |
| Two-Way Turnstiles | 5 | 83 | 233 | 2400 | 0.13 | A |
| R176 Control Area (at Broadway and West 137th Street, downtown) | | | | | | |
| Two-Way Turnstiles | 4 | 398 | 160 | 1920 | 0.29 | B |
| One-Way Turnstile (exit only) | 1 | 0 | 130 | 600 | 0.22 | B |
| 125th Street/Broadway Station (1) | | | | | | |
| R174 Control Area (at Broadway and West 125th Street) | 5 | 230 | 455 | 2400 | 0.29 | B |
| Two-Way Turnstiles | | | | | | |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | |
| N26 Control Area (at St Nicholas Avenue and West 125th Street) | 8 | 535 | <u>720</u> | 3840 | <u>0.33</u> | B |
| Two-Way Turnstiles | | | | | | |
| PM Peak Period | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | |
| R175 Control Area (at Broadway and West 137th Street, uptown) | | | | | | |
| Two-Way Turnstiles | 5 | 64 | 448 | 2400 | 0.21 | B |
| R176 Control Area (at Broadway and West 137th Street, downtown) | | | | | | |
| Two-Way Turnstiles | 4 | 220 | 161 | 1920 | 0.20 | A |
| One-Way Turnstile (exit only) | 1 | 0 | 54 | 600 | 0.09 | A |
| 125th Street/Broadway Station (1) | | | | | | |
| R174 Control Area (at Broadway and West 125th Street) | 5 | 385 | 288 | 2400 | 0.28 | B |
| Two-Way Turnstiles | | | | | | |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | |
| N26 Control Area (at St Nicholas Avenue and West 125th Street) | 8 | <u>803</u> | 561 | 3840 | <u>0.36</u> | B |
| Two-Way Turnstiles | | | | | | |
| 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 18-15
2015 No Build Condition: Peak Hour Subway Line-Haul

| Route | Trains /Hour | Volume | Leave Load | | Available Capacity | |
|--|-------------------------|--------|--------------------|-----------|--------------------|--------|
| | | | Guideline Capacity | V/C Ratio | | |
| AM PEAK PERIOD | | | | | | |
| No. 1 Northbound | At 96th Street Station | 18 | 6,957 | 19,800 | 0.35 | 12,843 |
| | At 116th Street Station | 18 | 4,119 | 19,800 | 0.21 | 15,681 |
| PM PEAK PERIOD | | | | | | |
| No. 1 Southbound | At 103rd Street Station | 13 | 7,438 | 14,300 | 0.52 | 6,862 |
| | At 125th Street Station | 13 | 4,559 | 14,300 | 0.32 | 9,741 |
| Sources: November 2004 AKRF, Inc. leave load survey Year 2002 Weekday Cordon Count, New York City Transit, December 2003 | | | | | | |

Table 18-16
2015 No Build Condition: Peak Hour Bx15 Bus Line-Haul

| Location | Buses/ Hour | Arrival Load | Departure Load | Capacity | Over Capacity |
|---|-------------|--------------|----------------|----------|---------------|
| AM PEAK PERIOD | | | | | |
| Westbound @ Morningside Avenue & W.125th Street | 8 | - | 26 | 65 | - |
| Westbound @ NYCT Maximum Load Point | 8 | - | <u>50</u> | 65 | - |
| PM PEAK PERIOD | | | | | |
| Eastbound @ Morningside Avenue & W.125th Street | 8 | <u>43</u> | - | 65 | - |
| Eastbound @ NYCT Maximum Load Point | 8 | <u>61</u> | - | 65 | - |

Table 18-17

2015 No Build Condition: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|--|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| AM Peak Period | | | | | | | |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 38 | 0.2 | A | 4.2 | A |
| | South | 13 | 13 | 0.1 | A | 4.1 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 30 | 0.1 | A | 4.1 | A |
| | East | 23 | 484 | 1.4 | A | 5.4 | B |
| Broadway between W.131st St and W.130th St | West | 18 | 151 | 0.6 | A | 4.6 | A |
| | East | 17 | 325 | 1.3 | A | 5.3 | B |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 135 | 0.8 | A | 4.8 | A |
| | South | 8 | 13 | 0.1 | A | 4.1 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 6 | 0.0 | A | 4.0 | A |
| | South | 15 | 17 | 0.1 | A | 4.1 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 5 | 0.0 | A | 4.0 | A |
| | East | 16 | 21 | 0.1 | A | 4.1 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 13 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 26 | 0.1 | A | 4.1 | A |
| | South | 14 | 26 | 0.1 | A | 4.1 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 141 | 0.5 | A | 4.5 | A |
| | East | 15 | 318 | 1.4 | A | 5.4 | B |
| Broadway between W.129th St and W.125th St | West | 17 | 295 | 1.2 | A | 5.2 | B |
| | East | 13 | 170 | 0.9 | A | 4.9 | A |
| W. 129th St between W. 125th Street and Broadway | North | 15 | 6 | 0.0 | A | 4.0 | A |
| | South | 15 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 135 | 0.7 | A | 4.7 | A |
| | South | 7 | 207 | 2.0 | A | 6.0 | B |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 250 | 1.7 | A | 5.7 | B |
| | West | 10 | 354 | 2.4 | A | 6.4 | B |
| W.125th St between W.129th St and Broadway | South | 13 | 35 | 0.2 | A | 4.2 | A |
| | North | 14 | 145 | 0.7 | A | 4.7 | A |

Note: PFM = pedestrians per foot per minute

Proposed Manhattanville in West Harlem Rezoning and Academic Mixed-Use Development FEIS

Table 18-18
2015 No Build Condition: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|--|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| MD Peak Period | | | | | | | |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 20 | 0.1 | A | 4.1 | A |
| | South | 13 | 10 | 0.1 | A | 4.1 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 32 | 0.1 | A | 4.1 | A |
| | East | 23 | 191 | 0.6 | A | 4.6 | A |
| Broadway between W.131st St and W.130th St | West | 18 | 91 | 0.3 | A | 4.3 | A |
| | East | 17 | 163 | 0.6 | A | 4.6 | A |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 81 | 0.5 | A | 4.5 | A |
| | South | 8 | 9 | 0.1 | A | 4.1 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 6 | 0.0 | A | 4.0 | A |
| | South | 15 | 8 | 0.0 | A | 4.0 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 4 | 0.0 | A | 4.0 | A |
| | East | 16 | 23 | 0.1 | A | 4.1 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 13 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 27 | 0.1 | A | 4.1 | A |
| | South | 14 | 48 | 0.2 | A | 4.2 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 94 | 0.3 | A | 4.3 | A |
| | East | 15 | 180 | 0.8 | A | 4.8 | A |
| Broadway between W.129th St and W.125th St | West | 17 | 129 | 0.5 | A | 4.5 | A |
| | East | 13 | 126 | 0.6 | A | 4.6 | A |
| W. 129th St between W. 125th Street and Broadway | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 15 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 112 | 0.6 | A | 4.6 | A |
| | South | 7 | 220 | 2.1 | A | 6.1 | B |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 171 | 1.1 | A | 5.1 | B |
| | West | 10 | 265 | 1.8 | A | 5.8 | B |
| W.125th St between W.129th St and Broadway | South | 13 | 31 | 0.1 | A | 4.1 | A |
| | North | 14 | 158 | 0.8 | A | 4.8 | A |

Note: PFM = pedestrians per foot per minute

Table 18-19

2015 No Build Condition: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|--|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| PM Peak Period | | | | | | | |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 37 | 0.2 | A | 4.2 | A |
| | South | 13 | 4 | 0.0 | A | 4.0 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 45 | 0.1 | A | 4.1 | A |
| | East | 23 | 492 | 1.4 | A | 5.4 | B |
| Broadway between W.131st St and W.130th St | West | 18 | 153 | 0.6 | A | 4.6 | A |
| | East | 17 | 343 | 1.3 | A | 5.3 | B |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 135 | 0.8 | A | 4.8 | A |
| | South | 8 | 5 | 0.0 | A | 4.0 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 6 | 0.0 | A | 4.0 | A |
| | South | 15 | 17 | 0.1 | A | 4.1 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 8 | 0.0 | A | 4.0 | A |
| | East | 16 | 36 | 0.2 | A | 4.2 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 13 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 39 | 0.2 | A | 4.2 | A |
| | South | 14 | 33 | 0.2 | A | 4.2 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 154 | 0.5 | A | 4.5 | A |
| | East | 15 | 354 | 1.6 | A | 5.6 | B |
| Broadway between W.129th St and W.125th St | West | 17 | 343 | 1.3 | A | 5.3 | B |
| | East | 13 | 188 | 1.0 | A | 5.0 | A |
| W. 129th St between W. 125th Street and Broadway | North | 15 | 5 | 0.0 | A | 4.0 | A |
| | South | 15 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 180 | 0.9 | A | 4.9 | A |
| | South | 7 | 320 | 3.0 | A | 7.0 | C |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 222 | 1.5 | A | 5.5 | B |
| | West | 10 | 460 | 3.1 | A | 7.1 | C |
| W.125th St between W.129th St and Broadway | South | 13 | 47 | 0.2 | A | 4.2 | A |
| | North | 14 | 156 | 0.8 | A | 4.8 | A |

Note: PFM = pedestrians per foot per minute

Table 18-20

2015 No Build Condition: Pedestrian LOS Analysis for Corner Reservoirs

| Location | Corner | AM Peak Period | | Midday Peak Period | | PM Peak Period | |
|---------------------------|-----------|----------------|-----|--------------------|-----|----------------|-----|
| | | SFP | LOS | SFP | LOS | SFP | LOS |
| Broadway and W.131st St | Northeast | 154.8 | A | 326.8 | A | 146.4 | A |
| | Southeast | 140.7 | A | 263.6 | A | 147.5 | A |
| | Southwest | 220.3 | A | 311.9 | A | 202.5 | A |
| | Northwest | 284.8 | A | 488.4 | A | 249.2 | A |
| Broadway and W.130th St | Southwest | 333.0 | A | 475.7 | A | 315.6 | A |
| | Northwest | 433.3 | A | 681.1 | A | 377.2 | A |
| Twelfth Av and W.125th St | Northeast | 1356.3 | A | 1676.0 | A | 1092.4 | A |
| | Southeast | 1492.1 | A | 2290.4 | A | 1077.8 | A |
| | Southwest | 2420.6 | A | 4360.6 | A | 2900.1 | A |
| | Northwest | 2414.8 | A | 4652.9 | A | 2325.1 | A |
| Broadway and W.129th St | Northeast | 141.8 | A | 227.6 | A | 122.2 | A |
| | Southeast | 114.2 | A | 198.3 | A | 116.3 | A |
| | Southwest | 233.8 | A | 337.5 | A | 232.5 | A |
| | Northwest | 397.3 | A | 457.1 | A | 369.4 | A |
| Broadway and W.125th St | Northeast | 108.6 | A | 139.1 | A | 80.7 | A |
| | Southeast | 79.1 | A | 93.7 | A | 74.1 | A |
| | Southwest | 253.9 | A | 213.8 | A | 203.6 | A |
| | Northwest | 200.2 | A | 240.8 | A | 189.1 | A |

Note: SFP = square feet per pedestrian

Table 18-21

2015 No Build Conditions: Pedestrian Crosswalk LOS Analysis

| Location | Crosswalk | Street Width (feet) | Crosswalk Width (feet) | Conditions with conflicting vehicles | | | | | |
|--------------------------------|-----------|---------------------|------------------------|--------------------------------------|-----|--------------|-----|--------------|-----|
| | | | | AM | | Midday | | PM | |
| | | | | SFP | LOS | SFP | LOS | SFP | LOS |
| Broadway and W.131st St | North | 102 | 11 | 147.3 | A | 354.3 | A | 133.7 | A |
| | East | 52 | 14 | 57.1 | B | 130.5 | A | 65.3 | A |
| | South | 109 | 11 | 390.0 | A | 355.7 | A | 618.9 | A |
| | West | 34 | 19 | 187.9 | A | 285.0 | A | 153.6 | A |
| Broadway and W.130th St | North | 110 | 11 | 762.7 | A | 753.7 | A | 684.7 | A |
| | South | 110 | 11 | 397.2 | A | 581.8 | A | 1265.0 | A |
| | West | 29 | 11 | 115.7 | A | 183.5 | A | 93.5 | A |
| Twelfth Av and W.125th St | North | 110 | 12 | 1299.8 | A | 2457.5 | A | 1402.1 | A |
| | East | 70 | 12 | 460.1 | A | 784.6 | A | 240.6 | A |
| | South | 134 | 11 | 1854.6 | A | 2534.6 | A | 2028.2 | A |
| | West | 70 | 12 | 1052.5 | A | 3696.7 | A | 1478.7 | A |
| Broadway and W.129th St | North | 110 | 11 | 370.7 | A | 369.0 | A | 307.1 | A |
| | East | 50 | 15 | 53.2 | B | 104.4 | A | 57.2 | B |
| | South | 115 | 15 | 460.0 | A | 447.9 | A | 420.1 | A |
| | West | 30 | 15 | 93.5 | A | 123.3 | A | 86.0 | A |
| Broadway and W.125th St | North | 118 | 17 | 202.1 | A | 168.3 | A | 182.4 | A |
| | East | 70 | 13 | 18.5 | D | 33.5 | C | 17.4 | D |
| | South | 118 | 14 | 166.7 | A | 87.4 | A | 103.2 | A |
| | West | 70 | 19 | 62.8 | A | 62.9 | A | 46.9 | B |
| Amsterdam Av and W.125th St | North | 60 | 12 | 67.4 | A | 58.1 | B | 47.2 | B |
| | East | 70 | 16 | 91.9 | A | 149.8 | A | 144.0 | A |
| | South | 60 | 16 | 84.2 | A | 130.2 | A | 81.5 | A |
| | West | 70 | 19 | 217.7 | A | 305.8 | A | 194.4 | A |
| St. Nicholas Av and W.125th St | North | 60 | 18 | <u>235.6</u> | A | <u>121.6</u> | A | <u>142.0</u> | A |
| | East | 60 | 19 | <u>111.5</u> | A | <u>65.7</u> | A | <u>56.9</u> | B |
| | South | 60 | 18 | <u>258.8</u> | A | <u>130.0</u> | A | <u>125.6</u> | A |
| | West | 60 | 18 | <u>141.3</u> | A | <u>78.7</u> | A | <u>87.9</u> | A |

Note: SFP = square feet per pedestrian

E. 2015 FUTURE WITH THE PROPOSED ACTIONS

The future condition with the Proposed Actions, or Build condition, would result in an increase in transit and pedestrian trips associated with the expansion of Columbia University and the rezoning of adjacent non-University parcels within the development area. As described in Chapter 1, “Project Description,” the 2015 Build condition would include the completion of five Columbia University buildings between West 125th and West 131st Streets, in addition to the developments projected for Subdistricts B, C, and the Other Areas. This section describes the projected travel patterns of the trips that would be generated by these developments and assesses their potential impacts on nearby transit and pedestrian facilities.

