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

Environmental Assessment
Volume II: Appendices

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LEAD FEDERAL AGENCY:
Federal Transit Administration

SPONSORING AGENCY:
Metropolitan Transportation Authority/New York City Transit

February 2016

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Draft Environmental Assessment

Appendix A
Draft Preliminary Alternatives Screening

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1.0 INTRODUCTION

As described in Chapter 2 of this environmental assessment, "Project Alternatives," the Metropolitan Transportation Authority New York City Transit (MTA/NYCT) has developed alternatives to the No Build Alternative. This appendix describes the preliminary design alternatives and options that were evaluated for their ability to meet the purpose and need and the goals and objectives described in Chapter 1 of this environmental assessment (EA).

The following sections describe the background of the project, the evolution of different alternatives, public outreach and input, and a description and evaluation of alternatives. The evaluation concludes with the identification of the Proposed Project and one additional alternative that are evaluated in the EA.

Four options for locating the street elevator were evaluated. Additionally, six preliminary design options, one of which is comprised of 24 different locations for new subway entrances, were also evaluated. Of these six Preliminary Design Alternatives (as listed on page A-4), five were eliminated from further study in the EA, while one alternative, with two variations, has been advanced for further analysis as the Proposed Project and a viable alternative. This appendix provides a summary of the evaluation process and why alternatives were eliminated.

2.0 BACKGROUND

MTA/NYCT has designated the 68th Street/Hunter College Station as one of the 100 Key Stations to become ADA compliant by 2020. During the early stages of design to bring the station to ADA compliance, MTA/NYCT investigated the conditions of the station and determined that it was characterized by several circulation deficiencies that would be exacerbated with projected increase in ridership (and that would not be alleviated after an expected diversion of riders away from the station due to the opening phase of the Second Avenue Subway). The circulation problems, if not addressed, would also affect the accessibility of the station from an ADA perspective because congestion in the station would hinder the movement of mobility-impaired passengers traveling between platform and street elevators.

MTA/NYCT undertook a conceptual design effort to provide both ADA compliance and to address the circulation deficiencies at the existing station. This resulted in the development of the 68th Street Mezzanine Expansion Alternative (Alternative 1). This Alternative would include one street elevator (connecting the mezzanine level to the street level) and two platform elevators (connecting the platform level to the mezzanine level) at the existing mezzanine location at East 68th Street, capacity improvements to existing street stairs at East 68th Street and Lexington Avenue, and additional stairs between platforms and the mezzanine below East 68th Street.

Subsequently, more detailed investigations by MTA/NYCT indicated that structural components of this alternative would interfere with communications infrastructure that is enclosed in Empire City Subway (ECS) duct banks, and would require underpinning of historic structures located adjacent to the station along both sides of Lexington Avenue between East 68th Street and East 69th Street (Thomas Hunter Hall and Imperial House Apartments). MTA/NYCT determined that the unanticipated construction complexity of this design would result in a substantial increase in the projected construction cost, construction schedule, construction risk and constructed-related environmental and community impacts.

MTA/NYCT therefore developed a new design to address these concerns: the Northern Access Alternative (Alternative 2).[1] This alternative is identical to Alternative 1 with regard to the location

[1] MTA Conceptual Design Report, September 2010.

of the street elevator at East 68th Street, but differs with regard to the platform elevators and street and platform stairs.

Alternative 2 (also identified as the Northern Access Alternative) would construct new platform stairs and street stairs towards the north end of the existing platforms under East 69th Street instead of new additional platforms stairs adjacent to the existing platform stairs under East 68th Street. By avoiding construction of platforms stairs adjacent to the existing stairs under East 68th Street, the construction-related concerns associated with Alternative 1 were substantially reduced when compared with Alternative 2. In addition, Alternative 2 was found to have several performance and environmental benefits over Alternative 1.

Between 2011 and 2012, MTA/NYCT met with members of the community to solicit feedback on its proposed design (Alternative 2). During these meetings and in correspondence, members of the community requested that MTA/NYCT explore two additional alternatives: providing new platform stairs and street stairs at East 67th Street and Lexington Avenue (Alternative 3) and/or new platform stairs and street stairs at East 70th Street and Lexington Avenue (Alternative 4). In response, MTA/NYCT developed preliminary concepts for Alternatives 3 and 4 and evaluated whether they would meet the project purpose and need and its goals and objectives. The evaluation indicated that while both Alternative 3 and Alternative 4 would meet the project purpose and need (i.e., would reduce congestion and result in ADA compliance), they would not meet the goals and objectives (i.e., achieve the project purpose with the fewest impacts while being fiscally responsible). Alternatives 3 and 4 would result in construction issues similar to those associated with Alternative 1. In addition, Alternatives 3 and 4 would both require extension of the station cavity and platform to the south (Alternative 3) or north (Alternative 4). This would increase construction disturbance, construction impacts and substantially increase construction cost.

In the fall of 2012, the 69th Street Block Association proposed a fifth alternative[2] (Alternative 5) and MTA/NYCT met with the 69th Street Block Association to discuss this alternative.[3] Alternative 5 would create emergency egress at East 69th Street in the form of hatches in the southern sidewalks of East 69th Street east and west of Lexington Avenue. Alternative 5 would not provide permanent entrances at or near East 69th Street such as proposed under Alternative 2. Instead, Alternative 5 would construct a temporary street stair at the southwest corner of East 69th Street and Lexington Avenue. This temporary street stair would provide temporary station access capacity while the access stairs at East 68th Street are closed for rehabilitation and reconfiguring and during construction of the ADA elevator at East 68th Street. The temporary street stair at East 69th Street would be removed and the site restored after completion of construction at East 68th Street. Alternative 5 was evaluated by MTA/NYCT with regard to the project purpose and need. Although Alternative 5 would provide ADA access, the evaluation concluded that Alternative 5 would not meet the project purpose and need as it would not provide adequate circulation improvement.

MTA/NYCT met with the representatives of 69th Street Block Association again on April 16, 2013 and discussed another option (Alternative 6), which had been given to MTA/NYCT in February 2013 by the Block Association. This option called for improvements to certain stairs leading to the street at 68th Street and provided suggestions on the construction phasing for the mezzanine and platform levels, but did not include additional platform stair capacity. As

[2] MTA/NYCT 68th Street/Hunter College Station ADA Accessibility Project Alternative Solution Report. Prepared for the 69th Street Block Association by TranSystems Architect and Engineer, PC. October 11, 2012.

[3] Meeting between NYCT and the 69th Street Block Association, December 6, 2012.

described in an April 16, 2013 MTA NYCT memorandum to the 69th Street Block Association, and as discussed at the April 16 meeting, this option fails to meet the goals and objectives of the project since additional platform stair capacity is not included. After the meeting and at the Block Association's request, MTA/NYCT also provided the Block Association with worksheets – one each for AM, Midday and PM – detailing Level of Service (LOS) ratings and clearance times for the following scenarios: 1) existing conditions; 2) 2020 No Build with Second Avenue Subway; 3) 2020 Build with Alternative 2 and Second Avenue Subway; 4) 2020 with capacity improvements to 68th Street as per the Alternative 2 but with no additional platform stair capacity and no entrances at 69th Street. These worksheets demonstrated the lack of improvement under Alternative 6. This alternative was not considered further.

During the development of alternatives, MTA/NYCT explored options for the location of the ADA-compliant street elevator. An ADA-compliant street elevator location at East 68th Street was determined the best location as it would position the street elevator in the immediate vicinity of the control area at the station's mezzanine, provide access to the platform elevator on the east side of the mezzanine, which would provide ADA-compliant access to the northbound platform, and would provide access to the platform elevator on the west side of the mezzanine, which would provide ADA-compliant access to the southbound platform. The ADA-compliant platform elevators were determined to be most optimally located such that they would lead to the existing mezzanine. Street elevator options were considered for all four corners of the intersection of East 68th Street and Lexington Avenue. In consideration of the project purpose and need and goals and objectives, MTA/NYCT identified the southeast corner as the optimal location for the proposed ADA-compliant street elevator. The selection process for this option is described in Section 4.1 of this appendix.

As part of the development of Alternative 2, MTA/NYCT explored different options for the location of street entrances at the north end of the station. Options included stair locations on the north and south sidewalks of East 69th Street both east and west of Lexington Avenue, and on the east and west sidewalks of Lexington Avenue both north and south of East 69th Street.

As a result of the evaluation of these options (as discussed below), a configuration of new entrances – one for each platform – was initially identified that best met the goals and objectives of the proposed project. For the southbound platform, this configuration would consist of a new, small mezzanine under East 69th Street, identified as Option W1. This mezzanine would connect to the street via a new street stair on the south sidewalk of East 69th Street west of Lexington Avenue; a new platform stair would connect the mezzanine to the southbound platform. For the northbound platform, this configuration, identified as Option E1, would consist of a new platform stair connecting to a new, small mezzanine under East 69th Street and a connecting street stair on the south sidewalk of East 69th Street east of Lexington Avenue.

This set of street stair options was presented by MTA/NYCT to the community and other interested parties during several meetings conducted to solicit feedback. Some members of the community requested that MTA/NYCT explore locating a street-level entrance within one of the retail spaces on the ground floor of the Imperial House Apartments, a building that occupies the entire block encompassed by Third Avenue, Lexington Avenue, East 68th Street, and East 69th Street, with ground-floor retail fronting Lexington Avenue between the two streets. In an effort to be responsive to community concerns, MTA/NYCT entered into discussions with representatives of the Imperial House Apartments. During these discussions, MTA/NYCT was presented with the possible opportunity for locating a street stair in a retail space in the building. This space, located at 931 Lexington Avenue, approximately midway between East 68th Street and East 69th Street, was identified as a viable stair option and MTA/NYCT subsequently incorporated this possible location as Option E10 into the mix of Alternative 2 – Northern Access stair options.

In consideration of community concerns, the project purpose and need, and project goals and objectives (described in detail below), MTA/NYCT then re-evaluated the various Alternative 2 – Northern Access street stair options. As a result, MTA/NYCT identified the retail space at 931 Lexington Avenue (Option E10) as the preferred location for street access to the northbound platform, and maintained Option W1 on the southwest corner of East 69th Street at Lexington Avenue as the preferred location for street access to the southbound platform. These street stair locations are preferred because they result in fewer environmental impacts, have fewer conflicts with surrounding land uses, are more responsive to community concerns, and/or would be less expensive to construct. Therefore, Alternative 2, now comprising these preferred stair locations (Option E10 and Option W1), is being advanced as the Proposed Project. A summary of the evaluation is presented in Table S-1 of the EA, with additional detail provided in below.

MTA/NYCT is also evaluating in the EA the option of a new entrance serving the northbound platform on the southeast corner of East 69th Street and Lexington Avenue (Option E1). Option E1 satisfactorily meets the project's goals and objectives, and does so better than all other northbound platform (east side) options except for the Proposed Project. The EA will thus evaluate both the Proposed Project, consisting of northern street stair options E10 and W1, as well as the Proposed Project with Option E1, consisting of northern street stair options E1 and W1. Other than the different locations for new street stairs for the northbound platform (Options E10 vs. E1), these two alternatives comprise the exact same components.

In summary, the four preliminary alternatives (Alternatives 1 – 4) that satisfied the project purpose and need were evaluated and screened for their ability to satisfy the project goals and objectives. Alternative 2 best satisfied the project purpose and need, and project goals and objectives and was advanced. Twenty-four options for new street entrances were evaluated under Alternative 2 for their ability to satisfy the project goals and objectives. Based on this evaluation, three of these 24 options, one for the southbound platform and two options for the northbound platform, are being advanced. The EA will thus evaluate both the Proposed Project, consisting of northern street stair options E10 and W1, as well as a viable alternative – the Proposed Project with Option E1 – consisting of northern street stair options E1 and W1.

3.0 ALTERNATIVES SCREENING

The following preliminary alternatives and options were evaluated by MTA/NYCT with regard to the project purpose and need and goals and objectives described in Chapter 1 – Purpose and Need of the EA. The preliminary alternatives, along with the No Build Alternative, are illustrated on the following pages. Figure A-1 illustrates the No Build Alternative and Alternative 1; Figure A-2 illustrates Alternative 2 and Alternative 2 with Option E1; and Figure A-3 illustrates Alternative 3 and Alternative 4. Because Alternative 5 and Alternative 6 failed to meet the purpose and need for the Proposed Project, no graphic depicting the alternative was developed. The following alternatives and options were considered.

PRELIMINARY ALTERNATIVES:

Alternative 1 – 68th Street Mezzanine Expansion Alternative (Figure A-1)

Alternative 2 – Northern Access Alternative (Figure A-2)

Alternative 2 – Northern Access Alternative, Option E1 (Figure A-2)

Alternative 3 – 67th Street Access Alternative (Figure A-3)

Alternative 4 – 70th Street Access Alternative (Figure A-3)

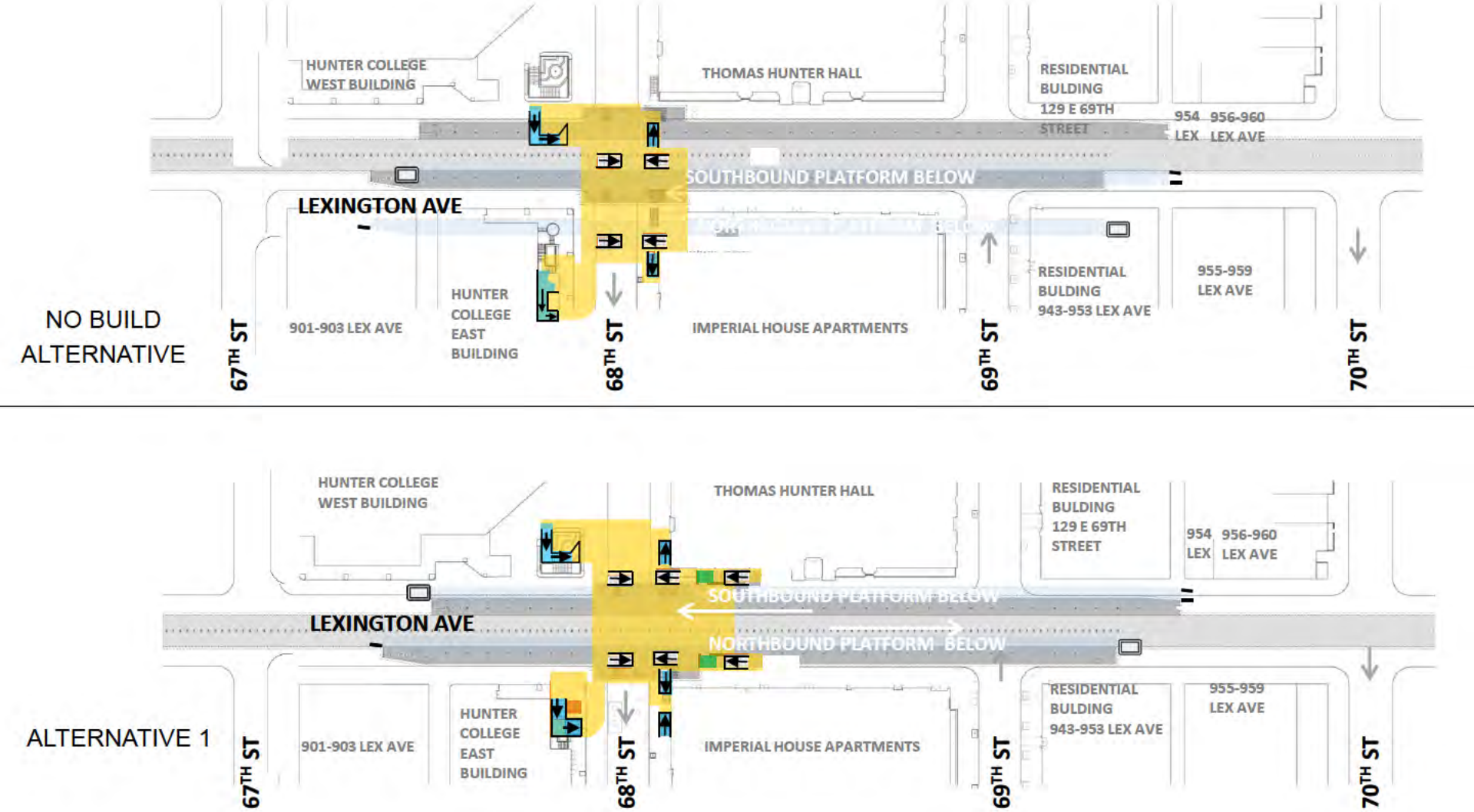
Alternative 5 – 69th Street Emergency Access Alternative

Alternative 6 – 68th Street Access Alternative

OPTIONS:

ADA-compliant Street Elevator Options (4 options, all at the intersection of East 68th Street and Lexington Avenue).

