A. INTRODUCTION

This chapter of the EIS assesses the proposed project's potential impacts on transit and pedestrian facilities in the vicinity of the project site. As described in Chapter 1, "Project Description," the proposed project would include 900 dwelling units, 8,800 gsf of local retail space, 330,000 gsf of auto showroom and maintenance, a 20,000 gsf public health club, 36,000 gsf NYPD stables, and 225 accessory parking spaces. Vehicle access to the site would be via curb cuts on W. 53rd Street for the accessory garage and the NYPD stable, and on W. 53rd and W. 54th Streets for the auto dealership (see Figure 1-6 in Chapter 1).

Subway

The proposed project is located approximately one half-mile to the west of the W. 59th Street-Columbus Circle subway station's stairways at W. 57th Street and Eighth Avenue. This station provides access to most of the subway lines connecting the West Side to Midtown and Lower Manhattan (A, B, C, D, and 1 trains), and is a major transfer point between them.

Other nearby stations are the 50th Street station (at Eighth Avenue) serving the C and E trains, the 50th Street station (at Broadway) serving the 1 train) and the 7th Avenue station (at W. 53rd Street) serving the B, D, and E trains. Information on the these subway services provided at area stations is presented in Table 14-1.

As shown previously in Table 13-6 in Chapter 13, "Traffic and Parking," the proposed project would generate 235 subway trips in the AM peak hour and 324 subway trips in the PM peak hour. These trips would be distributed among the four subway stations listed above. Given the wider service operations at the 59th Street-Columbus Circle station, its proximity to the project site relative to the other nearby stations, and with the M31 bus route adjacent to the project site on W. 54th Street which serves the W. 57th street corridor, it is expected that about 50 percent of the project-generated subway trips would use the Columbus Circle station via the W. 57th Street entries. The remaining 50 percent would be distributed among the three other stations. As such approximately 118 subway trips would use the 59th Street-Columbus Circle station in the AM peak hour and approximately 162 trips in the PM peak hour. According to the *CEQR Technical Manual* projects that generate fewer than 200 subway trips at a station are not likely to have any significant impacts and can be screened out of any detailed analysis. Although no station is expected to process 200 or more project-generated subway trips, an analysis of the 59th Street-Columbus Circle station in the PM peak hour is provided for informational purposes as it represents the greatest incremental demand at any one location.

Table 14-1, Study Area Subway Services and Stations

Train Line	Area Stations Served (1)				Operating Hours	Route/Service Overview
	59-CC	50/8	50/B	7/53		
A (IND)	X				All times	Inwood-Far Rockaway or Lefferts Boulevard (Express in Manhattan & Brooklyn, Local in Queens)
B (IND)	X			X	Weekdays 6 a - 9:30 p	Bedford Park-Brighton Beach (Local in Bronx & Upper Manhattan, Express in Midtown Manhattan & Brooklyn)
C (IND)	X	X			5:30 a - 11 p	Washington Heights-Euclid Ave. (Local in Manhattan & Brooklyn)
D (IND)	X			X	All times	Norwood-Coney Island (Express in Manhattan, Brooklyn, and Bronx peak direction)
E (IND)		X		X	All times	Jamaica Center-World Trade Center (Express in Queens, Local in Manhattan)
1 (IRT)	X		X		All times	Van Cortlandt Park-South Ferry (Local in Manhattan & Brooklyn)

(1) Key to Station abbreviations: 59-CC = 59th Street Columbus Circle; 50/8 = 50th Street (at 8th Ave.); 50/B = 50th Street (at Broadway.); 7/53 = 7th Ave. (at W. 53rd St.)
Source: *The Map* (MTA)