CHANGES IN THE PEDESTRIAN ENVIRONMENT

As detailed in Chapter 17, the Proposed Actions would include the following changes in the pedestrian environment.

TRAFFIC NETWORK IMPROVEMENTS

- A new traffic signal and crosswalk would be installed at the intersection of West 125th Street and West 129th Street/St. Clair Place. The new traffic signal would include a pedestrian-only phase. This new crosswalk would improve pedestrian travel between the Project Area, the 125th Street No. 1 subway station, and the Morningside Heights campus to the south. The new crosswalk would connect to the “central spine” of the Manhattanville university area.
- New traffic signals would be installed at the intersections of Twelfth Avenue and West 130th Street and Twelfth Avenue and West 131st Street.

MANHATTANVILLE UNIVERSITY AREA ELEMENTS

- A pedestrian pathway or “spine” would be constructed to provide midblock connections between West 125th/West 129th Street and West 132nd Street. In the 2015 Build condition, only the portion between West 125th/West 129th Street and West 130th Street is expected to be available.
- Sidewalks would be widened throughout the study area via building setbacks. All buildings along the cross streets between Broadway and Twelfth Avenue would have a mandatory 5-foot setback from the face of the building to the property line, except along the north side of West 131st Street and the south side of West 132nd Street. The resulting sidewalk widths would range from 15 to 20 feet. The buildings along Twelfth Avenue would have a mandatory 30-foot setback from the face of the building to the property line. The resulting sidewalk width would be approximately 50 to 55 feet. The face of the buildings along the west side of Broadway would not have a required setback; therefore, the sidewalk widths would remain unchanged at approximately 25 feet. Similarly, crosswalk widenings would also occur at numerous Project Area intersections. Crosswalks, which are currently 10 to 15 feet wide, would be widened to 20 feet in most locations (including the east crosswalk at Broadway and West 125th Street). At the West 125th/West 129th Street and St. Clair Place intersection, roadway and operational improvements would also incorporate two 30-foot wide crosswalks. It should be noted that the sidewalk and corner analyses were conducted in a conservative manner, in that they do not include the project sidewalk widenings to account for an anticipated increase in planters, benches, and other street furniture, although it is

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likely additional pedestrian space would be achieved with the project building setbacks on these sidewalks.

PROJECT-GENERATED TRIP ASSIGNMENT

As noted in Chapter 17, the secondary school for science, math, and engineering planned for construction at Broadway and West 132nd Street in the future No Build condition would instead be constructed as part of a modified academic building on the McDonald's site at Broadway and West 125th Street. In the future Build condition, the No Build Columbia University office buildings at the former Warren Nash Service Station building and U-Haul sites would be Manhattanville development sites instead.

Transit and pedestrian volumes in the 2015 Build condition were estimated using peak 15-minute volumes derived from the trip generation estimates detailed in Chapter 17. These volumes were then assigned to the transit and pedestrian analysis locations based on the following assumptions.

- Automobile and taxi trips were assigned to the network based on the projected parking and logical drop-off locations.
- Subway trips were assigned to the three study area subway stations, as follows: approximately 60 percent to the 125th Street Station at Broadway, 15 percent to the 137th Street Station at Broadway, and 20 percent to the 125th Street Station at St. Nicholas Avenue. The remaining 5 percent were assumed to use other stations along 125th Street. The assignments to specific control areas, stairways, and intermediate pedestrian elements were based on logical patterns of travel between the subway stations and the Project Area.
- Bus trips were assigned to local bus stops on Broadway, West 125th Street, and Amsterdam Avenue.
- Walk-only trips were distributed as follows: 44 percent to/from the east, 14 percent to/from the north, and 42 percent to/from the south.

SUBWAY STATION OPERATIONS

Future Build peak 15-minute volumes were computed by adding the discrete trips described above to No Build subway station volumes, after adjusting for the removal of those No Build projects that would not occur if the Proposed Actions are approved, and modifying No Build trips that would be distributed differently with the Proposed Actions. Subway person-trips bound for the Project Area are expected to be most concentrated on the uptown No. 1 train in the AM peak period and on the downtown No. 1 train in the PM peak period. At the 125th Street Station at Broadway, the highest concentration of subway person-trips would occur at the E101 down escalator during the AM peak period and at the E102 up escalator during the PM peak period. Tables 18-22 and 18-23 summarize the weekday AM and PM peak period operating levels for the vertical circulation elements and the control area elements (turnstiles and high entry/exit gates) under the 2015 Build condition.

Based on the criteria described above in "Methodology," there would be no significant adverse impacts on subway station elements, with all of the analysis locations operating at LOS C or better in the 2015 Build condition.

SUBWAY AND BUS LINE HAUL LEVELS

Trips associated with the Proposed Actions were superimposed onto the No Build line-haul volumes, after adjusting for the removal of those No Build projects that would not occur if the Proposed Actions are approved, and modifying No Build trips that would be distributed differently with the Proposed Actions, to generate Build peak period volumes for analysis. An increase in line-haul load levels to above the maximum capacity at any load point is defined as a significant adverse impact. As shown in Tables 18-24 and 18-25, the northbound and southbound No. 1 subway and the westbound Bx15 bus route would continue to operate within capacity under the 2015 Build condition, and the Proposed Actions would not result in any significant adverse subway line-haul impacts. However, as shown in Table 18-25, there would be significant adverse impacts on the eastbound Bx15 bus route in the PM peak period. Recommended mitigation measures are described in Chapter 23.

Table 18-22
2015 Build Condition: Subway Station Vertical Circulation Analysis

| Stairways | | Width (feet) | Effective Width (feet) | 15-Minute Pedestrian Volumes | | Friction Factor | 15-Minute | | LOS |
|---|---|-----------------|------------------------------|------------------------------------|------------|--------------------|------------------|-----------------|-----|
| | | | | Up | Down | | SVCD Capacity | V/SVCD Ratio | |
| AM Peak Period | | | | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | | | | |
| S1 (M1) | Broadway & W.137th St (NW corner) | 5.20 | 4.20 | 70 | 219 | 0.80 | 504 | 0.57 | B |
| S2 (M2) | Broadway & W.137th St (SW corner) | 5.54 | 4.54 | 124 | 198 | 0.90 | 613 | 0.53 | B |
| S3 (M3) | Broadway & W.137th St (NE corner N) | 5.20 | 4.20 | 106 | 31 | 0.80 | 504 | 0.27 | A |
| S4 (M4) | Broadway & W.137th St (NE corner S) | 5.20 | 4.20 | 155 | 54 | 0.80 | 504 | 0.41 | A |
| 125th Street/Broadway Station (1) | | | | | | | | | |
| E102 | Broadway & W.125th St (SW corner N Up) | 4.71 | 2.00 | 66 | 0 | 1.00 | 525 | 0.13 | A |
| E101 | Broadway & W.125th St (SW corner, S Down) | 4.71 | 2.00 | 0 | 236 | 1.00 | 525 | 0.45 | B |
| E103 | Broadway & W.125th St (SE corner, Up) | 4.71 | 2.00 | 187 | 0 | 1.00 | 525 | 0.36 | A |
| S1 | Broadway & W.125th St (SE corner) | 5.00 | 4.00 | 25 | 193 | 0.80 | 480 | 0.45 | B |
| P1 | NW and SW downtown platform stairways | 9.00 | 7.00 | 220 | 114 | 0.90 | 945 | 0.35 | A |
| P2 | NE and SE uptown platform stairways | 9.34 | 7.34 | 33 | 390 | 0.80 | 881 | 0.48 | B |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | | | | |
| S1 | St. Nicholas & W.125th St (NE corner) | 5.75 | 4.75 | <u>136</u> | 86 | 0.90 | 641 | <u>0.35</u> | A |
| S2 | St. Nicholas & W.125th St (SE corner) | 5.84 | 4.84 | <u>280</u> | 191 | 0.90 | 653 | <u>0.72</u> | C |
| S3 | St. Nicholas & W.125th St (NW corner) | 5.84 | 4.84 | 153 | 92 | 0.90 | 653 | 0.38 | A |
| S4 | St. Nicholas & W.125th St (SW corner) | 5.92 | 4.92 | <u>169</u> | 196 | 0.90 | 664 | <u>0.55</u> | B |
| PM Peak Period | | | | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | | | | |
| S1 (M1) | Broadway & W.137th St (NW corner) | 5.20 | 4.20 | 125 | 127 | 0.90 | 567 | 0.44 | A |
| S2 (M2) | Broadway & W.137th St (SW corner) | 5.54 | 4.54 | 96 | 124 | 0.90 | 613 | 0.36 | A |
| S3 (M3) | Broadway & W.137th St (NE corner N) | 5.20 | 4.20 | 204 | 23 | 0.80 | 504 | 0.45 | B |
| S4 (M4) | Broadway & W.137th St (NE corner S) | 5.20 | 4.20 | 272 | 48 | 0.80 | 504 | 0.64 | B |
| 125th Street/Broadway Station (1) | | | | | | | | | |
| E102 | Broadway & W.125th St (SW corner N Up) | 4.71 | 2.00 | 247 | 0 | 1.00 | 525 | 0.47 | B |
| E101 | Broadway & W.125th St (SW corner, S Down) | 4.71 | 2.00 | 0 | 57 | 1.00 | 525 | 0.11 | A |
| E103 | Broadway & W.125th St (SE corner, Up) | 4.71 | 2.00 | 114 | 0 | 1.00 | 525 | 0.22 | A |
| S1 | Broadway & W.125th St (SE corner) | 5.00 | 4.00 | 38 | 171 | 0.80 | 480 | 0.44 | A |
| P1 | NW and SW downtown platform stairways | 9.00 | 7.00 | 344 | 73 | 0.80 | 840 | 0.50 | B |
| P2 | NE and SE uptown platform stairways | 9.34 | 7.34 | 100 | 251 | 0.80 | 881 | 0.40 | A |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | | | | |
| S1 | St. Nicholas & W.125th St (NE corner) | 5.75 | 4.75 | 85 | <u>244</u> | 0.80 | 570 | <u>0.58</u> | B |
| S2 | St. Nicholas & W.125th St (SE corner) | 5.84 | 4.84 | 239 | <u>216</u> | 0.90 | 653 | <u>0.70</u> | B |
| S3 | St. Nicholas & W.125th St (NW corner) | 5.84 | 4.84 | 118 | 155 | 0.90 | 653 | 0.42 | A |
| S4 | St. Nicholas & W.125th St (SW corner) | 5.92 | 4.92 | 140 | <u>211</u> | 0.90 | 664 | <u>0.53</u> | B |
| <p>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>.</p> | | | | | | | | | |

Table 18-23
2015 Build Condition: Subway Station Control Area Analysis

| Station Elements | Quantity | 15-Minute Pedestrian Volumes | | SVCD Capacity | 15-Minute V/SVCD Ratio | LOS |
|--|----------|------------------------------|------------|---------------|------------------------|-----|
| | | In | Out | | | |
| AM Peak Period | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | |
| R175 Control Area (at Broadway and West 137th Street, uptown) | | | | | | |
| Two-Way Turnstiles | 5 | 85 | 260 | 2400 | 0.14 | A |
| R176 Control Area (at Broadway and West 137th Street, downtown) | | | | | | |
| Two-Way Turnstiles | 4 | 417 | 163 | 1920 | 0.30 | B |
| One-Way Turnstile (exit only) | 1 | 0 | 132 | 600 | 0.22 | B |
| 125th Street/Broadway Station (1) | | | | | | |
| R174 Control Area (at Broadway and West 125th Street) | 5 | 253 | 504 | 2400 | 0.32 | B |
| Two-Way Turnstiles | | | | | | |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | |
| N26 Control Area (at St Nicholas Avenue and West 125th Street) | 8 | 565 | <u>738</u> | 3840 | <u>0.34</u> | B |
| Two-Way Turnstiles | | | | | | |
| PM Peak Period | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | |
| R175 Control Area (at Broadway and West 137th Street, uptown) | | | | | | |
| Two-Way Turnstiles | 5 | 71 | 476 | 2400 | 0.23 | B |
| R176 Control Area (at Broadway and West 137th Street, downtown) | | | | | | |
| Two-Way Turnstiles | 4 | 250 | 166 | 1920 | 0.22 | B |
| One-Way Turnstile (exit only) | 1 | 0 | 55 | 600 | 0.09 | A |
| 125th Street/Broadway Station (1) | | | | | | |
| R174 Control Area (at Broadway and West 125th Street) | 5 | 445 | 323 | 2400 | 0.32 | B |
| Two-Way Turnstiles | | | | | | |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | |
| N26 Control Area (at St Nicholas Avenue and West 125th Street) | 8 | <u>827</u> | 582 | 3840 | <u>0.37</u> | B |
| Two-Way Turnstiles | | | | | | |
| 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 18-24
2015 Build Condition: Peak Hour Subway Line-Haul

| Route | Trains /Hour | Volume | Leave Load | | Available Capacity | |
|--|-------------------------|--------|--------------------|-----------|--------------------|--------|
| | | | Guideline Capacity | V/C Ratio | | |
| AM PEAK PERIOD | | | | | | |
| No. 1 Northbound | At 96th Street Station | 18 | 7,243 | 19,800 | 0.37 | 12,557 |
| | At 116th Street Station | 18 | 4,405 | 19,800 | 0.22 | 15,395 |
| PM PEAK PERIOD | | | | | | |
| No. 1 Southbound | At 103rd Street Station | 13 | 7,822 | 14,300 | 0.55 | 6,478 |
| | At 125th Street Station | 13 | 4,943 | 14,300 | 0.35 | 9,357 |
| Sources: November 2004 AKRF, Inc. leave load survey Year 2002 Weekday Cordon Count, New York City Transit, December 2003 | | | | | | |