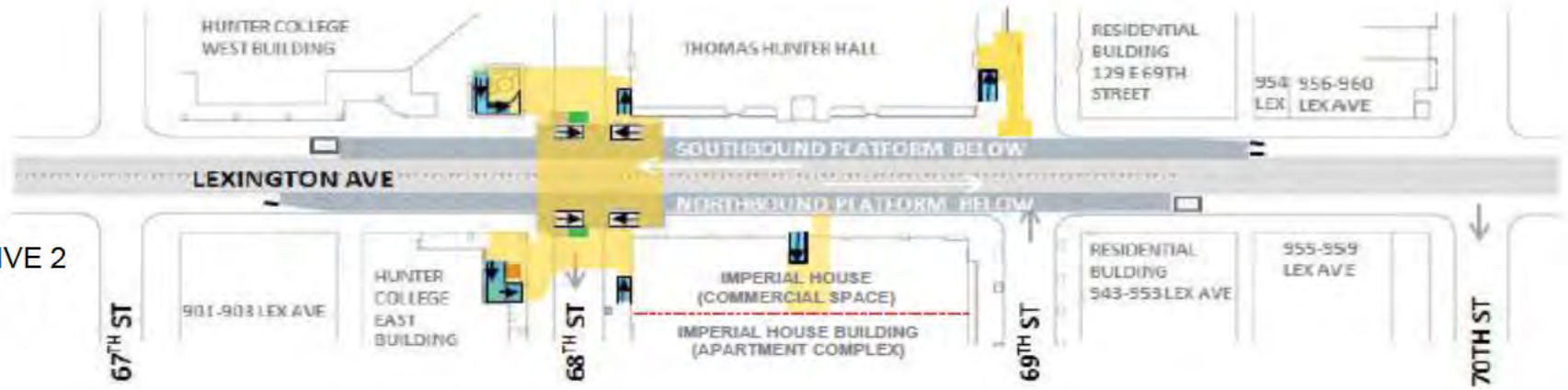
Station Entrance Options at or near East 69th Street for Alternative 2 (24 configurations).



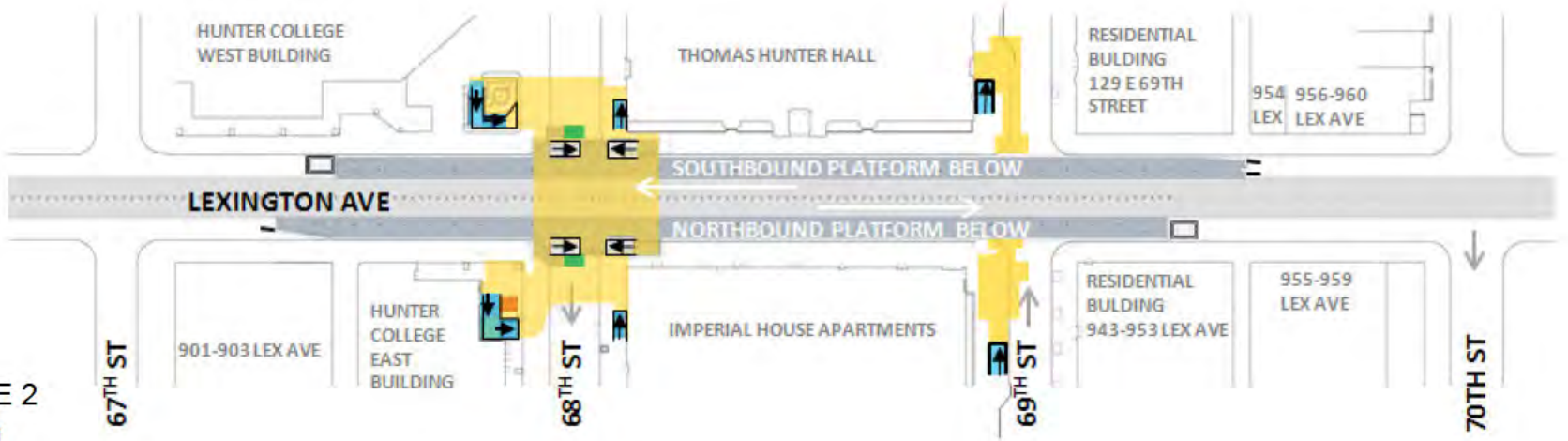
No Build and Alternative 1

Figure A-1

ALTERNATIVE 2



ALTERNATIVE 2
OPTION E1



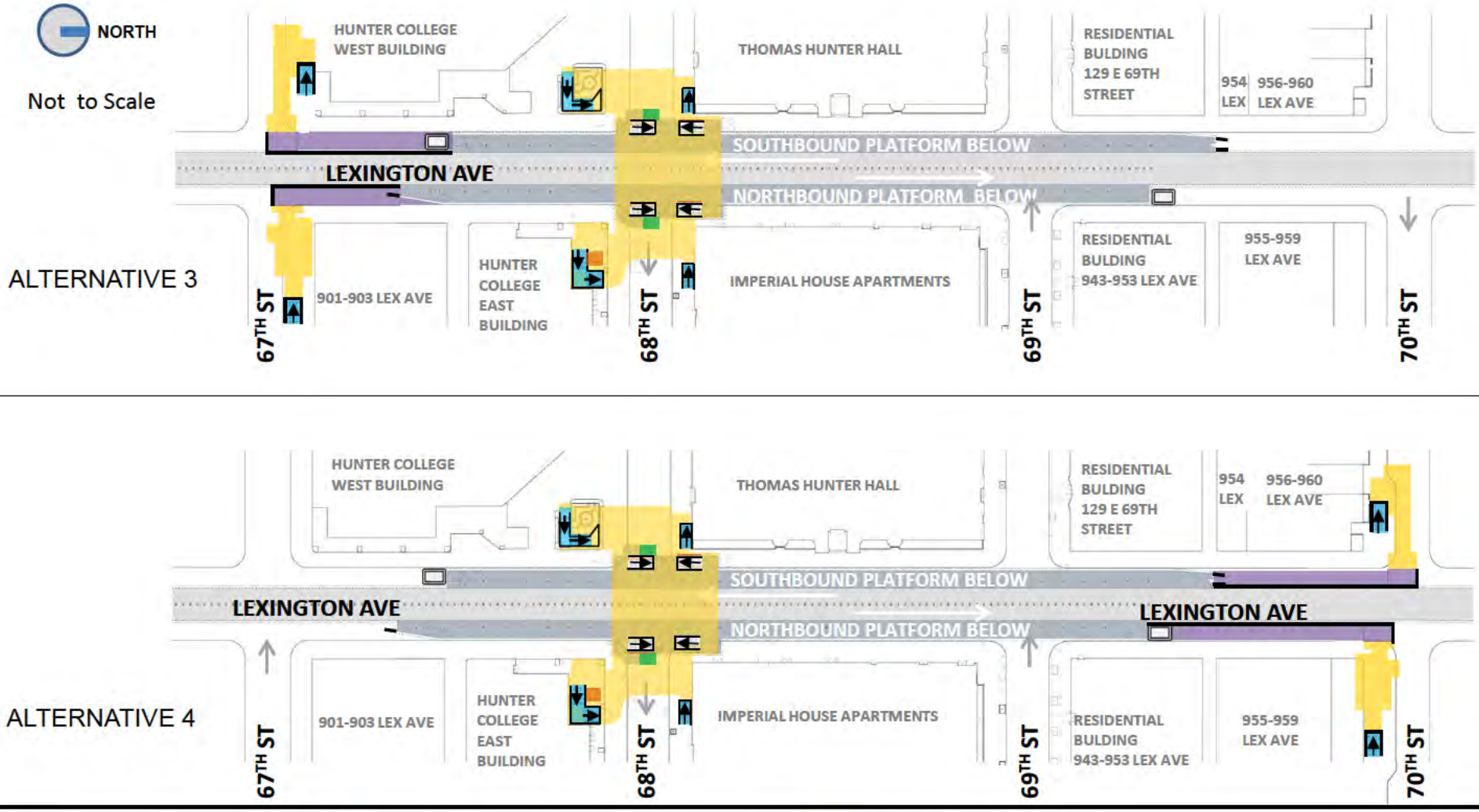
Subway Tracks Below
Platform Below
Mezzanine Below
Street Stair Down to Mezzanine
Platform Stair Up to Mezzanine
Street Elevator
Platform Elevator

Not to Scale

NORTH

Alternative 2 and Alternative 2 with Option E1

Figure A-2



Alternatives 3 and 4

Figure A-3

Table A-1: Alternatives Screening Summary, provides an overview of the performance of the No Build Alternative and the four build alternatives with regard to the project purpose and need and the goals and objectives. A description and an evaluation of each alternative are provided below, along with a recommendation for further consideration or elimination. Conceptual graphics depicting each alternative are provided following the reference in the text. Those alternatives that were found to meet the purpose and need and to best meet the goals and objectives in comparison to other alternatives were advanced for further evaluation in this EA.

3.1 NO BUILD ALTERNATIVE

Under the No-Build Alternative (Figure A-1) the proposed improvements to the platform stairs and street stairs, ADA elevators and other improvements throughout the station would not be implemented. Without the ADA elevators, the station would remain inaccessible to some persons with disabilities. The existing congested conditions would worsen over time because of a projected increase in ridership at the station and on the IRT Subway Line. Although these conditions would improve somewhat by 2020 because of diverted ridership from the IRT to the Second Avenue Subway, the improvement would be marginal and deficiencies would remain, especially in the AM peak. For example, as described in Chapter 5 of the EA and in Appendix C, in 2020 clearance time for stair P2 is projected to be 53 seconds, for stair P3, 82 seconds, and for P4, 121 seconds – all above the MTA/NYCT 30-second clearance time guideline. The existing congestion would therefore not be alleviated in the short term or the long term. There would be no improvements in pedestrian circulation within the station, no reduction in the amount of time required to enter and exit the station and no improvement in circulation at street level until 2020, and little improvement thereafter. Also under the No-Build Alternative, the existing curb parking lane and sidewalk configuration on East 69th Street would remain unchanged.

PURPOSE AND NEED

The No-Build Alternative would not satisfy the purpose and need because ADA access would not be provided and pedestrian circulation deficiencies would not be addressed. It is included in the EA as a baseline against which to compare impacts resulting from the Proposed Project alternatives.

3.2 ALTERNATIVE 1 –68TH STREET MEZZANINE EXPANSION ALTERNATIVE

The concept of Alternative 1 is to improve passenger circulation by a combination of enlarging the existing mezzanine below East 68th Street, adding platform stairs to the expanded mezzanine, and widening and reconfiguring existing street stairs (Figure A-1). It would include ADA-compliant elevators from street to mezzanine and from mezzanine to the platforms.

The existing mezzanine below East 68th Street would be expanded approximately 30 feet to the north over the tracks. One additional southbound platform stair and one additional northbound platform stair would be constructed at the north end of the extended mezzanine.

One ADA-compliant platform elevator would operate between the northbound platform and the paid area of the mezzanine and one would operate between the southbound platform and the paid area of the mezzanine. One ADA-compliant street elevator would operate between the unpaid area of the mezzanine and the sidewalk at the southeast corner of East 68th Street and Lexington Avenue.

Table A-1: Alternatives Screening Summary

PURPOSE AND NEED	NO-BUILD	ALT 1 68 St. Mezz.	ALT 2 Northern Access	ALT 3 67 St. Access	ALT 4 70 St. Access	ALT 5 69 St. Hatch	ALT 6 68 St.
Provide ADA accessibility to mezzanine and to both platforms							
Improve circulation and reduce congestion within station							
ADVANCE? (Yes/No)	**NO***	**YES**	**YES**	**YES**	**YES**	**NO**	**NO**

** No Build is analyzed in the EA as a baseline for impact analysis*

SCREENING CRITERIA - GOALS AND OBJECTIVES	ALT 1 68 St. Mezz.	ALT 2 Northern Access	ALT 3 67 St. Access	ALT 4 70 St. Access
1) IMPROVE CIRCULATION				
Reduce congestion at platform stairs				
Reduce congestion at street stairs				
Improve distribution of passenger load on train and along platform length				
Passenger convenience and circulation efficiency- locate capacity that best serves passengers				
Improve or maintain fare control and mezzanine performance.				
2) MINIMIZE COST				
3) MINIMIZE CONSTRUCTION RISK				
4) MINIMIZE REAL ESTATE ISSUES				
5) MINIMIZE IMPACTS DURING CONSTRUCTION				
Minimize disruption to station, railroad operations and passengers				

Table A-1: Alternatives Screening Summary (CONTINUED)

SCREENING CRITERIA - GOALS AND OBJECTIVES (continued)	68 St. Mezz.	Northern Access	67 St. Access	70 St. Access
Minimize disruption to neighborhood				
6) IMPROVE, MAINTAIN AND MINIMIZE ENVIRONMENTAL IMPACTS				
Minimize impact to historic resources and Section 4(f) resources				
Maintain or improve pedestrian and vehicular circulation				
ADVANCE? (Yes/No)	NO	YES	NO	NO

LEGEND

Achieves Goals and Objectives Well

Moderately Achieves Goals and Objectives

Does Not Achieve Goals and Objectives

Alternative 1 would replace the existing 5-foot-wide street stair located on the northeast corner of the intersection of East 68th Street and Lexington Avenue. The existing stair, which ascends westerly, would be replaced with a splayed pair of 6-foot-wide stairs. The western stair in the pair would be relocated east by approximately 3 to 5 feet and oriented ascending west, and the eastern stair of the pair would be located approximately 20 feet to the east of the first and oriented ascending east. At the southeast corner, the street stair would be configured to accommodate a 10-foot-wide stair and the new street elevator. The street stair at the northwest corner would be rehabilitated but not expanded.