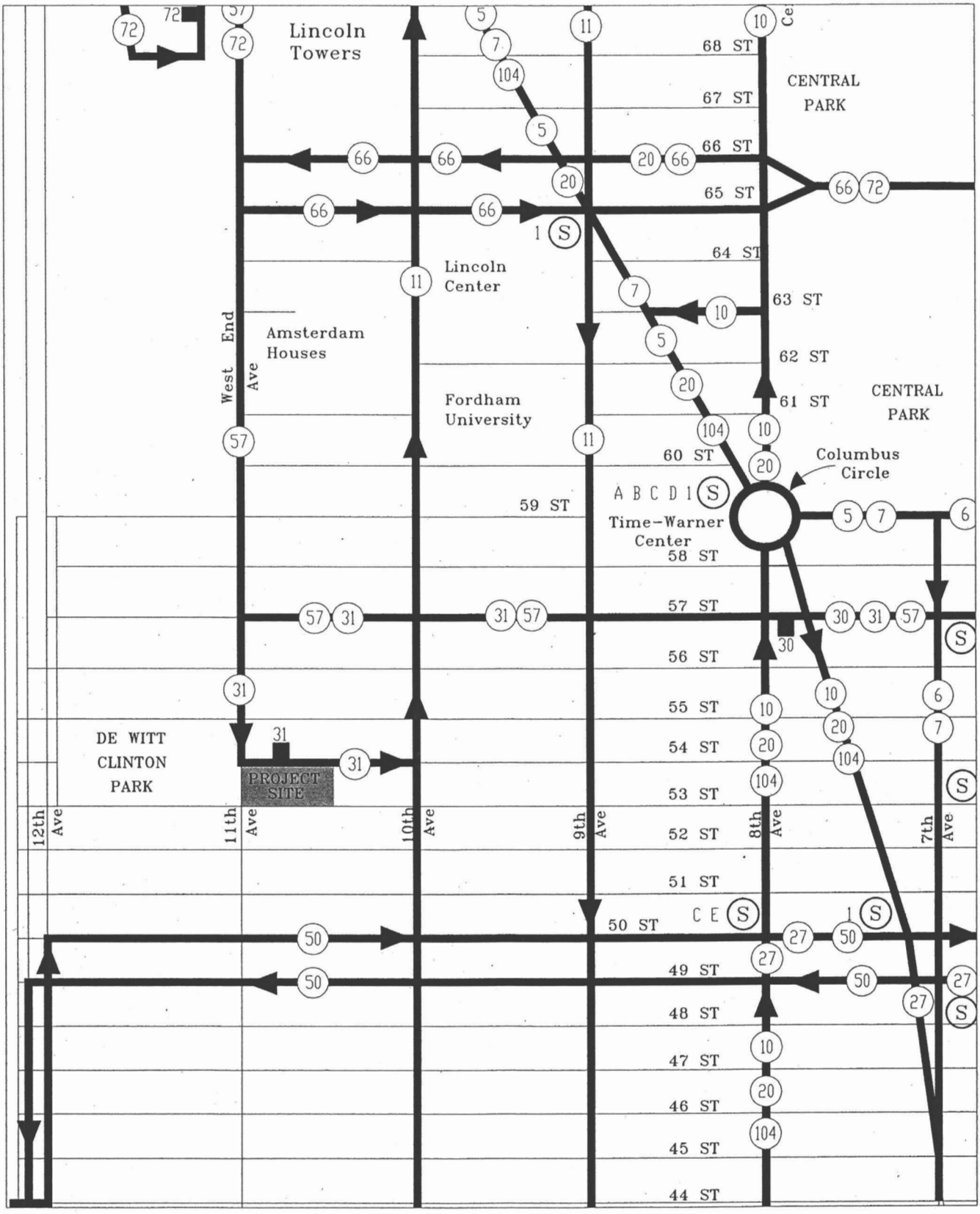
Bus

As discussed below, the proposed project would not trigger the threshold for bus analysis, i.e., 200 or more bus passengers on a given bus route in one direction in a peak hour. Accordingly, a detailed quantitative analysis is not provided and buses are only addressed qualitatively.

As described below, the project area is served by four MTA NYC Transit Bus routes, the M11, M31, M50, and M57. As also shown in Table 13-6 in Chapter 13, the proposed project would generate approximately 25 inbound and 119 outbound bus trips in the AM peak hour and 130 inbound and 57 outbound bus trips in the PM peak hour. In addition, it is expected that up to approximately 50 percent of subway trips made to the 59th Street-Columbus Circle station (via M31 bus route) and 25 percent of subway trips made to the 50th Street IND (at Eighth Avenue), and 50th Street IRT (at Broadway) stations (via M50 bus route) could include a bus connection between the site and the station. With the project-generated bus trips dispersed among four bus routes (M11, M31, M50, and M57 routes), and reflecting the directional split of project trips, no bus route would carry 200 or more project-generated bus trips in one direction in a peak hour. This is the case even when accounting for bus-to-subway and subway-to-bus transfers (the M31 would attract the highest demand of 142 inbound trips in the PM peak hour between Eighth Avenue and the project site). Therefore, no significant adverse impacts to bus services likely would occur.

The four NYC Transit local bus routes operating within an approximately 5-minute walk of the project site (all have stops within a quarter-mile radius) and their relationship to the project site are shown in Figure 14-1. The following provides a brief description of each route. As shown in the figure, in the vicinity of the project site, three of these routes are cross-town services while the

Local Bus Routes



Legend: (S) A B C D 1 subway station (general location) & lines serving station

fourth, M11, operates an uptown-downtown service. It is expected that in addition to serving project-generated local bus trips, that some project-generated subway trips also would use the bus services for travel to and from nearby subway stations.

M11 The M11 provides local service between W. 145th Street and Riverside Park in West Harlem and Bethune Street (Abingdon Square) in Greenwich Village. In the vicinity of the project site the M11 operates northbound on Tenth Avenue and southbound on Ninth Avenue. The route has a frequency of service of 8-10 minutes southbound and 10-12 minutes northbound in the AM peak hour. In the PM peak hour, its frequency of service is 10-11 minutes southbound and 7-10 minutes northbound.

M31 The M31 provides local service between York Avenue and E. 92nd Street in Yorkville, and W. 54th Street. The W. 54th Street terminus is located between Tenth and Eleventh Avenues immediately adjacent to the project site. The major streets of operation are York Avenue and E. 57th Street/W. 57th Street. In the AM peak hour the route has a frequency of service of 4-7 minutes westbound and 8-9 minutes eastbound. Its frequency of service in the PM peak hour is 6-8 minutes both eastbound and westbound. During the AM peak period, some westbound M31 runs do not extend to the W. 54th Street terminus.

M50 The M50 provides local service between W. 42nd Street and Twelfth Avenue at Pier 83 on the West Side, and E. 42nd Street and First Avenue on the East Side. The major streets of operation are W. 50th Street/E. 50th Street (eastbound) and W. 49th Street/E. 49th Street (westbound). The route has a frequency of service of 10-15 minutes both eastbound and westbound in the AM peak hour and 12-17 minutes eastbound and 10-12 minutes westbound in the PM peak hour.

