68th Street/Hunter College Subway Station Improvement Project Manhattan, New York

Draft Environmental Assessment

Appendix C: Transportation Analysis

LEAD FEDERAL AGENCY:
Federal Transit Administration

SPONSORING AGENCY:
Metropolitan Transportation Authority/New York City Transit

January 2016

68TH STREET/HUNTER COLLEGE SUBWAY STATION IMPROVEMENTS PROJECT

TRANSPORTATION STUDY

REVISED FINAL REPORT

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1. INTRODUCTION

New York City Transit (NYCT) is planning to provide accessibility at the 68th Street/Hunter College Station on the Lexington Avenue IRT Line as part of a federal requirement to comply with the Americans with Disabilities Act (ADA). Two alternatives were analyzed in detail including the North End Access Alternative (Alternative 2) and the Mezzanine Expansion Alternative (Alternative 1). Detailed transportation analyses were conducted for the Existing, 2020 No Build, and 2020 Build conditions to determine the potential transportation impacts during construction and net changes as a result of the rehabilitated station. The study area includes Lexington Avenue between and including the East 68th Street and East 69th Street intersections.

ALTERNATIVE 2

Alternative 2 was selected as the Preferred Build Alternative for the 68th Street/Hunter College Subway Station Improvements Project. The Preferred Alternative includes the following:

- Installation of a street elevator at the southeast corner of East 68th Street and Lexington Avenue
- Widening of the street stairs at the southeast and northeast corners of East 68th Street and Lexington Avenue
- Rehabilitation of the street stair at the northwest corner of East 68th Street and Lexington Avenue
- Construction of a new street stair at the north end of the downtown platform in the southwest corner of East 69th Street and Lexington Avenue and a neckdown that extends into East 69th Street
- Construction of a new street stair for the uptown platform approximately midblock between East 68th Street and East 69th Street at 931 Lexington Avenue on the east side of the street
- New uptown and downtown control areas for the new stairs.

Comparisons were made between the 2020 No Build and Build conditions for transit operations, pedestrian operations, traffic, and parking for the weekday AM, midday, and PM peak hours to identify any potential significant adverse impacts as a result of the Preferred Build Alternative. Any transportation impacts identified were addressed by developing the appropriate project improvements or mitigation measures to minimize or avoid significant impacts.

SUB-ALTERNATIVES

While Alternative 2 was selected as the Preferred Build Option, 24 other potential options ("sub-alternatives") for street access were developed (see Appendix A). One option, with a mezzanine between the subway tunnel and Lexington Avenue, was found to be not feasible because it would not fit in the available space above the subway tunnel. Of the 23 constructible options, 12 were eliminated due to impacts to fiber optic cables, excessive cost, and interference with traffic on Lexington Avenue. The 11 sub-alternatives remaining after this first feasibility screening, which are comprised of various options for where the new 69th Street street stairs will be located, were analyzed from a transportation perspective, and the results are included in this report.

CONSTRUCTION

It is estimated that construction would start in mid-2016 and be completed by late 2019. To determine traffic conditions during the three construction phases, this report analyzes the interim construction condition years of 2014 through 2016, which are earlier than when the actual construction is expected to occur (2017 through 2019); however, the analyses for the earlier years assume that the Second Avenue subway, which is anticipated to open in 2017, would not yet be operational. As the Second Avenue subway would divert significant ridership away from the Lexington Avenue IRT Line, the construction

condition analyses for the earlier years are conservative, and conditions during construction in 2017 through 2019 would be better than what is analyzed in this report for 2014 through 2016.

2. STUDY AREA AND METHODOLOGY

STUDY AREA

The study area consists of the environs proximate to and including the 68th Street/Hunter College Station. This includes pedestrian activity at the four subway stairs connecting the station mezzanine to the street at East 68th Street and the crosswalks, sidewalks, and corners at both Lexington Avenue at East 68th Street and the Lexington Avenue at East 69th Street intersections. It also includes traffic conditions at the Lexington Avenue - East 69th Street intersection. On-street parking on Lexington Avenue, East 68th Street, and East 69th Street were also part of the study area. A study area transit map is provided in Figure 1.

Subway

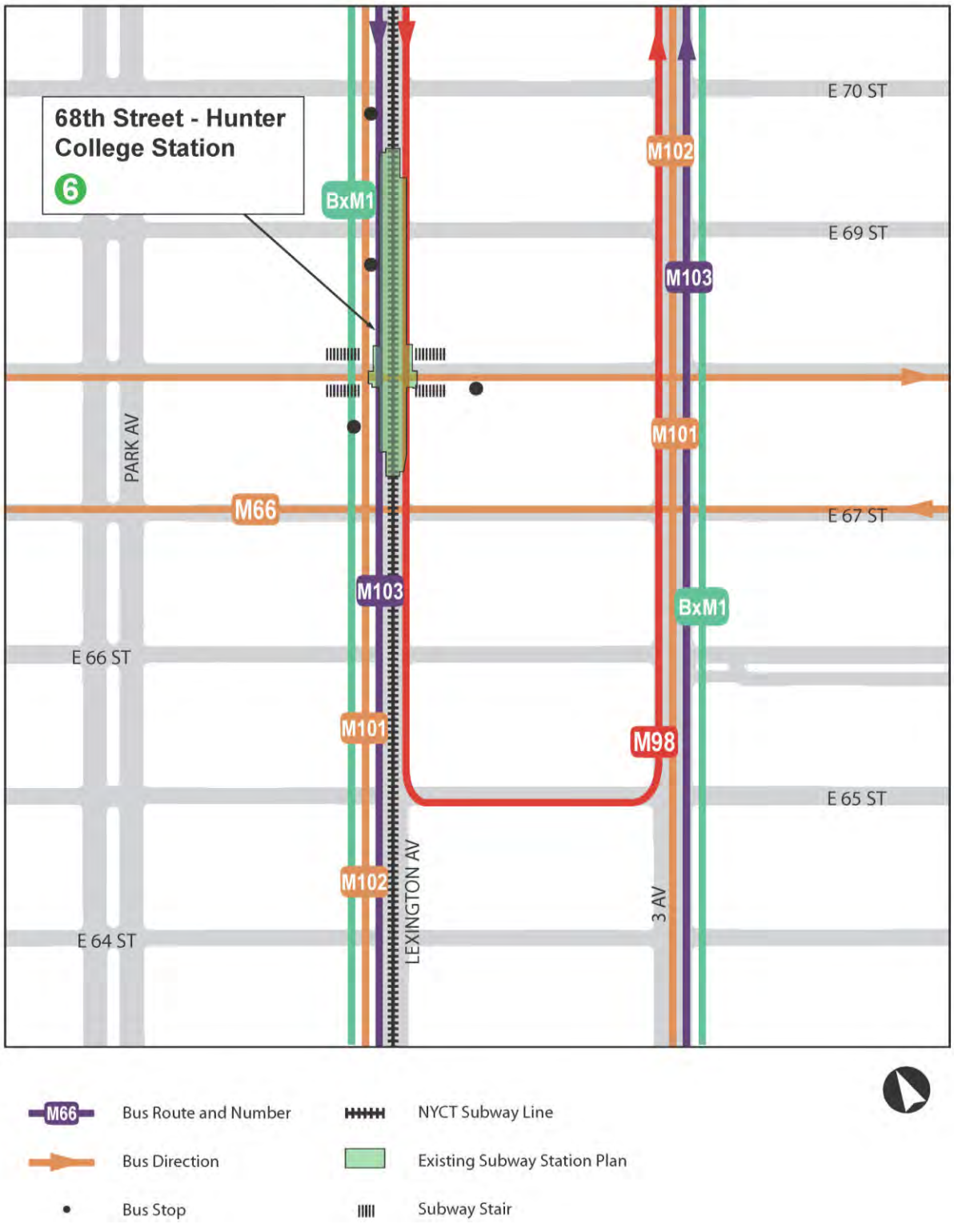
The 68th Street/Hunter College Station is served by the NYCT No. 6 train on the Lexington Avenue IRT Line which operates between Pelham Bay Park in the Bronx and City Hall in Manhattan. Southbound trains serve the 68th Street/Hunter College Station every three to six minutes from Pelham Bay Park and every two to five minutes from Parkchester during the AM Peak period, every four minutes during the midday peak period, and every three to five minutes from Pelham Bay Park and every six to eight minutes from Parkchester during the PM Peak period. Northbound trains serve the 68th Street/Hunter College Station every three to five minutes during the AM Peak period, every four minutes during the midday peak period, and every three to six minutes during the PM Peak period.

The 68th Street/Hunter College Station is located under Lexington Avenue extending from between East 67th and East 68th Streets northward to between East 69th and East 70th Streets. There are stairs on all four corners of the East 68th Street and Lexington Avenue intersection that connect the mezzanine level of the station to the street. This array of stairs is located towards the southern end of the station. The current 68th Street Subway wall-to-wall stair widths at their narrowest points are:

- Southeast corner (O2/O4) = 60 inches
- Southwest corner (O1/O3) = 88 inches
- Northeast corner (S4) = 55 inches
- Northwest corner (S3) = 55 inches

All of the subway passengers are served by a single mezzanine area (control area R-246) that is currently comprised of 14 turnstiles and two service gates. There is also a direct connection between the basement of the West Building of Hunter College and the west side of the station mezzanine. This access from the station is staffed with security and open only to Hunter College staff and students with a valid ID card on school days between 7:00 AM and 6:00 PM. These are currently the only means of egress into and out of the station.

Figure 1
Transit Study Area Map



Bus

A total of six bus routes (BXM1, M66, M98, M101, M102, and M103) operated by NYCT provide local and limited-stop bus service serving the 68th Street/Hunter College Station. In addition, private carrier service to Long Island, operated by Hampton Jitney, serves the study area. A total of four bus stops are provided adjacent to the station. This includes a stop on the south side of East 68th Street on the far side of Lexington Avenue, which accommodates a high number of subway to bus transfers especially during the AM peak period. The remaining three bus stops are located along the west side of Lexington Avenue at the far side of East 70th Street, far side of East 69th Street (Hampton Jitney), and the far side of East 68th Street. A description of each local bus route and the frequency of service (according to the Manhattan Bus Service Guide) during the weekday AM, midday, and PM peak periods are provided below.

M66 Bus

The M66 bus route provides local cross town bus service between the Upper East and Upper West sides of Manhattan. The M66 bus route operates on East 67th Street in the westbound direction and on East 68th Streets in the eastbound direction. On average, the M66 local bus route operates every 5 minutes during the weekday AM peak period, every 9 minutes during the midday peak period, and every 5 minutes during the PM peak period.

M98 Bus

The M98 bus route provides limited-stop service on weekdays between Washington Heights and the Upper East Side in Manhattan. On average, the M98 limited-stop bus route operates every 8 minutes during the weekday AM peak period and every 15 minutes during the PM peak period. The M98 bus route does not operate during the weekday midday period or on weekends. The M98 bus route operates on Lexington Avenue in the southbound direction through the study area and on Third Avenue in the northbound direction.

M101 Bus

The M101 bus route provides limited-stop service during the peak hours (approximately 6:00 AM to 8:00 PM) and local bus service during the off-peak hours between Washington Heights and the East Village in Manhattan. The M101 bus route operates on Lexington Avenue in the southbound direction through the study area and on Third Avenue in the northbound direction. On average, the M101 limited-stop bus route operates every 8 minutes during the weekday AM peak period, every 8 minutes during the midday peak period, and every 7 minutes during the PM peak period.

M102 Bus

The M102 bus route operates on Lexington Avenue in the southbound direction through the study area and on Third Avenue in the northbound direction. The M102 bus route provides local bus service between Harlem and the East Village in Manhattan operating every 10 minutes during the weekday AM peak period, every 12 minutes during the midday peak period, and every 11 minutes during the PM peak period.

M103 Bus

The M103 bus route provides local bus service between East Harlem and City Hall in Manhattan operating every 12 minutes during the weekday AM peak period, every 12 minutes during the midday peak period, and every 12 minutes during the PM peak period. The M102 bus route operates on Lexington Avenue in the southbound direction through the study area and on Third Avenue in the northbound direction.

Pedestrian Street Elements

Pedestrian elements including sidewalks, corner reservoirs, and crosswalks were assessed at the two key intersections along Lexington Avenue (East 68th Street and East 69th Street) in the vicinity of the 68th Street/Hunter College Station. The pedestrian elements represent locations that would most likely be affected by the Proposed Action. These locations are shown on Figure 2.

Traffic

There are three main roads located in the vicinity of the 68th Street/Hunter College Station including Lexington Avenue, East 68th Street, and East 69th Street. Lexington Avenue is a one-way five lane roadway that is comprised of three southbound travel lanes with parking on each side of the street. During the AM peak period between 7:00 and 10:00 AM on weekdays (Monday through Friday), the western curb lane is used as an exclusive bus lane. East 68th Street traffic travels in the eastbound direction and East 69th Street traffic travels in the westbound direction. Each of these roads accommodates one travel lane with parking lanes on both sides of the street. The Lexington Avenue at East 69th Street signalized intersection was analyzed to assess the potential impacts of the proposed station project.

PEDESTRIAN ANALYSIS METHODOLOGY

Subway Station Elements

Subway Stairs

The volume to capacity (v/c) ratio and level of service (LOS) for stairways is based on the peak 15-minute passenger volume divided by the capacity. The NYCT guideline capacity for stairs is 10 pedestrians per foot per minute (PFM) which is the rate based on the Volume/SVCD (service volume between LOS C and D) capacity ratio. The border between LOS C and LOS D at a v/c ratio of 1.00 has been established by NYCT as the minimum acceptable standard for pedestrian conditions. Therefore, LOS C/D is used to determine the design capacity of the critical stairway locations in a station during each peak 15-minute period.

To calculate the service level of a stairway, the v/c ratio of the entering flow is calculated separately from the v/c ratio of the exiting flow. These ratios are added together to generate the overall v/c ratio of the stair. The data needed to derive the capacity of a stair include the effective width of the stair, the 15-minute SVCD (based on NYCT capacity guidelines), surge factor, and friction factor. The effective width of a stair is adjusted by reducing its width at the narrowest point by six inches on each side of the stair and three inches total if a center handrail is present. Typically, exit flows out of stations or transfer flows between subway lines are "surged" due to many pedestrians leaving from a train simultaneously. Circulation elements closest to the platform level have the highest reduction in capacity (25 percent) due to surging and dissipating each level towards the street. The effect of surging is also less for elements that serve three or more tracks. It is estimated by NYCT that the capacity on stairs is reduced by 10 percent due to friction if opposing flows are less than 95% in one direction. The LOS criteria for subway pedestrian stairways and control area elements (see next section) are defined in Table 1.

Figure 2
Pedestrian Study Area Map

Table 1
LOS Criteria for Subway Station Stairways and Control Areas

LOS	Volume/SVCD Ratio
A	≤ 45
B	> 0.45 to ≥ 0.70
C	> 0.70 to ≥ 1.00
D	> 1.00 to ≥ 1.33
E	> 1.33 to ≥ 1.67
F	> 1.67
Source: CEQR Technical Manual (2012).	

To better account for the peaked nature of surged passenger flow, NYCT evaluates platform stair performance based on the number of seconds it takes for a detraining surge to move up the stair. The 80th percentile surge (over the peak hour) is analyzed and crush capacity of the stair (after counterflow) is assumed for exit flow. For platform stairs, the NYCT guideline is 30 seconds to process the 80th percentile surge off of each platform.

Control Areas

Station control areas separate the unpaid and paid areas of the station and are comprised of turnstiles and Service Gates. The v/c ratios of these fare control elements providing access to the station are based on the peak 15-minute passenger volume divided by the 15-minute capacity. The NYCT guideline capacities are 420 entries and 645 exits at turnstiles and 750 (combined entries and exits) at Service Gates. For these control area elements, overall capacity is measured by the number of elements, the NYCT optimum capacity per element, surging factors, and friction factors. The application of surging and friction factors to calculate capacity is the same as for stairways. The LOS criteria for control area elements are defined in Table 1.

Street Elements

Crosswalk/Corner

Crosswalk and corner analyses are conducted at signalized intersections using the analytical procedures described in the 2000 *Highway Capacity Manual* (HCM). The capacity of crosswalks and corners are evaluated on the basis of pedestrian space measured in terms of square feet per pedestrian. In order to calculate pedestrian space, effective crosswalk widths and corner areas, peak 15-minute pedestrian volumes (crosswalk, corner, and sidewalk), conflicting peak 15-minute turning vehicles, average walking speed (3.5 feet/second or 3.0 feet/second if 20% of pedestrians are seniors and/or school children or the intersection is in a Senior Pedestrian Focus Area), and signal timing are required. Table 2 shows the LOS conditions for crosswalks and corners based on pedestrian space.

Table 2
LOS Criteria for Crosswalks and Corners

LOS	Pedestrian Space (ft^2/pedestrian)
A	> 60
B	≤ 60 to > 40
C	≤ 40 to > 24
D	≤ 24 to > 15
E	≤ 15 to > 8
F	≤ 8
Source: Transportation Research Board. *Highway Capacity Manual;* 2000.	

Sidewalk

As identified in the HCM 2000, pedestrian unit flow rate is the primary performance measure used to evaluate sidewalks. This measure is based on pedestrians per foot per minute (PFM) which is calculated by dividing the average per minute two-way pedestrian volume (during the peak 15-minute period) by the effective sidewalk width in feet (taking into account a buffer between walls, curbs, and obstructions). To accurately calculate sidewalk LOS, it is important to determine if the pedestrian flow is generally "platoon" or "non-platoon." Platoon flow occurs when pedestrian volumes vary significantly within the peak period due to surges from a bus stop, subway station, or a crosswalk. Non-platoon flow occurs when pedestrian volumes within the peak period being analyzed are relatively uniform. Accounting for platoons in the analysis generally results in a poorer LOS. Table 3 shows the non-platoon and platoon LOS conditions for sidewalks based on PFM.

Table 3
LOS Criteria for Sidewalks

LOS	Non-Platoon Flow (PFM)	Platoon Flow (PFM)
A	≤ 5	≤ 0.5
B	> 5 to ≤ 7	> 0.5 to ≤ 3
C	> 7 to ≤ 10	> 3 to ≤ 6
D	> 10 to ≤ 15	> 6 to ≤ 11
E	> 15 to ≤ 23	> 11 to ≤ 18
F	> 23	> 18

Note: PFM = Pedestrians per foot per minute
Source: Transportation Research Board. *Highway Capacity Manual;* 2000.

TRAFFIC ANALYSIS METHODOLOGY

The operations of the study area signalized intersections were analyzed by applying the methodologies presented in the *2000 Highway Capacity Manual (HCM)* using the Highway Capacity Software (HCS+ 5.5). The Level of Service (LOS) of a signalized intersection is defined in terms of control delay per vehicle (seconds per vehicle). Control delay is the portion of total delay experienced by a motorist that is attributable to the traffic signal. It is comprised of initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Several factors contribute to the delay at a signalized intersection including cycle length, pedestrian crossing times, progression/signal coordination, and volume-to-capacity (v/c) ratios. For signalized intersections, LOS A describes operations with minimal delays, up to 10 seconds per vehicle, while LOS F describes operations with delays in excess of 80 seconds per vehicle. Under LOS F, excessive delays and longer queues are common as a result of over-saturated conditions (i.e., demand rates exceeding the capacity). Delays experienced at LOS A, B, C or mid-D (less than 45 seconds per vehicle) are generally considered "acceptable" operating conditions according to the 2012 CEQR Technical Manual. Conversely, LOS E and F are generally considered "unacceptable" operating conditions. The LOS criteria for signalized intersections, as defined in the HCM, are provided in Table 4.

Table 4
Level of Service Criteria for Signalized Intersections

LOS	Average Delay (Seconds)
A	≤ 10.0
B	> 10.0 to ≤ 20.0
C	> 20.0 to ≤ 35.0
D	> 35.0 to ≤ 55.0
E	> 55.0 to ≤ 80.0
F	> 80.0

Source: Transportation Research Board. *Highway Capacity Manual;* 2000.

3. EXISTING CONDITIONS

This section describes the existing conditions associated with transit, pedestrian, traffic, and parking operations within the vicinity of the study area to provide a baseline to analyze the effects of the No Build Alternative and Proposed Action. For the existing transit conditions, several key subway station elements were analyzed during weekday peak period conditions including street stairs and turnstiles. At street level, pedestrians were analyzed during weekday peak period conditions at crosswalk, corner, and sidewalk locations at two intersections within the study area. Capacity analysis for traffic was conducted at one key intersection during weekday peak period conditions within the study area. For existing parking, on-street conditions were analyzed throughout a weekday within the study area. Three peak weekday periods including AM, midday, and PM were analyzed for transit, pedestrian, traffic, and parking.

TRANSIT OPERATIONS

Pedestrian circulation at the eight East 68th Street stairs (four at street level and four at platform level) and turnstiles were analyzed during the peak 15-minutes on a weekday during the AM, midday, and PM peak periods. Street stair data were collected by NYCT in April 2010 for the AM and PM peak periods and by Sam Schwartz Engineering for the midday peak period on November 9, 2011. All of the count data were summarized into 15-minute intervals. The stair data were also used to calculate the entering and exiting turnstile data. These volumes were checked against the entering turnstile registration data provided by NYCT. Measurements were taken of the total width at the four street stairs and the effective stairway widths were calculated by reducing the total width by six inches on either side of any obstructions (walls, handrails, etc.).

During a typical morning peak period, the northbound platform experiences heavy crowding as pedestrians queue to exit at one of two stairs that connect to the mezzanine level. Almost every northbound detraining surge in the morning results in a large queue of passengers waiting to exit at stair P4. In addition, 11 of the 20 surges resulted in queuing at the bottom of stair P2. Although stairs P2 and P4 operate at LOS B and D, respectively, during the morning peak 15-minute period, the LOS ratings understate congestion because the LOS formula averages passenger volumes over a 15-minute time period. Due to the surged nature of the platform during the morning peak, passengers use stairs P2 and P4 only immediately following a train arrival.

To account for surges in passenger flow, the 80th-percentile surge is analyzed and the crush capacity is assumed for the exit flow. For platform stairs, the NYCT guideline is 30 seconds to process the 80th-percentile surge off of each platform. Based on the data, the two stairs on the northbound platform are currently well over the 30-second guideline during the morning peak period. The P2 stair takes 59 seconds to clear and the P4 stair takes 134 seconds to clear during the morning peak hour. On the southbound platform, the P1 stair takes 18 seconds to clear and the P3 stair takes 88 seconds to clear during the morning peak hour.

Within the 68th Street/Hunter College Station mezzanine, heavy crowding is typically observed as pedestrians queued from street stair S4 located at the northeast corner of the Lexington Avenue and East 68th Street intersection and street stair O2/O4 located at the southeast corner of the intersection. During certain periods, the pedestrian queue emanating from these east side street stair extends back through the turnstiles at the mezzanine level back to the northbound platform stairs P2 and P4. Heavy crowding is typically observed at street level during the weekday AM and PM peak periods at street stairs S4 and S3 as entering/exiting subway passengers mixed with pedestrians traversing along the sidewalk at the corner. Congestion occurs at street stair O2/O4 as entering and exiting passengers competed at street level for limited storage space as pedestrians queued waiting to enter the station.

Subway Street Stairs

Detailed stairway analyses were conducted for the four street stairs in the 68th Street/Hunter College subway station serving the No. 6 train. The results of the analyses, provided in Table 5, indicate that all four subway street stairs operate at LOS C or better during the weekday midday peak period. The subway street stairs located on the southwest (O1/O3) and northwest (S3) corners also operate at LOS C or better during the weekday AM and PM peak periods with the exception of the northwest (S3) corner, which operates at LOS D during the AM peak period. The southeast corner (O2/O4) stair operates at LOS F and E and the northeast corner (S4) stair operates at LOS F and D during the weekday AM and PM peak periods, respectively.

Table 5
Existing Conditions: Subway Street Stairway Level of Service
68th Street/Hunter College Station

ID	Type	Location	Width (feet)	Effective Width (feet)	Friction Factor	Peak 15-Min Entry Volume			Peak 15-Min Exit Volume			V/C			LOS		
						AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
S4	Stairway	NE Corner	4.58	3.58	0.90	231	133	418	531	141	158	1.85	0.64	1.27	F	B	D
S3	Stairway	NW Corner	4.58	3.58	0.90	43	88	208	374	37	83	1.06	0.28	0.64	D	A	B
O2/O4	Stairway	SE Corner	5.00	4.00	0.90	138	233	464	708	226	221	1.89	0.95	1.37	F	C	E
O1/O3	Stairway	SW Corner	7.33	6.33	0.90	44	104	166	504	141	272	0.79	0.33	0.59	C	A	B

Subway Platform Stairs

Detailed analyses were conducted for the subway platform stairs in the 68th Street/Hunter College subway station. The results of the analysis provided in Table 6 indicate that all of the platform stairs operate at an acceptable LOS C or better during the weekday AM, midday, and PM peak periods except for one. The north platform stairs on the northbound platform (P4) operates at LOS D/E during the AM peak period.

Table 6
Existing Conditions: Subway Platform Stairs Level of Service
68th Street/Hunter College Station

Stairway	ID	Peak 15-Min Entry Volumes			Peak 15-Min Exit Volumes			V/C			LOS		
		AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
South S/B Platform	P1	216	248	487	124	103	42	0.37	0.37	0.52	A	A	B
North S/B Platform	P3	210	314	575	502	22	117	0.87	0.34	0.72	C	A	C
South N/B Platform	P2	17	63	151	511	110	269	0.60	0.20	0.49	B	A	B
North N/B Platform	P4	13	84	179	1117	326	478	1.33	0.51	0.81	D/E	B	C

The clearance times for the four platform stairs were also calculated as shown in Table 7. In the AM peak period, the clearance times for platform stairs P1, P3, P2, and P4 are 18, 88, 59, and 134 seconds, respectively. In the midday peak period, the clearance times for platform stairs P1, P3, P2, and P4 are 18, 4, 16, and 50 seconds, respectively. In the PM peak period, the clearance times for platform stairs P1, P3, P2, and P4 are 6, 15, 43, and 78 seconds, respectively.

Table 7
Existing Conditions: Platform Stairs
68th Street/Hunter College Station

Stair	Clearance Times (s)		
	AM	MD	PM
P1	18	18	6
P3	88	4	15
P2	59	16	43
P4	134	50	78

Turnstiles

Detailed analyses were also conducted for control area R-246 in the 68th Street/Hunter College subway station. The results of the analyses provided in Table 8 indicate that the control area operates at LOS B during the weekday AM and PM and LOS A during the midday peak periods.

Table 8
Existing Conditions: Subway Control Area Level of Service
68th Street/Hunter College Station

Station Element	Qty	Peak 15 Minute Entering Volume			Peak 15 Minute Exiting Volume			15 Minute Capacity for Entries	15 Minute Capacity for Exits	V/C			LOS		
		AM	MD	PM	AM	MD	PM			AM	MD	PM	AM	MD	PM
Turnstile	14	456	709	1,393	2,254	562	906	5,292	6,502	0.58	0.27	0.49	B	A	B

PEDESTRIAN OPERATIONS

All crosswalk, corner, and sidewalk locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed during the peak 15-minutes on a weekday during the AM, midday and PM peak periods. Counts at all of these pedestrian elements were conducted during these peak periods on November 9, 2011. The 15-minute peak period was identified separately for each pedestrian element (crosswalk, corner, and sidewalk) during the three peak periods. Measurements of each pedestrian element were taken in the field.

Crosswalks

The four crosswalk locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed using the pedestrian data within the study area. As presented in Table 9, all eight crosswalk locations operate at an acceptable LOS C or better during the three peak periods, except the west crosswalk at East 69th Street during the PM peak period which operates at LOS D.

Table 9
Existing Conditions: Crosswalk Level of Service
Lexington Avenue at East 68th Street and East 69th Street

Intersection	Crosswalk	Crosswalk Length	Crosswalk Width	Available Crosswalk Circulation Space (ft^2/p)			Crosswalk Circulation LOS		
				AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street	North	50.3	13.5	41	81	109	B	A	A
	South	51.5	14.0	34	37	52	C	C	B
	East	28.7	15.3	101	55	59	A	B	B
	West	29.8	18.0	57	58	29	B	B	C
Lexington Avenue at East 69th Street	North	50.0	13.0	127	174	223	A	A	A
	South	50.0	13.0	68	60	106	A	B	A
	East	29.1	13.5	26	46	35	C	B	C
	West	29.0	12.5	47	41	16	B	B	D

Corners

The four corner reservoir locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed using the pedestrian data within the study area. As presented in Table 10, all eight corner locations operate at an acceptable LOS C or better during the three peak periods with the exception of one. The northwest corner of the Lexington Avenue and East 68th Street intersection operates at LOS D during the AM and PM peak periods.

Table 10
Existing Conditions: Corner Level of Service
Lexington Avenue at East 68th Street and East 69th Street

Intersection	Corner	Required Corner Circulation Space (ft^2/s)			Corner Circulation LOS		
		AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street	Northeast	36	65	46	C	A	B
	Northwest	22	36	21	D	C	D
	Southeast	66	59	70	A	B	A
	Southwest	51	50	44	B	B	B
Lexington Avenue at East 69th Street	Northeast	64	102	84	A	A	A
	Northwest	96	90	46	A	A	B
	Southeast	73	137	108	A	A	A
	Southwest	97	94	60	A	A	A

Sidewalks

The eight sidewalk locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed using the pedestrian data within the study area. As presented in Table 11, all 16 sidewalk locations operate at an acceptable LOS C or better for the non-platoon and platoon conditions during the three peak periods with the exception of two. The west sidewalk north of the Lexington Avenue and East 68th Street intersection and the west sidewalk north of the Lexington Avenue and East 69th Street intersections operate at LOS D during the PM peak period under platoon conditions.

Table 11
Existing Conditions: Sidewalk Level of Service
Lexington Avenue at East 68th Street and East 69th Street

Intersection	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon LOS			Platoon LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street	Lexington Avenue South of E 68th Street	East	5.3	241	191	205	3.01	2.39	2.56	A	A	A	C	B	B
		West	6.0	281	171	230	3 12	1.90	2.56	A	A	A	C	B	B
	Lexington Avenue North of E 68th Street	East	9.0	750	262	547	5 56	1.94	4.05	B	A	A	C	B	C
		West	5.5	364	268	605	4.41	3.25	7.33	A	A	C	C	C	D
	E 68th Street West of Lexington Ave	North	7.7	191	219	184	1.66	1.90	1.60	A	A	A	B	B	B
		South	7.0	239	250	474	2 28	2.38	4.51	A	A	A	B	B	C
	E 68th Street East of Lexington Ave	North	8.7	379	156	338	2 92	1.20	2.60	A	A	A	B	B	B
		South	10.6	237	63	206	1.49	0.40	1.30	A	A	A	B	A	B
Lexington Avenue at East 69th Street	Lexington Avenue South of E 69th Street	East	10.5	586	262	547	3.72	1.66	3.47	A	A	A	C	B	C
		West	8.1	364	268	605	3.00	2.21	4.99	A	A	A	C	B	C
	Lexington Avenue North of E 69th Street	East	7.0	484	238	370	4.61	2.27	3.52	A	A	A	C	B	C
		West	5.3	351	250	544	4 39	3.13	6.80	A	A	B	C	C	D
	E 69th Street West of Lexington Ave	North	7.0	37	81	65	0 35	0.77	0.62	A	A	A	A	B	B
		South	14.3	77	115	103	0 36	0.53	0.48	A	A	A	A	B	A
	E 69th Street East of Lexington Ave	North	8.0	56	36	92	0.47	0.30	0.77	A	A	A	A	A	B
		South	8.0	304	135	179	2 53	1.13	1.49	A	A	A	B	B	B

TRAFFIC

Traffic volumes for the Lexington Avenue at East 69th Street intersection were developed based on manual turning movement counts and Automatic Traffic Recorder (ATR) counts. Manual turning movement counts and pedestrian crosswalk counts were conducted on Wednesday, November 9, 2011 during the AM (7:30 to 9:30), midday, (12:00 to 2:00), and PM (4:30 to 6:30) peak periods. The peak hour factors (PHF) and heavy vehicle percentages for each of the intersection approaches were calculated for each weekday peak hour. ATR machines were placed on Lexington Avenue between East 69th Street and East 68th Street for a continuous period between Saturday, November 5, 2011 and Sunday, November 13, 2011. Based on the traffic data, the weekday peak hours were determined to be:

- Weekday AM Peak Hour: 8:00 – 9:00 AM
- Weekday Midday Peak Hour: 1:00 – 2:00 PM
- Weekday PM Peak Hour: 5:30 – 6:30 PM

A physical inventory and field reconnaissance survey of this intersection was collected to establish the existing physical characteristics including traffic control devices (e.g., traffic signals, stop signs, yield signs, etc.), roadway and lane widths, the number of travel lanes, crosswalk widths, curb parking regulations, lane utilization (turn prohibitions), bus stop locations, and fire hydrant locations. Traffic signal timing was obtained from the New York City Department of Transportation (NYCDOT) and compared to the current field conditions.