PURPOSE AND NEED

Alternative 1 (68th Street Mezzanine Expansion Alternative) would satisfy the purpose and need because ADA access would be provided and pedestrian circulation deficiencies would be addressed. It was advanced to the next step in the screening analysis: evaluating its achievement of the goals and objectives.

GOALS AND OBJECTIVES

The following describes the extent to which this alternative would meet the project goals and objectives as described in Chapter 1.

GOAL 1: IMPROVE CIRCULATION AT ALL CIRCULATION ELEMENTS

Reduce Congestion at Platform Stairs—The additional platform stairs below East 68th Street would improve clearance times on the existing platform stairs and relieve congestion at the platform level approaching these stairs. *This objective would be met by Alternative 1*.

Reduce Congestion at Street Stairs—The widened and reconfigured splayed street stairs at the northeast corner of the intersection of East 68th Street and Lexington Avenue, and the widening of the stair on the southeast corner, would improve LOS on the street stairs and reduce congestion on the mezzanine approaching these stairs. *This objective would be met by Alternative 1*.

Improve Distribution of Passenger Volumes on the Train and Along the Length of the Platform—After descending the platform stairs or platform elevators, passengers would remain concentrated at the south end of the platforms, as under current conditions. Although the addition of platform stairs to the expanded mezzanine would improve platform clearance time, it would not foster balanced passenger distribution across all cars on the train: passengers traveling to the station and knowing in advance which car will be in front of the platform stairs on arrival will generally chose to travel in that car; passengers with origins at East 68th Street tend to descend the platform stair and wait near the bottom of the stair for the next train. In both cases passengers, including disabled passengers, will be entering or exiting the cars situated at the southern end of the train. This congestion near the southern end of the train could make the transition between the train and the platform elevators more difficult for those passengers with disabilities.

In sum, under Alternative 1, the addition of platform stairs to the mezzanine would not result in a more balanced distribution of entering passengers along the platforms and on the train, and would not result in exiting passengers being more evenly spread along the platforms. *This objective would NOT be met by Alternative 1*.

Improve Passenger Convenience and Circulation Efficiency: Locate Capacity that Best Serves Passengers—It is expected that passengers traveling to destinations north and east of the station would use the new splayed stairs at the northeast corner of East

68th Street and Lexington Avenue. Those passengers with destinations north of East 68th Street would use the westernmost stair in the pair and continue north on Lexington Avenue. Passengers with destinations to the east would be expected to use the more easterly street stair in the pair. By redistributing passengers, there would be fewer pedestrians occupying the sidewalk at the northeast corner of East 68th Street and Lexington Avenue, and therefore pedestrian circulation would be improved at this corner.

However passenger ingress and egress would remain exclusively at the south ends of the platforms, as this is where the only street access point to the station would continue to be located. No access points at the northern end of the station for passengers coming from or going to destinations north of the station would be provided. The existing practice of double-backing by pedestrians getting off the northern end of the train with destinations north of 68th Street would thus continue, resulting in unnecessary travel time. Capacity would thus not be located where it would best serve passengers. *This objective would NOT be met by Alternative 1*.

Improve or Maintain Fare Control and Mezzanine Performance—The increased size of the mezzanine would provide physical space for the new platform stairs (and ADA-compliant elevators) while creating more room at the mezzanine level. However, the rate of passengers coming off the platforms to the mezzanine would increase with the additional platform stairs, thus putting increased pressure on the existing turnstile array and on the newly widened street stairs. *This objective would be moderately met by Alternative 1*.

GOAL 2: MINIMIZE COST

The cost of Alternative 1 with access at the East 68th Street/Lexington Avenue intersection was estimated to be $97 million (for cost and construction duration associated with the alternatives, see Table A-2: Comparison of Alternatives Considered). However, this cost does not include the relocation of ECS duct banks (described in greater detail below) over several City blocks which would add between $7 and $10 million to the overall cost. This would represent a disproportionally high infrastructure cost relative to the size and nature of this project. The very high infrastructure-related costs of this alternative would make it substantially more costly than the lowest cost alternative ($70 million). The construction duration for Alternative 1 was estimated to range from 48 to 52 months. *Alternative 1 would NOT meet this goal.*

GOAL 3: MINIMIZE CONSTRUCTION RISK

Alternative 1 would involve several challenging construction activities. An overview of the construction activities and an evaluation of associated construction risks are provided below.

Mezzanine Expansion—In order to maintain efficient passenger circulation at the platform under the 68th Street Mezzanine Expansion Alternative, the most favorable location for the new platform-to-mezzanine elevators and the only practicable location for the platform-to-mezzanine stairs is at the outer edge of each platform in the area now occupied by the tunnel wall, as this would keep the stairs and elevators from occupying space and restricting circulation on the platform. In order to place the elevators in this location construction would involve excavating space from the sidewalls of the subway tunnel. Figure A-4, Mezzanine Expansion Plan, illustrates the existing tunnel wall that would be removed and the area to be excavated from behind the tunnel wall. This excavation would extend vertically from the level of the subway tunnel to a few feet below the sidewalk. Engineering challenges to accommodate elevators and stairs in

these locations include stabilizing and underpinning the adjacent historic building owned by Hunter College on the west side of the tunnel, and private property (Imperial House Apartments) on the east side. Shafts and infrastructure for the new elevators would occupy space directly under the sidewalk. Currently occupying this space under the sidewalk are ECS duct banks containing communications infrastructure. In order to provide the necessary space for the elevator shafts, the ECS duct banks would need to be relocated.

Underpinning—Figure A-5, Underpinning and Duct Bank Relocation, illustrates the methods for excavating between the subway tunnel and Thomas Hunter Hall, the underpinning of Thomas Hunter Hall, and for relocating the ECS duct banks. Similar methods would be used for excavation and underpinning of the Imperial House Apartments on the east side of Lexington Avenue. In the first frame, the areaway (the light well located between the sidewalk and Thomas Hunter Hall) is partially excavated along the eastern side of the building in vertical increments of approximately four feet. Within the four-foot section, jack piles are installed to support the existing corbelled brick foundation. This process would be repeated horizontally in four-foot segments starting from the southeast corner of Thomas Hunter Hall and advancing to the north for approximately 110 feet. After the initial jack pinning is complete the excavation and underpinning is extended downward and the piles are stabilized with soil anchors (Frame 2, Figure A-5).

After the building foundations are stabilized the adjacent sidewalk is removed and decked over, excavation under the sidewalk begins. Frame 3 illustrates excavation beginning in the area under the sidewalk where the elevator shafts and new platform stairs would be located. Prior to excavation, the ECS duct banks are temporarily supported from above.

As illustrated in Frame 5, a concrete wall is constructed and the area not needed for the new elevator and stairs is back filled. This frame also shows the roof of the elevator shaft occupying the same space as the ECS duct banks. Frame 6 illustrates the relative positions of the duct banks and elevator shaft after the duct banks have been relocated.

Table A-2: Comparison of Alternatives Considered

	PRELIMINARY BUILD ALTERNATIVES						
	No Build Alternative (68th St Access)	**Alternative 1 68th St Mezzanine Expansion**	**Alternative 2 Northern Access**	**Alternative 3 67th Street Access**	**Alternative 4 70th Street Access**	**Alternative 5 69th Street Hatches**	**Alternative 6 68th Street Access**
PURPOSE AND NEED							
Provide ADA accessibility to mezzanine and to both platforms	No ADA-compliant access provided	ADA-compliant access provided	ADA-compliant access provided	ADA-compliant access provided	ADA-compliant access provided	ADA-compliant access provided	ADA-compliant access provided
Improve circulation and reduce congestion within station	No improvement to Circulation or reduction of congestion; both are expected to worsen	Improvement to Circulation and reduction of congestion	Improvement to Circulation and reduction of congestion	Improvement to Circulation and reduction of congestion	Improvement to Circulation and reduction of congestion	No Improvement to Circulation and reduction of congestion due to lack of additional stair capacity at platform and street level	No Improvement to Circulation and reduction of congestion due to lack of additional stair capacity at platform level
	ADVANCED AS BASELINE ONLY	⬇	⬇	⬇	⬇	NOT ADVANCED FOR ANALYSIS	NOT ADVANCED FOR ANALYSIS

GOALS AND OBJECTIVES					
IMPROVE CIRCULATION	**No Build Alternative (68th St Access)**	**Alternative 1 68th St Mezzanine Expansion**	**Alternative 2 Northern Access**	**Alternative 3 67th Street Access**	**Alternative 4 70th Street Access**
Reduce congestion at platform stairs	Once Phase I of the 2nd Ave subway becomes operational, congestion levels are expected to marginally decrease as compared to existing levels, but congestion would still exist and volumes would still exceed stair capacities.	Congestion relieved at existing platform stairs; however, congestion is expected at new platform stairs.	Significant relief of platform stair congestion.	Some relief of platform stair congestion; however, due to the distance to 67th Street exit, most passengers likely to use existing mezzanine.	Relief of platform stair congestion; however, due to the distance underground to 70th Street exit, some passengers may elect to use existing mezzanine.
Reduce congestion at street stairs	Once Phase I of the 2nd Ave subway becomes operational, congestion levels are expected to marginally decrease as compared to existing levels, but congestion would still exist and volumes would still exceed stair capacities.	Some improvement to circulation on street stairs due to increased capacity: however, all passengers must use stairs at 68th Street.	Significant improvement to 68th Street stairs: roughly one-third of passengers expected to use stairs at or near 69th Street.	Some relief of street stair congestion; however, due to the distance to 67th Street exit, most passengers likely to use 68th Street stairs.	Relief of street stair congestion; however, due to the distance underground to 70th Street exit, some passengers may elect to use 68th Street stairs.
Improve distribution of passenger load on train and along platform length	Distribution of passenger load expected to worsen, with increased number of passengers in the future	All passengers must exit near south end of platform: Uneven passenger distribution, concentrated at southern end of train.	Diversion of passengers from south end platform to north end of platform. Improved platform and train distribution.	Some passenger diversion from mezzanine to new access. Both entrance/exits are at south end of station.	Diversion of passengers from south end platform to north end of platform.

Table A-2: Comparison of Alternatives Considered (CONTINUED)

IMPROVE CIRCULATION continued	No Build Alternative (68th St Access)	Alternative 1 68th St Mezzanine Expansion	Alternative 2 Northern Access	Alternative 3 67th Street Access	Alternative 4 70th Street Access
Passenger convenience and circulation efficiency - locate capacity that best serves passengers	Passengers remain congregated on platform near southern end of train Uneven passenger distribution, concentrated at southern end of train Circulation conflict between subway passengers and pedestrians at sidewalk at NE corner of 68th Street expected to worsen No improvement: passengers with destinations or origins north of station must continue walk to 68th Street to enter station and double-back.	Passengers remain congregated on platform near southern end of train Improvement to sidewalk at NE corner of 68th Street No improvement: passengers with destinations or origins north of station must walk to 68th Street to enter station.	Significant improvement: loading and unloading occurs at both ends of platform. Improved passenger distribution; at both north and south ends of train. Improvement to sidewalk at NE corner of 68th Street. Improvement to other sidewalks at 68th Street and Lexington Avenue due to diversion of passengers from the intersection. Improvement: passengers with destinations or origins to the north can enter station at 69th Street.	Some improvement, however passengers remain congregated on platform near southern end of train. Uneven passenger distribution, concentrated at southern end of train Improvement to sidewalk at NE corner of 68th Street. Improvement to other sidewalks at 68th Street and Lexington Avenue due to diversion of passengers from the intersection. Improvement: passengers with destinations or origins to the south can enter station at 67th Street.	Significant improvement: loading and unloading occurs at both ends of platform. Improved passenger distribution; at both north and south ends of train Improvement to sidewalk at NE corner of 68th Street. Improvement to other sidewalks at 68th Street and Lexington Avenue due to diversion of passengers from the intersection. Improvement: passengers with destinations or origins to the north can enter station at 70th Street.
Improve or maintain fare control and mezzanine performance.	Mezzanine and fare control area would remain congested	Some improvement to mezzanine circulation due to larger size; however, all passengers must use mezzanine.	Significant improvement to mezzanine circulation due to reduced number of passengers using the mezzanine.	Some improvement to mezzanine circulation due to reduced number of passengers using the mezzanine.	Significant improvement to mezzanine circulation due to reduced number of passengers using the mezzanine.
MINIMIZE COST	maintenance costs only	$97 million: communications infrastructure relocation, underpinning, construction at track level.	$70 million: no communications infrastructure relocation, some excavation.	$108 million: major cut-and-cover excavation.	$136 million: major cut-and-cover excavation.
MINIMIZE CONSTRUCTION RISK	No major construction	Significant risk to communications infrastructure.	Little or no risk to communications infrastructure	Moderate construction risk due to cavity expansion	Moderate construction risk due to cavity expansion
MINIMIZE REAL ESTATE ISSUES	No real estate acquisition	No real estate acquisition	No condemnation for real estate acquisition (Alternative 2), no real estate acquisition (Alternative 2 with Option E1)	No real estate acquisition	No real estate acquisition

Table A-2: Comparison of Alternatives Considered (CONTINUED)