Table 18-25
2015 Build Condition: Peak Hour Bx15 Bus Line-Haul

| Location | Buses/ Hour | Arrival Load | Departure Load | Capacity | Over Capacity |
|---|-------------|--------------|----------------|----------|---------------|
| AM PEAK PERIOD | | | | | |
| Westbound @ Morningside Avenue & W.125th Street | 8 | - | <u>39</u> | 65 | - |
| Westbound @ NYCT Maximum Load Point | 8 | - | <u>54</u> | 65 | - |
| PM PEAK PERIOD | | | | | |
| Eastbound @ Morningside Avenue & W.125th Street | 8 | <u>62</u> | - | 65 | - |
| Eastbound @ NYCT Maximum Load Point | 8 | <u>69</u> | - | 65 | <u>4</u> |

PEDESTRIAN CIRCULATION

The proposed 2015 development program would generate substantial pedestrian volumes at several sidewalks, corners, and crosswalks within the study area. Columbia University components are anticipated to reach no farther north than West 131st Street for this phase, so pedestrian locations north of West 131st Street were not included in the 2015 analysis. After adjusting for the removal of No Build projects that would not occur if the Proposed Actions are approved and modifying No Build trips that would be distributed differently with the Proposed Actions, incremental pedestrian trips were assigned to the study area sidewalks, corners, and crosswalks, primarily along West 125th Street and Broadway. Based on the criteria discussed above in “Methodology,” the Proposed Actions would not result in significant adverse sidewalk, corner, or crosswalk impacts in the 2015 Build condition. Tables 18-26, 18-27, and 18-28 illustrate projected operating levels for study area sidewalks. Service levels for corner reservoirs and crosswalks are presented in Tables 18-29 and 18-30, respectively. All locations would operate at LOS C or better in the 2015 Build condition. With the project improvements in place, the east crosswalk at Broadway and West 125th Street would improve from a No Build LOS D in both the AM and PM peak periods to a Build LOS A in the AM peak period and LOS B in the PM peak period.

Table 18-26

2015 Build Condition: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|--|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| AM Peak Period | | | | | | | |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 28 | 0.2 | A | 4.2 | A |
| | South | 13 | 16 | 0.1 | A | 4.1 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 34 | 0.1 | A | 4.1 | A |
| | East | 23 | 64 | 0.2 | A | 4.2 | A |
| Broadway between W.131st St and W.130th St | West | 18 | 231 | 0.9 | A | 4.9 | A |
| | East | 17 | 142 | 0.6 | A | 4.6 | A |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 140 | 0.8 | A | 4.8 | A |
| | South | 8 | 22 | 0.2 | A | 4.2 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 69 | 0.5 | A | 4.5 | A |
| | South | 15 | 98 | 0.4 | A | 4.4 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 10 | 0.0 | A | 4.0 | A |
| | East | 16 | 58 | 0.2 | A | 4.2 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 35 | 0.2 | A | 4.2 | A |
| | South | 13 | 44 | 0.2 | A | 4.2 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 259 | 1.2 | A | 5.2 | B |
| | South | 14 | 32 | 0.2 | A | 4.2 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 125 | 0.4 | A | 4.4 | A |
| | East | 15 | 80 | 0.4 | A | 4.4 | A |
| Broadway between W.129th St and W.125th St | West | 17 | 213 | 0.8 | A | 4.8 | A |
| | East | 13 | 174 | 0.9 | A | 4.9 | A |
| W. 129th St between W. 125th Street and Broadway | North | 15 | 15 | 0.1 | A | 4.1 | A |
| | South | 15 | 68 | 0.3 | A | 4.3 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 164 | 0.8 | A | 4.8 | A |
| | South | 7 | 235 | 2.2 | A | 6.2 | B |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 393 | 2.6 | A | 6.6 | B |
| | West | 10 | 336 | 2.2 | A | 6.2 | B |
| W.125th St between W.129th St and Broadway | South | 13 | 262 | 1.2 | A | 5.2 | B |
| | North | 14 | 317 | 1.6 | A | 5.6 | B |

Note: PFM = pedestrians per foot per minute

Table 18-27

2015 Build Condition: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|--|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| Midday Peak Period | | | | | | | |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 20 | 0.1 | A | 4.1 | A |
| | South | 13 | 12 | 0.1 | A | 4.1 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 30 | 0.1 | A | 4.1 | A |
| | East | 23 | 43 | 0.1 | A | 4.1 | A |
| Broadway between W.131st St and W.130th St | West | 18 | 213 | 0.8 | A | 4.8 | A |
| | East | 17 | 185 | 0.7 | A | 4.7 | A |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 88 | 0.5 | A | 4.5 | A |
| | South | 8 | 20 | 0.2 | A | 4.2 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 105 | 0.7 | A | 4.7 | A |
| | South | 15 | 76 | 0.3 | A | 4.3 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 12 | 0.0 | A | 4.0 | A |
| | East | 16 | 86 | 0.4 | A | 4.4 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 12 | 0.1 | A | 4.1 | A |
| | South | 13 | 56 | 0.3 | A | 4.3 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 357 | 1.7 | A | 5.7 | B |
| | South | 14 | 46 | 0.2 | A | 4.2 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 90 | 0.3 | A | 4.3 | A |
| | East | 15 | 80 | 0.4 | A | 4.4 | A |
| Broadway between W.129th St and W.125th St | West | 17 | 177 | 0.7 | A | 4.7 | A |
| | East | 13 | 164 | 0.8 | A | 4.8 | A |
| W. 129th St between W. 125th Street and Broadway | North | 15 | 33 | 0.1 | A | 4.1 | A |
| | South | 15 | 50 | 0.2 | A | 4.2 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 150 | 0.8 | A | 4.8 | A |
| | South | 7 | 261 | 2.5 | A | 6.5 | B |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 314 | 2.1 | A | 6.1 | B |
| | West | 10 | 370 | 2.5 | A | 6.5 | B |
| W.125th St between W.129th St and Broadway | South | 13 | 333 | 1.6 | A | 5.6 | B |
| | North | 14 | 144 | 0.7 | A | 4.7 | A |

Note: PFM = pedestrians per foot per minute

Table 18-28
2015 Build Condition: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|--|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| PM Peak Period | | | | | | | |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 27 | 0.2 | A | 4.2 | A |
| | South | 13 | 8 | 0.0 | A | 4.0 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 44 | 0.1 | A | 4.1 | A |
| | East | 23 | 66 | 0.2 | A | 4.2 | A |
| Broadway between W.131st St and W.130th St | West | 18 | 250 | 0.9 | A | 4.9 | A |
| | East | 17 | 182 | 0.7 | A | 4.7 | A |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 112 | 0.6 | A | 4.6 | A |
| | South | 8 | 35 | 0.3 | A | 4.3 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 105 | 0.7 | A | 4.7 | A |
| | South | 15 | 97 | 0.4 | A | 4.4 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 20 | 0.1 | A | 4.1 | A |
| | East | 16 | 107 | 0.4 | A | 4.4 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 35 | 0.2 | A | 4.2 | A |
| | South | 13 | 44 | 0.2 | A | 4.2 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 341 | 1.6 | A | 5.6 | B |
| | South | 14 | 32 | 0.2 | A | 4.2 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 137 | 0.5 | A | 4.5 | A |
| | East | 15 | 102 | 0.5 | A | 4.5 | A |
| Broadway between W.129th St and W.125th St | West | 17 | 257 | 1.0 | A | 5.0 | B |
| | East | 13 | 201 | 1.0 | A | 5.0 | B |
| W.129th St between W.125th Street and Broadway | North | 15 | 55 | 0.2 | A | 4.2 | A |
| | South | 15 | 44 | 0.2 | A | 4.2 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 196 | 1.0 | A | 5.0 | B |
| | South | 7 | 317 | 3.0 | A | 7.0 | C |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 373 | 2.5 | A | 6.5 | B |
| | West | 10 | 439 | 2.9 | A | 6.9 | B |
| W.125th St between W.129th St and Broadway | South | 13 | 334 | 1.6 | A | 5.6 | B |
| | North | 14 | 138 | 0.7 | A | 4.7 | A |

Note: PFM = pedestrians per foot per minute

Table 18-29
2015 Build Condition: Pedestrian LOS Analysis for Corner Reservoirs

| Location | Corner | AM Peak Period | | Midday Peak Period | | PM Peak Period | |
|---------------------------|-----------|----------------|-----|--------------------|-----|----------------|-----|
| | | SFP | LOS | SFP | LOS | SFP | LOS |
| Broadway and W.131st St | Northeast | 287.6 | A | 266.7 | A | 284.9 | A |
| | Southeast | 285.6 | A | 220.4 | A | 249.7 | A |
| | Southwest | 151.7 | A | 158.3 | A | 131.3 | A |
| | Northwest | 233.0 | A | 251.5 | A | 202.1 | A |
| Broadway and W.130th St | Southwest | 208.3 | A | 197.5 | A | 182.9 | A |
| | Northwest | 289.7 | A | 274.0 | A | 255.8 | A |
| Twelfth Av and W.125th St | Northeast | 463.0 | A | 356.0 | A | 298.8 | A |
| | Southeast | 1274.7 | A | 1494.0 | A | 977.4 | A |
| | Southwest | 1237.3 | A | 1078.6 | A | 875.7 | A |
| | Northwest | 1154.0 | A | 1069.0 | A | 717.6 | A |
| Broadway and W.129th St | Northeast | 242.6 | A | 193.0 | A | 171.7 | A |
| | Southeast | 187.4 | A | 156.3 | A | 161.9 | A |
| | Southwest | 206.2 | A | 228.6 | A | 183.0 | A |
| | Northwest | 361.7 | A | 372.6 | A | 312.4 | A |
| Broadway and W.125th St | Northeast | 106.9 | A | 82.5 | A | 84.5 | A |
| | Southeast | 79.1 | A | 70.1 | A | 75.4 | A |
| | Southwest | 111.4 | A | 118.5 | A | 118.1 | A |
| | Northwest | 107.3 | A | 100.5 | A | 92.8 | A |

Note: SFP = square feet per pedestrian

Table 18-30
2015 Build Condition: Pedestrian Crosswalk LOS Analysis

| Location | Crosswalk | Street Width (feet) | Crosswalk Width (feet) | Conditions with conflicting vehicles | | | | | |
|--------------------------------|--------------|------------------------|---------------------------|--------------------------------------|-----|--------------|-----|--------------|-----|
| | | | | AM | | Midday | | PM | |
| | | | | SFP | LOS | SFP | LOS | SFP | LOS |
| Broadway and W.131st St | North | 102 | 11 | 314.3 | A | 303.0 | A | 260.5 | A |
| | East | 52 | 14 | 139.3 | A | 110.5 | A | 125.2 | A |
| | South | 109 | 11 | 376.7 | A | 266.1 | A | 359.4 | A |
| | West | 34 | 19 | 105.9 | A | 116.0 | A | 92.4 | A |
| Twelfth Av and W.131th St | North | 60 | 20 | 2397.3 | A | 3661.6 | A | 3661.6 | A |
| | East | 34 | 20 | 1166.4 | A | 1898.4 | A | 834.9 | A |
| | South | 60 | 20 | 1246.7 | A | 405.1 | A | 895.8 | A |
| Broadway and W.130th St | North | 110 | 11 | 289.5 | A | 145.6 | A | 233.1 | A |
| | South | 110 | 11 | 244.7 | A | 144.9 | A | 196.8 | A |
| | West | 29 | 11 | 71.0 | A | 75.0 | A | 63.5 | A |
| Twelfth Av and W.130th St | East | 30 | 15 | 67.9 | A | 52.6 | B | 40.8 | B |
| Twelfth Av and W.125th St | North | 110 | 12 | 284.0 | A | 165.2 | A | 109.5 | A |
| | East | 70 | 12 | 528.2 | A | 758.6 | A | 307.0 | A |
| | South | 134 | 11 | 543.7 | A | 344.8 | A | 312.1 | A |
| | West | 70 | 12 | 444.3 | A | 393.3 | A | 294.7 | A |
| Broadway and W.129th St | North | 110 | 11 | 283.2 | A | 197.0 | A | 196.3 | A |
| | East | 50 | 15 | 119.1 | A | 107.6 | A | 107.1 | A |
| | South | 115 | 15 | 283.8 | A | 167.8 | A | 204.2 | A |
| | West | 30 | 20 | 126.3 | A | 159.9 | A | 107.1 | A |
| W. 125th St and W.129th St | W. 129th St. | 24 | 30 | 139.6 | A | 101.9 | A | 103.8 | A |
| | W. 125th St. | 46 | 30 | 253.7 | A | 308.3 | A | 272.2 | A |
| Broadway and W.125th St | North | 118 | 17 | 74.2 | A | 47.0 | B | 66.9 | A |
| | East | 70 | 20 | 69.1 | A | 56.3 | B | 59.2 | B |
| | South | 118 | 14 | 57.8 | B | 44.6 | B | 55.6 | B |
| | West | 70 | 20 | 51.5 | B | 55.8 | B | 45.0 | B |
| Amsterdam Av and W.125th St | North | 60 | 12 | 55.7 | B | 48.1 | B | 42.4 | B |
| | East | 70 | 16 | 86.6 | A | 157.0 | A | 149.0 | A |
| | South | 60 | 16 | 81.9 | A | 100.1 | A | 76.5 | A |
| | West | 70 | 19 | 198.6 | A | 255.3 | A | 175.8 | A |
| St. Nicholas Av and W.125th St | North | 60 | 18 | <u>213.4</u> | A | <u>116.6</u> | A | <u>138.2</u> | A |
| | East | 60 | 19 | <u>105.5</u> | A | <u>65.1</u> | A | <u>56.4</u> | B |
| | South | 60 | 18 | <u>247.3</u> | A | <u>121.7</u> | A | <u>121.6</u> | A |
| | West | 60 | 18 | <u>141.3</u> | A | <u>77.9</u> | A | <u>92.9</u> | A |

Note: SFP = square feet per pedestrian

F. 2030 FUTURE WITHOUT THE PROPOSED ACTIONS

Transit and pedestrian conditions in the 2030 future without the Proposed Actions were assessed to establish a baseline, or the 2030 No Build condition, against which the potential project impacts were evaluated. As with the 2015 No Build analysis, this assessment also incorporates general background growth and the effects of nearby developments (as described in Chapter 17) that may affect transit service and pedestrian movements in the study area. Potential transportation improvements that are still currently being studied, including those contemplated in the West Harlem Master Plan and the DCP/NYCDOT Harlem Morningside Heights Transportation Study, were not included in the future 2030 No Build analysis.