The Lexington Avenue at East 69th Street signalized intersection was analyzed for the weekday AM, midday, and PM peak hours using HCS+ (version 5.5). The results of the signalized intersection analyses are summarized in Table 12 in terms of v/c ratios, delays, and LOS. Based upon these results, all movements operate at an acceptable LOS C or better during the three peak periods.

Table 12
Existing Conditions: Signalized Intersection Level of Service
Lexington Avenue at East 69th Street

Intersection	Weekday AM Peak Hour				Weekday MD Peak Hour				Weekday PM Peak Hour			
	Lane Group	v/c Ratio	Delay (sec.)	LOS	Lane Group	v/c Ratio	Delay (sec.)	LOS	Lane Group	v/c Ratio	Delay (sec.)	LOS
Lexington Avenue at East 69th Street												
Westbound	LT	0 50	24.1	C	LT	0.40	22.1	C	LT	0.45	22.9	C
Southbound	TR	0 57	16.9	B	TR	0.41	14.8	B	TR	0.58	17.0	B
Overall			18.3	B			16.3	B			18.0	B

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service, Sec = Seconds.

PARKING

Existing on-street parking conditions were evaluated based upon a field inventory of parking regulations and utilization around the Lexington Avenue and East 69th Street intersection. The on-street parking study area includes Lexington Avenue between East 68th and 70th Streets as well as East 69th Street for approximately 150 feet east and west of Lexington Avenue (Figure 3). No parking is permitted along the west side curb of Lexington Avenue during the AM peak period (between 7:00 and 10:00 AM) because it is used as an exclusive bus lane. The approximately three spaces located on the south curb of East 69th Street to the west of Lexington Avenue were closed due to construction activity. Based upon the field inventory (Table 13), there are approximately 46 parking spaces in the study area. However, when parking regulations are considered, the maximum number of spaces is 32 during the AM peak period and 43 in both the midday and PM peak periods. On-street parking counts were conducted on Tuesday, November 15, 2011 between 7:00 AM and 7:00 PM. Based on observations of on-street parking utilization in this area (Table 14), it was concluded that there is sufficient on-street parking capacity to accommodate current demand during all three peak weekday periods.

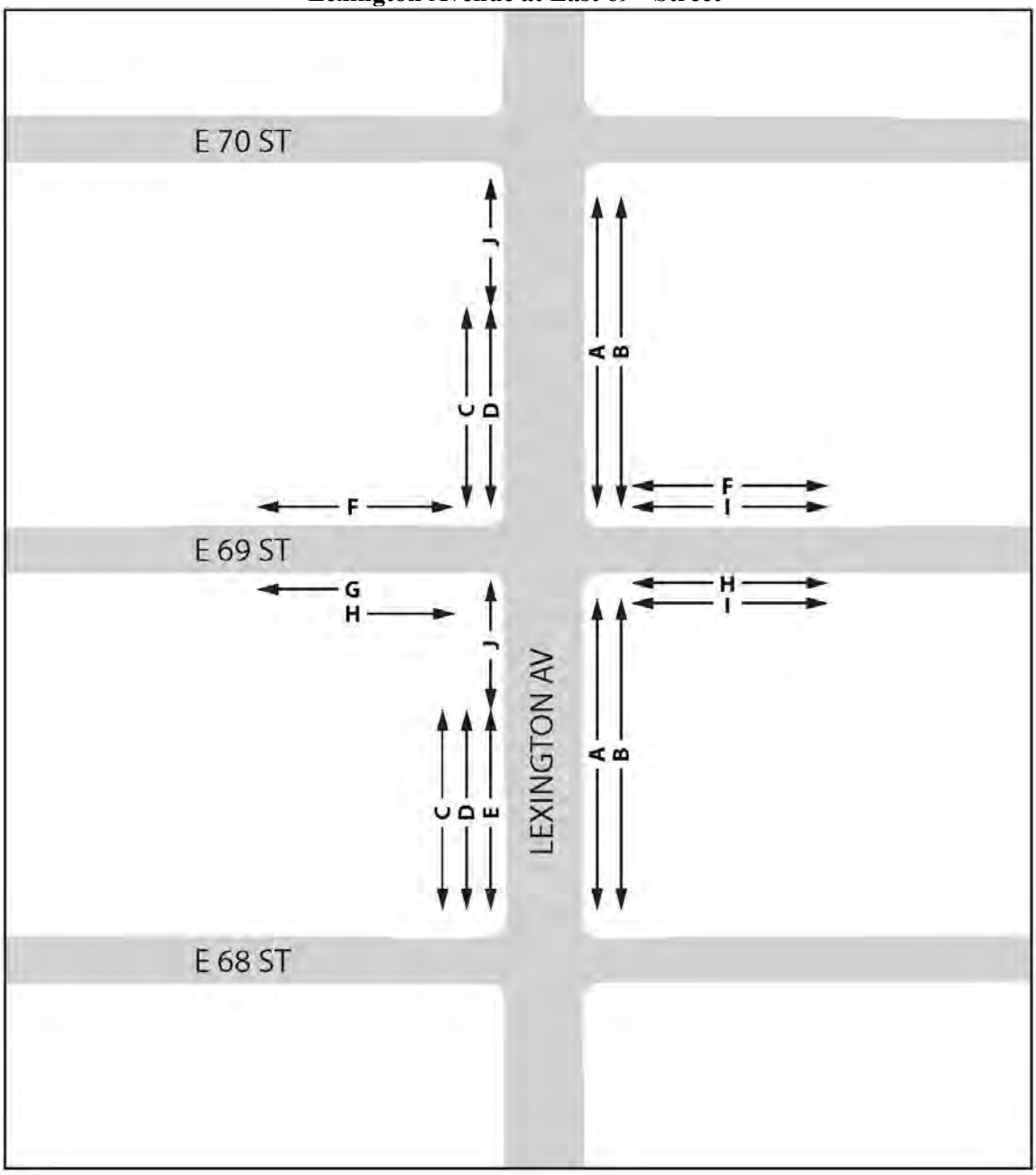
Table 13
Existing Conditions: On-Street Parking Capacity
Lexington Avenue at East 69th Street

Time Period	Parking Space Capacity								
	Lexington Avenue (between E 69th and E 70th Streets)		Lexington Avenue (between E 68th and E 69th Streets)		East 69th Street (west of Lexington Avenue)		East 69th Street (east of Lexington Avenue)		
	East	West	East	West	North	South	North	South	Total
AM	9	0	9	0	3	0	6	5	32
Midday	9	5	9	6	3	0	6	5	43
PM	9	5	9	6	3	0	6	5	43

Table 14
Existing Conditions: On-Street Parking Spaces Occupied
Lexington Avenue at East 69th Street

Time Period	Capacity	Occupied Spaces	Percent Spaces Occupied
AM	32	20	63%
Midday	43	36	84%
PM	43	33	77%

Figure 3
On-Street Parking Regulations Map
Lexington Avenue at East 69th Street



On-Street Parking Regulations

A. No Standing Except Trucks Loading & Unloading 7 AM - 10 AM Mon - Fri
B. 1 Hr Muni-Meter Parking 10 AM - 10 PM Mon - Fri, 9 AM - 10 PM Saturday
C. No Standing 7 AM - 10 AM Mon - Fri
D. 1 Hr Parking 10 AM - 7 PM Mon - Fri, 9 AM - 7 PM Saturday
E. Buses Only 7 AM - 10 AM Mon - Fri
F. No Parking 11 AM - 12:30 PM Mon & Thurs
G. No Parking 8 AM - 6 PM Except Sunday
H. No Parking 11 AM - 12:30 PM Tues & Fri
I. 2 Hr Muni-Meter Parking 9 AM - 7 PM Except Sunday
J. Bus Stop

4. NO BUILD ALTERNATIVE CONDITIONS

The future without the Proposed Action ("No Build Alternative"), builds upon the existing conditions analysis by incorporating background growth, other nearby projects expected to be completed, and anticipated changes in the transportation network. The No Build Alternative analysis focuses on four horizon years as a means for comparison to conditions in 2014, 2015, and 2016 during construction and in the 2020 opening year. The analysis of the No Build Alternative serves as the baseline to which the impacts of the project will be compared.

NO BUILD TRAFFIC VOLUMES

As per the 2012 CEQR Technical Manual, background growth in the section of Manhattan of the Proposed Action would be 0.25 percent per year for the first five years (through 2016) and 0.125 percent per year for the next four years (through 2020). The corner, sidewalk, crosswalk, subway stair, turnstile, and traffic volumes were increased accordingly for the various No Build Alternative years. In addition to the background growth, subway and street pedestrian volumes from several proposed development projects that would affect the study area were considered for projecting the No Build Alternative volumes including:

- Hospital for Special Surgery Expansion
- Memorial Sloan Kettering Cancer Center – Phase II
- Memorial Hospital for Cancer and Allied Diseases

The Hospital for Special Surgery Expansion is comprised of a three-floor 62,000 square foot addition to the east wing of its main hospital building that will include a pediatric rehabilitation center. The Proposed Action is projected to generate 91 (86 exiting and 5 entering), 23 (15 exiting and 8 entering), and 107 (25 exiting and 82 entering) new subway riders during the AM, midday, and PM peak periods, respectively.

Phase II of the Memorial Sloan Kettering Cancer Center is a 135,000 square foot, seven-story building added to the Phase I building that will contain a conference center with a 350-seat auditorium, a number of "dry" laboratories, space for physicians' academic offices, and a permanent location for the Gerstner Sloan-Kettering Graduate School of Biomedical Sciences. The Proposed Action is projected to generate 90 (84 exiting and 6 entering), 20 (14 exiting and 6 entering), and 101 (20 exiting and 81 entering) new subway riders during the AM, midday, and PM peak periods, respectively.

For the Memorial Hospital for Cancer and Allied Diseases, no new peak period subway trips were added to the 68th Street/Hunter College station because the net increment of the project is projected to be 20 fewer staff and the location of the site is closer to the 59th Street Station. However, additional weekday AM, midday, and PM peak period trips generated from the other two projects scheduled to be completed by 2013 were applied to the northeast and southeast stairs at the 68th Street/Hunter College station and local street network as appropriate for all four of the No Build years.

The No-Build scenario does not include the proposed Memorial Sloan-Kettering Cancer Center Ambulatory Care Center and CUNY – Hunter College – Science and Health Professions Building ("new facility"). Subsequent to the evaluation of transportation resources for this EA, information regarding potential transportation effects of this new facility became available. This new facility would consist of more than 1.1 million square feet of medical treatment and research facilities to be located east of York Avenue at East 73rd Street. According to the Draft Environmental Impact Statement (DEIS) prepared for this new facility, the facility is expected to result in 786, 390, and 730 project-generated subway trips during the weekday morning, midday, and evening peak hours, respectively. According to the DEIS for the new facility, visitors traveling to and from the new facility via subway would be distributed among

three subway stations: the 68th Street/Hunter College Station, the 77th Street Station (Lexington Avenue Line) and the planned 72nd Street subway station (Q line) along the future Second Avenue Subway.

According to the DEIS for MSK Phase II, fewer than 200 passengers with a destination to or from the new facility would use the 68th Street/Hunter College Station during the peak hours (and therefore, did not cross the threshold for which a detailed station analysis is required for the DEIS). While these additional passengers using the 68th Street/Hunter College Station would contribute to further deterioration of this station's performance, additional analysis to account for them is not warranted for purposes of this EA; given the small number of additional passengers generated by the new facility that would use the 68th Street/Hunter College Station relative to the total number of passengers at this station during peak hour (approximately 7,200 exiting and 1,800 entering in the AM peak), the increase is accounted for in background growth and the results of the transportation analysis would not appreciably change. The additional passengers using the 68th Street/Hunter College Station associated with the new facility can be considered to be accounted for in the No-Build background growth and are thus not factored into the No Build and Build analyses or the tables and text of this EA.

Second Avenue Subway Adjustments

The Second Avenue Subway project is proposed to include a new two-track line operating below Second Avenue from 125th Street to the Financial District. Phase One is currently under construction along a section of the line from 105th Street to 63rd Street with stations at 96th Street, 86th Street, 72nd Street, and a connection to the existing Lexington Avenue/63rd Street Station. This phase of construction is expected to be completed in 2017.

Many current subway passengers now using the 6 train to access the East Side are expected to switch to the Second Avenue Subway once it is operational. To observe the effects of the Second Avenue Subway on the 68th Street/Hunter College Subway Station stairs and surrounding street elements, an analysis was performed for the 2020 Proposed Action year.

NYCT provided a set of reduction factors for subway riders at the 68th Street/Hunter College Subway Station used in their preliminary analysis of the station. These factors account for passengers that would divert to the Second Avenue Subway Line. These diversion factors are summarized in Table 15.

Table 15
68th Street/Hunter College Station to Second Avenue Subway Diversions

Peak Period	Diversions	
	Entry	Exit
AM Peak	58.0%	17.0%
Midday Peak	37.5%	37.5%
PM Peak	17.0%	58.0%

TRANSIT OPERATIONS

The four East 68th Street stairs and turnstiles were analyzed for the relevant No Build years during the peak 15-minutes on a weekday during the AM, midday, and PM peak periods. Transit trips were increased using the general annual background growth of 0.25 percent through 2016 and 0.125 percent per year through 2020. In addition to the background growth, subway and street pedestrian volumes from the Phase II of the Memorial Sloan Kettering Cancer Center and the Memorial Hospital for Cancer and Allied Diseases that would affect the study area were superimposed onto the transit networks for the different future years to generate peak period transit volumes for the No Build condition analysis.

Subway Street Stairs

Detailed stairway analyses were conducted for the four street stairs to the 68th Street/Hunter College subway station for the three peak periods and the four No Build years. The results of the analyses provided in Table 16 indicate that the subway stairs on the northeast (S4), northwest (S3), and southwest (O1/O3) corners would continue to operate at LOS C or better through 2020 during the weekday midday peak period. The subway stairs located on southwest (O1/O3) corner would also continue to operate at LOS C or better through 2020 during the weekday AM and PM peak periods.

During the AM peak period, the northwest stair (S3) would continue to operate at LOS D through 2016. This stair would improve to LOS C during the AM peak period with the opening of the Second Avenue Subway in 2020. The southeast corner (O2/O4) stair would continue to operate at LOS E and LOS F through 2016 during the weekday AM and PM peak periods. This stair would improve slightly to LOS D during the weekday PM peak periods in 2020 with the opening of the Second Avenue Subway. During the midday peak period, the southeast corner (O2/O4) stair would continue to operate at LOS D through 2016. This stair would improve to LOS B during the midday peak period with the opening of the Second Avenue Subway in 2020. The northeast corner (S4) stair would continue to operate at LOS F and E through 2016 during the weekday AM and PM peak periods, respectively. This stair would improve to LOS E and D during the weekday AM and PM peak periods, respectively, in 2020 with the opening of the Second Avenue Subway.

Table 16
No Build Alternative Conditions: Subway Street Stairway Level of Service
68th Street/Hunter College Station

No Build Year	ID	Type	Location	Width (feet)	Effective Width (feet)	Friction Factor	Peak 15-Min Entry Volume			Peak 15-Min Exit Volume			V/C			LOS		
							AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
2014	S4	Stairway	NE Corner	4.58	3.58	0.9	239	141	503	620	157	182	2.10	0.70	1.51	F	B	E
	S3	Stairway	NW Corner	4.58	3.58	0.9	43	89	210	377	37	84	1.06	0.28	0.65	D	A	B
	O2/O4	Stairway	SE Corner	5.00	4.00	0.9	144	242	548	798	242	245	2.11	1.01	1.58	F	D	E
	O1/O3	Stairway	SW Corner	7.33	6.33	0.9	44	105	167	508	142	274	0.79	0.33	0.60	C	A	B
2015	S4	Stairway	NE Corner	4.58	3.58	0.9	239	141	504	621	157	183	2.10	0.70	1.51	F	B	E
	S3	Stairway	NW Corner	4.58	3.58	0.9	43	89	210	378	37	84	1.07	0.28	0.65	D	A	B
	O2/O4	Stairway	SE Corner	5.00	4.00	0.9	144	242	550	800	242	245	2.12	1.01	1.59	F	D	E
	O1/O3	Stairway	SW Corner	7.33	6.33	0.9	44	105	168	509	142	275	0.80	0.33	0.60	C	A	B
2016	S4	Stairway	NE Corner	4.58	3.58	0.9	239	142	505	623	157	182	2.10	0.70	1.51	F	B/C	E
	S3	Stairway	NW Corner	4.58	3.58	0.9	44	89	211	379	37	84	1.07	0.28	0.65	D	A	B
	O2/O4	Stairway	SE Corner	5.00	4.00	0.9	145	243	551	802	243	246	2.13	1.01	1.59	F	D	E
	O1/O3	Stairway	SW Corner	7.33	6.33	0.9	45	105	168	510	143	275	0.80	0.33	0.60	C	A	B
2020	S4	Stairway	NE Corner	4.58	3.58	0.9	101	89	419	517	98	77	1.54	0.44	1.06	E	A	D
	S3	Stairway	NW Corner	4.58	3.58	0.9	18	56	175	314	23	35	0.85	0.18	0.45	C	A	A
	O2/O4	Stairway	SE Corner	5.00	4.00	0.9	61	152	458	665	152	104	1.65	0.63	1.09	E	B	D
	O1/O3	Stairway	SW Corner	7.33	6.33	0.9	19	66	139	424	89	116	0.58	0.21	0.33	B	A	A

Subway Platform Stairs

Detailed analyses were conducted for the subway platform stairs in the 68th Street/Hunter College subway station for the 2020 No Build condition only, as construction activities would not redirect pedestrians or modify the platform stairs during the interim No Build years. The results of the analysis provided in Table 17 indicate that all of the platform stairs operate at an acceptable LOS C or better

during the weekday AM, midday, and PM peak periods except for one. The north platform stair on the northbound platform (P4) is projected to operate during the AM peak period at LOS D in 2020.

Table 17
No Build Alternative Conditions: Subway Platform Stairs Level of Service
68th Street/Hunter College Station

No Build Year	Stairway	ID	Peak 15-Min Entry Volumes			Peak 15-Min Exit Volumes			V/C			LOS		
			AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street														
2020	South S/B Platform	P1	94	159	452	113	69	19	0.23	0.24	0.46	A	A	B
	North S/B Platform	P3	91	201	535	456	15	52	0.69	0.22	0.60	C	A	B
	South N/B Platform	P2	8	42	146	460	73	120	0.53	0.13	0.29	B	A	A
	North N/B Platform	P4	6	56	173	1006	217	214	1.20	0.34	0.45	D	A	A/B

The clearance times for the four platform stairs were calculated for the 2020 No Build condition. In the AM peak period, the clearance times for platform stairs P1, P3, P2, and P4 are projected to be 15, 82, 53, and 121 seconds, respectively. In the midday peak period, the clearance times for platform stairs P1, P3, P2, and P4 are projected to be 13, 3, 12, and 33 seconds, respectively. In the PM peak period, the clearance times for platform stairs P1, P3, P2, and P4 are projected to be 4, 9, 20, and 34 seconds, respectively. Table 19 shows the projected clearance times for the platform stairs.

Table 19
2020 No Build Alternative Conditions: Platform Stairs
68th Street/Hunter College Station

Stair	Clearance Times (s)		
	AM	MD	PM
P1	15	13	4
P3	82	3	9
P2	53	12	20
P4	121	33	34

Turnstiles

Detailed analyses were conducted for control area R-246 in the 68th Street/Hunter College subway station for the three peak periods and the three No Build years. The results of the analyses provided in Table 20 indicate that the control area is projected to operate at LOS B during the weekday AM and LOS A during the weekday midday peak period for all future years. During the PM peak period, the control area is projected to operate at LOS B through 2016 and at LOS A in 2020 with the opening of the Second Avenue Subway.

Table 20
No Build Alternative Conditions: Subway Control Area Level of Service
68th Street/Hunter College Station

No Build Year	Station Elements	Qty.	Peak 15 Minute Entering Volume			Peak 15 Minute Exiting Volume			15 Minute Turnstile Capacity for Entries	15 Minute Turnstile Capacity for Exits	V/C			LOS		
			AM	MD	PM	AM	MD	PM			AM	MD	PM	AM	MD	PM
2015	Turnstile	14	472	578	1432	2308	579	786	5292	6502	0.59	0.25	0.47	B	A	B
2016	Turnstile	14	473	579	1435	2314	581	788	5292	6502	0.59	0.25	0.47	B	B	B
2020	Turnstile	14	199	457	1306	2035	374	405	5292	6502	0.48	0 18	0.36	B	A	A

PEDESTRIAN OPERATIONS

The crosswalk, corner, and sidewalk locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed for the three peak periods and the four No Build years. The existing condition pedestrian trips were increased using the general annual background growth of 0.25 percent through 2016 and 0.125 percent per year through 2020. In addition, the projected pedestrian volumes to be generated from the Phase II of the Memorial Sloan Kettering Cancer Center and the Memorial Hospital for Cancer and Allied Diseases were superimposed onto the pedestrian network for each No Build year.

Crosswalks

The four crosswalk locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed for four No Build years. As presented in Table 21, all eight crosswalk locations would continue to operate at an acceptable LOS C or better during the three peak periods and the four No Build years with the exception of one. The west crosswalk at the Lexington Avenue and East 69th Street intersection would operate at LOS D during the PM peak period for all four No Build years.

Table 21
No Build Alternative Conditions: Crosswalk Level of Service
Lexington Avenue at East 68th Street and East 69th Street

No Build Year	Crosswalk	Crosswalk Length	Crosswalk Width	Available Crosswalk Circulation Space (ft^2/p)			Crosswalk Circulation LOS		
				AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street									
2014	North	50.3	13.5	41	80	109	B	A	A
	South	51.5	14.0	34	36	52	C	C	B
	East	28.7	15.3	100	55	58	A	B	B
	West	29.8	18.0	57	57	29	B	B	C
2015	North	50.3	13.5	40	80	109	B	A	A
	South	51.5	14.0	34	36	52	C	C	B
	East	28.7	15.3	100	55	58	A	B	B
	West	29.8	18.0	57	57	29	B	B	C
2016	North	50.3	13.5	40	79	106	B	A	A
	South	51.5	14.0	34	36	52	C	C	B
	East	28.7	15.3	100	55	58	A	B	B
	West	29.8	18.0	57	57	29	B	B	C
2020	North	50.3	13.5	42	82	116	B	A	A
	South	51.5	14.0	34	38	60	C	C	A
	East	28.7	15.3	111	57	61	A	B	A
	West	29.8	18.0	57	57	29	B	B	C
Lexington Avenue at East 69th Street									
2014	North	50.0	13.0	127	174	223	A	A	A
	South	50.0	13.0	67	59	106	A	B	A
	East	29.1	13.5	26	45	34	C	B	C
	West	29.0	12.5	46	40	16	B	B	D
2015	North	50.0	13.0	127	174	223	A	A	A
	South	50.0	13.0	67	59	105	A	B	A
	East	29.1	13.5	26	45	34	C	B	C
	West	29.0	12.5	46	40	16	B	B	D
2016	North	50.0	13.0	126	174	223	A	A	A
	South	50.0	13.0	66	59	105	A	B	A
	East	29.1	13.5	26	45	34	C	B	C
	West	29.0	12.5	46	40	16	B	B	D
2020	North	50.0	13.0	124	171	223	A	A	A
	South	50.0	13.0	66	58	103	A	B	A
	East	29.1	13.5	25	45	34	C	B	C
	West	29.0	12.5	46	40	15	B	B	D

Corners

The four corner reservoir locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed for four No Build years. All eight corner locations are projected to operate at an acceptable LOS C or better during the three peak periods with the exception of one as indicated in Table 22. The northwest corner of the Lexington Avenue and East 68th Street intersection is projected to operate at LOS D during the AM and PM peak periods through 2016. However, as some pedestrians are projected to shift to the Second Avenue Subway in 2020, this location is anticipated to improve to LOS C during the AM and midday peak periods.

Table 22
No Build Alternative Conditions: Corner Level of Service
Lexington Avenue at East 68th Street and East 69th Street

No Build Year	Corner	Required Corner Circulation Space (ft^2/s)			Corner Circulation LOS		
		AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street							
2014	Northeast	36	65	45	C	A	B
	Northwest	22	36	21	D	C	D
	Southeast	66	59	69	A	B	A
	Southwest	51	50	43	B	B	B
2015	Northeast	36	64	45	C	A	B
	Northwest	22	35	21	D	C	D
	Southeast	66	59	69	A	B	A
	Southwest	51	50	43	B	B	B
2016	Northeast	33	62	40	C	A	B
	Northwest	22	35	21	D	C	D
	Southeast	65	58	69	A	B	A
	Southwest	51	50	43	B	B	B
2020	Northeast	38	73	45	C	A	B
	Northwest	24	38	23	C	C	D
	Southeast	68	61	76	A	A	A
	Southwest	51	50	45	B	B	B
Lexington Avenue at East 69th Street							
2014	Northeast	63	101	83	A	A	A
	Northwest	96	89	46	A	A	B
	Southeast	73	136	108	A	A	A
	Southwest	96	94	60	A	A	B
2015	Northeast	63	101	83	A	A	A
	Northwest	95	89	45	A	A	B
	Southeast	73	135	107	A	A	A
	Southwest	96	93	59	A	A	B
2016	Northeast	63	101	83	A	A	A
	Northwest	95	89	45	A	A	B
	Southeast	72	135	107	A	A	A
	Southwest	95	93	59	A	A	B
2020	Northeast	62	100	82	A	A	A
	Northwest	94	88	45	A	A	B
	Southeast	72	134	106	A	A	A
	Southwest	95	93	59	A	A	B

Sidewalks

The 16 sidewalk locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed for four No Build years. As presented in Table 23, all 16 sidewalk locations are projected to operate at an acceptable LOS C or better for the non-platoon and platoon conditions during the three peak periods with the exception of two. The west side sidewalk north of Lexington Avenue and East 68th Street intersection and the west side sidewalk north of the Lexington Avenue and East 69th Street intersection are projected to continue to operate at LOS D during the PM peak period under platoon conditions through 2020.

Table 23
No Build Alternative Conditions: Sidewalk Level of Service
Lexington Avenue at East 68th Street and East 69th Street

No Build Year	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon Conditions LOS			Platoon Conditions LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street															
2014	Lexington Avenue	East	5 3	243	192	207	3 04	2 40	2 59	A	A	A	C	B	B
	South of E 68th Street	West	6 0	283	172	232	3 14	1 91	2 58	A	A	A	C	B	B
	Lexington Avenue	East	9 0	756	264	551	5 60	1 96	4 08	B	A	A	C	B	C
	North of E 68th Street	West	5 5	367	270	610	4 45	3 27	7 39	A	A	C	C	C	D
	E 68th Street	North	7 7	192	221	185	1 67	1 92	1 61	A	A	A	B	B	B
	West of Lexington Ave	South	7 0	241	252	478	2 30	2 40	4 55	A	A	A	B	B	C
	E 68th Street	North	8 7	473	179	446	3 64	1 38	3 43	A	A	A	C	B	C
	East of Lexington Ave	South	10 6	329	84	311	2 07	0 53	1 96	A	A	A	B	B	B
2015	Lexington Avenue	East	5 3	243	193	207	3 04	2 41	2 59	A	A	A	C	B	B
	South of E 68th Street	West	6 0	284	173	232	3 16	1 92	2 58	A	A	A	C	B	B
	Lexington Avenue	East	9 0	758	265	552	5 61	1 96	4 09	B	A	A	C	B	C
	North of E 68th Street	West	5 5	368	271	611	4 46	3 28	7 41	A	A	C	C	C	D
	E 68th Street	North	7 7	193	221	186	1 68	1 92	1 62	A	A	A	B	B	B
	West of Lexington Ave	South	7 0	241	253	479	2 30	2 41	4 56	A	A	A	B	B	C
	E 68th Street	North	8 7	474	180	446	3 65	1 38	3 43	A	A	A	C	B	C
	East of Lexington Ave	South	10 6	329	85	311	2 07	0 54	1 96	A	A	A	B	B	B
2016	Lexington Avenue	East	5 3	244	193	208	3 05	2 41	2 60	A	A	A	C	B	B
	South of E 68th Street	West	6 0	285	173	233	3 17	1 92	2 59	A	A	A	C	B	B
	Lexington Avenue	East	9 0	759	265	554	5 62	1 96	4 10	B	A	A	C	B	C
	North of E 68th Street	West	5 5	369	271	613	4 47	3 28	7 43	A	A	C	C	C	D
	E 68th Street	North	7 7	193	222	186	1 68	1 93	1 62	A	A	A	B	B	B
	West of Lexington Ave	South	7 0	242	253	480	2 30	2 41	4 57	A	A	A	B	B	C
	E 68th Street	North	8 7	475	180	447	3 65	1 38	3 44	A	A	A	C	B	C
	East of Lexington Ave	South	10 6	330	85	312	2 08	0 54	1 97	A	A	A	B	B	B
2020	Lexington Avenue	East	5 3	232	183	197	2 90	2 29	2 46	A	A	A	B	B	B
	South of E 68th Street	West	6 0	285	171	228	3 16	1 90	2 54	A	A	A	C	B	B
	Lexington Avenue	East	9 0	642	198	451	4 75	1 47	3 34	A	A	A	C	B	C
	North of E 68th Street	West	5 5	322	247	577	3 90	2 99	7 00	A	A	B	C	B	D
	E 68th Street	North	7 7	156	205	149	1 36	1 78	1 29	A	A	A	B	B	B
	West of Lexington Ave	South	7 0	241	244	458	2 30	2 32	4 36	A	A	A	B	B	C
	E 68th Street	North	8 7	342	130	352	2 63	1 00	2 71	A	A	A	B	B	B
	East of Lexington Ave	South	10 6	329	75	288	2 07	0 47	1 82	A	A	A	B	A	B
Lexington Avenue at East 69th Street															
2014	Lexington Avenue	East	10 5	590	264	551	3 75	1 68	3 50	A	A	A	C	B	C
	South of E 69th Street	West	8 1	367	270	610	3 03	2 23	5 03	A	A	B	C	B	C
	Lexington Avenue	East	7 0	488	240	373	4 65	2 29	3 55	A	A	A	C	B	C
	North of E 69th Street	West	5 3	354	252	548	4 43	3 15	6 85	A	A	B	C	C	D
	E 69th Street	North	7 0	37	82	65	0 35	0 78	0 62	A	A	A	A	B	B
	West of Lexington Ave	South	14 3	78	116	104	0 36	0 54	0 48	A	A	A	A	B	A
	E 69th Street	North	8 0	56	36	93	0 47	0 30	0 78	A	A	A	A	A	B
	East of Lexington Ave	South	8 0	306	136	180	2 55	1 13	1 50	A	A	A	B	B	B
2015	Lexington Avenue	East	10 5	592	265	552	3 76	1 68	3 50	A	A	A	C	B	C
	South of E 69th Street	West	8 1	368	271	611	3 04	2 24	5 04	A	A	B	C	B	C
	Lexington Avenue	East	7 0	489	240	374	4 66	2 29	3 56	A	A	A	C	B	C
	North of E 69th Street	West	5 3	355	253	549	4 44	3 16	6 86	A	A	B	C	C	D
	E 69th Street	North	7 0	37	82	66	0 35	0 78	0 63	A	A	A	A	B	B
	West of Lexington Ave	South	14 3	78	116	104	0 36	0 54	0 48	A	A	A	A	B	A
	E 69th Street	North	8 0	57	36	93	0 48	0 30	0 78	A	A	A	A	A	B
	East of Lexington Ave	South	8 0	307	136	181	2 56	1 13	1 51	A	A	A	B	B	B
2016	Lexington Avenue	East	10 5	593	265	554	3 77	1 68	3 52	A	A	A	C	B	C
	South of E 69th Street	West	8 1	369	271	613	3 04	2 24	5 06	A	A	B	C	B	C
	Lexington Avenue	East	7 0	490	241	375	4 67	2 30	3 57	A	A	A	C	B	C
	North of E 69th Street	West	5 3	355	253	551	4 44	3 16	6 89	A	A	B	C	C	D
	E 69th Street	North	7 0	37	82	66	0 35	0 78	0 63	A	A	A	A	B	B
	West of Lexington Ave	South	14 3	78	116	104	0 36	0 54	0 48	A	A	A	A	B	A
	E 69th Street	North	8 0	57	36	93	0 48	0 30	0 78	A	A	A	A	A	B
	East of Lexington Ave	South	8 0	308	137	181	2 57	1 14	1 51	A	A	A	B	B	B
2020	Lexington Avenue	East	10 5	596	267	557	3 78	1 70	3 54	A	A	A	C	B	C
	South of E 69th Street	West	8 1	370	273	616	3 05	2 25	5 08	A	A	B	C	B	C
	Lexington Avenue	East	7 0	493	242	377	4 70	2 30	3 59	A	A	A	C	B	C
	North of E 69th Street	West	5 3	357	254	554	4 46	3 18	6 93	A	A	B	C	C	D
	E 69th Street	North	7 0	38	82	66	0 36	0 78	0 63	A	A	A	A	B	B
	West of Lexington Ave	South	14 3	78	117	105	0 36	0 54	0 49	A	A	A	A	B	A
	E 69th Street	North	8 0	57	37	94	0 48	0 31	0 78	A	A	A	A	A	B
	East of Lexington Ave	South	8 0	309	137	182	2 58	1 14	1 52	A	A	A	B	B	B

TRAFFIC

Traffic conditions at the Lexington Avenue at East 69th Street signalized intersection were analyzed for the three peak periods (weekday AM, midday, and PM peak hours) and the four No Build years. As was the case with the pedestrian volumes, the existing condition traffic volumes were increased using the general annual background growth of 0.25 percent through 2016 and 0.125 percent per year beyond 2016 through 2020. The results of the signalized intersection analyses are summarized in Table 24 in terms of v/c ratios, delays, and LOS. Based upon these results, all movements would continue to operate at an acceptable LOS C or better during the three peak periods for each of the four No Build years.