	No Build Alternative (68th St Access)	Alternative 1 68th St Mezzanine Expansion	Alternative 2 Northern Access	Alternative 3 67th Street Access	Alternative 4 70th Street Access
MINIMIZE IMPACTS DURING CONSTRUCTION	No major construction	48 to 62 months construction duration.	36 to 39 months construction duration.	60 to 72 months construction duration.	60 to 72 months construction duration.
Minimize disruption to station, railroad operations and passengers	No major construction	Disruptions on platform during excavation for new stairs and elevator. Large number of service outages due to necessary construction at track level.	Fewer disruptions during construction of platform stairs and street stairs. Few outages.	Disruptions on platform during excavation for extension of tunnel cavity. Large number of service outages due to necessary construction at track level.	Disruptions on platform during excavation for extension of tunnel cavity Large number of service outages due to necessary construction at track level
Minimize disruption to neighborhood	No major construction	Major disruptions along Lexington Avenue sidewalk between East 68th and 69th Streets affecting businesses and Hunter College due to underpinning of structures.	Moderate street disruption Some disruption of sidewalk at East 69th Street and at Lexington Avenue during construction of entrances.	Major disruptions along Lexington Avenue sidewalk and travel lanes closure due to passageways construction. Some disruption of sidewalk at 67th Street during construction of entrance.	Major disruptions along Lexington Avenue sidewalk and travel lanes closure due to passageways construction. Some disruption of sidewalk at 70th Street during construction of entrance
IMPROVE, MAINTAIN AND MINIMIZE ENVIRONMENTAL IMPACTS					
Minimize impact to historic resources and Section 4(f) resources	No major construction	Underpinning of Thomas Hunter Hall and Imperial House Apartments	*de minimis* impacts to Section 4(f) and historic resources	No impacts on Section 4(f) and historic resources	No impacts on Section 4(f) and historic resources
Maintain or improve pedestrian and vehicular circulation	Permanent circulation maintained. No improvement to sidewalk at NE corner of 68th Street	Permanent circulation maintained Moderate improvement to sidewalk at NE corner of 68th Street as a result of stair re-orientation and increased capacity	Permanent circulation maintained Improvement to sidewalk at NE corner of East 68th Street due to stair re-orientation and reduced subway passenger volumes	Permanent circulation maintained Improvement to sidewalk at NE corner of East 68th Street due to stair re-orientation and reduced subway passenger volumes	Permanent circulation maintained Improvement to sidewalk at NE corner of East 68th Street due to stair re-orientation and reduced subway passenger volumes
ADVANCE (Y/N)	**AS BASELINE ONLY**	**NO**	**YES**	**NO**	**NO**	**NO**	**NO**

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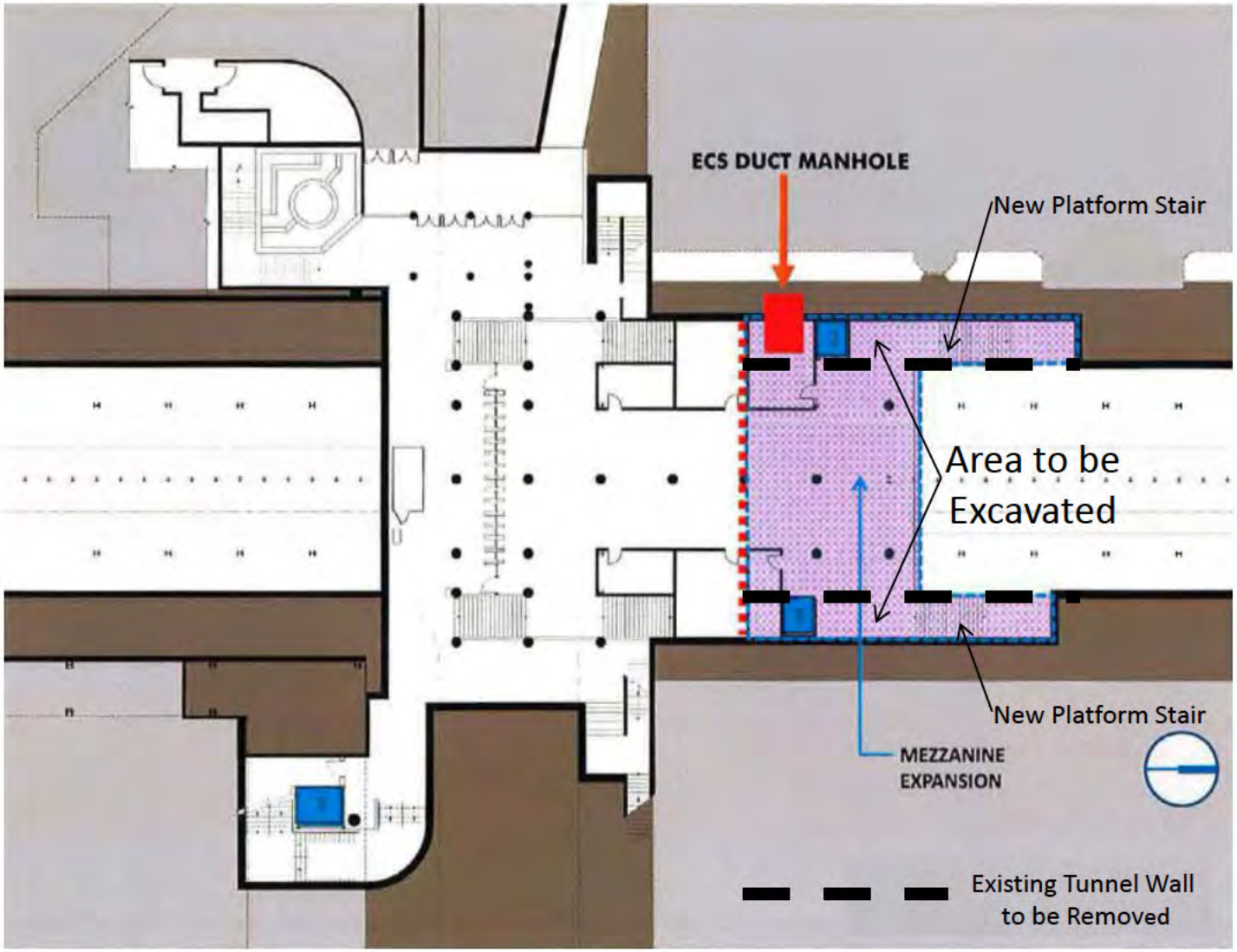


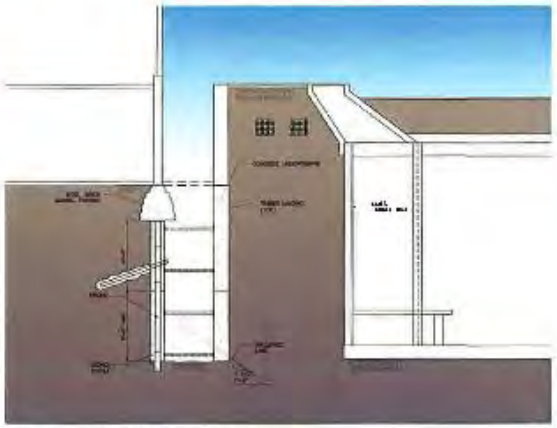
ADA Elevators

Not to Scale

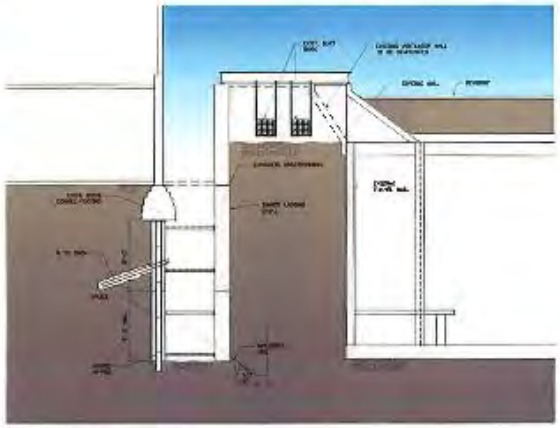
Mezzanine Expansion Plan

Figure A-4

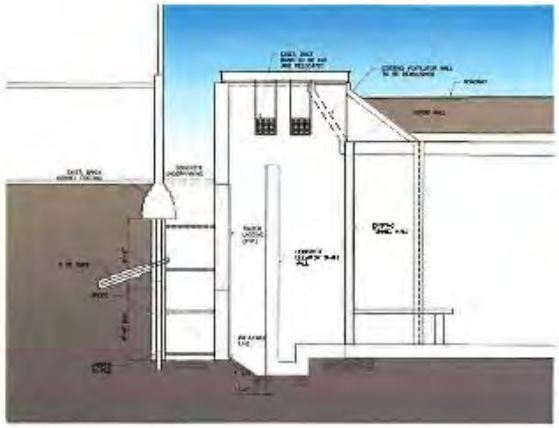
1. STABILIZE BUILDING



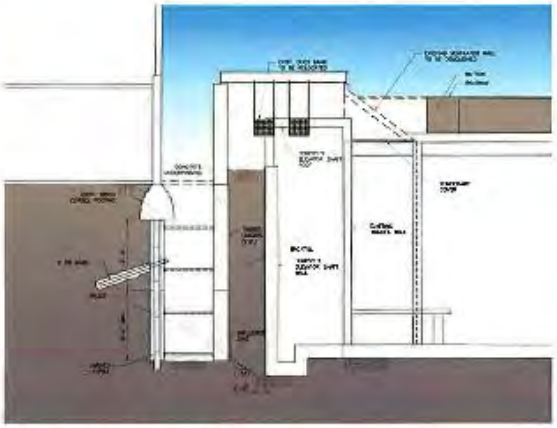
2. EXTEND UNDERPINNING



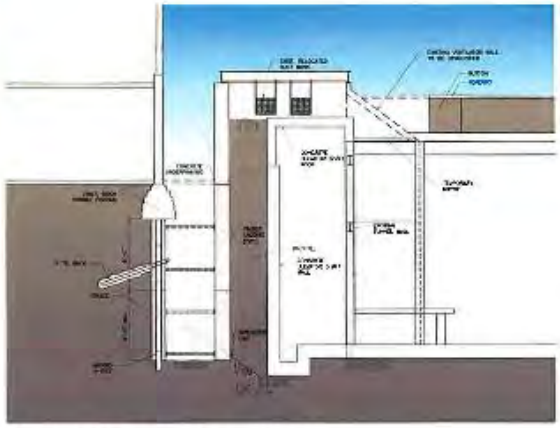
3. EXCAVATE



4. INSTALL SHAFT



5. BACKFILL & RELOCATE



6. BALANCE OF CONSTRUCTION

Not to Scale

Underpinning and Duct Bank Relocation

Figure A-5

Utility Relocation—In addition to relocation of sewer, water and steam transmission lines for the project, ECS duct banks would need to be relocated to provide the space required for the elevator shafts. Fiber optic cables, if present in the ECS duct banks, consist of a bundle of thin glass strands that transmit data via electromagnetic waves with wavelengths generally in the range of 850 nanometers (nm) to 1,550 nm. The cables are interrupted at intervals where the signal is boosted and where hub connections can be made to route the signal to different locations. In the urban environment the signal boosting equipment and the routing terminals are located in manholes under the city streets and sidewalks. Uninterrupted cables extend between the terminals.

Although more fragile than copper cable, fiber optic cables can carry vastly greater quantities of data than copper cable and transmission is considerably more efficient. And unlike copper cable, repairs to damaged cable, or adjusting the length or location of fiber optic cables is more complicated and costly. Splicing fiber optic cable, although possible, is expensive and the signal is degraded when crossing a splice. More often, rather than splicing cable, a new continuous cable extending between two terminals is installed.

Because of the huge amount of data carried by fiber optic cables and the fragile nature of the glass fibers comprising the cable, there is a higher risk of widespread disruptions in communications and data transmission if a fiber optic cable is ruptured during construction compared with copper cable. This is especially relevant considering that businesses, academic institutions, residences and medical facilities in the area heavily depend on communication and data transmission provided via fiber optic networks.

Street Level Construction—As discussed earlier, the 68th Street Mezzanine Expansion Alternative would increase the size of the mezzanine by expanding it northward. In order to extend the mezzanine to the north of its current position, the floor-to-ceiling structures that support the station roof would need to be removed. These support structures, as shown in Figure A-6, Floor-to-Ceiling Roof and Street Supports, are located along the length of the station and extend from the station floor between the northbound and southbound tracks to the station roof. The station roof and the street bed of Lexington Avenue are supported by these structures. In order to remove the support structures, the street bed of Lexington Avenue north of East 68th Street would be removed and decked over. The support structures would then be removed and replaced by similar structures extending from the subway floor to the mezzanine level, thereby supporting the extended mezzanine. In the area of the expanded mezzanine, new street support structures would be required, extending from one side of the avenue to the other. Travel lanes along Lexington Avenue between East 67th Street and East 69th Street would be closed for periods during this construction activity, potentially causing extended disruptions to traffic along the avenue and side streets in the vicinity. The duration for this phase of construction activity is estimated to be approximately 18 months.

In sum, Alternative 1 would encounter several sensitive infrastructure elements, including ECS duct banks requiring relocation and extensive underpinning of historic structures. This represents an unacceptable construction risk for this type of project. The extended construction duration of Alternative 1 further increases construction risks. *Alternative 1 would involve considerable construction risk and does NOT meet this goal.*

Floor-to-Ceiling Roof and Street Supports

Figure A-6

GOAL 4: MINIMIZE REAL ESTATE ISSUES

Alternative 1 would not require real estate acquisition. *Alternative 1 would therefore meet this goal*.

GOAL 5: MINIMIZE IMPACTS DURING CONSTRUCTION

Minimize Disruption to Station, Subway Operations and Passengers During Construction—Installation of the support structures for the extended mezzanine and the Lexington Avenue street bed would involve work between the northbound and southbound subway tracks. Because there is minimal clearance between the northbound and southbound tracks, subway operation at the station would be interrupted in order to complete this work. Although the details have not been advanced, it is anticipated that the station would be closed for periods during the off-peak hours and weekends. Work on the track level would incur additional project costs above those associated with construction: additional personnel would be required to ensure worker safety as trains enter the station while construction work at the track level is in progress, and there would be other costs associated with construction work on active tracks.

Additionally, Alternative 1 (and all Build Alternatives) would enlarge the street stairs at the southeast and northeast corner of Lexington Avenue. Because of the location of property lines, utility infrastructure and other confining elements in the vicinity of these stairs, in order to enlarge the existing stairs they would need to be completely closed. With one set of stairs closed, congestion at the other stairs would increase significantly. The duration of this closing is estimated to be as long as one year for the southeast street stair and less than one year for the stair on the northeast corner.

In sum, Alternative 1 would substantially interfere with subway service and station circulation during the construction period and would require temporary closures of the 68th Street/Hunter College Subway Station. *This objective would NOT be met by Alternative 1*.