TRANSIT AND PEDESTRIAN VOLUME PROJECTIONS

Future No Build peak hour transit and pedestrian levels were estimated by first applying a background growth factor of 0.5 percent per year (as recommended by the *CEQR Technical Manual*), for a total of 12.7 percent by 2030. The same No Build projects, as identified earlier for 2015 and detailed in Chapter 17, were included in the 2030 analysis.

SUBWAY STATION OPERATIONS

Future No Build peak 15-minute volumes were computed by incorporating general background growth and adding the discrete trips associated with the nearby No Build projects to the existing subway station volumes. Tables 18-31 and 18-32 summarize the weekday AM and PM peak period operating levels for the vertical circulation elements and the control area elements (turnstiles and high entry/exit gates) under the 2030 No Build condition. As shown in these tables, all subway station elements would operate at LOS C or better during both analysis peak periods.

SUBWAY AND BUS LINE HAUL LEVELS

Trips associated with general background growth and new developments in the study area were superimposed onto the existing line haul volumes to generate No Build peak period volumes for analysis. As shown in Tables 18-33 and 18-34, the northbound and southbound No. 1 subway and the eastbound and westbound Bx15 bus routes would continue to operate within guideline capacities in the 2030 No Build condition.

Table 18-31
2030 No Build Condition: Subway Station Vertical Circulation Analysis

| Stairways | Width (feet) | Effective Width (feet) | 15-Minute Pedestrian Volumes | | Friction Factor | 15-Minute SVCD | | LOS |
|---|--------------|------------------------|------------------------------|------------|-----------------|----------------|--------------|----------|
| | | | Up | Down | | Capacity | V/SVCD Ratio | |
| AM Peak Period | | | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | | | |
| S1 (M1) Broadway & W.137th St (NW corner) | 5.20 | 4.20 | 75 | 233 | 0.80 | 504 | 0.61 | B |
| S2 (M2) Broadway & W.137th St (SW corner) | 5.54 | 4.54 | 130 | 195 | 0.90 | 613 | 0.53 | B |
| S3 (M3) Broadway & W.137th St (NE corner N) | 5.20 | 4.20 | 109 | 34 | 0.80 | 504 | 0.28 | A |
| S4 (M4) Broadway & W.137th St (NE corner S) | 5.20 | 4.20 | 140 | 55 | 0.80 | 504 | 0.39 | A |
| 125th Street/Broadway Station (1) | | | | | | | | |
| E102 Broadway & W.125th St (SW corner N Up) | 4.71 | 2.00 | 60 | 0 | 1.00 | 525 | 0.12 | A |
| E101 Broadway & W.125th St (SW corner, S Down) | 4.71 | 2.00 | 0 | 194 | 1.00 | 525 | 0.37 | A |
| E103 Broadway & W.125th St (SE corner, Up) | 4.71 | 2.00 | 186 | 0 | 1.00 | 525 | 0.36 | A |
| S1 Broadway & W.125th St (SE corner) | 5.00 | 4.00 | 23 | 195 | 0.80 | 480 | 0.45 | B |
| P1 NW and SW downtown platform stairways | 8.83 | 6.83 | 213 | 115 | 0.90 | 922 | 0.35 | A |
| P2 NE and SE uptown platform stairways | 9.34 | 7.34 | 32 | 357 | 0.80 | 881 | 0.44 | A |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | | | |
| S1 St. Nicholas & W.125th St (NE corner) | 5.75 | 4.75 | <u>142</u> | 93 | 0.90 | 641 | <u>0.37</u> | A |
| S2 St. Nicholas & W.125th St (SE corner) | 5.84 | 4.84 | <u>296</u> | 190 | 0.90 | 653 | <u>0.74</u> | <u>C</u> |
| S3 St. Nicholas & W.125th St (NW corner) | 5.84 | 4.84 | 152 | 97 | 0.90 | 653 | 0.38 | A |
| S4 St. Nicholas & W.125th St (SW corner) | 5.92 | 4.92 | <u>168</u> | 194 | 0.90 | 664 | <u>0.54</u> | B |
| PM Peak Period | | | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | | | |
| S1 (M1) Broadway & W.137th St (NW corner) | 5.20 | 4.20 | 134 | 132 | 0.90 | 567 | 0.47 | B |
| S2 (M2) Broadway & W.137th St (SW corner) | 5.54 | 4.54 | 98 | 104 | 0.90 | 613 | 0.33 | A |
| S3 (M3) Broadway & W.137th St (NE corner N) | 5.20 | 4.20 | 218 | 24 | 0.80 | 504 | 0.48 | B |
| S4 (M4) Broadway & W.137th St (NE corner S) | 5.20 | 4.20 | 265 | 43 | 0.80 | 504 | 0.61 | B |
| 125th Street/Broadway Station (1) | | | | | | | | |
| E102 Broadway & W.125th St (SW corner N Up) | 4.71 | 2.00 | 199 | 0 | 1.00 | 525 | 0.38 | A |
| E101 Broadway & W.125th St (SW corner, S Down) | 4.71 | 2.00 | 0 | 36 | 1.00 | 525 | 0.07 | A |
| E103 Broadway & W.125th St (SE corner, Up) | 4.71 | 2.00 | 108 | 0 | 1.00 | 525 | 0.21 | A |
| S1 Broadway & W.125th St (SE corner) | 5.00 | 4.00 | 38 | 166 | 0.80 | 480 | 0.43 | A |
| P1 NW and SW downtown platform stairways | 8.83 | 6.83 | 299 | 73 | 0.80 | 820 | 0.45 | B |
| P2 NE and SE uptown platform stairways | 9.34 | 7.34 | 98 | 235 | 0.80 | 881 | 0.38 | A |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | | | |
| S1 St. Nicholas & W.125th St (NE corner) | 5.75 | 4.75 | 91 | <u>257</u> | 0.80 | 570 | <u>0.61</u> | B |
| S2 St. Nicholas & W.125th St (SE corner) | 5.84 | 4.84 | 245 | <u>222</u> | 0.90 | 653 | <u>0.72</u> | <u>C</u> |
| S3 St. Nicholas & W.125th St (NW corner) | 5.84 | 4.84 | 126 | 154 | 0.90 | 653 | 0.43 | A |
| S4 St. Nicholas & W.125th St (SW corner) | 5.92 | 4.92 | 137 | <u>208</u> | 0.90 | 664 | <u>0.52</u> | B |
| 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 18-32
2030 No Build Condition: Subway Station Control Area Analysis

| Station Elements | Quantity | 15-Minute Pedestrian Volumes | | SVCD Capacity | 15-Minute V/SVCD Ratio | LOS |
|--|----------|------------------------------|------------|---------------|------------------------|-----|
| | | In | Out | | | |
| AM Peak Period | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | |
| R175 Control Area (at Broadway and West 137th Street, uptown) | | | | | | |
| Two-Way Turnstiles | 5 | 90 | 249 | 2400 | 0.14 | A |
| R176 Control Area (at Broadway and West 137th Street, downtown) | | | | | | |
| Two-Way Turnstiles | 4 | 428 | 172 | 1920 | 0.31 | B |
| One-Way Turnstile (exit only) | 1 | 0 | 140 | 600 | 0.23 | B |
| 125th Street/Broadway Station (1) | | | | | | |
| R174 Control Area (at Broadway and West 125th Street) | 5 | 245 | 472 | 2400 | 0.30 | B |
| Two-Way Turnstiles | | | | | | |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | |
| N26 Control Area (at St Nicholas Avenue and West 125th Street) | 8 | 573 | <u>758</u> | 3840 | <u>0.35</u> | B |
| Two-Way Turnstiles | | | | | | |
| PM Peak Period | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | |
| R175 Control Area (at Broadway and West 137th Street, uptown) | | | | | | |
| Two-Way Turnstiles | 5 | 68 | 483 | 2400 | 0.23 | B |
| R176 Control Area (at Broadway and West 137th Street, downtown) | | | | | | |
| Two-Way Turnstiles | 4 | 236 | 174 | 1920 | 0.21 | B |
| One-Way Turnstile (exit only) | 1 | 0 | 58 | 600 | 0.10 | A |
| 125th Street/Broadway Station (1) | | | | | | |
| R174 Control Area (at Broadway and West 125th Street) | 5 | 397 | 307 | 2400 | 0.29 | B |
| Two-Way Turnstiles | | | | | | |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | |
| N26 Control Area (at St Nicholas Avenue and West 125th Street) | 8 | <u>842</u> | 599 | 3840 | <u>0.38</u> | B |
| Two-Way Turnstiles | | | | | | |
| 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 18-33
2030 No Build Condition: Peak Hour Subway Line-Haul

| Route | Trains /Hour | Volume | Leave Load | | Available Capacity | |
|--|-------------------------|--------|--------------------|-----------|--------------------|--------|
| | | | Guideline Capacity | V/C Ratio | | |
| AM PEAK PERIOD | | | | | | |
| No. 1 Northbound | At 96th Street Station | 18 | 7,201 | 19,800 | 0.36 | 15,599 |
| | At 116th Street Station | 18 | 4,363 | 19,800 | 0.22 | 15,437 |
| PM PEAK PERIOD | | | | | | |
| No. 1 Southbound | At 103rd Street Station | 13 | 7,520 | 14,300 | 0.53 | 6,780 |
| | At 125th Street Station | 13 | 4,641 | 14,300 | 0.32 | 9,659 |
| Sources: November 2004 AKRF, Inc. leave load survey Year 2002 Weekday Cordon Count, New York City Transit, December 2003 | | | | | | |

Table 18-34
2030 No Build Condition: Peak Hour Bx15 Bus Line-Haul

| Location | Buses/ Hour | Arrival Load | Departure Load | Capacity | Over Capacity |
|---|-------------|--------------|----------------|----------|---------------|
| AM PEAK PERIOD | | | | | |
| Westbound @ Morningside Avenue & W.125th Street | 8 | - | 27 | 65 | - |
| Westbound @ NYCT Maximum Load Point | 8 | - | 56 | 65 | - |
| PM PEAK PERIOD | | | | | |
| Eastbound @ Morningside Avenue & W.125th Street | 8 | 45 | - | 65 | - |
| Eastbound @ NYCT Maximum Load Point | 8 | 64 | - | 65 | - |

PEDESTRIAN CIRCULATION

Trips associated with general background growth and new developments in the study area were superimposed onto the existing pedestrian networks to generate No Build peak period volumes for analysis. Tables 18-35, 18-36, and 18-37 illustrate projected operating levels for study area sidewalks. Service levels for corner reservoirs and crosswalks are presented in Tables 18-38 and 18-39, respectively. All analysis locations would continue to operate at LOS C or better in the 2030 No Build condition, with the exception of the east crosswalk at Broadway and West 125th Street, which would deteriorate to LOS D in both the AM and PM peak periods, with average pedestrian space of 17.5 SFP and 16.6 SFP, respectively.

G. 2030 FUTURE WITH THE PROPOSED ACTIONS

The future condition with the Proposed Actions, or the Build condition, would result in an increase in transit and pedestrian trips associated with the expansion of Columbia University and the rezoning of adjacent non-University parcels within the development area. As described in Chapter 1, the 2030 Build condition would include the completion of all Columbia University buildings between West 125th and West 134th Streets, in addition to the developments projected for Subdistricts B, C, and the Other Areas. This section describes the projected travel patterns of these trips and assesses their potential impacts on nearby transit and pedestrian facilities.

CHANGES IN THE PEDESTRIAN ENVIRONMENT

As detailed in Chapter 17, the Proposed Actions would include the following changes in the pedestrian environment.

TRAFFIC NETWORK IMPROVEMENTS

- As described above in “2015 Future with the Proposed Actions,” new traffic signals and crosswalks would be installed at the intersection of West 125th Street and West 129th Street/St. Clair Place, the intersection of Twelfth Avenue and West 130th Street, and the intersection of Twelfth Avenue and West 131st Street.
- In addition, new traffic signals and crosswalks would be installed at midblock locations on West 130th, West 131st, and West 132nd Streets between Broadway and Twelfth Avenue.

