

A. INTRODUCTION

This chapter includes a description of the existing and future operating conditions of transit and pedestrian facilities in the vicinity of the project site, which includes the Farley Complex and the Development Transfer Site, and identifies potential significant adverse impacts associated with the proposed project that would require mitigation.

The proposed project would create a new transit station in the Farley Complex that connects with the existing rail infrastructure and passenger operations in other parts of the existing Pennsylvania (Penn) Station Complex. The new Moynihan Station would be designed to ease congestion of rail traffic, redirect pedestrian movements in the vicinity of the Penn Station complex, and reduce crowding and conflicting movements of intercity and commuter rail users within the passenger terminal and connecting passages. It would also improve access to and egress from the platforms used by New Jersey Transit (NJT), the Long Island Rail Road (LIRR), and Amtrak. For commuter and inter-city passengers, the proposed project would provide additional stairs, escalators, and elevators to existing and expanded platforms to accommodate current and projected increases in ridership and improved access to the Eighth Avenue subway station. Furthermore, as currently envisioned, the proposed Moynihan Station would provide commuter concourses and a ticketing hall with taxi drop-offs, state-of-the-art security, and emergency response and egress amenities. In addition, the proposed project would include United States Postal Service (USPS), retail, and hotel uses, and it could also include office or residential uses.

PRINCIPAL CONCLUSIONS

Analysis results for the 2010 build year, which accounts for the Phase I development (station, USPS space, and commercial development) and the Phase II development of a new mixed-use building on the Development Transfer Site show that no significant adverse transit impacts are anticipated. However, significant adverse pedestrian impacts would be expected at 14 corner or crosswalk locations during the weekday AM, midday, and PM, and Saturday midday peak hours. Analysis results for the 2015 build year, which accounts for the Phase I development and the Phase II office overbuild on the Farley Complex, indicates that there would be no significant adverse transit impacts. However, significant adverse pedestrian impacts would be expected in 2015 at 18 locations (one sidewalk and 17 corners/crosswalks). No line-haul impacts for subways and buses would occur under either future analysis year. As described more fully in Chapter 1, “Project Description,” only one Phase II option would be developed—either the building on the Development Transfer Site or the Farley Complex overbuild. Mitigation measures, where appropriate, are described in Chapter 19, “Mitigation.”

B. METHODOLOGY

OVERVIEW

As described in Chapter 13, “Traffic and Parking,” travel demand projections were developed to identify the transportation elements likely to be affected by the proposed project. Based on criteria specified in the 2001 *CEQR Technical Manual*, it was determined that quantified assessments of transit station operations and street-level pedestrian circulation would be required. A detailed discussion of the trip-making characteristics of the various components of the proposed project can be found in Chapter 13, “Traffic and Parking.” Because the project would not trigger impact thresholds for subway or bus line-haul analyses, the proposed project’s effects on these transit elements are addressed qualitatively.

For transit services, detailed analyses were conducted for the weekday AM and PM peak periods, when project-generated and background commuter trips would be highest. For pedestrian elements, the weekday and Saturday midday periods were also included to account for high walk-only volumes during lunchtime hours and for Saturday afternoon shopping. Analysis was conducted for two build years—2010 (Phase I and Phase II Development Transfer Site building) and 2015 (Phase I and Phase II overbuild). The following sections summarize the various aspects of the “Transit and Pedestrians” assessment, such as defining study areas, detailing analysis methodologies, and summarizing future trip projections, and set the framework for the existing and future analyses.

TRAVEL DEMAND PROJECTIONS

The project’s trip generation analysis is described in detail in Chapter 13, “Traffic and Parking”. This section highlights the assumptions used to develop the estimates of future transit and pedestrian trips. Table 14-1 presents an overview of the assumed incremental increase in person trips for the proposed 2010 and 2015 development programs.

**Table 14-1
2010 and 2015 Build Conditions Incremental Increase in Person Trip
Generation (RWCDS – As-of-Right)**

Peak Hour	Auto		Taxi		Subway		Bus		Comm Rail		Walk Only		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	Total
2010 Analysis Year															
AM	5	53	539	157	-24	256	102	85	-60	-3	996	1027	1558	1575	3133
Midday	266	135	720	226	982	416	499	336	81	2	4676	4434	5549	5306	10855
PM	230	-87	721	130	960	-	367	59	74	-	2954	2552	5306	2030	8236
Saturday	358	231	857	368	1305	767	786	630	83	5	8723	8569	12112	10570	22682
2015 Analysis Year															
AM	243	26	541	94	1100	75	297	53	165	-2	831	599	3177	845	4022
Midday	233	107	664	178	870	316	459	303	79	0	4112	3981	6417	4885	11302
PM	187	78	627	103	746	737	301	244	80	106	1983	1854	3924	2927	6851
Saturday	282	154	737	248	1025	465	611	450	79	0	6360	6154	9094	7471	16565
Note:	The estimates presented in Table 14-1 do not include the reassignment of New Jersey Transit trips.														

Two adjustments were made to the project's trip generation to account for linkages in pedestrian trips. The first adjustment, which applied to the midday and Saturday peak hours in both the 2010 and 2015 analyses, was a 50 percent reduction in the walk-only trips for the project's retail component. This adjustment accounts for the substantial volume of pedestrians within the study area that would link trips to and from the retail at the Farley Complex to existing shopping destinations. Furthermore, it accounts for trips to and from the Hudson Yards development that would pass the Farley Complex en route and would likely access its retail service, since trips associated with the Hudson Yards development are included in the future baseline conditions for this analysis. The same assumption was also applied to the project's retail component on the Development Transfer Site in the 2010 analysis year.

The second adjustment was made to the midday office trips in the 2015 analysis year. It was assumed that 50 percent of the "walk-only" trips for the office uses within the Farley Complex overbuild would not use public walkways during the midday peak period but would instead opt to remain within the complex and use its internal retail services and restaurants.

These adjustments apply solely to the walk-only trips and do not alter the trip generation estimates for vehicular or transit users.

In addition to the new uses planned for the Farley Complex, the proposed project would result in diverting a portion of the existing NJT riders from Penn Station to the new Moynihan Station. The reassignment of NJT trips was based on future ridership data, independent of the proposed project, and the NJT travel characteristics presented in Chapter 13, "Traffic and Parking." Based on current travel patterns and the provision of new station access/egress at the Farley Complex, it was assumed that approximately 25 percent of existing NJT/subway trips and approximately 40 percent of NJT/walk-only trips would be diverted from Penn Station to Moynihan Station upon completion of the proposed project. The remaining NJT riders would continue to use Penn Station.

The volumes shown in Table 14-1, above, are for the peak hours; however, the analysis of subway and pedestrian conditions reflects the peak 15-minute period within the peak hour. Therefore, a peak hour factor (0.98, based on existing conditions) was applied to the hourly volumes to estimate the peak 15-minute increment in project-generated trips at the subway and pedestrian analysis locations.

RELATED ENVIRONMENTAL REVIEWS

Existing and Future Without the Proposed Action (No Build) transit and pedestrian volumes for this analysis were developed using primarily the information presented in two recent environmental assessments of the project site and the surrounding area. These studies are:

- *The Pennsylvania Station Redevelopment Project Draft Supplemental Environmental Assessment (DSEA), June 2003.* This document assessed the impacts of a new intermodal transportation facility and commercial center in the Farley Complex. The transit and pedestrian volumes from this previous study were updated to reflect more current background conditions, the new future analysis years, and the specific program elements associated with the current project's Reasonable Worst-Case Development Scenario (RWCDS).
- *No. 7 Subway Extension–Hudson Yards Rezoning and Development Program Final Generic Environmental Impact Statement (Hudson Yards FGEIS), 2004.* Completed in November 2004, this FGEIS presents comprehensive analyses and descriptions of existing conditions

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for the transit and pedestrian facilities that are being examined in this EIS. It also includes projections of future conditions for 2010 and 2025, which included the previous Farley/Moynihan redevelopment program (as examined in the 2003 DSEA) and analysis of the impacts of some 43 million square feet of long-term development.

TRANSIT

STUDY AREA

Figure 14-1 shows transit service within the study area. There is direct commuter rail, subway, and bus service as described below.

TRANSIT SERVICE IN THE STUDY AREA

Rail Service

Penn Station is a major terminal for LIRR and NJT commuter rail operators. LIRR provides service between Penn Station and communities throughout eastern Queens, Nassau, and Suffolk Counties. More than 227,000 passengers per day enter and/or leave LIRR's Penn Station terminal. NJT provides direct service to Penn Station on its Northeast Corridor, Morris and Essex, North Jersey Coast, and Raritan Valley lines, with more than 68,000 daily passengers at Penn Station.

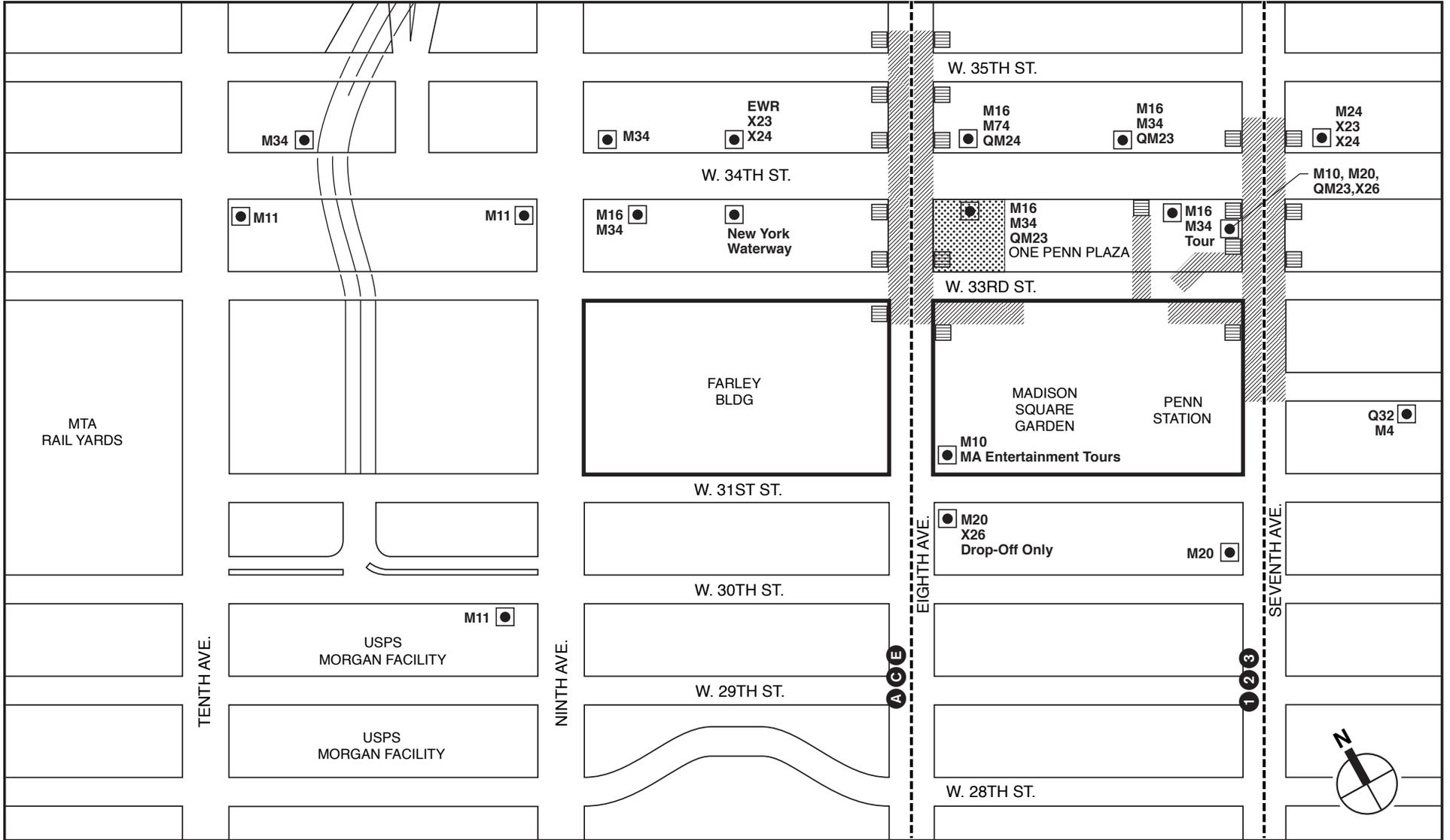
Penn Station is also Amtrak's New York City depot. Amtrak currently operates 15 routes through Penn Station to cities throughout the eastern United States and Canada. It is a principal stop on Amtrak's Northeast Corridor line, which provides high speed and regional intercity service between Washington, D.C. and Boston.

As part of the proposed project, connections to existing and future rail service would be improved through new concourse areas and circulation elements. These improvements are similar to those proposed for the station in 1999. The EA conducted for that earlier project plan found that the station improvements would be expected to better serve existing and future riders and result in more favorable operating levels for the below-grade pedestrian circulation elements of the overall Penn Station Complex. Hence, a new detailed assessment of below-grade pedestrian/passenger circulation has not been conducted for this EIS.

At this time, it is anticipated that the volume of NJT passengers would be similar to the volumes projected in the 1999 evaluation of the Penn Station redevelopment project; therefore, a revisit of the below-grade internal circulation analysis would not be necessary.

Subway Service

The transit study area includes two New York City Transit (NYCT) subway stations within its boundaries and one station to its immediate east. The former of these stations are 34th Street-Penn Station (1,2,3) and 34th Street-Penn Station (A,C,E), and the latter is 34th Street-Herald Square (B,D,F,V,N,Q,R,W, PATH). The 34th Street-Penn Station (1,2,3) and 34th Street-Penn Station (A,C,E) stations were selected for quantified analysis since they would absorb a substantial volume of new trips with the redevelopment of the Farley Complex. Although the project may generate a small percentage of trips at 34th Street-Herald Square, the projected volume at this location is not expected to burden street-level stairways or control areas; therefore, quantified analysis was not prepared for this location.



- Farley Complex Boundary
- Stairwell
- Underground Outline of 34th St. -Penn Station Subway Stations
- Bus Stop with Description
- A 1 Subway Route
- Development Transfer Site

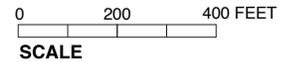


Table 14-2 provides a summary of the subway routes that serve the study area, and the following paragraphs describe the stations that have been selected for quantified transit analysis.

**Table 14-2
Study Area Subway Service**

Line	Train	Operating Hours	Route
Broadway Line	N (Express)	All times	Ditmars Boulevard., Queens to Stillwell Avenue, Brooklyn
	Q (Express)	All times	57 Street-Seventh Avenue, Manhattan to Stillwell Avenue, Brooklyn
	R (Local)	All times	Forrest Hills-75th Avenue, Queens to 95th Street-Bay Ridge, Brooklyn
	W (Local)	Weekdays 7 AM to 9 PM	Ditmars Boulevard, Queens to Whitehall Street, Manhattan
Sixth Avenue Line	B (Express)	Weekdays 6 AM to 10 PM	Bedford Park Boulevard., Bronx or 145th Street, Manhattan to Brighton Beach, Brooklyn
	D (Express)	All times	205th Street, Bronx to Stillwell Avenue, Brooklyn
	F (Local)	All times	Jamaica-179th Street, Queens to Stillwell Avenue, Brooklyn
	V (Local)	Weekdays 5:30 AM to 12 AM	Forrest Hills-75th Avenue, Queens to Lower East Side-Second Avenue, Manhattan
Seventh Avenue Line	1 (Local)	All times	Van Cortlandt Park-242nd Street, Bronx to South Ferry, Manhattan
	2 (Express)	All times	Wakefield-241st Street, Bronx to Flatbush Avenue-Brooklyn College, Brooklyn
	3 (Express)	6 AM to 11:30 PM	148 Street-Lenox Terminal, Manhattan to New Lots Avenue, Brooklyn
Eighth Avenue Line	A (Express)	All times	207th Street, Manhattan to Lefferts Boulevard or Far Rockaway, Queens
	C (Local)	5:30 AM to 11 PM	Washington Heights-168th Street, Manhattan to Euclid Avenue, Brooklyn
	E (Local)	All times	Jamaica Center, Queens to World Trade Center, Manhattan
PATH*	Journal Square	All times	Journal Square, Jersey City to 33rd Street, Manhattan
	Hoboken	All times	Hoboken Terminal to 33rd Street, Manhattan
Notes:	*During late night and weekend hours, PATH's Hoboken route is suspended; however PATH's Journal Square trains provide a station stop at Hoboken Terminal.		
Source:	New York City Transit, May 2005		

1,2,3 Subway Lines. Within the study area, the Nos. 1, 2, and 3 trains stop at the 34th Street-Penn Station, which is located along Seventh Avenue between West 32nd and West 34th Streets. This station has multiple access points and control areas. At West 32nd and West 33rd Streets, there are direct, subgrade connections with Penn Station. The station has separate platforms for local and express service. It serves more than 85,000 passengers on an average weekday and 44,000 passengers on an average Saturday.

A,C,E Subway Lines. Within the study area, the A, C, and E trains stop at the 34th Street-Penn Station, which is located along Eighth Avenue between West 33rd and West 36th Streets. This station has multiple access points and control areas. At West 33rd Streets, there are direct,

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subgrade connections with Penn Station and the Farley Complex. There are separate platforms and control areas for local and express service. The station serves more than 73,000 passengers on an average weekday and 33,000 passengers on an average Saturday.

Bus Service

New York City Transit (NYCT) operates seven local bus routes with stops in the vicinity of Penn Station and the Farley Complex. Table 14-3 shows these routes, their weekday hours of operation, and the terminals of their routes.

**Table 14-3
Study Area Bus Routes**

Route	Weekday Operating Hours	Terminals
M4 Fifth and Madison Avenues/ Broadway	Northbound: All Times Southbound: All Times	Fort Tryon Park to/from Penn Station (Seventh Avenue and W.32nd Street)
M10 Central Park West/ Frederick Douglass Boulevard	Northbound: 5:40 AM to 2:15 AM Southbound: 4:50 AM to 1:25 AM	Frederick Douglass Boulevard/ W.159th Street to/from Penn Station (Seventh Avenue and W.31st Street)
M11 Ninth-Columbus/Tenth-Amsterdam Avenues	Northbound: 4:00 AM to 12:30 AM Southbound: 4:45 AM to 1:00 AM	Bethune/Hudson Streets to/from Broadway/W.135th Street or Riverbank State Park
M16 34th Street Crosstown	Eastbound: All Times Westbound: All Times	Ninth Avenue/W.43rd Street to/from FDR Drive/Waterfront Plaza
M20 Seventh and Eighth Avenues/Hudson Street	Northbound: 5:38 AM to 1:04 AM Southbound: 5:45 AM to 12:35 AM	Battery Park City to/from Lincoln Center
M34 34th Street Crosstown	Eastbound: 5:27 AM to 12:39 AM Westbound: 5:23 AM to 1:01 AM	Eleventh Avenue/W.39th Street to/from FDR Drive/Waterfront Plaza
Q32 Penn Station-Jackson Heights	Eastbound: 4:46 AM to 1:00 AM Westbound: 5:38 AM to 1:05 AM	Seventh Avenue/W.32nd Street (Penn Station) to/from Northern Boulevard/81st Street, Queens
Source: New York City Transit, July 2005		

In addition to the local routes identified above, the study area is served by a number of express buses serving points in the outer boroughs as well as the three major airports. The majority of these routes are operated by private companies under license with the New York City Department of Transportation.

TRANSIT RIDERSHIP ESTIMATES

Volumes of existing subway and bus ridership were developed based on the *Pennsylvania Station Redevelopment Project DSEA, Hudson Yards FGEIS*, and information from NYCT. These data were supplemented with field observations and measurements undertaken in the Spring and Fall of 2005.

Projections of future transit ridership without the proposed project (“no build volumes”) were derived from the analysis presented in the *Hudson Yards FGEIS*. For the 2010 analysis year, the 2010 analysis conditions for Hudson Yards were adjusted to subtract the trips generated by the

development of the Farley/Moynihan Station project per the program described in the 2003 DSEA. For the 2015 analysis conditions, the 2025 analysis conditions for Hudson Yards were adjusted in two steps: 1) an incremental increase in trips was derived by accounting for one-third of the projected Hudson Yards volumes between 2010 and 2025; and 2) trips associated with the 2003 DSEA Farley/Moynihan project program were subtracted in the same manner as for 2010. The future conditions in both analysis years also include anticipated growth in LIRR, NJT, and Amtrak ridership as well as the No Build redevelopment of the Farley Complex.

Future volumes with the proposed project (“build volumes”) incorporate additional growth in NJT and Amtrak ridership, above that projected for the No Build condition as well as the development of Phase I and Phase II of the proposed project. The Build volumes also account for the removal of No Build trips from the Farley Complex (that could be generated in the Future Without the Proposed Action) and for the redistribution of NJT riders from the existing Penn Station to the new Moynihan Station.

OPERATIONAL ANALYSIS METHODOLOGY

As described above, commuter rail and bus operations are not quantified for this EIS. However, detailed analysis was prepared for subway station operations based on the following methodology.

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 to the element's design capacity, resulting in a volume-to-capacity (v/c) ratio. For stairways, the design capacity considers the effective width of a tread, which accounts for railings or other obstructions, the friction between upward and downward patrons, and the average 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 stairways, escalators and control area elements, volumes and capacities are presented for 15-minute intervals.

The estimated v/c ratio is compared to NYCT criteria to determine a level-of-service (LOS) for the operation of an element. Table 14-4 shows the LOS and corresponding v/c ratios for stairways, escalators, and control area elements.

**Table 14-4
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)

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

PEDESTRIANS

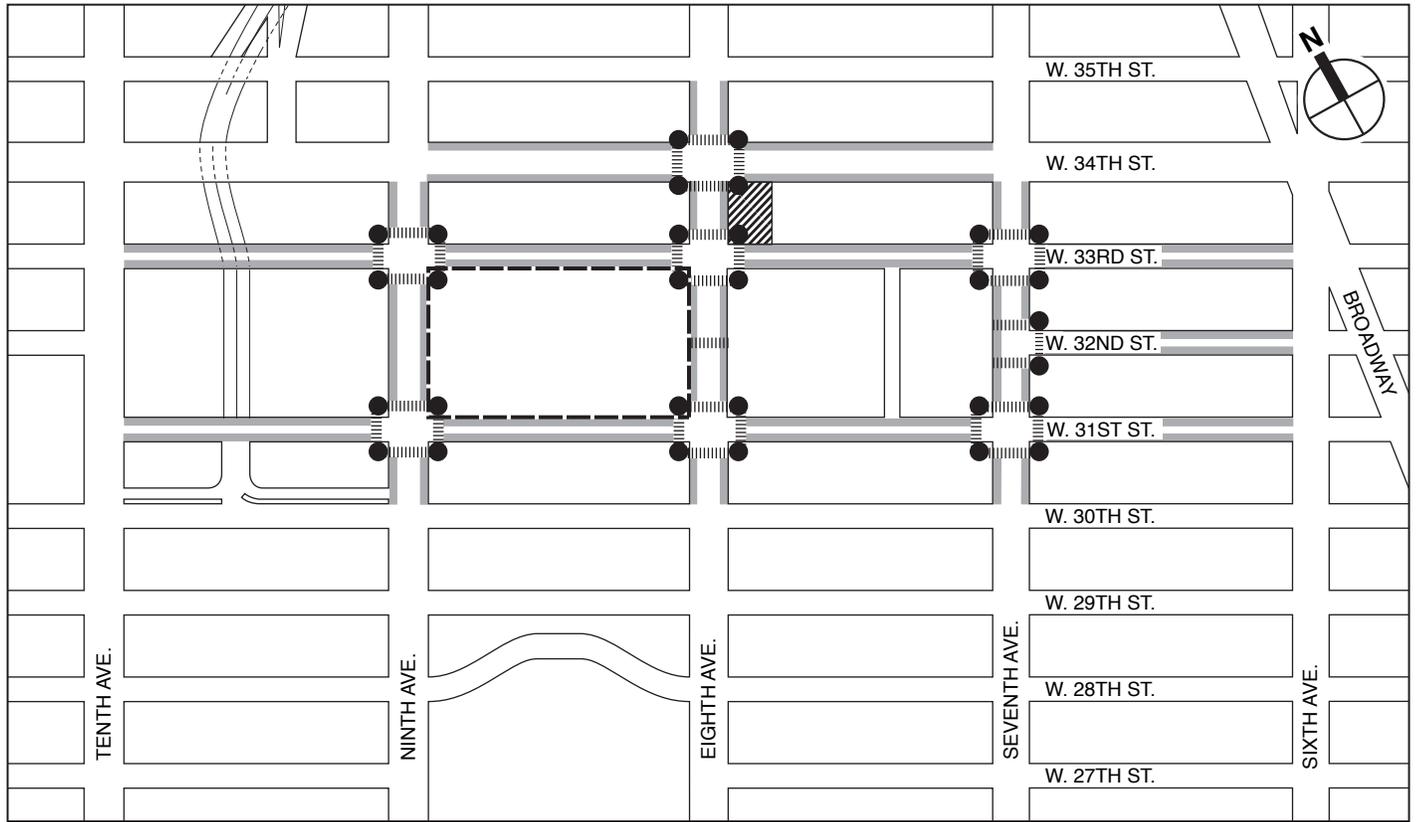
PEDESTRIAN STUDY AREA

Numerous sidewalks, corner reservoirs, and crosswalks surrounding the project site were identified for analysis. These pedestrian facilities, extending primarily from West 31st Street to West 34th Street and from Seventh Avenue to Ninth Avenue, represent locations where the most project-generated trips are anticipated. The location of the various pedestrian facilities examined in this analysis is shown in Figure 14-2.

PEDESTRIAN VOLUMES

Existing pedestrian volumes were developed based on the *Pennsylvania Station Redevelopment Project DSEA*, *Hudson Yards FGEIS*, and information from NYCT. These data were supplemented with field counts, observations, and measurements undertaken in the Spring and Fall of 2005.

Projections of No Build pedestrian volumes were derived from the analysis presented in the *Hudson Yards FGEIS*. For the 2010 analysis year, the 2010 analysis conditions for Hudson Yards were adjusted to subtract the trips generated by the development of the Farley/Moynihan Station project per the program described in the 2003 DSEA. For the 2015 analysis conditions, the 2025 analysis conditions for Hudson Yards were adjusted in two steps: 1) an incremental increase in trips was derived by accounting for one-third of the projected Hudson Yards volumes between 2010 and 2025; and 2) trips associated with the 2003 DSEA Farley/Moynihan project program were subtracted in the same manner as for 2010. The future conditions in both analysis years also include anticipated growth in LIRR, NJT, and Amtrak ridership as well as the No Build redevelopment of the Farley Complex.



- Farley Complex Boundary
- ▨ Development Transfer Site

PEDESTRIAN FACILITIES TO BE ANALYZED:

- Sidewalks
- Corners
- Crosswalks

The Build pedestrian volumes incorporate additional growth in NJT and Amtrak ridership, above that projected for the No Build condition as well as the development of Phase I and Phase II of the proposed project. The Build volumes also account for a redistribution of a portion of the NJT riders from the existing Pennsylvania Station to the new Moynihan Station.