Minimize Disruption to the Neighborhood During Construction—Alternative 1 would require extensive construction as described above. Travel lanes along Lexington Avenue between East 67th Street and East 69th Street would be closed for periods during the construction of the mezzanine, potentially causing extended disruptions to traffic along the avenue and side streets in the vicinity. The duration for this phase of construction activity is estimated to be approximately 18 months.

During construction activities associated with excavation, underpinning and relocation of the duct banks, the sidewalk would be closed and pedestrians would be rerouted to the adjacent parking lane. On the east side of Lexington Avenue the duration of the sidewalk closure would be approximately one year. The construction duration on west side of Lexington Avenue would also be approximately one year. When the sidewalk is closed for construction on the east side of Lexington Avenue between East 68th Street and East 69th Street, pedestrian bridges over the construction zone would provide access to the stores located on the ground floor of the Imperial House building.

As described above the nature and extended duration of construction would result in substantial disruption of the neighborhood, including pedestrian and vehicular circulation. *This objective would NOT be met by Alternative 1*.

GOAL 6: IMPROVE AND MAINTAIN ENVIRONMENTAL CONDITIONS AND MINIMIZE ENVIRONMENTAL IMPACTS

Minimize Impacts to Historic Resources and Section 4(f) Resources—As with all other Build Alternatives, the 68th Street Mezzanine Expansion Alternative would involve the construction of a ventilation louver in a light well of Thomas Hunter Hall to ventilate the Elevator Machine Room within the station. The alteration to the common wall of the Thomas Hunter Hall light well to install the louver is considered a permanent encroachment on this Section 4(f) resource. However, this feature would have no adverse effect on the resource and would be considered a *de minimis* use.

Both the Thomas Hunter Hall building and the Imperial House are historic properties as defined by Section 4(f). The underpinning of the buildings would constitute a use of both Section 4(f) resources. *This objective would NOT be met by Alternative 1*.

Maintain or Improve Pedestrian and Vehicular Circulation—The improvements to the existing entrances at East 68th Street would not require permanent elimination of traffic lanes. Pedestrian circulation at East 68th Street would improve as a result of improvements to the street entrances. However there would be little reduction in the number of subway passengers at street level at the intersection of East 68th Street and Lexington Avenue as this location would remain the only access point into the station. *This objective would be moderately met by Alternative 1*.

ALTERNATIVE 1: CONCLUSION –NOT ADVANCED

Alternative 1 would meet the purpose and need but would not meet several key goals and objectives. Alternative 1 would cost between approximately $97 million compared to that of the lowest cost alternative, approximately $70 million, and would thus not minimize cost. It would involve subway service outages and would involve considerable construction risk and construction impacts. This alternative was therefore not advanced for further consideration.

3.3 ALTERNATIVE 2 –NORTHERN ACCESS ALTERNATIVE

The concept of Alternative 2 (with or without Option E1) is to improve passenger circulation by providing additional station access, thus reducing the number of passengers using the existing station access (Figure A-2). It would include ADA-compliant elevators from street to mezzanine and from mezzanine to the platforms.

Under Alternative 2, new platform stairs and street stairs would be provided at or near the northern end of the northbound and southbound platforms. No new platform stairs would be provided below East 68th Street. The floor area of the existing mezzanine would be rebuilt and enlarged only slightly on the east side to provide a one-level mezzanine, to provide room for the platform elevator and to ease congestion leading to the street stairs. ADA-compliant platform elevators would be installed adjacent to the existing platform stairs. Street stairs on both the southeast and northeast corner of Lexington Avenue and East 68th Street would be enlarged. At the southeast corner, the stair would be configured to accommodate a 10-foot-wide stair and the new ADA-compliant street elevator. The street stair located at the northeast corner would be widened and relocated to a new position approximately 30 feet east of the current position. This stair would also be reoriented so that persons exiting would be facing east rather than west. The street stair at the northwest corner of Lexington Avenue and East 68th Street would be rehabilitated but not expanded.

PURPOSE AND NEED

Alternative 2 would satisfy the purpose and need because ADA access would be provided and pedestrian circulation deficiencies would be addressed. It was advanced to the next step in the screening analysis: evaluating its achievement of the goals and objectives.

GOAL 1: IMPROVE CIRCULATION AT ALL CIRCULATION ELEMENTS

Reduce Congestion at Platform Stairs—Alternative 2 would improve clearance times on the platform stairs and relieve congestion at the platform level leading to the platform stairs by diverting passengers from the existing platform stairs to the new platform stairs (and street access) located at the northern end of the platforms. With fewer passengers concentrated at the southern end of the platforms, passengers using the ADA elevators would have fewer passengers to contend with as they transit between the train and the platform elevator, and would experience less delay waiting for crowds to disperse before advancing between the train and the platform elevator. *This objective would be met by Alternative 2*.

Reduce Congestion at Street Stairs—Alternative 2 would improve level of service on the existing street stairs and relieve congestion at the mezzanine level leading to the street stairs by diverting passengers from the existing mezzanine to the new station access located at or near the northern end of the station. With fewer passengers on the existing mezzanine, passengers using the ADA elevators would have fewer passengers to contend with as they transit between the platform elevator and the street elevator at the mezzanine level, and would experience less delay waiting for crowds to disperse before advancing to the street elevator. *This objective would be met by Alternative 2*.

Improve Distribution of Passenger Volumes on the Train and Along the Length of the Platform— Under Alternative 2, passengers traveling to the station and knowing in advance that two means of egress would be available at the station would distribute themselves at both the north end and south end of the train. Passengers entering the station would use both entrances, thus passengers embarking at the station would be more evenly distributed throughout the train and along the length of the platform. *This objective would be met by Alternative 2*.

Improve Passenger Convenience and Circulation Efficiency: Locate Capacity that Best Serves Passengers—Under Alternative 2, passengers that have destinations north of East 68th Street (including hospitals and medical facilities) could use the station access at East 69th Street on the west side of Lexington Avenue or the mid-block access on the east side thereby avoiding the need to walk south to the East 68th Street entrance and then north again to their destination north of East 68th Street, decreasing their total travel time. Passengers with origins north of East 68th Street could use the station access at East 69th Street or the mid-block access thereby avoiding the need to walk south to the East 68th Street entrance, thereby decreasing their total travel time.

At the street level, with fewer passengers using the sidewalks at the intersection of East 68th Street and Lexington Avenue, there would be less congestion and easier conditions for disabled passengers and pedestrians in general at the intersection. A condition with fewer passengers around the ADA components of the station and on nearby sidewalks would also improve navigation for passengers with disabilities. *This objective would be met by Alternative 2*.

Improve or Maintain Fare Control and Mezzanine Performance—Passengers with destinations north of East 68th Street could use the new street entrances at or near the north end of the station. This would reduce the number of passengers using the 68th

Street Mezzanine, and thereby would maintain or improve mezzanine and fare control performance. *This objective would be met by Alternative 2*.

GOAL 2: MINIMIZE COST

The cost of Alternative 2, and Alternative 2 with Option E1, is estimated to be $70 million, which is the lowest cost of the Build Alternatives (see Table A-2). Because construction costs associated with Option E1 (greater excavation and a larger structure to be build) are higher than the cost for constructing the entrance in the Imperial House, the cost for acquisition of the commercial space would be offset by lower construction costs, and thus both are approximately the same cost. This alternative would avoid high cost of relocating or replacing ECS duct banks and underpinning of Thomas Hunter Hall. The construction duration for Alternative 2 is estimated to range from 36 to 39 months, which is the shortest of the Build Alternatives and would thus decrease the potential for greater costs. *Alternative 2 would meet this goal*.

GOAL 3: MINIMIZE CONSTRUCTION RISK

Alternative 2, and Alternative 2 with Option E1, would involve fewer challenging construction activities than the other Build alternatives. An overview of the construction activities and evaluation of associated construction risks is provided below.

Construction of Alternative 2 would proceed in phases. Phase 1 would involve construction of the street stairs at the north end of the platform. Concurrently, steam transmission lines and water and sewer lines on East 68th Street would be relocated. This utility work would not affect the station access at East 68th Street. Reconfiguration of some program space (e.g., employee bathroom facilities, supply storage, etc.) within the station would also occur during Phase I. After the stairs at the northern end of the station are completed and alternative means of entering or exiting the station is provided, work would begin improving other elements of the station.

Phase 2 construction would involve demolition of the existing stairs at the northeast and southeast corners of Lexington Avenue and East 68th Street, and the excavation down to the platform level for the platform elevator. The eastern portion of the existing mezzanine would be rebuilt and the street elevator shaft would be constructed. Utility lines would be relocated and the new street stairs at the northeast and southeast corners of East 68th Street would be built and opened.

Phase 3 construction would shift to the northwest corner of Lexington Avenue and East 68th Street. Work at this location would involve removal of the mezzanine slab in the vicinity of the new platform elevator, excavation down to the platform level for the new elevator and the construction of the elevator shaft. Also, the stair at this corner would be rehabilitated during this time.

As the elevators would be located beside the existing platform stairs, the location of the southbound platform elevator shaft would not require relocation of the ESC duct banks.

Because there would be no new stairs to the existing mezzanine there would be no need to excavate space from the tunnel wall as would be the case under Alternative 1. As such, underpinning of Thomas Hunter Hall would not be required. Additionally as opposed to Alternative 1, since the mezzanine would not be expanded to the north, there would be no need to replace the floor to ceiling support structures. Thus, there would be little or no work between the northbound and southbound track and little or no cessation of train service to the station. Additionally, because there would be a diversion of passengers from the existing mezzanine to the new stairs at the north end of the station,

closing the stairs for replacement at East 68th Street would not cause as much delay exiting the station as would be the case under Alternative 1.

Although the ECS duct banks would not need to be relocated, sewer lines, water lines and steam transmission lines would. The relocation of utility transmission lines is common and the work is completed using established techniques. Any outages are normally brief and often alternatives to service interruption are available. Under Alternative 2 there would be no need to relocate the ESC duct banks, and little risk of disruption to data and communication transmission.

Alternative 2 would avoid several sensitive infrastructure elements, including ECS duct banks, thereby avoiding the risk of unanticipated communication and data transmission outages, and would avoid extensive work at track level and the associated service outages. It would also avoid underpinning of historic Thomas Hunter Hall. The reduced construction duration of Alternative 2 further decreases construction risks. *Alternative 2 meets this objective*.

GOAL 4: MINIMIZE REAL ESTATE ISSUES

Alternative 2 would require real estate acquisition to construct the street entrance at 931 Lexington Avenue. However, if the commercial space becomes available for MTA/NYCT use, it would be delivered to MTA/NYCT vacant. No businesses would be displaced and no property condemnation would be required. Alternative 2 with Option E1 would not require property acquisition, no businesses would be displaced, and no property condemnation would be required. *Alternative 2 would therefore moderately meet this goal. Alternative 2 with Option E1 would meet this goal*.

GOAL 5: MINIMIZE IMPACTS DURING CONSTRUCTION

Minimize Disruption to Station, Subway Operations and Passengers during Construction—Alternative 2, and Alternative 2 with Option E1, would not require extensive construction work at the platform and track levels, such as replacing cavern roof support structures. As a result, this alternative would avoid subway service outages at the 68th Street/Hunter College Station and along the 6 Train. As such, Alternative 2 would minimize impacts to the station, subway operations and passengers. The shorter construction schedule would further reduce impacts. *This objective would be met by Alternative 2*.

Minimize Disruption during Construction to the Neighborhood—Construction of Alternative 2 would require closing the east sidewalks along Lexington Avenue for a short expanse in front of 931 Lexington Avenue for approximately 3 months. During this period, pedestrians would be rerouted from the sidewalks to the parking lane along the avenue for a distance of approximately 30 feet midway between East 68th Street and East 69th Street. The businesses located on the ground floor of the Imperial House Apartments would not have the entire sidewalk in front closed for up to a year as would be the case under Alternative 1. The Lexington Avenue entrance to Thomas Hunter Hall would remain open throughout the entire construction period. *This objective would largely be met by Alternative 2*.

GOAL 6: IMPROVE AND MAINTAIN ENVIRONMENTAL CONDITIONS AND MINIMIZE ENVIRONMENTAL IMPACTS

Minimize Impacts to Historic Resources and Section 4(f) Resources—Under Alternative 2, and Alternative 2 with Option E1, no new platform stairs leading to the existing mezzanine would be required (as would be the case under Alternative 1).

Therefore, excavation into the tunnel wall adjacent to Thomas Hunter Hall (as required under the Alternative 1) would be avoided. Consequently, under Alternative 2 there would be no need to underpin Thomas Hunter Hall on the west side of Lexington Avenue, and underpinning of the Imperial House Apartments on the east side would be less extensive than underpinning under Alternative 1. Under Alternative 2 with Option E1, no underpinning of Imperial House Apartments would be required.

As with all other Build Alternatives, Alternative 2 would involve the construction of a ventilation louver in a light well of Thomas Hunter Hall to ventilate the Elevator Machine Room within the station. The alteration to the common wall of the Thomas Hunter Hall light well to install the louver is considered a permanent encroachment on the Section 4(f) resource. However, this feature would have no adverse effect on the resource and would be considered a *de minimis* use. Excavating the cavity to connect the northbound platform with the street stair at 931 Lexington Avenue would require underpinning of a section of the basement of the Imperial House Apartments along the western edge of the building. The new street stair located in this commercial space and the underpinning would be considered a *de minimis* use of this resource.

With the implementation of a Construction Protection Plan (CPP), no adverse effects to historic resources are anticipated under Alternative 2. *This objective would be met by Alternative 2*.

Maintain or Improve Pedestrian and Vehicular Circulation—The creation of new entrances at the northern end of the station would not require permanent elimination of traffic lanes. Pedestrian street level circulation at East 68th Street and Lexington Avenue would improve as a result of improvements to the street entrances, and diversion of passengers to the new street entrances at East 69th Street west of Lexington Avenue and at 931 Lexington Avenue on the east side. No significant impacts to pedestrian circulation would result at East 69th Street. *This objective would be met by Alternative 2*.

ALTERNATIVE 2: CONCLUSION –ADVANCE

Alternative 2, and Alternative 2 with Option E1, would meet the project purpose and need, and would meet all key goals and objectives. It would perform equal to or better than all other alternatives on every goal and objective. This alternative was therefore advanced for further consideration.

3.4 ALTERNATIVE 3 –67TH STREET ACCESS ALTERNATIVE

The concept of Alternative 3 is to improve passenger circulation by providing additional station access, thus reducing the number of passengers using the existing station access (Figure A-3). It would include ADA-compliant elevators from street to mezzanine and from mezzanine to the platforms.