M57 This route provides local service between York Avenue and E. 60th Street on the East Side and Broadway and W. 72nd Street on the Upper West Side. The major streets of operation are W. 57th Street/E. 57th Street, W. End Avenue and W. 72nd Street. Between Tenth Avenue and First Avenue, the route functions with the M31as a cross-town route serving the northern portion of Midtown. In the AM peak hour, the route has a frequency of service of 8-12 minutes eastbound and 10-11 minutes westbound. Its frequency of service in the PM peak hour is 6-8 minutes both eastbound and westbound.

Pedestrians

Pedestrian activity is relatively light at the sidewalks, street corners, and crosswalks immediately adjacent to the site. This reflects the site's location near the western edge of the Manhattan grid and the absence of major pedestrian traffic generators such as a subway station or a school in its immediate vicinity. In Clinton, pedestrian volumes on sidewalks generally are highest on avenues and on cross-streets to the east that are closer to Midtown and the Eighth Avenue subway stations.

As shown in Table 13-6 of Chapter 13, the proposed project would generate 279 walk trips in the weekday AM peak hour and 426 walk trips in the weekday PM peak hour. In addition, the project-generated subway and bus trips would have a walk component between the project site and the

transit facility (subway station or bus stop) utilized. In order to quantify existing and anticipated future pedestrian volumes on the facilities that would process the greatest concentrations of project-generated walk trips and make a determination of impacts, a detailed qualitative analysis of pedestrian conditions is provided.

B. EXISTING CONDITIONS

Subway

59th Street-Columbus Circle: Analyzed Stairways

The 59th Street-Columbus Circle station is served by subway lines with a north-south alignment. As shown in Figure 14-2, a large mezzanine with two fare control areas (N-51 and N-49) is located directly above three island platforms served by IND trains (the center one of which is no longer used by passengers). Two side platforms served by IRT 1 trains bisect the mezzanine and are diagonally orientated to the IND platforms below. In addition to the two fare control areas on the IND mezzanine, there is a small fare control area (R-158) located at the north end of the southbound IRT platform serving an entrance in the median of Broadway at W. 60th Street. The northbound and southbound IRT platforms are served from the IND mezzanine, and access between the two IRT platforms can be achieved via the IND platforms.

The station's main access points are at W. 58th Street and Eighth Avenue, and at W. 60th Street adjacent to the Trump International Hotel and Tower. Secondary access to and from the southbound IRT platform is provided by the street stair in the Broadway median at W. 60th Street and two recently completed stairs at the northwest corner of W. 60th Street and Broadway. In addition, the mezzanine level extends south from control area N-51 to four stairs leading to the corners of Eighth Avenue and W. 57th Street. As the proposed project is between W. 53rd and W. 54th Streets, it is expected that station access/egress principally would be from the stairs on the northwest (Stair 021) and southwest (Stair H57) corners of the Eighth Avenue/ W. 57th Street intersection. Ridership patterns at the station for the 2003 through 2006 period are shown below in Table 14-2.

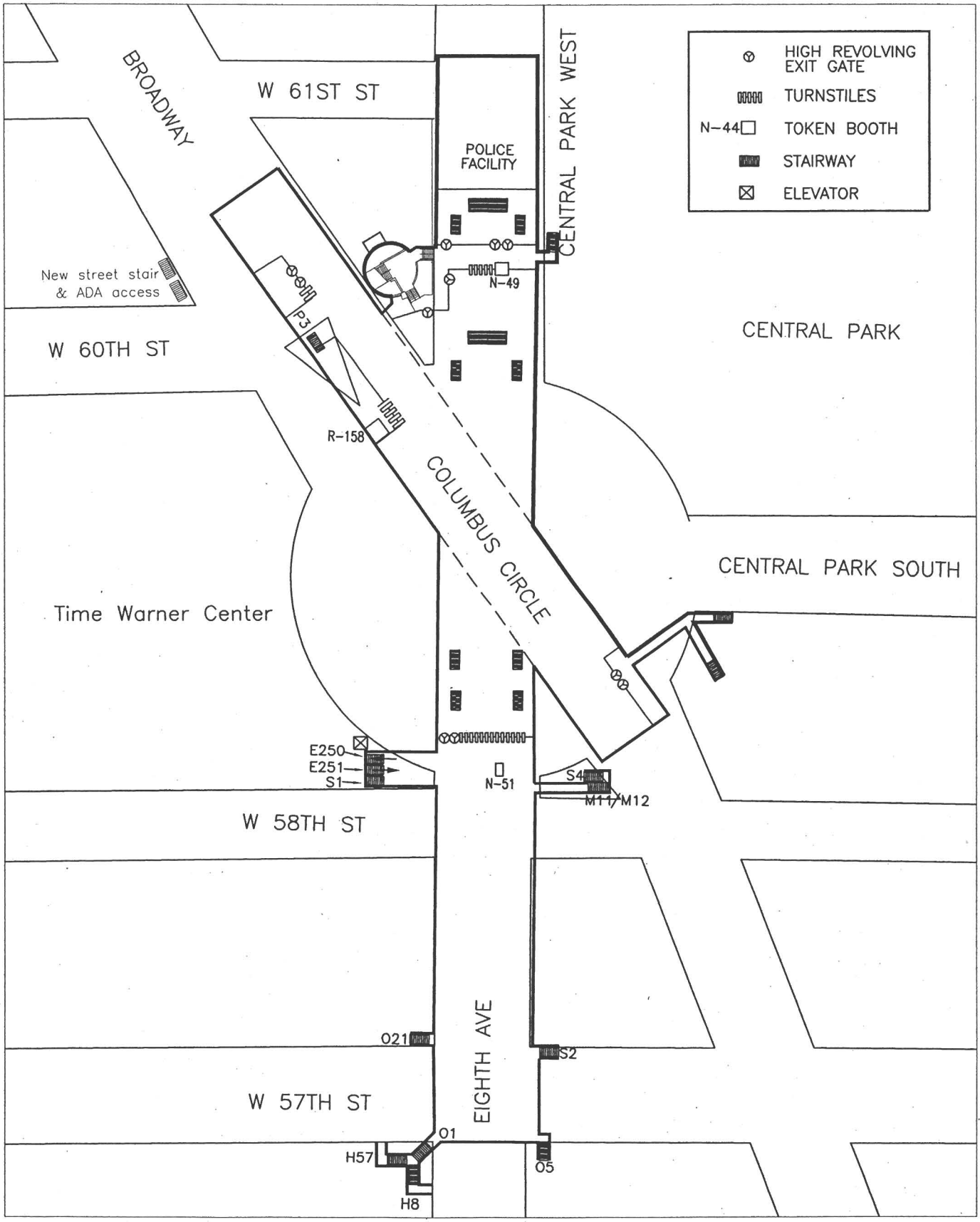
Table 14-2, Average Weekday Turnstile Registrations at the 59th Street-Columbus Circle Station (non-students)