OPERATIONS ANALYSIS METHODOLOGY

The adequacy of the study area's sidewalk, crosswalk, and corner reservoir capacities in relation to the demand imposed on them was assessed using the methodologies presented in the *Highway Capacity Manual (HCM) Special Report 209* (Transportation Research Board, 1994). 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 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. Additionally, in the first seconds of the "walk" cycle, the initial movements of pedestrians queued to cross the street create a surge effect. To account for this effect, the LOS analysis incorporates a "surge" factor to estimate worst-case conditions.

The 1985 HCM provides different thresholds for LOS determination than the *CEQR Technical Manual*. The reported LOS results in this study are based on the latest CEQR LOS criteria, in the relevant tables, which may differ from those determined in the HCS analysis outputs. Also, since the ranges for sidewalk analysis results are relatively narrow, a "+" or "-" sign is provided for rounded PFM values coinciding with the different service level thresholds (i.e., LOS A/B = 5 PFM) to show the variation in LOS. For example, analysis results of 4.9 and 5.1 PFM both round to 5 PFM. However, the former would be denoted as 5- PFM and LOS A, whereas the latter would be denoted as 5+ PFM and LOS B.

Table 14-5 shows the LOS standards¹ 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 LOS D condition or better is considered reasonable for sidewalks, corner reservoirs, and crosswalks within the Manhattan Central Business District (CBD). For crosswalks and corner reservoirs, a LOS D condition requires a minimum of 15 SFP, while for sidewalks, a LOS D condition requires a maximum of 15 PFM.

**Table 14-5
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
<p>Notes: PFM = pedestrians per foot per minute; SFP = square feet per pedestrian Source: New York City Mayor's Office of Environmental Coordination, <i>CEQR Technical Manual</i> (December 2001)</p>		

For areas within the Manhattan CBD, project-related sidewalk impacts are considered significant and require examination of mitigation if there is an increase of 2 PFM over a No Build condition that is characterized by flow rates of 13 PFM or greater since the addition of 2 PFM would result in a LOS E or worse. For corners and crosswalks, a decrease of 1 SFP under the Build condition when the No Build condition has an average occupancy of less than 15 SFP (the breakpoint between LOS D and LOS E) is considered significant.

C. EXISTING CONDITIONS

Information presented in the *Hudson Yards FGEIS*, combined with baseline information from the 2003 DSEA, was used to develop existing transit and pedestrian volumes for the weekday analysis time periods. New Saturday afternoon data were collected in April 2005 to establish baseline Saturday midday peak period operations.

SUBWAY STATION OPERATIONS

An analysis of stairway and control area operations was conducted for the 34th Street-Penn Station subway stations on the Seventh and Eighth Avenue lines. These stations have multiple entrances and control areas, but the quantified analysis was limited to the elements that would be most likely used by future patrons of the proposed project.

For the 34th Street-Penn Station complex on the Eighth Avenue line, a quantified analysis was conducted for the street-level stairways at the intersections of West 33rd and West 34th Streets at Eighth Avenue and the corresponding N67, N70, N71, N72, and N73 control areas. Express

¹ The 1985 HCM provides different thresholds for LOS determination than the 2001 *CEQR Technical Manual*. The reported LOS results in this chapter are based on the latest CEQR LOS criteria, as defined in Table 14-4, which may differ from those determined in the Highway Capacity Software (HCS) analysis outputs.

and local trains have separate control areas at this station. The N70 and N72 control areas on the east side of Eighth Avenue serve uptown local (C and E) trains while the N71 and N73 control areas on the west side of Eighth Avenue serve downtown local trains. The N67 control area, which is located in-between, provides access to express (A) trains. All of these areas can be accessed from the street-level stairways at West 33rd and West 34th Streets at Eighth Avenue and from the tunnel connection to Penn Station.

The 34th Street-Penn Station complex on the Seventh Avenue line has station entrances at West 32nd and West 34th Streets. The West 32nd Street entrances provide direct access to the uptown local train but connection to other trains is more difficult from this location. Commuters accessing the Farley Complex are more likely to be served by the station entrances at West 34th Street and Seventh Avenue, since they provide easier access to train platforms.

At West 34th Street and Seventh Avenue, the station complex has two control areas. The R141 control area provides direct access to the uptown local (No. 1) trains and the R142 control area provides access to the downtown local trains. Interior staircases in both control areas connect to an underpass for access to the express (No. 2 and 3) train platform.

Tables 14-6 and 14-7 summarize the results for the 27 street and mezzanine-level stairways that were assessed for the weekday AM and PM peak periods. Three of these staircases, all located at 34th Street-Penn Station (A/C/E), currently operate at a LOS D or worse during the AM peak hour, as described below.

- The S2 street-level stairway on the southwest corner of West 33rd Street and Eighth Avenue operates at LOS D (1.05 V/SVCD) during the AM peak period.
- The S8 street-level stairway on the northwest corner of West 34th Street and Eighth Avenue operates at LOS D (1.19 V/SVCD) during the AM peak period.
- The P2 stairway, which provides access between the control area and the S2 and S3 street-level stairways, operates at LOS D (1.02 V/SVCD) during the AM peak period.

Tables 14-8 and 14-9 show the existing operation of control area elements (turnstiles, high-entry/exit gates [HEET], and services gates) at the seven control areas. Analysis results show that only the N71 control area service gate, which is located at 34th Street-Penn Station (A/C/E) and provides access between the control area and the street-level stairways, currently operates at LOS D (0.69 V/SVCD). All other elements operate at acceptable levels during both the AM and PM peak hours.

PEDESTRIAN CIRCULATION

The study area's sidewalks, corner reservoirs, and crosswalks were assessed for the weekday AM, midday, and PM and Saturday midday peak periods. The area surrounding Penn Station is one of the most active in New York City, with hourly pedestrian volumes of 2,000 or more at certain crosswalks and considerably more on many of the sidewalks. However, pedestrian elements in the area (particularly around the Madison Square Garden and Farley Complex superblocks and surrounding One Penn Plaza) are typically sized generously to provide substantial capacity. Tables 14-10 through 14-12 show the existing conditions analysis results for the study area's sidewalks, corner reservoirs, and crosswalks.

All of the analysis locations operate at LOS D or better in the existing condition except for the following:

**Table 14-6
Existing Conditions**

AM Peak Period – Level of Service for Subway Stairways

Stairways	Width (feet)	Effective Width (feet)	15-Minute Volume		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
34 Street-Penn Station (A/C/E)									
S1 W. 33rd St. & 8th Ave. (SE corner)	7.4	6.4	135	10	0.80	768	0.19	A	
S2 W. 33rd St. & 8th Ave. (SW corner)	4.3	3.3	406	10	0.80	396	1.05	D	
S3 W. 33rd St. & 8th Ave. (SW corner)	4.3	3.3	244	25	0.80	396	0.68	B	
S4 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	353	30	0.80	408	0.94	C	
S5 W. 33rd St. & 8th Ave. (NE corner)	4.0	3.0	116	10	0.80	360	0.35	A	
S6 W. 34th St. & 8th Ave. (SW corner)	5.7	4.7	287	21	0.80	564	0.55	B	
S7 W. 34th St. & 8th Ave. (SE corner)	7.0	6.0	116	37	0.80	720	0.21	A	
S8 W. 34th St. & 8th Ave. (NW corner)	5.8	4.8	622	65	0.80	576	1.19	D	
S9 W. 34th St. & 8th Ave. (NE corner)	11.5	10.5	82	33	0.80	1260	0.09	A	
P1 W. 33rd St. & 8th Ave. (SE corner)	7.4	5.4	135	10	0.80	648	0.22	A	
P2 W. 33rd St. & 8th Ave. (SW corner)	7.6	5.6	650	35	0.80	672	1.02	D	
P3 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	353	30	0.80	408	0.94	C	
P4 W. 33rd St. & 8th Ave. (NE corner)	4.4	3.4	116	10	0.80	408	0.31	A	
P5 W. 34th St. & 8th Ave. (SW corner)	11.6	9.6	287	21	0.80	1152	0.27	A	
P6 W. 34th St. & 8th Ave. (SE corner)	6.7	5.7	116	37	0.80	684	0.22	A	
P7 W. 34th St. & 8th Ave. (NW corner)	8.8	7.8	622	65	0.80	936	0.73	C	
P8 W. 34th St. & 8th Ave. (NE corner)	5.5	4.5	82	33	0.80	540	0.21	A	
M3 Mezzanine Level	9.2	8.2	365	193	0.90	1107	0.50	B	
M4 Mezzanine Level	9.2	8.2	365	193	0.90	1107	0.50	B	
34 Street-Penn Station (1/2/3)									
S3 W. 34th St. & 7th Ave. (SW corner)	5.6	4.6	234	56	0.80	552	0.53	B	
S4 W. 34th St. & 7th Ave. (SE corner)	10.1	8.1	244	36	0.80	972	0.29	A	
S5 W. 34th St. & 7th Ave. (NW corner)	5.6	4.6	395	36	0.80	552	0.78	C	
S6 W. 34th St. & 7th Ave. (NE corner)	5.1	4.1	51	10	0.80	492	0.12	A	
P5 W. 34th St. & 7th Ave. (SW corner)	12.1	10.1	234	56	0.80	1212	0.24	A	
P6 W. 34th St. & 7th Ave. (SE corner)	12.5	10.5	244	36	0.80	1260	0.22	A	
P7 W. 34th St. & 7th Ave. (NW corner)	12.2	10.2	395	36	0.80	1224	0.35	A	
P8 W. 34th St. & 7th Ave. (NE corner)	12.3	10.3	51	10	0.80	1236	0.05	A	
<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 14-7
Existing Conditions
PM Peak Period – Level of Service for Subway Stairways

Stairways	Width (feet)	Effective Width (feet)	15-Minute Volume		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
34 Street-Penn Station (A/C/E)									
S1 W. 33rd St. & 8th Ave. (SE corner)	7.4	6.4	8	148	0.80	768	0.20	A	
S2 W. 33rd St. & 8th Ave. (SW corner)	4.3	3.3	91	41	0.80	396	0.33	A	
S3 W. 33rd St. & 8th Ave. (SW corner)	4.3	3.3	41	112	0.80	396	0.39	A	
S4 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	40	82	0.80	408	0.30	A	
S5 W. 33rd St. & 8th Ave. (NE corner)	4.0	3.0	104	29	0.80	360	0.37	A	
S6 W. 34th St. & 8th Ave. (SW corner)	5.7	4.7	345	57	0.80	564	0.71	C	
S7 W. 34th St. & 8th Ave. (SE corner)	7.0	6.0	27	161	0.80	720	0.26	A	
S8 W. 34th St. & 8th Ave. (NW corner)	5.8	4.8	201	32	0.80	576	0.40	A	
S9 W. 34th St. & 8th Ave. (NE corner)	11.5	10.5	60	231	0.80	1260	0.23	A	
P1 W. 33rd St. & 8th Ave. (SE corner)	7.4	5.4	8	148	0.80	648	0.24	A	
P2 W. 33rd St. & 8th Ave. (SW corner)	7.6	5.6	132	153	0.90	756	0.38	A	
P3 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	40	82	0.80	408	0.30	A	
P4 W. 33rd St. & 8th Ave. (NE corner)	4.4	3.4	104	29	0.80	408	0.33	A	
P5 W. 34th St. & 8th Ave. (SW corner)	11.6	9.6	345	57	0.80	1152	0.35	A	
P6 W. 34th St. & 8th Ave. (SE corner)	6.7	5.7	27	161	0.80	684	0.27	A	
P7 W. 34th St. & 8th Ave. (NW corner)	8.8	7.8	201	32	0.80	936	0.25	A	
P8 W. 34th St. & 8th Ave. (NE corner)	5.5	4.5	60	231	0.80	540	0.54	A	
M3 Mezzanine Level	9.2	8.2	36	513	0.80	984	0.56	B	
M4 Mezzanine Level	9.2	8.2	36	513	0.80	984	0.56	B	
34 Street-Penn Station (1/2/3)									
S3 W. 34th St. & 7th Ave. (SW corner)	5.6	4.6	74	77	0.90	621	0.24	A	
S4 W. 34th St. & 7th Ave. (SE corner)	10.1	8.1	112	416	0.80	972	0.54	B	
S5 W. 34th St. & 7th Ave. (NW corner)	5.6	4.6	119	400	0.80	552	0.94	C	
S6 W. 34th St. & 7th Ave. (NE corner)	5.1	4.1	102	157	0.90	554	0.47	B	
P5 W. 34th St. & 7th Ave. (SW corner)	12.1	10.1	74	77	0.90	1364	0.11	A	
P6 W. 34th St. & 7th Ave. (SE corner)	12.5	10.5	112	416	0.80	1260	0.42	A	
P7 W. 34th St. & 7th Ave. (NW corner)	12.2	10.2	119	400	0.80	1224	0.42	A	
P8 W. 34th St. & 7th Ave. (NE corner)	12.3	10.3	102	157	0.90	1391	0.19	A	
Note: Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001) in accordance with the <i>CEQR Technical Manual</i> .									

Table 14-8
Existing Conditions
AM Peak Period – Level of Service for Subway Control Areas

Control Area	Station Element	Quantity	Volume		Peak 15-Minute		
			In	Out	SVCD Capacity	V/SVDC Ratio	LOS
34 Street-Penn Station (A/C/E)							
N67	Two-Way Turnstiles I	4	224	255	1920	0.25	B
	Two-Way Turnstiles II	9	524	596	4320	0.26	B
	HEET	2	3	52	600	0.09	A
	Service Gate	1	5	5	750	0.01	A
N70	Two-Way Turnstiles	5	67	195	2400	0.11	A
	Service Gate	1	3	0	750	0.00	A
N71	Two-Way Turnstiles	5	82	399	2400	0.20	A
	Service Gate	1	5	511	750	0.69	D
N72	Two-Way Turnstiles I	6	951	80	2880	0.36	B
	Two-Way Turnstiles II	3	469	40	1440	0.35	B
	Service Gate	1	0	41	750	0.05	A
N73	Two-Way Turnstiles	9	436	167	4320	0.14	A
	Service Gate	1	0	259	750	0.35	B
34 Street-Penn Station (1/2/3)							
R141	Two-Way Turnstiles	7	45	260	3360	0.09	A
	Service Gate	1	1	34	750	0.05	A
R142	Two-Way Turnstiles	4	466	162	1920	0.33	B
	HEET	2	11	22	600	0.06	A
	Service Gate	1	0	8	750	0.01	A

Table 14-9
Existing Conditions
PM Peak Period – Level of Service for Subway Control Areas

Control Area	Station Element	Quantity	Volume		Peak 15-Minute		
			In	Out	SVCD Capacity	V/SVDC Ratio	LOS
34 Street-Penn Station (A/C/E)							
N67	Two-Way Turnstiles I	4	118	164	1920	0.15	A
	Two-Way Turnstiles II	9	275	383	4320	0.15	A
	HEET	2	3	27	600	0.05	A
	Service Gate	1	0	0	750	0.00	A
N70	Two-Way Turnstiles	5	393	88	2400	0.20	A
	Service Gate	1	3	9	750	0.02	A
N71	Two-Way Turnstiles	5	485	110	2400	0.25	B
	Service Gate	1	0	41	750	0.05	A
N72	Two-Way Turnstiles I	6	192	732	2880	0.32	B
	Two-Way Turnstiles II	3	95	361	1440	0.34	B
	Service Gate	1	7	257	750	0.35	B
N73	Two-Way Turnstiles	9	66	401	4320	0.11	A
	Service Gate	1	0	538	750	0.72	D
34 Street-Penn Station (1/2/3)							
R141	Two-Way Turnstiles	7	572	200	3360	0.23	B
	Service Gate	1	2	13	750	0.02	A
R142	Two-Way Turnstiles	4	466	162	1920	0.33	B
	HEET	2	11	22	600	0.06	A
	Service Gate	1	0	8	750	0.01	A

Table 14-10
Existing Conditions
AM, Midday Peak Periods – Level of Service for Sidewalks

Location	Sidewalk	Effective Width (feet)	AM						Midday			
			15-Minute Two-Way Volume	Average		Platoon		15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS		PFM	LOS	PFM	LOS
Eighth Avenue between 35th and 34th Streets	West	7.58	133	1	A	5+	B	182	2	A	6	B
	East	10.17	208	1	A	5+	B	145	1	A	5-	A
34th Street between Eighth and Seventh Avenue	North	10.17	193	1	A	5+	B	245	2	A	6	B
	South	7.08	151	1	A	5+	B	157	1	A	5+	B
Eighth Avenue between 34th and 33rd Streets	East	18.50	264	1	A	5-	A	200	1	A	5-	A
	West	8.00	435	4	A	8	C	414	3	A	7+	C
34th Street between Ninth and Eighth Avenue	South	11.92	133	1	A	5-	A	119	1	A	5-	A
	North	16.00	246	1	A	5+	B	170	1	A	5-	A
Ninth Avenue between 34th and 33rd Streets	West	11.00	106	1	A	5-	A	125	1	A	5-	A
	East	10.00	87	1	A	5-	A	128	1	A	5-	A
33rd Street between Ninth and Eighth Avenues	North	4.00	140	2	A	6	B	217	4	A	8	C
	South	10.00	341	2	A	6	B	145	1	A	5-	A
Ninth Avenue between 33rd and 31st Street	East	10.00	53	0	A	4	A	147	1	A	5-	A
	West	11.00	54	0	A	4	A	193	1	A	5+	B
33rd Street between Tenth and Ninth Avenues	South	10.50	297	2	A	6	B	68	0	A	4	A
	North	4.00	94	2	A	6	B	69	1	A	5+	B
33rd Street between Eighth and Seventh Avenues	North	10.00	306	2	A	6	B	175	1	A	5+	B
	South	8.00	213	2	A	6	B	485	4	A	8	C
Eighth Avenue between 33rd Street and Mid-block crosswalk	East	20.00	329	1	A	5+	B	390	1	A	5+	B
	West	10.50	118	1	A	5-	A	252	2	A	6	B
Seventh Avenue between 34th and 33rd Streets	West	15.50	553	2	A	6	B	515	2	A	6	B
	East	15.00	470	2	A	6	B	460	2	A	6	B
33rd Street between Seventh and Sixth Avenues	North	7.00	294	3	A	7-	B	247	2	A	6	B
	South	7.50	491	4	A	8	C	445	4	A	8	C
Seventh Avenue between 33rd and 32nd Street	East	14.50	479	2	A	6	B	470	2	A	6	B
	West	20.50	719	2	A	6	B	496	2	A	6	B
32nd Street between Seventh and Sixth Avenues	North	7.50	500	4	A	8	C	264	2	A	6	B
	South	8.50	500	4	A	8	C	300	2	A	6	B
31st Street between Ninth and Eighth Avenues	North	7.00	54	1	A	5+	B	147	1	A	5+	B
	South	7.00	208	2	A	6	B	104	1	A	5-	A
Ninth Avenue between 31st and 30th Street	East	9.50	143	1	A	5+	B	105	1	A	5-	A
	West	10.50	29	0	A	4	A	89	1	A	5-	A
31st Street between Tenth and Ninth Avenues	South	10.50	78	0	A	4	A	61	0	A	4	A
	North	10.00	38	0	A	4	A	61	0	A	4	A
Eighth Avenue between mid-block crosswalk and 31st Streets	West	10.50	130	1	A	5-	A	249	2	A	6	B
	East	16.50	124	1	A	5-	A	411	2	A	6	B
31st Street between Eighth and Seventh Avenues	North	24.00	201	1	A	5-	A	267	1	A	5-	A
	South	10.50	30	0	A	4	A	350	2	A	6	B
Eighth Avenue between 31st and 30th Street	East	10.50	122	1	A	5-	A	307	2	A	6	B
	West	9.00	86	1	A	5-	A	311	2	A	6	B
Seventh Avenue between 32nd and 31st Streets	West	18.00	719	3	A	7+	C	433	1	A	5+	B
	East	22.50	632	2	A	6	B	309	1	A	5+	B
31st Street between Seventh and Sixth Avenues	North	7.50	367	3	A	7+	C	264	2	A	6	B
	South	13.00	274	1	A	5+	B	300	2	A	6	B
Seventh Avenue between 31st and 30th Street	East	15.00	420	2	A	6	B	433	2	A	6	B
	West	11.50	765	4	A	8	C	309	2	A	6	B

Note:
 "+" or "-" symbols indicate if a rounded value shown is above or below a service level threshold.
 PFM = pedestrians per foot per minute

Farley Post Office/Moynihan Station Redevelopment Project

Table 14-10 (cont'd)

Existing Conditions PM, Saturday midday Peak Periods – Level of Service for Sidewalks

Location	Sidewalk	Effective Width (feet)	PM				Saturday midday					
			15-Minute Two-Way Volume	Average		Platoon		15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS		PFM	LOS	PFM	LOS
Eighth Avenue between 35th and 34th Streets	West	7.58	184	2	A	6	B	541	5+	B	9	C
	East	10.17	189	1	A	5+	B	705	5+	B	9	C
34th Street between Eighth and Seventh Avenue	North	10.17	291	2	A	6	B	367	2	A	6	B
	South	7.08	184	2	A	6	B	274	3	A	7-	B
Eighth Avenue between 34th and 33rd Streets	East	18.50	312	1	A	5+	B	592	2	A	6	B
	West	8.00	468	4	A	8	C	511	4	A	8	C
34th Street between Ninth and Eighth Avenue	South	11.92	162	1	A	5-	A	151	1	A	5-	A
	North	16.00	258	1	A	5+	B	119	0	A	4	A
Ninth Avenue between 34th and 33rd Streets	West	11.00	2	0	A	4	A	72	0	A	4	A
	East	10.00	35	0	A	4	A	194	1	A	5+	B
33rd Street between Ninth and Eighth Avenues	North	4.00	30	1	A	5-	A	225	4	A	8	C
	South	10.00	43	0	A	4	A	119	1	A	5-	A
Ninth Avenue between 33rd and 31st Street	East	10.00	35	0	A	4	A	63	0	A	4	A
	West	11.00	2	0	A	4	A	42	0	A	4	A
33rd Street between Tenth and Ninth Avenues	South	10.50	10	0	A	4	A	43	0	A	4	A
	North	4.00	11	0	A	4	A	36	1	A	5-	A
33rd Street between Eighth and Seventh Avenues	North	10.00	255	2	A	6	B	417	3	A	7-	B
	South	8.00	390	3	A	7+	C	553	5+	B	9	C
Eighth Avenue between 33rd Street and Mid-block crosswalk	East	20.00	486	2	A	6	B	157	1	A	5-	A
	West	10.50	67	0	A	4	A	363	2	A	6	B
Seventh Avenue between 34th and 33rd Streets	West	15.50	573	2	A	6	B	743	3	A	7+	C
	East	15.00	461	2	A	6	B	1215	5+	B	9	C
33rd Street between Seventh and Sixth Avenues	North	7.00	448	4	A	8	C	377	4	A	8	C
	South	7.50	534	5+	B	9	C	348	3	A	7+	C
Seventh Avenue between 33rd and 32nd Street	East	14.50	414	2	A	6	B	644	3	A	7-	B
	West	20.50	670	2	A	6	B	1517	5+	B	9	C
32nd Street between Seventh and Sixth Avenues	North	7.50	700	6	B	10+	D	272	2	A	6	B
	South	8.50	650	5+	B	9	C	224	2	A	6	B
31st Street between Ninth and Eighth Avenues	North	7.00	20	0	A	4	A	57	1	A	5-	A
	South	7.00	114	1	A	5+	B	126	1	A	5+	B
Ninth Avenue between 31st and 30th Street	East	9.50	124	1	A	5-	A	122	1	A	5-	A
	West	10.50	32	0	A	4	A	50	0	A	4	A
31st Street between Tenth and Ninth Avenues	South	10.50	61	0	A	4	A	19	0	A	4	A
	North	10.00	6	0	A	4	A	7	0	A	4	A
Eighth Avenue between mid-block crosswalk and 31st Streets	West	10.50	214	1	A	5+	B	225	2	A	6	B
	East	16.50	197	1	A	5-	A	119	1	A	5+	B
31st Street between Eighth and Seventh Avenues	North	24.00	162	0	A	4	A	399	1	A	5+	B
	South	10.50	40	0	A	4	A	82	1	A	5-	A
Eighth Avenue between 31st and 30th Street	East	10.50	147	1	A	5-	A	253	2	A	6	B
	West	9.00	116	1	A	5-	A	256	2	A	6	B
Seventh Avenue between 32nd and 31st Streets	West	18.00	670	2	A	6	B	1190	4	A	8	C
	East	22.50	596	2	A	6	B	469	1	A	5+	B
31st Street between Seventh and Sixth Avenues	North	7.50	510	5+	B	9	C	167	1	A	5+	B
	South	13.00	540	3	A	7-	B	100	1	A	5-	A
Seventh Avenue between 31st and 30th Street	East	15.00	601	3	A	7-	B	333	1	A	5+	B
	West	11.50	486	3	A	7-	B	710	4	A	8	C

Note:
 "+" or "-" symbols indicate if a rounded value shown is above or below a service level threshold.
 PFM = pedestrians per foot per minute

Table 14-11
Existing Conditions
AM, Midday, PM, Saturday midday Peak Periods – Level of Service for Corners

Location	Corner	AM Peak Period		MIDDAY Peak Period		PM Peak Period		SATURDAY Peak Period	
		SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS
Eighth Avenue at 34th Street	Northeast	125	A	79	A	61	A	66	A
	Southeast	188	A	137	A	126	A	130	A
	Southwest	114	A	87	A	80	A	93	A
	Northwest	116	A	73	A	65	A	101	A
Ninth Avenue at 33rd Street	Northeast	109	A	83	A	109	A	311	A
	Southeast	66	A	105	A	61	A	219	A
	Southwest	57	B	71	A	65	A	218	A
	Northwest	118	A	100	A	165	A	594	A
Eighth Avenue at 33rd Street	Northeast	76	A	60	A	43	B	51	B
	Southeast	63	A	44	B	38	C	66	A
	Southwest	18	D	34	C	30	C	52	B
	Northwest	24	C	50	B	26	C	53	B
Seventh Avenue at 33rd Street	Northeast	41	B	44	B	30	C	25	C
	Southeast	116	A	135	A	122	A	80	A
	Southwest	141	A	165	A	148	A	103	A
	Northwest	68	A	78	A	57	B	58	B
Seventh Avenue at 32nd Street	Northeast	92	A	95	A	57	B	38	C
	Southeast	71	A	71	A	48	B	179	A
Ninth Avenue at 31st Street	Northeast	263	A	145	A	178	A	254	A
	Southeast	99	A	79	A	137	A	198	A
	Southwest	157	A	113	A	194	A	461	A
	Northwest	376	A	268	A	163	A	427	A
Eighth Avenue at 31st Street	Northeast	294	A	123	A	290	A	241	A
	Southeast	82	A	23	D	83	A	55	B
	Southwest	116	A	31	C	87	A	80	A
	Northwest	116	A	49	B	94	A	95	A
Seventh Avenue at 31st Street	Northeast	72	A	114	A	56	B	85	A
	Southeast	85	A	111	A	50	B	111	A
	Southwest	53	B	58	B	33	C	59	B
	Northwest	157	A	219	A	129	A	127	A

Note: SFP = square feet per pedestrian

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Table 14-12
Existing Conditions
AM, Midday Peak Periods – Level of Service for Crosswalks