Table 24
No Build Alternative Conditions: Signalized Intersection Level of Service
Lexington Avenue at East 69th Street

No Build Year	Approach	Weekday AM Peak Hour				Weekday MD Peak Hour				Weekday PM Peak Hour			
		Lane Group	v/c Ratio	Delay (sec.)	LOS	Lane Group	v/c Ratio	Delay (sec.)	LOS	Lane Group	v/c Ratio	Delay (sec.)	LOS
Lexington Avenue at East 69th Street													
2014	Westbound	LT	0.51	24.2	C	LT	0.41	22.2	C	LT	0.46	23.0	C
	Southbound	TR	0.58	17.0	B	TR	0.43	15.0	B	TR	0.59	17.1	B
	Overall			18.3	B			16.5	B			18.1	B
2015	Westbound	LT	0.51	24.3	C	LT	0.41	22.2	C	LT	0.46	23.0	C
	Southbound	TR	0.58	17.0	B	TR	0.42	14.9	B	TR	0.59	17.1	B
	Overall			18.4	B			16.4	B			18.1	B
2016	Westbound	LT	0.51	24.3	C	LT	0.41	22.2	C	LT	0.46	23.0	C
	Southbound	TR	0.58	17.0	B	TR	0.42	14.9	B	TR	0.59	17.1	B
	Overall			18.4	B			16.4	B			18.2	B
2020	Westbound	LT	0.51	24.3	C	LT	0.41	22.2	C	LT	0.46	23.1	C
	Southbound	TR	0.58	17.1	B	TR	0.42	14.9	B	TR	0.59	17.2	B
	Overall			18.4	B			16.4	B			18.2	B

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service, Sec = Seconds.

PARKING

The existing on-street parking volumes were increased using the general annual background growth of 0.25 percent through 2016 and 0.125 percent per year beyond 2016 through 2020. On-street parking in the study area was analyzed for the three peak periods in the 2020 No Build year. Since the number of occupied spaces is projected to increase by one as a result of the background growth rate, it was concluded that there is sufficient on-street parking capacity to accommodate the projected demand through 2020 during all three peak weekday periods. Table 25 shows the number of occupied on-street parking spaces and total capacity under the 2020 No Build condition. Table 26 shows the percentages of occupied spaces during all three weekday peak periods.

Table 25
2020 No Build Alternative Conditions: On-Street Parking Capacity
Lexington Avenue at East 69th Street

Time Period	Parking Space Capacity								
	Lexington Avenue (between E 69th and E 70th Streets)		**Lexington Avenue** (between E 68th and E 69th Streets)		**East 69th Street** (west of Lexington Avenue)		**East 69th Street** (east of Lexington Avenue)		
	East	**West**	**East**	**West**	**North**	**South**	**North**	**South**	**Total**
AM	9	0	9	0	3	0	6	5	32
Midday	9	5	9	6	3	0	6	5	43
PM	9	5	9	6	3	0	6	5	43

Table 26
2020 No Build Alternative Conditions: On-Street Parking Spaces Occupied
Lexington Avenue at East 69th Street

Time Period	Capacity	Occupied Spaces	Percent Spaces Occupied
AM	32	21	66%
Midday	43	37	86%
PM	43	34	79%

5. 2020 PROPOSED ACTION CONDITION

New York City Transit (NYCT) is planning to provide accessibility at the 68th Street/Hunter College Station on the Lexington Avenue IRT Line as part of a federal requirement to comply with the Americans with Disabilities Act (ADA). Two alternatives for the Proposed Action were analyzed in detail including Alternative 2 and Alternative 1. The future with the Proposed Action builds on the No Build Alternative analysis by incorporating the effects of the proposed action in 2020 on transit elements, pedestrians, traffic, and parking in the study area. It is assumed that in 2020 – for both the No Build and Build scenarios – Phase I of the Second Avenue Subway will be in operation. Considering that the seven eastern stair options and four western stair options would have different walk patterns depending on the combination used, a total of 28 combinations of East 69th Street stair options (Proposed Actions #1 through #28) were analyzed for Alternative 2. However, only the preferred combination for Alternative 2 (Proposed Action #25, which is the combination of uptown option E10 with downtown option W1), is compared to the No Build Alternative results to determine the net effect of the project on transit elements, pedestrians, traffic, and parking.

ALTERNATIVE 2

The plans for Alternative 2 include the following:

- Installation of a street elevator at southeast corner of East 68th Street and Lexington Avenue
- Modifications to the 68th Street/Hunter College Subway Station street stairs located at the intersection of East 68th Street and Lexington Avenue:
  - Northeast corner stair (S4) – Widened to 72 inches, relocated to the east and oriented east
  - Southeast corner stair (O2/O4) – Widened to 120 inches (with center handrail)
  - Northwest corner stair (S3) – Rehabilitated but width to remain 55 inches
  - Southwest corner stair (O1/O3) – No change (width to remain 88 inches)
- To improve access to the station, two new street stairs for East 69th Street would be built. The west side (downtown) street stair would be located at the north end of the platform at East 69th Street, while the east side (uptown) street stair would be located at 931 Lexington Avenue, approximately mid-block between East 68th Street and East 69th Street.
- Fare Areas:
  - East 68th Street mezzanine area would remain the same (14 turnstiles and 2 service gates)
  - Separate uptown and downtown fare areas would be constructed for the new East 69th Street stairs (no shared large mezzanine below Lexington Avenue; instead each new entrance would have its own separate small mezzanine)
    - Uptown would include 5 turnstiles and 1 service gate
    - Downtown would include 4 turnstiles and 1 service gate

East 69th Street Stair Options

A total of 12 uptown and 11 downtown street stair options were analyzed by NYCT. Based upon a rigorous engineering evaluation, a total of seven uptown stair options and four downtown stair options were selected for detailed analyses. These options were evaluated in terms of transportation (transit elements, pedestrians, traffic, and parking). The options included the following:

- Uptown/East side
  - E1: SE corner = 108 inch (sidewalk stair)
  - E2: SE corner = 108 inch (corner stair)

- E3: SE corner = two 60 inch (splayed stairs)
- E7: NE corner = 108 inch (corner stair)
- E8: NE corner = 108 inch (sidewalk stair)
- E9: NE corner = two 60 inch (splayed stairs)
- E10: 931 Lexington Avenue = 120 inch (easement stair)

- Downtown/West Side
  - W1: SW corner = 108 inch (corner stair)
  - W2: SW corner = two 60 inch (splayed stairs)
  - W6: NW corner = two 60 inch (splayed stairs)
  - W7: NW corner = 108 inch (corner stair)

Pedestrian Volume Development

Pedestrian Tracking

Pedestrian tracking in all directions both entering and exiting the existing four subway street stairs during the weekday AM, midday, and PM peak hours were derived from counts conducted in November 2011 (Table 27).

Table 27
Existing Conditions: Pedestrian Tracking at
68th Street/Hunter College Subway Station Street Stairs

		Existing Subway Stair Volumes			Tracking %			Existing Corner Volumes			Overall Corner Volumes		
NW Corner (S3)		**AM**	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**
Entry	West on 68th Street (North Sidewalk)	14	30	83	32.6%	34.1%	39.9%	24	72	38	441	197	329
	South on Lexington Ave (West Crosswalk)	0	7	6	0.0%	8.0%	2.9%						
	East on 68th Street (North Crosswalk)	3	7	6	7.0%	8.0%	2.9%						
	North on Lexington Ave (West Sidewalk)	26	44	113	60.5%	50.0%	54.3%						
Exit	West on 68th Street (North Sidewalk)	150	13	37	40.1%	35.1%	44.6%						
	South on Lexington Ave (West Crosswalk)	7	0	8	1.9%	0.0%	9.6%						
	East on 68th Street (North Crosswalk)	30	0	7	8.0%	0.0%	8.4%						
	North on Lexington Ave (West Sidewalk)	187	24	31	50.0%	64.9%	37.3%						
NE Corner (S4)		**AM**	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**
Entry	East on 68th Street (North Sidewalk)	141	67	251	61.0%	50.4%	60.0%	31	12	8	793	286	584
	South on Lexington Ave (East Crosswalk)	5	0	4	2.2%	0.0%	1.0%						
	West on 68th Street (North Crosswalk)	2	3	0	0.9%	2 3%	0.0%						
	North on Lexington Ave (East Sidewalk)	83	63	163	35.9%	47.4%	39.0%						
Exit	East on 68th Street (North Sidewalk)	149	36	33	28.1%	25.5%	20.9%						
	South on Lexington Ave (East Crosswalk)	11	9	6	2.1%	6.4%	3.8%						
	West on 68th Street (North Crosswalk)	11	1	3	2.1%	0.7%	1.9%						
	North on Lexington Ave (East Sidewalk)	360	95	116	67.8%	67.4%	73.4%						
SW Corner (O1/O3)		**AM**	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**
Entry	South on Lexington Ave (West Sidewalk)	38	52	114	86.4%	50.0%	68.7%	10	55	33	558	300	471
	West on 68th Street (South Sidewalk)	6	52	52	13.6%	50.0%	31.3%						
Exit	South on Lexington Ave (West Sidewalk)	328	63	147	65.1%	44.7%	54.0%						
	West on 68th Street (South Sidewalk)	176	78	125	34.9%	55.3%	46.0%						
SE Corner (O2/O4)		**AM**	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**
Entry	West on 68th Street (North Sidewalk)	2	5	4	1.4%	2 1%	0.9%	49	17	21	895	476	706
	East on 68th Street (North Sidewalk)	107	126	383	77.5%	54.1%	82.5%						
	South on Lexington Ave (East Sidewalk)	26	97	67	18.8%	41.6%	14.4%						
	North on Lexington Ave (East Sidewalk)	3	5	10	2.2%	2 1%	2.2%						
Exit	West on 68th Street (North Sidewalk)	5	22	40	0.7%	9.7%	18.1%						
	East on 68th Street (North Sidewalk)	577	169	137	81.5%	74.8%	62.0%						
	South on Lexington Ave (East Sidewalk)	87	20	34	12.3%	8.8%	15.4%						
	North on Lexington Ave (East Sidewalk)	39	15	10	5.5%	6.6%	4.5%						

Street Stairway Diversions

It is assumed that for the subway riders exiting or entering the northeast corner and northwest corner stairs at East 68th Street, 85% of those already walking north were assigned to the new East 69th Street stairs and 50% of those currently walking east or west were also assigned to the East 69th Street stairs. This is based on land uses and trip generators along the east side of Manhattan. Table 28 shows a summary of the East 68th Street stair diversions.

Table 28
East 68th Street Stair Diversions to East 69th Street Stairs

Northeast Stair (S4)							
		AM		**MD**		**PM**	
		Entry	**Exit**	**Entry**	**Exit**	**Entry**	**Exit**
Diversion By Market	North	85%	85%	85%	85%	85%	85%
	East	50%	50%	50%	50%	50%	50%
Overall Weighted Diversion		**60.8%**	**68.7%**	**64.7%**	**68.2%**	**61.0%**	**70.0%**
Northwest Stair (S3)							
		AM		**MD**		**PM**	
		Entry	**Exit**	**Entry**	**Exit**	**Entry**	**Exit**
Diversion By Market	North	85%	85%	85%	85%	85%	85%
	East	50%	50%	50%	50%	50%	50%
Overall Weighted Diversion		**67.7%**	**62.6%**	**59.5%**	**72.7%**	**66.1%**	**54.0%**

Additionally, it was assumed that 5% of the total volumes diverted to each of the proposed East 69th Street stairs would travel south to account for irrational movements (improper positioning on the train by a passenger relative to the desired stair).

East 69th Street Stairway Origin and Destination Patterns

In collaboration with NYCT, entry and exit stair patterns at the 11 proposed East 69th Street stair options were developed in order to reassign the volumes that were diverted from the existing East 68th Street stairs. It was assumed that the exit patterns would be identical to the entry patterns. The patterns were also developed to take into account the percentage of the signal cycle that each crosswalk has a green pedestrian crossing phase. Figures 4 through 14 show the various patterns for each type of proposed stairway/location.

Figure 4
East 69th Street Station O/D Paths – Southwest Corner Stair (W1)

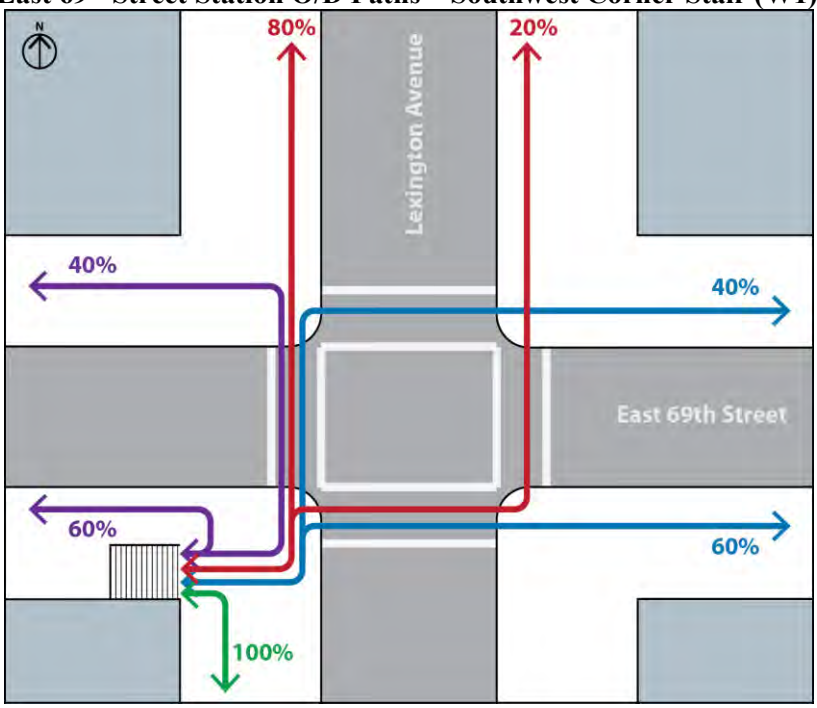


Figure 5
East 69th Street Station O/D Paths – Southwest Splayed Stairs (W2)

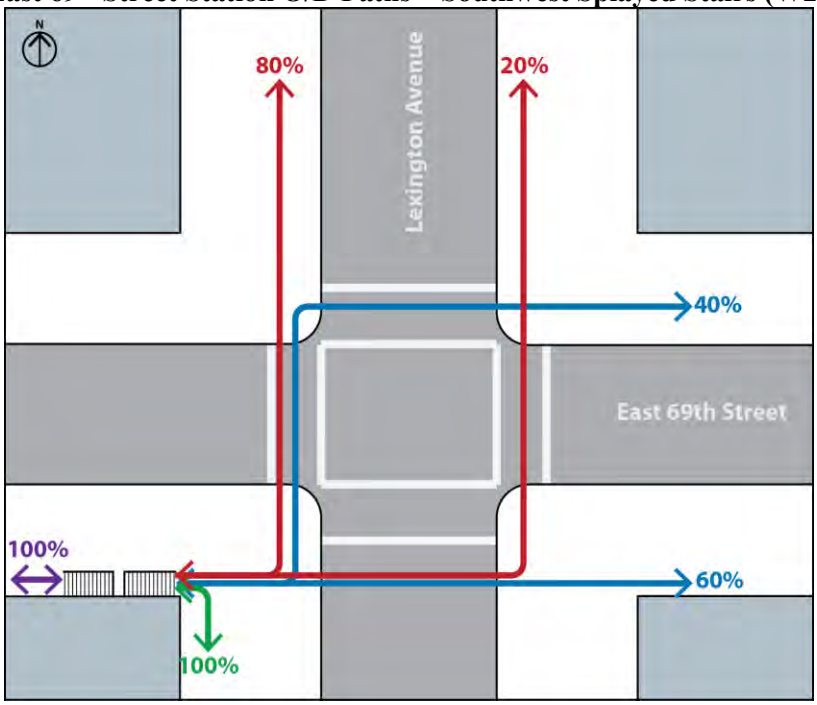


Figure 6
East 69th Street Station O/D Paths – Northwest Splayed Stairs (W6)

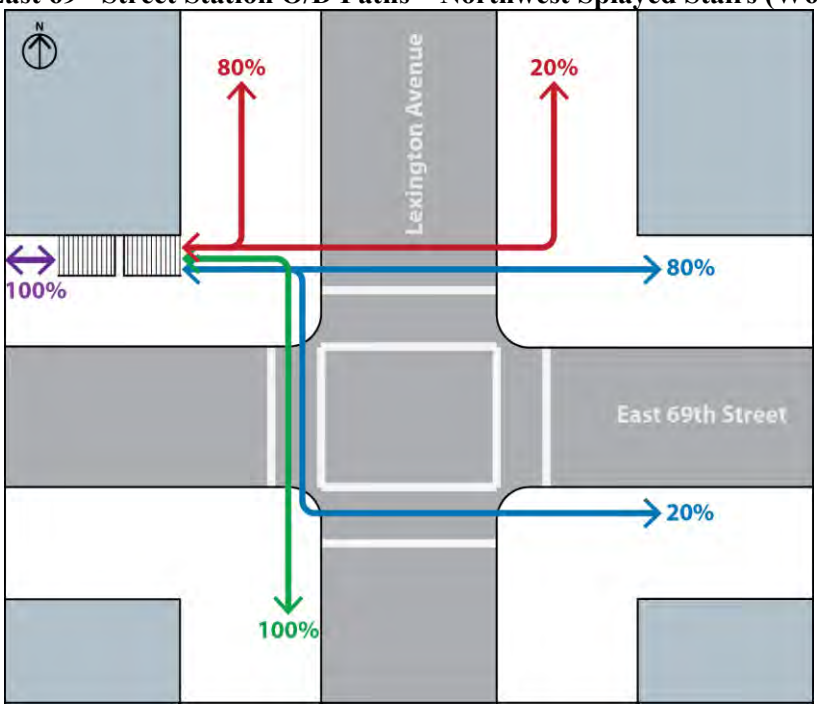


Figure 7
East 69th Street Station O/D Paths – Northwest Corner Stair (W7)

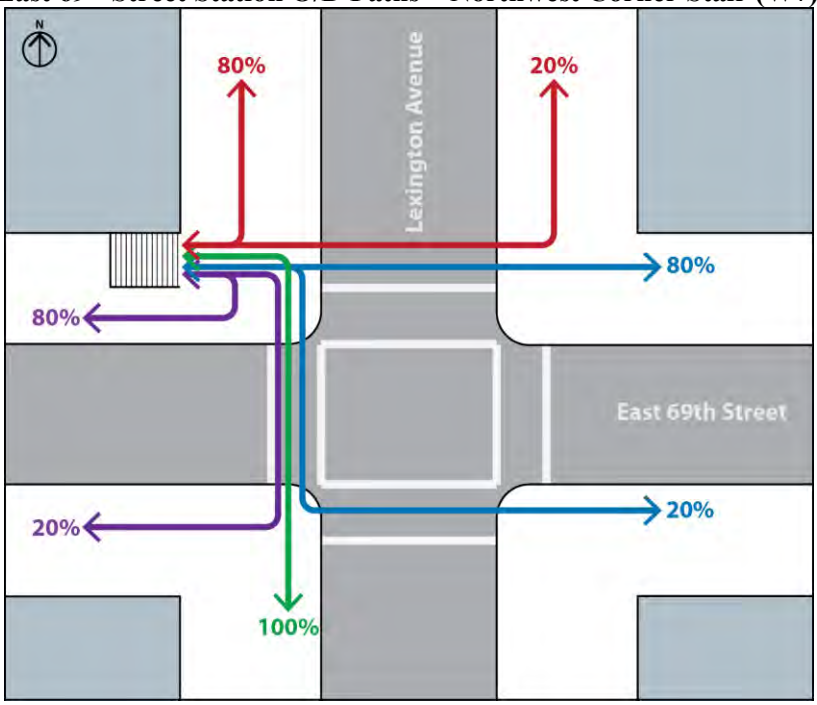


Figure 8
East 69th Street Station O/D Paths – Southeast Sidewalk Stair (E1)

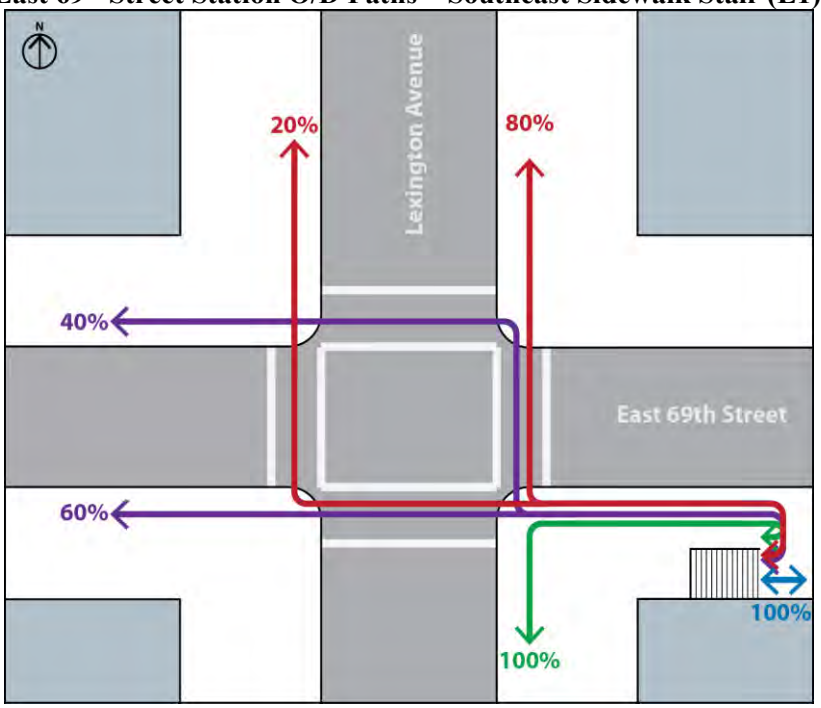


Figure 9
East 69th Street Station O/D Paths – Southeast Corner Stair (E2)

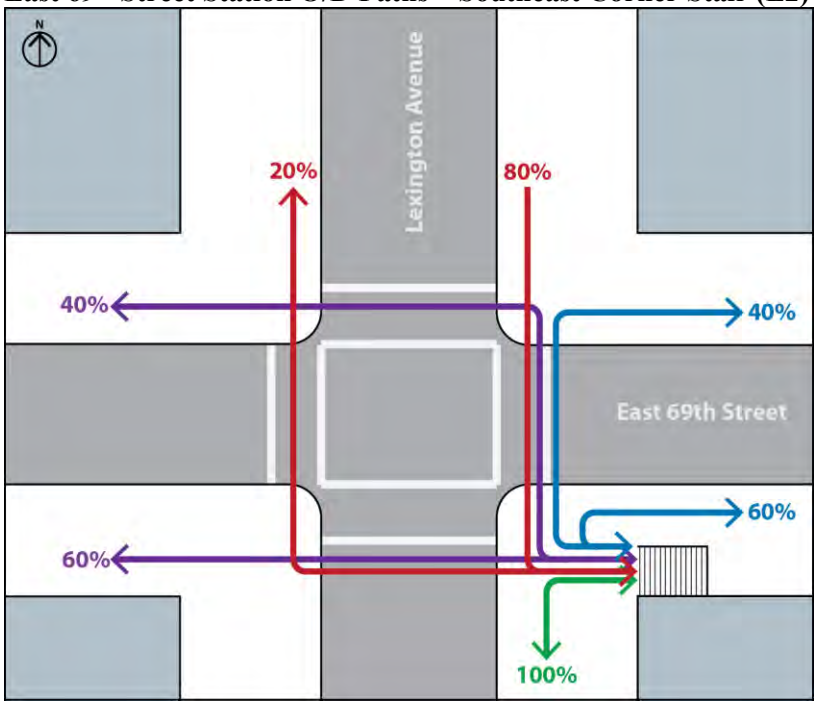


Figure 10
East 69th Street Station O/D Paths – Southeast Splayed Stairs (E3)

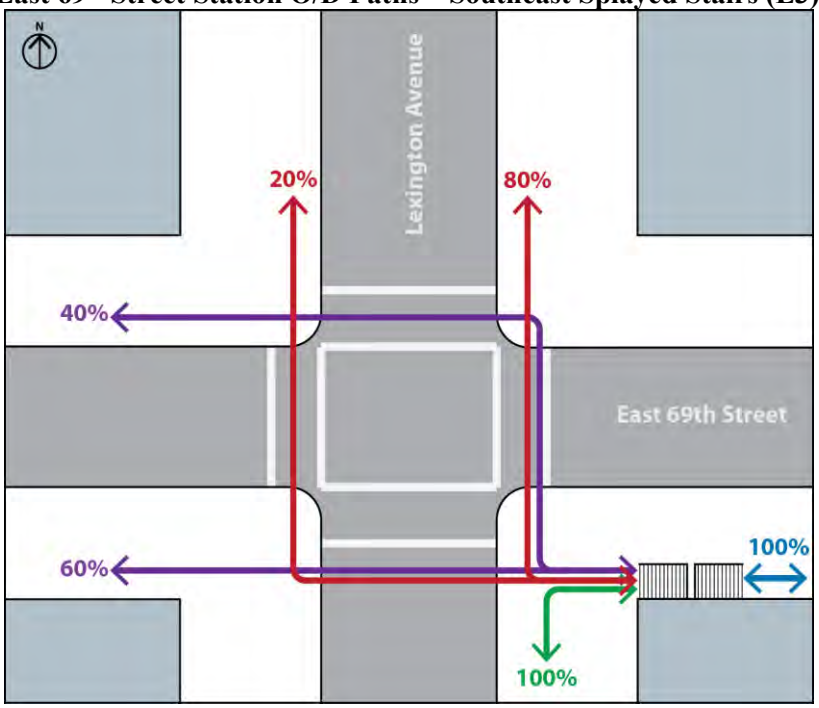


Figure 11
East 69th Street Station O/D Paths – Northeast Corner Stair (E7)

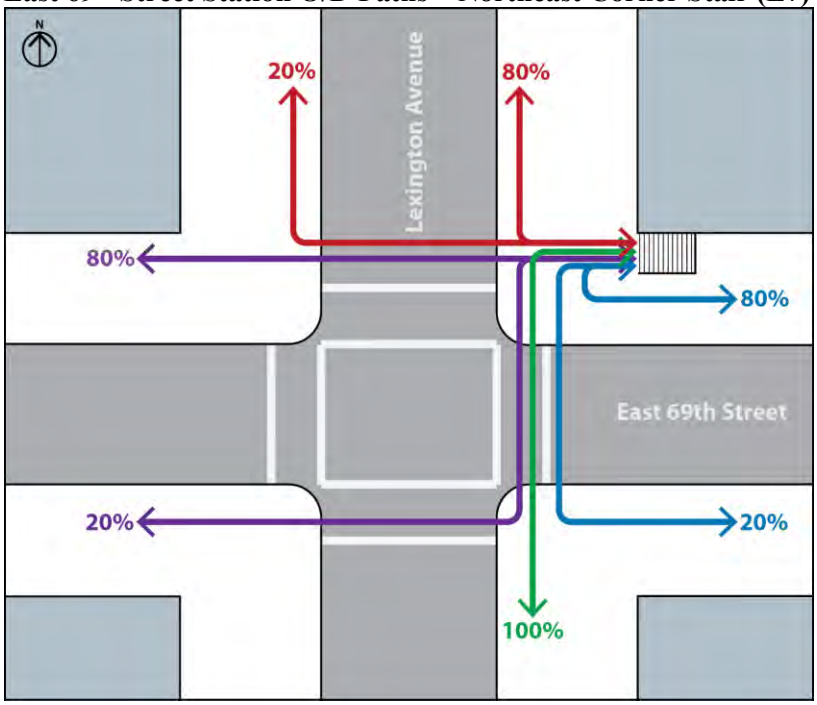


Figure 12
East 69th Street Station O/D Paths – Northeast Sidewalk Stair (E8)

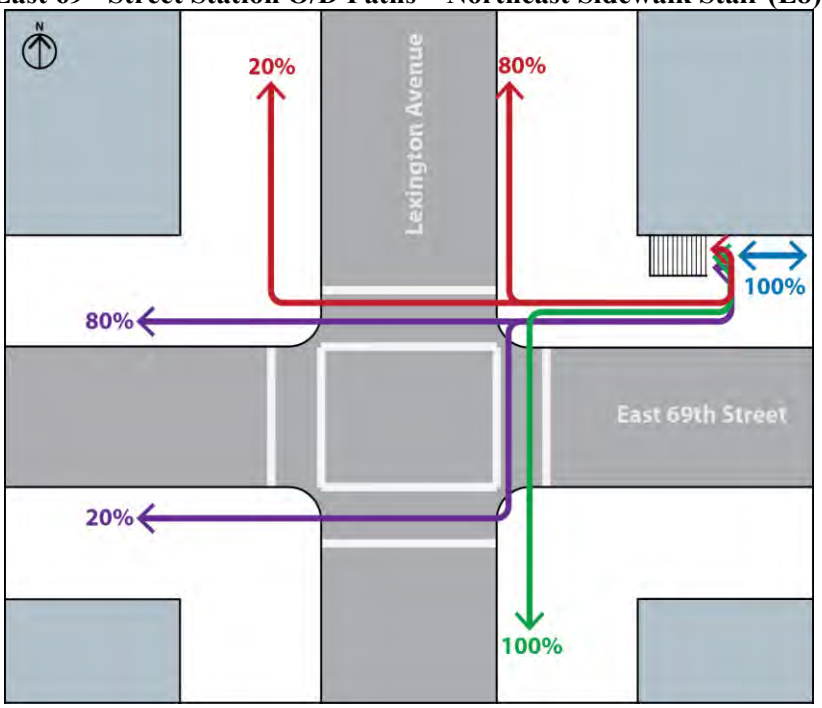


Figure 13
East 69th Street Station O/D Paths – Northeast Splayed Stairs (E9)

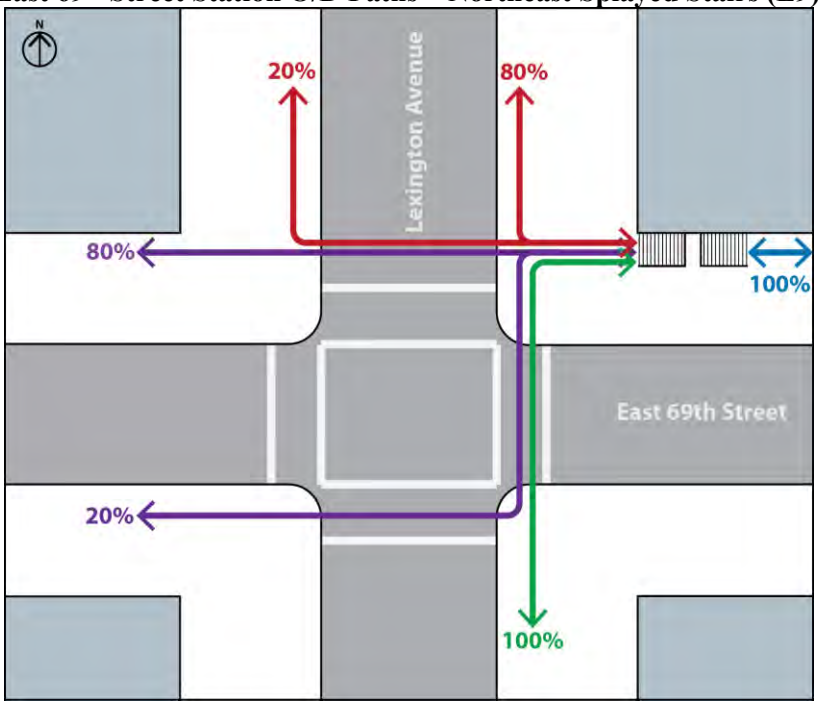
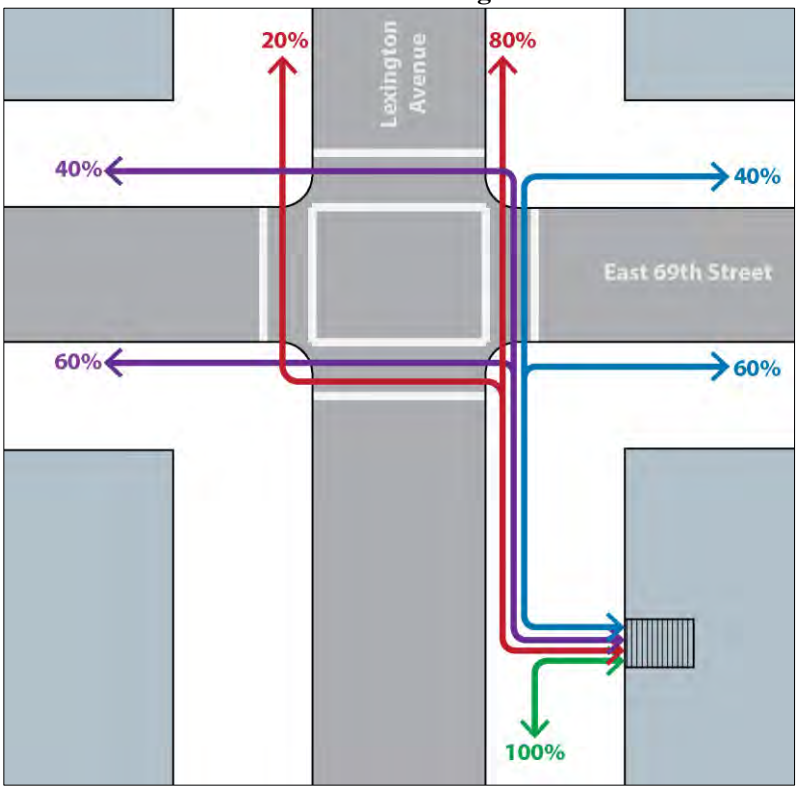


Figure 14
East 69th Street Station O/D Paths – 931 Lexington Avenue Sidewalk Stair (E10)



Platform Adjustment Factors

The proposed entrances at East 69th Street would not have an over-track shared mezzanine below Lexington Avenue like the existing East 68th Street entrances. Instead each entrance at East 69th Street would have its own small mezzanine. Northbound trains would only be accessible from the eastern set of stairs while southbound trains would only be accessible from the western set of stairs. As a result, the volumes reassigned to the proposed East 69th Street stairs would need to be adjusted to account for control areas that would provide access to or from a single platform. Based on the observed breakdown of passenger volume by direction, NYCT provided the following set of platform adjustment factors, shown in Table 29, that were used in the analysis.