This alternative would provide new street entrances at East 67th Street. The existing platforms extend from a point located between East 67th Street and East 68th Street to a point between East 69th Street and East 70th Street. As such, providing station access at the Lexington Avenue intersection of East 67th Street would require advancing underground pedestrian passageways for both northbound and southbound passengers. The passageways would extend from the south end of the existing platform to new street stairs at the East 67th Street/Lexington Avenue intersection. The new passageways would be constructed under the sidewalks on both sides of Lexington Avenue.

PURPOSE AND NEED

Alternative 3 (67th Street Access Alternative) would satisfy the purpose and need because ADA access would be provided and pedestrian circulation deficiencies would be addressed. It was advanced to the next step in the screening analysis: evaluating its achievement of the goals and objectives.

GOAL 1: IMPROVE CIRCULATION AT ALL CIRCULATION ELEMENTS

Reduce Congestion at Platform Stairs—Passengers with destinations south of East 68th Street could use the new street entrances at East 67th Street. This would reduce the number of passengers using the 68th Street platform stairs, thereby reducing congestion at, and approaching, the existing platform stairs at 68th Street. *This objective would be met by Alternative 3*.

Reduce Congestion at Street Stairs—Passengers with destinations south of East 68th Street could use the new street entrances at 67th Street. This would reduce the number of passengers using the existing street stairs, thereby reducing congestion at, and approaching, these stairs at East 68th Street. *This objective would be met by Alternative 3.*

Improve Distribution of Passenger Volumes on the Train and Along the Length of the Platform—Providing additional stairs via tunnel beyond the south end of the platforms would do little to alleviate existing uneven passenger distribution at the south end of the train. The existing platform stairs are located near the south end of the platforms and passengers using either the existing stairs or the new stairs would still be entering and exiting the train cars located at the southern portion the train. This would not distribute passengers across the length of the platform (i.e. more towards the north ends of the platforms) and across the train cars. *This objective would NOT be met by Alternative 3*.

Improve Passenger Convenience and Circulation Efficiency: Locate Capacity that Best Serves Passengers—Passengers with destinations south of East 68th Street could use the new street entrances at East 67th Street. This would be beneficial to these passengers. However, because the existing street entrances at East 68th Street are already located near the southern portion of the station the benefit would be limited. Passengers using the East 67th Street entrance would need to travel via an extended passageway extending from the southern end of the existing platform to the entrance at 67th Street. Such passageways are not conducive to wayfinding, a condition that MTA/NYCT seeks to avoid where practicable. *This objective would therefore be moderately met by Alternative 3*.

Improve or Maintain Fare Control and Mezzanine Performance—Passengers with destinations south of East 68th Street could use the new street entrances at East 67th Street. This would reduce the number of passengers using the 68th Street Mezzanine. This would maintain or improve fare control and mezzanine performance. *This objective would be met by Alternative 3*.

GOAL 2: MINIMIZE COST

The cost of Alternative 3 was estimated to be $108 million, approximately $38 million more than the least expensive of the Build Alternatives (see Table A-2). This cost is associated with the need to construct lengthy passageways to connect the southern ends of the northbound and southbound platforms to the new East 67th Street station

entrances. This would represent a disproportionally high cost relative to the size and nature of this project and its budget.

The construction duration for Alternative 3 was estimated to range from 60 to 72 month months, which would further increase the potential for greater costs. *Alternative 3 would NOT meet this goal.*

GOAL 3: MINIMIZE CONSTRUCTION RISK

The new passageways would be constructed under the sidewalks on both sides of Lexington Avenue. The new passageways would involve reconstruction of subway tunnel structures from the current end of the platform to the new access intersection and would require extensive excavation under Lexington Avenue and/or the adjacent sidewalks. Because of the extensive work required at the platform level, construction of these alternatives would involve extensive disruptions to subway service at the 68th Street/Hunter College Station and disruptions to local subway service along the 6 Subway Line. Excavation for these alternatives would cause disruption to traffic conditions and businesses and residences along Lexington Avenue. This option would also involve rebuilding existing subway structures, including tunnel walls, roof support structures, and sidewalk ventilation grates.

Alternative 3 would encounter several sensitive infrastructure elements, including subway infrastructure, requiring relocation. This and the extended construction duration of Alternative 3 further increases construction risks. *Alternative 3 would meet this goal only moderately*.

GOAL 4: MINIMIZE REAL ESTATE ISSUES

Alternative 3 would not require real estate acquisition to construct new street entrances at East 67th Street. *Alternative 3 would therefore meet this goal*.

GOAL 5: MINIMIZE IMPACTS DURING CONSTRUCTION

Minimize Disruption to Station, Subway Operations and Passengers During Construction—Alternative 3 would require extension of subway station structures over almost an entire city block, from a point south of East 68th Street to East 67th Street. Because of the structural modifications required by this alternative, subway operations would be substantially affected requiring suspension of service during off-peak hours. The extended duration of construction (as much as 36 months) would result in more lengthy disruption of subway operations. *This objective would NOT be met by Alternative 3*.

Minimize Disruption to the Neighborhood During Construction—Alternative 3 would require extension of subway station structures over almost an entire City Block. Extension of station structures towards East 67th Street would require above ground construction over almost a city block and temporary lane closure on Lexington Avenue that would affect traffic. The extended duration of construction would result in longer disruption of the neighborhood. *This objective would NOT be met by Alternative 3*.

GOAL 6: IMPROVE AND MAINTAIN ENVIRONMENTAL CONDITIONS AND MINIMIZE ENVIRONMENTAL IMPACTS

Minimize Impacts to Historic Resources and Section 4(f) Resources—With the implementation of a Construction Protection Plan (CPP), no adverse effects to historic resources and no use of Section 4(f) resources is anticipated under Alternative 3. *This objective would be met by Alternative 3*.

Maintain or Improve Pedestrian and Vehicular Circulation—The creation of new entrances at East 67th Street would not require permanent elimination of traffic lanes. Pedestrian circulation at East 68th Street would improve as a result of improvements to the street entrances and the reduction in the number of passengers entering and exiting the station at East 68th Street, as passengers would use the new street entrances at East 67th Street. No significant impacts to pedestrian circulation would result at East 67th Street. *This objective would be met by Alternative 3*.

ALTERNATIVE 3: CONCLUSION –NOT ADVANCED

While Alternative 3 would meet the project purpose and need, it would not meet several key goals and objectives. Alternative 3 would cost approximately $108 million, would involve subway service outages and would involve construction risk and construction impacts. This alternative was therefore not advanced for further consideration.

3.5 ALTERNATIVE 4 –70TH STREET ACCESS ALTERNATIVE

The concept of Alternative 4 is to improve passenger circulation by providing additional station access, thus reducing the number of passengers using the existing station access (Figure A-3). It would include ADA-compliant elevators from street to mezzanine and from mezzanine to the platforms.

This alternative would provide new street entrances at East 70th Street. The existing platforms extend from a point located between East 67th Street and East 68th Street to a point between East 69th Street and East 70th Street. As such, providing station access at the Lexington Avenue intersection of East 70th Street would require advancing underground pedestrian passageways for both northbound and southbound passengers. The passageways would extend from the north end of the platforms to new street stairs at the East 70th Street/Lexington Avenue intersection. The new passageways would be constructed under the sidewalks on both sides of Lexington Avenue.

PURPOSE AND NEED

Alternative 4 (70th Street Access Alternative) would satisfy the purpose and need because ADA access would be provided and pedestrian circulation deficiencies would be addressed. It was advanced to the next step in the screening analysis: evaluating its achievement of the goals and objectives

GOAL 1: IMPROVE CIRCULATION AT ALL CIRCULATION ELEMENTS

Reduce Congestion at Platform Stairs—Passengers with destinations north of East 68th Street could use the new street entrances at East 70th Street. This would reduce the number of passengers using the 68th Street platform stairs, and therefore reduce congestion at, and approaching, the existing platform stairs at East 68th Street. *This objective would be met by Alternative 4*.

Reduce Congestion at Street Stairs—Passengers with destinations north of East 68th Street could use the new street entrances at East 70th Street. This would reduce the number of passengers using the 68th Street stairs, thereby reducing congestion at, and approaching, the existing street stairs at East 68th Street. *This objective would be met by Alternative 4*.

Improve Distribution of Passenger Volumes on the Train and Along the Length of the Platform—Providing additional stairs beyond the north end of the platforms would result in passengers entering and exiting from the north in addition to the south and closer to the northern portion of the train. This would more equally distribute passengers

across the length of the platform and across the train cars, improving distribution. *This objective would be met by Alternative 4*.

Improve Passenger Convenience and Circulation Efficiency: Locate Capacity that Best Serves Passengers—Passengers with destinations north of East 68th Street could use the new street entrances at East 70th Street. This would reduce the number of passengers having to travel south to the 68th Street mezzanine only to walk northward again once above ground. Avoiding this situation – departing/entering the station at East 68th Street - would improve passenger circulation and efficiency. However, passengers would need to travel via an extended passageway extending from the northern end of the existing platform to the entrance at East 70th Street. Such passageways are not conducive to wayfinding, a condition that MTA/NYCT seeks to avoid where practicable. *This objective would therefore be moderately met by Alternative 4*.

Improve or Maintain Fare Control and Mezzanine Performance—Passengers with destinations north of East 68th Street could use the new street entrances at East 70th Street. This would reduce the number of passengers using the 68th Street Mezzanine. This would maintain or improve fare control and mezzanine performance. *This objective would be met by Alternative 4*.

GOAL 2: MINIMIZE COST

The cost of Alternative 4 was estimated to be $136 million, approximately $66 million more than the least expensive of the Build Alternatives (see Table A-2). This cost is associated with the need to construct lengthy passageways to connect the northern ends of the northbound and southbound platforms to the new East 70th Street station entrances. This would represent a disproportionally high cost relative to the size and nature of this project and its budget.

The construction duration for Alternative 4 was estimated to range from 60 to 72 months, which would further increase the potential for greater costs. *Alternative 4 would NOT meet this goal.*

GOAL 3: MINIMIZE CONSTRUCTION RISK

The new passageways would be constructed under the sidewalks on both sides of Lexington Avenue. The new passageways would involve reconstruction of subway tunnel structures from the current end of the platform to the new access intersection and would require extensive excavation under Lexington Avenue and/or the adjacent sidewalks. Excavation for this alternative would cause disruption to traffic conditions and businesses and residences along Lexington Avenue. This alternative would also involve rebuilding existing subway structures, including tunnel walls, roof support structures, and sidewalk ventilation grates.

Alternative 4 would encounter several sensitive infrastructure elements, including subway structures, requiring relocation. This and the extended construction duration of Alternative 4 further increases construction risks. *Alternative 4 would meet this goal only moderately*.

GOAL 4: MINIMIZE REAL ESTATE ISSUES

Alternative 4 would not require real estate acquisition to construct new street entrances at East 70th Street. *Alternative 4 would therefore meet this goal*.

GOAL 5: MINIMIZE IMPACTS DURING CONSTRUCTION

Minimize Disruption to Station, Subway Operations and Passengers During Construction—Because of the extensive work required at the platform level, construction of Alternative 4 would involve extensive disruptions to subway service at the 68th Street/Hunter College Station and disruptions to subway service at the 68th Street/Hunter College Station and disruptions to local subway service along the 6 Subway Line. The extended duration of construction would result in more lengthy disruption of subway operations. *This objective would NOT be met by Alternative 4*.

Minimize Disruption to the Neighborhood During Construction—Alternative 4 would require extension of the subway station cavern over almost an entire city block, from a point north of East 69th Street to East 70th Street. This alternative would involve rebuilding existing subway structures, including tunnel walls, roof support structures, and sidewalk ventilation grates requiring temporary lane closure on Lexington Avenue that would affect traffic. Excavation for Alternative 4 would cause disruption to traffic conditions and businesses and residences along Lexington Avenue. The extended duration of construction would result in longer disruption of the neighborhood. *This objective would NOT be met by Alternative 4*.

GOAL 6: IMPROVE AND MAINTAIN ENVIRONMENTAL CONDITIONS AND MINIMIZE ENVIRONMENTAL IMPACTS

Minimize Impacts to Historic Resources and Section 4(f) Resources—With the implementation of a Construction Protection Plan (CPP), no adverse effects to historic resources and no use of Section 4(f) resources is anticipated under Alternative 4. *This objective would be met by Alternative 4*.

Maintain or Improve Pedestrian and Vehicular Circulation—The creation of new entrances at East 70th Street would not require permanent elimination of traffic lanes. Pedestrian circulation at East 68th Street would improve as a result of improvements to the street entrances and reduction in the number of passengers entering and exiting the station at East 68th Street, as passengers would use the new street entrances at East 70th Street. No significant impacts to pedestrian circulation would result at East 70th Street. *This objective would be met by Alternative 4*.

ALTERNATIVE 4: CONCLUSION –NOT ADVANCED

While Alternative 4 would meet the project purpose and need, it would not meet several key goals and objectives. Alternative 4 would cost over $136 million, would involve subway service outages and would involve construction risk and construction impacts. This alternative was therefore not advanced for further consideration.

3.6 ALTERNATIVE 5 –69TH STREET EMERGENCY ACCESS ALTERNATIVE

Alternative 5 would include the same ADA-compliant elevator features as the other preliminary alternatives, but would not create additional platform stairs for permanent operation. Instead it would create emergency egress at East 69th Street in the form of hatches in the southern sidewalks of East 69th Street east and west of Lexington Avenue. Alternative 5 would include construction of an additional, temporary street stair at the southwest corner of East 69th Street and Lexington Avenue to provide station access capacity during intermittent closure of existing street stairs at East 68th street during rehabilitation of these stairs and construction of the ADA-compliant street elevator at East 68th Street. The temporary street stair would be removed and the site restored after completion of construction at East 68th Street.

PROJECT PURPOSE AND NEED

Alternative 5 would not provide additional platform stair operational capacity and thus would not address the station's fundamental circulation deficiencies. Alternative 5 would not meet the purpose and need and was therefore not advanced for further consideration.

3.7 ALTERNATIVE 6 – 68TH STREET ACCESS ALTERNATIVE

Alternative 6 would include the same ADA-compliant elevator features as the other preliminary alternatives, but would not create additional platform stairs for permanent operation. This alternative would increase street stair capacity at East 68th Street, but would not provide additional platform stairs, resulting in increased entry flow, which in turn will compete for the turnstiles and platform stair usage with exit surges. As a result, there would be a reduction in circulation performance at the fare control array and the mezzanine. The alternative would provide a temporary fare array adjacent to the shared mezzanine landing of the northbound platform stairs during construction. This temporary fare array would create significant circulation problems: it introduces a potentially large amount of counter flow of station entries to a shared landing area that is overwhelmingly used for exiting. This counter flow could cause peak period exit surges to further congest the already congested platform stairs. Exiting passengers from the southbound platform who want the northeast street stair would also have to walk through the shared landing. There is little reservoir space on either side of the proposed control line. Combined with the reasons mentioned above, increased northeast street stair volume (from those diverted away from the southeast street stair) could result in unacceptable levels of congestion (even for a construction scenario) at the northeast stair.