Location	Crosswalk	Width (feet)	AM Peak Period						Midday Peak Period					
			Without Vehicles		With Vehicles		Maximum Surge		Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP
Eighth Avenue at 34 th Street	North	21	159	A	142	A	84	A	91	A	83	A	48	B
	East	15.5	105	A	100	A	45	B	72	A	66	A	31	C
	South	21.5	147	A	147	A	78	A	122	A	122	A	65	A
	West	15.5	105	A	105	A	45	B	77	A	71	A	33	C
Ninth Avenue at 33rd Street	North	13	119	A	119	A	72	A	125	A	125	A	77	A
	East	15	433	A	433	A	122	A	202	A	202	A	57	B
	South	15	68	A	64	A	42	B	220	A	206	A	135	A
	West	22	538	A	486	A	148	A	311	A	298	A	86	A
Eighth Avenue at 33rd Street	North	14.5	80	A	78	A	40	B	108	A	105	A	54	B
	East	17.7	73	A	73	A	22	D	49	B	49	B	15	D
	South	17	87	A	87	A	44	B	77	A	77	A	39	C
	West	14	28	C	25	C	9	E	76	A	63	A	24	C
Seventh Avenue at 33rd Street	North	16.5	28	C	28	C	19	D	34	C	34	C	22	D
	East	17	91	A	91	A	27	C	100	A	100	A	30	C
	South	16	24	C	22	D	17	D	31	C	29	C	22	D
	West	18.5	91	A	83	A	25	C	91	A	84	A	25	C
Eighth Avenue at Mid-block crosswalk	Mid-block	20	236	A	236	A	122	A	80	A	80	A	41	B
Seventh Avenue at 32nd Street	North	18.5	54	B	54	B	43	B	53	B	53	B	42	B
	East	17	186	A	145	A	55	B	235	A	189	A	69	A
	South	19	33	C	33	C	26	C	31	C	31	C	24	C
Ninth Avenue at 31st Street	North	16.5	2228	A	2228	A	1062	A	413	A	413	A	197	A
	East	13	295	A	295	A	112	A	185	A	185	A	70	A
	South	13	142	A	131	A	87	A	116	A	107	A	71	A
	West	14.5	518	A	510	A	209	A	725	A	708	A	293	A
Eighth Avenue at 31st Street	North	16.5	220	A	185	A	117	A	70	A	66	A	37	C
	East	14.5	97	A	97	A	38	C	50	B	50	B	19	D
	South	14.5	242	A	242	A	129	A	49	B	49	B	26	C
	West	11.5	140	A	124	A	59	B	85	A	76	A	36	C
Seventh Avenue at 31st Street	North	16	52	B	52	B	30	C	90	A	90	A	52	B
	East	15	75	A	75	A	22	D	121	A	121	A	36	C
	South	11.5	67	A	63	A	32	C	78	A	72	A	37	C
	West	17.5	70	A	61	A	21	D	84	A	78	A	25	C

Note: SFP = square feet per pedestrian

Table 14-12 (Continued)
Existing Conditions
PM, Saturday midday Peak Periods – Level of Service for Crosswalks

Location	Crosswalk	Width (feet)	PM Peak Period						Saturday midday Peak Period					
			Without Vehicles		With Vehicles		Maximum Surge		Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP
Eighth Avenue at 34 th Street	North	21	80	A	73	A	42	B	119	A	108	A	63	A
	East	15.5	60	A	56	B	26	C	62	A	58	B	27	C
	South	21.5	124	A	124	A	66	A	137	A	137	A	73	A
	West	15.5	73	A	69	A	31	C	100	A	94	A	42	B
Ninth Avenue at 33rd Street	North	13	1463	A	1463	A	893	A	836	A	836	A	510	A
	East	15	250	A	250	A	71	A	475	A	475	A	134	A
	South	15	118	A	111	A	72	A	281	A	264	A	173	A
	West	22	2750	A	2562	A	757	A	1833	A	1708	A	505	A
Eighth Avenue at 33rd Street	North	14.5	55	B	52	B	28	C	147	A	141	A	75	A
	East	17.7	38	C	38	C	11	E	56	B	56	B	17	D
	South	17	89	A	89	A	45	B	152	A	152	A	77	A
	West	14	50	B	41	B	16	D	67	A	54	B	21	D
Seventh Avenue at 33rd Street	North	16.5	21	D	21	D	14	E	32	C	32	C	21	D
	East	17	87	A	87	A	26	C	40	B	40	B	12	E
	South	16	27	C	25	C	20	D	28	C	26	C	20	D
	West	18.5	80	A	71	A	22	D	60	A	54	B	17	D
Eighth Avenue at Mid-block crosswalk	Mid-block	20	114	A	114	A	59	B	614	A	614	A	318	A
Seventh Avenue at 32nd Street	North	18.5	38	C	38	C	30	C	20	D	20	D	16	D
	East	17	125	A	114	A	37	C	139	A	127	A	41	B
	South	19	24	C	24	C	20	D	9405	A	9405	A	7493	A
Ninth Avenue at 31st Street	North	16.5	1392	A	1392	A	664	A	1310	A	1310	A	625	A
	East	13	636	A	636	A	241	A	227	A	227	A	86	A
	South	13	358	A	319	A	220	A	1097	A	977	A	674	A
	West	14.5	960	A	907	A	387	A	616	A	582	A	248	A
Eighth Avenue at 31st Street	North	16.5	187	A	173	A	99	A	218	A	203	A	116	A
	East	14.5	108	A	108	A	42	B	67	A	67	A	26	C
	South	14.5	204	A	204	A	109	A	185	A	185	A	99	A
	West	11.5	99	A	82	A	42	B	84	A	70	A	36	C
Seventh Avenue at 31st Street	North	16	42	B	42	B	24	C	90	A	90	A	51	B
	East	15	55	B	55	B	16	D	63	A	63	A	19	D
	South	11.5	35	C	33	C	17	D	184	A	171	A	88	A
	West	17.5	57	B	53	B	17	D	55	B	51	B	16	D

Note: SFP = square feet per pedestrian

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- The west crosswalk at West 33rd Street and Eighth Avenue operates at LOS E (9 SFP) in the AM peak period,
- The east crosswalk at West 33rd Street and Eighth Avenue operates at LOS E (11 SFP) in the PM peak period,
- The north crosswalk at West 33rd Street and Seventh Avenue operates at LOS E (14 SFP) in the PM peak period; and,
- The east crosswalk at West 33rd Street and Seventh Avenue operates at LOS E (12 SFP) in the PM peak period.

D. 2010 FUTURE ANALYSIS YEAR

Phase I of the proposed project is the redevelopment of the Farley Complex with a new train station as well as hotel, banquet facility, and retail uses. The 2010 analysis year also accounts for the Phase II development (under Scenario 2 as described in Chapter 2, “Analytical Framework”) of a new mixed-use building on the Development Transfer Site.

This section examines the potential impacts of the proposed project in its 2010 build year. It begins with a description of future conditions absent the proposed project (No Build condition); then presents anticipated operations with the project (Build condition); and concludes with a comparison of the No Build and Build conditions to determine whether the proposed 2010 development program would result in significant adverse transit or pedestrian impacts. The transit and pedestrian mitigation measures that are associated with the 2010 Build condition are presented in Chapter 19, “Mitigation.”

THE FUTURE WITHOUT THE PROPOSED ACTION

CHANGES IN THE TRANSIT AND PEDESTRIAN NETWORK

As described above, transit and pedestrian volumes in the Future Without the Proposed Action were estimated based on the 2010 analysis from the *Hudson Yards FGEIS*. These volumes were adjusted to remove trips associated with the 2003 DSEA program for the redevelopment of the Farley Complex and to add trips associated with the current No Build Farley Complex redevelopment and anticipated growth in LIRR, Amtrak, and NJT ridership. As described more fully in Chapter 2, “Analytical Framework,” USPS would redevelop the Farley Complex in the Future Without the Proposed Action with increased USPS space and office and retail uses.

The 2010 No Build conditions analysis also accounts for changes in the geometry of transit stations or pedestrian facilities that will be implemented independent of the proposed project. Although there would be no changes in the subway stations that have been analyzed in this EIS, there would be crosswalk widenings. These crosswalk widenings were recommended as mitigation in the Hudson Yards FGEIS, and they would affect two locations as follows:

- The north crosswalk at Seventh Avenue and West 31st Street will be widened by 6 feet to a total width of 20 feet.
- The north crosswalk at Seventh Avenue and West 33rd Street will be widened by 6 feet for a total width of 20 feet.

The resultant 2010 No Build volumes and the above changes in the pedestrian volume were analyzed using the methodology presented above.

ANALYSIS RESULTS

Subway Station Operations

Tables 14-13 and 14-14 summarize the results for subway stairways in the 2010 No Build condition. As shown, all of the analysis locations would operate at LOS C or better in the PM peak hour, and the majority of the stairways would operate at LOS C or better in the AM peak hour, except as follows.

- The S2 street-level stairway on the southwest corner of West 33rd Street and Eighth Avenue will operate at LOS D (1.12 V/SVCD) during the AM peak period.
- The S4 street-level stairway on the northwest corner of West 33rd Street and Eighth Avenue will operate at LOS D (1.05 V/SVCD) during the AM peak period.
- The S8 street-level stairway on the northwest corner of West 34th Street and Eighth Avenue will operate at LOS D (1.27 V/SVCD) during the AM peak period.
- The P2 stairway, which provides access between the control area and the S2 and S3 street-level stairways, will operate at LOS D (1.08 V/SVCD) during the AM peak period.
- The P3 street-level stairway on the northwest corner of West 33rd Street and Eighth Avenue will operate at LOS D (1.05 V/SVCD) during the AM peak period.

Tables 14-15 and 14-16 show the 2010 No Build operation of control area elements (turnstiles, HEETs, and services gates) at the seven control areas. As shown, the service gate at the N71 control area will operate at LOS D (0.71 V/SVCD) during the AM peak period, and the service gate at the N73 control area will operate at LOS D (0.76 V/SVCD) during the PM peak period. All of the other control area elements at the analysis locations will operate at LOS C or better.

Pedestrian Circulation

Tables 14-17 through 14-19 show the 2010 No Build conditions analysis results for the study area's sidewalks, corner reservoirs, and crosswalks. As shown, all of the analysis locations operate at LOS D or better in the 2010 No Build condition except for the following:

- The north sidewalk on West 32nd Street between Seventh and Sixth Avenues will operate at LOS E (16 PFM) in the AM peak period;
- The north sidewalk on West 31st Street between Ninth and Eighth Avenues will operate at LOS E (17 PFM) in the midday peak period;
- The southeast and southwest corners at West 33rd Street and Ninth Avenue will operate at LOS E (13 SFP) and LOS E (14 SFP), respectively, in the midday peak period;
- The southwest corner at West 33rd Street and Eighth Avenue will operate at LOS E (9 SFP), LOS F (6 SFP), LOS F (7 SFP), and LOS E (13 SFP) in the AM, midday, PM, and Saturday midday peak periods, respectively;
- The northwest corner at West 33rd Street and Eighth Avenue will operate at LOS E (11 SFP) and LOS E (12 SFP) in the midday and PM peak periods, respectively;
- The west crosswalk at West 34th Street and Eighth Avenue will operate at LOS E (13 SFP) in the midday peak period;
- The east crosswalk at West 33rd Street and Ninth Avenue will operate at LOS E (10 SFP) and LOS E (14 SFP) in the midday and Saturday midday peak periods, respectively;

**Table 14-13
2010 No Build Conditions**

AM Peak Period – Level of Service for Subway Stairways

Stairways	Width (feet)	Effective Width (feet)	15-Minute Volume		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
34 Street-Penn Station (A/C/E)									
S1 W. 33rd St. & 8th Ave. (SE corner)	7.4	6.4	147	37	0.80	768	0.24	A	
S2 W. 33rd St. & 8th Ave. (SW corner)	4.3	3.3	374	69	0.80	396	1.12	D	
S3 W. 33rd St. & 8th Ave. (SW corner)	4.3	3.3	237	82	0.80	396	0.81	C	
S4 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	325	103	0.80	408	1.05	D	
S5 W. 33rd St. & 8th Ave. (NE corner)	4.0	3.0	34	107	0.80	360	0.39	A	
S6 W. 34th St. & 8th Ave. (SW corner)	5.7	4.7	335	26	0.80	564	0.64	B	
S7 W. 34th St. & 8th Ave. (SE corner)	7.0	6.0	156	50	0.80	720	0.29	A	
S8 W. 34th St. & 8th Ave. (NW corner)	5.8	4.8	664	69	0.80	576	1.27	D	
S9 W. 34th St. & 8th Ave. (NE corner)	11.5	10.5	106	43	0.80	1260	0.12	A	
P1 W. 33rd St. & 8th Ave. (SE corner)	7.4	5.4	147	37	0.80	648	0.28	A	
P2 W. 33rd St. & 8th Ave. (SW corner)	7.9	5.9	611	151	0.80	708	1.08	D	
P3 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	325	103	0.80	408	1.05	D	
P4 W. 33rd St. & 8th Ave. (NE corner)	4.4	3.4	34	107	0.80	408	0.35	A	
P5 W. 34th St. & 8th Ave. (SW corner)	11.6	9.6	335	26	0.80	1152	0.31	A	
P6 W. 34th St. & 8th Ave. (SE corner)	6.7	5.7	156	50	0.80	684	0.30	A	
P7 W. 34th St. & 8th Ave. (NW corner)	8.8	7.8	664	69	0.80	936	0.78	C	
P8 W. 34th St. & 8th Ave. (NE corner)	5.5	4.5	106	43	0.80	540	0.28	A	
M3 Mezzanine Level	9.2	7.2	576	371	0.90	972	0.97	C	
M4 Mezzanine Level	9.2	7.2	576	371	0.90	972	0.97	C	
34 Street-Penn Station (1/2/3)									
S3 W. 34th St. & 7th Ave. (SW corner)	5.8	4.8	234	37	0.80	576	0.47	B	
S4 W. 34th St. & 7th Ave. (SE corner)	10.1	8.1	225	45	0.80	972	0.28	A	
S5 W. 34th St. & 7th Ave. (NW corner)	5.6	4.6	417	42	0.80	552	0.83	C	
S6 W. 34th St. & 7th Ave. (NE corner)	5.1	4.1	62	12	0.80	492	0.15	A	
P5 W. 34th St. & 7th Ave. (SW corner)	12.1	10.1	234	37	0.80	1212	0.22	A	
P6 W. 34th St. & 7th Ave. (SE corner)	12.5	10.5	225	45	0.80	1260	0.21	A	
P7 W. 34th St. & 7th Ave. (NW corner)	12.2	10.2	417	42	0.80	1224	0.38	A	
P8 W. 34th St. & 7th Ave. (NE corner)	12.3	10.3	62	12	0.80	1236	0.06	A	
Note: Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001) in accordance with the <i>CEQR Technical Manual</i> .									

Table 14-14
2010 No Build Conditions
PM Peak Period – Level of Service for Subway Stairways

Stairways	Width (feet)	Effective Width (feet)	15-Minute Volume		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
34 Street-Penn Station (A/C/E)									
S1 W. 33rd St. & 8th Ave. (SE corner)	7.4	6.4	64	141	0.80	768	0.27	A	
S2 W. 33rd St. & 8th Ave. (SW corner)	4.3	3.3	39	149	0.80	396	0.47	B	
S3 W. 33rd St. & 8th Ave. (SW corner)	4.3	3.3	39	149	0.80	396	0.47	B	
S4 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	65	105	0.90	459	0.37	A	
S5 W. 33rd St. & 8th Ave. (NE corner)	4.0	3.0	125	26	0.80	360	0.42	A	
S6 W. 34th St. & 8th Ave. (SW corner)	5.7	4.7	399	66	0.80	564	0.82	C	
S7 W. 34th St. & 8th Ave. (SE corner)	7.0	6.0	36	217	0.80	720	0.35	A	
S8 W. 34th St. & 8th Ave. (NW corner)	5.8	4.8	229	37	0.80	576	0.46	B	
S9 W. 34th St. & 8th Ave. (NE corner)	11.5	10.5	69	268	0.80	1260	0.27	A	
P1 W. 33rd St. & 8th Ave. (SE corner)	7.4	5.4	64	141	0.80	648	0.32	A	
P2 W. 33rd St. & 8th Ave. (SW corner)	7.9	5.9	78	298	0.80	708	0.53	B	
P3 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	65	105	0.90	459	0.37	A	
P4 W. 33rd St. & 8th Ave. (NE corner)	4.4	3.4	125	26	0.80	408	0.37	A	
P5 W. 34th St. & 8th Ave. (SW corner)	11.6	9.6	399	66	0.80	1152	0.40	A	
P6 W. 34th St. & 8th Ave. (SE corner)	6.7	5.7	36	217	0.80	684	0.37	A	
P7 W. 34th St. & 8th Ave. (NW corner)	8.8	7.8	229	37	0.80	936	0.28	A	
P8 W. 34th St. & 8th Ave. (NE corner)	5.5	4.5	69	268	0.80	540	0.62	B	
M3 Mezzanine Level	9.2	7.2	277	577	0.80	864	0.99	C	
M4 Mezzanine Level	9.2	7.2	277	577	0.80	864	0.99	C	
34 Street-Penn Station (1/2/3)									
S3 W. 34th St. & 7th Ave. (SW corner)	5.8	4.8	43	106	0.80	576	0.26	A	
S4 W. 34th St. & 7th Ave. (SE corner)	10.1	8.1	152	388	0.80	972	0.56	B	
S5 W. 34th St. & 7th Ave. (NW corner)	5.6	4.6	125	427	0.80	552	1.00	C	
S6 W. 34th St. & 7th Ave. (NE corner)	5.1	4.1	64	217	0.80	492	0.57	B	
P5 W. 34th St. & 7th Ave. (SW corner)	12.1	10.1	43	106	0.80	1212	0.12	A	
P6 W. 34th St. & 7th Ave. (SE corner)	12.5	10.5	152	388	0.80	1260	0.43	A	
P7 W. 34th St. & 7th Ave. (NW corner)	12.2	10.2	125	427	0.80	1224	0.45	A	
P8 W. 34th St. & 7th Ave. (NE corner)	12.3	10.3	64	217	0.80	1236	0.23	A	
Note: Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001) in accordance with the <i>CEQR Technical Manual</i> .									

Table 14-15
2010 No Build Conditions
AM Peak Period – Level of Service for Subway Control Areas

Control Area	Station Element	Quantity	Volume		Peak 15-Minute		
			In	Out	SVCD Capacity	V/SVDC Ratio	LOS
34 Street-Penn Station (A/C/E)							
N67	Two-Way Turnstiles I	4	283	327	1920	0.32	B
	Two-Way Turnstiles II	9	618	1,193	4320	0.42	C
	HEET	2	32	112	600	0.24	B
	Service Gate	1	9	44	750	0.07	A
N70	Two-Way Turnstiles	5	87	261	2400	0.15	A
	Service Gate	1	3	0	750	0.00	A
N71	Two-Way Turnstiles	5	96	466	2400	0.23	B
	Service Gate	1	5	531	750	0.71	D
N72	Two-Way Turnstiles I	7	775	427	3360	0.36	B
	Two-Way Turnstiles II	4	146	625	1920	0.40	C
	Service Gate	1	22	49	750	0.09	A
N73	Two-Way Turnstiles	9	264	690	4320	0.22	B
	Service Gate	1	75	215	750	0.39	B
34 Street-Penn Station (1/2/3)							
R141	Two-Way Turnstiles	7	39	199	3360	0.07	A
	Service Gate	1	2	88	750	0.12	A
R142	Two-Way Turnstiles	4	78	572	1920	0.34	B
	HEET	2	2	89	600	0.15	A
	Service Gate	1	0	3	750	0.00	A

Table 14-16
2010 No Build Conditions
PM Peak Period – Level of Service for Subway Control Areas

Control Area	Station Element	Quantity	Volume		Peak 15-Minute		
			In	Out	SVCD Capacity	V/SVDC Ratio	LOS
34 Street-Penn Station (A/C/E)							
N67	Two-Way Turnstiles I	4	187	187	1920	0.19	A
	Two-Way Turnstiles II	9	568	528	4320	0.25	B
	HEET	2	63	21	600	0.14	A
	Service Gate	1	25	3	750	0.04	A
N70	Two-Way Turnstiles	5	472	118	2400	0.25	B
	Service Gate	1	4	11	750	0.02	A
N71	Two-Way Turnstiles	5	562	128	2400	0.29	B
	Service Gate	1	0	44	750	0.06	A
N72	Two-Way Turnstiles I	7	525	507	3360	0.31	B
	Two-Way Turnstiles II	4	364	277	1920	0.33	B
	Service Gate	1	44	244	750	0.38	B
N73	Two-Way Turnstiles	9	410	285	4320	0.16	A
	Service Gate	1	58	512	750	0.76	D
34 Street-Penn Station (1/2/3)							
R141	Two-Way Turnstiles	7	602	176	3360	0.23	B
	Service Gate	1	18	14	750	0.04	A
R142	Two-Way Turnstiles	4	559	111	1920	0.35	B
	HEET	2	14	22	600	0.06	A
	Service Gate	1	3	5	750	0.01	A

Table 14-17
2010 No Build Conditions
AM, Midday Peak Periods – Level of Service for Sidewalks

Location	Sidewalk	Effective Width (feet)	AM				Midday					
			15-Minute Two-Way Volume	Average		Platoon		15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS		PFM	LOS	PFM	LOS
Eighth Avenue between 35th and 34th Streets	West	7.58	230	2	A	6	B	658	6	B	10-	C
	East	10.17	457	3	A	7-	B	232	2	A	6	B
34th Street between Eighth and Seventh Avenue	North	10.17	1028	7+	C	11	D	541	4	A	8	C
	South	7.08	1032	10+	D	14	D	487	5+	B	9	C
Eighth Avenue between 34th and 33rd Streets	East	18.50	427	2	A	6	B	353	1	A	5+	B
	West	8.00	770	6	B	10+	D	1271	11	D	15-	D
34th Street between Ninth and Eighth Avenue	South	11.92	289	2	A	6	B	235	1	A	5+	B
	North	16.00	420	2	A	6	B	342	1	A	5+	B
Ninth Avenue between 34th and 33rd Streets	West	11.00	186	1	A	5+	B	280	2	A	6	B
	East	10.00	123	1	A	5-	A	774	5+	B	9	C
33rd Street between Ninth and Eighth Avenues	North	4.00	294	5+	B	9	C	264	4	A	8	C
	South	10.00	687	5+	B	9	C	1587	11	D	15-	D
Ninth Avenue between 33rd and 31st Street	East	10.00	206	1	A	5+	B	1075	7+	C	11	D
	West	11.00	101	1	A	5-	A	267	2	A	6	B
33rd Street between Tenth and Ninth Avenues	South	10.50	695	4	A	8	C	533	3	A	7+	C
	North	4.00	183	3	A	7+	C	283	5+	B	9	C
33rd Street between Eighth and Seventh Avenues	North	10.00	478	3	A	7+	C	428	3	A	7-	B
	South	8.00	528	4	A	8	C	1023	9	C	13	D
Eighth Avenue between 33rd Street and Mid-block crosswalk	East	20.00	575	2	A	6	B	540	2	A	6	B
	West	10.50	217	1	A	5+	B	439	3	A	7-	B
Seventh Avenue between 34th and 33rd Streets	West	15.50	1225	5+	B	9	C	740	3	A	7+	C
	East	15.00	662	3	A	7-	B	727	3	A	7+	C
33rd Street between Seventh and Sixth Avenues	North	7.00	475	5+	B	9	C	479	5+	B	9	C
	South	7.50	539	5+	B	9	C	682	6	B	10+	D
Seventh Avenue between 33rd and 32nd Street	East	14.50	593	3	A	7-	B	585	3	A	7-	B
	West	20.50	1454	5+	B	9	C	712	2	A	6	B
32nd Street between Seventh and Sixth Avenues	North	7.50	1363	12	D	16	E	568	5+	B	9	C
	South	8.50	783	6	B	10+	D	579	5+	B	9	C
31st Street between Ninth and Eighth Avenues	North	7.00	341	3	A	7+	C	1414	13	D	17	E
	South	7.00	214	2	A	6	B	99	1	A	5-	A
Ninth Avenue between 31st and 30th Street	East	9.50	239	2	A	6	B	827	6	B	10-	C
	West	10.50	59	0	A	4	A	364	2	A	6	B
31st Street between Tenth and Ninth Avenues	South	10.50	89	1	A	5-	A	165	1	A	5+	B
	North	10.00	160	1	A	5+	B	257	2	A	6	B
Eighth Avenue between mid-block crosswalk and 31st Streets	West	10.50	207	1	A	5+	B	264	2	A	6	B
	East	16.50	557	2	A	6	B	256	1	A	5+	B
31st Street between Eighth and Seventh Avenues	North	24.00	922	3	A	7-	B	741	2	A	6	B
	South	10.50	38	0	A	4	A	101	1	A	5-	A
Eighth Avenue between 31st and 30th Street	East	10.50	605	4	A	8	C	325	2	A	6	B
	West	9.00	146	1	A	5+	B	560	4	A	8	C
Seventh Avenue between 32nd and 31st Streets	West	18.00	1135	4	A	8	C	933	3	A	7+	C
	East	22.50	726	2	A	6	B	730	2	A	6	B
31st Street between Seventh and Sixth Avenues	North	7.50	574	5+	B	9	C	538	5+	B	9	C
	South	13.00	285	1	A	5+	B	284	1	A	5+	B
Seventh Avenue between 31st and 30th Street	East	15.00	444	2	A	6	B	327	1	A	5+	B
	West	11.50	1072	6	B	10+	D	569	3	A	7+	C

Note:
 "+" or "-" symbols indicate if a rounded value shown is above or below a service level threshold.
 PFM = pedestrians per foot per minute