Table 29
East 69th Street Stairs - Platform Adjustment Factors

Platform	AM Peak		Midday Peak		PM Peak	
	Entries	Exits	Entries	Exits	Entries	Exits
Northbound	10%	70%	21%	78%	24%	82%
Southbound	90%	30%	79%	22%	76%	18%

Transit Operations

The four stairs and turnstiles at the East 68th Street entrance were analyzed for the 2020 Proposed Action year. In addition, at the proposed East 69th Street entrance, a total of 11 different stair options and two sets of turnstiles were analyzed.

Subway Street Stairs

Detailed subway stair analyses were conducted for the four key street stairs in the 68th Street/Hunter College subway station and the 11 proposed stair options at the East 69th Street entrance during the three peak periods for the 2020 Proposed Action year. The 68th Street/Hunter College Subway Station Improvements Project would greatly enhance pedestrian flow throughout all of the subway elements in comparison to the No Build Alternative (Table 30). The results of the analyses provided in Table 30 indicate that at the 68th Street/Hunter College subway station, all stairs are projected to improve to operate at LOS C or better during the three peak periods. Similarly, the proposed East 69th Street stair options would all operate at LOS C or better during the three peak periods.

Table 30
2020 Proposed Action Conditions: Subway Street Stairways
68th Street/Hunter College Station

ID	Type	Location	Width (feet)	Effective Width (feet)	Friction Factor	Peak 15-Min Entry Volume			Peak 15-Min Exit Volume			V/C			LOS		
						AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street																	
S4	Stairway	NE Corner	6.00	5.00	0.90	39	31	163	162	31	23	0.36	0.10	0.28	A	A	A
S3	Stairway	NW Corner	4 58	3.58	0.90	6	23	59	118	6	16	0.28	0.06	0.16	A	A	A
O2/O4	Stairway	SE Corner	10.00	8.75	0.90	61	152	458	665	152	104	0.76	0.29	0.50	C	A	B
O1/O3	Stairway	SW Corner	7 33	6.33	0.90	19	66	139	424	89	116	0.58	0.21	0.33	B	A	A
Lexington Avenue at East 69th Street																	
W1	Stairway	SW Corner	9.00	8.00	0.90	66	72	283	165	19	13	0.25	0.09	0.28	A	A	A
W2-E	Stairway	SW Corner	5.00	4.00	0.90	60	59	240	140	17	10	0.43	0.15	0.47	A	A	B
W2-W	Stairway	SW Corner	5.00	4.00	0.90	7	13	43	26	2	3	0.07	0.03	0.09	A	A	A
W6-E	Stairway	NW Corner	5.00	4.00	0.90	60	59	240	140	17	10	0.43	0.15	0.47	A	A	B
W6-W	Stairway	NW Corner	5.00	4.00	0.90	7	13	43	26	2	3	0.07	0.03	0.09	A	A	A
W7	Stairway	NW Corner	9.00	8.00	0.90	66	72	283	165	19	13	0.25	0.09	0.28	A	A	A
E1	Stairway	SE Corner	9.00	8.00	0.90	7	19	88	386	65	60	0.41	0.09	0.15	A	A	A
E2	Stairway	SE Corner	9.00	8.00	0.90	7	19	88	386	65	60	0.41	0.09	0.15	A	A	A
E3-E	Stairway	SE Corner	5.00	4.00	0.90	5	7	45	169	26	22	0.36	0.07	0.13	A	A	A
E3-W	Stairway	SE Corner	5.00	4.00	0.90	2	12	44	217	40	38	0.46	0.11	0.17	B	A	A
E7	Stairway	NE Corner	9.00	8.00	0.90	7	19	88	386	65	60	0.41	0.09	0.15	A	A	A
E8	Stairway	NE Corner	9.00	8.00	0.90	7	19	88	386	65	60	0.41	0.09	0.15	A	A	A
E9-E	Stairway	NE Corner	5.00	4.00	0.90	5	7	45	169	26	22	0.36	0.07	0.13	A	A	A
E9-W	Stairway	NE Corner	5.00	4.00	0.90	2	12	44	217	40	38	0.46	0.11	0.17	B	A	A
E10	Stairway	Midblock	10.00	8.75	0.90	7	19	88	386	65	60	0.37	0.08	0.14	A	A	A

Subway Platform Stairs

Detailed analyses were conducted for the subway platform stairs in the 68th Street/Hunter College subway station for the three peak periods of the 2020 Proposed Action year. The results of the analysis provided in Table 31 indicate that all of the platform stairs are projected to operate at an acceptable LOS C or better during the weekday AM, midday, and PM peak periods.

Table 31
2020 Proposed Action Conditions: Subway Platform Stairs Level of Service
68th Street/Hunter College Station

Stairway	ID	Peak 15-Min Entry Volumes			Peak 15-Min Exit Volumes			V/C			LOS		
		AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street													
South S/B Platform	P1	61	127	323	80	53	16	0.16	0.19	0.33	A	A	A
North S/B Platform	P3	59	161	381	324	12	43	0.48	0.17	0.43	B	A	A
South N/B Platform	P2	3	34	105	339	57	99	0.39	0.10	0.23	A	A	A
North N/B Platform	P4	3	45	125	741	168	175	0.88	0.27	0.35	C	A	A
Lexington Avenue at East 69th Street													
S/B Platform		66	72	283	165	19	13	0.27	0.09	0.28	A	A	A
N/B Platform		7	19	88	386	65	60	0.44	0.10	0.16	A	A	A

Table 32 shows the projected clearance times for the platform stairs. In the AM peak period, the clearance times for platform stairs P1, P3, P2, and P4 are projected to be 12, 48, 40, and 88 seconds, respectively. During the AM peak period, the clearance times for the proposed East 69th Street platform stairs are projected to be 25 seconds for the southbound platform and 46 seconds for the northbound platform. In the Midday peak period, the clearance times for platform stairs P1, P3, P2, and P4 are projected to be 11, 2, 9, and 26 seconds, respectively. During the midday peak period, the clearance times for the proposed East 69th Street platform stairs are projected to be 3 seconds for the southbound platform and 9 seconds for the northbound platform. In the PM peak period, the clearance times for platform stairs P1, P3, P2, and P4 are projected to be 2, 6, 16, and 28 seconds, respectively. The clearance times for the proposed East 69th Street platform stairs is projected to be 2 seconds for the southbound platform and 8 seconds for the northbound platform during the PM peak period.

Table 32
2020 Proposed Action Conditions: Platform Stairs
68th Street/Hunter College Station

Stair	Clearance Times (s)		
	AM	MD	PM
P1	12	11	2
P3	48	2	6
P2	40	9	16
P4	88	26	28
Southbound 69th St	25	3	2
Northbound 69th St	46	9	8

Turnstiles

Detailed analyses were conducted for control area R-246 in the 68th Street/Hunter College subway station and the proposed control areas at East 69th Street for the three peak periods during the 2020 Proposed Action year. The results of the analyses provided in Table 33 indicate that all of the control areas at both entrances of the station are projected to operate at LOS A during the three peak periods.

Table 33
2020 Proposed Action Conditions: Subway Control Areas
68th Street/Hunter College Station

Station Elements	Qty.	Peak 15 Minute Entering Volume			Peak 15 Minute Exiting Volume			15 Minute Capacity for Entries	15 Minute Capacity for Exits	V/C			LOS		
		AM	MD	PM	AM	MD	PM			AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street															
Turnstile	14	125	367	935	1484	290	332	5,292	6,502	0.34	0.14	0.27	A	A	A
Lexington Avenue at East 69th Street															
Turnstile (u)	5	7	19	88	386	65	60	1,890	2,322	0.24	0.05	0.09	A	A	A
Turnstile (d)	4	66	72	283	165	19	13	1,512	1,858	0.17	0.07	0.22	A	A	A

Notes: u = uptown; d = downtown

Pedestrian Operations

The crosswalk, corner, and sidewalk locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed for the three peak periods for the 2020 Proposed Action year. Considering that the four western stair options and seven eastern stair options would have different walk patterns depending on the combination used, a total of 28 different build conditions were analyzed. Existing pedestrians originating from or bound to the subway were moved to the East 69th Street stairs based on the assumptions previously cited.

Crosswalks

The eight crosswalk locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed for the three peak periods during the 2020 Proposed Action year. As presented in Table 34, all four crosswalk locations at the intersection of Lexington Avenue with East 68th Street are projected to operate at an acceptable LOS C or better during the three peak periods in the 2020 Proposed Action year.

At the intersection of Lexington Avenue with East 69th Street, all four crosswalks would continue to operate at an acceptable LOS C or better during the AM and midday peak periods for all of the stair options in 2020 except for in Proposed Actions 5, 6, 25 & 26 where the East crosswalk operates at LOS D.

During the PM peak period, all four crosswalks would continue to operate at an acceptable LOS C or better except for the west crosswalk which is projected to operate at LOS D in all Proposed Action alternatives.

Corners

The eight corner reservoir locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed for the 2020 Proposed Action year under Alternative 2. All eight corner locations are projected to operate at an acceptable LOS C or better during the three peak periods as indicated in Table 35.

Sidewalks

The 16 sidewalk locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed for the 2020 Proposed Action year under Alternative 2. As presented in Table 36, 15 of the 16 sidewalk locations are projected to operate at an acceptable LOS C or better for the non-platoon and

platoon conditions during the three peak periods. The west side sidewalk north of the Lexington Avenue and East 69th Street intersection is projected to continue to operate at LOS D during the PM peak period under platoon conditions through the 2020 Proposed Action year.

Table 34
2020 Proposed Action Conditions: Crosswalk Level of Service Analysis

Stair Options	Crosswalk	Crosswalk Length	Crosswalk Width	Available Crosswalk Circulation Space (ft^2/p)			Crosswalk Circulation LOS		
				AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street									
All Proposed Action Scenarios	North	50.3	13.5	42	82	116	B	A	A
	South	51.5	14.0	31	37	58	C	C	B
	East	28.7	15.3	92	56	59	A	B	B
	West	29.8	18.0	54	57	29	B	B	C
Lexington Avenue at East 69th Street									
Proposed Action 1 (E1 & W1)	North	50.0	13.0	62	129	82	A	A	A
	South	50.0	14.0	31	48	41	C	B	B
	East	29.1	13.5	29	68	53	C	A	B
	West	29.0	14.0	62	44	15	A	B	D
Proposed Action 2 (E1 & W2)	North	50.0	13.0	62	129	82	A	A	A
	South	50.0	14.0	31	48	41	C	B	B
	East	29.1	13.5	29	68	53	C	A	B
	West	29.0	14.0	67	47	17	A	B	D
Proposed Action 3 (E1 & W7)	North	50.0	13.0	42	101	47	B	A	B
	South	50.0	14.0	41	55	67	B	B	A
	East	29.1	13.5	31	71	59	C	A	B
	West	29.0	14.0	105	55	20	A	B	D
Proposed Action 4 (E1 & W6)	North	50.0	13.0	42	101	47	B	A	B
	South	50.0	14.0	41	55	67	B	B	A
	East	29.1	13.5	31	71	59	C	A	B
	West	29.0	14.0	112	56	21	A	B	D
Proposed Action 5 (E2 & W1)	North	50.0	13.0	62	129	82	A	A	A
	South	50.0	14.0	31	48	41	C	B	B
	East	29.1	13.5	23	63	47	D	A	B
	West	29.0	14.0	62	46	16	A	B	D
Proposed Action 6 (E2 & W2)	North	50.0	13.0	62	129	82	A	A	A
	South	50.0	14.0	31	48	41	C	B	B
	East	29.1	13.5	23	63	47	D	A	B
	West	29.0	14.0	67	47	17	A	B	D
Proposed Action 7 (E2 & W7)	North	50.0	13.0	42	101	47	B	A	B
	South	50.0	14.0	41	55	67	B	B	A
	East	29.1	13.5	24	66	51	C	A	B
	West	29.0	14.0	105	55	20	A	B	D
Proposed Action 8 (E2 & W6)	North	50.0	13.0	42	101	47	B	A	B
	South	50.0	14.0	41	55	67	B	B	A
	East	29.1	13.5	24	66	51	C	A	B
	West	29.0	14.0	112	56	21	A	B	D
Proposed Action 9 (E3 & W1)	North	50.0	13.0	62	129	82	A	A	A
	South	50.0	14.0	31	48	41	C	B	B
	East	29.1	13.5	29	68	53	C	A	B
	West	29.0	14.0	62	46	16	A	B	D
Proposed Action 10 (E3 & W2)	North	50.0	13.0	62	129	82	A	A	A
	South	50.0	14.0	31	48	41	C	B	B
	East	29.1	13.5	29	68	53	C	A	B
	West	29.0	14.0	67	47	17	A	B	D
Proposed Action 11 (E3 & W7)	North	50.0	13.0	42	101	47	B	A	B
	South	50.0	14.0	41	55	67	B	B	A
	East	29.1	13.5	31	71	59	C	A	B
	West	29.0	14.0	105	55	20	A	B	D
Proposed Action 12 (E3 & W6)	North	50.0	13.0	42	101	47	B	A	B
	South	50.0	14.0	41	55	67	B	B	A
	East	29.1	13.5	31	71	59	C	A	B
	West	29.0	14.0	112	56	21	A	B	D
Proposed Action 13 (E8 & W1)	North	50.0	13.0	45	112	70	B	A	A
	South	50.0	14.0	39	52	46	C	B	B
	East	29.1	13.5	44	83	66	B	A	A
	West	29.0	14.0	74	48	17	A	B	D
Proposed Action 14 (E8 W2)	North	50.0	13.0	45	112	70	B	A	A
	South	50.0	14.0	39	52	46	C	B	B
	East	29.1	13.5	44	83	66	B	A	A
	West	29.0	14.0	81	49	17	A	B	D

Table 34 (cont.)
2020 Proposed Action Conditions: Crosswalk Level of Service Analysis

Stair Options	Crosswalk	Crosswalk Length	Crosswalk Width	Available Crosswalk Circulation Space (ft^2/p)			Crosswalk Circulation LOS		
				AM	MD	PM	AM	MD	PM
Lexington Avenue at East 69th Street									
Proposed Action 15 (E8 & W7)	North	50.0	13.0	33	89	42	C	A	B
	South	50.0	14.0	55	60	78	B	B	A
	East	29.1	13.5	46	87	73	B	A	A
	West	29.0	14.0	139	57	21	A	B	D
Proposed Action 16 (E8 & W6)	North	50.0	13.0	33	89	42	C	A	B
	South	50.0	14.0	55	60	78	B	B	A
	East	29.1	13.5	46	87	73	B	A	A
	West	29.0	14.0	150	58	22	A	B	D
Proposed Action 17 (E7 & W1)	North	50.0	13.0	45	112	70	B	A	A
	South	50.0	14.0	39	52	46	C	B	B
	East	29.1	13.5	38	78	60	C	A	A
	West	29.0	14.0	74	48	17	A	B	D
Proposed Action 18 (E7 & W2)	North	50.0	13.0	45	112	70	B	A	A
	South	50.0	14.0	39	52	46	C	B	B
	East	29.1	13.5	38	78	60	C	A	A
	West	29.0	14.0	81	49	17	A	B	D
Proposed Action 19 (E7 & W7)	North	50.0	13.0	33	89	42	C	A	B
	South	50.0	14.0	55	60	78	B	B	A
	East	29.1	13.5	40	83	67	C	A	A
	West	29.0	14.0	139	57	21	A	B	D
Proposed Action 20 (E7 & W6)	North	50.0	13.0	33	89	42	C	A	B
	South	50.0	14.0	55	60	78	B	B	A
	East	29.1	13.5	40	83	67	C	A	A
	West	29.0	14.0	150	58	22	A	B	D
Proposed Action 21 (E9 & W1)	North	50.0	13.0	45	112	70	B	A	A
	South	50.0	14.0	39	52	46	C	B	B
	East	29.1	13.5	44	83	66	B	A	A
	West	29.0	14.0	74	48	17	A	B	D
Proposed Action 22 (E9 & W2)	North	50.0	13.0	45	112	70	B	A	A
	South	50.0	14.0	39	52	46	C	B	B
	East	29.1	13.5	44	83	66	B	A	A
	West	29.0	14.0	81	49	17	A	B	D
Proposed Action 23 (E9 & W7)	North	50.0	13.0	33	89	42	C	A	B
	South	50.0	14.0	55	60	78	B	B	A
	East	29.1	13.5	46	87	73	B	A	A
	West	29.0	14.0	139	57	21	A	B	D
Proposed Action 24 (E9 & W6)	North	50.0	13.0	33	89	42	C	A	B
	South	50.0	14.0	55	60	78	B	B	A
	East	29.1	13.5	46	87	73	B	A	A
	West	29.0	14.0	150	58	22	A	B	D
Proposed Action 25 (E10 & W1)	North	50.0	13.0	62	129	82	A	A	A
	South	50.0	14.0	31	48	41	C	B	B
	East	29.1	13.5	23	63	47	D	A	B
	West	29.0	14.0	62	46	16	A	B	D
Proposed Action 26 (E10 & W2)	North	50.0	13.0	62	129	82	A	A	A
	South	50.0	14.0	31	49	41	C	B	B
	East	29.1	13.5	23	63	47	D	A	B
	West	29.0	14.0	67	47	17	A	B	D
Proposed Action 27 (E10 & W7)	North	50.0	13.0	42	101	47	B	A	B
	South	50.0	14.0	41	55	67	B	B	A
	East	29.1	13.5	24	66	51	C	A	B
	West	29.0	14.0	105	55	20	A	B	D
Proposed Action 28 (E10 & W6)	North	50.0	13.0	42	101	47	B	A	B
	South	50.0	14.0	41	55	67	B	B	A
	East	29.1	13.5	24	66	51	C	A	B
	West	29.0	14.0	112	56	21	A	B	D

Table 35
2020 Proposed Action Conditions: Corner Level of Service Analysis

Stair Options	Corner	Required Corner Circulation Space (ft^2/s)			Corner Circulation LOS		
		AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street							
All Proposed Action Scenarios	Northeast	80	112	93	A	A	A
	Northwest	32	42	28	C	B	C
	Southeast	61	60	73	A	A	A
	Southwest	48	50	44	B	B	B
Lexington Avenue at East 69th Street							
Proposed Action 1 (E1 & W1)	Northeast	58	124	88	B	A	A
	Northwest	82	84	37	A	A	C
	Southeast	108	215	158	A	A	A
	Southwest	105	123	67	A	A	A
Proposed Action 2 (E1 & W2)	Northeast	58	124	88	B	A	A
	Northwest	85	86	38	A	A	C
	Southeast	108	215	158	A	A	A
	Southwest	112	127	71	A	A	A
Proposed Action 3 (E1 & W7)	Northeast	53	117	72	B	A	A
	Northwest	103	120	54	A	A	B
	Southeast	121	234	197	A	A	A
	Southwest	106	97	59	A	A	B
Proposed Action 4 (E1 & W6)	Northeast	53	117	72	B	A	A
	Northwest	112	124	57	A	A	B
	Southeast	121	234	197	A	A	A
	Southwest	108	98	60	A	A	A
Proposed Action 5 (E2 & W1)	Northeast	51	117	81	B	A	A
	Northwest	82	84	37	A	A	C
	Southeast	86	197	139	A	A	A
	Southwest	105	123	67	A	A	A
Proposed Action 6 (E2 & W2)	Northeast	51	117	81	B	A	A
	Northwest	85	86	38	A	A	C
	Southeast	86	197	139	A	A	A
	Southwest	112	127	71	A	A	A
Proposed Action 7 (E2 & W7)	Northeast	47	111	67	B	A	A
	Northwest	103	120	54	A	A	B
	Southeast	95	213	169	A	A	A
	Southwest	106	97	59	A	A	B
Proposed Action 8 (E2 & W6)	Northeast	47	111	67	B	A	A
	Northwest	112	124	57	A	A	B
	Southeast	95	213	169	A	A	A
	Southwest	108	98	60	A	A	A
Proposed Action 9 (E3 & W1)	Northeast	58	124	88	B	A	A
	Northwest	82	84	37	A	A	C
	Southeast	79	158	116	A	A	A
	Southwest	105	123	67	A	A	A
Proposed Action 10 (E3 & W2)	Northeast	58	124	88	B	A	A
	Northwest	85	86	38	A	A	C
	Southeast	79	158	116	A	A	A
	Southwest	112	127	71	A	A	A
Proposed Action 11 (E3 & W7)	Northeast	53	117	72	B	A	A
	Northwest	103	120	54	A	A	B
	Southeast	89	172	145	A	A	A
	Southwest	106	97	59	A	A	B
Proposed Action 12 (E3 & W6)	Northeast	53	117	72	B	A	A
	Northwest	112	124	57	A	A	B
	Southeast	89	172	145	A	A	A
	Southwest	108	98	60	A	A	A
Proposed Action 13 (E8 & W1)	Northeast	78	177	127	A	A	A
	Northwest	77	83	36	A	A	C
	Southeast	108	180	133	A	A	A
	Southwest	125	129	69	A	A	A

Table 35 (cont.)
2020 Proposed Action Conditions: Corner Level of Service Analysis

Stair Options	Corner	Required Corner Circulation Space (ft^2/s)			Corner Circulation LOS		
		AM	MD	PM	AM	MD	PM
Lexington Avenue at East 69th Street							
Proposed Action 14 (E8 & W2)	Northeast	78	177	127	A	A	A
	Northwest	80	85	37	A	A	C
	Southeast	108	180	133	A	A	A
	Southwest	135	133	73	A	A	A
Proposed Action 15 (E8 & W7)	Northeast	72	167	106	A	A	A
	Northwest	98	118	53	A	A	B
	Southeast	126	198	171	A	A	A
	Southwest	139	103	62	A	A	A
Proposed Action 16 (E8 & W6)	Northeast	72	167	106	A	A	A
	Northwest	106	123	57	A	A	B
	Southeast	126	198	171	A	A	A
	Southwest	142	104	64	A	A	A
Proposed Action 17 (E7 & W1)	Northeast	60	157	107	B	A	A
	Northwest	77	83	36	A	A	C
	Southeast	101	176	129	A	A	A
	Southwest	125	129	69	A	A	A
Proposed Action 18 (E7 & W2)	Northeast	60	157	107	B	A	A
	Northwest	80	85	37	A	A	C
	Southeast	101	176	129	A	A	A
	Southwest	135	133	73	A	A	A
Proposed Action 19 (E7 & W7)	Northeast	56	150	92	B	A	A
	Northwest	98	118	53	A	A	B
	Southeast	117	194	165	A	A	A
	Southwest	139	103	62	A	A	A
Proposed Action 20 (E7 & W6)	Northeast	56	150	92	B	A	A
	Northwest	106	123	57	A	A	B
	Southeast	117	194	165	A	A	A
	Southwest	142	104	64	A	A	A
Proposed Action 21 (E9 & W1)	Northeast	78	177	127	A	A	A
	Northwest	77	83	36	A	A	C
	Southeast	108	180	133	A	A	A
	Southwest	125	129	69	A	A	A
Proposed Action 22 (E9 & W2)	Northeast	78	177	127	A	A	A
	Northwest	80	85	37	A	A	C
	Southeast	108	180	133	A	A	A
	Southwest	135	133	73	A	A	A
Proposed Action 23 (E9 & W7)	Northeast	72	167	106	A	A	A
	Northwest	98	118	53	A	A	B
	Southeast	126	198	171	A	A	A
	Southwest	139	103	62	A	A	A
Proposed Action 24 (E9 & W6)	Northeast	72	167	106	A	A	A
	Northwest	106	123	57	A	A	B
	Southeast	126	198	171	A	A	A
	Southwest	142	104	64	A	A	A
Proposed Action 25 (E10 & W1)	Northeast	51	117	81	B	A	A
	Northwest	82	84	37	A	A	C
	Southeast	64	146	104	A	A	A
	Southwest	105	123	67	A	A	A
Proposed Action 26 (E10 & W2)	Northeast	51	117	81	B	A	A
	Northwest	85	86	38	A	A	C
	Southeast	64	146	104	A	A	A
	Southwest	112	127	71	A	A	A
Proposed Action 27 (E10 & W7)	Northeast	47	111	67	B	A	A
	Northwest	103	120	54	A	A	B
	Southeast	71	158	127	A	A	A
	Southwest	106	97	59	A	A	B
Proposed Action 28 (E10 & W6)	Northeast	47	111	67	B	A	A
	Northwest	112	124	57	A	A	B
	Southeast	71	158	127	A	A	A
	Southwest	108	98	60	A	A	A

Table 36
2020 Proposed Action Conditions: Sidewalk Level of Service Analysis

Stair Options	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon LOS			Platoon LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street															
All Proposed Action Scenarios	Lexington Avenue	East	5.3	238	187	200	2.98	2 34	2.50	A	A	A	B	B	B
	South of E 68th Street	West	6.0	311	174	233	3.46	1 93	2.59	A	A	A	C	B	B
	Lexington Avenue	East	9.0	378	118	300	2.80	0.88	2.22	A	A	A	B	B	B
	North of E 68th Street	West	5.5	189	211	487	2.29	2 56	5.90	A	A	B	B	B	C
	E 68th Street	North	7.7	90	191	106	0.79	1.66	0.92	A	A	A	B	B	B
	West of Lexington Ave	South	7.0	241	244	458	2.30	2 32	4.36	A	A	A	B	B	C
	E 68th Street	North	8.7	213	91	201	1.64	0.70	1.55	A	A	A	B	B	B
	East of Lexington Ave	South	10.6	329	75	288	2.07	0.47	1.82	A	A	A	B	A	B
Lexington Avenue at East 69th Street															
Proposed Action 1 (E1 & W1)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.0	58	82	74	0.55	0.78	0.70	A	A	A	B	B	B
	West of Lexington Ave	South	7.4	116	126	131	1.04	1 13	1.18	A	A	A	B	B	B
	E 69th Street	North	8.0	82	39	113	0.68	0 33	0.94	A	A	A	B	A	B
	East of Lexington Ave	South	7.4	382	175	256	3.43	1 57	2.30	A	A	A	C	B	B
Proposed Action 2 (E1 & W2)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.0	46	76	56	0.44	0.72	0.53	A	A	A	A	B	B
	West of Lexington Ave	South	11.4	96	118	103	0.56	0.69	0.60	A	A	A	B	B	B
	E 69th Street	North	8.0	82	39	113	0.68	0 33	0.94	A	A	A	B	A	B
	East of Lexington Ave	South	7.4	382	175	256	3.43	1 57	2.30	A	A	A	C	B	B
Proposed Action 3 (E1 & W7)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.9	71	87	92	0.60	0.73	0.77	A	A	A	B	B	B
	West of Lexington Ave	South	14.3	103	121	112	0.48	0 56	0.52	A	A	A	A	B	B
	E 69th Street	North	8.0	130	53	172	1.08	0.44	1.43	A	A	A	B	A	B
	East of Lexington Ave	South	7.4	334	161	197	3.00	1.45	1.77	A	A	A	C	B	B
Proposed Action 4 (E1 & W6)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	11.9	46	76	56	0.26	0.43	0.31	A	A	A	A	A	A
	West of Lexington Ave	South	14.3	96	118	103	0.45	0 55	0.48	A	A	A	A	B	A
	E 69th Street	North	8.0	130	53	172	1.08	0.44	1.43	A	A	A	B	A	B
	East of Lexington Ave	South	7.4	334	161	197	3.00	1.45	1.77	A	A	A	C	B	B
Proposed Action 5 (E2 & W1)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.0	58	82	74	0.55	0.78	0.70	A	A	A	B	B	B
	West of Lexington Ave	South	7.4	116	126	131	1.04	1 13	1.18	A	A	A	B	B	B
	E 69th Street	North	8.0	152	53	140	1.27	0.44	1.17	A	A	A	B	A	B
	East of Lexington Ave	South	8.4	268	143	215	2.12	1 13	1.70	A	A	A	B	B	B
Proposed Action 6 (E2 & W2)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.0	46	76	56	0.44	0.72	0.53	A	A	A	A	B	B
	West of Lexington Ave	South	11.4	96	118	103	0.56	0.69	0.60	A	A	A	B	B	B
	E 69th Street	North	8.0	152	53	140	1.27	0.44	1.17	A	A	A	B	A	B
	East of Lexington Ave	South	8.4	268	143	215	2.12	1 13	1.70	A	A	A	B	B	B

Table 36 (cont.)
2020 Proposed Action Conditions: Sidewalk Level of Service Analysis