MANHATTANVILLE CAMPUS ELEMENTS

- As described above, a pedestrian pathway or “spine” would be constructed to provide midblock connections between West 125th/West 129th Streets and West 132nd Street. In the 2030 Build condition, this connection is expected to be completed.
- Study area sidewalks and crosswalks within most of the Project Area would be widened in the manner described above under “2015 Future with the Proposed Actions.”

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Table 18-35

2030 No Build Condition: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|---|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| AM Peak Period | | | | | | | |
| Twelfth Av between W.134th St and W.133rd St | West | 18 | 2 | 0.0 | A | 4.0 | A |
| | East | 16 | 10 | 0.0 | A | 4.0 | A |
| W.133rd St between Twelfth Av and Broadway (near Twelfth) | North | 6 | 9 | 0.1 | A | 4.1 | A |
| | South | 11 | 21 | 0.1 | A | 4.1 | A |
| Broadway between W.134th St and W.133rd St | West | 25 | 92 | 0.2 | A | 4.2 | A |
| | East | 21 | 104 | 0.3 | A | 4.3 | A |
| Broadway between W.133rd St and W.132nd St | West | 19 | 201 | 0.7 | A | 4.7 | A |
| | East | 22 | 197 | 0.6 | A | 4.6 | A |
| W. 133rd St between Twelfth Av and Broadway (near Broadway) | North | 16 | 4 | 0.0 | A | 4.0 | A |
| | South | 6 | 20 | 0.2 | A | 4.2 | A |
| Twelfth Av between W.133rd St and W.132nd St | West | 11 | 0 | 0.0 | A | 4.0 | A |
| | East | 12 | 26 | 0.1 | A | 4.1 | A |
| W.132nd St between Twelfth Av and Broadway (near Twelfth) | North | 14 | 6 | 0.0 | A | 4.0 | A |
| | South | 14 | 29 | 0.1 | A | 4.1 | A |
| W.132nd St between Twelfth Av and Broadway (near Broadway) | North | 8 | 17 | 0.1 | A | 4.1 | A |
| | South | 9 | 74 | 0.5 | A | 4.5 | A |
| Twelfth Av between W.132nd St and W.131st St | West | 16 | 3 | 0.0 | A | 4.0 | A |
| | East | 16 | 3 | 0.0 | A | 4.0 | A |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 39 | 0.2 | A | 4.2 | A |
| | South | 13 | 14 | 0.1 | A | 4.1 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 33 | 0.1 | A | 4.1 | A |
| | East | 23 | 488 | 1.4 | A | 5.4 | B |
| Broadway between W.131st St and W.130th St | West | 18 | 154 | 0.6 | A | 4.6 | A |
| | East | 17 | 330 | 1.3 | A | 5.3 | B |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 136 | 0.8 | A | 4.8 | A |
| | South | 8 | 14 | 0.1 | A | 4.1 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 6 | 0.0 | A | 4.0 | A |
| | South | 15 | 18 | 0.1 | A | 4.1 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 6 | 0.0 | A | 4.0 | A |
| | East | 16 | 21 | 0.1 | A | 4.1 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 13 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 28 | 0.1 | A | 4.1 | A |
| | South | 14 | 27 | 0.1 | A | 4.1 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 144 | 0.5 | A | 4.5 | A |
| | East | 15 | 322 | 1.4 | A | 5.4 | B |
| Broadway between W.129th St and W.125th St | West | 17 | 298 | 1.2 | A | 5.2 | B |
| | East | 13 | 177 | 0.9 | A | 4.9 | A |
| W. 129th St between W. 125th Street and Broadway | North | 15 | 6 | 0.0 | A | 4.0 | A |
| | South | 15 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 140 | 0.7 | A | 4.7 | A |
| | South | 7 | 218 | 2.1 | A | 6.1 | B |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 262 | 1.7 | A | 5.7 | B |
| | West | 10 | 365 | 2.4 | A | 6.4 | B |
| W.125th St between W.129th St and Broadway | South | 13 | 36 | 0.2 | A | 4.2 | A |
| | North | 14 | 146 | 0.7 | A | 4.7 | A |

Note: PFM = pedestrians per foot per minute

Table 18-36

2030 No Build Condition: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|---|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| Midday Peak Period | | | | | | | |
| Twelfth Av between W.134th St and W.133rd St | West | 18 | 10 | 0.0 | A | 4.0 | A |
| | East | 16 | 8 | 0.0 | A | 4.0 | A |
| W. 133rd St between Twelfth Av and Broadway (near Twelfth) | North | 6 | 14 | 0.2 | A | 4.2 | A |
| | South | 11 | 4 | 0.0 | A | 4.0 | A |
| Broadway between W.134th St and W.133rd St | West | 25 | 89 | 0.2 | A | 4.2 | A |
| | East | 21 | 60 | 0.2 | A | 4.2 | A |
| Broadway between W.133rd St and W.132nd St | West | 19 | 96 | 0.3 | A | 4.3 | A |
| | East | 22 | 190 | 0.6 | A | 4.6 | A |
| W. 133rd St between Twelfth Av and Broadway (near Broadway) | North | 16 | 4 | 0.0 | A | 4.0 | A |
| | South | 6 | 6 | 0.1 | A | 4.1 | A |
| Twelfth Av between W.133rd St and W.132nd St | West | 11 | 2 | 0.0 | A | 4.0 | A |
| | East | 12 | 8 | 0.0 | A | 4.0 | A |
| W.132nd St between Twelfth Av and Broadway (near Twelfth) | North | 14 | 3 | 0.0 | A | 4.0 | A |
| | South | 14 | 11 | 0.1 | A | 4.1 | A |
| W.132nd St between Twelfth Av and Broadway (near Broadway) | North | 8 | 8 | 0.1 | A | 4.1 | A |
| | South | 9 | 45 | 0.3 | A | 4.3 | A |
| Twelfth Av between W.132nd St and W.131st St | West | 16 | 7 | 0.0 | A | 4.0 | A |
| | East | 16 | 12 | 0.1 | A | 4.1 | A |
| W. 131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 20 | 0.1 | A | 4.1 | A |
| | South | 13 | 10 | 0.1 | A | 4.1 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 34 | 0.1 | A | 4.1 | A |
| | East | 23 | 195 | 0.6 | A | 4.6 | A |
| Broadway between W.131st St and W.130th St | West | 18 | 94 | 0.3 | A | 4.3 | A |
| | East | 17 | 167 | 0.7 | A | 4.7 | A |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 83 | 0.5 | A | 4.5 | A |
| | South | 8 | 9 | 0.1 | A | 4.1 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 6 | 0.0 | A | 4.0 | A |
| | South | 15 | 8 | 0.0 | A | 4.0 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 5 | 0.0 | A | 4.0 | A |
| | East | 16 | 24 | 0.1 | A | 4.1 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 13 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 29 | 0.1 | A | 4.1 | A |
| | South | 14 | 52 | 0.2 | A | 4.2 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 97 | 0.3 | A | 4.3 | A |
| | East | 15 | 184 | 0.8 | A | 4.8 | A |
| Broadway between W.129th St and W.125th St | West | 17 | 131 | 0.5 | A | 4.5 | A |
| | East | 13 | 130 | 0.7 | A | 4.7 | A |
| W. 129th St between W. 125th Street and Broadway | North | 15 | 6 | 0.0 | A | 4.0 | A |
| | South | 15 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 118 | 0.6 | A | 4.6 | A |
| | South | 7 | 233 | 2.2 | A | 6.2 | B |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 179 | 1.2 | A | 5.2 | B |
| | West | 10 | 279 | 1.9 | A | 5.9 | B |
| W.125th St between W.129th St and Broadway | South | 13 | 33 | 0.2 | A | 4.2 | A |
| | North | 14 | 162 | 0.8 | A | 4.8 | A |

Note: PFM = pedestrians per foot per minute

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Table 18-37

2030 No Build Condition: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|---|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| PM Peak Period | | | | | | | |
| Twelfth Av between W.134th St and W.133rd St | West | 18 | 16 | 0.1 | A | 4.1 | A |
| | East | 16 | 27 | 0.1 | A | 4.1 | A |
| W.133rd St between Twelfth Av and Broadway (near Twelfth) | North | 6 | 10 | 0.1 | A | 4.1 | A |
| | South | 11 | 23 | 0.1 | A | 4.1 | A |
| Broadway between W.134th St and W.133rd St | West | 25 | 104 | 0.3 | A | 4.3 | A |
| | East | 21 | 121 | 0.4 | A | 4.4 | A |
| Broadway between W.133rd St and W.132nd St | West | 19 | 212 | 0.7 | A | 4.7 | A |
| | East | 22 | 270 | 0.8 | A | 4.8 | A |
| W. 133rd St between Twelfth Av and Broadway (near Broadway) | North | 16 | 4 | 0.0 | A | 4.0 | A |
| | South | 6 | 23 | 0.3 | A | 4.3 | A |
| Twelfth Av between W.133rd St and W.132nd St | West | 11 | 3 | 0.0 | A | 4.0 | A |
| | East | 12 | 27 | 0.2 | A | 4.2 | A |
| W.132nd St between Twelfth Av and Broadway (near Twelfth) | North | 14 | 3 | 0.0 | A | 4.0 | A |
| | South | 14 | 24 | 0.1 | A | 4.1 | A |
| W.132nd St between Twelfth Av and Broadway (near Broadway) | North | 8 | 16 | 0.1 | A | 4.1 | A |
| | South | 9 | 72 | 0.5 | A | 4.5 | A |
| Twelfth Av between W.132nd St and W.131st St | West | 16 | 10 | 0.0 | A | 4.0 | A |
| | East | 16 | 11 | 0.0 | A | 4.0 | A |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 37 | 0.2 | A | 4.2 | A |
| | South | 13 | 4 | 0.0 | A | 4.0 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 48 | 0.1 | A | 4.1 | A |
| | East | 23 | 496 | 1.4 | A | 5.4 | B |
| Broadway between W.131st St and W.130th St | West | 18 | 156 | 0.6 | A | 4.6 | A |
| | East | 17 | 349 | 1.4 | A | 5.4 | B |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 136 | 0.8 | A | 4.8 | A |
| | South | 8 | 5 | 0.0 | A | 4.0 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 6 | 0.0 | A | 4.0 | A |
| | South | 15 | 17 | 0.1 | A | 4.1 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 9 | 0.0 | A | 4.0 | A |
| | East | 16 | 38 | 0.2 | A | 4.2 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 4 | 0.0 | A | 4.0 | A |
| | South | 13 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 41 | 0.2 | A | 4.2 | A |
| | South | 14 | 35 | 0.2 | A | 4.2 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 159 | 0.6 | A | 4.6 | A |
| | East | 15 | 360 | 1.6 | A | 5.6 | B |
| Broadway between W.129th St and W.125th St | West | 17 | 349 | 1.4 | A | 5.4 | B |
| | East | 13 | 197 | 1.0 | A | 5.0 | B |
| W. 129th St between W. 125th Street and Broadway | North | 15 | 6 | 0.0 | A | 4.0 | A |
| | South | 15 | 4 | 0.0 | A | 4.0 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 188 | 1.0 | A | 5.0 | A |
| | South | 7 | 337 | 3.2 | A | 7.2 | C |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 232 | 1.5 | A | 5.5 | B |
| | West | 10 | 479 | 3.2 | A | 7.2 | C |
| W.125th St between W.129th St and Broadway | South | 13 | 49 | 0.2 | A | 4.2 | A |
| | North | 14 | 159 | 0.8 | A | 4.8 | A |

Note: PFM = pedestrians per foot per minute

Table 18-38

2030 No Build Condition: Pedestrian LOS Analysis for Corner Reservoirs

| Location | Corner | AM Peak Period | | Midday Peak Period | | PM Peak Period | |
|---------------------------|-----------|----------------|-----|--------------------|-----|----------------|-----|
| | | SFP | LOS | SFP | LOS | SFP | LOS |
| Twelfth Av and W.133rd St | Northeast | 2016.7 | A | 2123.9 | A | 1088.1 | A |
| | Southeast | 1178.4 | A | 1869.9 | A | 707.5 | A |
| | Southwest | 4319.6 | A | 5030.9 | A | 1675.1 | A |
| | Northwest | 9024.1 | A | 6005.3 | A | 3134.2 | A |
| Broadway and W.133rd St | Northeast | 257.8 | A | 497.3 | A | 288.2 | A |
| | Southeast | 353.5 | A | 519.6 | A | 331.5 | A |
| | Southwest | 296.3 | A | 583.6 | A | 298.0 | A |
| | Northwest | 307.0 | A | 867.8 | A | 320.7 | A |
| Twelfth Av and W.132nd St | Northeast | 1195.9 | A | 2931.9 | A | 936.2 | A |
| | Southeast | 1303.5 | A | 1138.7 | A | 1086.5 | A |
| | Southwest | 1902.0 | A | 857.3 | A | 3359.9 | A |
| | Northwest | 2234.4 | A | 1805.3 | A | 2132.8 | A |
| Broadway and W.132nd St | Southwest | 400.4 | A | 808.0 | A | 390.8 | A |
| | Northwest | 466.8 | A | 771.6 | A | 435.0 | A |
| Broadway and W.131st St | Northeast | 152.8 | A | 318.3 | A | 143.5 | A |
| | Southeast | 138.0 | A | 257.1 | A | 144.2 | A |
| | Southwest | 213.1 | A | 307.1 | A | 196.6 | A |
| | Northwest | 280.8 | A | 477.0 | A | 243.0 | A |
| Broadway and W.130th St | Southwest | 329.0 | A | 460.1 | A | 307.0 | A |
| | Northwest | 428.3 | A | 656.6 | A | 369.5 | A |
| Twelfth Av and W.125th St | Northeast | 1294.5 | A | 1628.1 | A | 1052.0 | A |
| | Southeast | 1442.2 | A | 2072.0 | A | 1026.4 | A |
| | Southwest | 2293.2 | A | 3633.4 | A | 2414.8 | A |
| | Northwest | 2321.9 | A | 4652.9 | A | 2084.4 | A |
| Broadway and W.129th St | Northeast | 139.1 | A | 219.6 | A | 119.4 | A |
| | Southeast | 111.9 | A | 190.6 | A | 113.5 | A |
| | Southwest | 227.5 | A | 320.7 | A | 224.3 | A |
| | Northwest | 389.4 | A | 436.3 | A | 360.6 | A |
| Broadway and W.125th St | Northeast | 104.4 | A | 131.7 | A | 77.6 | A |
| | Southeast | 75.7 | A | 88.6 | A | 71.2 | A |
| | Southwest | 248.1 | A | 206.5 | A | 198.5 | A |
| | Northwest | 196.1 | A | 231.4 | A | 183.6 | A |