Farley Post Office/Moynihan Station Redevelopment Project

**Table 14-17 (Continued)
2010 No Build Conditions**

PM, Saturday midday Peak Periods – Level of Service for Sidewalks

Location	Sidewalk	Effective Width (feet)	PM				Saturday midday					
			15-Minute Two-Way Volume	Average		Platoon		15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS		PFM	LOS	PFM	LOS
Eighth Avenue between 35th and 34th Streets	West	7.58	449	4	A	8	C	1032	9	C	13	D
	East	10.17	443	3	A	7-	B	1244	8	C	12	D
34th Street between Eighth and Seventh Avenue	North	10.17	582	4	A	8	C	1271	8	C	12	D
	South	7.08	1126	11	D	15-	D	714	7+	C	11	D
Eighth Avenue between 34th and 33rd Streets	East	18.50	486	2	A	6	B	659	2	A	6	B
	West	8.00	1007	8	C	12	D	1080	9	C	13	D
34th Street between Ninth and Eighth Avenue	South	11.92	365	2	A	6	B	468	3	A	7-	B
	North	16.00	552	2	A	6	B	411	2	A	6	B
Ninth Avenue between 34th and 33rd Streets	West	11.00	180	1	A	5+	B	80	0	A	4	A
	East	10.00	372	2	A	6	B	796	5+	B	9	C
33rd Street between Ninth and Eighth Avenues	North	4.00	93	2	A	6	B	256	4	A	8	C
	South	10.00	789	5+	B	9	C	1299	9	C	13	D
Ninth Avenue between 33rd and 31st Street	East	10.00	434	3	A	7-	B	1457	10+	D	14	D
	West	11.00	65	0	A	4	A	47	0	A	4	A
33rd Street between Tenth and Ninth Avenues	South	10.50	353	2	A	6	B	226	1	A	5+	B
	North	4.00	170	3	A	7-	B	38	1	A	5-	A
33rd Street between Eighth and Seventh Avenues	North	10.00	418	3	A	7-	B	655	4	A	8	C
	South	8.00	798	7+	C	11	D	832	7+	C	11	D
Eighth Avenue between 33rd Street and Mid-block crosswalk	East	20.00	658	2	A	6	B	218	1	A	5-	A
	West	10.50	305	2	A	6	B	384	2	A	6	B
Seventh Avenue between 34th and 33rd Streets	West	15.50	880	4	A	8	C	910	4	A	8	C
	East	15.00	678	3	A	7+	C	1311	6	B	10-	C
33rd Street between Seventh and Sixth Avenues	North	7.00	614	6	B	10-	C	606	6	B	10-	C
	South	7.50	617	5+	B	9	C	639	6	B	10-	C
Seventh Avenue between 33rd and 32nd Street	East	14.50	529	2	A	6	B	694	3	A	7+	C
	West	20.50	904	3	A	7-	B	1751	6	B	10-	C
32nd Street between Seventh and Sixth Avenues	North	7.50	1205	11	D	15-	D	363	3	A	7+	C
	South	8.50	826	6	B	10+	D	265	2	A	6	B
31st Street between Ninth and Eighth Avenues	North	7.00	616	6	B	10-	C	1111	11	D	15-	D
	South	7.00	121	1	A	5+	B	149	1	A	5+	B
Ninth Avenue between 31st and 30th Street	East	9.50	371	3	A	7-	B	611	4	A	8	C
	West	10.50	100	1	A	5-	A	56	0	A	4	A
31st Street between Tenth and Ninth Avenues	South	10.50	78	0	A	4	A	22	0	A	4	A
	North	10.00	137	1	A	5-	A	168	1	A	5+	B
Eighth Avenue between mid-block crosswalk and 31st Streets	West	10.50	311	2	A	6	B	444	3	A	7-	B
	East	16.50	504	2	A	6	B	215	1	A	5-	A
31st Street between Eighth and Seventh Avenues	North	24.00	599	2	A	6	B	972	3	A	7-	B
	South	10.50	61	0	A	4	A	120	1	A	5-	A
Eighth Avenue between 31st and 30th Street	East	10.50	362	2	A	6	B	345	2	A	6	B
	West	9.00	275	2	A	6	B	739	5+	B	9	C
Seventh Avenue between 32nd and 31st Streets	West	18.00	984	4	A	8	C	1334	5+	B	9	C
	East	22.50	698	2	A	6	B	506	1	A	5+	B
31st Street between Seventh and Sixth Avenues	North	7.50	777	7+	C	11	D	657	6	B	10-	C
	South	13.00	571	3	A	7-	B	118	1	A	5-	A
Seventh Avenue between 31st and 30th Street	East	15.00	639	3	A	7-	B	359	2	A	6	B
	West	11.50	683	4	A	8	C	799	5+	B	9	C

Note:
 "+" or "-" symbols indicate if a rounded value shown is above or below a service level threshold.
 PFM = pedestrians per foot per minute

Table 14-18
2010 No Build Conditions
AM, Midday, PM, Saturday midday Peak Periods – Level of Service for Corners

Location	Corner	AM Peak Period		MIDDAY Peak Period		PM Peak Period		SATURDAY Peak Period	
		SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS
Eighth Avenue at 34th Street	Northeast	58	B	50	B	37	C	56	B
	Southeast	100	A	89	A	74	A	99	A
	Southwest	83	A	39	C	45	B	44	B
	Northwest	81	A	32	C	36	C	52	B
Ninth Avenue at 33rd Street	Northeast	51	B	18	D	36	C	43	B
	Southeast	32	C	13	E	24	C	29	C
	Southwest	26	C	14	E	19	D	69	A
	Northwest	58	B	42	B	55	B	544	A
Eighth Avenue at 33rd Street	Northeast	51	B	39	C	32	C	38	C
	Southeast	34	C	25	C	24	C	30	C
	Southwest	9	E	6	F	7	F	13	E
	Northwest	16	D	11	E	12	E	18	D
Seventh Avenue at 33rd Street	Northeast	28	C	25	C	20	D	19	D
	Southeast	93	A	86	A	93	A	64	A
	Southwest	81	A	101	A	98	A	77	A
	Northwest	33	C	47	B	38	C	42	B
Seventh Avenue at 32nd Street	Northeast	28	C	57	B	32	C	63	A
	Southeast	44	B	60	A	38	C	59	B
Ninth Avenue at 31st Street	Northeast	109	A	21	D	70	A	41	B
	Southeast	79	A	24	C	76	A	45	B
	Southwest	127	A	53	B	125	A	409	A
	Northwest	121	A	41	B	79	A	122	A
Eighth Avenue at 31st Street	Northeast	92	A	110	A	132	A	102	A
	Southeast	28	C	54	B	49	B	41	B
	Southwest	111	A	35	C	71	A	30	C
	Northwest	62	A	23	D	49	B	21	D
Seventh Avenue at 31st Street	Northeast	56	B	47	B	43	B	47	B
	Southeast	80	A	74	A	47	B	100	A
	Southwest	34	C	65	A	25	C	50	B
	Northwest	105	A	140	A	88	A	80	A

Note: SFP = square feet per pedestrian

- The east crosswalk at West 33rd Street and Eighth Avenue will operate at LOS E (12 SFP), LOS E (9 SFP), and LOS E (11 SFP) in the midday, PM, and Saturday midday peak periods, respectively;
- The west crosswalk at West 33rd Street and Eighth Avenue will operate at LOS F (7 SFP), LOS F (5 SFP), LOS F (6 SFP), and LOS F (7 SFP) in the AM, midday, PM, and Saturday peak periods, respectively;
- The east crosswalk at West 33rd Street and Seventh Avenue will operate at LOS E (11 SFP) in the Saturday midday peak period;
- The south crosswalk at West 33rd Street and Seventh Avenue will operate at LOS E (14 SFP), LOS E (13 SFP), and LOS E (13 SFP) in the AM, midday, and Saturday midday peak periods, respectively;
- The west crosswalk at West 33rd Street and Seventh Avenue will operate at LOS E (10 SFP), LOS E (13 SFP), and LOS E (14 SFP) in the AM, PM, and Saturday midday peak periods, respectively;

Table 14-19
2010 No Build Conditions
AM, Midday Peak Periods – Level of Service for Crosswalks

Location	Crosswalk	Width (feet)	AM Peak Period						Midday Peak Period					
			Without Vehicles		With Vehicles		Maximum Surge		Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP
Eighth Avenue at 34 th Street	North	21	74	A	63	A	44	B	41	B	36	C	25	C
	East	15.5	39	C	35	C	18	D	45	B	40	B	21	D
	South	21.5	109	A	109	A	56	B	79	A	79	A	41	B
	West	15.5	78	A	71	A	35	C	28	C	25	C	13	E
Ninth Avenue at 33rd Street	North	13	69	A	69	A	42	B	58	B	58	B	35	C
	East	15	164	A	164	A	46	B	35	C	35	C	10	E
	South	15	40	B	36	C	25	C	32	C	28	C	20	D
	West	22	212	A	190	A	58	B	136	A	128	A	37	C
Eighth Avenue at 33rd Street	North	14.5	58	B	56	B	30	C	51	B	49	B	26	C
	East	17.7	50	B	50	B	15	D	42	B	42	B	12	E
	South	17	43	B	43	B	22	D	32	C	32	C	17	D
	West	14	21	D	17	D	7	F	17	D	14	E	5	F
Seventh Avenue at 33rd Street	North	19.5	30	C	30	C	20	D	29	C	29	C	19	D
	East	17	76	A	76	A	22	D	74	A	74	A	22	D
	South	16	19	D	18	D	14	E	18	D	17	D	13	E
	West	18.5	37	C	33	C	10	E	59	B	53	B	16	D
Eighth Avenue at Mid-block crosswalk	Mid-block	20	130	A	130	A	67	A	116	A	116	A	60	A
Seventh Avenue at 32nd Street	North	18.5	18	D	18	D	14	E	48	B	48	B	38	C
	East	17	172	A	133	A	50	B	134	A	107	A	39	C
	South	19	21	D	21	D	17	D	32	C	32	C	25	C
Ninth Avenue at 31st Street	North	16.5	147	A	147	A	70	A	51	B	51	B	24	C
	East	13	200	A	200	A	76	A	34	C	34	C	13	E
	South	13	119	A	107	A	73	A	77	A	68	A	47	B
	West	14.5	384	A	357	A	155	A	141	A	136	A	57	B
Eighth Avenue at 31st Street	North	16.5	80	A	64	A	43	B	42	B	39	C	22	D
	East	14.5	33	C	33	C	13	E	75	A	75	A	29	C
	South	14.5	237	A	237	A	127	A	129	A	129	A	69	A
	West	11.5	129	A	105	A	55	B	37	C	31	C	15	D
Seventh Avenue at 31st Street	North	20	58	B	58	B	33	C	52	B	52	B	30	C
	East	15	71	A	71	A	21	D	57	B	57	B	17	D
	South	11.5	63	A	59	B	30	C	80	A	73	A	38	C
	West	17.5	42	B	31	C	12	E	85	A	75	A	25	C

Note: SFP = square feet per pedestrian

- The north crosswalk at West 32nd Street and Seventh Avenue will operate at LOS E (14 SFP) in the AM peak period;
- The east crosswalk at West 31st Street and Ninth Avenue will operate at LOS E (13 SFP) in the midday peak period;
- The east crosswalk at West 31st Street and Eighth Avenue will operate at LOS E (13 SFP) in the AM peak period;
- The west crosswalk at West 31st Street and Eighth Avenue will operate at LOS E (12 SFP) in the Saturday midday peak period; and
- The west crosswalk at West 31st Street and Seventh Avenue will operate at LOS E (12 SFP), LOS E (11 SFP), and LOS E (14 SFP) in the AM, PM, and Saturday midday peak periods, respectively.

Table 14-19 (Continued)
2010 No Build Conditions
PM, Saturday midday Peak Periods – Level of Service for Crosswalks

Location	Crosswalk	Width (feet)	PM Peak Period						Saturday Peak Period					
			Without Vehicles		With Vehicles		Maximum Surge		Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP
Eighth Avenue at 34 th Street	North	21	36	C	31	C	22	D	108	A	95	A	57	B
	East	15.5	32	C	28	C	15	D	50	B	46	B	21	D
	South	21.5	80	A	80	A	41	B	95	A	95	A	50	B
	West	15.5	39	C	36	C	18	D	36	C	34	C	15	D
Ninth Avenue at 33rd Street	North	13	89	A	89	A	54	B	798	A	798	A	487	A
	East	15	88	A	88	A	25	C	51	B	51	B	14	E
	South	15	40	B	36	C	25	C	79	A	74	A	49	B
	West	22	286	A	264	A	79	A	1650	A	1562	A	454	A
Eighth Avenue at 33rd Street	North	14.5	38	C	36	C	19	D	113	A	110	A	57	B
	East	17.7	32	C	32	C	9	E	37	C	37	C	11	E
	South	17	42	B	42	B	21	D	49	B	49	B	25	C
	West	14	20	D	15	D	6	F	21	D	18	D	7	F
Seventh Avenue at 33rd Street	North	19.5	23	D	23	D	15	D	30	C	30	C	20	D
	East	17	73	A	73	A	22	D	37	C	37	C	11	E
	South	16	20	D	18	D	15	D	18	D	17	D	13	E
	West	18.5	49	B	43	B	13	E	50	B	43	B	14	E
Eighth Avenue at Mid-block crosswalk	Mid-block	20	76	A	76	A	40	B	421	A	421	A	218	A
Seventh Avenue at 32nd Street	North	18.5	20	D	20	D	16	D	43	B	43	B	34	C
	East	17	114	A	104	A	33	C	129	A	115	A	38	C
	South	19	19	D	19	D	15	D	29	C	29	C	23	D
Ninth Avenue at 31st Street	North	16.5	135	A	135	A	64	A	121	A	121	A	58	B
	East	13	163	A	163	A	62	A	47	B	47	B	18	D
	South	13	195	A	166	A	120	A	924	A	843	A	567	A
	West	14.5	435	A	406	A	176	A	553	A	519	A	223	A
Eighth Avenue at 31st Street	North	16.5	73	A	65	A	39	C	44	B	41	B	23	D
	East	14.5	55	B	55	B	21	D	51	B	51	B	20	D
	South	14.5	181	A	181	A	97	A	147	A	147	A	79	A
	West	11.5	78	A	61	A	33	C	28	C	26	C	12	E
Seventh Avenue at 31st Street	North	20	47	B	47	B	27	C	44	B	44	B	25	C
	East	15	52	B	52	B	15	D	59	B	59	B	17	D
	South	11.5	33	C	31	C	16	D	155	A	145	A	74	A
	West	17.5	37	C	32	C	11	E	48	B	38	C	14	E

Note: SFP = square feet per pedestrian

PROBABLE IMPACTS OF THE PROPOSED PROJECT

PROJECT-GENERATED TRIP ASSIGNMENT

Transit and pedestrian volumes in the 2010 Build condition were estimated using peak 15-minute volumes derived from the trip generation shown in Table 14-1. As noted above, an adjustment was applied to the midday and Saturday walk-only trips to account for a linkage between the project’s retail components (Farley Complex and Development Transfer Site building) and existing uses in the study area. These volumes were then assigned to the subway and pedestrian analysis locations based on the following assumptions.

- Automobile and taxi person trips were assigned to the network based on the projected parking or drop-off location per the analysis presented in Chapter 13, “Traffic and Parking.”
- Subway person trips were assigned to three subway stations as follows: 10 percent to Herald Square, 45 percent to 34th Street-Penn Station (1/2/3), and 45 percent to 34th Street-Penn Station (A/C/E). The assignments to specific control areas, stairways, and intermediate

Farley Post Office/Moynihan Station Redevelopment Project

pedestrian elements was based on logical patterns of travel between to/from the subway station and proposed entrances to the Farley Complex and Development Transfer Site building. Linked trips between commuter rail and subways were assumed to remain below ground.

- Bus trips were assigned to local bus stops on Seventh, Eighth, and Ninth Avenues as well as West 34th Street.
- Walk-only trips were distributed as follows: 30 percent to/from the east; 30 percent to/from the north, 30 percent to/from the south, and 10 percent to/from the west.

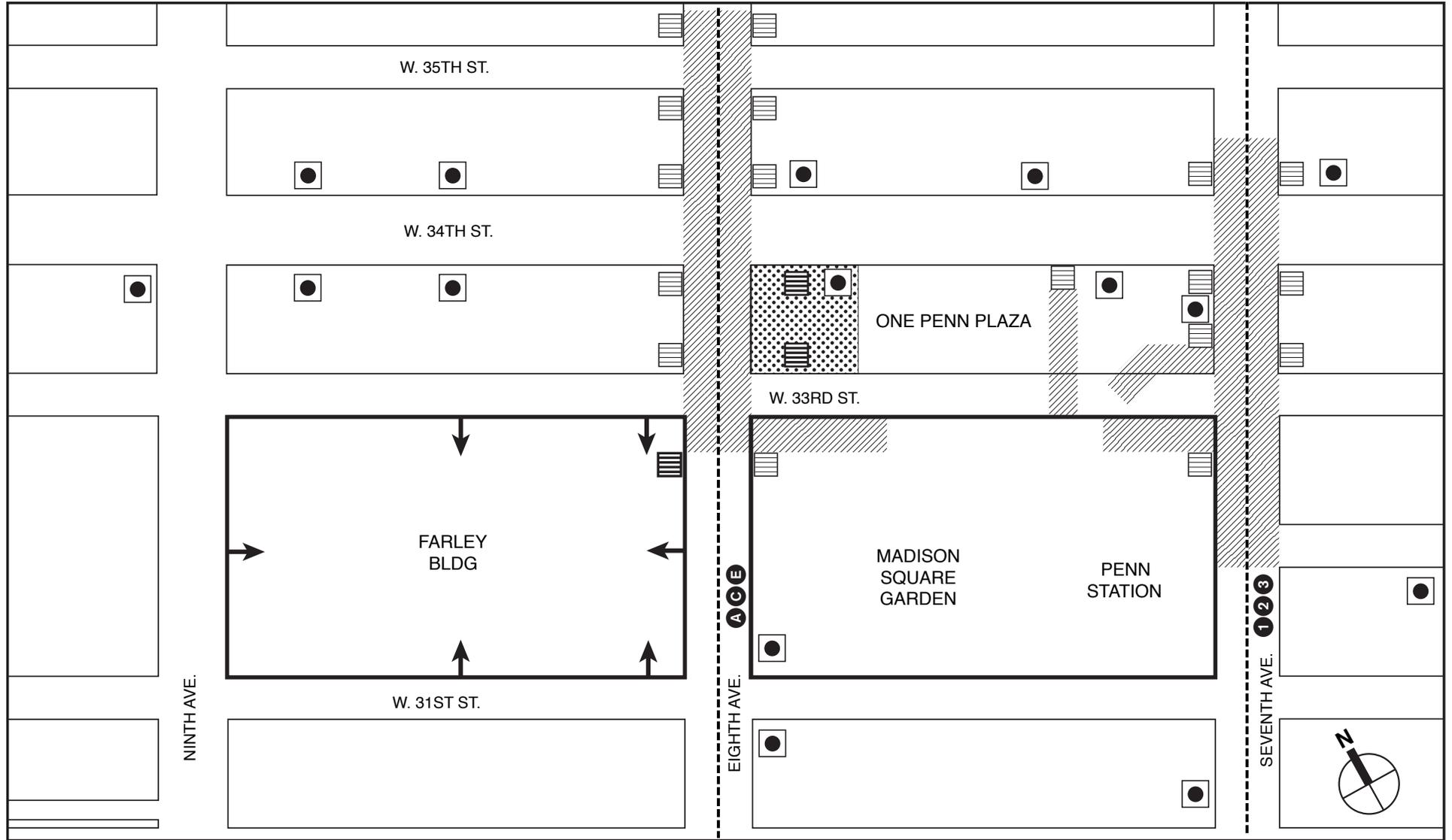
Figure 14-3 shows the proposed entrances to the Farley Complex and the Development Transfer Site building. For the Development Transfer Site building, it was assumed that hotel and residential trips would be distributed to both the West 34th Street and West 33rd Street entrances. Commercial retail trips were assigned to the proposed commercial entrances along Eighth Avenue. For the Farley Complex, retail trips were distributed to entrances on all facades of the building, while hotel and banquet facility trips were assigned to entrances near Eighth Avenue.

TRANSIT AND PEDESTRIAN IMPROVEMENTS

Transit and pedestrian improvements would be implemented as part of the proposed project, which have been included in the Build conditions analysis. These improvements are as follows:

- The existing S2, S3, and P2 stairways on the southwest corner of West 33rd Street and Eighth Avenue would be reconstructed further from the corner within the existing sidewalk area in front of the Farley Complex. The new S2 and S3 stairways would be 8 feet wide, and they would no longer obstruct the south sidewalk of West 33rd Street. The new P2 stairway would be 16 feet wide.
- The M3/M4 mezzanine stairway would be replaced with a combination of new stairs that would provide for a total of 16 feet of tread.
- The existing S5/P4 and S7/P6 stairways located on the east side of Eighth Avenue between West 33rd and West 34th Streets would be reconstructed within the footprint of the Development Transfer Site building. For analysis purposes, it was assumed that these stairways would have the same minimum width as they do today.
- The existing lay-by lane along the east side of Ninth Avenue between West 31st and West 33rd Streets would be removed, and the sidewalk would be widened to 15 feet.
- Sidewalks along the north and south facades of the Farley Complex would be rehabilitated to a minimum width of 13 feet. However, bollards would encircle the Farley Complex approximately every 5 feet as a security measure to protect the new station. These bollards would reduce the effective width of the sidewalk by approximately 2 feet.

The volumes and geometric changes in the 2010 Build condition were added to the 2010 No Build network to assess the future LOS with completion of the proposed project.



- Farley Complex Boundary
- Stairwell
- New Subway Stairwell
- Bus Stop
- Moynihan Station Pedestrian Access
- Subway Route
- Development Transfer Site

0 100 200 FEET
SCALE

ANALYSIS RESULTS

Subway Station Operations

Tables 14-20 and 14-21 present the analysis of subway stairways in the 2010 Build condition. As shown, the majority of stairways would operate at LOS C or better with *de minimus* changes in their v/c ratios as compared to the No Build condition. However, there would be three stairway locations that would operate at LOS D as described below.

Table 14-20
2010 Build Conditions
AM Peak Period – Level of Service for Subway Stairways

Stairways	Width (feet)	Effective Width (feet)	15-Minute Volume		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
34 Street-Penn Station (A/C/E)									
S1 W. 33rd St. & 8th Ave. (SE corner)	7.4	6.4	145	37	0.80	768	0.24	A	
S2 W. 33rd St. & 8th Ave. (SW corner)	8.0	7.0	366	68	0.80	840	0.52	B	
S3 W. 33rd St. & 8th Ave. (SW corner)	8.0	7.0	229	81	0.80	840	0.37	A	
S4 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	322	106	0.80	408	1.05	D	
S5 W. 33rd St. & 8th Ave. (NE corner)	4.0	3.0	35	116	0.80	360	0.42	A	
S6 W. 34th St. & 8th Ave. (SW corner)	5.7	4.7	335	26	0.80	564	0.64	B	
S7 W. 34th St. & 8th Ave. (SE corner)	7.0	6.0	157	51	0.80	720	0.29	A	
S8 W. 34th St. & 8th Ave. (NW corner)	5.8	4.8	664	69	0.80	576	1.27	D	
S9 W. 34th St. & 8th Ave. (NE corner)	11.5	10.5	106	43	0.80	1260	0.12	A	
P1 W. 33rd St. & 8th Ave. (SE corner)	7.4	5.4	145	37	0.80	648	0.28	A	
P2 W. 33rd St. & 8th Ave. (SW corner)	16.0	14.0	595	149	0.80	1680	0.44	A	
P3 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	322	106	0.80	408	1.05	D	
P4 W. 33rd St. & 8th Ave. (NE corner)	4.4	3.4	35	116	0.80	408	0.37	A	
P5 W. 34th St. & 8th Ave. (SW corner)	11.6	9.6	335	26	0.80	1152	0.31	A	
P6 W. 34th St. & 8th Ave. (SE corner)	6.7	5.7	157	51	0.80	684	0.30	A	
P7 W. 34th St. & 8th Ave. (NW corner)	8.8	7.8	664	69	0.80	936	0.78	C	
P8 W. 34th St. & 8th Ave. (NE corner)	5.5	4.5	106	43	0.80	540	0.28	A	
M3 Mezzanine Level	16.0	14.0	588	341	0.90	1890	0.49	B	
M4 Mezzanine Level	16.0	14.0	588	341	0.90	1890	0.49	B	
34 Street-Penn Station (1/2/3)									
S3 W. 34th St. & 7th Ave. (SW corner)	5.6	4.6	230	51	0.80	552	0.51	B	
S4 W. 34th St. & 7th Ave. (SE corner)	10.1	8.1	222	56	0.80	972	0.29	A	
S5 W. 34th St. & 7th Ave. (NW corner)	5.6	4.6	417	42	0.80	552	0.83	C	
S6 W. 34th St. & 7th Ave. (NE corner)	5.1	4.1	62	12	0.80	492	0.15	A	
P5 W. 34th St. & 7th Ave. (SW corner)	12.1	10.1	230	51	0.80	1212	0.23	A	
P6 W. 34th St. & 7th Ave. (SE corner)	12.5	10.5	222	56	0.80	1260	0.22	A	
P7 W. 34th St. & 7th Ave. (NW corner)	12.2	10.2	417	42	0.80	1224	0.38	A	
P8 W. 34th St. & 7th Ave. (NE corner)	12.3	10.3	62	12	0.80	1236	0.06	A	
Note: Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001) in accordance with the <i>CEQR Technical Manual</i> .									

**Table 14-21
2010 Build Conditions**

PM Peak Period – Level of Service for Subway Stairways

Stairways	Width (feet)	Effective Width (feet)	15-Minute Volume		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
34 Street-Penn Station (A/C/E)									
S1 W. 33rd St. & 8th Ave. (SE corner)	7.4	6.4	72	132	0.90	864	0.24	A	
S2 W. 33rd St. & 8th Ave. (SW corner)	8.0	7.0	79	106	0.90	945	0.20	A	
S3 W. 33rd St. & 8th Ave. (SW corner)	8.0	7.0	79	106	0.90	945	0.20	A	
S4 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	85	90	0.90	459	0.38	A	
S5 W. 33rd St. & 8th Ave. (NE corner)	4.0	3.0	144	23	0.80	360	0.46	B	
S6 W. 34th St. & 8th Ave. (SW corner)	5.7	4.7	400	67	0.80	564	0.83	C	
S7 W. 34th St. & 8th Ave. (SE corner)	7.0	6.0	39	220	0.80	720	0.36	A	
S8 W. 34th St. & 8th Ave. (NW corner)	5.8	4.8	229	37	0.80	576	0.46	B	
S9 W. 34th St. & 8th Ave. (NE corner)	11.5	10.5	69	268	0.80	1260	0.27	A	
P1 W. 33rd St. & 8th Ave. (SE corner)	7.4	5.4	72	132	0.90	729	0.28	A	
P2 W. 33rd St. & 8th Ave. (SW corner)	16.0	14.0	118	255	0.80	1680	0.22	A	
P3 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	85	90	0.90	459	0.38	A	
P4 W. 33rd St. & 8th Ave. (NE corner)	4.4	3.4	144	23	0.80	408	0.41	A	
P5 W. 34th St. & 8th Ave. (SW corner)	11.6	9.6	400	67	0.80	1152	0.41	A	
P6 W. 34th St. & 8th Ave. (SE corner)	6.7	5.7	39	220	0.80	684	0.38	A	
P7 W. 34th St. & 8th Ave. (NW corner)	8.8	7.8	229	37	0.80	936	0.28	A	
P8 W. 34th St. & 8th Ave. (NE corner)	5.5	4.5	69	268	0.80	540	0.62	B	
M3 Mezzanine Level	16.0	14.0	103	768	0.80	1680	0.52	B	
M4 Mezzanine Level	16.0	14.0	103	768	0.80	1680	0.52	B	
34 Street-Penn Station (1/2/3)									
S3 W. 34th St. & 7th Ave. (SW corner)	5.6	4.6	101	74	0.90	621	0.28	A	
S4 W. 34th St. & 7th Ave. (SE corner)	10.1	8.1	199	362	0.90	1094	0.51	B	
S5 W. 34th St. & 7th Ave. (NW corner)	5.6	4.6	125	427	0.80	552	1.00	C	
S6 W. 34th St. & 7th Ave. (NE corner)	5.1	4.1	64	217	0.80	492	0.57	B	
P5 W. 34th St. & 7th Ave. (SW corner)	12.1	10.1	101	74	0.90	1364	0.13	A	
P6 W. 34th St. & 7th Ave. (SE corner)	12.5	10.5	199	362	0.90	1418	0.40	A	
P7 W. 34th St. & 7th Ave. (NW corner)	12.2	10.2	125	427	0.80	1224	0.45	A	
P8 W. 34th St. & 7th Ave. (NE corner)	12.3	10.3	64	217	0.80	1236	0.23	A	
Note: Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001) in accordance with the <i>CEQR Technical Manual</i> .									