Stair Options	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon LOS			Platoon LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 69th Street															
Proposed Action 7 (E2 & W7)	Lexington Avenue South of E 69th Street	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
		West	8 1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue North of E 69th Street	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
		West	5 3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street West of Lexington Ave	North	7 9	71	87	92	0.60	0.73	0.77	A	A	A	B	B	B
		South	14.3	103	121	112	0.48	0.56	0.52	A	A	A	A	B	B
	E 69th Street East of Lexington Ave	North	8.0	200	66	199	1.67	0.55	1.66	A	A	A	B	B	B
		South	8.4	220	129	155	1.74	1.02	1.23	A	A	A	B	B	B
Proposed Action 8 (E2 & W6)	Lexington Avenue South of E 69th Street	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
		West	8 1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue North of E 69th Street	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
		West	5 3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street West of Lexington Ave	North	11.9	46	76	56	0.26	0.43	0.31	A	A	A	A	A	A
		South	14.3	96	118	103	0.45	0.55	0.48	A	A	A	A	B	A
	E 69th Street East of Lexington Ave	North	8.0	200	66	199	1.67	0.55	1.66	A	A	A	B	B	B
		South	8.4	220	129	155	1.74	1.02	1.23	A	A	A	B	B	B
Proposed Action 9 (E3 & W1)	Lexington Avenue South of E 69th Street	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
		West	8 1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue North of E 69th Street	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
		West	5 3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street West of Lexington Ave	North	7.0	58	82	74	0.55	0.78	0.70	A	A	A	B	B	B
		South	7.4	116	126	131	1.04	1.13	1.18	A	A	A	B	B	B
	E 69th Street East of Lexington Ave	North	8.0	82	39	113	0.68	0.33	0.94	A	A	A	B	A	B
		South	12.4	163	124	175	0.88	0.67	0.94	A	A	A	B	B	B
Proposed Action 10 (E3 & W2)	Lexington Avenue South of E 69th Street	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
		West	8 1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue North of E 69th Street	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
		West	5 3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street West of Lexington Ave	North	7.0	46	76	56	0.44	0.72	0.53	A	A	A	A	B	B
		South	11.4	96	118	103	0.56	0.69	0.60	A	A	A	B	B	B
	E 69th Street East of Lexington Ave	North	8.0	82	39	113	0.68	0.33	0.94	A	A	A	B	A	B
		South	12.4	163	124	175	0.88	0.67	0.94	A	A	A	B	B	B
Proposed Action 11 (E3 & W7)	Lexington Avenue South of E 69th Street	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
		West	8 1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue North of E 69th Street	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
		West	5 3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street West of Lexington Ave	North	7 9	71	87	92	0.60	0.73	0.77	A	A	A	B	B	B
		South	14.3	103	121	112	0.48	0.56	0.52	A	A	A	A	B	B
	E 69th Street East of Lexington Ave	North	8.0	130	53	172	1.08	0.44	1.43	A	A	A	B	A	B
		South	12.4	115	110	116	0.62	0.59	0.62	A	A	A	B	B	B
Proposed Action 12 (E3 & W6)	Lexington Avenue South of E 69th Street	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
		West	8 1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue North of E 69th Street	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
		West	5 3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street West of Lexington Ave	North	11.9	46	76	56	0.26	0.43	0.31	A	A	A	A	A	A
		South	14.3	96	118	103	0.45	0.55	0.48	A	A	A	A	B	A
	E 69th Street East of Lexington Ave	North	8.0	130	53	172	1.08	0.44	1.43	A	A	A	B	A	B
		South	12.4	115	110	116	0.62	0.59	0.62	A	A	A	B	B	B
Proposed Action 13 (E8 & W1)	Lexington Avenue South of E 69th Street	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
		West	8 1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue North of E 69th Street	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
		West	5 3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street West of Lexington Ave	North	7.0	83	86	86	0.79	0.82	0.82	A	A	A	B	B	B
		South	7.4	92	123	120	0.83	1.11	1.08	A	A	A	B	B	B
	E 69th Street East of Lexington Ave	North	7 1	302	90	194	2.84	0.85	1.83	A	A	A	B	B	B
		South	8.0	163	124	175	1.36	1.03	1.46	A	A	A	B	B	B

Table 36 (cont.)
2020 Proposed Action Conditions: Sidewalk Level of Service Analysis

Stair Options	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon LOS			Platoon LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Proposed Action 14 (E8 & W2)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.0	70	81	66	0.67	0.77	0.63	A	A	A	B	B	B
	West of Lexington Ave	South	11.4	72	114	92	0.42	0.67	0.54	A	A	A	A	B	B
	E 69th Street	North	7.1	302	90	194	2.84	0.85	1.83	A	A	A	B	B	B
	East of Lexington Ave	South	8.0	163	124	175	1.36	1.03	1.46	A	A	A	B	B	B
Proposed Action 15 (E8 & W7)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.9	95	92	104	0.80	0.77	0.88	A	A	A	B	B	B
	West of Lexington Ave	South	14.3	78	117	102	0.36	0.54	0.47	A	A	A	A	B	A
	E 69th Street	North	7.1	350	104	253	3.29	0.98	2.38	A	A	A	C	B	B
	East of Lexington Ave	South	8.0	115	110	116	0.96	0.92	0.97	A	A	A	B	B	B
Proposed Action 16 (E8 & W6)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	11.9	70	81	66	0.39	0.45	0.37	A	A	A	A	A	A
	West of Lexington Ave	South	14.3	72	114	92	0.33	0.53	0.43	A	A	A	A	B	A
	E 69th Street	North	7.1	350	104	253	3.29	0.98	2.38	A	A	A	C	B	B
	East of Lexington Ave	South	8.0	115	110	116	0.96	0.92	0.97	A	A	A	B	B	B
Proposed Action 17 (E7 & W1)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.0	83	86	86	0.79	0.82	0.82	A	A	A	B	B	B
	West of Lexington Ave	South	7.4	92	123	120	0.83	1.11	1.08	A	A	A	B	B	B
	E 69th Street	North	8.1	222	65	167	1.83	0.54	1.38	A	A	A	B	B	B
	East of Lexington Ave	South	8.0	198	130	188	1.65	1.08	1.57	A	A	A	B	B	B
Proposed Action 18 (E7 & W2)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.0	70	81	66	0.67	0.77	0.63	A	A	A	B	B	B
	West of Lexington Ave	South	11.4	72	114	92	0.42	0.67	0.54	A	A	A	A	B	B
	E 69th Street	North	8.1	222	65	167	1.83	0.54	1.38	A	A	A	B	B	B
	East of Lexington Ave	South	8.0	198	130	188	1.65	1.08	1.57	A	A	A	B	B	B
Proposed Action 19 (E7 & W7)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.9	95	92	104	0.80	0.77	0.88	A	A	A	B	B	B
	West of Lexington Ave	South	14.3	78	117	102	0.36	0.54	0.47	A	A	A	A	B	A
	E 69th Street	North	8.1	270	79	226	2.23	0.65	1.86	A	A	A	B	B	B
	East of Lexington Ave	South	8.0	150	117	129	1.25	0.98	1.08	A	A	A	B	B	B
Proposed Action 20 (E7 & W6)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	11.9	70	81	66	0.39	0.45	0.37	A	A	A	A	A	A
	West of Lexington Ave	South	14.3	72	114	92	0.33	0.53	0.43	A	A	A	A	B	A
	E 69th Street	North	8.1	270	79	226	2.23	0.65	1.86	A	A	A	B	B	B
	East of Lexington Ave	South	8.0	150	117	129	1.25	0.98	1.08	A	A	A	B	B	B

Table 36 (cont.)
2020 Proposed Action Conditions: Sidewalk Level of Service Analysis

Stair Options	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon LOS			Platoon LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Proposed Action 21 (E9 & W1)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.0	83	86	86	0.79	0.82	0.82	A	A	A	B	B	B
	West of Lexington Ave	South	7.4	92	123	120	0.83	1.11	1.08	A	A	A	B	B	B
	E 69th Street	North	12.1	82	39	113	0.45	0.22	0.62	A	A	A	A	A	B
	East of Lexington Ave	South	8.0	163	124	175	1.36	1.03	1.46	A	A	A	B	B	B
Proposed Action 22 (E9 & W2)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.0	70	81	66	0.67	0.77	0.63	A	A	A	B	B	B
	West of Lexington Ave	South	11.4	72	114	92	0.42	0.67	0.54	A	A	A	A	B	B
	E 69th Street	North	12.1	82	39	113	0.45	0.22	0.62	A	A	A	A	A	B
	East of Lexington Ave	South	8.0	163	124	175	1.36	1.03	1.46	A	A	A	B	B	B
Proposed Action 23 (E9 & W7)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	7.9	95	92	104	0.80	0.77	0.88	A	A	A	B	B	B
	West of Lexington Ave	South	14.3	78	117	102	0.36	0.54	0.47	A	A	A	A	B	A
	E 69th Street	North	12.1	130	53	172	0.72	0.29	0.95	A	A	A	B	A	B
	East of Lexington Ave	South	8.0	115	110	116	0.96	0.92	0.97	A	A	A	B	B	B
Proposed Action 24 (E9 & W6)	Lexington Avenue	East	10.5	207	118	300	1.31	0.75	1.90	A	A	A	B	B	B
	South of E 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of E 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	E 69th Street	North	11.9	70	81	66	0.39	0.45	0.37	A	A	A	A	A	A
	West of Lexington Ave	South	14.3	72	114	92	0.33	0.53	0.43	A	A	A	A	B	A
	E 69th Street	North	12.1	130	53	172	0.72	0.29	0.95	A	A	A	B	A	B
	East of Lexington Ave	South	8.0	115	110	116	0.96	0.92	0.97	A	A	A	B	B	B
Proposed Action 25 (E10 & W1)	Lexington Avenue	East	10.5	561	193	434	3.56	1 23	2.76	A	A	A	C	B	B
	South of 69th Street	West	8.1	190	214	500	1.57	1.76	4 12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2 90	A	A	A	C	B	B
	North of 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	69th Street	North	7.0	58	82	74	0.55	0.78	0.70	A	A	A	B	B	B
	West of Lexington Ave	South	7.4	116	126	131	1.04	1 13	1 18	A	A	A	B	B	B
	69th Street	North	8.0	152	53	140	1.27	0.44	1 17	A	A	A	B	A	B
	East of Lexington Ave	South	8.0	268	143	215	2.23	1 19	1.79	A	A	A	B	B	B
Proposed Action 26 (E10 & W2)	Lexington Avenue	East	10.5	561	193	434	3.56	1 23	2.76	A	A	A	C	B	B
	South of 69th Street	West	8.1	190	214	500	1.57	1.76	4 12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2 90	A	A	A	C	B	B
	North of 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	69th Street	North	7.0	46	76	56	0.44	0.72	0 53	A	A	A	A	B	B
	West of Lexington Ave	South	11.4	96	118	103	0.56	0.69	0.60	A	A	A	B	B	B
	69th Street	North	8.0	152	53	140	1.27	0.44	1 17	A	A	A	B	A	B
	East of Lexington Ave	South	8.0	268	143	215	2.23	1 19	1.79	A	A	A	B	B	B
Proposed Action 27 (E10 & W7)	Lexington Avenue	East	10.5	561	193	434	3.56	1 23	2.76	A	A	A	C	B	B
	South of 69th Street	West	8.1	190	214	500	1.57	1.76	4 12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2 90	A	A	A	C	B	B
	North of 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	69th Street	North	7.9	71	87	92	0.60	0.73	0.77	A	A	A	B	B	B
	West of Lexington Ave	South	14.3	103	121	112	0.48	0 56	0 52	A	A	A	A	B	B
	69th Street	North	8.0	200	66	199	1.67	0 55	1.66	A	A	A	B	B	B
	East of Lexington Ave	South	8.0	220	129	155	1.83	1.08	1 29	A	A	A	B	B	B

Table 36 (cont.)
2020 Proposed Action Conditions: Sidewalk Level of Service Analysis

Stair Options	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon LOS			Platoon LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Proposed Action 28 (E10 & W6)	Lexington Avenue	East	10.5	561	193	434	3.56	1.23	2.76	A	A	A	C	B	B
	South of 69th Street	West	8.1	190	214	500	1.57	1.76	4.12	A	A	A	B	B	C
	Lexington Avenue	East	7.0	450	172	304	4.29	1.64	2.90	A	A	A	C	B	B
	North of 69th Street	West	5.3	283	244	540	3.54	3.05	6.75	A	A	B	C	C	D
	69th Street	North	11.9	46	76	56	0.26	0.43	0.31	A	A	A	A	A	A
	West of Lexington Ave	South	14.3	96	118	103	0.45	0.55	0.48	A	A	A	A	B	A
	69th Street	North	8.0	200	66	199	1.67	0.55	1.66	A	A	A	B	B	B
	East of Lexington Ave	South	8.0	220	129	155	1.83	1.08	1.29	A	A	A	B	B	B

Traffic

Traffic conditions at the Lexington Avenue at East 69th Street signalized intersection were analyzed for the three peak periods (weekday AM, midday, and PM peak hours) during the 2020 Proposed Action year. The Proposed Action option with the highest crosswalk volumes was analyzed (Proposed Action 25). The results of the signalized intersection analyses are summarized in Table 37 in terms of v/c ratio, delays, and LOS. Based upon these results, all movements would continue to operate at an acceptable LOS C or better during the three peak periods for the 2020 Proposed Action year.

Table 37
2020 Proposed Action Condition: Signalized Intersection Level of Service
Lexington Avenue at East 69th Street

Approach	Weekday AM Peak Hour				Weekday MD Peak Hour				Weekday PM Peak Hour			
	Lane Group	v/c Ratio	Delay (sec.)	LOS	Lane Group	v/c Ratio	Delay (sec.)	LOS	Lane Group	v/c Ratio	Delay (sec.)	LOS
Westbound	LT	0.52	24.7	C	LT	0.40	22.0	C	LT	0.48	23.5	C
Southbound	TR	0.58	17.1	B	TR	0.41	14.8	B	TR	0.59	17.2	B
Overall			18.5	B			16.3	B			18.3	B

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service, Sec = Seconds.

Parking

The existing on-street parking volumes were increased using the general annual background growth of 0.25 percent through 2016 and 0.125 from 2017 to 2020. On-street parking in the study area was analyzed for the three peak periods. The Proposed Action East 69th Street stair options which remove the most number of spaces due to the proposed bulb-outs are W7 (corner stair on northwest corner), E8 (sidewalk stair on northeast corner), and E9 (splayed stairs on northeast corner). The number of occupied spaces is projected to increase by one vehicle as a result of the background growth rate. Consequently, during the midday peak period, the project number of occupied spaces would exceed the on-street parking capacity (within 150 ft of the study area) by one vehicle. On-street parking capacity would be adequate to accommodate the projected demand through 2020 during the AM and PM peak weekday periods. Table 38 shows the number of occupied on-street parking spaces and total capacity under the worst-case build scenario. Table 39 shows the percentages of occupied spaces during all three weekday peak periods.

Table 38
2020 Proposed Action Condition: On-Street Parking Capacity
Lexington Avenue at East 69th Street

Time Period	Parking Space Capacity								
	Lexington Avenue (between E 69th and E 70th Streets)		**Lexington Avenue** (between E 68th and E 69th Streets)		**East 69th Street** (west of Lexington Avenue)		**East 69th Street** (east of Lexington Avenue)		
	East	**West**	**East**	**West**	**North**	**South**	**North**	**South**	**Total**
AM	9	0	9	0	0	0	2	5	25
Midday	9	5	9	6	0	0	2	5	36
PM	9	5	9	6	0	0	2	5	36

Table 39
2020 Proposed Action Condition: On-Street Parking Spaces Occupied
Lexington Avenue at East 69th Street

Time Period	Capacity	Occupied Spaces	Percent Spaces Occupied
AM	25	21	84%
Midday	36	37	103%
PM	36	34	94%

ALTERNATIVE 1

The plans for Alternative 1 include the following:

- Reconfigure stair at southeast corner entrance with new 10' stair
- Change existing stair at northeast corner of East 68th Street to 6' splayed stair
- Rehabilitation of the northwest street stair
- Construction of one additional platform stair for each platform

Since no new access points would be constructed under Alternative 1, pedestrian movements were not altered from existing routes used for existing conditions.

Transit Operations

The four stairs and turnstiles at the East 68th Street entrance were analyzed for the 2020 Proposed Action year under Alternative 1.

Subway Street Stairs

Detailed stairway analyses were conducted for the four stairs in the 68th Street/Hunter College subway station for the three peak periods of the 2020 Proposed Action year under Alternative 1. The results of the analyses provided in Table 40 indicate that at the 68th Street/Hunter College subway station, all stairways are projected to operate at an acceptable LOS C or better during all three peak periods.

Table 40
2020 Alternative 1 - Proposed Action Conditions: Subway Street Stairways
68th Street/Hunter College Station

ID	Type	Location	Width (feet)	Effective Width (feet)	Friction Factor	Peak 15-Min Entry Volume			Peak 15-Min Exit Volume			V/C			LOS		
						AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
S4	Stairway	NE Corner - West	6.00	5.00	0.90	38	42	140	322	66	53	0.65	0.19	0.31	B	A	A
	Stairway	NE Corner - East	6.00	5.00	0.90	63	46	279	195	32	24	0.45	0.13	0.46	B	A	B
S3	Stairway	NW Corner	4.58	3.58	0.90	18	56	174	314	23	35	0.85	0.18	0.45	C	A	B
O2/O4	Stairway	SE Corner	10.00	8.75	0.90	61	153	457	666	152	103	0.76	0.29	0.50	C	A	B
O1/O3	Stairway	SW Corner	7.33	6.33	0.90	19	66	140	424	89	116	0.64	0.21	0.33	B	A	A

Subway Platform Stairs

Detailed analyses were conducted for the subway platform stairs in the 68th Street/Hunter College subway station for the 2020 Proposed Action year under Alternative 1. The results of the analysis provided in Table 41 indicate that all of the platform stairs are projected to operate at an acceptable LOS C or better during the weekday AM, midday, and PM peak periods.

Table 41
2020 Alternative 1– Proposed Action Conditions: Subway Platform Stairs
68th Street/Hunter College Station

Stairway	ID	Peak 15-Min Entry Volumes			Peak 15-Min Exit Volumes			V/C			LOS		
		AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
South S/B Platform	P1	74	144	395	142	21	18	0.25	0.16	0.40	A	A	A
North S/B Platform	P3	111	216	592	114	17	14	0.26	0.24	0.60	A	A	B
	P3A	0	0	0	313	46	39	0.35	0.05	0.04	A	A	A
South N/B Platform	P2	5	39	128	403	80	92	0.47	0.14	0.24	B	A	A
North N/B Platform	P4	8	58	191	330	65	75	0.40	0.14	0.29	A	A	A
	P4A	0	0	0	733	145	167	0.81	0.16	0.19	C	A	A

The clearance times for the four platform stairs were calculated for the 2020 Alternative 1. In the AM peak period, the clearance times for platform stairs P1, P3, P2, and P4 are projected to be 24, 19, 48, and 39 seconds, respectively. The clearance times for the proposed platform stairs are projected to be 47 seconds for the southbound platform and 87 seconds for the northbound platform during the AM peak period. In the PM peak period, the clearance times for platform stairs P1, P3, P2, and P4 are projected to be 3, 3, 15, and 14 seconds, respectively. The clearance times for the proposed platform stairs are projected to be 4 seconds for the southbound platform and 24 seconds for the northbound platform during the PM peak period. Table 42 shows the projected clearance times for the platform stairs.

Table 42
2020 Alternative 1 - Proposed Action Conditions: Platform Stairs
68th Street/Hunter College Station

Stair	Clearance Times (s)		
	AM	MD	PM
P1	24	4	3
P3	19	3	3
P2	48	11	15
P4	39	10	14
P3A	47	7	4
P4A	87	20	24

Turnstiles

Detailed analyses were conducted for control area R-246 in the 68th Street/Hunter College subway station for the three peak periods during the 2020 Proposed Action year under Alternative 1. The results of the analyses provided in Table 43 indicate that the control area in the 68th Street/Hunter College subway station is projected to operate at LOS A or B during the three peak periods.

Table 43
2020 Alternative 1 - Proposed Action Conditions: Subway Control Areas
68th Street/Hunter College Station

Station Elements	Qty.	Peak 15 Minute Entering Volume			Peak 15 Minute Exiting Volume			15 Minute Capacity for Entries	15 Minute Capacity for Exits	V/C			LOS		
		AM	MD	PM	AM	MD	PM			AM	MD	PM	AM	MD	PM
Turnstile	14	199	457	1,306	2,035	374	405	5,292	6,502	0.48	0.18	0.36	B	A	A

Pedestrian Operations

The crosswalk, corner, and sidewalk locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed for the three peak periods for the 2020 Proposed Action year under Alternative 1.

Crosswalks

The eight crosswalk locations at the Lexington Avenue intersection with East 68th Street and East 69th Street were analyzed for the three peak periods during the 2020 Proposed Action year under Alternative 1. As presented in Table 44, all eight crosswalks are projected to operate at an acceptable LOS C or better during the three peak periods in the Proposed Action year except for one. The west crosswalk at the intersection of East 69th Street and Lexington Avenue is projected to operate at LOS D during the PM peak period.

Table 44
2020 Alternative 1 - Proposed Action Conditions:
Crosswalk Level of Service Analysis

Intersection	Crosswalk	Crosswalk Length	Crosswalk Width	Available Crosswalk Circulation Space (ft²/p)			Crosswalk Circulation LOS		
				AM	MD	PM	AM	MD	PM
East 68th Street & Lexington Avenue	North	50.3	13.5	28	68	49	C	A	B
	South	51.5	14.0	24	34	34	C	C	C
	East	28.7	15.3	111	57	61	A	B	A
	West	29.8	18.0	57	57	29	B	B	C
East 69th Street & Lexington Avenue	North	50.0	13.0	125	171	219	A	A	A
	South	50.0	13.0	66	58	104	A	B	A
	East	29.1	13.5	32	61	44	C	A	B
	West	29.0	12.5	60	46	17	B	B	D

Corners

The eight corner reservoir locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed for the 2020 Proposed Action year under Alternative 1. As presented in Table 45, all eight corner locations are projected to operate at an acceptable LOS C or better during all three peak periods except for one. At the intersection of Lexington Avenue with East 68th Street, the northwest corner is projected to operate at LOS D during the PM peak period.

Table 45
2020 Alternative 1 - Proposed Action Conditions:
Corner Level of Service Analysis

Intersection	Corner	Required Corner Circulation Space (ft^2/s)			Corner Circulation LOS		
		AM	MD	PM	AM	MD	PM
East 68th Street & Lexington Avenue	Northeast	41	75	49	B	A	B
	Northwest	24	38	23	C	C	D
	Southeast	68	61	76	A	A	A
	Southwest	51	50	45	B	B	B
East 69th Street & Lexington Avenue	Northeast	73	124	99	A	A	A
	Northwest	110	96	48	A	A	B
	Southeast	85	160	131	A	A	A
	Southwest	110	99	63	A	A	A

Sidewalks

The 16 sidewalk locations at the Lexington Avenue intersections with East 68th Street and East 69th Street were analyzed for the 2020 Proposed Action year under Alternative 1. As presented in Table 46, all 16 sidewalk locations are projected to operate at an acceptable LOS C or better for the non-platoon and platoon conditions during the three peak periods with the exception of two. The west side sidewalk north of the Lexington Avenue and East 68th Street intersection is projected to operate at LOS D during the PM peak period under platoon conditions. Additionally, the west side sidewalk north of the Lexington Avenue and East 69th Street intersection is projected to operate at LOS D during the PM peak period under platoon conditions.

Table 46
2020 Alternative 1 - Proposed Action Conditions:
Sidewalk Level of Service Analysis

Intersection	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes Weekday			Flow Rate (pfm) Weekday			Non-Platoon LOS Weekday			Platoon LOS Weekday		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
East 68th Street & Lexington Avenue	Lexington Avenue South of E 68th Street	East	5.3	232	183	197	2.90	2.29	2.46	A	A	A	B	B	B
		West	6.0	285	171	228	3.16	1.90	2.54	A	A	A	C	B	B
	Lexington Avenue North of E 68th Street	East	9.0	641	198	452	4.75	1.47	3.35	A	A	A	C	B	C
		West	5.5	322	247	577	3.90	2.99	7.00	A	A	B	C	B	D
	E 68th Street West of Lexington Ave	North	7.7	156	205	149	1.36	1.78	1.29	A	A	A	B	B	B
		South	7.0	241	244	458	2.30	2.32	4.36	A	A	A	B	B	C
	E 68th Street East of Lexington Ave	North	8.7	360	138	380	2.77	1.07	2.92	A	A	A	B	B	B
		South	10.6	329	75	288	2.07	0.47	1.82	A	A	A	B	A	B
East 69th Street & Lexington Avenue	Lexington Avenue South of E 69th Street	East	10.5	500	198	452	3.17	1.26	2.87	A	A	A	C	B	B
		West	8.1	322	247	577	2.65	2.03	4.76	A	A	A	B	B	C
	Lexington Avenue North of E 69th Street	East	7.0	431	188	333	4.11	1.79	3.17	A	A	A	C	B	C
		West	5.3	312	231	520	3.90	2.89	6.50	A	A	B	C	B	D
	E 69th Street West of Lexington Ave	North	7.0	37	79	64	0.35	0.76	0.61	A	A	A	A	B	B
		South	14.3	76	117	102	0.35	0.54	0.48	A	A	A	A	B	A
	E 69th Street East of Lexington Ave	North	8.0	51	30	75	0.42	0.25	0.62	A	A	A	A	A	B
		South	8.0	255	130	140	2.13	1.08	1.17	A	A	A	B	B	B

Traffic

Traffic conditions were not studied separately for Alternative 1 since pedestrians would not be diverted from their existing routes and there would be no physical changes to the existing roadways. Therefore, the traffic conditions under Alternative 1 would be the same as the No Action condition.

Parking

Parking conditions were not studied separately for Alternative 1 since no physical changes would be made to the existing roadways. Therefore, the parking conditions under Alternative 1 would be the same as the No Action condition.

6. FUTURE CONSTRUCTION CONDITIONS

This section analyzes the interim construction condition years of 2014 through 2016, which are earlier than when the actual construction is expected to occur (2017 through 2019); however, the analyses for the earlier years assume that the Second Avenue subway, which is anticipated to open in 2017, would not yet be operational. As the Second Avenue subway would divert significant ridership away from the Lexington Avenue IRT Line, the construction condition analyses for the earlier years are conservative, and conditions during construction in 2017 through 2019 would be better than what is analyzed in this section for 2014 through 2016.

ALTERNATIVE 2

Construction Condition Phases

The proposed 68th Street/Hunter College Subway Station Renovation construction under Alternative 2 (the proposed project and Alternative 2 with Option E1) is divided among three phases. Construction of the new downtown stair at East 69th Street and new uptown stair at 931 Lexington Avenue (or on the southeast corner of East 69th Street & Lexington Avenue as per Option E1) – collectively called the "new stairs at East 69th Street" – identified as Phase I, would start in 2016 and be completed within one year. Phase II of the 68th Street/Hunter College Subway Station renovation, which includes widening and reconfiguring the northeast and southeast street stairs at 68th Street and Lexington Avenue and construction of the ADA elevator at the southeast corner of East 68th Street and Lexington Avenue, would begin the following year in 2017. Phase III of the renovation is expected to start in 2018 and would include rehabilitation of the northwest street stair at East 68th Street and Lexington Avenue. There will be no changes made to the street stair at the southwest corner of East 68th Street and Lexington Avenue.

Pedestrian Reassignment

During the intermediate construction phases, pedestrians would need to be rerouted to account for the various stair closures. The proposed subway street stairs to be located at East 69th Street and 931 Lexington Avenue would be constructed on the west and east sides of Lexington Avenue, respectively, by the start of Phase II. Therefore, the diversion of pedestrian volumes from the East 68th Street stairs to the new stairs at East 69th Street was accounted for. The pedestrian reassignment varies per construction phase as follows:

Phase I – Construction of East 69th Street stairs

The construction of the proposed street stairs at East 69th Street would begin in 2016. Since the stairs would not be completed, no existing pedestrians would be rerouted. However, construction around the work zone would result in a narrower sidewalk width along East 69th Street on the side of the street where the stairs are being built.

Phase II – Closure of the northeast and southeast street stairs at East 68th Street

The closure of the northeast corner street stairs at East 68th Street would require the shift of all pedestrian flows to/from the north to the new East 69th Street stairs. All other pedestrian flows would be shifted to the northwest corner stair at East 68th Street. The closure of the southeast corner street stair at East 68th Street would require the shift of all of these stair pedestrian flows to the southwest corner stair at East 68th Street.

Phase III – Closure of the northwest street stairs at East 68th Street

The closure of the northwest corner street stair at East 68th Street would require the shift of all pedestrian flows to/from the north to the new East 69th Street stairs. All other pedestrian flows would be shifted to the northeast corner stair at East 68th Street.

Transit Operations

The four street stairs and turnstiles at the East 68th Street entrance were analyzed for the two interim construction phases in 2015 and 2016, which represent a more conservative analysis than the projected interim construction years of 2017 and 2018. In addition, at the proposed East 69th Street entrance, a total of 11 different stair combinations (15 stairs) and two sets of turnstiles (uptown and downtown) were analyzed.

Subway Street Stairs

Detailed street stair analyses were conducted for the four key street stairs in the 68th Street/Hunter College Subway Station and the 11 proposed stair options at the East 69th Street entrance during the three peak periods for both the 2015 and 2016 interim construction years. The results of the analyses are provided in Table 47.

During the 2015 Phase II construction at the East 68th Street entrance, the southwest stair is projected to operate at LOS C during the midday peak period. Due to the closure of the southeast stair and shift of pedestrians to the southwest stair, the southwest stair is projected to operate at LOS F and E during the AM and PM peak periods, respectively. The northeast stair is projected to operate at an acceptable LOS C or better during all three peak periods.

During the 2016 Phase III construction at the East 68th Street entrance, the three operating stairs are projected to operate at an acceptable LOS C or better during all time periods.

All of the proposed East 69th Street stair options on the western side of Lexington Avenue are projected to operate at an acceptable LOS C or better during both construction phases and during all time periods. All of the proposed eastern stair options are projected to operate at an acceptable LOS C or better during both construction phases and during all time periods.