2003	50,184
2004	56,808
2005	60,167
2006	62,700

Source: NYC Transit

Overall, the 59th Street-Columbus Circle station has experienced an approximately 25 percent growth in ridership from 2003 to 2006. In 2006, this was the ninth busiest subway station complex in the NYC Transit system. This growth is likely attributable to several factors, including overall

59th Street-Columbus Circle Station Mezzanine Level



system-wide increase in ridership and new development in the area surrounding the station including the Time Warner Center (opened 2004) and the expansion to the Hearst Tower (opened 2006). Both of these buildings are located adjacent to station entrances.

Figure 14-2 shows the locations of fare control areas, exit gates, and street stairways and escalators at the 59th Street-Columbus Circle station. The analysis of potential subway station impacts focuses on those street stairs at W. 57th Street on the west side of Eighth Avenue that would be utilized by project-generated subway demand at this station. These include Stair H57 at the southwest corner of W. 57th Street and Eighth Avenue and Stair O21 at the northwest corner of W. 57th Street and Eighth Avenue. Both of these are "easement" stairways located within the building footprints of the corner properties and therefore are not located within the public street right-of-way as compared to typical sidewalk stair entrances. Both of these stairways connect to a broad mezzanine concourse linking to fare array N-51. Stair H57 is located within the Hearst Tower (959 Eighth Avenue) and rises from the mezzanine concourse to a landing where two stairways rise, one (H57) to W. 57th Street and the other (H8) to Eighth Avenue. Stair H57 is also designated Stair M7 and O1. Stair O21 is located within the Central Park Place building (301 W. 57th Street) and is accessed via the Eighth Avenue sidewalk immediately north of W. 57th Street.

Methodology

The subway station analysis was prepared utilizing the design capacities for stairs specified in *NYCTA Station Planning and Design Guidelines*, as well as procedures set forth in *Pedestrian Planning and Design* by John J. Fruin. All analyses reflect peak fifteen-minute conditions in the PM peak hour (as discussed above, detailed analysis of the AM peak hour was screened out). The analysis was conducted using the Fruin pedestrian level of service (LOS) methodology, which equates pedestrian flow per minute per foot of stairway width with qualitative measures of pedestrian comfort. Based on the calculated values of pedestrian volumes per foot width of stair per minute, Fruin defines six levels of service with letters A through F as shown in Table 14-3. Level of service A is representative of free flow conditions without pedestrian conflicts and LOS F depicts significant capacity limitations and inconvenience.

Table 14-3, Stairway Level of Service Definitions

Level of Service	Pedestrians/ Foot/ Minute (PFM)	Comments
A	Up to 5	Free flow conditions
B	5 - 7	Minor reverse flow will cause minor conflicts.
C	7 - 10	Slight restrictions in speed and difficulties in reverse flows.
D	10 - 13	Significant restriction in speed and difficulties in reverse flows.
E	13 - 17	Reductions of speeds, serious reverse traffic conflicts, and intermittent stoppages.
F	More than 17	Complete breakdown in traffic flow.

Analysis

Subway stairway data collection occurred in November 2007 during the PM peak period. Table 14-4 shows the results of the analysis of 2008 Existing PM peak hour conditions at the two street stairs analyzed at the 59th Street-Columbus Circle station. As is shown in the table, both analyzed stairways operate at LOS A. Stair O21 operates at approximately 39 percent of design capacity and Stair H57 operates at approximately 8 percent of capacity. Although this is a very heavily utilized station, the lack of congestion at these locations reflects the numerous street access points for this station and the relatively high capacity provided by the wide easement stairs at these locations.