- The S4 street-level stairway on the northwest corner of West 33rd Street and Eighth Avenue would continue to operate at LOS D (1.05 V/SVCD) during the AM peak period.
- The S8 street-level stairway on the northwest corner of West 34th Street and Eighth Avenue would continue to operate at LOS D (1.27 V/SVCD) during the AM peak period.
- The P3 street-level stairway on the northwest corner of West 33rd Street and Eighth Avenue would continue to operate at LOS D (1.05 V/SVCD) during the AM peak period.

As described above, the proposed project would result in the reconstruction of the S2, S3, P2, M3, and M4 stairways on the southwest corner of Eighth Avenue and West 33rd Street. As a result, conditions would improve at this location as compared to the No Build condition. Furthermore, the analysis shows that the S5 and S7 stairways, which would be reconstructed within the building line of the proposed mixed-use building on the Development Transfer Site, would operate at LOS B or better in the 2010 Build condition.

Tables 14-22 and 14-23 present the analysis results for the subway control areas in the 2010 Build condition. As shown, the service gate at the N71 control area would continue to operate at LOS D (0.71 V/SVCD) during the AM peak period, and the service gate at the N73 control area would continue to operate at LOS D (0.76 V/SVCD) during the PM peak period. All of the other control area elements at the analysis locations would operate at LOS C or better.

Table 14-22
2010 Build Conditions
AM Peak Period – Level of Service for Subway Control Areas

Control Area	Station Element	Quantity	Volume		Peak 15-Minute		
			In	Out	SVCD Capacity	V/SVDC Ratio	LOS
34 Street-Penn Station (A/C/E)							
N67	Two-Way Turnstiles I	4	285	325	1920	0.32	B
	Two-Way Turnstiles II	9	623	1,192	4320	0.42	C
	HEET	2	33	111	600	0.24	B
	Service Gate	1	9	44	750	0.07	A
N70	Two-Way Turnstiles	5	88	262	2400	0.15	A
	Service Gate	1	3	0	750	0.00	A
N71	Two-Way Turnstiles	5	96	466	2400	0.23	B
	Service Gate	1	5	531	750	0.71	D
N72	Two-Way Turnstiles I	7	776	426	3360	0.36	B
	Two-Way Turnstiles II	4	148	625	1920	0.40	C
	Service Gate	1	22	49	750	0.09	A
N73	Two-Way Turnstiles	9	267	689	4320	0.22	B
	Service Gate	1	75	215	750	0.39	B
34 Street-Penn Station (1/2/3)							
R141	Two-Way Turnstiles	7	50	196	3360	0.07	A
	Service Gate	1	3	88	750	0.12	A
R142	Two-Way Turnstiles	4	88	569	1920	0.34	B
	HEET	2	6	88	600	0.16	A
	Service Gate	1	1	3	750	0.01	A

As described above, project-generated impacts on subway stairways are considered significant based on the minimum amount of additional capacity, which would mitigate the location to its No Build condition 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. For turnstiles, service gates, and escalators, an increase in volume that results in a v/c of greater than 1.00 may be considered significant, since a value of 1.00 represents the design capacity of the element.

**Table 14-23
2010 Build Conditions**

PM Peak Period – Level of Service for Subway Control Areas

Control Area	Station Element	Quantity	Volume		Peak 15-Minute		
			In	Out	SVCD Capacity	V/SVDC Ratio	LOS
34 Street-Penn Station (A/C/E)							
N67	Two-Way Turnstiles I	4	174	204	1920	0.20	A
	Two-Way Turnstiles II	9	551	554	4320	0.26	B
	HEET	2	59	26	600	0.14	A
	Service Gate	1	23	6	750	0.04	A
N70	Two-Way Turnstiles	5	475	121	2400	0.25	B
	Service Gate	1	4	11	750	0.02	A
N71	Two-Way Turnstiles	5	563	129	2400	0.29	B
	Service Gate	1	0	44	750	0.06	A
N72	Two-Way Turnstiles I	7	518	516	3360	0.31	B
	Two-Way Turnstiles II	4	358	288	1920	0.34	B
	Service Gate	1	43	245	750	0.38	B
N73	Two-Way Turnstiles	9	397	305	4320	0.16	A
	Service Gate	1	57	513	750	0.76	D
34 Street-Penn Station (1/2/3)							
R141	Two-Way Turnstiles	7	578	221	3360	0.24	B
	Service Gate	1	17	17	750	0.05	A
R142	Two-Way Turnstiles	4	536	151	1920	0.36	B
	HEET	2	6	37	600	0.07	A
	Service Gate	1	1	8	750	0.01	A

Based on these criteria, there would be no impacts on control area elements since all of the analysis locations would operate at LOS D (0.76 V/SVCD) or better in the 2010 Build condition; there would also be no subway stairway impacts at the 34th Street-Penn Station (1/2/3) station. However, three stairways at the 34th Street-Penn Station (A/C/E) station would operate at LOS D during the AM peak. Further analysis was prepared to determine if the operating condition of these stairways in the 2010 Build condition would be considered significant impacts compared to the 2010 No Build condition. The results are shown in Table 14-24.

**Table 14-24
2010 Build Conditions – Analysis of Subway Stairway Impacts**

Stairway	Width (ft.)	Effective Width (ft.)	No Build Volume	Build Increment	Build LOS	Required Widening (Inches)	Significant Impact
AM Peak Hour							
S4 (NW Corner of West 33rd Street and Eighth Avenue)	4.4	3.4	428	0	D	0.0	No
S8 (NW Corner of West 34th Street and Eighth Avenue)	5.8	4.8	733	0	D	0.0	No
P3 (NW Corner West 33rd Street and Eighth Avenue)	4.4	3.4	428	0	D	0.0	No

As shown in Table 14-24, the impacts on the S4, S8, and P3 stairways would not be considered significant since the required level of widening to achieve the No Build LOS would not meet the criteria described above.

Pedestrian Circulation

The proposed 2010 development program would generate substantial pedestrian volumes at several corners, crosswalks, and sidewalks within the study area. However, as shown in Tables 14-25 through 14-27, many locations would continue to operate at LOS D or better in the 2010 Build condition. However, there would be locations that would either degrade from LOS A, B, C, or D in the No Build condition to LOS E or F in the Build condition, and other locations would operate at poorer LOS E or LOS F with the addition of project-generated trips. These locations are described below.

- The northeast corner at West 33rd Street and Ninth Avenue would decrease from a No Build LOS D (18 SFP) to a Build LOS E (14 SFP) in the midday peak period;
- The northwest corner at West 33rd Street and Eighth Avenue would decrease from a No Build LOS D (16 SFP), LOS E (11 SFP), LOS E (12 SFP), and LOS D (18 SFP) to a Build LOS E (14 SFP), LOS E (10 SFP), LOS E (8 SFP), and LOS F (5 SFP) in the AM, midday, PM, and Saturday midday peak periods, respectively;
- The east crosswalk at West 34th Street and Eighth Avenue, would decrease from a No Build LOS D (21 SFP), LOS D (15 SFP), and LOS D (21 SFP) to a Build LOS E (14 SFP), LOS E (13 SFP), and LOS E (12 SFP) in the midday, PM, and Saturday midday peak periods, respectively;
- The west crosswalk at West 34th Street and Eighth Avenue would decrease from a No Build LOS D (18 SFP) to a Build LOS E (14 SFP) in the PM peak period;
- The east crosswalk at West 33rd Street and Ninth Avenue would decrease from a No Build LOS E (10 SFP) and LOS E (14 SFP) to a Build LOS E (9 SFP) and LOS E (10 SFP) in the midday and Saturday midday peak periods, respectively;
- The east crosswalk at West 33rd Street and Eighth Avenue would decrease from a No Build LOS D (15 SFP), LOS E (12 SFP), LOS E (9 SFP), and LOS E (11 SFP) to a Build LOS E (12 SFP), LOS E (8 SFP), LOS F (7 SFP), and LOS E (9 SFP) in the AM, midday, PM, and Saturday midday peak periods, respectively;
- The south crosswalk at West 33rd Street and Eighth Avenue would decrease from a No Build LOS D (17 SFP) to a Build LOS E (13 SFP) in the midday peak period;
- The west crosswalk at West 33rd Street and Eighth Avenue would decrease from a No Build LOS F (7 SFP), LOS F (6 SFP), and LOS F (7 SFP) to a Build LOS F (6 SFP), LOS F (5 SFP), and LOS F (4 SFP) in the AM, PM, and Saturday midday peak periods, respectively;
- The north crosswalk at West 33rd Street and Seventh Avenue would decrease from a No Build LOS D (15 SFP) to a Build LOS E (13 SFP) in the PM peak period;

Table 14-25
2010 Build Conditions
AM, Midday Peak Periods – Level of Service for Sidewalks

Location	Sidewalk	Effective Width (feet)	AM				Midday					
			15-Minute Two-Way Volume	Average		Platoon		15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS		PFM	LOS	PFM	LOS
Eighth Avenue between 35th and 34th Streets	West	7.58	279	2	A	6	B	512	5+	B	9	C
	East	10.17	488	3	A	7+	C	437	3	A	7-	B
34th Street between Eighth and Seventh Avenue	North	10.17	1038	7+	C	11	D	585	4	A	8	C
	South	7.08	1143	11	D	15-	D	701	7+	C	11	D
Eighth Avenue between 34th and 33rd Streets	East	18.50	584	2	A	6	B	1073	4	A	8	C
	West	8.00	821	7+	C	11	D	1193	10+	D	14	D
34th Street between Ninth and Eighth Avenue	South	11.92	325	2	A	6	B	332	2	A	6	B
	North	16.00	418	2	A	6	B	379	2	A	6	B
Ninth Avenue between 34th and 33rd Streets	West	11.00	189	1	A	5+	B	412	2	A	6	B
	East	10.00	189	1	A	5+	B	710	5+	B	9	C
33rd Street between Ninth and Eighth Avenues	North	4.00	327	5+	B	9	C	377	6	B	10+	D
	South	11.00	824	5-	A	9	C	1728	10	D	14	D
Ninth Avenue between 33rd and 31st Street	East	13.00	612	3	B	7+	C	931	5-	A	9	C
	West	11.00	101	1	A	5-	A	267	2	A	6	B
33rd Street between Tenth and Ninth Avenues	South	10.50	714	5+	B	9	C	540	3	A	7+	C
	North	4.00	193	3	A	7+	C	307	5+	B	9	C
33rd Street between Eighth and Seventh Avenues	North	10.00	616	4	A	8	C	637	4	A	8	C
	South	8.00	543	5+	B	9	C	1111	9	C	13	D
Eighth Avenue between 33rd Street and Mid-block crosswalk	East	20.00	195	1	A	5-	A	626	2	A	6	B
	West	10.50	541	3	A	7+	C	787	5+	B	9	C
Seventh Avenue between 34th and 33rd Streets	West	15.50	1214	5+	B	9	C	782	3	A	7+	C
	East	15.00	654	3	A	7-	B	755	3	A	7+	C
33rd Street between Seventh and Sixth Avenues	North	7.00	516	5+	B	9	C	531	5+	B	9	C
	South	7.50	580	5+	B	9	C	715	6	B	10+	D
Seventh Avenue between 33rd and 32nd Street	East	14.50	593	3	A	7-	B	585	3	A	7-	B
	West	20.50	1454	5+	B	9	C	712	2	A	6	B
32nd Street between Seventh and Sixth Avenues	North	7.50	1363	12	D	16	E	568	5+	B	9	C
	South	8.50	783	6	B	10+	D	579	5+	B	9	C
31st Street between Ninth and Eighth Avenues	North	11.00	352	2	A	6	B	1211	7+	C	11	D
	South	7.00	214	2	A	6	B	99	1	A	5-	A
Ninth Avenue between 31st and 30th Street	East	9.50	318	2	A	6	B	762	5+	B	9	C
	West	10.50	59	0	A	4	A	486	3	A	7+	C
31st Street between Tenth and Ninth Avenues	South	10.50	89	1	A	5-	A	165	1	A	5+	B
	North	10.00	184	1	A	5+	B	287	2	A	6	B
Eighth Avenue between mid-block crosswalk and 31st Streets	West	10.50	1008	6	B	10+	D	684	4	A	8	C
	East	16.50	245	1	A	5-	A	331	1	A	5+	B
31st Street between Eighth and Seventh Avenues	North	24.00	930	3	A	7-	B	689	2	A	6	B
	South	10.50	34	0	A	4	A	250	2	A	6	B
Eighth Avenue between 31st and 30th Street	East	10.50	614	4	A	8	C	539	3	A	7+	C
	West	9.00	195	1	A	5+	B	396	3	A	7-	B
Seventh Avenue between 32nd and 31st Streets	West	18.00	1116	4	A	8	C	911	3	A	7+	C
	East	22.50	726	2	A	6	B	730	2	A	6	B
31st Street between Seventh and Sixth Avenues	North	7.50	651	6	B	10-	C	464	4	A	8	C
	South	13.00	285	1	A	5+	B	406	2	A	6	B
Seventh Avenue between 31st and 30th Street	East	15.00	444	2	A	6	B	327	1	A	5+	B
	West	11.50	1072	6	B	10+	D	569	3	A	7+	C

Note:
 "+" or "-" symbols indicate if a rounded value shown is above or below a service level threshold.
 PFM = pedestrians per foot per minute.

Table 14-25 (Continued)
2010 Build Conditions
PM, Saturday midday Peak Periods – Level of Service for Sidewalks

Location	Sidewalk	Effective Width (feet)	PM				Saturday midday					
			15-Minute Two-Way Volume	Average		Platoon		15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS		PFM	LOS	PFM	LOS
Eighth Avenue between 35th and 34th Streets	West	7.58	589	5+	B	9	C	840	7+	C	11	D
	East	10.17	518	3	A	7+	C	1604	11	D	15-	D
34th Street between Eighth and Seventh Avenue	North	10.17	613	4	A	8	C	1345	9	C	13	D
	South	7.08	1307	12	D	16	E	1059	10+	D	14	D
Eighth Avenue between 34th and 33rd Streets	East	18.50	969	3	A	7+	C	1967	7+	C	11	D
	West	8.00	1171	10+	D	14	D	1015	8	C	12	D
34th Street between Ninth and Eighth Avenue	South	11.92	454	3	A	7-	B	629	4	A	8	C
	North	16.00	568	2	A	6	B	477	2	A	6	B
Ninth Avenue between 34th and 33rd Streets	West	11.00	185	1	A	5+	B	320	2	A	6	B
	East	10.00	541	4	A	8	C	756	5+	B	9	C
33rd Street between Ninth and Eighth Avenues	North	4.00	171	3	A	7-	B	436	7+	C	11	D
	South	11.00	1216	7+	C	11	D	1490	9	C	13	D
Ninth Avenue between 33rd and 31st Street	East	13.00	1001	5+	B	9	C	1319	7	B	11	D
	West	11.00	65	0	A	4	A	47	0	A	4	A
33rd Street between Tenth and Ninth Avenues	South	10.50	412	3	A	7-	B	261	2	A	6	B
	North	4.00	194	3	A	7+	C	78	1	A	5+	B
33rd Street between Eighth and Seventh Avenues	North	10.00	661	4	A	8	C	938	6	B	10+	D
	South	8.00	879	7+	C	11	D	1019	8	C	12	D
Eighth Avenue between 33rd Street and Mid-block crosswalk	East	20.00	504	2	A	6	B	408	1	A	5+	B
	West	10.50	537	3	A	7+	C	996	6	B	10+	D
Seventh Avenue between 34th and 33rd Streets	West	15.50	868	4	A	8	C	966	4	A	8	C
	East	15.00	667	3	A	7-	B	1344	6	B	10-	C
33rd Street between Seventh and Sixth Avenues	North	7.00	721	7+	C	11	D	695	7+	C	11	D
	South	7.50	733	7+	C	11	D	759	7+	C	11	D
Seventh Avenue between 33rd and 32nd Street	East	14.50	529	2	A	6	B	694	3	A	7+	C
	West	20.50	904	3	A	7-	B	1751	6	B	10-	C
32nd Street between Seventh and Sixth Avenues	North	7.50	1205	11	D	15-	D	363	3	A	7+	C
	South	8.50	826	6	B	10+	D	265	2	A	6	B
31st Street between Ninth and Eighth Avenues	North	11.00	867	5+	B	9	C	857	5+	B	9	C
	South	7.00	121	1	A	5+	B	149	1	A	5+	B
Ninth Avenue between 31st and 30th Street	East	9.50	582	4	A	8	C	556	4	A	8	C
	West	10.50	100	1	A	5-	A	279	2	A	6	B
31st Street between Tenth and Ninth Avenues	South	10.50	78	0	A	4	A	22	0	A	4	A
	North	10.00	205	1	A	5+	B	219	1	A	5+	B
Eighth Avenue between mid-block crosswalk and 31st Streets	West	10.50	771	5+	B	9	C	1154	7+	C	11	D
	East	16.50	446	2	A	6	B	385	2	A	6	B
31st Street between Eighth and Seventh Avenues	North	24.00	953	3	A	7-	B	921	3	A	7-	B
	South	10.50	63	0	A	4	A	389	2	A	6	B
Eighth Avenue between 31st and 30th Street	East	10.50	429	3	A	7-	B	731	5+	B	9	C
	West	9.00	415	3	A	7+	C	514	4	A	8	C
Seventh Avenue between 32nd and 31st Streets	West	18.00	879	3	A	7+	C	1311	5+	B	9	C
	East	22.50	698	2	A	6	B	506	1	A	5+	B
31st Street between Seventh and Sixth Avenues	North	7.50	987	9	C	13	D	583	5+	B	9	C
	South	13.00	571	3	A	7-	B	342	2	A	6	B
Seventh Avenue between 31st and 30th Street	East	15.00	639	3	A	7-	B	359	2	A	6	B
	West	11.50	683	4	A	8	C	799	5+	B	9	C

Note:
 "+" or "-" symbols indicate if a rounded value shown is above or below a service level threshold.
 PFM = pedestrians per foot per minute.

**Table 14-26
2010 Build Conditions**

AM, Midday, PM, Saturday midday Peak Periods – Level of Service for Corners

Location	Corner	AM Peak Period		MIDDAY Peak Period		PM Peak Period		SATURDAY Peak Period	
		SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS
Eighth Avenue at 34th Street	Northeast	56	B	40	B	34	C	39	C
	Southeast	90	A	61	A	61	A	53	B
	Southwest	74	A	39	C	37	C	41	B
	Northwest	76	A	36	C	32	C	62	A
Ninth Avenue at 33rd Street	Northeast	42	B	14	E*	26	C	21	D
	Southeast	149	A	71	A	91	A	101	A
	Southwest	25	C	14	E	16	D	59	B
	Northwest	57	B	32	C	52	B	92	A
Eighth Avenue at 33rd Street	Northeast	42	B	25	C	24	C	20	D
	Southeast	27	C	16	D	16	D	27	B
	Southwest	146	A	119	A	130	A	142	A
	Northwest	14	E*	10	E*	8	E*	5	F*
Seventh Avenue at 33rd Street	Northeast	27	C	23	D	18	D	17	D
	Southeast	91	A	81	A	86	A	57	B
	Southwest	79	A	95	A	94	A	71	A
	Northwest	32	C	44	B	35	C	38	C
Seventh Avenue at 32nd Street	Northeast	28	C	57	B	32	C	63	A
	Southeast	44	B	60	A	38	C	59	B
Ninth Avenue at 31st Street	Northeast	279	A	82	A	153	A	115	A
	Southeast	65	A	19	D	49	B	25	C
	Southwest	127	A	41	B	125	A	100	A
	Northwest	109	A	40	B	65	A	100	A
Eighth Avenue at 31st Street	Northeast	61	A	80	A	77	A	62	A
	Southeast	28	C	30	C	43	B	18	D
	Southwest	95	A	29	C	52	B	20	D
	Northwest	263	A	226	A	240	A	189	A
Seventh Avenue at 31st Street	Northeast	52	B	50	B	36	C	50	B
	Southeast	80	A	63	A	47	B	72	A
	Southwest	34	C	53	B	25	C	38	C
	Northwest	99	A	151	A	77	A	84	A

Note: SFP = square feet per pedestrian, * denotes significant adverse impact.

Table 14-27
2010 Build Conditions
AM, Midday Peak Periods – Level of Service for Crosswalks

Location	Crosswalk	Width (feet)	AM Peak Period						Midday Peak Period					
			Without Vehicles		With Vehicles		Maximum Surge		Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP
Eighth Avenue at 34 th Street	North	21	74	A	62	A	44	B	41	B	36	C	25	C
	East	15.5	37	C	34	C	17	D	31	C	27	C	14	E*
	South	21.5	98	A	98	A	50	B	62	A	62	A	32	C
	West	15.5	68	A	63	A	31	C	33	C	29	C	15	D
Ninth Avenue at 33rd Street	North	13	66	A	66	A	40	B	39	C	39	C	24	C
	East	15	116	A	116	A	33	C	32	C	32	C	9	E*
	South	15	38	C	32	C	24	C	32	C	25	C	19	D
	West	22	212	A	188	A	58	B	136	A	126	A	37	C
Eighth Avenue at 33rd Street	North	14.5	51	B	50	B	26	C	40	B	39	C	21	D
	East	17.7	43	B	43	B	12	E*	27	C	27	C	8	E*
	South	17	33	C	33	C	17	D	26	C	26	C	13	E*
	West	14	20	D	17	D	6	F*	17	D	13	E	5	F
Seventh Avenue at 33rd Street	North	19.5	28	C	28	C	19	D	27	C	27	C	18	D
	East	17	77	A	77	A	23	D	71	A	71	A	21	D
	South	16	18	D	17	D	13	E*	17	D	16	D	12	E*
	West	18.5	37	C	27	C	10	E	56	B	42	B	15	D
Eighth Avenue at Mid-block crosswalk	Mid-block	20	135	A	135	A	70	A	99	A	99	A	51	B
Seventh Avenue at 32nd Street	North	18.5	18	D	18	D	14	E	48	B	48	B	38	C
	East	17	172	A	133	A	50	B	134	A	108	A	39	C
	South	19	21	D	21	D	17	D	32	C	32	C	25	C
Ninth Avenue at 31st Street	North	16.5	126	A	126	A	60	A	49	B	49	B	23	D
	East	13	130	A	130	A	49	B	32	C	32	C	12	E*
	South	13	119	A	109	A	73	A	50	B	44	B	31	C
	West	14.5	384	A	349	A	155	A	141	A	133	A	57	B
Eighth Avenue at 31st Street	North	16.5	29	C	24	C	15	D	35	C	33	C	19	D
	East	14.5	33	C	33	C	13	E	47	B	47	B	18	D
	South	14.5	242	A	242	A	129	A	74	A	74	A	40	B
	West	11.5	100	A	77	A	42	B	37	C	30	C	16	D
Seventh Avenue at 31st Street	North	20	51	B	51	B	29	C	58	B	58	B	33	C
	East	15	71	A	71	A	21	D	57	B	57	B	17	D
	South	11.5	63	A	59	B	30	C	53	B	49	B	26	C
	West	17.5	42	B	35	C	12	E	85	A	77	A	25	C

Note: SFP = square feet per pedestrian, * denotes significant adverse impact.

Table 14-27 (Continued)

2010 Build Conditions
PM, Saturday midday Peak Periods – Level of Service for Crosswalks

Location	Crosswalk	Width (feet)	PM Peak Period						Saturday Peak Period					
			Without Vehicles		With Vehicles		Maximum Surge		Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP
Eighth Avenue at 34 th Street	North	21	36	C	30	C	22	D	108	A	94	A	57	B
	East	15.5	28	C	25	C	13	E*	28	C	26	C	12	E*
	South	21.5	66	A	66	A	34	C	58	B	58	B	31	C
	West	15.5	32	C	29	C	14	E*	46	B	44	B	20	D
Ninth Avenue at 33rd Street	North	13	79	A	79	A	48	B	62	A	62	A	38	C
	East	15	56	B	56	B	16	D	37	C	37	C	10	E*
	South	15	36	C	29	C	22	D	69	A	59	B	43	B
	West	22	286	A	261	A	79	A	1650	A	1541	A	454	A
Eighth Avenue at 33rd Street	North	14.5	31	C	30	C	16	D	30	C	29	C	15	D
	East	17.7	25	C	25	C	7	F*	31	C	31	C	9	E*
	South	17	33	C	33	C	17	D	52	B	52	B	26	C
	West	14	16	D	12	E	5	F*	13	E	11	E	4	F*
Seventh Avenue at 33rd Street	North	19.5	20	D	20	D	13	E*	26	C	26	C	17	D
	East	17	75	A	75	A	22	D	36	C	36	C	11	E*
	South	16	18	D	16	D	13	E*	15	D	14	E	11	E*
	West	18.5	50	B	35	C	14	E	47	B	34	C	13	E*
Eighth Avenue at Mid-block crosswalk	Mid-block	20	78	A	78	A	40	B	236	A	236	A	122	A
Seventh Avenue at 32nd Street	North	18.5	20	D	20	D	16	D	43	B	43	B	34	C
	East	17	114	A	105	A	33	C	129	A	116	A	38	C
	South	19	19	D	19	D	15	D	29	C	29	C	23	D
Ninth Avenue at 31st Street	North	16.5	95	A	95	A	45	B	95	A	95	A	45	B
	East	13	75	A	75	A	28	C	37	C	37	C	14	E*
	South	13	195	A	170	A	120	A	73	A	64	A	45	B
	West	14.5	435	A	397	A	176	A	553	A	504	A	223	A
Eighth Avenue at 31st Street	North	16.5	32	C	29	C	17	D	33	C	31	C	18	D
	East	14.5	48	B	48	B	19	D	29	C	29	C	11	E*
	South	14.5	183	A	183	A	97	A	58	B	58	B	31	C
	West	11.5	51	B	38	C	22	D	26	C	23	D	11	E*
Seventh Avenue at 31st Street	North	20	36	C	36	C	21	D	49	B	49	B	28	C
	East	15	52	B	52	B	15	D	59	B	59	B	17	D
	South	11.5	33	C	31	C	16	D	56	B	53	B	27	C
	West	17.5	37	C	34	C	11	E	48	B	38	C	14	E

Note: SFP = square feet per pedestrian, * denotes significant adverse impact.

- The south crosswalk at West 33rd Street and Seventh Avenue would decrease from a No Build LOS E (14 SFP), LOS E (13 SFP), LOS D (15 SFP), and LOS E (13 SFP) to a Build LOS E (13 SFP), LOS E (12 SFP), LOS E (13 SFP), and LOS E (11 SFP) in the AM, midday, PM, and Saturday midday peak periods, respectively;
- The west crosswalk at West 33rd Street and Seventh Avenue would decrease from a No Build LOS E (14 SFP) to a Build LOS E (13 SFP) in the Saturday midday peak period;
- The east crosswalk at West 31st Street and Ninth Avenue would decrease from a No Build LOS E (13 SFP) and LOS D (18 SFP) to a Build LOS E (12 SFP) and LOS E (14 SFP) in the midday and Saturday midday peak periods, respectively;
- The east crosswalk at West 31st Street and Eighth Avenue would decrease from a No Build LOS D (20 SFP) to a Build LOS E (11 SFP) in the Saturday midday peak period; and
- The west crosswalk at West 31st Street and Eighth Avenue would decrease from a No Build LOS E (12 SFP) to a Build LOS E (11 SFP) in the Saturday midday peak period.

As described in Section B, “Methodology,” impacts to sidewalks are considered significant if the proposed project would result in a deterioration in level-of-service from No Build LOS D or better to Build LOS E or F, or when the pedestrian flow is increased by 2 PFM or more at a location with a No Build LOS E or F. Based on these criteria, the proposed project would not result in significant adverse sidewalk impacts.