Table 47
2015 & 2016 Construction Conditions: Subway Street Stairways
Lexington Avenue at East 68th Street and East 69th Street

Phase	ID	Type	Location	Width (feet)	Effective Width (feet)	Friction Factor	Peak 15-Min Entry Volume			Peak 15-Min Exit Volume			V/C			LOS		
							AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street																		
Phase II 2015	S4	Stairway	NE Corner															
	S3	Stairway	NW Corner	4.58	3.58	0.9	92	73	202	239	38	64	0.81	0.25	0.58	C	A	B
	O2/O4	Stairway	SE Corner															
	O1/O3	Stairway	SW Corner	7.33	6.33	0.9	184	340	636	1224	371	498	2.00	0.94	1.47	F	C	E
Phase III 2016	S4	Stairway	NE Corner	6.00	5.00	0.9	94	54	162	183	43	51	0.48	0.16	0.33	B	A	A
	S3	Stairway	NW Corner															
	O2/O4	Stairway	SE Corner	10.00	8.75	0.9	140	236	470	717	229	224	0.88	0.44	0.63	C	A	B
	O1/O3	Stairway	SW Corner	7.33	6.33	0.9	52	128	216	593	149	302	0.93	0.37	0.69	C	A	B
Lexington Avenue at East 69th Street																		
Phase II 2015	W1	Stairway	SW Corner	9.00	8.00	0.9	166	119	328	203	32	31	0.39	0.15	0.34	A	A	A
	W2-E	Stairway	SW Corner	5.00	4.00	0.9	160	108	298	181	30	28	0.72	0.27	0.62	C	A	B
	W-2-W	Stairway	SW Corner	5.00	4.00	0.9	6	11	30	22	1	3	0.06	0.02	0.06	A	A	A
	W6-E	Stairway	NW Corner	5.00	4.00	0.9	160	108	298	181	30	28	0.72	0.27	0.62	C	A	B
	W6-W	Stairway	NW Corner	5.00	4.00	0.9	6	11	30	22	1	3	0.06	0.02	0.06	A	A	A
	W7	Stairway	NW Corner	9.00	8.00	0.9	166	119	328	203	32	31	0.39	0.15	0.34	A	A	A
	E1	Stairway	SE Corner	9.00	8.00	0.9	18	31	102	473	110	148	0.56	0.16	0.27	B	A	A
	E2	Stairway	SE Corner	9.00	8.00	0.9	18	31	102	473	110	148	0.56	0.16	0.27	B	A	A
	E3-E	Stairway	SE Corner	5.00	4.00	0.9	7	7	29	50	13	13	0.13	0.04	0.08	A	A	A
	E3-W	Stairway	SE Corner	5.00	4.00	0.9	12	24	74	423	96	135	1.00	0.27	0.45	C	A	A
	E7	Stairway	NE Corner	9.00	8.00	0.9	18	31	102	473	110	148	0.56	0.16	0.27	B	A	A
	E8	Stairway	NE Corner	9.00	8.00	0.9	18	31	102	473	110	148	0.56	0.16	0.27	B	A	A
	E9-E	Stairway	NE Corner	5.00	4.00	0.9	7	7	29	50	13	13	0.13	0.04	0.08	A	A	A
	E9-W	Stairway	NE Corner	5.00	4.00	0.9	12	24	74	423	96	135	1.00	0.27	0.45	C	A	A
	E10	Stairway	Midblock	10.00	8.75	0.9	18	31	102	473	110	148	0.52	0.14	0.24	B	A	A
Phase III 2016	W1	Stairway	SW Corner	9.00	8.00	0.9	159	117	323	195	29	29	0.37	0.14	0.33	A	A	A
	W2-E	Stairway	SW Corner	5.00	4.00	0.9	153	106	293	174	28	26	0.68	0.26	0.60	B	A	B
	W2-W	Stairway	SW Corner	5.00	4.00	0.9	6	11	30	22	1	3	0.06	0.02	0.06	A	A	A
	W6-E	Stairway	NW Corner	5.00	4.00	0.9	153	106	293	174	28	26	0.68	0.26	0.60	B	A	B
	W6-W	Stairway	NW Corner	5.00	4.00	0.9	6	11	30	22	1	3	0.06	0.02	0.06	A	A	A
	W7	Stairway	NW Corner	9.00	8.00	0.9	159	117	323	195	29	29	0.37	0.14	0.33	A	A	A
	E1	Stairway	SE Corner	9.00	8.00	0.9	18	31	101	455	102	137	0.54	0.15	0.25	B	A	A
	E2	Stairway	SE Corner	9.00	8.00	0.9	18	31	101	455	102	137	0.54	0.15	0.25	B	A	A
	E3-E	Stairway	SE Corner	5.00	4.00	0.9	7	7	29	50	13	13	0.13	0.04	0.08	A	A	A
	E3-W	Stairway	SE Corner	5.00	4.00	0.9	11	24	72	405	88	124	0.96	0.25	0.42	C	A	A
	E7	Stairway	NE Corner	9.00	8.00	0.9	18	31	101	455	102	137	0.54	0.15	0.25	B	A	A
	E8	Stairway	NE Corner	9.00	8.00	0.9	18	31	101	455	102	137	0.54	0.15	0.25	B	A	A
	E9-E	Stairway	NE Corner	5.00	4.00	0.9	7	7	29	50	13	13	0.13	0.04	0.08	A	A	A
	E9-W	Stairway	NE Corner	5.00	4.00	0.9	11	24	72	405	88	124	0.96	0.25	0.42	C	A	A
	E10	Stairway	Midblock	10.00	8.75	0.9	18	31	101	455	102	137	0.50	0.13	0.23	B	A	A

Turnstiles

Detailed analyses were conducted for control area R-246 in the 68th Street/Hunter College Subway Station and the proposed control areas at East 69th Street for the three peak periods during both the 2015 and 2016 interim construction years. The results of the analyses provided in Table 48 indicate that all of the control

areas at both entrances of the station are projected to operate at LOS A during the three peak periods for both construction phases.

Table 48
2015 & 2016 Construction Conditions: Subway Control Areas
Lexington Avenue at East 68th Street and East 69th Street

Phase	Station Location	Station Element	Qty	Peak 15 Minute Entering Volume			Peak 15 Minute Exiting Volume			15 Minute Turnstile Capacity for Entries	15 Minute Turnstile Capacity for Exits	V/C			LOS		
				AM	MD	PM	AM	MD	PM			AM	MD	PM	AM	MD	PM
Phase II 2015	Lexington Ave & E 68th St	Turnstile	14	288	428	1,002	1,633	438	607	5,292	6,502	0.41	0.18	0.34	A	A	A
	Lexington Ave & E 69th St – Uptown	Turnstile	5	18	31	102	473	110	148	1,890	2,322	0.29	0.08	0.15	A	A	A
	Lexington Ave & E 69th St – Downtown	Turnstile	4	166	119	328	203	32	31	1,512	1,858	0.27	0.11	0.26	A	A	A
Phase III 2016	Lexington Ave & E 68th St	Turnstile	14	297	431	1,011	1,663	450	621	5,292	6,502	0.42	0.19	0.35	A	A	A
	Lexington Ave & E 69th St – Uptown	Turnstile	5	18	31	101	455	102	137	1,890	2,322	0.28	0.08	0.14	A	A	A
	Lexington Ave & E 69th St – Downtown	Turnstile	4	159	117	323	195	29	29	1,512	1,858	0.26	0.11	0.26	A	A	A

Pedestrian Operations

The crosswalk, corner, and sidewalk locations at the Lexington Avenue intersection with East 68th Street were analyzed for the three peak periods for both the 2015 and 2016 interim construction years. Existing pedestrians originating from or bound to the subway were moved to the new East 69th Street stairs as appropriate according to the assumptions previously cited.

Crosswalks

The four crosswalk locations at the Lexington Avenue intersection with East 68th Street were analyzed for the three peak periods during both the 2015 and 2016 construction conditions. The results of the crosswalk analysis are provided in Table 49. During the 2015 Phase II construction condition, the east and west crosswalks are projected to operate at an acceptable LOS C or better during all three peak periods. The north crosswalk is projected to operate an at acceptable LOS C or better during the midday and PM peak periods and LOS D during the AM peak period. Due to the shift of pedestrians from the southeast corner to the southwest corner stair, there would be more pedestrians crossing the south crosswalk. As a result, the south crosswalk is projected to operate at LOS F during the AM peak period and LOS E during the midday and PM peak periods.

During the 2016 Phase III construction condition, all four crosswalks are projected to operate at an acceptable LOS C or better during all three time periods.

Table 49
2015 and 2016 Construction Conditions: Crosswalk Level of Service Analysis
Lexington Avenue at East 68th Street

Phase	Crosswalk	Crosswalk Length	Crosswalk Width	Available Crosswalk Circulation Space (ft^2/p)			Crosswalk Circulation LOS		
				AM	MD	PM	AM	MD	PM
Phase II 2015	North	41.8	13.5	22	52	37	D	B	C
	South	43.0	14.0	6	12	8	F	E	E
	East	11.7	15.3	55	32	35	B	C	C
	West	29.8	18.0	54	57	29	B	B	C
Phase III 2016	North	41.8	13.5	48	85	126	B	A	A
	South	51.5	14.0	31	36	50	C	C	B
	East	28.7	15.3	84	53	56	A	B	B
	West	29.8	18.0	56	58	30	B	B	C

Corners

The four corner reservoir locations at the Lexington Avenue intersection with East 68th Street were analyzed for the 2015 and 2016 construction conditions. The results of the corner analysis are provided in Table 50. During the 2015 Phase II construction condition, the northeast corner is projected to operate at LOS E during the AM and midday peak periods and LOS F during the PM peak period. The northwest corner is projected to operate at LOS D during the AM and PM peak periods and LOS C during the midday peak period. The southeast corner is projected to operate at LOS F during the three peak periods. The southwest corner is projected to operate at LOS E during the AM peak period, LOS C during the midday peak period, and LOS D during the PM peak period.

During the 2016 Phase III construction condition, the northeast, southeast, and southwest corner locations are projected to operate at an acceptable LOS C or better during the three peak periods. The northwest corner is projected to operate at LOS F during the AM and PM peak periods and LOS E during the midday peak period.

Table 50
2015 and 2016 Construction Conditions: Corner Level of Service Analysis
Lexington Avenue at East 68th Street

Phase	Corner	Required Corner Circulation Space (ft^2/s)			Corner Circulation LOS		
		AM	MD	PM	AM	MD	PM
Phase II 2015	Northeast	8	12	7	E	E	F
	Northwest	23	36	21	D	C	D
	Southeast	2	3	-2	F	F	F
	Southwest	13	27	21	E	C	D
Phase III 2016	Northeast	119	127	144	A	A	A
	Northwest	8	9	4	F	E	F
	Southeast	59	57	66	B	B	A
	Southwest	49	50	44	B	B	B

Sidewalks

The eight sidewalk locations at the Lexington Avenue intersection with East 68th Street were analyzed for the 2014, 2015 and 2016 construction conditions. Additionally, the eight sidewalk locations at the

Lexington Avenue intersection with East 69th Street were analyzed for the 2014 construction condition. During the 2014 Phase I construction condition (Table 51), seven out of eight sidewalk locations at the intersection of Lexington Avenue at East 68th Street are projected to operate at an acceptable LOS C or better under the non-platoon and platoon conditions during the three peak periods. The west side of Lexington Avenue north of East 68th Street is projected to operate at LOS D under platoon conditions during the PM peak hour. At the intersection of Lexington Avenue at East 69th Street, six out of eight sidewalk locations are projected to operate at an acceptable LOS C or better under the non-platoon and platoon conditions during the three peak periods. The west side of Lexington Avenue north of East 69th Street is projected to operate at LOS D under platoon conditions during the PM peak hour for all stairway locations. The east side of Lexington Avenue south of East 69th Street is projected to operate at LOS D under platoon conditions during the AM and PM peak hours for the proposed stair combinations that include the midblock 931 Lexington Avenue stair (Proposed Actions 25, 26, 27, and 28).

Table 51
2014 Construction Conditions: Sidewalk Level of Service Analysis
Lexington Avenue at East 68th Street and East 69th Street

Stair Options	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes Weekday			Flow Rate (pfm) Weekday			Non-Platoon LOS Weekday			Platoon LOS Weekday		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street															
All Proposed Action Scenarios	Lexington Avenue South of 68th Street	East	5.3	243	192	207	3.04	2.40	2.59	A	A	A	C	B	B
		West	6.0	283	172	232	3.14	1.91	2.58	A	A	A	C	B	B
	Lexington Avenue North of 68th Street	East	9.0	756	264	551	5.60	1.96	4.08	B	A	A	C	B	C
		West	5.5	367	270	610	4.45	3.27	7.39	A	A	C	C	C	D
	68th Street West of Lexington Ave	North	7.7	192	221	185	1.67	1.92	1.61	A	A	A	B	B	B
		South	7.0	241	252	478	2.30	2.40	4.55	A	A	A	B	B	C
	68th Street East of Lexington Ave	North	8.7	473	179	446	3.64	1.38	3.43	A	A	A	C	B	C
		South	10.6	329	84	311	2.07	0.53	1.96	A	A	A	B	B	B
Lexington Avenue at East 69th Street															
Proposed Action 1 (E1 & W1)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	4.4	78	116	104	1.18	1.75	1.57	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	4.4	306	136	180	4.62	2.05	2.72	A	A	A	C	B	B
Proposed Action 2 (E1 & W2)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	8.4	78	116	104	0.62	0.92	0.82	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	4.4	306	136	180	4.62	2.05	2.72	A	A	A	C	B	B
Proposed Action3 (E1 & W7)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	4.9	37	82	65	0.50	1.11	0.88	A	A	A	B	B	B
		South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	4.4	306	136	180	4.62	2.05	2.72	A	A	A	C	B	B
Proposed Action 4 (E1 & W6)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	8.9	37	82	65	0.28	0.61	0.49	A	A	A	A	B	A
		South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	4.4	306	136	180	4.62	2.05	2.72	A	A	A	C	B	B
Proposed Action 5 (E2 & W1)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	4.4	78	116	104	1.18	1.75	1.57	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	5.4	306	136	180	3.77	1.67	2.22	A	A	A	C	B	B

Table 51 (cont.)
2014 Construction Conditions: Sidewalk Level of Service Analysis
Lexington Avenue at East 68th Street and East 69th Street

Stair Options	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon LOS			Platoon LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 69th Street															
Proposed Action 6 (E2 & W2)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	8.4	78	116	104	0.62	0.92	0.82	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	5.4	306	136	180	3.77	1.67	2.22	A	A	A	C	B	B
Proposed Action 7 (E2 & W7)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	4.9	37	82	65	0.50	1.11	0.88	A	A	A	B	B	B
		South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	5.4	306	136	180	3.77	1.67	2.22	A	A	A	C	B	B
Proposed Action 8 (E2 & W6)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	8.9	37	82	65	0.28	0.61	0.49	A	A	A	A	B	A
		South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	5.4	306	136	180	3.77	1.67	2.22	A	A	A	C	B	B
Proposed Action 9 (E3 & W1)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	4.4	78	116	104	1.18	1.75	1.57	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	9.4	306	136	180	2.17	0.96	1.27	A	A	A	B	B	B
Proposed Action 10 (E3 & W2)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	8.4	78	116	104	0.62	0.92	0.82	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	9.4	306	136	180	2.17	0.96	1.27	A	A	A	B	B	B
Proposed Action 11 (E3 & W7)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	4.9	37	82	65	0.50	1.11	0.88	A	A	A	B	B	B
		South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	9.4	306	136	180	2.17	0.96	1.27	A	A	A	B	B	B
Proposed Action 12 (E3 & W6)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	8.9	37	82	65	0.28	0.61	0.49	A	A	A	A	B	A
		South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	9.4	306	136	180	2.17	0.96	1.27	A	A	A	B	B	B

Table 51 (cont.)
2014 Construction Conditions: Sidewalk Level of Service Analysis
Lexington Avenue at East 68th Street and East 69th Street

Stair Options	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon LOS			Platoon LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 69th Street															
Proposed Action 13 (E8 & W1)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	4.4	78	116	104	1.18	1.75	1.57	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	4.1	56	36	93	0.91	0.59	1.52	A	A	A	B	B	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 14 (E8 & W2)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	8.4	78	116	104	0.62	0.92	0.82	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	4.1	56	36	93	0.91	0.59	1.52	A	A	A	B	B	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 15 (E8 & W7)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	4.9	37	82	65	0.50	1.11	0.88	A	A	A	B	B	B
		South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street East of Lexington Ave	North	4.1	56	36	93	0.91	0.59	1.52	A	A	A	B	B	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 16 (E8 & W6)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	8.9	37	82	65	0.28	0.61	0.49	A	A	A	A	B	A
		South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street East of Lexington Ave	North	4.1	56	36	93	0.91	0.59	1.52	A	A	A	B	B	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 17 (E7 & W1)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	4.4	78	116	104	1.18	1.75	1.57	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	5.1	56	36	93	0.73	0.47	1.22	A	A	A	B	A	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 18 (E7 & W2)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	8.4	78	116	104	0.62	0.92	0.82	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	5.1	56	36	93	0.73	0.47	1.22	A	A	A	B	A	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 19 (E7 & W7)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	4.9	37	82	65	0.50	1.11	0.88	A	A	A	B	B	B
		South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street East of Lexington Ave	North	5.1	56	36	93	0.73	0.47	1.22	A	A	A	B	A	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B

Table 51 (cont.)
2014 Construction Conditions: Sidewalk Level of Service Analysis
Lexington Avenue at East 68th Street and East 69th Street

Stair Options	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon LOS			Platoon LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 69th Street															
Proposed Action 20 (E7 & W6)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	8.9	37	82	65	0.28	0.61	0.49	A	A	A	A	B	A
		South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street East of Lexington Ave	North	5.1	56	36	93	0.73	0.47	1.22	A	A	A	B	A	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 21 (E9 & W1)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	4.4	78	116	104	1.18	1.75	1.57	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	9.1	56	36	93	0.41	0.26	0.68	A	A	A	A	A	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 22 (E9 & W2)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	8.4	78	116	104	0.62	0.92	0.82	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	9.1	56	36	93	0.41	0.26	0.68	A	A	A	A	A	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 23 (E9 & W7)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	4.9	37	82	65	0.50	1.11	0.88	A	A	A	B	B	B
		South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street East of Lexington Ave	North	9.1	56	36	93	0.41	0.26	0.68	A	A	A	A	A	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 24 (E9 & W6)	Lexington Avenue South of 69th Street	East	10.5	590	264	551	3.75	1.68	3.50	A	A	A	C	B	C
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	8.9	37	82	65	0.28	0.61	0.49	A	A	A	A	B	A
		South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street East of Lexington Ave	North	9.1	56	36	93	0.41	0.26	0.68	A	A	A	A	A	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 25 (E10 & W1)	Lexington Avenue South of 69th Street	East	3.8	590	264	551	10.26	4.59	9.58	D	A	C	D	C	D
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	4.4	78	116	104	1.18	1.75	1.57	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 26 (E10 & W2)	Lexington Avenue South of 69th Street	East	3.8	590	264	551	10.26	4.59	9.58	D	A	C	D	C	D
		West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue North of 69th Street	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
		West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street West of Lexington Ave	North	7.0	37	82	65	0.35	0.78	0.62	A	A	A	A	B	B
		South	8.4	78	116	104	0.62	0.92	0.82	A	A	A	B	B	B
	69th Street East of Lexington Ave	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
		South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B

Table 51 (cont.)
2014 Construction Conditions: Sidewalk Level of Service Analysis
Lexington Avenue at East 68th Street and East 69th Street

Stair Options	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon LOS			Platoon LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 69th Street															
Proposed Action 27 (E10 & W7)	Lexington Avenue	East	3.8	590	264	551	10.26	4.59	9.58	D	A	C	D	C	D
	South of 69th Street	West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
	North of 69th Street	West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street	North	4.9	37	82	65	0.50	1.11	0.88	A	A	A	B	B	B
	West of Lexington Ave	South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
	East of Lexington Ave	South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B
Proposed Action 28 (E10 & W6)	Lexington Avenue	East	3.8	590	264	551	10.26	4.59	9.58	D	A	C	D	C	D
	South of 69th Street	West	8.1	367	270	610	3.03	2.23	5.03	A	A	B	C	B	C
	Lexington Avenue	East	7.0	488	240	373	4.65	2.29	3.55	A	A	A	C	B	C
	North of 69th Street	West	5.3	354	252	548	4.43	3.15	6.85	A	A	B	C	C	D
	69th Street	North	8.9	37	82	65	0.28	0.61	0.49	A	A	A	A	B	A
	West of Lexington Ave	South	14.3	78	116	104	0.36	0.54	0.48	A	A	A	A	B	A
	69th Street	North	8.0	56	36	93	0.47	0.30	0.78	A	A	A	A	A	B
	East of Lexington Ave	South	8.0	306	136	180	2.55	1.13	1.50	A	A	A	B	B	B

As shown in Table 52, during the 2015 Phase II construction condition, six out of eight sidewalk locations are projected to operate at an acceptable LOS C or better under the non-platoon and platoon conditions during the three peak periods. The south side sidewalk west of the Lexington Avenue and East 68th Street intersection is projected to operate at LOS D during the PM peak period under non-platoon conditions and the AM and PM peak periods under platoon conditions. The south side sidewalk east of the Lexington Avenue and East 68th Street intersection is projected to operate at LOS D during the AM and PM peak periods under non-platoon conditions and LOS E during the AM and PM peak periods under platoon conditions.

During the 2016 Phase III construction condition, seven out of eight sidewalk locations are projected to operate at an acceptable LOS C or better under the non-platoon and platoon conditions. The west side sidewalk north of the Lexington Avenue and East 68th Street intersection is projected to operate at LOS D during the PM peak period under platoon conditions.

Table 52
2015 and 2016 Construction Conditions: Sidewalk Level of Service Analysis
Lexington Avenue at East 68th Street

Phase	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon Conditions LOS			Platoon Conditions LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Phase II 2015	Lexington Avenue South of 68th Street	East	4.8	208	174	189	2.87	2.40	2.60	A	A	A	B	B	B
		West	6.0	311	178	239	3.45	1.98	2.66	A	A	A	C	B	B
	Lexington Avenue North of 68th Street	East	4.8	334	111	278	4.60	1.52	3.84	A	A	A	C	B	C
		West	5.5	195	214	489	2.36	2.59	5.93	A	A	B	B	B	C
	68th Street West of Lexington Ave	North	7.7	110	199	125	0.96	1.73	1.09	A	A	A	B	B	B
		South	7.0	980	593	1065	9.33	5.65	10.14	C	B	D	D	C	D
	68th Street East of Lexington Ave	North	4.8	327	128	303	4.52	1.76	4.18	A	A	A	C	B	C
		South	4.8	1018	378	832	14.04	5.21	11.48	D	B	D	E	C	E
Phase III 2016	Lexington Avenue South of 68th Street	East	5.3	251	195	209	3.13	2.43	2.62	A	A	A	C	B	B
		West	6.0	303	171	225	3.37	1.90	2.50	A	A	A	C	B	B
	Lexington Avenue North of 68th Street	East	9.0	401	134	321	2.97	1.00	2.37	A	A	A	B	B	B
		West	4.8	163	204	468	2.24	2.81	6.46	A	A	B	B	B	D
	68th Street West of Lexington Ave	North	4.8	27	178	65	0.38	2.46	0.89	A	A	A	A	B	B
		South	7.0	242	253	480	2.30	2.41	4.57	A	A	A	B	B	C
	68th Street East of Lexington Ave	North	8.7	328	128	303	2.52	0.98	2.33	A	A	A	B	B	B
		South	10.6	330	85	312	2.08	0.53	1.96	A	A	A	B	B	B

ALTERNATIVE 1

Construction Condition Phases

The proposed 68th Street/Hunter College Subway Station Renovation construction under Alternative 1 includes the following improvements to the stairways at the intersection of Lexington Avenue at East 68th Street.

- Reconfigure stair at southeast corner entrance with new 10' stair
- Change existing stair at northeast corner of East 68th Street to 6' splayed stairs
- Rehabilitation of the northwest street stair
- Construction of one additional platform stair for each platform

Phase I (2016) – Closure of the northeast street stair at East 68th Street

The closure of the northeast corner street stair at East 68th Street would require the northbound and westbound pedestrian flows at that stairway to be shifted to the northwest corner stair at East 68th Street and the eastbound and southbound pedestrians to the southeast corner street stair.

Phase II (2017) – Closure of the southeast street stair at East 68th Street

The closure of the southeast corner street stair at East 68th Street would require shifting the westbound and southbound pedestrian flows to the southwest corner stair and the eastbound and northbound pedestrians to the northeast corner stair.

Phase III (2018) – Closure of the northwest street stair at East 68th Street

The closure of the northwest corner street stair at East 68th Street would require shifting the eastbound and northbound pedestrian flows to the northeast corner stair at East 68th Street and the westbound and southbound pedestrians to the southwest corner stair.

Transit Operations

The four street stairs and turnstiles at the East 68th Street entrance were analyzed for the three interim construction phases in 2014, 2015, and 2016, which represent a more conservative analysis than the projected construction phase years of 2017, 2018, and 2019.

Subway Street Stairs

Detailed street stair analyses were conducted for the four key street stairs in the 68th Street/Hunter College Subway Station for the three peak periods of the interim construction years of 2014, 2015, and 2016. The results of the analyses are provided in Table 53.

During the 2014 Phase I construction of the northeast street stair, the northwest stair is projected to operate at LOS F during the AM peak period, LOS B during the midday peak period, and LOS D during the PM peak period. The southeast stair is projected to operate at LOS F during the AM peak period, LOS D during the midday peak period, and LOS F during the PM peak period. The southwest stair is projected to operate at LOS C or better during all three peak periods.

During the 2015 Phase II construction of the southeast street stair, the western facing stair of the northeast splayed stair set and the southwest stair are projected to operate at an acceptable LOS C or better during all three time periods. The eastern facing stair of the northeast splayed stair set is projected to operate at LOS F during the AM peak period, LOS B during the midday peak period, and LOS D during the PM peak period. The northwest stair is projected to operate at LOS D during the AM peak period.

During the 2016 Phase III construction of the northwest street stair, the eastern facing stair of the northeast splayed stair set and the southeast stair are projected to operate at an acceptable LOS C or better during all three peak periods. The western facing stair of the northeast splayed stair set and the southwest stair are projected to operate at LOS D during the AM peak period, LOS A during the Midday peak period and LOS C during the PM peak period. The southwest stair is projected to operate at LOS D during the AM peak period.

Table 53
Alternative 1 Construction Conditions: Subway Street Stairways
Lexington Avenue at East 68th Street

Phase	ID	Type	Location	Width (feet)	Effective Width (feet)	Friction Factor	Peak 15-Min Entry Volume			Peak 15-Min Exit Volume			V/C			LOS		
							AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Lexington Avenue at East 68th Street																		
Phase I 2014	S4	Stairway	NE Corner															
	S3	Stairway	NW Corner	4.58	3.58	0.90	129	155	373	752	134	203	2.21	0.67	1.29	F	B	D
	O2/O4	Stairway	SE Corner	5.00	3.75	0.90	286	302	724	875	273	262	2.72	1.27	2.08	F	D	F
	O1/O3	Stairway	SW Corner	7.33	6.33	0.90	44	105	167	508	142	274	0.79	0.33	0.60	C	A	B
Phase II 2015	S4	Stairway	NE Corner - West	6.00	5.00	0.90	94	72	179	426	121	135	0.93	0.33	0.52	C	A	B
		Stairway	NE Corner - East	6.00	5.00	0.90	250	195	640	733	207	172	1.73	0.67	1.27	F	B	D
	S3	Stairway	NW Corner	4.58	3.58	0.90	43	89	209	378	37	84	1.07	0.28	0.65	D	A	B
	O2/O4	Stairway	SE Corner															
	O1/O3	Stairway	SW Corner	7.33	6.33	0.90	73	208	239	602	185	349	0.97	0.51	0.79	C	B	C
Phase III 2016	S4	Stairway	NE Corner - West	6.00	5.00	0.90	117	111	283	577	131	157	1.24	0.41	0.71	D	A	C
		Stairway	NE Corner - East	6.00	5.00	0.90	146	75	260	181	36	41	0.55	0.18	0.46	B	A	B
	S3	Stairway	NW Corner															
	O2/O4	Stairway	SE Corner	10.00	9.00	0.90	140	236	470	717	229	224	0.85	0.43	0.62	C	A	B
	O1/O3	Stairway	SW Corner	7.33	6.33	0.90	59	143	258	669	156	321	1.05	0.39	0.77	D	A	C

Turnstiles

Detailed analyses were conducted for control area R-246 in the 68th Street/Hunter College Subway Station for the three peak periods during the 2014, 2015, and 2016 interim construction years. The results of the analyses provided in Table 54 indicate that the turnstiles at the 68th Street/Hunter College Subway Station are projected to operate at LOS A or B during the three peak periods for all three interim construction phases.

Table 54
Alternative 1 Construction Conditions: Subway Control Areas
Lexington Avenue at East 68th Street

Phase	Station Element	Qty.	Peak 15 Minute Entering Volume			Peak 15 Minute Exiting Volume			15 Minute Capacity for Entries	15 Minute Capacity for Exits	V/C			LOS		
			AM	MD	PM	AM	MD	PM			AM	MD	PM	AM	MD	PM
Phase I - 2014	Turnstile	14	470	576	1,428	2,303	578	785	5,292	6,502	0.59	0.24	0.47	B	A	B
Phase II - 2015	Turnstile	14	472	578	1,432	2,308	579	786	5,292	6,502	0.59	0.25	0.47	B	A	B
Phase III - 2016	Turnstile	14	473	579	1,435	2,314	581	788	5,292	6,502	0.59	0.25	0.47	B	A	B

Pedestrian Operations

The crosswalk, corner, and sidewalk locations at the Lexington Avenue intersection with East 68th Street were analyzed for the three peak periods for the 2014, 2015, and 2016 interim construction years, which represent a more conservative analysis than the projected construction phase years of 2017, 2018, and 2019.

Crosswalks

The four crosswalk locations at the Lexington Avenue intersection with East 68th Street were analyzed for the three peak periods during the 2014, 2015, and 2016 interim construction conditions. The results of the crosswalk analyses are provided in Table 55. All four crosswalks at the intersection of Lexington Avenue

with East 68th Street are projected to operate at an acceptable LOS C or better during the three peak periods for all three interim construction phases.

Table 55
Alternative 1 Construction Conditions: Crosswalk Level of Service Analysis
Lexington Avenue at East 68th Street

Phase	Crosswalk	Crosswalk Length	Crosswalk Width	Available Crosswalk Circulation (ft^2/p)			Crosswalk Circulation LOS		
				AM	MD	PM	AM	MD	PM
Phase I 2014	North	50.3	13.5	29	69	48	C	A	B
	South	51.5	14.0	34	36	52	C	C	B
	East	28.7	15.3	115	58	61	A	B	A
	West	29.8	18.0	57	57	29	B	B	C
Phase II 2015	North	50.3	13.5	27	67	47	C	A	B
	South	51.5	14.0	35	41	71	C	B	A
	East	28.7	15.3	150	61	65	A	A	A
	West	29.8	18.0	57	57	29	B	B	C
Phase III 2016	North	50.3	13.5	48	85	126	B	A	A
	South	51.5	14.0	34	36	52	C	C	B
	East	28.7	15.3	100	55	58	A	B	B
	West	29.8	18.0	58	59	30	B	B	C

Corners

The four corner reservoir locations at the Lexington Avenue intersection with East 68th Street were analyzed for the 2014, 2015, and 2016 interim construction conditions, which represent a more conservative analysis than the projected construction phase years of 2017, 2018, and 2019. The results of the corner analysis are provided in Table 56. All four corners at the intersection of Lexington Avenue with East 68th Street are projected to operate at an acceptable LOS C or better during the three peak periods for all three interim construction phases except during four scenarios. For the 2014 Phase I construction condition, the northwest corner is projected to operate at LOS E during the AM peak period and LOS D during the PM peak period. For the 2015 Phase II construction condition, the northwest corner is projected to operate at LOS D during the AM and PM peak periods.

Table 56
Alternative 1 Construction Conditions: Corner Level of Service Analysis
Lexington Avenue at East 68th Street

Phase	Corner	Required Corner Circulation Space (ft^2/s)			Corner Circulation LOS		
		AM	MD	PM	AM	MD	PM
Phase I 2014	Northeast	127	131	149	A	A	A
	Northwest	15	28	16	E	C	D
	Southeast	68	60	71	A	B	A
	Southwest	51	50	43	B	B	B
Phase II 2015	Northeast	130	134	152	A	A	A
	Northwest	22	35	21	D	C	D
	Southeast	75	66	84	A	A	A
	Southwest	51	52	46	B	B	B
Phase III 2016	Northeast	127	129	148	A	A	A
	Northwest	42	45	32	B	B	C
	Southeast	65	58	69	A	B	A
	Southwest	51	50	44	B	B	B

Sidewalks

The eight sidewalk locations at the Lexington Avenue intersection with East 68th Street were analyzed for the 2014, 2015, and 2016 interim construction conditions, which represent a more conservative analysis than the projected construction phase years of 2017, 2018, and 2019. The results of the sidewalk analysis are provided in Table 57.

During the 2014 Phase I construction condition, all eight sidewalk locations are projected to operate at an acceptable LOS C or better under both Non-Platoon and Platoon conditions during all three peak periods except for three. Under Non-Platoon conditions, the west sidewalk along Lexington Avenue north of East 68th Street is projected to operate at LOS D during the PM peak period. Under Platoon conditions, the west sidewalk along Lexington Avenue north of East 68th Street is projected to operate at LOS D during the AM and PM peak periods.

During the 2015 Phase II construction condition, all eight sidewalk locations are projected to operate at an acceptable LOS C or better under both Non-Platoon and Platoon conditions during all three peak periods except for two. Under Platoon conditions, the west sidewalk along Lexington Avenue north of East 68th Street is projected to operate at LOS D during the PM peak period. The north sidewalk along East 68th Street east of Lexington Avenue is projected to operate at LOS D during the AM peak period.

During the 2016 Phase III construction condition, all eight sidewalk locations are projected to operate at an acceptable LOS C or better under both Non-Platoon and Platoon conditions during all three peak periods except for two. Under platoon conditions, the east sidewalk along Lexington Avenue north of East 68th Street is projected to operate at LOS D during the AM peak period. The north sidewalk along East 68th Street east of Lexington Avenue is projected to operate at LOS D during the AM peak period.