Table 14-4, 2008 Existing Subway Stairway Analysis, 59th Street-Columbus Circle Station

Station Element		Peak Hour (1)	Effective Width in Feet (2)	Maximum 15 min. Capacity (3)	Peak 15 min. Volume (4)	PFM (5)	Volume to Capacity Ratio	LOS
#	Location							
O21	Stairway @ NW corner W 57 St & 8 Av	PM	9.87	1,481	577	3.90	0.39	A
H57	Stairway @ SW corner W 57th St & 8 Av	PM	9.33	1,400	107	0.76	0.08	A

Notes:
(1) PM peak hour weekday 5-6 PM
(2) Effective width measured as width between the handrails multiplied by a friction factor of 0.8 to account for reverse flow.
(3) Stair capacity in persons per 15 minutes based on NYC Transit guidelines of 10 persons per foot per minute.
(4) Data collected November 2007. 1 year of background growth @ 0.5% applied to determine 2008 data. Hourly count data is average for 15 a minute period and multiplied by 1.25 to account for peaking of passenger volumes.
(5) Persons per effective foot width per minute

Pedestrians

Analyzed Pedestrian Facilities

As shown in Figure 1-6, Site Plan, in Chapter 1, the proposed project would have street frontages on Eleventh Avenue, W. 53rd Street, and W. 54th Street. There would be residential lobby entrances at midblock locations on both cross-streets. An 8,000 sf retail space would be accessed from a midblock sidewalk location on W. 54th Street, as would the health club. The auto dealership would have frontage along all three streets and may have pedestrian entrances on two or three of these streets. The NYPD Mounted Unit would be accessible from the midblock sidewalk on W. 53rd Street, as would an 800 sf local retail space. The greatest concentrations of project-generated walk trips would be on these sidewalks, crosswalks, and street corners immediately adjacent to the site and to the east along Tenth Avenue as most trips would be made in that direction given the site's location near the western edge of Clinton.

These analyzed pedestrian facilities include:

Sidewalks:
* North sidewalk of W. 53rd Street between Tenth and Eleventh Avenues
* East sidewalk of Eleventh Avenue between W. 53rd and W. 54th Streets
* South sidewalk of W. 54th Street between Tenth and Eleventh Avenues
* West sidewalk of Tenth Avenue between W. 53rd and W. 54th Streets

Street Corners
* Southeast corner of W. 54th Street and Eleventh Avenue
* Northeast corner of W. 53rd Street and Eleventh Avenue
* Northwest corner of W. 53rd Street and Tenth Avenue
* Southwest corner of W. 54th Street and Tenth Avenue

Crosswalks
* North and east crosswalk at W. 53rd Street and Eleventh Avenue
* South and east crosswalk at W. 54th Street and Eleventh Avenue
* South and west crosswalk at W. 54th Street and Tenth Avenue
* North and west crosswalk at W. 53rd Street and Tenth Avenue

The concrete sidewalks and street corner areas bordering the project site are currently closed due to ongoing site preparation work for an as-of-right project. These facilities included the typical street furniture and other impediments to pedestrian flow and queuing, including street trees, hydrants, and a bus stop on W. 54th Street. Pedestrian streets crossings in the vicinity of the project site are controlled by signalized intersections with two-phase signal cycles and standard striped crosswalks.

Methodology

The methodologies presented in the *Highway Capacity Manual (HCM) Specialized Report 209* (Transportation Research Board, 1985) are used to assess the adequacy of the study area's sidewalks, street corners, and crosswalk capacities in relation to the demand processed by them. Sidewalks are analyzed in terms of pedestrian flow. The calculation of the average pedestrians per foot of effective foot of walkway width per minute (PFM) is the basis for the pedestrian level of service (LOS) analysis. However, walkways are directly influenced by other elements of the transportation network; thus, to more accurately estimate the dynamics of walking conditions, a platoon factor is applied in the calculation of pedestrian flow. This reflects the tendency of pedestrians to move in congregated groups (platoons) and generally results in an LOS one level poorer than average flow conditions.

It should be noted that the analysis of sidewalk conditions is based on the "effective width" which is the width actually available to accommodate pedestrian flow. The effective width of a sidewalk can be reduced by the presence of trees, building stoops, light poles, signs, and other street furniture.

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 other street or moving around the corner). The *HCM* applies 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 as 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 area available (the crosswalk width multiplied by the width of the street) and the signal's "walk" cycle. This measure is expressed as 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 the assumed walking speed. The ratio of average crossing time to the time-space available in the crosswalk is the LOS measurement of available SFP. Additionally, in the first seconds of the "walk" cycle, the pedestrians queued to cross the street create a surge effect as they begin to cross. Therefore, the crosswalk LOS analysis incorporates a factor in this "surge" to estimate worst-case conditions. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk during the "walk" phase.

Table 14-5 shows the LOS standards (as defined by the *CEQR Technical Manual*) for sidewalks, street corners, and crosswalks. The *CEQR Technical Manual* specifies that an LOS D condition or better is considered reasonable for sidewalks, street corners, and crosswalks within the Manhattan central business district (CBD). For crosswalks and street corners, an LOS D condition requires a minimum of 15 SFP. For sidewalks, an LOS D condition requires a maximum of 15 PFM.

Table 14-5, Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks	Street Corners 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

PFM = pedestrians per foot per minute; SFP = square foot per pedestrian

For most areas of Manhattan, project-related sidewalk impacts are considered significant and require examination of mitigation if there is an increase of 2 PFM over No-Build conditions that is characterized by flow rates greater than 15 PFM (the threshold between LOS D and LOS E). For street corners and crosswalks, a decrease of 1 SFP resulting from the proposed project when the No-Build condition has an average occupancy of less than 15 SFP (the threshold between LOS D and LOS E) is considered significant. However, adverse conditions at an analysis element resulting from

a project increment of less than 200 peak hour trips would not be considered significant since this increase would not be perceptible when distributed over an hour.