Impacts to corners and crosswalks are considered significant if the proposed project would result in a deterioration in level-of-service from No Build LOS D or better to Build LOS E or F, or when the available circulation space is decreased by 1 SFP or more at a location with a No Build LOS E or F. Based on these criteria, the proposed project would result in significant adverse impacts at a total of 14 corner and crosswalk locations as follows:

- Northeast corner of West 33rd Street and Ninth Avenue in the midday peak period;
- Northwest corner of West 33rd Street and Eighth Avenue in the AM, midday, PM, and Saturday peak periods;
- East crosswalk of West 34th Street and Eighth Avenue in the midday, PM, and Saturday peak periods;
- West crosswalk of West 34th Street and Eighth Avenue in the PM peak period;
- West crosswalk of West 33rd Street and Ninth Avenue in the midday and Saturday peak periods;
- East crosswalk of West 33rd Street and Eighth Avenue in the AM, midday, PM, and Saturday peak periods;
- South crosswalk at West 33rd Street and Eighth Avenue in the midday peak period;
- West crosswalk of West 33rd Street and Eighth Avenue in the AM, PM, and Saturday peak periods;
- North crosswalk of West 33rd Street and Seventh Avenue in the PM peak period;
- South crosswalk of West 33rd Street and Seventh Avenue in the AM, midday, PM, and Saturday peak periods;
- West crosswalk of West 33rd Street and Seventh Avenue in the Saturday peak period;
- East crosswalk of West 31st Street and Ninth Avenue in the midday and Saturday peak periods;
- East crosswalk of West 31st Street and Eighth Avenue in the Saturday peak period; and
- West crosswalk of West 31st Street and Eighth Avenue in the Saturday peak period.

Chapter 19, “Mitigation,” describes the recommended measures to alleviate the project-generated impacts at these corner and crosswalk locations.

E. 2015 FUTURE ANALYSIS YEAR

The 2015 analysis year accounts for the Phase I redevelopment of the Farley Complex that includes the new train station, as well as hotel, banquet facility, and retail uses. It also accounts for the Phase II development (under Scenario 1) of an office overbuild above the existing Western Annex portion of the Farley Complex.

This section examines the potential impacts of the proposed project in the 2015 build year. It begins with a description of future No Build conditions absent the proposed project; then presents anticipated operations with the project (the Build condition); and concludes with a comparison of the No Build and Build conditions to determine whether the proposed project would result in significant adverse transit or pedestrian impacts. The transit and pedestrian mitigation measures that are associated with the 2015 Build condition are presented in Chapter 19, "Mitigation."

THE FUTURE WITHOUT THE PROPOSED ACTION

CHANGES IN THE TRANSIT AND PEDESTRIAN NETWORK

As described above, transit and pedestrian volumes in 2015 without the proposed project were estimated based on analysis presented in the *Hudson Yards FGEIS*. These volumes were adjusted to remove trips associated with the 2003 DSEA program for the redevelopment of the Farley Complex, to account for an intermediate level of Hudson Yards development between 2010 and 2025, and to add trips associated with the current No Build redevelopment of the Farley Complex and anticipated growth in LIRR, Amtrak, and NJT ridership.

The 2015 No Build conditions analysis also accounts for changes in the geometry of transit stations or pedestrian facilities that will be implemented independent of the proposed project. Although there would be no changes in the subway stations that have been analyzed in this EIS, there would be crosswalk widenings. These crosswalk widenings were recommended as mitigation in Hudson Yards FGEIS, and they would impact two locations as follows:

- The north crosswalk at Seventh Avenue and West 31st Street will be widened by 6 feet to a total width of 20 feet.
- The north crosswalk at Seventh Avenue and West 33rd Street will be widened by 6 feet for a total width of 20 feet.

The resultant 2015 No Build volumes and the above changes in the pedestrian volume were analyzed using the methodology presented above. It should be noted that the Hudson Yards FGEIS included numerous subway and pedestrian improvements to mitigate impacts in its 2025 analysis year. However, it has been conservatively assumed that these additional improvements would not have been implemented before 2015.

ANALYSIS RESULTS

Subway Station Operations

Tables 14-28 and 14-29 summarize the results for the 27 street and mezzanine-level stairways that were assessed for the weekday AM and PM peak periods. As shown, all of the analysis locations would operate at LOS C or better in the PM peak hour, and the majority of the stairways would operate at LOS C or better in the AM peak hour, except as follows.

- The S2 street-level stairway on the southwest corner of West 33rd Street and Eighth Avenue will operate at LOS D (1.20 V/SVCD) during the AM peak period.
- The S4 street-level stairway on the northwest corner of West 33rd Street and Eighth Avenue will operate at LOS D (1.15 V/SVCD) during the AM peak period.

Table 14-28
2015 No Build Conditions
AM Peak Period – Level of Service for Subway Stairways

Stairways	Width (feet)	Effective Width (feet)	15-Minute Volume		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
34 Street-Penn Station (A/C/E)									
S1 W. 33rd St. & 8th Ave. (SE corner)	7.4	6.4	172	43	0.80	768	0.28	A	
S2 W. 33rd St. & 8th Ave. (SW corner)	4.3	3.3	402	75	0.80	396	1.20	D	
S3 W. 33rd St. & 8th Ave. (SW corner)	4.3	3.3	243	84	0.80	396	0.83	C	
S4 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	356	113	0.80	408	1.15	D	
S5 W. 33rd St. & 8th Ave. (NE corner)	4.0	3.0	38	121	0.80	360	0.44	A	
S6 W. 34th St. & 8th Ave. (SW corner)	5.7	4.7	390	29	0.80	564	0.74	C	
S7 W. 34th St. & 8th Ave. (SE corner)	7.0	6.0	185	57	0.80	720	0.34	A	
S8 W. 34th St. & 8th Ave. (NW corner)	5.8	4.8	700	74	0.80	576	1.34	E	
S9 W. 34th St. & 8th Ave. (NE corner)	11.5	10.5	108	44	0.80	1260	0.12	A	
P1 W. 33rd St. & 8th Ave. (SE corner)	7.4	5.4	172	43	0.80	648	0.33	A	
P2 W. 33rd St. & 8th Ave. (SW corner)	7.9	5.9	645	159	0.80	708	1.14	D	
P3 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	356	113	0.80	408	1.15	D	
P4 W. 33rd St. & 8th Ave. (NE corner)	4.4	3.4	38	121	0.80	408	0.39	A	
P5 W. 34th St. & 8th Ave. (SW corner)	11.6	9.6	390	29	0.80	1152	0.36	A	
P6 W. 34th St. & 8th Ave. (SE corner)	6.7	5.7	185	57	0.80	684	0.35	A	
P7 W. 34th St. & 8th Ave. (NW corner)	8.8	7.8	700	74	0.80	936	0.83	C	
P8 W. 34th St. & 8th Ave. (NE corner)	5.5	4.5	108	44	0.80	540	0.28	A	
M3 Mezzanine Level	9.2	7.2	621	429	0.90	972	1.08	D	
M4 Mezzanine Level	9.2	7.2	621	429	0.90	972	1.08	D	
34 Street-Penn Station (1/2/3)									
S3 W. 34th St. & 7th Ave. (SW corner)	5.8	4.8	249	40	0.80	576	0.50	B	
S4 W. 34th St. & 7th Ave. (SE corner)	10.1	8.1	237	48	0.80	972	0.29	A	
S5 W. 34th St. & 7th Ave. (NW corner)	5.6	4.6	437	44	0.80	552	0.87	C	
S6 W. 34th St. & 7th Ave. (NE corner)	5.1	4.1	69	13	0.80	492	0.17	A	
P5 W. 34th St. & 7th Ave. (SW corner)	12.1	10.1	234	37	0.80	1212	0.22	A	
P6 W. 34th St. & 7th Ave. (SE corner)	12.5	10.5	225	45	0.80	1260	0.21	A	
P7 W. 34th St. & 7th Ave. (NW corner)	12.2	10.2	417	42	0.80	1224	0.38	A	
P8 W. 34th St. & 7th Ave. (NE corner)	12.3	10.3	62	12	0.80	1236	0.06	A	
Note: Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001) in accordance with the <i>CEQR Technical Manual</i> .									

**Table 14-29
2015 No Build Conditions**

PM Peak Period – Level of Service for Subway Stairways

Stairways	Width (feet)	Effective Width (feet)	15-Minute Volume		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
34 Street-Penn Station (A/C/E)									
S1 W. 33rd St. & 8th Ave. (SE corner)	7.4	6.4	75	164	0.80	768	0.31	A	
S2 W. 33rd St. & 8th Ave. (SW corner)	4.3	3.3	42	163	0.80	396	0.52	B	
S3 W. 33rd St. & 8th Ave. (SW corner)	4.3	3.3	41	162	0.80	396	0.51	B	
S4 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	80	127	0.90	459	0.45	A	
S5 W. 33rd St. & 8th Ave. (NE corner)	4.0	3.0	142	28	0.80	360	0.47	B	
S6 W. 34th St. & 8th Ave. (SW corner)	5.7	4.7	459	76	0.80	564	0.95	C	
S7 W. 34th St. & 8th Ave. (SE corner)	7.0	6.0	33	198	0.80	720	0.32	A	
S8 W. 34th St. & 8th Ave. (NW corner)	5.8	4.8	258	41	0.80	576	0.52	B	
S9 W. 34th St. & 8th Ave. (NE corner)	11.5	10.5	78	298	0.80	1260	0.30	A	
P1 W. 33rd St. & 8th Ave. (SE corner)	7.4	5.4	75	164	0.80	648	0.37	A	
P2 W. 33rd St. & 8th Ave. (SW corner)	7.9	5.9	83	325	0.80	708	0.58	B	
P3 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	80	127	0.90	459	0.45	A	
P4 W. 33rd St. & 8th Ave. (NE corner)	4.4	3.4	142	28	0.80	408	0.42	A	
P5 W. 34th St. & 8th Ave. (SW corner)	11.6	9.6	459	76	0.80	1152	0.46	B	
P6 W. 34th St. & 8th Ave. (SE corner)	6.7	5.7	33	198	0.80	684	0.34	A	
P7 W. 34th St. & 8th Ave. (NW corner)	8.8	7.8	258	41	0.80	936	0.32	A	
P8 W. 34th St. & 8th Ave. (NE corner)	5.5	4.5	78	298	0.80	540	0.70	B	
M3 Mezzanine Level	9.2	7.2	325	639	0.90	972	0.99	C	
M4 Mezzanine Level	9.2	7.2	325	639	0.90	972	0.99	C	
34 Street-Penn Station (1/2/3)									
S3 W. 34th St. & 7th Ave. (SW corner)	5.8	4.8	47	117	0.80	576	0.28	A	
S4 W. 34th St. & 7th Ave. (SE corner)	10.1	8.1	158	404	0.80	972	0.58	B	
S5 W. 34th St. & 7th Ave. (NW corner)	5.6	4.6	131	446	0.80	552	1.05	D	
S6 W. 34th St. & 7th Ave. (NE corner)	5.1	4.1	67	229	0.80	492	0.60	B	
P5 W. 34th St. & 7th Ave. (SW corner)	12.1	10.1	47	117	0.80	1212	0.14	A	
P6 W. 34th St. & 7th Ave. (SE corner)	12.5	10.5	158	404	0.80	1260	0.45	A	
P7 W. 34th St. & 7th Ave. (NW corner)	12.2	10.2	131	446	0.80	1224	0.47	B	
P8 W. 34th St. & 7th Ave. (NE corner)	12.3	10.3	67	229	0.80	1236	0.24	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> .									

- The S8 street-level stairway on the northwest corner of West 34th Street and Eighth Avenue will operate at LOS E (1.34 V/SVCD) during the AM peak period.
- The P2 stairway, which provides access between the control area and the S2 and S3 street-level stairways, will operate at LOS D (1.14 V/SVCD) during the AM peak period.
- The P3 street-level stairway on the northwest corner of West 33rd Street and Eighth Avenue will operate at LOS D (1.15 V/SVCD) during the AM peak period.
- The M3/M4 mezzanine stairways, which provide access between the N67 and N73 controls areas, will operate at LOS D (1.08 V/SVCD) during the AM peak period.
- The S5 street-level stairway on the northwest corner of West 34th Street and Seventh Avenue will operate at LOS D (1.05 V/SVCD) during the PM peak period.

Tables 14-30 and 14-31 show the 2015 No Build operation of control area elements (turnstiles, HEETs, and services gates) at the seven control areas. As shown, the service gate at the N71 control area will operate at LOS D (0.73 V/SVCD) during the AM peak period, and the service gate at the N73 control area will operate at LOS D (0.78 V/SVCD) during the PM peak period. All of the other control area elements at the analysis locations will operate at LOS C or better.

Pedestrian Circulation

Tables 14-32 through 14-34 show the 2015 No Build conditions analysis results for the study area's sidewalks, corner reservoirs, and crosswalks. As shown, all of the analysis locations operate at LOS D or better in the 2015 No Build condition except for the following:

- The north sidewalk on West 32nd Street between Seventh and Sixth Avenues will operate at LOS E (16 PFM) in the AM peak period;
- The south sidewalk on West 33rd Street between Eighth and Seventh Avenues will operate at LOS E (16 PFM) in the midday peak period;
- The north sidewalk on West 31st Street between Ninth and Eighth Avenues will operate at LOS E (17 PFM) in the midday peak period;
- The south sidewalk on West 34th Street between Eighth and Seventh Avenues will operate at LOS E (15 PFM) in the AM peak period;
- The southeast corner at West 33rd Street and Ninth Avenue will operate at LOS E (11 SFP) in the midday peak period;
- The southwest corner at West 33rd Street and Ninth Avenue will operate at LOS E (12 SFP) and LOS E (14 SFP) in the midday and PM peak periods, respectively;
- The southwest corner at West 33rd Street and Eighth Avenue will operate at LOS F (6 SFP), LOS F (5 SFP), LOS F (6 SFP), and LOS E (11 SFP) in the AM, midday, PM, and Saturday midday peak periods, respectively;
- The northwest corner at West 33rd Street and Eighth Avenue will operate at LOS E (13 SFP), LOS E (10 SFP), and LOS E (10 SFP) in the AM, midday, and PM peak periods, respectively;
- The east crosswalk at West 34th Street and Eighth Avenue will operate at LOS E (14 SFP) in the PM peak period;
- The west crosswalk at West 34th Street and Eighth Avenue will operate at LOS E (12 SFP) in the midday peak period;
- The east crosswalk at West 33rd Street and Ninth Avenue will operate at LOS E (10 SFP) and LOS E (14 SFP) in the midday and Saturday midday peak periods, respectively;
- The east crosswalk at West 33rd Street and Eighth Avenue will operate at LOS E (14 SFP), LOS E (12 SFP), LOS E (9 SFP), and LOS E (10 SFP) in the AM, midday, PM, and Saturday midday peak periods, respectively;
- The south crosswalk at West 33rd Street and Eighth Avenue will operate at LOS E (14 SFP) in the midday peak period;

Table 14-30
2015 No Build Conditions
AM Peak Period – Level of Service for Subway Control Areas

Control Area	Station Element	Quantity	Volume		Peak 15-Minute		
			In	Out	SVCD Capacity	V/SVDC Ratio	LOS
34 Street-Penn Station (A/C/E)							
N67	Two-Way Turnstiles I	4	337	375	1920	0.37	B
	Two-Way Turnstiles II	9	734	1,318	4320	0.48	C
	HEET	2	41	123	600	0.27	B
	Service Gate	1	10	45	750	0.07	A
N70	Two-Way Turnstiles	5	106	308	2400	0.17	A
	Service Gate	1	3	0	750	0.00	A
N71	Two-Way Turnstiles	5	110	537	2400	0.27	B
	Service Gate	1	5	545	750	0.73	D
N72	Two-Way Turnstiles I	7	831	451	3360	0.38	B
	Two-Way Turnstiles II	4	157	662	1920	0.43	C
	Service Gate	1	38	74	750	0.15	A
N73	Two-Way Turnstiles	9	289	732	4320	0.24	B
	Service Gate	1	92	261	750	0.47	C
34 Street-Penn Station (1/2/3)							
R141	Two-Way Turnstiles	7	43	220	3360	0.08	A
	Service Gate	1	2	87	750	0.12	A
R142	Two-Way Turnstiles	4	82	602	1920	0.36	B
	HEET	2	2	94	600	0.16	A
	Service Gate	1	0	3	750	0.00	A

Table 14-31
2015 No Build Conditions
PM Peak Period – Level of Service for Subway Control Areas

Control Area	Station Element	Quantity	Volume		Peak 15-Minute		
			In	Out	SVCD Capacity	V/SVDC Ratio	LOS
34 Street-Penn Station (A/C/E)							
N67	Two-Way Turnstiles I	4	235	251	1920	0.25	B
	Two-Way Turnstiles II	9	656	700	4320	0.31	B
	HEET	2	68	25	600	0.16	A
	Service Gate	1	26	3	750	0.04	A
N70	Two-Way Turnstiles	5	547	122	2400	0.28	B
	Service Gate	1	4	12	750	0.02	A
N71	Two-Way Turnstiles	5	644	146	2400	0.33	B
	Service Gate	1	0	46	750	0.06	A
N72	Two-Way Turnstiles I	7	579	566	3360	0.34	B
	Two-Way Turnstiles II	4	398	308	1920	0.37	B
	Service Gate	1	45	254	750	0.40	B
N73	Two-Way Turnstiles	9	474	351	4320	0.19	A
	Service Gate	1	59	525	750	0.78	D
34 Street-Penn Station (1/2/3)							
R141	Two-Way Turnstiles	7	630	185	3360	0.24	B
	Service Gate	1	19	15	750	0.05	A
R142	Two-Way Turnstiles	4	591	118	1920	0.37	B
	HEET	2	15	23	600	0.06	A
	Service Gate	1	3	6	750	0.01	A

Table 14-32
 2015 No Build Conditions
 AM, Midday Peak Periods – Level of Service for Sidewalks

Location	Sidewalk	Effective Width (feet)	AM				Midday					
			15-Minute Two-Way Volume	Average		Platoon		15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS		PFM	LOS	PFM	LOS
Eighth Avenue between 35th and 34th Streets	West	7.58	242	2	A	6	B	676	6	B	10-	C
	East	10.17	469	3	A	7+	C	243	2	A	6	B
34th Street between Eighth and Seventh Avenue	North	10.17	1070	7+	C	11	D	580	4	A	8	C
	South	7.08	1066	10+	D	14	D	516	5+	B	9	C
Eighth Avenue between 34th and 33rd Streets	East	18.50	444	2	A	6	B	368	1	A	5+	B
	West	8.00	817	7+	C	11	D	1315	11	D	15-	D
34th Street between Ninth and Eighth Avenue	South	11.92	325	2	A	6	B	255	1	A	5+	B
	North	16.00	469	2	A	6	B	368	2	A	6	B
Ninth Avenue between 34th and 33rd Streets	West	11.00	203	1	A	5+	B	302	2	A	6	B
	East	10.00	128	1	A	5-	A	806	5+	B	9	C
33rd Street between Ninth and Eighth Avenues	North	4.00	384	6	B	10+	D	307	5+	B	9	C
	South	10.00	806	5+	B	9	C	1740	12	D	16	E
Ninth Avenue between 33rd and 31st Street	East	10.00	212	1	A	5+	B	1090	7+	C	11	D
	West	11.00	110	1	A	5-	A	288	2	A	6	B
33rd Street between Tenth and Ninth Avenues	South	10.50	895	6	B	10-	C	606	4	A	8	C
	North	4.00	246	4	A	8	C	333	6	B	10-	C
33rd Street between Eighth and Seventh Avenues	North	10.00	632	4	A	8	C	481	3	A	7+	C
	South	8.00	657	5+	B	9	C	1167	10+	D	14	D
Eighth Avenue between 33rd Street and Mid-block crosswalk	East	20.00	594	2	A	6	B	563	2	A	6	B
	West	10.50	229	1	A	5+	B	458	3	A	7-	B
Seventh Avenue between 34th and 33rd Streets	West	15.50	1253	5+	B	9	C	763	3	A	7+	C
	East	15.00	690	3	A	7+	C	754	3	A	7+	C
33rd Street between Seventh and Sixth Avenues	North	7.00	632	6	B	10+	D	543	5+	B	9	C
	South	7.50	707	6	B	10+	D	768	7+	C	11	D
Seventh Avenue between 33rd and 32nd Street	East	14.50	619	3	A	7-	B	607	3	A	7-	B
	West	20.50	1494	5+	B	9	C	735	2	A	6	B
32nd Street between Seventh and Sixth Avenues	North	7.50	1383	12	D	16	E	579	5+	B	9	C
	South	8.50	796	6	B	10+	D	592	5+	B	9	C
31st Street between Ninth and Eighth Avenues	North	7.00	357	3	A	7+	C	1502	14	D	18	E
	South	7.00	243	2	A	6	B	110	1	A	5+	B
Ninth Avenue between 31st and 30th Street	East	9.50	256	2	A	6	B	867	6	B	10+	D
	West	10.50	64	0	A	4	A	393	2	A	6	B
31st Street between Tenth and Ninth Avenues	South	10.50	101	1	A	5-	A	184	1	A	5+	B
	North	10.00	167	1	A	5+	B	276	2	A	6	B
Eighth Avenue between mid-block crosswalk and 31st Streets	West	10.50	218	1	A	5+	B	274	2	A	6	B
	East	16.50	573	2	A	6	B	266	1	A	5+	B
31st Street between Eighth and Seventh Avenues	North	24.00	983	3	A	7-	B	786	2	A	6	B
	South	10.50	41	0	A	4	A	112	1	A	5-	A
Eighth Avenue between 31st and 30th Street	East	10.50	615	4	A	8	C	337	2	A	6	B
	West	9.00	152	1	A	5+	B	573	4	A	8	C
Seventh Avenue between 32nd and 31st Streets	West	18.00	1172	4	A	8	C	966	4	A	8	C
	East	22.50	758	2	A	6	B	759	2	A	6	B
31st Street between Seventh and Sixth Avenues	North	7.50	647	6	B	10-	C	565	5+	B	9	C
	South	13.00	324	2	A	6	B	317	2	A	6	B
Seventh Avenue between 31st and 30th Street	East	15.00	464	2	A	6	B	340	2	A	6	B
	West	11.50	1108	6	B	10+	D	590	3	A	7+	C

Note:
 "+" or "-" symbols indicate if a rounded value shown is above or below a service level threshold.
 PFM = pedestrians per foot per minute

Farley Post Office/Moynihan Station Redevelopment Project

**Table 14-32 (Continued)
2015 No Build Conditions**

PM, Saturday midday Peak Periods – Level of Service for Sidewalks

Location	Sidewalk	Effective Width (feet)	PM					Saturday midday				
			15-Minute Two-Way Volume	Average		Platoon		15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS		PFM	LOS	PFM	LOS
Eighth Avenue between 35th and 34th Streets	West	7.58	466	4	A	8	C	1055	9	C	13	D
	East	10.17	458	3	A	7+	C	1292	8	C	12	D
34th Street between Eighth and Seventh Avenue	North	10.17	643	4	A	8	C	1345	9	C	13	D
	South	7.08	1178	11	D	15+	E	747	7+	C	11	D
Eighth Avenue between 34th and 33rd Streets	East	18.50	510	2	A	6	B	743	3	A	7-	B
	West	8.00	1053	9	C	13	D	1153	10+	D	14	D
34th Street between Ninth and Eighth Avenue	South	11.92	414	2	A	6	B	496	3	A	7-	B
	North	16.00	622	3	A	7-	B	433	2	A	6	B
Ninth Avenue between 34th and 33rd Streets	West	11.00	200	1	A	5+	B	85	1	A	5-	A
	East	10.00	394	3	A	7-	B	809	5+	B	9	C
33rd Street between Ninth and Eighth Avenues	North	4.00	105	2	A	6	B	292	5+	B	9	C
	South	10.00	848	6	B	10-	C	1317	9	C	13	D
Ninth Avenue between 33rd and 31st Street	East	10.00	440	3	A	7-	B	1462	10+	D	14	D
	West	11.00	72	0	A	4	A	50	0	A	4	A
33rd Street between Tenth and Ninth Avenues	South	10.50	411	3	A	7-	B	232	1	A	5+	B
	North	4.00	209	3	A	7+	C	43	1	A	5-	A
33rd Street between Eighth and Seventh Avenues	North	10.00	495	3	A	7+	C	742	5+	B	9	C
	South	8.00	933	8	C	12	D	949	8	C	12	D
Eighth Avenue between 33rd Street and Mid-block crosswalk	East	20.00	683	2	A	6	B	241	1	A	5-	A
	West	10.50	318	2	A	6	B	435	3	A	7-	B
Seventh Avenue between 34th and 33rd Streets	West	15.50	922	4	A	8	C	943	4	A	8	C
	East	15.00	717	3	A	7+	C	1365	6	B	10+	D
33rd Street between Seventh and Sixth Avenues	North	7.00	740	7+	C	11	D	665	6	B	10+	D
	South	7.50	735	7+	C	11	D	693	6	B	10+	D
Seventh Avenue between 33rd and 32nd Street	East	14.50	562	3	A	7-	B	723	3	A	7+	C
	West	20.50	950	3	A	7+	C	1818	6	B	10-	C
32nd Street between Seventh and Sixth Avenues	North	7.50	1223	11	D	15-	D	371	3	A	7+	C
	South	8.50	840	7+	C	11	D	270	2	A	6	B
31st Street between Ninth and Eighth Avenues	North	7.00	636	6	B	10+	D	1114	11	D	15-	D
	South	7.00	131	1	A	5+	B	156	1	A	5+	B
Ninth Avenue between 31st and 30th Street	East	9.50	398	3	A	7-	B	619	4	A	8	C
	West	10.50	111	1	A	5-	A	60	0	A	4	A
31st Street between Tenth and Ninth Avenues	South	10.50	85	1	A	5-	A	24	0	A	4	A
	North	10.00	140	1	A	5-	A	169	1	A	5+	B
Eighth Avenue between mid-block crosswalk and 31st Streets	West	10.50	326	2	A	6	B	460	3	A	7-	B
	East	16.50	522	2	A	6	B	221	1	A	5-	A
31st Street between Eighth and Seventh Avenues	North	24.00	622	2	A	6	B	993	3	A	7-	B
	South	10.50	64	0	A	4	A	124	1	A	5-	A
Eighth Avenue between 31st and 30th Street	East	10.50	371	2	A	6	B	357	2	A	6	B
	West	9.00	282	2	A	6	B	751	6	B	10-	C
Seventh Avenue between 32nd and 31st Streets	West	18.00	1029	4	A	8	C	1386	5+	B	9	C
	East	22.50	741	2	A	6	B	527	2	A	6	B
31st Street between Seventh and Sixth Avenues	North	7.50	823	7+	C	11	D	666	6	B	10-	C
	South	13.00	617	3	A	7+	C	123	1	A	5-	A
Seventh Avenue between 31st and 30th Street	East	15.00	679	3	A	7+	C	373	2	A	6	B
	West	11.50	715	4	A	8	C	831	5+	B	9	C

Note:
 "+" or "-" symbols indicate if a rounded value shown is above or below a service level threshold.
 PFM = pedestrians per foot per minute

Table 14-33
2015 No Build Conditions
AM, Midday, PM, Saturday midday Peak Periods – Level of Service for Corners