Table 57
Alternative 1 Construction Conditions: Sidewalk Level of Service Analysis
Lexington Avenue at East 68th Street

Phase	Approach	Sidewalk	Effective Width (feet)	Peak 15-Min Volumes			Flow Rate (pfm)			Non-Platoon LOS			Platoon LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Phase I 2014	Lexington Avenue South of E 68th Street	East	5.3	227	183	196	2.83	2 29	2.46	A	A	A	B	B	B
		West	6.0	283	172	232	3.15	1 91	2.57	A	A	A	C	B	B
	Lexington Avenue North of E 68th Street	East	9.0	308	105	271	2.28	0.78	2.01	A	A	A	B	B	B
		West	5.5	814	429	890	9.87	5 20	10.78	C	B	D	D	C	D
	E 68th Street West of Lexington Ave	North	7.7	206	225	188	1.79	1 95	1.64	A	A	A	B	B	B
		South	7.0	241	252	478	2.29	2.40	4.55	A	A	A	B	B	C
	E 68th Street East of Lexington Ave	North	5.1	181	75	159	2.37	0 99	2.09	A	A	A	B	B	B
		South	6.0	330	84	311	3.66	0 94	3.45	A	A	A	C	B	C
Phase II 2015	Lexington Avenue South of E 68th Street	East	5.3	201	173	187	2.51	2 16	2.34	A	A	A	B	B	B
		West	6.0	284	173	232	3.15	1 92	2.58	A	A	A	C	B	B
	Lexington Avenue North of E 68th Street	East	9.0	758	265	552	5.61	1 96	4.09	B	A	A	C	B	C
		West	5.5	368	271	611	4.46	3 28	7.41	A	A	C	C	C	D
	E 68th Street West of Lexington Ave	North	7.7	193	221	186	1.68	1 92	1.62	A	A	A	B	B	B
		South	7.0	234	225	434	2.23	2 15	4.14	A	A	A	B	B	C
	E 68th Street East of Lexington Ave	North	5.1	474	180	446	6.21	2 35	5.85	B	A	B	D	B	C
		South	6.0	330	85	311	3.67	0 94	3.46	A	A	A	C	B	C
Phase III 2016	Lexington Avenue South of E 68th Street	East	5.3	244	193	208	3.05	2.42	2.59	A	A	A	C	B	B
		West	6.0	277	166	219	3.08	1.85	2.43	A	A	A	C	B	B
	Lexington Avenue North of E 68th Street	East	9.0	975	334	699	7.22	2.48	5.18	C	A	B	D	B	C
		West	5.5	153	203	468	1.85	2.45	5.67	A	A	B	B	B	C
	E 68th Street West of Lexington Ave	North	7.7	27	178	65	0.24	1 55	0.56	A	A	A	A	B	B
		South	7.0	242	253	480	2.30	2.41	4.57	A	A	A	B	B	C
	E 68th Street East of Lexington Ave	North	5.1	475	180	447	6.23	2 36	5.87	B	A	B	D	B	C
		South	6.0	331	85	312	3.68	0 94	3.46	A	A	A	C	B	C

7. EAST 69TH STREET PEDESTRIAN VOLUMES

DATA COLLECTION

To identify the effect of the various East 69th Street stair options on pedestrian volumes along East 69th Street throughout the day, a pedestrian intercept survey was conducted on Thursday May 3, 2012 on both sides of East 69th Street between Lexington and Third Avenues. Data was collected continuously in 15-minute increments between 7:00 AM and 7:00 PM. Of the high volume of pedestrian traffic along the south side of East 69th Street, two surveyors (one eastbound and one westbound) were deployed at this location. The survey consisted of a single question asking whether or not each person was coming from, or going to, the 68th Street/Hunter College subway station. To the best of their ability, each surveyor attempted to interview every pedestrian walking in either direction on East 69th Street. Because of the heavy pedestrian grouping during certain short periods of time, the surveyors could not ask every pedestrian the appropriate question. There were also pedestrians who refused to answer the question or were unable to answer the question because they were speaking on the phone or were wearing headphones. However, a record of every pedestrian by location and direction was tabulated into four categories: subway rider, not a subway rider, refused to answer question, or was not surveyed. Based on the survey, the total number of pedestrians by direction and location was developed throughout the day in 15-minute increments, and is presented in the attached tables.

The survey generated a very good 65% response rate (pedestrians answered either Yes or No to whether they were coming from or going to the subway). Approximately 12% were not surveyed, including people wearing head phones, those who were on the phone, or those who walked in the street to avoid the survey. Approximately 23% refused to participate because they did not understand English or they simply refused to answer the question. The percentage of subway riders on the north side of East 69th Street was observed to be 42.9%, 29.4%, and 58.3% during the peak 15-minute AM, midday, and PM periods, respectively. The percentage of subway riders was observed to be higher on the south side of East 69th Street, with percentages of 79.6%, 43.5%, and 50.5% during the peak 15-minute AM, midday, and PM periods, respectively. The overall percentage of subway riders in the sample was high. However, the actual percentage of people using the 69th Street/Hunter College subway station was probably higher, since it was observed that a high percentage of the people who could not be surveyed (talking on cell phones or wearing head phones) were observed by the surveyors to be coming from or going to the subway. People who refused to answer, but who were observed coming from or going to the subway were not counted as subway riders for the purposes of the survey. The main take away from this survey was that there are currently a high number of people walking along the south side of East 69th Street between Lexington and Third Avenues that use the subway. Table 58 summarizes the overall results of the survey for each three-hour peak period. Tables 59 and 60 show the detailed results of the survey (in 15-minute intervals by direction) for each side of the street on East 69th Street.

Table 58
East 69th Street Pedestrian Survey Peak Period Summary Results

Location	Direction	AM Peak Period			Midday Peak Period			PM Peak Period		
		% Subway	% Non-Subway	% Response Rate	% Subway	% Non-Subway	% Response Rate	% Subway	% Non-Subway	% Response Rate
North Side of East 69th Street	Eastbound	39.4%	60.6%	69.6%	15.8%	84.2%	70.5%	27.6%	72.4%	71.9%
	Westbound	15.8%	84.2%	77.9%	14.9%	85.1%	64.9%	28.5%	71.5%	65.8%
South Side of East 69th Street	Eastbound	71.5%	28.5%	70.7%	32.7%	67.3%	60.7%	31.9%	68.1%	58.0%
	Westbound	49.2%	50.8%	60.5%	31.2%	68.8%	66.9%	51.2%	48.8%	65.3%

Table 59
East 69th Street Pedestrian Survey Results
North Sidewalk (Between Lexington Avenue and Third Avenue)

Time	Eastbound								Westbound							
	Survey Response				Survey Results				Survey Response				Survey Results			
	Subway	Non-Subway	No Answer	Did Not Survey	Total Peds	% Subway	% Non-Subway	% Response Rate	Subway	Non-Subway	No Answer	Did Not Survey	Total Peds	% Subway	% Non-Subway	% Response Rate
7:00 AM	7	8	6	0	21	45%	53%	71%	0	5	1	0	6	0%	100%	83%
7:15 AM	5	7	6	0	18	42%	58%	67%	1	4	4	0	9	20%	80%	56%
7:30 AM	3	8	3	0	14	27%	73%	79%	2	11	3	0	16	15%	85%	81%
7:45 AM	3	5	4	0	12	38%	63%	67%	3	11	0	0	14	21%	79%	100%
8:00 AM	8	10	8	1	27	44%	56%	67%	3	8	0	0	11	27%	73%	100%
8:15 AM	16	13	6	0	35	55%	45%	83%	4	14	2	0	20	22%	78%	90%
8:30 AM	17	11	8	2	38	61%	39%	74%	4	17	8	1	30	19%	81%	70%
8:45 AM	9	17	15	1	42	35%	65%	62%	3	10	9	3	25	23%	77%	52%
9:00 AM	6	12	8	0	26	33%	67%	69%	4	9	4	1	18	31%	69%	72%
9:15 AM	5	13	10	1	29	28%	72%	62%	1	11	2	1	15	8%	92%	80%
9:30 AM	5	6	7	0	18	45%	55%	61%	5	15	3	0	23	25%	75%	87%
9:45 AM	6	5	8	1	20	55%	45%	55%	0	18	6	1	25	0%	100%	72%
10 00 AM	5	7	4	0	16	42%	58%	75%	1	19	4	2	26	5%	95%	77%
10:15 AM	2	11	4	2	19	15%	85%	68%	2	14	1	0	17	13%	88%	94%
10:30 AM	3	13	4	2	22	19%	81%	73%	2	21	1	4	28	9%	91%	82%
10:45 AM	2	11	1	1	15	15%	85%	87%	3	15	5	2	25	17%	83%	72%
11 00 AM	5	19	9	2	35	21%	79%	69%	5	13	5	4	27	28%	72%	67%
11:15 AM	1	15	7	4	27	6%	94%	59%	0	14	5	4	23	0%	100%	61%
11:30 AM	2	7	6	1	16	22%	78%	56%	2	9	4	1	16	18%	82%	69%
11:45 AM	3	13	5	2	23	19%	81%	70%	1	12	11	1	25	8%	92%	52%
12:00 PM	3	8	1	0	12	27%	73%	92%	2	18	7	2	29	10%	90%	69%
12:15 PM	0	17	8	2	27	0%	100%	63%	2	9	10	1	22	18%	82%	50%
12:30 PM	0	15	5	1	21	0%	100%	71%	0	9	6	0	15	0%	100%	60%
12:45 PM	1	14	8	1	24	7%	93%	63%	3	16	5	2	26	16%	84%	73%
1:00 PM	5	27	6	2	40	16%	84%	80%	5	22	5	4	36	19%	81%	75%
1:15 PM	4	12	4	3	23	25%	75%	70%	1	6	5	1	13	14%	86%	54%
1:30 PM	2	6	0	1	9	25%	75%	89%	1	3	3	0	7	25%	75%	57%
1:45 PM	2	20	4	1	27	9%	91%	81%	2	15	12	2	31	12%	88%	55%
2:00 PM	3	18	5	1	27	14%	86%	78%	2	14	2	2	20	13%	88%	80%
2:15 PM	3	16	17	0	36	16%	84%	53%	2	16	4	2	24	11%	89%	75%
2:30 PM	3	14	3	1	21	18%	82%	81%	4	14	7	3	28	22%	78%	64%
2:45 PM	7	14	6	1	28	33%	67%	75%	3	10	4	3	20	23%	77%	65%
3:00 PM	2	11	6	3	22	15%	85%	59%	7	16	8	4	35	30%	70%	66%
3:15 PM	5	12	4	1	22	29%	71%	77%	4	13	7	1	25	24%	76%	68%
3:30 PM	6	17	5	2	30	26%	74%	77%	5	17	7	2	31	23%	77%	71%
3:45 PM	4	16	6	4	30	20%	80%	67%	4	12	8	1	25	25%	75%	64%
4:00 PM	6	15	3	4	28	29%	71%	75%	5	15	14	3	37	25%	75%	54%
4:15 PM	4	18	6	1	29	18%	82%	76%	4	17	12	4	37	19%	81%	57%
4:30 PM	6	18	2	8	34	25%	75%	71%	4	16	6	23	49	20%	80%	41%
4:45 PM	12	20	8	4	44	38%	63%	73%	4	10	3	5	22	29%	71%	64%
5:00 PM	9	25	5	10	49	26%	74%	69%	6	10	0	4	20	38%	63%	80%
5:15 PM	9	23	7	10	49	28%	72%	65%	14	13	6	6	39	52%	48%	69%
5:30 PM	4	12	3	2	21	25%	75%	76%	2	8	5	1	16	20%	80%	63%
5:45 PM	9	10	2	0	21	47%	53%	90%	4	10	2	1	17	29%	71%	82%
6:00 PM	5	15	3	1	24	25%	75%	83%	2	21	2	2	27	9%	91%	85%
6:15 PM	7	14	6	2	29	33%	67%	72%	4	10	3	1	18	29%	71%	78%
6:30 PM	4	22	4	8	38	15%	85%	68%	4	14	3	2	23	22%	78%	78%
6:45 PM	5	6	1	6	18	45%	55%	61%	9	4	1	3	17	69%	31%	76%

Table 60
East 69th Street Pedestrian Survey Results
South Sidewalk (Between Lexington Avenue and Third Avenue)

Time	Eastbound								Westbound							
	Survey Response				Survey Results				Survey Response				Survey Results			
	Subway	Non-Subway	No Answer	Did Not Survey	Total Peds	% Subway	% Non-Subway	% Response Rate	Subway	Non-Subway	No Answer	Did Not Survey	Total Peds	% Subway	% Non-Subway	% Response Rate
7:00 AM	48	15	9	2	74	76%	24%	85%	14	10	6	1	31	58%	42%	77%
7:15 AM	68	14	19	3	104	83%	17%	79%	10	6	6	0	22	63%	38%	73%
7:30 AM	82	27	5	12	126	75%	25%	87%	23	14	6	0	43	62%	38%	86%
7:45 AM	63	29	8	9	109	68%	32%	84%	13	15	20	0	48	46%	54%	58%
8:00 AM	60	25	15	4	104	71%	29%	82%	16	12	32	5	65	57%	43%	43%
8:15 AM	81	17	25	3	126	83%	17%	78%	25	24	38	2	89	51%	49%	55%
8:30 AM	86	22	10	13	131	80%	20%	82%	21	17	20	3	61	55%	45%	62%
8:45 AM	44	28	32	18	122	61%	39%	59%	18	14	33	4	69	56%	44%	46%
9:00 AM	43	13	41	4	101	77%	23%	55%	24	24	30	12	90	50%	50%	53%
9:15 AM	33	20	35	6	94	62%	38%	56%	15	19	23	0	57	44%	56%	60%
9:30 AM	40	7	36	9	92	85%	15%	51%	14	8	8	5	35	64%	36%	63%
9:45 AM	37	16	26	7	86	70%	30%	62%	11	17	13	9	50	39%	61%	56%
10 00 AM	31	26	5	26	88	54%	46%	65%	14	18	6	7	45	44%	56%	71%
10:15 AM	19	27	0	13	59	41%	59%	78%	8	20	8	3	39	29%	71%	72%
10:30 AM	27	12	25	8	72	69%	31%	54%	7	15	3	2	27	32%	68%	81%
10:45 AM	20	13	19	6	58	61%	39%	57%	3	11	6	3	23	21%	79%	61%
11 00 AM	12	19	25	5	61	39%	61%	51%	11	23	6	9	49	32%	68%	69%
11:15 AM	18	15	20	3	56	55%	45%	59%	2	11	11	2	26	15%	85%	50%
11:30 AM	8	15	18	3	44	35%	65%	52%	9	23	16	6	54	28%	72%	59%
11:45 AM	9	30	9	8	56	23%	77%	70%	13	12	11	2	38	52%	48%	66%
12:00 PM	11	31	6	4	52	26%	74%	81%	9	21	9	4	43	30%	70%	70%
12:15 PM	9	32	18	6	65	22%	78%	63%	10	18	20	6	54	36%	64%	52%
12:30 PM	11	27	15	2	55	29%	71%	69%	7	26	9	6	48	21%	79%	69%
12:45 PM	15	26	13	12	66	37%	63%	62%	7	30	11	11	59	19%	81%	63%
1:00 PM	11	32	10	5	58	26%	74%	74%	10	35	5	10	60	22%	78%	75%
1:15 PM	8	31	12	15	66	21%	79%	59%	17	24	8	12	61	41%	59%	67%
1:30 PM	11	31	10	12	64	26%	74%	66%	7	20	7	5	39	26%	74%	69%
1:45 PM	10	22	19	7	58	31%	69%	55%	7	16	18	3	44	30%	70%	52%
2:00 PM	7	17	17	5	46	29%	71%	52%	13	20	17	2	52	39%	61%	63%
2:15 PM	21	21	30	9	81	50%	50%	52%	14	25	6	4	49	36%	64%	80%
2:30 PM	20	30	25	12	87	40%	60%	57%	14	25	6	7	52	36%	64%	75%
2:45 PM	11	17	17	9	54	39%	61%	52%	13	31	4	6	54	30%	70%	81%
3:00 PM	17	26	12	2	57	40%	60%	75%	20	26	4	10	60	43%	57%	77%
3:15 PM	11	50	19	3	83	18%	82%	73%	24	34	9	18	85	41%	59%	68%
3:30 PM	14	29	12	2	57	33%	67%	75%	11	17	32	6	66	39%	61%	42%
3:45 PM	14	31	11	3	59	31%	69%	76%	29	40	22	10	101	42%	58%	68%
4:00 PM	5	37	16	1	59	12%	88%	71%	25	19	22	8	74	57%	43%	59%
4:15 PM	9	29	7	0	45	24%	76%	84%	41	28	29	13	111	59%	41%	62%
4:30 PM	9	41	16	0	66	18%	82%	76%	43	25	25	12	105	63%	37%	65%
4:45 PM	16	39	5	12	72	29%	71%	76%	34	14	12	3	63	71%	29%	76%
5:00 PM	10	23	14	19	66	30%	70%	50%	37	36	12	42	127	51%	49%	57%
5:15 PM	23	33	40	17	113	41%	59%	50%	35	24	3	32	94	59%	41%	63%
5:30 PM	15	31	23	23	92	33%	67%	50%	26	39	2	15	82	40%	60%	79%
5:45 PM	16	25	29	27	97	39%	61%	42%	17	10	5	10	42	63%	37%	64%
6:00 PM	26	30	42	27	125	46%	54%	45%	30	25	11	21	87	55%	45%	63%
6:15 PM	11	10	15	12	48	52%	48%	44%	16	18	8	7	49	47%	53%	69%
6:30 PM	19	17	24	18	78	53%	47%	46%	20	32	7	17	76	38%	62%	68%
6:45 PM	11	32	35	28	106	26%	74%	41%	16	17	6	7	46	48%	52%	72%

PROJECTED EAST 69TH STREET PEDESTRIAN VOLUMES

Using the projected 2016 East 68th Street subway stair volumes and the results of the intercept survey, future pedestrian volumes were calculated for both sides of East 69th Street between Lexington Avenue and Third Avenue for a 12-hour period from 7:00 AM to 7:00 PM for all 32 Alternative 2 street stair combinations. As a first step to develop Alternative 2 pedestrian volumes on East 69th Street between Lexington Avenue and Third Avenue over a 12-hour period, the number of existing subway riders currently walking on each side of the block based on the survey were shifted to the north or side sidewalk based on the location of the proposed East 69th Street stairs for each option (see Figures 4 through 14). Based on these figures, there is a greater probability that a pedestrian would use the south side sidewalk on East 69th Street to walk to or from the east if the proposed subway street stair at East 69th Street was on the south side of East 69th Street. The same holds true for the north side sidewalk on East 69th Street. These volumes were grown by a factor of 0.25% for each of the first five years to 2016 and then at 0.125% for the following four years to create the 2020 No Build Alternative volumes.

Some pedestrians walking to or from the east along East 68th Street projected to use the street stairs on East 68th Street would shift to the proposed street stairs at East 69th Street. It was estimated that approximately 50% of the pedestrians projected to enter/exit the northeast street stair at East 68th Street with origins/destinations to the east of Lexington Avenue were shifted to the proposed street stairs at East 69th Street. These pedestrians were added to the adjusted background sidewalk volumes on East 69th Street between Lexington Avenue and Third Avenue using Figures 4 through 14. Tables 61 through 68 show the pedestrian volumes and corresponding percent change between the No Build Alternative and Alternative 2 on an hourly basis between 7:00 AM and 7:00 PM along the north and south sides of East 69th Street between Lexington Avenue and Third Avenue for each of street stair location combinations. Generally speaking, the placement of the subway street stairs on the south side of East 69th Street has only a modest increase in pedestrian sidewalk volumes since the base volumes are high currently. The placement of the subway street stairs on the north side of East 69th Street has a more pronounced increase in pedestrian sidewalk volumes since the base volumes are relatively low currently.

Table 61
Projected East 69th Street Pedestrians
South Sidewalk – Eastbound (Between Lexington Avenue and Third Avenue)

Time	Ex.	NB	Build Stair Options																							
			1	2	3	4	5/25	6/26	7/27	8/28	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
7:00 AM	413	418	559	559	538	538	388	388	368	368	559	559	538	538	133	133	112	112	218	218	198	198	133	133	112	112
8:00 AM	483	489	792	792	766	766	542	542	516	516	792	792	766	766	167	167	141	141	292	292	266	266	167	167	141	141
9:00 AM	373	378	569	569	550	550	392	392	374	374	569	569	550	550	128	128	109	109	216	216	197	197	128	128	109	109
10:00 AM	277	280	429	429	418	418	312	312	302	302	429	429	418	418	137	137	127	127	195	195	185	185	137	137	127	127
11:00 AM	217	220	277	277	271	271	224	224	218	218	277	277	271	271	145	145	139	139	172	172	166	166	145	145	139	139
12 00 PM	238	241	297	297	292	292	250	250	245	245	297	297	292	292	179	179	174	174	202	202	198	198	179	179	174	174
1:00 PM	246	249	332	332	327	327	276	276	271	271	332	332	327	327	192	192	187	187	220	220	215	215	192	192	187	187
2:00 PM	268	271	364	364	356	356	287	287	279	279	364	364	356	356	172	172	164	164	211	211	203	203	172	172	164	164
3:00 PM	256	259	326	326	320	320	273	273	267	267	326	326	320	320	193	193	187	187	219	219	213	213	193	193	187	187
4:00 PM	242	245	335	335	330	330	282	282	277	277	335	335	330	330	202	202	197	197	229	229	223	223	202	202	197	197
5:00 PM	368	373	474	474	463	463	385	385	375	375	474	474	463	463	253	253	242	242	297	297	286	286	253	253	242	242
6:00 PM	357	361	426	426	415	415	346	346	335	335	426	426	415	415	225	225	214	214	265	265	254	254	225	225	214	214

Table 62
Projected East 69th Street Percent Change Between No Build and Build Alternatives
South Sidewalk – Eastbound (Between Lexington Avenue and Third Avenue)

Time			Build Stair Options																							
			1	2	3	4	5/25	6/26	7/27	8/28	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
7:00 AM	-	-	34%	34%	29%	29%	-7%	-7%	-12%	-12%	34%	34%	29%	29%	-68%	-68%	-73%	-73%	-48%	-48%	-53%	-53%	-68%	-68%	-73%	-73%
8:00 AM	-	-	62%	62%	57%	57%	11%	11%	6%	6%	62%	62%	57%	57%	-66%	-66%	-71%	-71%	-40%	-40%	-46%	-46%	-66%	-66%	-71%	-71%
9:00 AM	-	-	51%	51%	46%	46%	4%	4%	-1%	-1%	51%	51%	46%	46%	-66%	-66%	-71%	-71%	-43%	-43%	-48%	-48%	-66%	-66%	-71%	-71%
10:00 AM	-	-	53%	53%	49%	49%	11%	11%	8%	8%	53%	53%	49%	49%	-51%	-51%	-55%	-55%	-30%	-30%	-34%	-34%	-51%	-51%	-55%	-55%
11:00 AM	-	-	26%	26%	23%	23%	2%	2%	-1%	-1%	26%	26%	23%	23%	-34%	-34%	-37%	-37%	-22%	-22%	-25%	-25%	-34%	-34%	-37%	-37%
12 00 PM	-	-	23%	23%	21%	21%	4%	4%	2%	2%	23%	23%	21%	21%	-26%	-26%	-28%	-28%	-16%	-16%	-18%	-18%	-26%	-26%	-28%	-28%
1:00 PM	-	-	33%	33%	31%	31%	11%	11%	9%	9%	33%	33%	31%	31%	-23%	-23%	-25%	-25%	-12%	-12%	-14%	-14%	-23%	-23%	-25%	-25%
2:00 PM	-	-	34%	34%	31%	31%	6%	6%	3%	3%	34%	34%	31%	31%	-37%	-37%	-40%	-40%	-22%	-22%	-25%	-25%	-37%	-37%	-40%	-40%
3:00 PM	-	-	26%	26%	23%	23%	5%	5%	3%	3%	26%	26%	23%	23%	-26%	-26%	-28%	-28%	-15%	-15%	-18%	-18%	-26%	-26%	-28%	-28%
4:00 PM	-	-	37%	37%	35%	35%	15%	15%	13%	13%	37%	37%	35%	35%	-18%	-18%	-20%	-20%	-7%	-7%	-9%	-9%	-18%	-18%	-20%	-20%
5:00 PM	-	-	27%	27%	24%	24%	3%	3%	1%	1%	27%	27%	24%	24%	-32%	-32%	-35%	-35%	-20%	-20%	-23%	-23%	-32%	-32%	-35%	-35%
6:00 PM	-	-	18%	18%	15%	15%	-4%	-4%	-7%	-7%	18%	18%	15%	15%	-38%	-38%	-41%	-41%	-27%	-27%	-30%	-30%	-38%	-38%	-41%	-41%

Table 63
Projected East 69th Street Pedestrians
South Sidewalk – Westbound (Between Lexington Avenue and Third Avenue)

Time	Ex.	NB	Build Stair Options																							
			1	2	3	4	5/25	6/26	7/27	8/28	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
7:00 AM	144	146	332	332	326	326	228	228	222	222	332	332	326	326	72	72	67	67	124	124	119	119	72	72	67	67
8:00 AM	284	288	649	649	638	638	448	448	437	437	649	649	638	638	146	146	136	136	247	247	236	236	146	146	136	136
9:00 AM	232	235	476	476	469	469	339	339	331	331	476	476	469	469	133	133	125	125	202	202	194	194	133	133	125	125
10:00 AM	134	136	337	337	333	333	240	240	237	237	337	337	333	333	96	96	92	92	144	144	141	141	96	96	92	92
11:00 AM	167	169	271	271	267	267	210	210	206	206	271	271	267	267	120	120	116	116	150	150	146	146	120	120	116	116
12 00 PM	204	207	325	325	321	321	258	258	254	254	325	325	321	321	158	158	154	154	192	192	188	188	158	158	154	154
1:00 PM	204	207	359	359	354	354	276	276	271	271	359	359	354	354	151	151	146	146	192	192	188	188	151	151	146	146
2:00 PM	207	210	378	378	372	372	284	284	279	279	378	378	372	372	144	144	139	139	191	191	185	185	144	144	139	139
3:00 PM	312	316	670	670	660	660	481	481	472	472	670	670	660	660	199	199	189	189	293	293	284	284	199	199	189	189
4:00 PM	353	357	763	763	747	747	521	521	506	506	763	763	747	747	159	159	143	143	279	279	264	264	159	159	143	143
5:00 PM	345	349	845	845	832	832	582	582	569	569	845	845	832	832	187	187	174	174	319	319	306	306	187	187	174	174
6:00 PM	258	261	590	590	581	581	414	414	405	405	590	590	581	581	151	151	142	142	239	239	230	230	151	151	142	142

Table 64
Projected East 69th Street Percent Change Between No Build and Build Alternatives
South Sidewalk – Westbound (Between Lexington Avenue and Third Avenue)

Time			Build Stair Options																							
			1	2	3	4	5/25	6/26	7/27	8/28	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
7:00 AM	-	-	127%	127%	124%	124%	56%	56%	53%	53%	127%	127%	124%	124%	-51%	-51%	-54%	-54%	-15%	-15%	-19%	-19%	-51%	-51%	-54%	-54%
8:00 AM	-	-	126%	126%	122%	122%	56%	56%	52%	52%	126%	126%	122%	122%	-49%	-49%	-53%	-53%	-14%	-14%	-18%	-18%	-49%	-49%	-53%	-53%
9:00 AM	-	-	103%	103%	100%	100%	44%	44%	41%	41%	103%	103%	100%	100%	-43%	-43%	-47%	-47%	-14%	-14%	-17%	-17%	-43%	-43%	-47%	-47%
10:00 AM	-	-	148%	148%	146%	146%	77%	77%	75%	75%	148%	148%	146%	146%	-29%	-29%	-32%	-32%	6%	6%	4%	4%	-29%	-29%	-32%	-32%
11:00 AM	-	-	60%	60%	58%	58%	24%	24%	22%	22%	60%	60%	58%	58%	-29%	-29%	-32%	-32%	-11%	-11%	-14%	-14%	-29%	-29%	-32%	-32%
12 00 PM	-	-	57%	57%	55%	55%	25%	25%	23%	23%	57%	57%	55%	55%	-23%	-23%	-25%	-25%	-7%	-7%	-9%	-9%	-23%	-23%	-25%	-25%
1:00 PM	-	-	74%	74%	72%	72%	33%	33%	31%	31%	74%	74%	72%	72%	-27%	-27%	-29%	-29%	-7%	-7%	-9%	-9%	-27%	-27%	-29%	-29%
2:00 PM	-	-	80%	80%	78%	78%	36%	36%	33%	33%	80%	80%	78%	78%	-31%	-31%	-34%	-34%	-9%	-9%	-12%	-12%	-31%	-31%	-34%	-34%
3:00 PM	-	-	112%	112%	109%	109%	52%	52%	49%	49%	112%	112%	109%	109%	-37%	-37%	-40%	-40%	-7%	-7%	-10%	-10%	-37%	-37%	-40%	-40%
4:00 PM	-	-	113%	113%	109%	109%	46%	46%	41%	41%	113%	113%	109%	109%	-56%	-56%	-60%	-60%	-22%	-22%	-26%	-26%	-56%	-56%	-60%	-60%
5:00 PM	-	-	142%	142%	138%	138%	67%	67%	63%	63%	142%	142%	138%	138%	-46%	-46%	-50%	-50%	-9%	-9%	-12%	-12%	-46%	-46%	-50%	-50%
6:00 PM	-	-	126%	126%	122%	122%	59%	59%	55%	55%	126%	126%	122%	122%	-42%	-42%	-46%	-46%	-9%	-9%	-12%	-12%	-42%	-42%	-46%	-46%

Table 65
Projected East 69th Street Pedestrians
North Sidewalk – Eastbound (Between Lexington Avenue and Third Avenue)

Time	Ex.	NB	Build Stair Options																							
			1	2	3	4	5/25	6/26	7/27	8/28	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
7:00 AM	65	66	60	60	81	81	231	231	251	251	60	60	81	81	486	486	507	507	401	401	421	421	486	486	507	507
8:00 AM	142	144	100	100	126	126	350	350	376	376	100	100	126	126	725	725	751	751	600	600	626	626	725	725	751	751
9:00 AM	93	94	77	77	96	96	253	253	272	272	77	77	96	96	517	517	536	536	429	429	448	448	517	517	536	536
10:00 AM	72	73	67	67	78	78	184	184	194	194	67	67	78	78	359	359	369	369	301	301	311	311	359	359	369	369
11:00 AM	101	102	91	91	97	97	144	144	150	150	91	91	97	97	223	223	229	229	197	197	203	203	223	223	229	229
12 00 PM	84	85	85	85	89	89	132	132	136	136	85	85	89	89	202	202	207	207	179	179	183	183	202	202	207	207
1:00 PM	99	100	88	88	93	93	144	144	149	149	88	88	93	93	228	228	233	233	200	200	205	205	228	228	233	233
2:00 PM	112	113	99	99	107	107	175	175	184	184	99	99	107	107	291	291	299	299	252	252	260	260	291	291	299	299
3:00 PM	104	105	87	87	93	93	141	141	147	147	87	87	93	93	221	221	226	226	194	194	200	200	221	221	226	226
4:00 PM	135	137	103	103	109	109	157	157	162	162	103	103	109	109	237	237	242	242	210	210	215	215	237	237	242	242
5:00 PM	140	142	110	110	121	121	198	198	209	209	110	110	121	121	331	331	342	342	287	287	297	297	331	331	342	342
6:00 PM	109	110	91	91	102	102	172	172	183	183	91	91	102	102	293	293	304	304	253	253	264	264	293	293	304	304

Table 66
Projected East 69th Street Percent Change Between No Build and Build Alternatives
North Sidewalk – Eastbound (Between Lexington Avenue and Third Avenue)