PROJECT PURPOSE AND NEED

Alternative 6 would not provide additional platform stair operational capacity and thus would not address the station's fundamental circulation deficiencies. Alternative 6 would not meet the purpose and need and was therefore not advanced for further consideration.

3.8 CONCLUSION

The evaluation of the Preliminary Alternatives is summarized in Table A-2. As discussed above and as indicated in the table, all Preliminary Alternatives, with the exception of Alternative 5 and Alternative 6 would satisfy the purpose and need and therefore were advanced for further evaluation based on goals and objectives. In terms of goals and objectives, Alternative 1 (68th Street Mezzanine Expansion Alternative) would involve considerable construction risk associated with relocation of ECS duct banks; would involve impacts to station operations, subway passengers, and the neighborhood; and would require underpinning of Thomas Hunter Hall. Alternative 3 (67th Street Access Alternative) and Alternative 4 (70th Street Access Alternative) would result in much higher costs; longer construction duration; greater construction impacts; and greater impacts to station operations, subway passengers, and the neighborhood.

In contrast, Alternative 2, and Alternative 2 with Option E1, better meet all project goals and objectives. Alternative 2 involves the installation of ADA-compliant elevators, provides a second means of ingress and egress via new stairs at or near the north end of the station, and provides substantial improvements to circulation deficiencies and substantially relieves congestion at the existing platform stairs and street stairs. Alternative 2 out-performs all other alternatives in alleviating the existing poor passenger circulation and station congestion. With street access at or near the north end of the station, a better balance in train loading is expected, and the subway system is more convenient for those passengers with destinations and/or origins north of East 68th Street.

In addition, Alternative 2 would cost substantially less to construct than any of the other alternatives that meet the purpose and need and would require less time to construct. It would not encounter the risk associated with relocating the ECS duct banks that extend along Lexington Avenue and would therefore not encounter the potential for failure of phone and data transmission carried by these cables to and from businesses, medical facilities, academic institutions, residences and other users. Because the duration of construction is shorter and less excavation would be required for Alternative 2 than any of the other build alternatives, fewer construction-related impacts would occur, including access to area businesses, academic institutions, medical facilities and residences, as well as traffic delays and construction noise. Unlike the other build alternatives, Alternative 2 would not involve significant work at the track level and therefore would require far less disruption to subway service than the other alternatives

In summary, Alternative 2 would not represent a major construction risk, would have the lowest cost, the shortest construction duration, the lowest impact on station operations and the neighborhood, and would out-perform all other alternatives in terms of solving the station's deficiencies. Alternative 2 was therefore advanced for further analysis.

In addition to the above, an important advantage inherent in the design of Alternative 2 is that for each platform it would provide two distinct and separate locations for station egress, one at East 68th Street and one at northern end of the station. As such, if need be, the station could be evacuated more quickly, and if events render one egress area inaccessible, an alternative means of egress would exist.

In developing Alternative 2, MTA/NYCT considered several options for locating the ADA-compliant street elevator at East 68th Street as described in Section 4.1 below. In addition, MTA/NYCT evaluated options for subway entrances located at the northern end of the station, as described in Section 4.2.

4.0 ENTRANCE OPTIONS SCREENING

Several entrance options were considered for Alternative 2 – the only remaining alternative after screening for the purpose and need and goals and objectives. Options were identified in two categories:

- Options for locations of the ADA-compliant street elevator (discussed in Section 4.1);
- Options for locating street entrances at the northern end of the station (discussed in Section 4.2).

4.1 ADA-COMPLIANT STREET ELEVATOR LOCATION OPTIONS

To determine the most suitable location for the ADA-compliant street elevator at the intersection of East 68th Street and Lexington Avenue, an analysis of options was conducted to evaluate the feasibility and merits of the street elevator at the following locations.

1. Northwest corner of the intersection of East 68th Street and Lexington Avenue
2. Northeast corner of the intersection of East 68th Street and Lexington Avenue
3. Southwest corner of the intersection of East 68th Street and Lexington Avenue
4. Southeast corner of the intersection of East 68th Street and Lexington Avenue

The analysis of ADA-compliant street elevator options used the same goals and objectives as those for the overall project, taking into consideration the specific requirements of ADA-compliant elevator planning. All options performed adequately or better in terms of ADA-

compliant access and circulation, but differed in the extent to which they met the project goals and objectives.

Street Elevator Option 1—Northwest Corner: The northwest corner of the intersection is occupied by Thomas Hunter Hall, a contributing building to the Historic District listed in the National Register of Historic Places and a Section 4(f) resource. Locating the elevator within Thomas Hunter Hall or on the adjacent sidewalk was deemed infeasible because no space was available on the sidewalk to accommodate a street elevator and placing the elevator inside Thomas Hunter Hall would involve use of a historic resource and Section 4(f) resource. Locating the elevator within this building would be inconsistent with the goals and objectives and this option was therefore eliminated from further consideration.

Street Elevator Option 2—Northeast Corner: The northeast corner of the intersection is occupied by the Imperial House Apartments. Because insufficient space exists on the adjacent sidewalk for an elevator, the elevator and elevator well structure would need to be constructed inside Imperial House, a Section 4(f) resource and a structure determined eligible for listing in the National Register of Historic Places. This option would require costly property acquisition/condemnation within Imperial House Apartments and extensive utility rerouting within the building. Because of the property acquisition/condemnation process, the project including this option may take approximately two years longer to complete compared to other elevator options. Locating the elevator within this building would be inconsistent with the goals and objectives and this option was therefore eliminated from further consideration.

Street Elevator Option 3—Southwest Corner: The southwest corner of the intersection is occupied by an existing street stair. Locating a street elevator at this location was deemed technically feasible as it would utilize an existing plaza area of the Hunter College West building. The plaza includes seating and a sculpture, and the stairwell includes one tree. Entrances to the Hunter College West Building open to this area. The plaza is owned by Hunter College and is considered a Section 4(f) parkland resource. The construction of the street elevator would intrude upon the Hunter College outdoor seating area and require removal of a mature tree on the southwest corner of East 68th Street. Locating the elevator within the open space would be inconsistent with the goals and objectives and this option was therefore eliminated from further consideration.

Street Elevator Option 4—Southeast Corner: The southeast corner of the intersection is occupied by a street stair, some seating, and a florist kiosk. Locating a street elevator at this location was deemed feasible as it would utilize an existing sidewalk area of the Hunter College East building where space exists for the elevator and head house, would not reduce seating, and would not involve use of a historic structure. In addition, the widened stair associated with this option would alleviate passenger congestion at this entrance and would better serve disabled access to the area's hospitals, which are to the east. The elevator would also be located next to the M66 Bus stop on the south side of East 68th Street east of Lexington Avenue. The elevator and stair would be located under the protection of the arcade facilitating circulation during inclement weather. The open stair well would also increase natural lighting within the station. Locating the elevator within this area would be consistent with the goals and objectives and this option was retained for further consideration.

Conclusion: Among the 68th Street elevator options, Option 4 (southeast corner of East 68th Street and Lexington Avenue) was advanced for further analysis in the EA as part of Alternative 2. Table A-3: East 68th Street ADA-Compliant Street Elevator Options, provides a summary of the evaluation of street elevator location options.

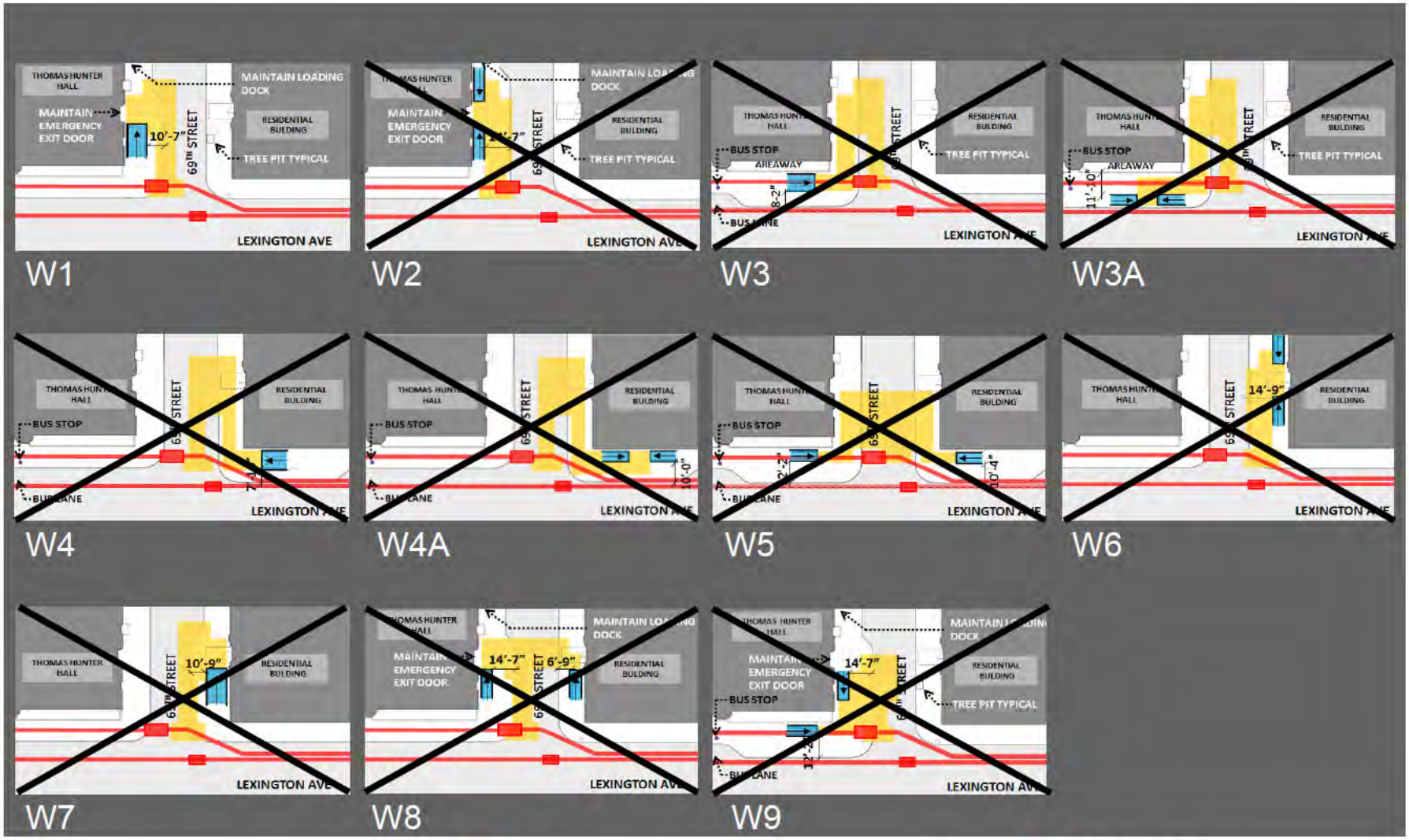
4.2 Street Entrance Options at or Near East 69th Street (applies to Alternative 2 only)

Twenty-four (24) options for the location of the street stairs at or near the north end of the station, were considered (Figure A-7 illustrates stair options located on the west side of Lexington Avenue and Figure A-8 illustrates the options on the east side of the avenue). In general, streets stairs would be needed both west and east of Lexington Avenue to access the southbound and northbound platform, respectively. However, a single street stair on either side of Lexington Avenue providing access to both platforms via a mezzanine was also considered.

Table A-3: East 68th Street ADA-Compliant Street Elevator Options

	1	2	3	4
SCREENING CRITERIA	**NW**	**NE**	**SW**	**SE**
IMPROVE CIRCULATION				
MINIMIZE COST				
MINIMIZE CONSTRUCTION RISK				
MINIMIZE REAL ESTATE ISSUES				
MINIMIZE IMPACTS TO 4(f) RESOURCES				
ADVANCE? (Yes/No)	**NO**	**NO**	**NO**	**YES**

LEGEND
Achieves Goals and Objectives Well
Moderately Achieves Goals and Objectives
Does Not Achieve Goals and Objectives