Location	Corner	AM Peak Period		MIDDAY Peak Period		PM Peak Period		SATURDAY Peak Period	
		SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS
Eighth Avenue at 34th Street	Northeast	54	B	46	B	33	C	53	B
	Southeast	93	A	84	A	68	A	95	A
	Southwest	76	A	37	C	41	B	43	B
	Northwest	74	A	30	C	32	C	50	B
Ninth Avenue at 33rd Street	Northeast	40	B	16	D	32	C	42	B
	Southeast	23	D	11	E	21	D	28	C
	Southwest	22	D	12	E	14	E	66	A
Eighth Avenue at 33rd Street	Northwest	47	B	36	C	47	B	494	A
	Northeast	43	B	36	C	28	C	34	C
	Southeast	28	C	22	D	21	D	27	B
	Southwest	6	F	5	F	6	F	11	E
Seventh Avenue at 33rd Street	Northwest	13	E	10	E	10	E	17	D
	Northeast	22	D	22	D	16	D	18	D
	Southeast	77	A	78	A	81	A	60	A
	Southwest	70	A	92	A	88	A	72	A
Seventh Avenue at 32nd Street	Northwest	28	C	43	B	32	C	39	C
	Northeast	27	C	55	B	31	C	61	A
	Southeast	42	B	58	B	36	C	57	B
	Southwest	71	A	22	D	71	A	44	B
Ninth Avenue at 31st Street	Northeast	103	A	20	D	66	A	41	B
	Southeast	71	A	22	D	71	A	44	B
	Southwest	113	A	48	B	114	A	384	A
	Northwest	114	A	37	C	73	A	120	A
Eighth Avenue at 31st Street	Northeast	89	A	105	A	127	A	100	A
	Southeast	27	C	51	B	46	B	39	C
	Southwest	102	A	34	C	67	A	29	C
	Northwest	57	B	22	D	47	B	21	D
Seventh Avenue at 31st Street	Northeast	51	B	44	B	40	B	45	B
	Southeast	73	A	69	A	43	B	96	A
	Southwest	32	C	60	A	23	D	48	B
	Northwest	98	A	133	A	83	A	78	A

Note: SFP = square feet per pedestrian

Table 14-34
2015 No Build Conditions
AM, Midday Peak Periods – Level of Service for Crosswalks

Location	Crosswalk	Width (feet)	AM Peak Period						Midday Peak Period					
			Without Vehicles		With Vehicles		Maximum Surge		Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP
Eighth Avenue at 34 th Street	North	21	66	A	55	B	39	C	38	C	33	C	23	D
	East	15.5	38	C	34	C	18	D	44	B	38	C	20	D
	South	21.5	97	A	97	A	50	B	74	A	74	A	38	C
	West	15.5	74	A	67	A	34	C	27	C	24	C	12	E
Ninth Avenue at 33rd Street	North	13	51	B	51	B	31	C	49	B	49	B	30	C
	East	15	154	A	154	A	44	B	34	C	34	C	10	E
	South	15	32	C	29	C	19	D	28	C	24	C	17	D
	West	22	195	A	154	A	54	B	126	A	113	A	35	C
Eighth Avenue at 33rd Street	North	14.5	44	B	43	B	23	D	45	B	43	B	23	D
	East	17.7	48	B	48	B	14	E	40	B	40	B	12	E
	South	17	34	C	34	C	17	D	28	C	28	C	14	E
	West	14	20	D	16	D	6	F	17	D	13	E	5	F
Seventh Avenue at 33rd Street	North	19.5	22	D	22	D	15	D	25	C	25	C	17	D
	East	17	73	A	73	A	22	D	72	A	72	A	21	D
	South	16	15	D	14	E	11	E	16	D	15	D	11	E
	West	18.5	36	C	31	C	10	E	57	B	50	B	16	D
Eighth Avenue at Mid-block crosswalk	Mid-block	20	118	A	118	A	61	A	107	A	107	A	55	B
Seventh Avenue at 32nd Street	North	18.5	18	D	18	D	14	E	47	B	47	B	38	C
	East	17	165	A	125	A	48	B	130	A	103	A	38	C
	South	19	21	D	21	D	16	D	31	C	31	C	25	C
Ninth Avenue at 31st Street	North	16.5	142	A	142	A	68	A	47	B	47	B	22	D
	East	13	189	A	189	A	72	A	32	C	32	C	12	E
	South	13	105	A	94	A	65	A	69	A	61	A	42	B
	West	14.5	355	A	328	A	143	A	131	A	125	A	53	B
Eighth Avenue at 31st Street	North	16.5	74	A	58	B	39	C	40	B	36	C	21	D
	East	14.5	33	C	33	C	13	E	72	A	72	A	28	C
	South	14.5	210	A	210	A	112	A	117	A	117	A	62	A
	West	11.5	123	A	97	A	52	B	36	C	30	C	15	D
Seventh Avenue at 31st Street	North	20	52	B	52	B	30	C	49	B	49	B	28	C
	East	15	68	A	68	A	20	D	55	B	55	B	16	D
	South	11.5	56	B	52	B	27	C	71	A	65	A	34	C
	West	17.5	40	B	30	C	12	E	82	A	72	A	24	C

Note: SFP = square feet per pedestrian

**Table 14-34 (Continued)
2015 No Build Conditions
PM, Saturday midday Peak Periods – Level of Service for Crosswalks**

Location	Crosswalk	Width (feet)	PM Peak Period						Saturday Peak Period					
			Without Vehicles		With Vehicles		Maximum Surge		Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP
Eighth Avenue at 34 th Street	North	21	32	C	27	C	20	D	102	A	89	A	54	B
	East	15.5	30	C	27	C	14	E	48	B	44	B	21	D
	South	21.5	71	A	71	A	36	C	91	A	91	A	48	B
	West	15.5	37	C	34	C	17	D	35	C	34	C	15	D
Ninth Avenue at 33rd Street	North	13	73	A	73	A	44	B	675	A	675	A	412	A
	East	15	83	A	83	A	23	D	51	B	51	B	14	E
	South	15	34	C	31	C	21	D	76	A	71	A	47	B
	West	22	258	A	230	A	71	A	1547	A	1441	A	426	A
Eighth Avenue at 33rd Street	North	14.5	32	C	30	C	16	D	98	A	94	A	49	B
	East	17.7	30	C	30	C	9	E	33	C	33	C	10	E
	South	17	36	C	36	C	18	D	46	B	46	B	23	D
	West	14	19	D	14	E	6	F	20	D	17	D	6	F
Seventh Avenue at 33rd Street	North	19.5	19	D	19	D	13	E	27	C	27	C	18	D
	East	17	69	A	69	A	21	D	35	C	35	C	10	E
	South	16	17	D	16	D	12	E	16	D	15	D	12	E
	West	18.5	47	B	40	B	13	E	48	B	41	B	13	E
Eighth Avenue at Mid-block crosswalk	Mid-block	20	68	A	68	A	35	C	399	A	399	A	207	A
Seventh Avenue at 32nd Street	North	18.5	19	D	19	D	15	D	42	B	42	B	33	C
	East	17	108	A	97	A	32	C	124	A	110	A	36	C
	South	19	18	D	18	D	15	D	28	C	28	C	23	D
Ninth Avenue at 31st Street	North	16.5	130	A	130	A	62	A	120	A	120	A	57	B
	East	13	159	A	159	A	60	A	47	B	47	B	18	D
	South	13	181	A	153	A	111	A	878	A	798	A	539	A
	West	14.5	393	A	360	A	159	A	518	A	485	A	209	A
Eighth Avenue at 31st Street	North	16.5	70	A	62	A	37	C	44	B	40	B	23	D
	East	14.5	53	B	53	B	21	D	50	B	50	B	19	D
	South	14.5	168	A	168	A	90	A	141	A	141	A	75	A
	West	11.5	76	A	60	A	32	C	28	C	25	C	12	E
Seventh Avenue at 31st Street	North	20	44	B	44	B	25	C	43	B	43	B	25	C
	East	15	49	B	49	B	14	E	56	B	56	B	17	D
	South	11.5	31	C	28	C	15	D	149	A	140	A	72	A
	West	17.5	36	C	30	C	11	E	46	B	36	C	14	E

Note: SFP = square feet per pedestrian

- The west crosswalk at West 33rd Street and Eighth Avenue will operate at LOS F (6 SFP), LOS F (5 SFP), LOS F (6 SFP), and LOS F (6 SFP) in the AM, midday, PM, and Saturday peak periods, respectively;
- The north crosswalk at West 33rd Street and Seventh Avenue will operate at LOS E (13 SFP) in the PM peak period;
- The east crosswalk at West 33rd Street and Seventh Avenue will operate at LOS E (10 SFP) in the Saturday midday peak period;
- The south crosswalk at West 33rd Street and Seventh Avenue will operate at LOS E (11 SFP), LOS E (11 SFP), LOS E (12 SFP), and LOS E (12 SFP) in the AM, midday, PM, and Saturday midday peak periods, respectively;
- The west crosswalk at West 33rd Street and Seventh Avenue will operate at LOS E (10 SFP), LOS E (13 SFP), and LOS E (13 SFP) in the AM, PM, and Saturday midday peak periods, respectively;

Farley Post Office/Moynihan Station Redevelopment Project

- The north crosswalk at West 32nd Street and Seventh Avenue will operate at LOS E (14 SFP) in the AM peak period;
- The east crosswalk at West 31st Street and Ninth Avenue will operate at LOS E (12 SFP) in the midday peak period;
- The east crosswalk at West 31st Street and Eighth Avenue will operate at LOS E (13 SFP) in the AM peak period;
- The west crosswalk at West 31st Street and Eighth Avenue will operate at LOS E (12 SFP) in the Saturday midday peak period;
- The east crosswalk at West 31st Street and Seventh Avenue will operate at LOS E (14 SFP) in the PM peak period; and
- The west crosswalk at West 31st Street and Seventh Avenue will operate at LOS E (12 SFP), LOS E (11 SFP), and LOS E (14 SFP) in the AM, PM, and Saturday midday peak periods, respectively.

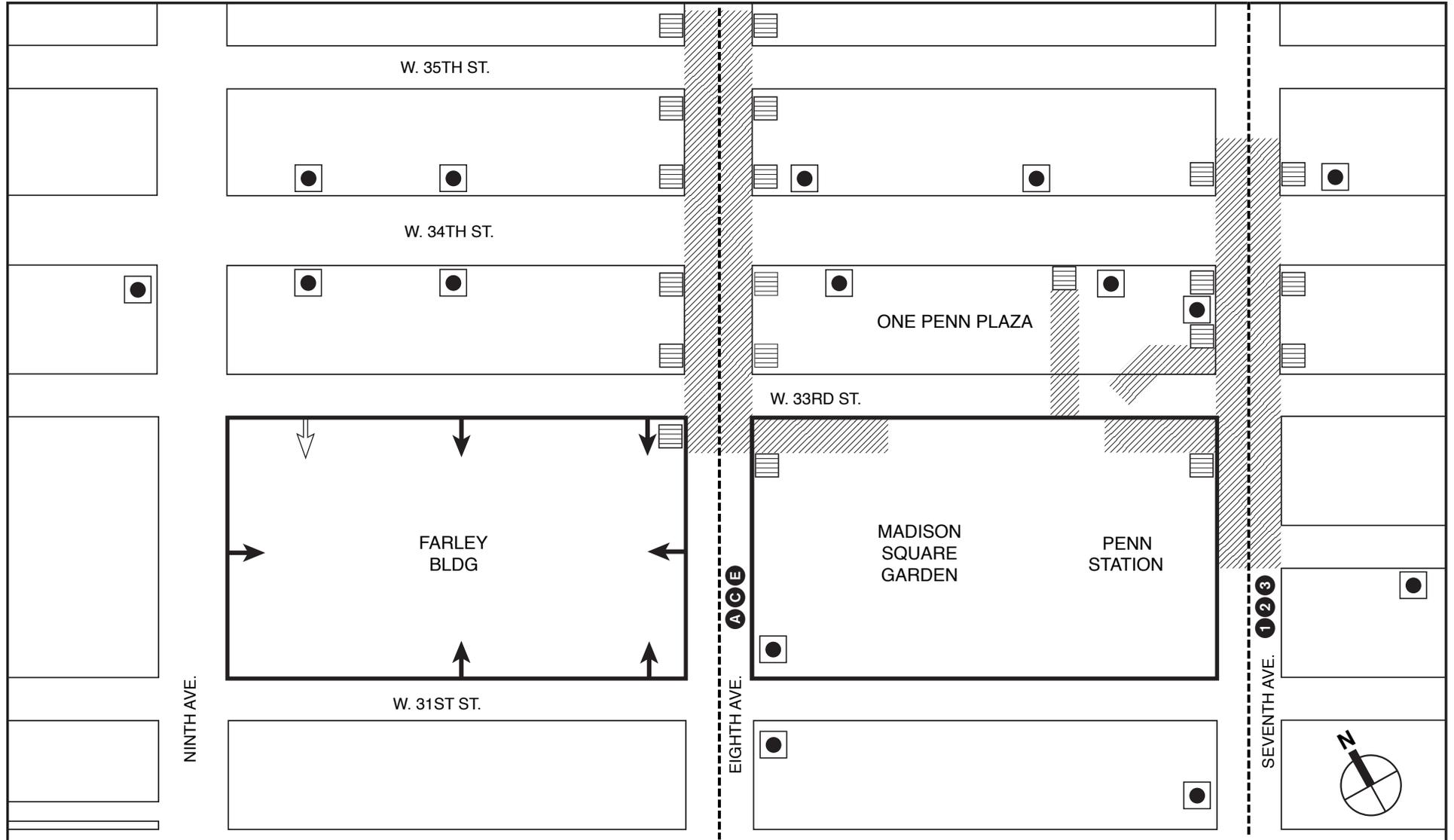
PROBABLE IMPACTS OF THE PROPOSED PROJECT

CHANGES IN THE TRANSIT AND PEDESTRIAN NETWORK

Transit and pedestrian volumes in the 2015 Build condition were estimated using peak 15-minute volumes derived from the trip generation shown in Table 14-1. As noted above, an adjustment was applied to the midday and Saturday walk-only trips to account for a linkage between the project's retail components and existing uses in the study area. A second adjustment was applied to account for linkage between midday office walk-only trips and the retail uses that would be within the Farley Complex. These volumes were then assigned to the subway and pedestrian analysis locations based on the following assumptions:

- Automobile and taxi person trips were assigned to the network based on the projected parking or drop-off location per the analysis presented in Chapter 13, "Traffic and Parking."
- Subway person trips were assigned to three subway stations as follows: 10 percent to Herald Square, 45 percent to 34th Street-Penn Station (1/2/3), and 45 percent to 34th Street-Penn Station (A/C/E). The assignments to specific control areas, stairways, and intermediate pedestrian elements were based on logical patterns of travel between to/from the subway station and proposed entrances to the Farley Complex. Linked trips between commuter rail and subways were assumed to remain below ground.
- Bus trips were assigned to local bus stops on Seventh, Eighth, and Ninth Avenues as well as West 34th Street.
- Walk-only trips were distributed as follows: 30 percent to/from the east; 30 percent to/from the north, 30 percent to/from the south, and 10 percent to/from the west.

Figure 14-4 shows the proposed entrances to the Farley Complex, including the commercial overbuild component. Future retail trips were distributed to entrances on all facades of the building, while hotel and banquet facility trips were assigned to entrances near Eighth Avenue. The trips to and from the office component were assigned to the future entrance on West 33rd near Ninth Avenue.



- Farley Complex Boundary
- Stairwell
- New Subway Stairwell
- Bus Stop
- A 1 Subway Route
- ➔ Moynihan Station Pedestrian Access
- ➔ Onsite Overbuild Office Access

0 100 200 FEET
SCALE

TRANSIT AND PEDESTRIAN IMPROVEMENTS

Transit and pedestrian improvements would be implemented as part of the proposed project, which have been included in the Build conditions analysis. These improvements are as follows:

- The existing S2, S3, and P2 stairways on the southwest corner of West 33rd Street and Eighth Avenue would be reconstructed further from the corner within the existing sidewalk area in front of the Farley Complex. As a result, S2 and S3 stairways would no longer obstruct the south sidewalk of West 33rd Street. The new S2 and S3 stairways would be 8 feet wide. The new P2 stairway would be 16 feet wide.
- The existing lay-by lane along the east side of Ninth Avenue between West 31st and West 33rd Streets would be removed, and the sidewalk would be rehabilitated to a width of 15 feet. Bollards would be installed along these blockfaces, which would reduce the effective sidewalk width of 2 feet.
- Sidewalks along the north and south facades of the Farley Complex would be rehabilitated to a width of 13 feet. Bollards would be constructed on these sidewalks, which would reduce the effective width by 2 feet.
- The M3/M4 mezzanine stairs would be replaced with a new set of stairs that would provide for a total of 16 feet of tread.

The volumes and geometric changes in the 2015 Build condition were added to the 2015 No Build network to assess the future LOS with completion of the proposed project.

ANALYSIS RESULTS

Subway Station Operations

Tables 14-35 and 14-36 present the analysis of subway stairways in the 2015 Build condition. As shown, the majority of stairways would operate at LOS C or better with *de minimus* changes in their v/c ratios as compared to the No Build condition. However, there would be four stairway locations that would operate at LOS D or E as described below.

- The S4 street-level stairway on the northwest corner of West 33rd Street and Eighth Avenue would continue to operate at LOS D (1.26 V/SVCD) during the AM peak period.
- The S8 street-level stairway on the northwest corner of West 34th Street and Eighth Avenue would continue to operate at LOS E (1.34 V/SVCD) during the AM peak period.
- The P3 street-level stairway on the northwest corner of West 33rd Street and Eighth Avenue will operate at LOS D (1.26 V/SVCD) during the AM peak period.
- The S5 street-level stairway on the northwest corner of West 34th Street and Seventh Avenue would continue to operate at LOS D (1.05 V/SVCD) during the PM peak period.

**Table 14-35
2015 Build Conditions**

AM Peak Period – Level of Service for Subway Stairways

Stairways	Width (feet)	Effective Width (feet)	15-Minute Volume		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
34 Street-Penn Station (A/C/E)									
S1 W. 33rd St. & 8th Ave. (SE corner)	7.4	5.4	185	52	0.80	648	0.37	A	
S2 W. 33rd St. & 8th Ave. (SW corner)	8.0	7.0	469	119	0.90	945	0.70	B	
S3 W. 33rd St. & 8th Ave. (SW corner)	8.0	7.0	310	128	0.90	945	0.52	B	
S4 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	383	131	0.80	408	1.26	D	
S5 W. 33rd St. & 8th Ave. (NE corner)	4.0	3.0	51	130	0.80	360	0.50	B	
S6 W. 34th St. & 8th Ave. (SW corner)	5.7	4.7	390	29	0.80	564	0.74	C	
S7 W. 34th St. & 8th Ave. (SE corner)	7.0	6.0	185	57	0.80	720	0.34	A	
S8 W. 34th St. & 8th Ave. (NW corner)	5.8	4.8	700	74	0.80	576	1.34	E	
S9 W. 34th St. & 8th Ave. (NE corner)	11.5	10.5	108	44	0.80	1260	0.12	A	
P1 W. 33rd St. & 8th Ave. (SE corner)	7.4	5.4	185	52	0.80	648	0.37	A	
P2 W. 33rd St. & 8th Ave. (SW corner)	16.0	14.0	779	247	0.80	1680	0.61	B	
P3 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	383	131	0.80	408	1.26	D	
P4 W. 33rd St. & 8th Ave. (NE corner)	4.4	3.4	51	130	0.80	408	0.44	A	
P5 W. 34th St. & 8th Ave. (SW corner)	11.6	9.6	390	29	0.80	1152	0.36	A	
P6 W. 34th St. & 8th Ave. (SE corner)	6.7	5.7	185	57	0.80	684	0.35	A	
P7 W. 34th St. & 8th Ave. (NW corner)	8.8	7.8	700	74	0.80	936	0.83	C	
P8 W. 34th St. & 8th Ave. (NE corner)	5.5	4.5	108	44	0.80	540	0.28	A	
M3 Mezzanine Level	16.0	14.0	912	440	0.80	1680	0.80	C	
M4 Mezzanine Level	16.0	14.0	912	440	0.80	1680	0.80	C	
34 Street-Penn Station (1/2/3)									
S3 W. 34th St. & 7th Ave. (SW corner)	5.6	4.6	316	43	0.80	552	0.65	B	
S4 W. 34th St. & 7th Ave. (SE corner)	10.1	8.1	291	50	0.80	972	0.35	A	
S5 W. 34th St. & 7th Ave. (NW corner)	5.6	4.6	437	44	0.80	552	0.87	C	
S6 W. 34th St. & 7th Ave. (NE corner)	5.1	4.1	69	13	0.80	492	0.17	A	
P5 W. 34th St. & 7th Ave. (SW corner)	12.1	10.1	301	40	0.80	1212	0.28	A	
P6 W. 34th St. & 7th Ave. (SE corner)	12.5	10.5	279	47	0.80	1260	0.26	A	
P7 W. 34th St. & 7th Ave. (NW corner)	12.2	10.2	417	42	0.80	1224	0.38	A	
P8 W. 34th St. & 7th Ave. (NE corner)	12.3	10.3	62	12	0.80	1236	0.06	A	
Note: Capacities were calculated based on rates presented in the New York City Transit, <i>Station Planning and Design Guidelines</i> (January 2001) in accordance with the <i>CEQR Technical Manual</i> .									

Table 14-36
2015 Build Conditions
PM Peak Period – Level of Service for Subway Stairways

Stairways	Width (feet)	Effective Width (feet)	15-Minute Volume		Friction Factor	15-Minute			
			Up	Down		SVCD Capacity	V/SVCD Ratio	LOS	
34 Street-Penn Station (A/C/E)									
S1 W. 33rd St. & 8th Ave. (SE corner)	7.4	5.4	84	173	0.80	648	0.40	A	
S2 W. 33rd St. & 8th Ave. (SW corner)	8.0	7.0	86	207	0.80	840	0.35	A	
S3 W. 33rd St. & 8th Ave. (SW corner)	8.0	7.0	85	206	0.80	840	0.35	A	
S4 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	98	145	0.90	459	0.53	B	
S5 W. 33rd St. & 8th Ave. (NE corner)	4.0	3.0	151	37	0.80	360	0.52	B	
S6 W. 34th St. & 8th Ave. (SW corner)	5.7	4.7	459	76	0.80	564	0.95	C	
S7 W. 34th St. & 8th Ave. (SE corner)	7.0	6.0	33	198	0.80	720	0.32	A	
S8 W. 34th St. & 8th Ave. (NW corner)	5.8	4.8	258	41	0.80	576	0.52	B	
S9 W. 34th St. & 8th Ave. (NE corner)	11.5	10.5	78	298	0.80	1260	0.30	A	
P1 W. 33rd St. & 8th Ave. (SE corner)	7.4	5.4	84	173	0.80	648	0.40	A	
P2 W. 33rd St. & 8th Ave. (SW corner)	16.0	14.0	171	413	0.80	1680	0.35	A	
P3 W. 33rd St. & 8th Ave. (NW corner)	4.4	3.4	98	145	0.90	459	0.53	B	
P4 W. 33rd St. & 8th Ave. (NE corner)	4.4	3.4	151	37	0.80	408	0.46	B	
P5 W. 34th St. & 8th Ave. (SW corner)	11.6	9.6	459	76	0.80	1152	0.46	B	
P6 W. 34th St. & 8th Ave. (SE corner)	6.7	5.7	33	198	0.80	684	0.34	A	
P7 W. 34th St. & 8th Ave. (NW corner)	8.8	7.8	258	41	0.80	936	0.32	A	
P8 W. 34th St. & 8th Ave. (NE corner)	5.5	4.5	78	298	0.80	540	0.70	B	
M3 Mezzanine Level	16.0	14.0	516	832	0.90	1890	0.71	C	
M4 Mezzanine Level	16.0	14.0	516	832	0.90	1890	0.71	C	
34 Street-Penn Station (1/2/3)									
S3 W. 34th St. & 7th Ave. (SW corner)	5.6	4.6	92	161	0.90	621	0.41	A	
S4 W. 34th St. & 7th Ave. (SE corner)	10.1	8.1	194	439	0.80	972	0.65	B	
S5 W. 34th St. & 7th Ave. (NW corner)	5.6	4.6	131	446	0.80	552	1.05	D	
S6 W. 34th St. & 7th Ave. (NE corner)	5.1	4.1	67	229	0.80	492	0.60	B	
P5 W. 34th St. & 7th Ave. (SW corner)	12.1	10.1	92	161	0.90	1364	0.19	A	
P6 W. 34th St. & 7th Ave. (SE corner)	12.5	10.5	194	439	0.80	1260	0.50	B	
P7 W. 34th St. & 7th Ave. (NW corner)	12.2	10.2	131	446	0.80	1224	0.47	B	
P8 W. 34th St. & 7th Ave. (NE corner)	12.3	10.3	67	229	0.80	1236	0.24	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> .									

Tables 14-37 and 14-38 present the analysis results for the subway control areas in the 2015 Build condition. As shown, the service gate at the N71 control area would continue to operate at LOS D (0.73 V/SVCD) during the AM peak period, and the service gate at the N73 control area would continue to operate at LOS D (0.78 V/SVCD) during the PM peak period. All of the other control area elements at the analysis locations would operate at LOS C or better.

As described above, project-generated impacts on subway stairways are considered significant based on the minimum amount of additional capacity, which would mitigate the location to its No Build condition 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. For turnstiles, service gates, and escalators, an increase in volume that results in a v/c of greater than 1.00 may be considered significant, since a value of 1.00 represents the design capacity of the element.

Table 14-37
2015 Build Conditions
AM Peak Period – Level of Service for Subway Control Areas

Control Area	Station Element	Quantity	Volume		Peak 15-Minute		
			In	Out	SVCD Capacity	V/SVDC Ratio	LOS
34 Street-Penn Station (A/C/E)							
N67	Two-Way Turnstiles I	4	338	399	1920	0.38	B
	Two-Way Turnstiles II	9	737	1,354	4320	0.48	C
	HEET	2	41	130	600	0.29	B
	Service Gate	1	10	49	750	0.08	A
N70	Two-Way Turnstiles	5	106	308	2400	0.17	A
	Service Gate	1	3	0	750	0.00	A
N71	Two-Way Turnstiles	5	110	537	2400	0.27	B
	Service Gate	1	5	545	750	0.73	D
N72	Two-Way Turnstiles I	7	831	464	3360	0.39	B
	Two-Way Turnstiles II	4	158	676	1920	0.43	C
	Service Gate	1	38	75	750	0.15	A
N73	Two-Way Turnstiles	9	291	759	4320	0.24	B
	Service Gate	1	92	262	750	0.47	C
34 Street-Penn Station (1/2/3)							
R141	Two-Way Turnstiles	7	45	271	3360	0.09	A
	Service Gate	1	3	90	750	0.12	A
R142	Two-Way Turnstiles	4	83	648	1920	0.38	B
	HEET	2	3	111	600	0.19	A
	Service Gate	1	0	7	750	0.01	A

Table 14-38
2015 Build Conditions
PM Peak Period – Level of Service for Subway Control Areas

Control Area	Station Element	Quantity	Volume		Peak 15-Minute		
			In	Out	SVCD Capacity	V/SVDC Ratio	LOS
34 Street-Penn Station (A/C/E)							
N67	Two-Way Turnstiles I	4	251	267	1920	0.27	B
	Two-Way Turnstiles II	9	681	725	4320	0.33	B
	HEET	2	73	30	600	0.17	A
	Service Gate	1	28	6	750	0.05	A
N70	Two-Way Turnstiles	5	547	122	2400	0.28	B
	Service Gate	1	4	12	750	0.02	A
N71	Two-Way Turnstiles	5	644	146	2400	0.33	B
	Service Gate	1	0	46	750	0.06	A
N72	Two-Way Turnstiles I	7	587	574	3360	0.35	B
	Two-Way Turnstiles II	4	408	318	1920	0.38	B
	Service Gate	1	46	255	750	0.40	C
N73	Two-Way Turnstiles	9	492	369	4320	0.20	A
	Service Gate	1	60	526	750	0.78	D
34 Street-Penn Station (1/2/3)							
R141	Two-Way Turnstiles	7	664	219	3360	0.26	B
	Service Gate	1	21	17	750	0.05	A
R142	Two-Way Turnstiles	4	622	149	1920	0.40	C
	HEET	2	26	34	600	0.10	A
	Service Gate	1	5	8	750	0.02	A

Based on these criteria, there would be no impacts on control area elements since all of the analysis locations would operate at LOS D (0.78 V/SVCD) or better in the 2015 Build condition. However, further analysis was undertaken for subway stairways that would operate at LOS D, E, or F to determine if project-generated impacts would be significant. As shown in Table 14-39, the impacts on the S4, S8, and P3 stairways at 34th Street-Penn Station (A/C/E) station and the S5 stairway at the 34th Street-Penn Station (1/2/3) station would not be considered significant since the required level of widening to achieve the No Build LOS would not meet the criteria described above.