Time			Build Stair Options																							
			1	2	3	4	5/25	6/26	7/27	8/28	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
7:00 AM	-	-	-8%	-8%	23%	23%	250%	250%	282%	282%	-8%	-8%	23%	23%	638%	638%	670%	670%	509%	509%	540%	540%	638%	638%	670%	670%
8:00 AM	-	-	-31%	-31%	-13%	-13%	143%	143%	161%	161%	-31%	-31%	-13%	-13%	404%	404%	422%	422%	317%	317%	335%	335%	404%	404%	422%	422%
9:00 AM	-	-	-18%	-18%	2%	2%	169%	169%	189%	189%	-18%	-18%	2%	2%	449%	449%	469%	469%	356%	356%	376%	376%	449%	449%	469%	469%
10:00 AM	-	-	-8%	-8%	7%	7%	152%	152%	167%	167%	-8%	-8%	7%	7%	392%	392%	407%	407%	312%	312%	327%	327%	392%	392%	407%	407%
11:00 AM	-	-	-11%	-11%	-5%	-5%	41%	41%	47%	47%	-11%	-11%	-5%	-5%	118%	118%	124%	124%	92%	92%	98%	98%	118%	118%	124%	124%
12 00 PM	-	-	-1%	-1%	5%	5%	55%	55%	60%	60%	-1%	-1%	5%	5%	138%	138%	143%	143%	110%	110%	115%	115%	138%	138%	143%	143%
1:00 PM	-	-	-12%	-12%	-7%	-7%	44%	44%	49%	49%	-12%	-12%	-7%	-7%	128%	128%	132%	132%	100%	100%	105%	105%	128%	128%	132%	132%
2:00 PM	-	-	-13%	-13%	-6%	-6%	55%	55%	62%	62%	-13%	-13%	-6%	-6%	156%	156%	164%	164%	123%	123%	130%	130%	156%	156%	164%	164%
3:00 PM	-	-	-17%	-17%	-11%	-11%	33%	33%	39%	39%	-17%	-17%	-11%	-11%	109%	109%	115%	115%	84%	84%	90%	90%	109%	109%	115%	115%
4:00 PM	-	-	-24%	-24%	-20%	-20%	15%	15%	19%	19%	-24%	-24%	-20%	-20%	73%	73%	77%	77%	54%	54%	57%	57%	73%	73%	77%	77%
5:00 PM	-	-	-22%	-22%	-15%	-15%	40%	40%	47%	47%	-22%	-22%	-15%	-15%	133%	133%	141%	141%	102%	102%	110%	110%	133%	133%	141%	141%
6:00 PM	-	-	-17%	-17%	-7%	-7%	56%	56%	66%	66%	-17%	-17%	-7%	-7%	165%	165%	175%	175%	129%	129%	139%	139%	165%	165%	175%	175%

Table 67
Projected East 69th Street Pedestrians
North Sidewalk – Westbound (Between Lexington Avenue and Third Avenue)

Time	Ex.	NB	Build Stair Options																							
			1	2	3	4	5/25	6/26	7/27	8/28	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
7:00 AM	45	46	44	44	49	49	147	147	153	153	44	44	49	49	303	303	308	308	251	251	257	257	303	303	308	308
8:00 AM	86	87	78	78	89	89	279	279	290	290	78	78	89	89	581	581	591	591	480	480	491	491	581	581	591	591
9:00 AM	81	82	77	77	84	84	214	214	222	222	77	77	84	84	420	420	428	428	352	352	359	359	420	420	428	428
10:00 AM	96	97	90	90	94	94	187	187	190	190	90	90	94	94	331	331	334	334	283	283	286	286	331	331	334	334
11:00 AM	91	92	84	84	88	88	144	144	148	148	84	84	88	88	235	235	239	239	205	205	209	209	235	235	239	239
12 00 PM	92	93	86	86	90	90	153	153	156	156	86	86	90	90	252	252	256	256	219	219	223	223	252	252	256	256
1:00 PM	87	88	79	79	83	83	162	162	167	167	79	79	83	83	287	287	292	292	245	245	250	250	287	287	292	292
2:00 PM	92	93	82	82	88	88	176	176	181	181	82	82	88	88	316	316	321	321	269	269	275	275	316	316	321	321
3:00 PM	116	117	97	97	107	107	285	285	295	295	97	97	107	107	567	567	577	577	473	473	483	483	567	567	577	577
4:00 PM	145	147	129	129	145	145	371	371	386	386	129	129	145	145	733	733	749	749	613	613	628	628	733	733	749	749
5:00 PM	92	93	70	70	83	83	333	333	346	346	70	70	83	83	728	728	741	741	596	596	609	609	728	728	741	741
6:00 PM	85	86	70	70	79	79	246	246	255	255	70	70	79	79	509	509	518	518	421	421	430	430	509	509	518	518

Table 68
Projected East 69th Street Percent Change Between No Build and Build Alternatives
North Sidewalk – Westbound (Between Lexington Avenue and Third Avenue)

Time			Build Stair Options																							
			1	2	3	4	5/25	6/26	7/27	8/28	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
7:00 AM			-4%	-4%	7%	7%	223%	223%	235%	235%	-4%	-4%	7%	7%	565%	565%	577%	577%	451%	451%	463%	463%	565%	565%	577%	577%
8:00 AM			-10%	-10%	2%	2%	221%	221%	233%	233%	-10%	-10%	2%	2%	567%	567%	579%	579%	451%	451%	464%	464%	567%	567%	579%	579%
9:00 AM			-6%	-6%	3%	3%	161%	161%	171%	171%	-6%	-6%	3%	3%	413%	413%	422%	422%	329%	329%	338%	338%	413%	413%	422%	422%
10:00 AM			-7%	-7%	-4%	-4%	92%	92%	95%	95%	-7%	-7%	-4%	-4%	241%	241%	244%	244%	191%	191%	195%	195%	241%	241%	244%	244%
11:00 AM			-9%	-9%	-5%	-5%	57%	57%	61%	61%	-9%	-9%	-5%	-5%	155%	155%	159%	159%	122%	122%	127%	127%	155%	155%	159%	159%
12 00 PM			-8%	-8%	-4%	-4%	64%	64%	68%	68%	-8%	-8%	-4%	-4%	171%	171%	175%	175%	135%	135%	139%	139%	171%	171%	175%	175%
1:00 PM			-11%	-11%	-6%	-6%	84%	84%	89%	89%	-11%	-11%	-6%	-6%	226%	226%	231%	231%	179%	179%	184%	184%	226%	226%	231%	231%
2:00 PM			-12%	-12%	-6%	-6%	89%	89%	94%	94%	-12%	-12%	-6%	-6%	239%	239%	245%	245%	189%	189%	195%	195%	239%	239%	245%	245%
3:00 PM			-17%	-17%	-9%	-9%	143%	143%	151%	151%	-17%	-17%	-9%	-9%	383%	383%	391%	391%	303%	303%	311%	311%	383%	383%	391%	391%
4:00 PM			-12%	-12%	-2%	-2%	153%	153%	163%	163%	-12%	-12%	-2%	-2%	400%	400%	410%	410%	317%	317%	328%	328%	400%	400%	410%	410%
5:00 PM			-25%	-25%	-11%	-11%	257%	257%	271%	271%	-25%	-25%	-11%	-11%	681%	681%	695%	695%	540%	540%	554%	554%	681%	681%	695%	695%
6:00 PM			-18%	-18%	-8%	-8%	185%	185%	196%	196%	-18%	-18%	-8%	-8%	491%	491%	502%	502%	389%	389%	400%	400%	491%	491%	502%	502%

9. PROBABLE IMPACTS OF THE PROPOSED ACTIONS

Based upon these analyses, Alternative 2 was selected as the Preferred Build Alternative for the 68th Street/Hunter College Subway Station Improvements Project. The Preferred Alternative includes: widened northeast and southeast street stairs at East 68th Street, one new street stair at the north end of the downtown platform at East 69th Street, one new street stair at 931 Lexington Avenue for the uptown platform, and new uptown and downtown control areas for the new East 69th Street stairs. The two new street stairs would be located at the southwest corner of Lexington Avenue and East 69th Street and on the east side of Lexington Avenue approximately mid-block between East 68th Street and East 69th Street. This stair option was represented as Proposed Action #25 (W1 and E10).

This section describes the comparison between the No Build Alternatives Condition and the Preferred Build Alternative Condition for transit operations, pedestrian operations, traffic, and parking. The comparisons were made during three peak weekday periods including AM, midday, and PM and for the 2020 Proposed Action Year.

TRANSIT OPERATIONS

Significant Impact Definitions

NYCT has defined significant stairway impacts in terms of the width increment threshold (WIT). The WIT is used only to determine significant impact and is not the actual widening that would be required to mitigate a significant impact. For stairways, the WIT is calculated using the formulas provided in the CEQR Technical Manual if the With Action Condition v/c ratio is greater than 1.00. Significant impacts are typically considered to occur once the WIT levels for stairways have reached or exceeded the thresholds provided in the CEQR Technical Manual.

New York City Transit Operations Planning has established a guideline of 30 seconds for platform stairs to clear during crush conditions. The goal is to have a vertical circulation element clear the 80th percentile detraining surge (platooned group of pedestrians) within 30 seconds.

For regular turnstiles, HEETs, and HXTs, if the No Action Condition v/c ratio is less than 1.00 but the With Action Condition v/c ratio increases to 1.00 or greater, the impact is considered significant. If both the No Action and With Action condition v/c ratios are 1.00 or greater, a 0.01 change in v/c ratio is considered significant.

Impact Analysis

The impact analyses were conducted for the various elements within the existing R-246 control area. These included the four subway street stairs, four subway platform stairs, and turnstiles. All subway elements (stairs and turnstiles) proposed at East 69th Street are projected to operate at acceptable levels of service in 2020.

Subway Street Stairs

The 68th Street/Hunter College Subway Station Improvements Project would greatly enhance pedestrian flow throughout all of the subway elements in comparison to the No Build Alternative. All subway street stairs projected to operate at LOS F or worse in the No Build Alternative would be improved by the proposed action to a LOS C or better (Table 69).

Table 69
2020 Comparison of No Build and Preferred Build Alternative Conditions
Subway Street Stairs

Control Area	Stair ID	Location	No Build Alternative			Preferred Build Alternative			Width Increment Threshold	Impact?
			Volume	V/C Ratio	LOS	Volume	V/C Ratio	LOS		
AM Peak Period										
East 68th Street	S4	NE Corner	618	1.54	E	201	0.36	A		No
	S3	NW Corner	333	0.85	C	124	0.28	A		No
	O2/O4	SE Corner	727	1.65	F	727	0.76	C		No
	O1/O3	SW Corner	442	0.58	B	442	0.58	B		No
East 69th Street	New	Midblock	-	-	-	393	0.37	A		N/A
	New	SW Corner	-	-	-	232	0.25	A		N/A
Midday Peak Period										
East 68th Street	S4	NE Corner	187	0.44	A	63	0.10	A		No
	S3	NW Corner	79	0.18	A	29	0.06	A		No
	O2/O4	SE Corner	304	0.63	B	304	0.29	A		No
	O1/O3	SW Corner	155	0.21	A	155	0.21	A		No
East 69th Street	New	Midblock	-	-	-	84	0.08	A		N/A
	New	SW Corner	-	-	-	91	0.09	A		N/A
PM Peak Period										
East 68th Street	S4	NE Corner	496	1.06	D	186	0.28	A		No
	S3	NW Corner	210	0.45	A	75	0.16	A		No
	O2/O4	SE Corner	561	1.09	D	561	0.50	B		No
	O1/O3	SW Corner	255	0.33	A	255	0.33	A		No
East 69th Street	New	Midblock	-	-	-	148	0.14	A		N/A
	New	SW Corner	-	-	-	296	0.28	A		N/A

Subway Platform Stairs

The 68th Street/Hunter College Subway Station Improvements Project would also greatly enhance pedestrian flow at platform level in comparison to the No Build Alternative. All subway platform stairs projected to be improved by the proposed action to a LOS D or better (Table 70). All of the proposed platform stairs connected to the proposed fare control area at East 69th Street are projected to operate at LOS C or better during all time periods.

According to Table 71, the clearance times for the platform stairs are all projected to improve (significantly in many cases) in comparison to the No Build Alternative during all time periods throughout the day as a result of the Preferred Alternative. However, some platform stairs are still not projected to meet the New York City Transit platform clearance guideline of 30 seconds.

Table 70
2020 Comparison of No Build and Preferred Build Alternative Conditions
Subway Platform Stairs

Station	Stair ID	Location	No Build Alternative			Preferred Build Alternative			Width Increment Threshold	Impact?
			Volume	V/C Ratio	LOS	Volume	V/C Ratio	LOS		
68th Street / Hunter College (No. 6 Route)	**AM Peak Period**									
	P1	South S/B Platform	207	0.23	A	141	0.16	A		No
	P3	North S/B Platform	548	0.69	C	382	0.48	B		No
	P2	South N/B Platform	468	0.53	B	342	0.39	A		No
	P4	North N/B Platform	1012	1.20	D	743	0.88	C		No
	Midday Peak Period									
	P1	South S/B Platform	228	0.24	A	181	0.19	A		No
	P3	North S/B Platform	216	0.22	A	172	0.17	A		No
	P2	South N/B Platform	115	0.13	A	91	0.10	A		No
	P4	North N/B Platform	273	0.34	A	213	0.27	A		No
	PM Peak Period									
	P1	South S/B Platform	471	0.46	B	338	0.33	A		No
	P3	North S/B Platform	587	0.60	B	424	0.43	A		No
	P2	South N/B Platform	266	0.29	A	204	0.23	A		No
	P4	North N/B Platform	387	0.45	A/B	300	0.35	A		No

Table 71
2020 Comparison of No Build and Preferred Build Alternative Conditions
Platform Stairs Clearance Times (Seconds)

Station	Stair ID	Station Element	Location	No Build Alternative	Preferred Build Alternative
68th Street / Hunter College (No. 6 Route)	**AM Peak Period**				
	P1	Stairway	South S/B Platform	15	12
	P3	Stairway	North S/B Platform	82	48
	P2	Stairway	South N/B Platform	53	40
	P4	Stairway	North N/B Platform	121	88
		Stairway	S/B E 69th Street	-	25
		Stairway	N/B E 69th Street	-	46
	Midday Peak Period				
	P1	Stairway	South S/B Platform	13	11
	P3	Stairway	North S/B Platform	3	2
	P2	Stairway	South N/B Platform	12	9
	P4	Stairway	North N/B Platform	33	26
		Stairway	S/B E 69th Street	-	3
		Stairway	N/B E 69th Street	-	9
	PM Peak Period				
	P1	Stairway	South S/B Platform	4	2
	P3	Stairway	North S/B Platform	9	6
	P2	Stairway	South N/B Platform	20	16
	P4	Stairway	North N/B Platform	34	28
		Stairway	S/B E 69th Street	-	2
		Stairway	N/B E 69th Street	-	8

Turnstiles

According to Table 72, the turnstiles in control area R-246 are projected to operate at LOS A as a result of the Preferred Alternative during the weekday AM, midday, and PM peak periods. The new proposed control areas at East 69th Street are also projected to operate at LOS A during the weekday AM, midday, and PM peak periods.

Table 72
2020 Comparison of No Build and Preferred Build Alternative Conditions
Turnstiles

Station	Station Element	Quantity	No Build Alternative			Preferred Build Alternative			Impact ?
			Volume	v/c Ratio	LOS	Volume	v/c Ratio	LOS	
68th Street / Hunter College (No. 6 Route)	**AM Peak Period**								
	Turnstile	14	2234	0.48	B	1609	0.34	A	No
	Midday Peak Period								
	Turnstile	14	831	0.18	A	657	0.14	A	No
	PM Peak Period								
	Turnstile	14	1711	0.36	A	1267	0.27	A	No

PEDESTRIAN OPERATIONS

Significant Impact Definitions

The CEQR Technical Manual provides guidance on the impact criteria for pedestrian facilities based on the general comfort and convenience levels of pedestrians, according to the location of the study area. Pedestrians in central business district (CBD) areas have become accustomed to higher pedestrian volumes and generally are more tolerant of restricted LOS conditions that might not be acceptable in other less congested (non-CBD) locations. An acceptable LOS for CBD areas is generally a mid-LOS D or better while an acceptable LOS for non-CBD areas is generally the upper limit of LOS C or better.

For corners and crosswalks in non-CBD areas, the average pedestrian space that is considered acceptable ranges from LOS A to LOS C. If the pedestrian space deteriorates to mid-LOS D or worse (less than 24.0 feet^2/pedestrian), significant impacts are determined based on a sliding scale, as follows:

- If the average pedestrian space under the No Action Condition is greater than 26.6 feet^2/pedestrian, then a decrease to 24.0 feet^2/pedestrian or less under the With Action Condition is considered a significant impact.

- If the average pedestrian space under the No Action Condition is between 5.1 and 26.6 feet^2/pedestrian, a decrease in space under the With Action Condition should be considered significant if it is greater than or equal to ((No Action pedestrian space feet^2/pedestrian / 9.0) – 0.3. The With Action Condition increments are provided in Table 16-12 in the CEQR Technical Manual.

- If the average pedestrian space under the No Action Condition is less than 5.1 feet^2/pedestrian, then a decrease in pedestrian space greater than or equal to 0.2 ft^2/p under the With Action Condition is considered a significant impact.

For sidewalks in non-CBD areas, the average pedestrian flow rate that is considered acceptable ranges from LOS A to mid-LOS D and measured in pedestrians per minute per foot (PMF). If the pedestrian flow rate deteriorates to mid-LOS D or worse (greater than 12.5 PMF for non-platoon flow and greater than 8.5 (PMF for platoon flow), significant impacts are determined based on a sliding scale, as follows:

- Non-platoon flow
  - If the average pedestrian flow rate under the No Action Condition is less than 7.5 PMF, then an increase to greater than 10.0 PMF under the With Action Condition is considered a significant impact.
  - If the average pedestrian flow rate under the No Action Condition is between 7.5 and 23.0 PMF, then an increase in average pedestrian flow rate under the With Action Condition should be considered significant if it is greater than or equal to (3.53 – (No Action pedestrian flow rate in PMF / 8.0)). The With Action Condition increments are provided in Table 16-15 in the CEQR Technical Manual.
  - If the average pedestrian flow rate under the No Action Condition is greater than 23.0 PMF, then an increase in pedestrian flow rate greater than or equal to 0.6 PMF is considered a significant impact.
- Platoon flow
  - If the average pedestrian flow rate under the No Action Condition is less than 3.5 PMF, then an increase to greater than 6.0 PMF under the With Action Condition is considered a significant impact.
  - If the average pedestrian flow rate under the No Action Condition is between 3.5 and 19.0 PMF, then an increase in average pedestrian flow rate under the With Action Condition should be considered significant if it is greater than or equal to (3.03 – (No Action pedestrian flow rate in PMF / 8.0)). The With Action Condition increments are provided in Table 16-17 in the CEQR Technical Manual.
  - If the average pedestrian flow rate under the No Action Condition is greater than 19.0 PMF, then an increase in pedestrian flow rate greater than or equal to 0.6 PMF is considered a significant impact.

Crosswalks

Because pedestrian flows are anticipated to shift from the street subway stairs at East 68th Street to East 69th Street with the implementation of the Preferred Build Alternative, some crosswalk pedestrian flows at the Lexington Avenue and East 69th Street intersection are projected to increase as a result. As part of the Preferred Build Alternative, two crosswalks at the Lexington Avenue at East 69th Street intersection would be widened. The width of the west crosswalk would be widened by 1.5 feet to 14 feet and the width of the south crosswalk would be widened by one foot to 14 feet. The crosswalk analysis results for the 2020 Preferred Build Alternative were compared with the 2020 No Build Alternative for the AM, midday, and PM peak periods (Table 73), and the results show that the crosswalks are not projected to be affected by the 2020 Preferred Build Alternative.

Table 73
2020 Comparison of No Build and Preferred Build Alternative Conditions
Crosswalks

Intersection	Crosswalk	2020 No Build Alternative		2020 Preferred Build Alternative		Impact?
		Circulation Area Per Pedestrian (ft^2/p)	LOS	Circulation Area Per Pedestrian (ft^2/p)	LOS	
AM Peak Period						
Lexington Avenue at East 68th Street	North	42	B	42	B	No
	South	34	C	31	C	No
	East	111	A	92	A	No
	West	57	B	54	B	No
Lexington Avenue at East 69th Street	North	124	A	62	A	No
	South	66	A	31	C	No
	East	25	C	23	D	No
	West	46	B	62	A	No
Midday Peak Period						
Lexington Avenue at East 68th Street	North	82	A	82	A	No
	South	38	C	37	C	No
	East	57	B	56	B	No
	West	57	B	57	B	No
Lexington Avenue at East 69th Street	North	171	A	129	A	No
	South	58	B	48	B	No
	East	45	B	63	A	No
	West	40	B	46	B	No
PM Peak Period						
Lexington Avenue at East 68th Street	North	116	A	116	A	No
	South	60	A	58	B	No
	East	61	A	59	B	No
	West	29	C	29	C	No
Lexington Avenue at East 69th Street	North	223	A	82	A	No
	South	103	A	41	B	No
	East	34	C	47	B	No
	West	15	D	16	D	No

Corners

The corner analysis results for the Preferred Build Alternatives were compared with the No Build Alternative for the AM, midday, and PM peak periods in 2020 (Table 74). No corner locations at either intersection are projected to be affected by the 2020 Preferred Build Alternative.

Table 74
2020 Comparison of No Build and Preferred Build Alternative Conditions
Corners

Intersection	Corner	2020 No Build Alternative		2020 Preferred Build Alternative		Impact?
		Circulation Area Per Pedestrian (ft^2/p)	LOS	Circulation Area Per Pedestrian (ft^2/p)	LOS	
AM Peak Period						
Lexington Avenue at East 68th Street	Northeast	38	C	80	A	No
	Northwest	24	C	32	C	No
	Southeast	68	A	61	A	No
	Southwest	51	B	48	B	No
Lexington Avenue at East 69th Street	Northeast	62	A	51	B	No
	Northwest	94	A	82	A	No
	Southeast	72	A	64	A	No
	Southwest	95	A	105	A	No
Midday Peak Period						
Lexington Avenue at East 68th Street	Northeast	73	A	112	A	No
	Northwest	38	C	42	B	No
	Southeast	61	A	60	A	No
	Southwest	50	B	50	B	No
Lexington Avenue at East 69th Street	Northeast	100	A	117	A	No
	Northwest	88	A	84	A	No
	Southeast	134	A	146	A	No
	Southwest	93	A	123	A	No
PM Peak Period						
Lexington Avenue at East 68th Street	Northeast	45	B	93	A	No
	Northwest	23	D	28	C	No
	Southeast	76	A	73	A	No
	Southwest	45	B	44	B	No
Lexington Avenue at East 69th Street	Northeast	82	A	81	A	No
	Northwest	45	B	37	C	No
	Southeast	106	A	104	A	No
	Southwest	59	B	67	A	No

Sidewalks

The sidewalk analysis results for the Preferred Build Alternative were compared with the No Build Alternative for the AM, midday, and PM peak periods in 2020 (Table 75). None of the sidewalk locations at either intersection are projected to be affected by the 2020 Preferred Build Alternative in either platoon or non-platoon conditions.

Table 75
2020 Comparison of No Build and Preferred Build Alternative Conditions
Sidewalks

Intersection	Approach	Sidewalk	2020 No Build Alternative					2020 Preferred Build Alternative					Impact?
			Effective Width (ft)	Peak 15-Min Volumes	Flow Rate (pfm)	Non-Platoon LOS	Platoon LOS	Effective Width (ft)	Peak 15-Min Volumes	Flow Rate (pfm)	Non-Platoon LOS	Platoon LOS	
AM Peak Period													
E 68th Street & Lexington Avenue	Lexington Avenue South of E 68th Street	East	5 3	232	2.90	A	B	5 3	238	2.98	A	B	No
		West	6.0	285	3.16	A	C	6.0	311	3.46	A	C	No
	Lexington Avenue North of E 68th Street	East	9.0	642	4.75	A	C	9.0	378	2.80	A	B	No
		West	5 5	322	3.90	A	C	5 5	189	2.29	A	B	No
	E 68th Street West of Lexington Ave	North	7.7	156	1.36	A	B	7.7	90	0.79	A	B	No
		South	7.0	241	2.30	A	B	7.0	241	2.30	A	B	No
	E 68th Street East of Lexington Ave	North	8.7	342	2.63	A	B	8.7	213	1.64	A	B	No
		South	10.6	329	2.07	A	B	10.6	329	2.07	A	B	No
E 69th Street & Lexington Avenue	Lexington Avenue South of E 69th Street	East	10.5	596	3.78	A	C	10.5	561	3.56	A	C	No
		West	8 1	370	3.05	A	C	8 1	190	1.57	A	B	No
	Lexington Avenue North of E 69th Street	East	7.0	493	4.70	A	C	7.0	450	4.29	A	C	No
		West	5 3	357	4.46	A	C	5 3	283	3.54	A	C	No
	E 69th Street West of Lexington Ave	North	7.0	38	0.36	A	A	7.0	58	0.55	A	B	No
		South	14.3	78	0.36	A	A	7.4	116	1.04	A	B	No
	E 69th Street East of Lexington Ave	North	8.0	57	0.48	A	A	8.0	152	1.27	A	B	No
		South	8.0	309	2.58	A	B	8.0	268	2.23	A	B	No
Midday Peak Period													
E 68th Street & Lexington Avenue	Lexington Avenue South of E 68th Street	East	5 3	183	2.29	A	B	5 3	187	2.34	A	B	No
		West	6.0	171	1.90	A	B	6.0	174	1.93	A	B	No
	Lexington Avenue North of E 68th Street	East	9.0	198	1.47	A	B	9.0	118	0.88	A	B	No
		West	5 5	247	2.99	A	B	5 5	211	2.56	A	B	No
	E 68th Street West of Lexington Ave	North	7.7	205	1.78	A	B	7.7	191	1.66	A	B	No
		South	7.0	244	2.32	A	B	7.0	244	2.32	A	B	No
	E 68th Street East of Lexington Ave	North	8.7	130	1.00	A	B	8.7	91	0.70	A	B	No
		South	10.6	75	0.47	A	A	10.6	75	0.47	A	A	No
E 69th Street & Lexington Avenue	Lexington Avenue South of E 69th Street	East	10.5	267	1.70	A	B	10.5	193	1.23	A	B	No
		West	8 1	273	2.25	A	B	8 1	214	1.76	A	B	No
	Lexington Avenue North of E 69th Street	East	7.0	242	2.30	A	B	7.0	172	1.64	A	B	No
		West	5 3	254	3.18	A	C	5 3	244	3.05	A	C	No
	E 69th Street West of Lexington Ave	North	7.0	82	0.78	A	B	7.0	82	0.78	A	B	No
		South	14.3	117	0.54	A	B	7.4	126	1.13	A	B	No
	E 69th Street East of Lexington Ave	North	8.0	37	0.31	A	A	8.0	53	0.44	A	A	No
		South	8.0	137	1.14	A	B	8.0	143	1.19	A	B	No
PM Peak Period													
E 68th Street & Lexington Avenue	Lexington Avenue South of E 68th Street	East	5 3	197	2.46	A	B	5 3	200	2.50	A	B	No
		West	6.0	228	2.54	A	B	6.0	233	2.59	A	B	No
	Lexington Avenue North of E 68th Street	East	9.0	451	3.34	A	C	9.0	300	2.22	A	B	No
		West	5 5	577	7.00	B	D	5 5	487	5.90	B	C	No
	E 68th Street West of Lexington Ave	North	7.7	149	1.29	A	B	7.7	106	0.92	A	B	No
		South	7.0	458	4.36	A	C	7.0	458	4.36	A	C	No
	E 68th Street East of Lexington Ave	North	8.7	352	2.71	A	B	8.7	201	1.55	A	B	No
		South	10.6	288	1.82	A	B	10.6	288	1.82	A	B	No
E 69th Street & Lexington Avenue	Lexington Avenue South of E 69th Street	East	10.5	557	3.54	A	C	10.5	434	2.76	A	B	No
		West	8 1	616	5.08	B	C	8 1	500	4.12	A	C	No
	Lexington Avenue North of E 69th Street	East	7.0	377	3.59	A	C	7.0	304	2.90	A	B	No
		West	5 3	554	6.93	B	D	5 3	540	6.75	B	D	No
	E 69th Street West of Lexington Ave	North	7.0	66	0.63	A	B	7.0	74	0.70	A	B	No
		South	14.3	105	0.49	A	A	7.4	131	1.18	A	B	No
	E 69th Street East of Lexington Ave	North	8.0	94	0.78	A	B	8.0	140	1.17	A	B	No
		South	8.0	182	1.52	A	B	8.0	215	1.79	A	B	No

TRAFFIC

Significant Impact Definitions

A comparison of traffic conditions in the future with and without the Proposed Action is the basis upon which potentially significant traffic impacts are determined. The definition of significant traffic impacts used in the traffic analyses are those contained in the CEQR Technical Manual for signalized intersections.

For signalized intersections, increases in lane group delays of five seconds or more beyond the No Build Alternative conditions at LOS D, four seconds or more beyond the No Build Alternative conditions at LOS E, three seconds or more beyond the No Build Alternative conditions at LOS F (less than 120 seconds of delay), or one second or more beyond the No Build Alternative conditions at LOS F (at or exceeding 120 seconds of delay) are considered significant and require mitigation. Also, should a level of service deteriorate from acceptable LOS A, B, or C (No Build Alternative conditions) to marginally unacceptable mid-LOS D or unacceptable LOS E or F (No Build Alternative conditions), such changes are also considered significant (unless the Proposed Action generates fewer than five vehicles through the entire intersection).

Impact Analysis

To determine the presence of potential significant traffic impacts resulting from the operations of the Proposed Action, the 2020 No Build Alternative conditions LOS results for the critical intersections within the study area were compared with the 2020 Preferred Build Alternative results. This comparison was performed for the weekday AM, midday, and PM peak hours for the critical intersection. The results of the comparison are summarized in Table 77. Using the intersection impact criteria identified in the CEQR Technical Manual, the individual traffic movements for the critical intersections were examined to determine if there would be any significant impacts. Based upon the criteria, the critical intersection is not projected to be impacted by the 2020 Preferred Build Alternative.

Table 77
2020 Comparison of No Build and Preferred Build Alternative Conditions
Lexington Avenue at East 69th Street

Int.	Weekday AM Peak Hour								
	2020 No Build Alternative				2020 Preferred Build Alternative				Impact?
	Ln Grp	v/c Ratio	Delay (sec.)	LOS	Ln Grp	v/c Ratio	Delay (sec.)	LOS	
Lexington Avenue at East 69th Street									
WB	LT	0.51	24.3	C	LT	0.52	24.7	C	No
SB	TR	0.58	17.1	B	TR	0.58	17.1	B	No
Overall			18.4	B			18.5	B	
Int.	**Midday Peak Hour**								
	2020 No Build Conditions				2020 Preferred Build Alternative				Impact?
	Ln Grp	v/c Ratio	Delay (sec.)	LOS	Ln Grp	v/c Ratio	Delay (sec.)	LOS	
Lexington Avenue at East 69th Street									
WB	LT	0.41	22.2	C	LT	0.40	22.0	C	No
SB	TR	0.42	14.9	B	TR	0.41	14.8	B	No
Overall			16.4	B			16.3	B	
Int.	**PM Peak Hour**								
	2020 No Build Conditions				2020 Preferred Build Alternative				Impact?
	Ln Grp	v/c Ratio	Delay (sec.)	LOS	Ln Grp	v/c Ratio	Delay (sec.)	LOS	
Lexington Avenue at East 69th Street									
WB	LT	0.46	23.1	C	LT	0.48	23.5	C	No
SB	TR	0.59	17.2	B	TR	0.59	17.2	B	No
Overall			18.2	B			18.3	B	

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level Of Service; Sec = Seconds; "+" implies a significant adverse impact

PARKING

On-street parking in the study area was analyzed for the three peak periods. The Preferred Build Alternative would remove 3 parking spaces on the south side of East 69th Street to the west of Lexington Avenue due to the proposed bulb-out to accommodate the new street subway stair. Since the number of occupied spaces is projected to increase by only one vehicle as a result of the background growth rate and the on-street parking capacity is still greater than the project number of occupied spaces, it was concluded that there is sufficient on-street parking capacity to accommodate the projected demand through 2020 during all three peak weekday periods. Table 78 shows the capacity of on-street parking spaces under the worst-case build scenario. Table 79 shows the percentages of occupied spaces during all three weekday peak periods.

Table 78
2020 Preferred Build Alternative: On-Street Parking Capacity
Lexington Avenue at East 69th Street

Time Period	Parking Space Capacity								
	Lexington Avenue (between E 69th and E 70th Streets)		**Lexington Avenue** (between E 68th and E 69th Streets)		**East 69th Street** (west of Lexington Avenue)		**East 69th Street** (east of Lexington Avenue)		
	East	**West**	**East**	**West**	**North**	**South**	**North**	**South**	**Total**
AM	9	0	9	0	0	0	6	5	29
Midday	9	5	9	6	0	0	6	5	40
PM	9	5	9	6	0	0	6	5	40

Table 79
2020 Preferred Build Alternative: On-Street Parking Spaces Occupied
Lexington Avenue at East 69th Street

Time Period	Capacity	Occupied Spaces	Percent Spaces Occupied
AM	29	21	72%
Midday	40	37	93%
PM	40	34	85%