Analysis

The existing operations of the study area's sidewalks, street corners, and crosswalks were assessed for the weekday AM and PM peak hours based on counts conducted in November 2007 and a 0.5 percent background growth rate was applied to reflect 2008 existing conditions. Peak 15-minute volumes were calculated and an analysis was conducted according to the methodology described above. As shown in Tables 14-6, 14-7, and 14-8, all analysis locations currently operate at LOS A or B with no congestion on sidewalks, street corners, and crosswalks during the weekday AM and weekday PM peak hours.

Table 14-6, 2008 Existing Sidewalk Conditions

Facility		Effective Width (feet) (1)	Peak 15-min. Volumes		Average Conditions				Platoon Conditions			
					AM		PM		AM		PM	
No.	Location		AM	PM	PFM	LOS	PFM	LOS	PFM	LOS	PFM	LOS
S1	E side of 11 Av (W 53/W 54 Sts)	9.5	28	45	0.20	A	0.32	A	0.20	A	0.32	A
S2	S side of W 54 St (10/11 Aves)	7.5	51	61	0.45	A	0.54	A	0.45	A	0.54	B
S3	W side of 10 Av (W 53/W 54 Sts)	13.5	60	91	0.30	A	0.45	A	0.30	A	0.45	A
S4	N side of W 53 St (10/11 Aves)	7.5	26	6	0.23	A	0.05	A	0.23	A	0.05	A

AM = weekday 8-9 AM; PM = weekday 5-6 PM; PFM = persons/foot/minute; LOS = level of service
(1) Refer to text on page 14-7 discussing sidewalk effective width.

Table 14-7, 2008 Existing Corner Conditions

Facility			Peak 15 min. Volumes		Average Conditions			
					AM		PM	
No.	Location	Corner	AM	PM	SF/Ped	LOS	SF/Ped	LOS
C1	11 Av & W 53 St	Northeast	4	6	757.7	A	385.1	A
C2	11 Av & W 54 St	Southeast	13	3	378.1	A	576.2	A
C3	10 Av & W 54 St	Southwest	39	31	236.8	A	285.3	A
C4	10 Av & W 53 St	Northwest	9	19	281.3	A	367.1	A

SF/Ped = average square feet per pedestrian; LOS = level of service

Table 14-8, 2008 Existing Crosswalk Conditions

Facility		Street Width (feet)	Crosswalk Width (feet)	Peak 15 min. Volumes		Average Conditions (w/ Conflicting Vehicles)			
						AM		PM	
No.	Location			AM	PM	SF/Ped	LOS	SF/Ped	LOS
X1	11 Av & W 53 St - N	70	13.0	34	55	265.5	A	74.6	A
X2	11 Av & W 53 St - E	34	14.5	7	26	2,694.0	A	863.5	A
X3	11 Av & W 54 St - S	70	14.0	46	35	210.3	A	162.8	A
X4	11 Av & W 54 St - E	35	12.0	49	34	297.3	A	528.1	A
X5	10 Av & W 54 St - S	60	12.0	37	39	233.5	A	221.1	A
X6	10 Av & W 54 St - W	32	18.0	115	89	192.5	A	252.4	A
X7	10 Av & W 53 St - N	60	13.0	41	19	149.5	A	297.7	A
X8	10 Av & W 53 St - W	34	19.0	110	86	171.0	A	220.9	A

SF/Ped = average square feet per pedestrian; LOS = level of service

C. FUTURE WITHOUT TH E PROPOSED ACTION

Subway

In the 2011 future without the project, no significant physical changes are anticipated at the analyzed street stairs. However, MTA NYC Transit is currently undertaking a major rehabilitation of the 59 Street-Columbus Circle station complex to bring it into a state of good repair. This project is expected to be completed before 2011. It will provide a number of improvements, including among others new architectural treatments to customer areas including the existing street entrances and fare control areas. These measures are not expected to change the capacity of the analyzed stairways.

Under No-Build conditions, passenger volumes at the analyzed stairways are expected to increase. A 0.5 percent per year increase in existing demand is assumed to account for background growth. In addition, increments of major No-Build developments that are expected to generate demand at these stairways, based on their location, are also accounted for in identifying passenger volumes at these locations.

Table 14-9 shows the results of the analysis of 2011 No-Build PM peak hour conditions at the two station elements analyzed. As shown in the table, the two stairs would continue to operate at acceptable levels, with Stair O21 operating at LOS B (54 percent of capacity) and H57 remaining at LOS A (10 percent of capacity).

Table 14-9, 2011 No-Build Subway Stairway Analysis, 59th Street-Columbus Circle Station

Station Element		Peak Hour (1)	Effective Width in Feet (2)	Maximum 15 min. Capacity (3)	Peak 15 min. Volume	PFM (4)	Volume to Capacity Ratio	LOS
#	Location							
O21	Stairway @ NW corner W 57 St & 8 Av	PM	9.87	1,481	799	5.40	0.54	B
H57	Stairway @ SW corner W 57th St & 8 Av	PM	9.33	1,400	139	0.99	0.10	A

Notes:
(1) PM peak hour weekday 5-6 PM
(2) Effective width measured as width between the handrails multiplied by a friction factor of 0.8 to account for reverse flow.
(3) Stair capacity in persons per 15 minutes based on NYC Transit guidelines of 10 persons per foot per minute.
(4) Data collected November 2007. 1 year of background growth @ 0.5% applied to determine 2008 data. Hourly count data is average for 15 a minute period and multiplied by 1.25 to account for peaking of passenger volumes.