Note: SFP = square feet per pedestrian

Table 18-39
2030 No Build Condition: Pedestrian Crosswalk LOS Analysis

| Location | Crosswalk | Street Width (feet) | Crosswalk Width (feet) | Conditions with conflicting vehicles | | | | | |
|--------------------------------|-----------|---------------------|------------------------|--------------------------------------|-----|--------------|-----|--------------|-----|
| | | | | AM | | Midday | | PM | |
| | | | | SFP | LOS | SFP | LOS | SFP | LOS |
| Twelfth Av and W.133rd St | North | 60 | 10 | 2014.9 | A | 1142.5 | A | 2680.5 | A |
| | East | 38 | 18 | 1748.4 | A | 2697.0 | A | 821.2 | A |
| | South | 60 | 10 | 790.2 | A | 882.8 | A | 498.4 | A |
| | West | 30 | 13 | 4187.8 | A | 2762.6 | A | 431.5 | A |
| Broadway and W.133rd St | North | 103 | 10 | 97.0 | A | 408.5 | A | 145.0 | A |
| | East | 30 | 24 | 210.7 | A | 278.4 | A | 168.6 | A |
| | South | 103 | 11 | 237.8 | A | 627.7 | A | 416.6 | A |
| | West | 38 | 17 | 182.5 | A | 380.8 | A | 173.5 | A |
| Twelfth Av and W.132nd St | North | 60 | 13 | 1031.4 | A | 2025.2 | A | 1012.6 | A |
| | East | 30 | 16 | 871.3 | A | 2277.9 | A | 613.8 | A |
| | South | 60 | 13 | 1501.9 | A | 298.1 | A | 4804.1 | A |
| | West | 30 | 14 | 2011.1 | A | 1054.9 | A | 2215.0 | A |
| Broadway and W.132nd St | North | 102 | 13 | 671.9 | A | 1416.9 | A | 794.8 | A |
| | South | 102 | 14 | 217.3 | A | 504.4 | A | 218.2 | A |
| | West | 30 | 14 | 156.5 | A | 334.0 | A | 152.0 | A |
| Broadway and W.131st St | North | 102 | 11 | 147.2 | A | 341.0 | A | 129.8 | A |
| | East | 52 | 14 | 56.2 | B | 126.9 | A | 64.1 | A |
| | South | 109 | 11 | 359.3 | A | 355.1 | A | 579.3 | A |
| | West | 34 | 19 | 183.7 | A | 278.1 | A | 149.4 | A |
| Broadway and W.130th St | North | 110 | 11 | 762.3 | A | 683.7 | A | 683.3 | A |
| | South | 110 | 11 | 396.1 | A | 580.3 | A | 1262.3 | A |
| | West | 29 | 11 | 114.1 | A | 177.4 | A | 91.0 | A |
| Twelfth Av and W.125th St | North | 110 | 12 | 1212.6 | A | 2424.4 | A | 1290.6 | A |
| | East | 70 | 12 | 458.9 | A | 779.7 | A | 239.1 | A |
| | South | 134 | 11 | 1698.8 | A | 2025.2 | A | 1688.1 | A |
| | West | 70 | 12 | 1049.8 | A | 3687.1 | A | 1231.2 | A |
| Broadway and W.129th St | North | 110 | 11 | 369.9 | A | 348.2 | A | 299.2 | A |
| | East | 50 | 15 | 52.1 | B | 101.4 | A | 55.9 | B |
| | South | 115 | 15 | 447.0 | A | 414.8 | A | 400.5 | A |
| | West | 30 | 15 | 90.8 | A | 116.7 | A | 82.9 | A |
| Broadway and W.125th St | North | 118 | 17 | 194.3 | A | 158.3 | A | 174.1 | A |
| | East | 70 | 13 | 17.5 | D | 31.4 | C | 16.6 | D |
| | South | 118 | 14 | 160.0 | A | 82.9 | A | 99.1 | A |
| | West | 70 | 19 | 60.2 | A | 58.9 | B | 44.2 | B |
| Amsterdam Av and W.125th St | North | 60 | 12 | 63.4 | A | 54.6 | B | 44.0 | B |
| | East | 70 | 16 | 84.5 | A | 140.0 | A | 134.9 | A |
| | South | 60 | 16 | 79.2 | A | 121.6 | A | 77.1 | A |
| | West | 70 | 19 | 204.1 | A | 293.9 | A | 180.4 | A |
| St. Nicholas Av and W.125th St | North | 60 | 18 | <u>221.1</u> | A | <u>114.0</u> | A | <u>133.3</u> | A |
| | East | 60 | 19 | <u>106.8</u> | A | <u>62.9</u> | A | <u>53.7</u> | B |
| | South | 60 | 18 | <u>242.9</u> | A | <u>121.4</u> | A | <u>118.1</u> | A |
| | West | 60 | 18 | <u>137.0</u> | A | <u>76.4</u> | A | <u>85.0</u> | A |

Note: SFP = square feet per pedestrian

PROJECT-GENERATED TRIP ASSIGNMENT

As noted in Chapter 17, the secondary school for science, math, and engineering planned for construction at Broadway and West 132nd Street in the future No Build condition would instead be constructed as part of a modified academic building on the McDonald’s site at Broadway and West 125th Street. In the future Build condition, the No Build Columbia University office buildings at the former Warren Nash Service Station building and U-Haul sites would be Manhattanville development sites instead.

Transit and pedestrian volumes in the 2030 Build condition were estimated using peak 15-minute volumes derived from the trip generation estimates detailed in Chapter 17. These volumes were then assigned to the transit and pedestrian analysis locations based on the following assumptions.

- Auto trips were assigned to the on-site below-grade parking facilities, which are expected to be completed by 2030. Vertical circulation elements within the development sites were assumed to accommodate 60 percent of the total person trips made via auto to the below-grade parking. These trips would not appear on the pedestrian network. The remaining 40 percent would appear on-street and travel along logical routes to street-level access locations at various buildings within the Project Area.
- Taxi trips were assigned to the network based on logical drop-off locations.
- Subway trips were assigned to the three study area subway stations, as follows: approximately 60 percent to the 125th Street Station at Broadway, 15 percent to the 137th Street Station at Broadway, and 20 percent to the 125th Street Station at St. Nicholas Avenue. The remaining 5 percent were assumed to use other stations along 125th Street. The assignments to specific control areas, stairways, and intermediate pedestrian elements were based on logical patterns of travel between the subway stations and the Project Area.
- Bus trips were assigned to local bus stops on Broadway, West 125th Street, and Amsterdam Avenue.
- Walk-only trips were distributed as follows: 44 percent to/from the east; 14 percent to/from the north; and 42 percent to/from the south.

SUBWAY STATION OPERATIONS

Future Build peak 15-minute volumes were computed by adding the discrete trips described above to No Build subway station volumes, after adjusting for the removal of those No Build projects that would not occur if the Proposed Actions are approved, and modifying No Build trips that would be distributed differently with the Proposed Actions. Subway person-trips bound for the Project Area are expected to be most concentrated on the uptown No. 1 train in the AM peak period and on the downtown No. 1 train in the PM peak period. At the 125th Street Station at Broadway, the highest concentration of subway person-trips would occur at the E101 down escalator during the AM peak period and at the E102 up escalator during the PM peak period. Tables 18-40 and 18-41 summarize the weekday AM and PM peak period operating levels for the vertical circulation elements and the control area elements (turnstiles and high entry/exit gates) under the 2030 Build condition.

Based on the criteria discussed above in “Methodology,” there would be significant adverse transit impacts at the Broadway and 125th Street No. 1 subway station’s E101 down escalator during the AM peak hour and E102 up escalator during the PM peak hour. Recommended mitigation measures are described in Chapter 23.

SUBWAY AND BUS LINE HAUL LEVELS

Trips associated with the Proposed Actions were superimposed onto the No Build line-haul volumes, after adjusting for the removal of those No Build projects that would not occur if the Proposed Actions are approved, and modifying No Build trips that would be distributed differently under the Proposed Actions, to generate Build peak period volumes for analysis. An increase in line-haul load levels to above the maximum capacity at any load point is defined as a significant adverse impact. As shown in Table 18-42, the project-generated trips would not result in any significant adverse impacts on the northbound and southbound No. 1 subway line. However, as shown in Table 18-43, there would be significant adverse impacts on the eastbound Bx15 bus route in the PM peak period and on the westbound Bx15 bus route in the AM peak period under the 2030 Build condition. Recommended mitigation measures are described in Chapter 23.

Table 18-40

2030 Build Condition: Subway Station Vertical Circulation Analysis

| Stairways | Width (feet) | Effective Width (feet) | 15-Minute Pedestrian Volumes | | Friction Factor | 15-Minute SVCD | | LOS |
|---|--------------|------------------------|------------------------------|------------|-----------------|----------------|--------------|-----|
| | | | Up | Down | | Capacity | V/SVCD Ratio | |
| AM Peak Period | | | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | | | |
| S1 (M1) Broadway & W.137th St (NW corner) | 5.20 | 4.20 | 75 | 235 | 0.80 | 504 | 0.62 | B |
| S2 (M2) Broadway & W.137th St (SW corner) | 5.54 | 4.54 | 153 | 216 | 0.90 | 613 | 0.60 | B |
| S3 (M3) Broadway & W.137th St (NE corner N) | 5.20 | 4.20 | 125 | 34 | 0.80 | 504 | 0.32 | A |
| S4 (M4) Broadway & W.137th St (NE corner S) | 5.20 | 4.20 | 219 | 59 | 0.80 | 504 | 0.55 | B |
| 125th Street/Broadway Station (1) | | | | | | | | |
| E102 Broadway & W.125th St (SW corner N Up) | 4.71 | 2.00 | 100 | 0 | 1.00 | 525 | 0.19 | A |
| E101 Broadway & W.125th St (SW corner, S Down) | 4.71 | 2.00 | 0 | 531 | 1.00 | 525 | 1.01 | D* |
| E103 Broadway & W.125th St (SE corner, Up) | 4.71 | 2.00 | 190 | 0 | 1.00 | 525 | 0.36 | A |
| S1 Broadway & W.125th St (SE corner) | 5.00 | 4.00 | 23 | 224 | 0.80 | 480 | 0.52 | B |
| P1 NW and SW downtown platform stairways | 9.00 | 7.00 | 251 | 156 | 0.90 | 945 | 0.43 | A |
| P2 NE and SE uptown platform stairways | 9.34 | 7.34 | 37 | 683 | 0.80 | 881 | 0.82 | C |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | | | |
| S1 St. Nicholas & W.125th St (NE corner) | 5.75 | 4.75 | <u>142</u> | 93 | 0.90 | 641 | <u>0.37</u> | A |
| S2 St. Nicholas & W.125th St (SE corner) | 5.84 | 4.84 | <u>296</u> | 190 | 0.90 | 653 | <u>0.74</u> | C |
| S3 St. Nicholas & W.125th St (NW corner) | 5.84 | 4.84 | 221 | 102 | 0.80 | 581 | 0.56 | B |
| S4 St. Nicholas & W.125th St (SW corner) | 5.92 | 4.92 | <u>236</u> | 198 | 0.90 | 664 | <u>0.65</u> | B |
| PM Peak Period | | | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | | | |
| S1 (M1) Broadway & W.137th St (NW corner) | 5.20 | 4.20 | 135 | 148 | 0.90 | 567 | 0.50 | B |
| S2 (M2) Broadway & W.137th St (SW corner) | 5.54 | 4.54 | 105 | 185 | 0.90 | 613 | 0.47 | B |
| S3 (M3) Broadway & W.137th St (NE corner N) | 5.20 | 4.20 | 222 | 25 | 0.80 | 504 | 0.49 | B |
| S4 (M4) Broadway & W.137th St (NE corner S) | 5.20 | 4.20 | 298 | 69 | 0.80 | 504 | 0.73 | C |
| 125th Street/Broadway Station (1) | | | | | | | | |
| E102 Broadway & W.125th St (SW corner N Up) | 4.71 | 2.00 | 536 | 0 | 1.00 | 525 | 1.02 | D* |
| E101 Broadway & W.125th St (SW corner, S Down) | 4.71 | 2.00 | 0 | 107 | 1.00 | 525 | 0.20 | A |
| E103 Broadway & W.125th St (SE corner, Up) | 4.71 | 2.00 | 137 | 0 | 1.00 | 525 | 0.26 | A |
| S1 Broadway & W.125th St (SE corner) | 5.00 | 4.00 | 38 | 172 | 0.80 | 480 | 0.44 | A |
| P1 NW and SW downtown platform stairways | 9.00 | 7.00 | 625 | 81 | 0.80 | 840 | 0.84 | C |
| P2 NE and SE uptown platform stairways | 9.34 | 7.34 | 140 | 303 | 0.80 | 881 | 0.50 | B |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | | | |
| S1 St. Nicholas & W.125th St (NE corner) | 5.75 | 4.75 | 91 | <u>257</u> | 0.80 | 570 | <u>0.61</u> | B |
| S2 St. Nicholas & W.125th St (SE corner) | 5.84 | 4.84 | 245 | <u>222</u> | 0.90 | 653 | <u>0.72</u> | C |
| S3 St. Nicholas & W.125th St (NW corner) | 5.84 | 4.84 | 135 | 220 | 0.90 | 653 | 0.54 | B |
| S4 St. Nicholas & W.125th St (SW corner) | 5.92 | 4.92 | 146 | <u>274</u> | 0.90 | 664 | <u>0.63</u> | B |
| <p>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>. * denotes significant adverse impact.</p> | | | | | | | | |