Pedestrian Circulation

The proposed 2015 development program would generate substantial pedestrian volumes at several corners, crosswalks, and sidewalks within the study area. However, as shown in Tables 14-40 through 14-42, many locations would continue to operate at LOS D or better in the 2015 Build condition. However, there would be locations that would either degrade from LOS A, B, C, or D in the No Build condition to LOS E or F in the Build condition, and other locations would operate at poorer LOS E or LOS F with the addition of project-generated trips. These locations are described below.

- The south sidewalk on West 33rd Street between Eighth and Seventh Avenues would decrease from a No Build LOS E (16 PFM) to a Build LOS E (18 PFM) in the midday peak period;
- The northeast corner at West 33rd Street and Ninth Avenue would decrease from a No Build LOS D (16 SFP) to a Build LOS E (13 SFP) in the midday peak period;
- The southwest corner at West 33rd Street and Ninth Avenue would decrease from a No Build LOS E (12 SFP) and LOS E (14 SFP) to a Build LOS E (11 SFP) and LOS E (13 SFP) in the midday and PM peak periods, respectively;
- The northwest corner at West 33rd Street and Eighth Avenue would decrease from a No Build LOS E (13 SFP), LOS E (10 SFP), LOS E (10 SFP), and LOS D (17 SFP) to a Build LOS E (10 SFP), LOS E (9 SFP), LOS E (7 SFP), and LOS E (6 SFP) in the AM, midday, PM, and Saturday midday peak periods, respectively;
- The northeast corner at West 33rd Street and Seventh Avenue would decrease from a No Build LOS D (16 SFP) to a Build LOS E (14 SFP) in the PM peak period;
- The east crosswalk at West 34th Street and Eighth Avenue would decrease from a No Build LOS D (21 SFP) to a Build LOS E (14 SFP) in the Saturday midday peak period;
- The west crosswalk at West 34th Street and Eighth Avenue would decrease from a No Build LOS D (17 SFP) to a Build LOS E (14 SFP) in the PM peak period;
- The east crosswalk at West 33rd Street and Ninth Avenue would decrease from a No Build LOS E (10 SFP) and LOS E (14 SFP) to a Build LOS E (8 SFP) and LOS E (11 SFP) in the midday and Saturday midday peak periods, respectively;
- The north crosswalk at West 33rd Street and Eighth Avenue would decrease from a No Build LOS D (16 SFP) to a Build LOS E (14 SFP) in the PM peak period;

Table 14-39
2015 Build Conditions – Analysis of Subway Stairway Impacts

Stairway	Width (ft.)	Effective Width (ft.)	No Build Volume	Build Increment	Build LOS	Required Widening (Inches)	Significant Impact
AM Peak Hour							
S4 (NW Corner of West 33rd Street and Eighth Avenue)	4.4	3.4	469	45	D	3.9	No
S8 (NW Corner of West 34th Street and Eighth Avenue)	5.8	4.8	774	0	E	0.0	No
P3 (NW Corner of West 33rd Street and Eighth Avenue)	4.4	3.4	469	45	D	3.9	No
PM Peak Hour							
S5 (NW Corner of West 34th Street and Eighth Avenue)	5.6	4.6	577	0	D	0.0	No

Table 14-40
2015 Build Conditions
AM, Midday Peak Periods – Level of Service for Sidewalks

Location	Sidewalk	Effective Width (feet)	AM						Midday					
			15-Minute Two-Way Volume	Average		Platoon		15-Minute Two-Way Volume	Average		Platoon			
				PFM	LOS	PFM	LOS		PFM	LOS	PFM	LOS		
Eighth Avenue between 35th and 34th Streets	West	7.58	297	3	A	7-	B	574	5+	B	9	C		
	East	10.17	469	3	A	7+	C	363	2	A	6	B		
34th Street between Eighth and Seventh Avenue	North	10.17	1094	7+	C	11	D	617	4	A	8	C		
	South	7.08	1079	10+	D	14	D	577	5+	B	9	C		
Eighth Avenue between 34th and 33rd Streets	East	18.50	484	2	A	6	B	541	2	A	6	B		
	West	8.00	887	7+	C	11	D	1284	11	D	15-	D		
34th Street between Ninth and Eighth Avenue	South	11.92	333	2	A	6	B	267	1	A	5+	B		
	North	16.00	498	2	A	6	B	416	2	A	6	B		
Ninth Avenue between 34th and 33rd Streets	West	11.00	203	1	A	5+	B	424	3	A	7-	B		
	East	10.00	223	1	A	5+	B	811	5+	B	9	C		
33rd Street between Ninth and Eighth Avenues	North	4.00	428	7+	C	11	D	349	6	B	10-	C		
	South	11.00	1377	8	C	12	D	2229	13	D	18	E*		
Ninth Avenue between 33rd and 31st Street	East	13.00	589	3	A	7+	C	917	5-	A	9	C		
	West	11.00	110	1	A	5-	A	288	2	A	6	B		
33rd Street between Tenth and Ninth Avenues	South	10.50	924	6	B	10-	C	631	4	A	8	C		
	North	4.00	246	4	A	8	C	333	6	B	10-	C		
33rd Street between Eighth and Seventh Avenues	North	10.00	690	5+	B	9	C	541	4	A	8	C		
	South	8.00	841	7+	C	11	D	1292	11	D	15-	D		
Eighth Avenue between 33rd Street and Mid-block crosswalk	East	20.00	172	1	A	5-	A	499	2	A	6	B		
	West	10.50	641	4	A	8	C	915	6	B	10-	C		
Seventh Avenue between 34th and 33rd Streets	West	15.50	1319	6	B	10-	C	808	3	A	7+	C		
	East	15.00	746	3	A	7+	C	791	4	A	8	C		
33rd Street between Seventh and Sixth Avenues	North	7.00	652	6	B	10+	D	552	5+	B	9	C		
	South	7.50	770	7+	C	11	D	812	7+	C	11	D		
Seventh Avenue between 33rd and 32nd Street	East	14.50	619	3	A	7-	B	607	3	A	7-	B		
	West	20.50	1494	5+	B	9	C	735	2	A	6	B		
32nd Street between Seventh and Sixth Avenues	North	7.50	1383	12	D	16	E	579	5+	B	9	C		
	South	8.50	796	6	B	10+	D	592	5+	B	9	C		
31st Street between Ninth and Eighth Avenues	North	11.00	384	2	A	6	B	1305	8	C	12	D		
	South	7.00	243	2	A	6	B	110	1	A	5+	B		
Ninth Avenue between 31st and 30th Street	East	9.50	312	2	A	6	B	778	5+	B	9	C		
	West	10.50	64	0	A	4	A	515	3	A	7+	C		
31st Street between Tenth and Ninth Avenues	South	10.50	101	1	A	5-	A	184	1	A	5+	B		
	North	10.00	182	1	A	5+	B	282	2	A	6	B		
Eighth Avenue between mid-block crosswalk and 31st Streets	West	10.50	1062	7+	C	11	D	795	5+	B	9	C		
	East	16.50	208	1	A	5-	A	189	1	A	5-	A		
31st Street between Eighth and Seventh Avenues	North	24.00	969	3	A	7-	B	707	2	A	6	B		
	South	10.50	61	0	A	4	A	260	2	A	6	B		
Eighth Avenue between 31st and 30th Street	East	10.50	603	4	A	8	C	481	3	A	7+	C		
	West	9.00	207	2	A	6	B	454	3	A	7+	C		
Seventh Avenue between 32nd and 31st Streets	West	18.00	1153	4	A	8	C	944	3	A	7+	C		
	East	22.50	758	2	A	6	B	759	2	A	6	B		
31st Street between Seventh and Sixth Avenues	North	7.50	701	6	B	10+	D	464	4	A	8	C		
	South	13.00	324	2	A	6	B	439	2	A	6	B		
Seventh Avenue between 31st and 30th Street	East	15.00	464	2	A	6	B	340	2	A	6	B		
	West	11.50	1108	6	B	10+	D	590	3	A	7+	C		

Note: PFM = pedestrians per foot per minute, * denotes significant adverse impact.

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**Table 14-40 (Continued)
2015 Build Conditions**

PM, Saturday midday Peak Periods – Level of Service for Sidewalks

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	PM				Saturday midday				
				Average		Platoon		Average		Platoon		
				PFM	LOS	PFM	LOS	PFM	LOS	PFM	LOS	
Eighth Avenue between 35th and 34th Streets	West	7.58	612	5+	B	9	C	886	8	C	12	D
	East	10.17	458	3	A	7+	C	1515	10+	D	14	D
34th Street between Eighth and Seventh Avenue	North	10.17	668	4	A	8	C	1397	9	C	13	D
	South	7.08	1213	11	D	15+	E	860	8	C	12	D
Eighth Avenue between 34th and 33rd Streets	East	18.50	554	2	A	6	B	1035	4	A	8	C
	West	8.00	1239	10+	D	14	D	1112	9	C	13	D
34th Street between Ninth and Eighth Avenue	South	11.92	422	2	A	6	B	513	3	A	7-	B
	North	16.00	656	3	A	7-	B	502	2	A	6	B
Ninth Avenue between 34th and 33rd Streets	West	11.00	200	1	A	5+	B	309	2	A	6	B
	East	10.00	614	4	A	8	C	799	5+	B	9	C
33rd Street between Ninth and Eighth Avenues	North	4.00	158	3	A	7-	B	341	6	B	10-	C
	South	11.00	1753	11	D	14	D	1611	10-	C	14	D
Ninth Avenue between 33rd and 31st Street	East	13.00	931	4-	A	9	C	1198	6	B	10	D
	West	11.00	72	0	A	4	A	50	0	A	4	A
33rd Street between Tenth and Ninth Avenues	South	10.50	471	3	A	7-	B	277	2	A	6	B
	North	4.00	209	3	A	7+	C	43	1	A	5-	A
33rd Street between Eighth and Seventh Avenues	North	10.00	603	4	A	8	C	824	5+	B	9	C
	South	8.00	1190	10+	D	14	D	1108	9	C	13	D
Eighth Avenue between 33rd Street and Mid-block crosswalk	East	20.00	404	1	A	5+	B	181	1	A	5-	A
	West	10.50	651	4	A	8	C	1099	7+	C	11	D
Seventh Avenue between 34th and 33rd Streets	West	15.50	994	4	A	8	C	985	4	A	8	C
	East	15.00	779	3	A	7+	C	1401	6	B	10+	D
33rd Street between Seventh and Sixth Avenues	North	7.00	804	8	C	12	D	681	6	B	10+	D
	South	7.50	855	8	C	12	D	775	7+	C	11	D
Seventh Avenue between 33rd and 32nd Street	East	14.50	562	3	A	7-	B	723	3	A	7+	C
	West	20.50	950	3	A	7+	C	1818	6	B	10-	C
32nd Street between Seventh and Sixth Avenues	North	7.50	1223	11	D	15-	D	371	3	A	7+	C
	South	8.50	840	7+	C	11	D	270	2	A	6	B
31st Street between Ninth and Eighth Avenues	North	11.00	904	5+	B	9	C	861	5+	B	9	C
	South	7.00	131	1	A	5+	B	156	1	A	5+	B
Ninth Avenue between 31st and 30th Street	East	9.50	554	4	A	8	C	469	3	A	7+	C
	West	10.50	111	1	A	5-	A	283	2	A	6	B
31st Street between Tenth and Ninth Avenues	South	10.50	85	1	A	5-	A	24	0	A	4	A
	North	10.00	184	1	A	5+	B	179	1	A	5+	B
Eighth Avenue between mid-block crosswalk and 31st Streets	West	10.50	833	5+	B	9	C	1220	8	C	12	D
	East	16.50	325	1	A	5+	B	141	1	A	5-	A
31st Street between Eighth and Seventh Avenues	North	24.00	913	3	A	7-	B	848	2	A	6	B
	South	10.50	92	1	A	5-	A	383	2	A	6	B
Eighth Avenue between 31st and 30th Street	East	10.50	368	2	A	6	B	623	4	A	8	C
	West	9.00	429	3	A	7+	C	549	4	A	8	C
Seventh Avenue between 32nd and 31st Streets	West	18.00	925	3	A	7+	C	1363	5+	B	9	C
	East	22.50	741	2	A	6	B	527	2	A	6	B
31st Street between Seventh and Sixth Avenues	North	7.50	970	9	C	13	D	497	4	A	8	C
	South	13.00	617	3	A	7+	C	347	2	A	6	B
Seventh Avenue between 31st and 30th Street	East	15.00	679	3	A	7+	C	373	2	A	6	B
	West	11.50	715	4	A	8	C	831	5+	B	9	C

Note: PFM = pedestrians per foot per minute, * denotes significant adverse impact.

Table 14-41
2015 Build Conditions
AM, Midday, PM, Saturday midday Peak Periods – Level of Service for Corners

Location	Corner	AM Peak Period		MIDDAY Peak Period		PM Peak Period		SATURDAY Peak Period	
		SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS
Eighth Avenue at 34th Street	Northeast	53	B	40	B	32	C	42	B
	Southeast	90	A	69	A	66	A	68	A
	Southwest	69	A	38	C	35	C	44	B
	Northwest	68	A	32	C	28	C	58	B
Ninth Avenue at 33rd Street	Northeast	34	C	13	E*	25	C	23	D
	Southeast	124	A	63	A	84	A	107	A
	Southwest	20	D	11	E*	13	E*	55	B
Eighth Avenue at 33rd Street	Northwest	47	B	30	C	47	B	104	A
	Northeast	39	C	30	C	26	C	27	C
	Southeast	21	D	17	D	15	D	31	C
	Southwest	113	A	104	A	104	A	135	A
Seventh Avenue at 33rd Street	Northwest	10	E*	9	E*	7	F*	6	F*
	Northeast	27	C	21	D	14	E*	17	D
	Southeast	68	A	72	A	69	A	55	B
	Southwest	65	A	86	A	77	A	67	A
Seventh Avenue at 32nd Street	Northwest	37	C	41	B	30	C	37	C
	Northeast	27	C	55	B	31	C	61	A
	Southeast	42	B	58	B	36	C	57	B
	Southwest	63	A	18	D	51	B	28	C
Ninth Avenue at 31st Street	Northeast	287	A	79	A	164	A	131	A
	Southeast	63	A	18	D	51	B	28	C
	Southwest	113	A	38	C	114	A	98	A
	Northwest	106	A	37	C	64	A	111	A
Eighth Avenue at 31st Street	Northeast	59	B	81	A	80	A	68	A
	Southeast	26	C	31	C	44	B	20	D
	Southwest	81	A	26	C	47	B	18	D
	Northwest	245	A	204	A	225	A	186	A
Seventh Avenue at 31st Street	Northeast	48	B	48	B	36	C	53	B
	Southeast	73	A	60	A	43	B	69	A
	Southwest	32	C	50	B	23	D	37	C
	Northwest	94	A	147	A	76	A	86	A

Note: SFP = square feet per pedestrian, * denotes significant adverse impact.

Table 14-42
2015 Build Conditions
AM, Midday Peak Periods – Level of Service for Crosswalks

Location	Crosswalk	Width (feet)	AM Peak Period						Midday Peak Period					
			Without Vehicles		With Vehicles		Maximum Surge		Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP
Eighth Avenue at 34 th Street	North	21	66	A	55	B	39	C	38	C	33	C	23	D
	East	15.5	36	C	33	C	17	D	34	C	30	C	16	D
	South	21.5	95	A	95	A	49	B	67	A	67	A	34	C
	West	15.5	62	A	58	B	28	C	30	C	27	C	14	E
Ninth Avenue at 33rd Street	North	13	51	B	51	B	31	C	37	C	37	C	22	D
	East	15	108	A	108	A	30	C	30	C	30	C	8	E*
	South	15	30	C	25	C	19	D	27	C	21	D	17	D
	West	22	195	A	152	A	54	B	126	A	112	A	35	C
Eighth Avenue at 33rd Street	North	14.5	40	B	39	C	21	D	40	B	39	C	21	D
	East	17.7	46	B	46	B	13	E*	33	C	33	C	10	E*
	South	17	24	C	24	C	12	E*	23	D	23	D	12	E*
	West	14	17	D	14	E	5	F*	16	D	12	E	5	F
Seventh Avenue at 33rd Street	North	19.5	39	C	39	C	26	C	25	C	25	C	17	D
	East	17	67	A	67	A	20	D	68	A	68	A	20	D
	South	16	13	E	12	E	10	E*	15	D	14	E	11	E
	West	18.5	34	C	24	C	9	E*	54	B	42	B	15	D
Eighth Avenue at Mid-block crosswalk	Mid-block	20	121	A	121	A	62	A	93	A	93	A	48	B
Seventh Avenue at 32nd Street	North	18.5	18	D	18	D	14	E	47	B	47	B	38	C
	East	17	165	A	128	A	48	B	130	A	104	A	38	C
	South	19	21	D	21	D	16	D	31	C	31	C	25	C
Ninth Avenue at 31st Street	North	16.5	127	A	127	A	60	A	46	B	46	B	22	D
	East	13	139	A	139	A	53	B	31	C	31	C	12	E
	South	13	105	A	95	A	65	A	47	B	41	B	29	C
	West	14.5	355	A	321	A	143	A	131	A	122	A	53	B
Eighth Avenue at 31st Street	North	16.5	27	C	22	D	14	E*	32	C	29	C	17	D
	East	14.5	33	C	33	C	13	E	52	B	52	B	20	D
	South	14.5	193	A	193	A	103	A	69	A	69	A	37	C
	West	11.5	88	A	67	A	37	C	34	C	27	C	14	E*
Seventh Avenue at 31st Street	North	20	48	B	48	B	27	C	57	B	57	B	33	C
	East	15	68	A	68	A	20	D	55	B	55	B	16	D
	South	11.5	56	B	52	B	27	C	49	B	45	B	24	C
	West	17.5	40	B	32	C	12	E	82	A	74	A	24	C

Note: SFP = square feet per pedestrian, * denotes significant adverse impact.

Table 14-42 (Continued)
2015 Build Conditions
PM, Saturday midday Peak Periods – Level of Service for Crosswalks

Location	Crosswalk	Width (feet)	PM Peak Period						Saturday Peak Period					
			Without Vehicles		With Vehicles		Maximum Surge		Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP	SFP	LOS	SFP
Eighth Avenue at 34 th Street	North	21	32	C	26	C	20	D	102	A	88	A	54	B
	East	15.5	30	C	26	C	14	E	33	C	30	C	14	E*
	South	21.5	67	A	67	A	35	C	72	A	72	A	38	C
	West	15.5	30	C	28	C	14	E*	44	B	42	B	18	D
Ninth Avenue at 33rd Street	North	13	73	A	73	A	44	B	70	A	70	A	43	B
	East	15	54	B	54	B	15	D	39	C	39	C	11	E*
	South	15	31	C	25	C	19	D	65	A	56	B	40	B
	West	22	258	A	228	A	71	A	1547	A	1422	A	426	A
Eighth Avenue at 33rd Street	North	14.5	28	C	27	C	14	E*	30	C	29	C	15	D
	East	17.7	29	C	29	C	9	E	31	C	31	C	9	E*
	South	17	25	C	25	C	13	E*	52	B	52	B	26	C
	West	14	15	D	11	E	5	F*	13	E	11	E	4	F*
Seventh Avenue at 33rd Street	North	19.5	18	D	18	D	12	E*	27	C	27	C	18	D
	East	17	63	A	63	A	19	D	34	C	34	C	10	E
	South	16	14	E	13	E	10	E*	15	D	13	E	11	E*
	West	18.5	44	B	31	C	12	E*	46	B	34	C	13	E
Eighth Avenue at Mid-block crosswalk	Mid-block	20	69	A	69	A	36	C	230	A	230	A	119	A
Seventh Avenue at 32nd Street	North	18.5	19	D	19	D	15	D	42	B	42	B	33	C
	East	17	108	A	99	A	32	C	124	A	111	A	36	C
	South	19	18	D	18	D	15	D	28	C	28	C	23	D
Ninth Avenue at 31st Street	North	16.5	102	A	102	A	48	B	110	A	110	A	52	B
	East	13	86	A	86	A	33	C	42	B	42	B	16	D
	South	13	181	A	154	A	111	A	72	A	64	A	44	B
	West	14.5	393	A	351	A	159	A	518	A	471	A	209	A
Eighth Avenue at 31st Street	North	16.5	30	C	27	C	16	D	32	C	30	C	17	D
	East	14.5	52	B	52	B	20	D	34	C	34	C	13	E*
	South	14.5	154	A	154	A	82	A	57	B	57	B	30	C
	West	11.5	48	B	35	C	20	D	25	C	22	D	11	E*
Seventh Avenue at 31st Street	North	20	37	C	37	C	21	D	55	B	55	B	32	C
	East	15	49	B	49	B	14	E	56	B	56	B	17	D
	South	11.5	31	C	28	C	15	D	55	B	52	B	27	C
	West	17.5	36	C	32	C	11	E	46	B	37	C	14	E

Note: SFP = square feet per pedestrian, * denotes significant adverse impact.

- The east crosswalk at West 33rd Street and Eighth Avenue would decrease from a No Build LOS E (14 SFP), LOS E (12 SFP), and LOS E (10 SFP) to a Build LOS E (13 SFP), LOS E (10 SFP), and LOS E (9 SFP) in the AM, midday, and Saturday midday peak periods, respectively;
- The south crosswalk at West 33rd Street and Eighth Avenue would decrease from a No Build LOS D (17 SFP), LOS E (14 SFP), and LOS D (18 SFP) to a Build LOS E (12 SFP), LOS E (12 SFP), and LOS F (13 SFP) in the AM, midday, and PM peak periods, respectively;
- The west crosswalk at West 33rd Street and Eighth Avenue would decrease from a No Build LOS F (6 SFP), LOS F (6 SFP) and LOS F (6 SFP) to a Build LOS F (5 SFP), LOS F (5 SFP) and LOS F (4 SFP) in the AM, PM, and Saturday midday peak periods, respectively;
- The north crosswalk at West 33rd Street and Seventh Avenue would decrease from a No Build LOS E (13 SFP) to a Build LOS E (12 SFP) in the PM peak period;

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- The south crosswalk at West 33rd Street and Seventh Avenue would decrease from a No Build LOS E (11 SFP), LOS E (12 SFP), and LOS E (12 SFP) to a Build LOS E (10 SFP), LOS E (10 SFP), and LOS E (11 SFP) in the AM, PM, and Saturday midday peak periods, respectively;
- The west crosswalk at West 33rd Street and Seventh Avenue would decrease from a No Build LOS E (10 SFP) and LOS E (13 SFP) to a Build LOS E (9 SFP) and LOS E (12 SFP) in the AM and PM peak periods, respectively;
- The north crosswalk at West 31st Street and Eighth Avenue would decrease from a No Build LOS C (39 SFP) to a Build LOS E (14 SFP) in the AM peak period;
- The east crosswalk at West 31st Street and Eighth Avenue would decrease from a No Build LOS D (21 SFP) and LOS E (12 SFP) to a Build LOS E (14 SFP) and LOS E (11 SFP) in the midday and Saturday midday peak periods, respectively; and
- The west crosswalk at West 31st Street and Eighth Avenue would decrease from a No Build LOS E (12 SFP) to a Build LOS E (11 SFP) in the Saturday midday peak period.

As described in Section B, "Methodology," impacts to sidewalks are considered significant if the proposed project would result in a deterioration in level-of-service from No Build LOS D or better to Build LOS E or F, or when the pedestrian flow is increased by 2 PFM or more at a location with a No Build LOS E or F. Based on these criteria, the proposed project would only result in a significant adverse sidewalk impact at one location, described below.

- South sidewalk on West 33rd Street between Ninth and Eighth Avenues in the midday peak period. It should be noted that the existing moats would be removed between Ninth Avenue and the intermodal hall entrance and the sidewalk would be widened substantially; therefore, pedestrian conditions on the western portion of the block would be substantially improved compared to the No Build condition.

Impacts to corners and crosswalks are considered significant if the proposed project would result in a deterioration in level-of-service from No Build LOS D or better to Build LOS E or F, or when the available circulation space is decreased by 1 SFP or more at a location with a No Build LOS E or F. Based on these criteria, the proposed project would result in significant adverse impacts at a total of 17 corner and crosswalk locations as follows:

- Northeast corner of West 33rd Street and Ninth Avenue in the midday peak period;
- Southwest corner of West 33rd Street and Ninth Avenue in the midday and PM peak periods;
- Northwest corner of West 33rd Street and Eighth Avenue in the AM, midday, PM, and Saturday peak periods;
- Northeast corner of West 33rd Street and Seventh Avenue in the PM peak period;
- East crosswalk of West 34th Street and Eighth Avenue in the Saturday peak period;
- West crosswalk of West 34th Street and Eighth Avenue in the PM peak period;
- East crosswalk of West 33rd Street and Ninth Avenue in the midday and Saturday peak periods;
- North crosswalk of West 33rd Street and Eighth Avenue in the PM peak period;

- East crosswalk of West 33rd Street and Eighth Avenue in the AM, midday, and Saturday peak periods;
- South crosswalk at West 33rd Street and Eighth Avenue in the AM, midday, and PM peak periods;
- West crosswalk of West 33rd Street and Eighth Avenue in the AM, PM, and Saturday peak periods;
- North crosswalk of West 33rd Street and Seventh Avenue in the PM peak period;
- South crosswalk of West 33rd Street and Seventh Avenue in the AM, PM, and Saturday peak periods;
- West crosswalk of West 33rd Street and Seventh Avenue in the AM and PM peak periods;
- North crosswalk of West 31st Street and Eighth Avenue in the AM peak period;
- East crosswalk of West 31st Street and Eighth Avenue in the Saturday peak period; and
- West crosswalk of West 31st Street and Eighth Avenue in the midday and Saturday peak periods.

Chapter 19, “Mitigation,” describes the recommended measures to alleviate the project-generated impacts at these corner and crosswalk locations. *