Pedestrians

Under No-Build conditions pedestrian volumes in the vicinity of the project site are expected to remain very low with no congestion. To account for general growth in the area, a background growth rate of 0.5 percent per year was applied to the 2008 existing volumes to identify the 2011 No-Build volumes. As shown in Tables 14-10, 14-11, and 14-12 all analyzed pedestrian elements would operates at LOS A or B.

Table 14-10, 2011 No-Build Sidewalk Conditions

Facility		Effective Width (feet)	Peak 15-min. Volumes		Average Conditions				Platoon Conditions			
					AM		PM		AM		PM	
No.	Location		AM	PM	PFM	LOS	PFM	LOS	PFM	LOS	PFM	LOS
S1	E side of 11 Av (W 53/W 54 Sts)	9.5	29	46	0.20	A	0.32	A	0.20	A	0.32	A
S2	S side of W 54 St (10/11 Aves)	7.5	52	62	0.46	A	0.55	A	0.46	A	0.55	B
S3	W side of 10 Av (W 53/W 54 Sts)	13.5	75	125	0.37	A	0.62	A	0.37	A	0.62	B
S4	N side of W 53 St (10/11 Aves)	7.5	27	6	0.24	A	0.05	A	0.24	A	0.05	A

Table 14-11, 2011 No-Build Corner Conditions

Facility			Peak 15 min. Volumes		Average Conditions			
					AM		PM	
No.	Location	Corner	AM	PM	SF/Ped	LOS	SF/Ped	LOS
C1	11 Av & W 53 St	Northeast	4	6	757.7	A	376.2	A
C2	11 Av & W 54 St	Southeast	13	3	371.1	A	568.3	A
C3	10 Av & W 54 St	Southwest	40	32	217.0	A	231.0	A
C4	10 Av & W 53 St	Northwest	9	19	253.9	A	287.0	A

Table 14-12, 2011 No-Build Crosswalk Conditions

Facility		Street Width (feet)	Crosswalk Width (feet)	Peak 15 min. Volumes		Average Conditions (w/ Conflicting Vehicles)			
						AM		PM	
No.	Location			AM	PM	SF/Ped	LOS	SF/Ped	LOS
X1	11 Av & W 53 St - N	70	13.0	34	57	265.5	A	69.1	A
X2	11 Av & W 53 St - E	34	14.5	7	26	2,694.0	A	863.5	A
X3	11 Av & W 54 St - S	70	14.0	47	36	205.7	A	158.2	A
X4	11 Av & W 54 St - E	35	12.0	50	34	291.2	A	528.1	A
X5	10 Av & W 54 St - S	60	12.0	37	91	233.5	A	91.0	A
X6	10 Av & W 54 St - W	32	18.0	131	72	167.5	A	315.1	A
X7	10 Av & W 53 St - N	60	13.0	42	19	145.9	A	297.7	A
X8	10 Av & W 53 St - W	34	19.0	126	120	148.3	A	156.1	A

D. FUTURE WITH THE PROPOSED ACTION

Subway

As discussed in the Introduction section of this chapter and shown in Table 13-6 in Chapter 13, "Traffic and Parking," the proposed project would generate a total of 235 and 324 subway trips in the during the AM and PM peak hours, respectively. As also discussed above, approximately 50 percent of these trips are expected to be made via the 59th Street-Columbus Circle station and the other 50 percent would be dispersed among 50th Street station (at Eighth Avenue), 50th Street station (at Broadway), and 7th Avenue station (at W. 53rd Street). Accordingly, the proposed project would generate 118 and 162 trips at 59th Street-Columbus Circle in the weekday AM and weekday PM peak hours, respectively. Although no station is expected to process 200 or more project-generated subway trips, an analysis of 59th Street-Columbus Circle station in the PM peak hour is

provided for informational purposes as it represents the greatest incremental demand at any one location.

Project-generated trips at this station likely would use one of the several street stairs, escalators, or elevators for access and egress. For example, passengers traveling between the project site and the station via walking would most likely use Stairs H57 and O21, although some may also use the escalator at W. 58th Street west of Eighth Avenue. By contrast, passengers traveling between the project site and the station via bus likely would use Stairs S2 (inbound to site) and O5 (outbound from site), located at the northeast and southeast corners of W. 57th Street and Eighth Avenue, respectively, as the bus stops for the M31 are located adjacent to these stairs. As a result, these trips would be widely dispersed among several of the station's many access points. However, as a reasonable worst case for analysis purposes the project-generate subway trips have been assigned only to the two stairways that would provide the most direct route for walking travel to the project site. Assuming that project-generated trips would be approximately evenly split between Stairs O21 and H57, located at the northwest and southwest corners of W. 57th Street and Eighth Avenue, respectively, provides a reasonable worst case for the analysis.

The *CEQR Technical Manual* identifies a significant impact for stairways in terms of the number of inches of effective stairway widening that would be needed to restore conditions to their No-Build state. Significant stairway impacts are considered to have occurred once the following thresholds are reached: for a Build LOS D condition, a required widening of 6 inches or more is considered significant; for a Build LOS E condition, 3 inches or more is considered significant; and, for Build LOS F, a 1 inch or more widening is considered significant.

Table 14-13 shows the results of the impact assessments for analyzed stairways at the 59th Street-Columbus Circle subway station. As shown in the table, both analyzed stairways would operate at LOS B or better in the weekday PM peak hour. Therefore, no significant adverse impacts are anticipated to the 59th Street-Columbus Center subway station.