Table 18-41
2030 Build Condition: Subway Station Control Area Analysis

| Station Elements | Quantity | 15-Minute Pedestrian Volumes | | SVCD Capacity | 15-Minute V/SVCD Ratio | LOS |
|--|----------|------------------------------|------------|---------------|------------------------|----------|
| | | In | Out | | | |
| AM Peak Period | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | |
| R175 Control Area (at Broadway and West 137th Street, uptown) Two-Way Turnstiles | 5 | 94 | 344 | 2400 | 0.18 | A |
| R176 Control Area (at Broadway and West 137th Street, downtown) Two-Way Turnstiles | 4 | 452 | 190 | 1920 | 0.33 | B |
| One-Way Turnstile (exit only) | 1 | 0 | 151 | 600 | 0.25 | B |
| 125th Street/Broadway Station (1) | | | | | | |
| R174 Control Area (at Broadway and West 125th Street) Two-Way Turnstiles | 5 | 288 | 839 | 2400 | 0.47 | C |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | |
| N26 Control Area (at St Nicholas Avenue and West 125th Street) Two-Way Turnstiles | 8 | 582 | <u>894</u> | 3840 | <u>0.38</u> | B |
| PM Peak Period | | | | | | |
| 137th Street/Broadway Station (1) | | | | | | |
| R175 Control Area (at Broadway and West 137th Street, uptown) Two-Way Turnstiles | 5 | 94 | 520 | 2400 | 0.26 | B |
| R176 Control Area (at Broadway and West 137th Street, downtown) Two-Way Turnstiles | 4 | 333 | 180 | 1920 | 0.27 | B |
| One-Way Turnstile (exit only) | 1 | 0 | 60 | 600 | 0.10 | A |
| 125th Street/Broadway Station (1) | | | | | | |
| R174 Control Area (at Broadway and West 125th Street) Two-Way Turnstiles | 5 | 765 | 384 | 2400 | 0.48 | C |
| 125th Street/St Nicholas Avenue Station (A/C/B/D) | | | | | | |
| N26 Control Area (at St Nicholas Avenue and West 125th Street) Two-Way Turnstiles | 8 | <u>974</u> | 617 | 3840 | <u>0.41</u> | <u>C</u> |
| 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 18-42
2030 Build Condition: Peak Hour Subway Line-Haul

| Route | Trains /Hour | Volume | Leave Load | | Available Capacity | |
|--|-------------------------|--------|--------------------|-----------|--------------------|--------|
| | | | Guideline Capacity | V/C Ratio | | |
| AM PEAK PERIOD | | | | | | |
| No. 1 Northbound | At 96th Street Station | 18 | 8,538 | 19,800 | 0.43 | 11,262 |
| | At 116th Street Station | 18 | 5,700 | 19,800 | 0.29 | 14,100 |
| PM PEAK PERIOD | | | | | | |
| No. 1 Southbound | At 103rd Street Station | 13 | 9,043 | 14,300 | 0.63 | 5,257 |
| | At 125th Street Station | 13 | 6,164 | 14,300 | 0.43 | 8,136 |
| Sources: November 2004 AKRF, Inc. leave load survey Year 2002 Weekday Cordon Count, New York City Transit, December 2003 | | | | | | |

Table 18-43
2030 Build Condition: Peak Hour Bx15 Bus Line-Haul

| Location | Buses/ Hour | Arrival Load | Departure Load | Capacity | Over Capacity |
|---|-------------|--------------|----------------|----------|---------------|
| AM PEAK PERIOD | | | | | |
| Westbound @ Morningside Avenue & W.125th Street | 8 | - | <u>68</u> | 65 | <u>3</u> |
| Westbound @ NYCT Maximum Load Point | 8 | - | <u>69</u> | 65 | <u>4</u> |
| PM PEAK PERIOD | | | | | |
| Eastbound @ Morningside Avenue & W.125th Street | 8 | <u>95</u> | - | 65 | <u>30</u> |
| Eastbound @ NYCT Maximum Load Point | 8 | <u>93</u> | - | 65 | <u>28</u> |

PEDESTRIAN CIRCULATION

The proposed 2030 development program would generate substantial pedestrian volumes at several sidewalks, corners, and crosswalks within the study area. After adjusting for the removal of No Build projects that would not occur if the Proposed Actions are approved, and modifying No Build trips that would be distributed differently with the Proposed Actions, incremental pedestrian trips were assigned to the study area sidewalks, corners, and crosswalks, primarily along West 125th Street and along the west side of Broadway. Substantial pedestrian volumes were also assigned to the new crosswalk at West 125th/West 129th Street and St. Clair Place to the “central spine” running north from that intersection. Based on the criteria discussed above in “Methodology,” the Proposed Actions would not result in any significant adverse pedestrian impacts in the 2030 Build condition. Tables 18-44, 18-45, and 18-46 illustrate projected operating levels for study area sidewalks. Service levels for corner reservoirs and crosswalks are presented in Tables 18-47 and 18-48, respectively. With the project improvements in place, all analysis locations would operate at mid-LOS D (13 PFM for sidewalks, 20 SFP for corners and crosswalks) or better in the 2030 Build condition during the AM and PM peak periods.

Table 18-44

2030 Build Condition: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|--|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| AM Peak Period | | | | | | | |
| Twelfth Av between W.134th St and W.133rd St | West | 18 | 17 | 0.1 | A | 4.1 | A |
| | East | 16 | 24 | 0.1 | A | 4.1 | A |
| W.133rd St between Twelfth Av and Broadway (near Twelfth) | North | 6 | 19 | 0.2 | A | 4.2 | A |
| | South | 11 | 41 | 0.2 | A | 4.2 | A |
| Broadway between W.134th St and W.133rd St | West | 25 | 151 | 0.4 | A | 4.4 | A |
| | East | 21 | 364 | 1.2 | A | 5.2 | B |
| Broadway between W.133rd St and W.132nd St | West | 19 | 337 | 1.2 | A | 5.2 | B |
| | East | 22 | 251 | 0.8 | A | 4.8 | A |
| W.133rd St between Twelfth Av and Broadway (near Broadway) | North | 16 | 16 | 0.1 | A | 4.1 | A |
| | South | 6 | 70 | 0.8 | A | 4.8 | A |
| Twelfth Av between W.133rd St and W.132nd St | West | 11 | 17 | 0.1 | A | 4.1 | A |
| | East | 12 | 27 | 0.2 | A | 4.2 | A |
| W.132nd St between Twelfth Av and Broadway (near Twelfth) | North | 14 | 132 | 0.6 | A | 4.6 | A |
| | South | 14 | 22 | 0.1 | A | 4.1 | A |
| W.132nd St between Twelfth Av and Broadway (near Broadway) | North | 8 | 93 | 0.8 | A | 4.8 | A |
| | South | 9 | 53 | 0.4 | A | 4.4 | A |
| Twelfth Av between W.132nd St and W.131st St | West | 16 | 11 | 0.0 | A | 4.0 | A |
| | East | 16 | 124 | 0.5 | A | 4.5 | A |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 147 | 0.9 | A | 4.9 | A |
| | South | 13 | 43 | 0.2 | A | 4.2 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 229 | 0.7 | A | 4.7 | A |
| | East | 23 | 222 | 0.6 | A | 4.6 | A |
| Broadway between W.131st St and W.130th St | West | 18 | 405 | 1.5 | A | 5.5 | B |
| | East | 17 | 186 | 0.7 | A | 4.7 | A |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 111 | 0.6 | A | 4.6 | A |
| | South | 8 | 30 | 0.3 | A | 4.3 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 41 | 0.3 | A | 4.3 | A |
| | South | 15 | 18 | 0.1 | A | 4.1 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 10 | 0.0 | A | 4.0 | A |
| | East | 16 | 88 | 0.4 | A | 4.4 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 35 | 0.2 | A | 4.2 | A |
| | South | 13 | 44 | 0.2 | A | 4.2 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 117 | 0.6 | A | 4.6 | A |
| | South | 14 | 62 | 0.3 | A | 4.3 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 419 | 1.5 | A | 5.5 | B |
| | East | 15 | 186 | 0.8 | A | 4.8 | A |
| Broadway between W.129th St and W.125th St | West | 17 | 424 | 1.7 | A | 5.7 | B |
| | East | 13 | 263 | 1.3 | A | 5.3 | B |
| W.129th St between W.125th Street and Broadway | North | 15 | 82 | 0.4 | A | 4.4 | A |
| | South | 15 | 11 | 0.0 | A | 4.0 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 251 | 1.3 | A | 5.3 | B |
| | South | 7 | 265 | 2.5 | A | 6.5 | B |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 732 | 4.9 | A | 8.9 | C |
| | West | 10 | 415 | 2.8 | A | 6.8 | B |
| W.125th St between W.129th St and Broadway | South | 13 | 315 | 1.5 | A | 5.5 | B |
| | North | 14 | 492 | 2.5 | A | 6.5 | B |

Note: PFM = pedestrians per foot per minute

Table 18-45
2030 Build Condition: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|---|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| Midday Peak Period | | | | | | | |
| Twelfth Av between W.134th St and W.133rd St | West | 18 | 34 | 0.1 | A | 4.1 | A |
| | East | 16 | 30 | 0.1 | A | 4.1 | A |
| W.133rd St between Twelfth Av and Broadway (near Twelfth) | North | 6 | 37 | 0.4 | A | 4.4 | A |
| | South | 11 | 29 | 0.2 | A | 4.2 | A |
| Broadway between W.134th St and W.133rd St | West | 25 | 115 | 0.3 | A | 4.3 | A |
| | East | 21 | 405 | 1.3 | A | 5.3 | B |
| Broadway between W.133rd St and W.132nd St | West | 19 | 248 | 0.9 | A | 4.9 | A |
| | East | 22 | 283 | 0.9 | A | 4.9 | A |
| W. 133rd St between Twelfth Av and Broadway (near Broadway) | North | 16 | 26 | 0.1 | A | 4.1 | A |
| | South | 6 | 99 | 1.1 | A | 5.1 | B |
| Twelfth Av between W.133rd St and W.132nd St | West | 11 | 25 | 0.2 | A | 4.2 | A |
| | East | 12 | 29 | 0.2 | A | 4.2 | A |
| W.132nd St between Twelfth Av and Broadway (near Twelfth) | North | 14 | 101 | 0.5 | A | 4.5 | A |
| | South | 14 | 15 | 0.1 | A | 4.1 | A |
| W.132nd St between Twelfth Av and Broadway (near Broadway) | North | 8 | 82 | 0.7 | A | 4.7 | A |
| | South | 9 | 41 | 0.3 | A | 4.3 | A |
| Twelfth Av between W.132nd St and W.131st St | West | 16 | 10 | 0.0 | A | 4.0 | A |
| | East | 16 | 104 | 0.4 | A | 4.4 | A |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 142 | 0.9 | A | 4.9 | A |
| | South | 13 | 64 | 0.3 | A | 4.3 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 149 | 0.4 | A | 4.4 | A |
| | East | 23 | 70 | 0.2 | A | 4.2 | A |
| Broadway between W.131st St and W.130th St | West | 18 | 467 | 1.7 | A | 5.7 | B |
| | East | 17 | 232 | 0.9 | A | 4.9 | A |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 97 | 0.5 | A | 4.5 | A |
| | South | 8 | 35 | 0.3 | A | 4.3 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 36 | 0.2 | A | 4.2 | A |
| | South | 15 | 12 | 0.1 | A | 4.1 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 12 | 0.0 | A | 4.0 | A |
| | East | 16 | 168 | 0.7 | A | 4.7 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 12 | 0.1 | A | 4.1 | A |
| | South | 13 | 56 | 0.3 | A | 4.3 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 199 | 0.9 | A | 4.9 | A |
| | South | 14 | 96 | 0.5 | A | 4.5 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 506 | 1.8 | A | 5.8 | B |
| | East | 15 | 247 | 1.1 | A | 5.1 | B |
| Broadway between W.129th St and W.125th St | West | 17 | 425 | 1.7 | A | 5.7 | B |
| | East | 13 | 278 | 1.4 | A | 5.4 | B |
| W. 129th St between W. 125th Street and Broadway | North | 15 | 71 | 0.3 | A | 4.3 | A |
| | South | 15 | 20 | 0.1 | A | 4.1 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 294 | 1.5 | A | 5.5 | B |
| | South | 7 | 326 | 3.1 | A | 7.1 | C |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 564 | 3.8 | A | 7.8 | C |
| | West | 10 | 469 | 3.1 | A | 7.1 | C |
| W.125th St between W.129th St and Broadway | South | 13 | 286 | 1.4 | A | 5.4 | B |
| | North | 14 | 333 | 1.7 | A | 5.7 | B |