Table 14-13, Build Subway Stairway Analysis, 59th Street-Columbus Circle Station - PM Peak Hour

Station Element		Peak Hour (1)	Effective Width in Feet (2)	Maximum 15 min. capacity (3)	No-Build Peak 15 min. Volume	Peak 15 min. Project Increment	Build Peak 15 min. Volume	2011 No-Build			2011 Build		
#	Location							PFM	Volume to Capacity Ratio	LOS	PFM	Volume to Capacity Ratio	LOS
O21	Stairway @ NW corner W 57 St & 8 Av	PM	9.87	1,481	799	26	825	5.40	0.54	B	5.57	0.56	B
H57	Stairway @ SW corner W 57 St & 8 Av	PM	9.33	1,400	139	26	165	0.99	0.10	A	1.18	0.12	A

Notes:
(1) PM peak hour weekday 5-6 PM
(2) Effective width measured as width between the handrails multiplied by a friction factor of 0.8 to account for reverse flow.
(3) Stair capacity in persons per 15 minutes based on NYC Transit guidelines of 10 persons per foot per minute.

Pedestrians

The proposed project would potentially add approximately 657 and 937 pedestrian trips to the study area in the weekday AM and weekday PM peak hours, respectively. These include walk-only trips as well as trips en route to and from subway stations and bus stops. These pedestrians are expected to be distributed among several corridors accessing the site, but would be primarily concentrated on the streets immediately adjacent to the project site and the southwest corner of W. 54th Street and Tenth Avenue and northwest corner of W. 53rd Street and Tenth Avenue. It is expected that the sidewalk widths adjacent to the site would not be significantly changed as there are no proposed changes to curb lines and the proposed development would be built to the property line.

Tables 14-14, 14-15, and 14-16 show the Build conditions for the study area analyzed locations. As shown in the tables, all analyzed locations would continue to operate without congestion at LOS B or better. As these facilities would operate at acceptable levels of service during the periods with the highest project-generated pedestrian demand and overall study area transportation demand, it is expected that these facilities would also operate at acceptable levels of service during other peak periods. Therefore, based on the CEQR impact criteria no significant adverse pedestrian impacts would occur.

Table 14-14, 2011 Build Sidewalk Conditions

Facility		Effective Width (feet)	Peak 15-min. Volumes		Average Conditions				Platoon Conditions			
					AM		PM		AM		PM	
No.	Location		AM	PM	PFM	LOS	PFM	LOS	PFM	LOS	PFM	LOS
S1	E side of 11 Av (W 53/W 54 Sts)	9.5	33	80	0.23	A	0.56	A	0.23	A	0.56	B
S2	S side of W 54 St (10/11 Aves)	7.5	161	189	1.43	A	1.68	A	1.43	B	1.68	B
S3	W side of 10 Av (W 53/W 54 Sts)	13.5	113	160	0.56	A	0.79	A	0.56	B	0.79	B
S4	N side of W 53 St (10/11 Aves)	7.5	123	97	1.09	A	0.86	A	1.09	B	0.86	B

Table 14-15, 2011 Build Corner Conditions

Facility			Peak 15 min. Volumes		Average Conditions			
					AM		PM	
No.	Location	Corner	AM	PM	SF/Ped	LOS	SF/Ped	LOS
C1	11 Av & W 53 St	Northeast	6	19	490.8	A	269.1	A
C2	11 Av & W 54 St	Southeast	15	16	305.2	A	356.1	A
C3	10 Av & W 54 St	Southwest	53	50	153.4	A	148.3	A
C4	10 Av & W 53 St	Northwest	39	43	168.7	A	176.5	A

Table 14-16, 2011 Build Crosswalk Conditions

Facility		Street Width (feet)	Crosswalk Width (feet)	Peak 15 min. Volumes		Average Conditions (w/ Conflicting Vehicles)			
						AM		PM	
No.	Location			AM	PM	SF/Ped	LOS	SF/Ped	LOS
X1	11 Av & W 53 St - N	70	13.0	45	65	199.2	A	60.3	A
X2	11 Av & W 53 St - E	34	14.5	18	40	1,039.6	A	557.0	A
X3	11 Av & W 54 St - S	70	14.0	57	42	168.6	A	135.1	A
X4	11 Av & W 54 St - E	35	12.0	61	58	236.5	A	304.8	A
X5	10 Av & W 54 St - S	60	12.0	64	137	132.1	A	58.4	B
X6	10 Av & W 54 St - W	32	18.0	173	116	124.0	A	190.8	A
X7	10 Av & W 53 St - N	60	13.0	78	51	76.9	A	108.9	A
X8	10 Av & W 53 St - W	34	19.0	145	162	127.8	A	113.6	A

E. CONCLUSION

The proposed project would generate demand for trips made via subway and bus. A detailed analysis of subway stairway conditions at the 59th Street-Columbus Circle subway station, the location which would process the greatest number of project-generated trips found that the proposed project would not result in any significant adverse impacts. Project-generated bus trips would not exceed the threshold for detailed analysis and no impacts would be expected. These project-generated subway and bus trips, together with "walk only" trips would increase pedestrian volumes on nearby sidewalks. The greatest concentration on project-generated pedestrian demand would be on the sidewalks, street corners, and crosswalks closest to the project site. A detailed analysis found that the proposed project would not result in any significant adverse impacts on pedestrian conditions. In summary, the proposed project would not have any significant adverse impacts on transit and pedestrians and no mitigation would be needed.