Note: PFM = pedestrians per foot per minute

Table 18-46

2030 Build Condition: Pedestrian LOS Analysis for Sidewalks

| Location | Sidewalk | Effective Width (feet) | 15-Minute Two-Way Volume | Average | | Platoon | |
|--|----------|------------------------|--------------------------|---------|-----|---------|-----|
| | | | | PFM | LOS | PFM | LOS |
| PM Peak Period | | | | | | | |
| Twelfth Av between W.134th St and W.133rd St | West | 18 | 47 | 0.2 | A | 4.2 | A |
| | East | 16 | 53 | 0.2 | A | 4.2 | A |
| W.133rd St between Twelfth Av and Broadway (near Twelfth) | North | 6 | 34 | 0.4 | A | 4.4 | A |
| | South | 11 | 56 | 0.3 | A | 4.3 | A |
| Broadway between W.134th St and W.133rd St | West | 25 | 172 | 0.5 | A | 4.5 | A |
| | East | 21 | 444 | 1.4 | A | 5.4 | B |
| Broadway between W.133rd St and W.132nd St | West | 19 | 368 | 1.3 | A | 5.3 | B |
| | East | 22 | 356 | 1.1 | A | 5.1 | B |
| W.133rd St between Twelfth Av and Broadway (near Broadway) | North | 16 | 29 | 0.1 | A | 4.1 | A |
| | South | 6 | 83 | 0.9 | A | 4.9 | A |
| Twelfth Av between W.133rd St and W.132nd St | West | 11 | 33 | 0.2 | A | 4.2 | A |
| | East | 12 | 39 | 0.2 | A | 4.2 | A |
| W.132nd St between Twelfth Av and Broadway (near Twelfth) | North | 14 | 135 | 0.6 | A | 4.6 | A |
| | South | 14 | 17 | 0.1 | A | 4.1 | A |
| W.132nd St between Twelfth Av and Broadway (near Broadway) | North | 8 | 92 | 0.8 | A | 4.8 | A |
| | South | 9 | 51 | 0.4 | A | 4.4 | A |
| Twelfth Av between W.132nd St and W.131st St | West | 16 | 16 | 0.1 | A | 4.1 | A |
| | East | 16 | 130 | 0.5 | A | 4.5 | A |
| W.131st St between Twelfth Av and Broadway (near Twelfth) | North | 11 | 147 | 0.9 | A | 4.9 | A |
| | South | 13 | 35 | 0.2 | A | 4.2 | A |
| Broadway between W.132nd St and W.131st St | West | 23 | 239 | 0.7 | A | 4.7 | A |
| | East | 23 | 288 | 0.8 | A | 4.8 | A |
| Broadway between W.131st St and W.130th St | West | 18 | 435 | 1.6 | A | 5.6 | B |
| | East | 17 | 226 | 0.9 | A | 4.9 | A |
| W.131st St between Twelfth Av and Broadway (near Broadway) | North | 12 | 113 | 0.6 | A | 4.6 | A |
| | South | 8 | 20 | 0.2 | A | 4.2 | A |
| W.130th St between Twelfth Av and Broadway (near Broadway) | North | 10 | 44 | 0.3 | A | 4.3 | A |
| | South | 15 | 20 | 0.1 | A | 4.1 | A |
| Twelfth Av between W.131st/W.130th St and W.125th St | West | 19 | 20 | 0.1 | A | 4.1 | A |
| | East | 16 | 144 | 0.6 | A | 4.6 | A |
| W.130th St between Twelfth Av and Broadway (near Twelfth) | North | 15 | 35 | 0.2 | A | 4.2 | A |
| | South | 13 | 44 | 0.2 | A | 4.2 | A |
| W.125th St between Twelfth Av and W.129th St | North | 14 | 201 | 1.0 | A | 5.0 | A |
| | South | 14 | 55 | 0.3 | A | 4.3 | A |
| Broadway between W.130th St and W.129th St | West | 19 | 475 | 1.7 | A | 5.7 | B |
| | East | 15 | 238 | 1.1 | A | 5.1 | B |
| Broadway between W.129th St and W.125th St | West | 17 | 494 | 1.9 | A | 5.9 | B |
| | East | 13 | 300 | 1.5 | A | 5.5 | B |
| W.129th St between W.125th Street and Broadway | North | 15 | 87 | 0.4 | A | 4.4 | A |
| | South | 15 | 13 | 0.1 | A | 4.1 | A |
| W.125th St between Broadway and Amsterdam Av | North | 13 | 295 | 1.5 | A | 5.5 | B |
| | South | 7 | 371 | 3.5 | A | 7.5 | C |
| Broadway between W.125th St and Tiemann Pl | East | 10 | 744 | 5.0 | A | 9.0 | C |
| | West | 10 | 529 | 3.5 | A | 7.5 | C |
| W.125th St between W.129th St and Broadway | South | 13 | 334 | 1.6 | A | 5.6 | B |
| | North | 14 | 348 | 1.8 | A | 5.8 | B |

Note: PFM = pedestrians per foot per minute

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Table 18-47

2030 Build Condition: Pedestrian LOS Analysis for Corner Reservoirs

| Location | Corner | AM Peak Period | | Midday Peak Period | | PM Peak Period | |
|---------------------------|-----------|----------------|-----|--------------------|-----|----------------|-----|
| | | SFP | LOS | SFP | LOS | SFP | LOS |
| Twelfth Av and W.133rd St | Northeast | 1459.5 | A | 1088.5 | A | 756.8 | A |
| | Southeast | 1013.6 | A | 811.2 | A | 521.4 | A |
| | Southwest | 1470.8 | A | 1035.4 | A | 643.7 | A |
| | Northwest | 3279.6 | A | 2055.5 | A | 1382.1 | A |
| Broadway and W.133rd St | Northeast | 170.1 | A | 195.9 | A | 160.0 | A |
| | Southeast | <u>231.0</u> | A | <u>207.2</u> | A | <u>188.1</u> | A |
| | Southwest | 164.2 | A | 198.7 | A | 144.1 | A |
| | Northwest | 183.8 | A | 285.2 | A | 174.1 | A |
| Twelfth Av and W.132nd St | Northeast | 989.2 | A | 1012.4 | A | 726.2 | A |
| | Southeast | 1038.4 | A | 628.4 | A | 751.0 | A |
| | Southwest | 1186.4 | A | 619.7 | A | 1092.3 | A |
| | Northwest | 1233.7 | A | 976.5 | A | 936.6 | A |
| Broadway and W.132nd St | Southwest | 310.8 | A | 266.9 | A | 292.8 | A |
| | Northwest | 291.9 | A | 259.8 | A | 266.6 | A |
| Broadway and W.131st St | Northeast | 277.0 | A | 206.5 | A | 233.3 | A |
| | Southeast | 245.7 | A | 197.0 | A | 224.8 | A |
| | Southwest | 112.4 | A | 99.6 | A | 106.0 | A |
| | Northwest | 184.0 | A | 154.4 | A | 155.2 | A |
| Broadway and W.130th St | Southwest | 128.3 | A | 109.2 | A | 120.4 | A |
| | Northwest | 184.3 | A | 159.3 | A | 160.4 | A |
| Twelfth Av and W.125th St | Northeast | 426.0 | A | 281.9 | A | 286.7 | A |
| | Southeast | 717.4 | A | 767.6 | A | 781.0 | A |
| | Southwest | 1235.4 | A | 1077.5 | A | 875.3 | A |
| | Northwest | 1152.3 | A | 1068.0 | A | 717.6 | A |
| Broadway and W.129th St | Northeast | 146.2 | A | 109.5 | A | 121.0 | A |
| | Southeast | 121.5 | A | 93.3 | A | 108.8 | A |
| | Southwest | 88.3 | A | 77.9 | A | 83.8 | A |
| | Northwest | 154.0 | A | 126.3 | A | 128.0 | A |
| Broadway and W.125th St | Northeast | 82.7 | A | 64.9 | A | 70.1 | A |
| | Southeast | 63.7 | A | 54.4 | B | 61.2 | A |
| | Southwest | 50.5 | B | 49.9 | B | 50.0 | B |
| | Northwest | 65.9 | A | 61.4 | A | 49.9 | B |

Note: SFP = square feet per pedestrian

**Table 18-48
2030 Build Condition: Pedestrian Crosswalk LOS Analysis**

| Location | Crosswalk | Street Width (feet) | Crosswalk Width (feet) | Conditions with conflicting vehicles | | | | | |
|--------------------------------|--------------|------------------------|---------------------------|--------------------------------------|-----|--------------|-----|--------------|-----|
| | | | | AM | | Midday | | PM | |
| | | | | SFP | LOS | SFP | LOS | SFP | LOS |
| Twelfth Av and W.133rd St | North | 60 | 10 | 1968.6 | A | 1210.9 | A | 1621.1 | A |
| | East | 38 | 18 | 1750.2 | A | 1861.9 | A | 814.4 | A |
| | South | 60 | 10 | 383.9 | A | 285.7 | A | 202.9 | A |
| | West | 30 | 13 | 697.1 | A | 272.8 | A | 149.4 | A |
| Broadway and W.133rd St | North | 103 | 20 | 42.7 | B | 63.6 | A | 54.9 | B |
| | East | 30 | 24 | 77.6 | A | 63.3 | A | 49.5 | B |
| | South | 103 | 11 | 45.6 | B | 48.2 | B | 63.2 | A |
| | West | 38 | 20 | 55.9 | B | 73.6 | A | 37.5 | C |
| Twelfth Av and W.132nd St | North | 60 | 13 | 671.8 | A | 793.4 | A | 577.0 | A |
| | East | 30 | 16 | 637.2 | A | 593.5 | A | 456.9 | A |
| | South | 60 | 13 | 647.0 | A | 219.0 | A | 500.1 | A |
| | West | 30 | 14 | 1080.5 | A | 641.0 | A | 786.4 | A |
| Broadway and W.132nd St | North | 102 | 13 | 731.5 | A | 880.5 | A | 671.5 | A |
| | South | 102 | 14 | 389.1 | A | 228.1 | A | 314.4 | A |
| | West | 30 | 20 | 136.8 | A | 125.9 | A | 125.4 | A |
| Twelfth Av and W.131st St | North | 60 | 20 | 2324.8 | A | 3545.6 | A | 3545.6 | A |
| | East | 34 | 20 | 1082.5 | A | 1008.8 | A | 714.5 | A |
| | South | 60 | 20 | 1220.2 | A | 414.1 | A | 927.7 | A |
| Broadway and W.131st St | North | 102 | 11 | 463.3 | A | 340.7 | A | 339.9 | A |
| | East | 52 | 14 | 107.6 | A | 87.3 | A | 101.2 | A |
| | South | 109 | 11 | 448.5 | A | 382.2 | A | 838.6 | A |
| | West | 34 | 20 | 84.9 | A | 65.9 | A | 64.4 | A |
| Broadway and W.130th St | North | 110 | 11 | 1193.3 | A | 633.8 | A | 1092.1 | A |
| | South | 110 | 11 | 277.8 | A | 145.1 | A | 297.3 | A |
| | West | 29 | 20 | 79.4 | A | 65.1 | A | 58.9 | B |
| Twelfth and W.130th St | East | 30 | 15 | 49.4 | B | 33.1 | C | 32.6 | C |
| Twelfth Av and W.125th St | North | 110 | 12 | 122.7 | A | 111.4 | A | 113.2 | A |
| | East | 70 | 12 | 172.5 | A | 159.3 | A | 173.3 | A |
| | South | 134 | 11 | 305.8 | A | 271.5 | A | 330.7 | A |
| | West | 70 | 12 | 419.2 | A | 359.4 | A | 271.3 | A |
| Broadway and W.129th St | North | 110 | 11 | 173.2 | A | 111.0 | A | 124.6 | A |
| | East | 50 | 15 | 72.9 | A | 63.1 | A | 69.4 | A |
| | South | 115 | 15 | 190.4 | A | 101.0 | A | 138.8 | A |
| | West | 30 | 20 | 48.1 | B | 39.1 | C | 35.7 | C |
| W. 125th St and W.129th St | W.129th St. | 24 | 30 | 90.6 | A | 94.0 | A | 75.8 | A |
| | W. 125th St. | 46 | 30 | 55.4 | B | 69.6 | A | 58.4 | B |
| Broadway and W.125th St | North | 118 | 17 | 67.7 | A | 38.0 | C | 53.4 | B |
| | East | 70 | 20 | 49.3 | B | 48.4 | B | 46.8 | B |
| | South | 118 | 14 | 42.9 | B | 23.2 | D | 31.1 | C |
| | West | 70 | 20 | 26.0 | C | 27.7 | C | 20.8 | D |
| Amsterdam Av and W.125th St | North | 60 | 12 | 42.3 | B | 38.1 | C | 32.8 | C |
| | East | 70 | 16 | 83.1 | A | 152.2 | A | 141.8 | A |
| | South | 60 | 16 | 62.1 | A | 73.8 | A | 59.6 | B |
| | West | 70 | 19 | 168.7 | A | 244.1 | A | 150.0 | A |
| St. Nicholas Av and W.125th St | North | 60 | 18 | <u>200.0</u> | A | <u>107.7</u> | A | <u>131.1</u> | A |
| | East | 60 | 19 | <u>105.2</u> | A | <u>64.8</u> | A | <u>56.1</u> | B |
| | South | 60 | 18 | <u>230.4</u> | A | <u>111.1</u> | A | <u>116.6</u> | A |
| | West | 60 | 18 | <u>140.7</u> | A | <u>78.4</u> | A | <u>86.9</u> | A |
| W.130th St Midblock | Midblock | 30 | 15 | 49.8 | B | 96.0 | A | 50.3 | B |
| W.131st St Midblock | Midblock | 30 | 15 | 64.4 | A | 126.9 | A | 63.3 | A |
| W.132nd St Midblock | Midblock | 30 | 15 | 123.3 | A | 293.1 | A | 118.9 | A |

Note: SFP = square feet per pedestrian

*