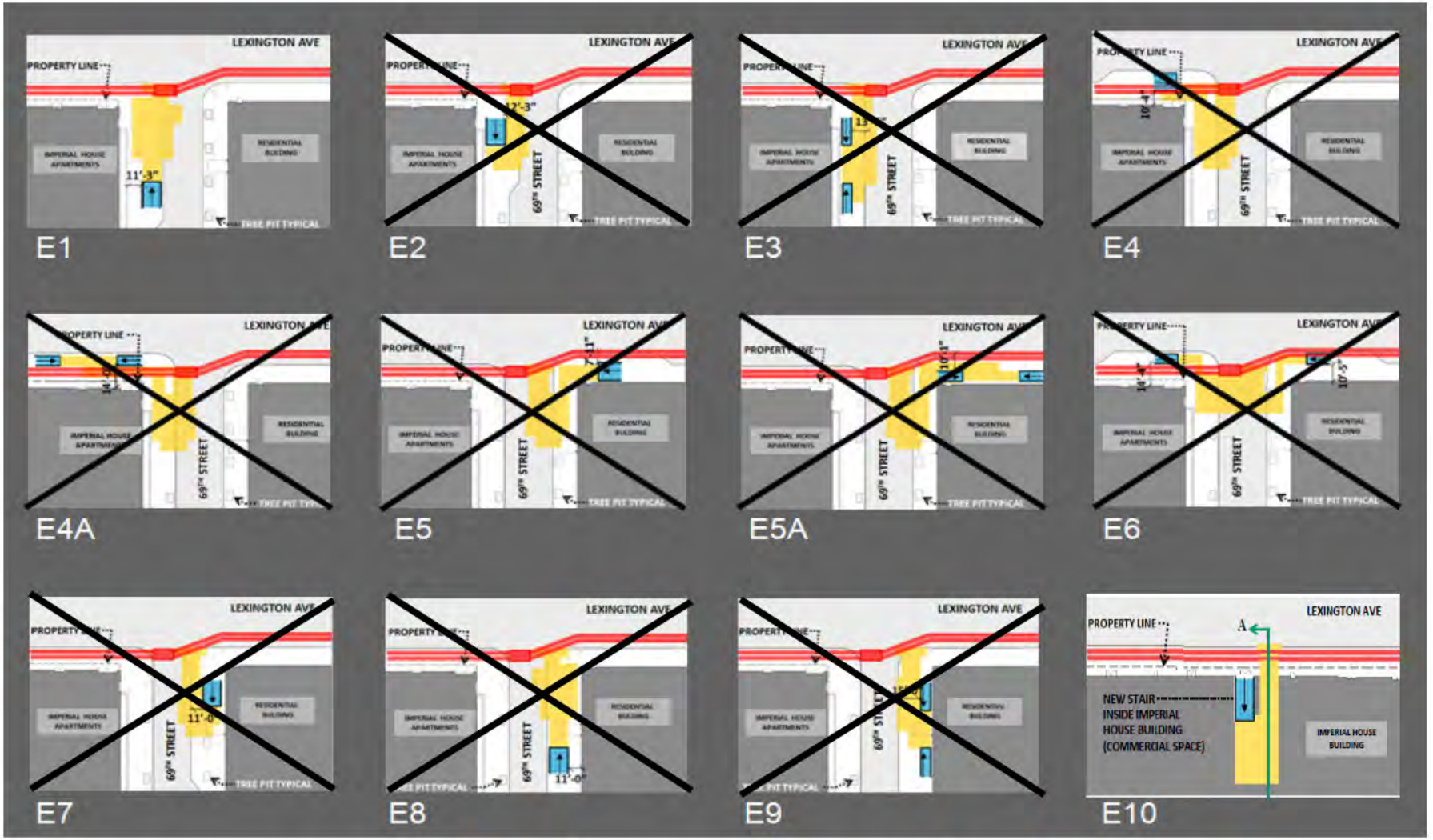
Not to Scale

Stair Descending **Mezzanine Below** **ECS Duct Bank**

NORTH

West Side Stair Location Options

Figure A-7



Not to Scale

Stair Descending | Mezzanine Below | ECS Duct Bank

NORTH

East Side Stair Location Options

Figure A-8

EVALUATION PROCESS

Criteria used in the design of a street stair west and a street stair east of Lexington Avenue followed MTA/NYCT minimum requirements for stair width for a single stair or a pair, and NYCDOT requirements for minimum clear sidewalk width. The evaluation of the 24 options focused on potential impacts inherent in the design (e.g., community disruption, effects on parking, traffic and transportation) and constructability of the street stair. Figures A-7 and A-8 illustrate the results of the preliminary screening process to determine which possible options should be advanced (further graphical representation of each individual alternative stair location is provided as referenced in the following text. Stair location options west of Lexington Avenue are labeled "W" and stair location options east of Lexington Avenue are labeled "E", followed by a number.

In these figures, the lines and rectangles shown in red indicate the location of the ECS duct banks and ECS manholes, respectively. The physical elements of each street stair and mezzanine are shown in yellow. A discussion the selection process for street stair combinations is provided. The street stair options were evaluated in consideration of the project purpose and need and goals and objectives described in Chapter 1 – Purpose and Need, of the EA.

The discussion below first evaluates street stair options on the west side of Lexington Avenue (Options W1 through W9) for access to the southbound platform. This evaluation results in a recommended street stair at East 69th Street west of Lexington Avenue to be included in Alternative 2.

Second, street stair options for the east side of Lexington Avenue are evaluated (Options E1 through E10) for access to the northbound platform. This evaluation results in a recommended street stair in the commercial space at 931 Lexington Avenue to be included in Alternative 2; a viable alternative for access to the northbound platform would be Option E1, which includes a street stair on the south sidewalk of East 69th Street east of Lexington Avenue.

4.2.1 EVALUATION OF OPTIONS FOR A STREET ENTRANCE AT THE NORTH END OF THE STATION *WEST* OF LEXINGTON AVENUE

Analyses were conducted to evaluate the performance of the street stair for station access options (see Appendix C). In terms of circulation performance, the street stair in all options operated at LOS A or LOS B during all peak time periods (AM, midday and PM) and thus was not a differentiator among options considered. The detailed transportation analyses of all street stair options are included in Appendix C – Transportation.

Considering the 11 different options for a street stair on the west side of Lexington Avenue (Figures A-9 through A-19, respectively), Options W3, W3A, W4, W4A, W5 and W9 would construct a street stair on the west sidewalks of Lexington Avenue. A subway stair on the Lexington Avenue sidewalks would require extension of the sidewalk (neck downs) into the dedicated bus lane in the vicinity of the stair and potentially cause impacts to bus service. The stair structures would also interfere with ECS duct banks, requiring their relocation and increasing the potential risk of communications failure while substantially increasing cost. With the exception of Options W5 and W9, these options would also interfere with the subway tunnel walls and subway ventilation grates, increasing construction cost and duration. Options W3, W3A, W4, W4A, W5 and W9 would interfere with bus traffic on Lexington Avenue, create cost and constructability issues, and increase construction duration, Options W3, W3A, W4, W4A, W5, and W9 would not be consistent with the project goals and objectives were eliminated from further consideration.

Option W8 (Figure A-18) would place the street stair west of Lexington Avenue on both sides of East 69th Street. In order to provide sufficient clear sidewalk space beside the stairs, neck

downs would be required on both the north and south sides of the street, a configuration that NCYDOT is unlikely to approve. Additionally, the option would require a mezzanine extending from the south side to the north side of the street, increasing construction cost and duration, and causing disruption to traffic on the street during construction. For these reasons Option W8 was eliminated from further consideration.

East 69th Street Access Single Street Stair Option (no illustration provided)—In addition to the street stair location options west and east of Lexington Avenue, MTA/NYCT evaluated an option that was suggested during community outreach for the project. This option would provide a mezzanine over the tracks at the north end of the station connecting to both northbound and southbound platforms. Leading from this mezzanine would be one street stair on the west side of Lexington Avenue leading to the south sidewalk of East 69th Street. As per the current MTA/NYCT guidelines, the minimum clearance from the top of the rail to the underside of a mezzanine floor (to accommodate the height of the train) is 12 feet, eight-and-3/8 inches. As required by the NYS Building Code (Chapter 12, Section 1208.2), the minimum ceiling height for a mezzanine is seven feet, six inches. A survey of the north end of the station indicated that the vertical distance between the track and the ceiling is 21 feet. Considering the code requirements, the MTA/NYCT guidelines and the existing vertical space, a vertical distance of less than 10 inches would be available for mezzanine construction decking, structural slab and beam. Ten inches is insufficient for these structural elements. As such, this option was determined to be technically infeasible and eliminated from further evaluation.

Options W1, W2, W6 and W7 were deemed feasible and advanced for further evaluation as described below:

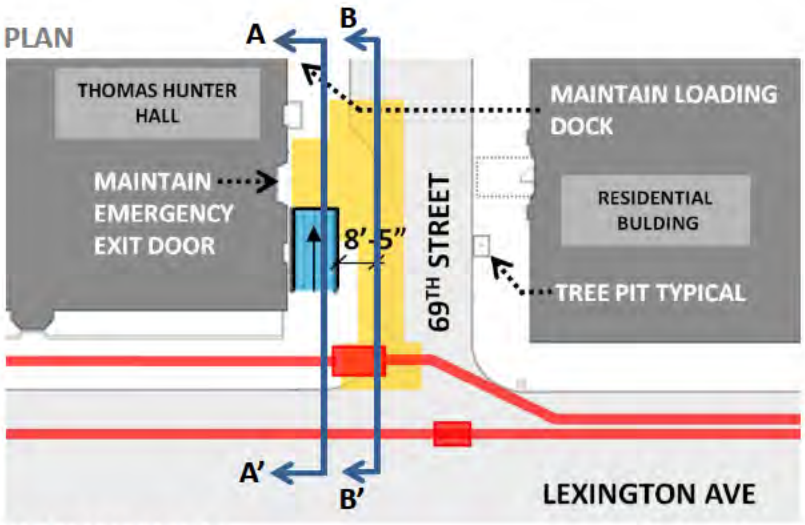
W1 (Figure A-9)—Would provide one nine-foot-wide street stair on the south sidewalk, would avoid the emergency exit and loading dock of Thomas Hunter Hall, and would not interfere with ECS duct banks. This option would require the removal and replacement of two street trees and the permanent loss of four parking spaces.

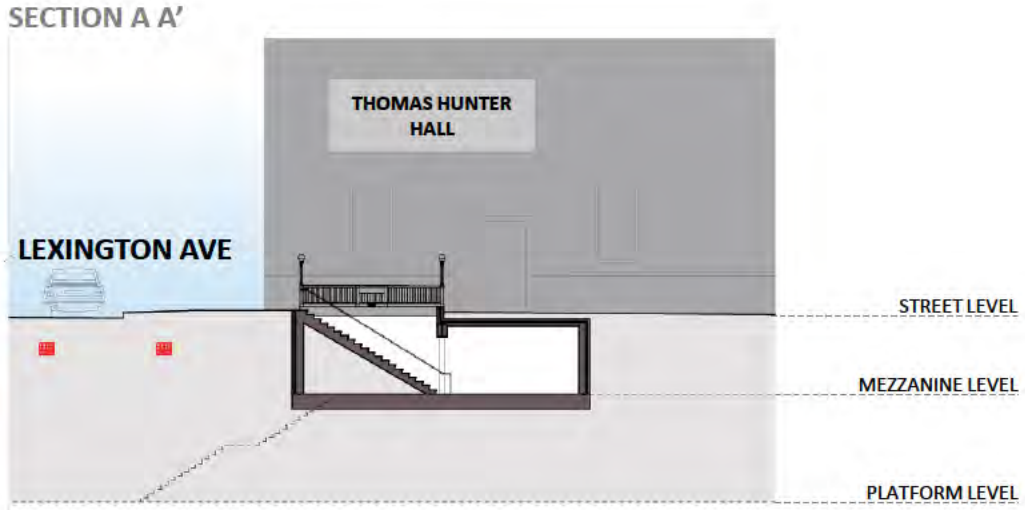
W2 (Figure A-10)—Would provide two five-foot-wide street stairs on the south sidewalk, would avoid the emergency exit and loading dock of Thomas Hunter Hall, and would not interfere with ECS duct banks. This option would require the removal and replacement of two street trees and the permanent loss of five parking spaces.

W6 (Figure A-16)—Would provide two five-foot-wide street stairs on the north sidewalk and would not interfere with ECS duct banks. This option would require the removal and replacement of two street trees and the permanent loss of five parking spaces.

W7 (Figure A-17)—Would provide one nine-foot-wide street stair on the north sidewalk and would not interfere with ECS duct banks. This option would require the removal and replacement of one street tree and the permanent loss of four parking spaces.

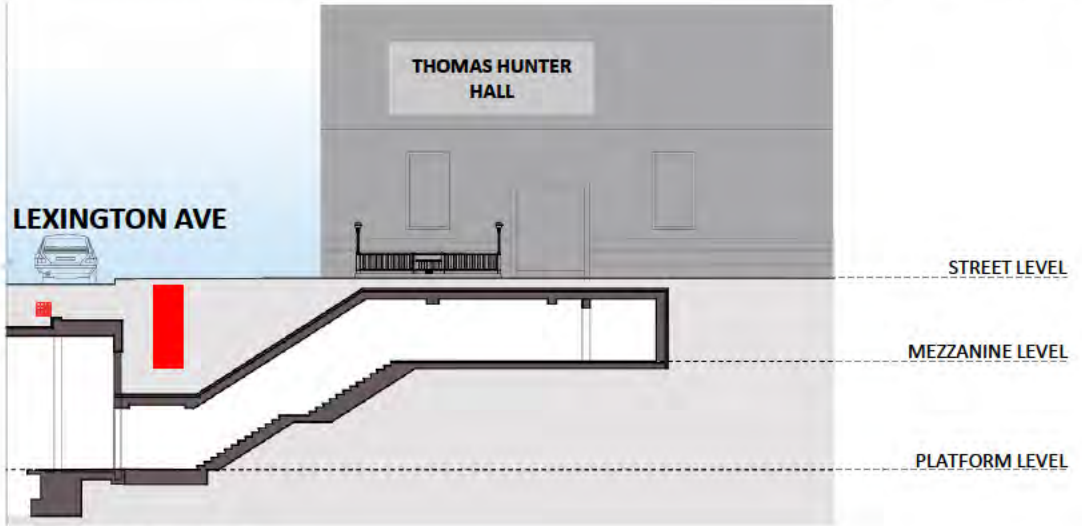
The two-stair options (W2 and W6) would cost slightly more than the one-stair options to construct because of the additional building material and excavation, and were not advanced as the preferred configuration. Further, W2 would involve taking more parking spaces than would W1. Options W6 and W7 would place the stair in front of a residential building when other options exist, and were therefore not advanced as the preferred configuration. Option W1, in contrast with W2, would eliminate fewer parking spaces and cost less to construct.





SW CORNER

- 9' Wide stair
- **Emergency Exit Door of Thomas Hunter Hall maintained**
- **Loading dock of Thomas Hunter Hall maintained**
- **Stair clears ECS Duct Bank**
- 6' Curb extension of 69th St required to accommodate stair
- 4 Parking spaces removed
- 1 Tree removed



SECTION B B'

Stair Descending

Mezzanine Below

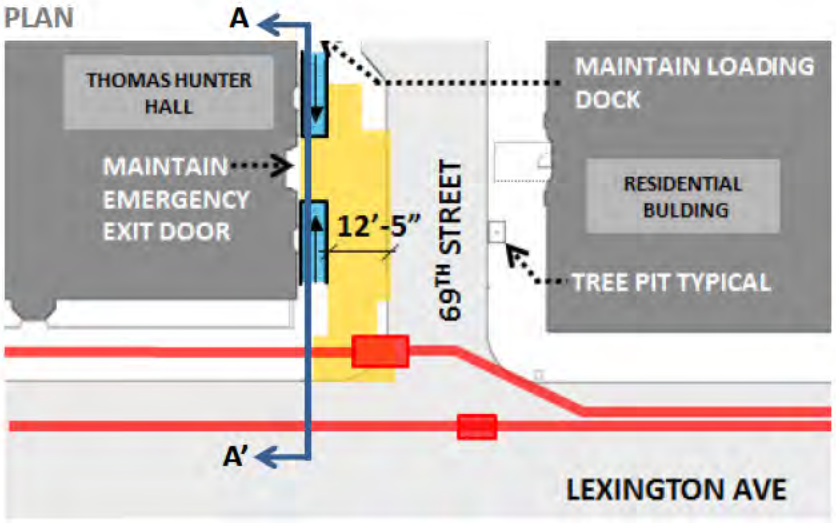
ECS Duct Bank

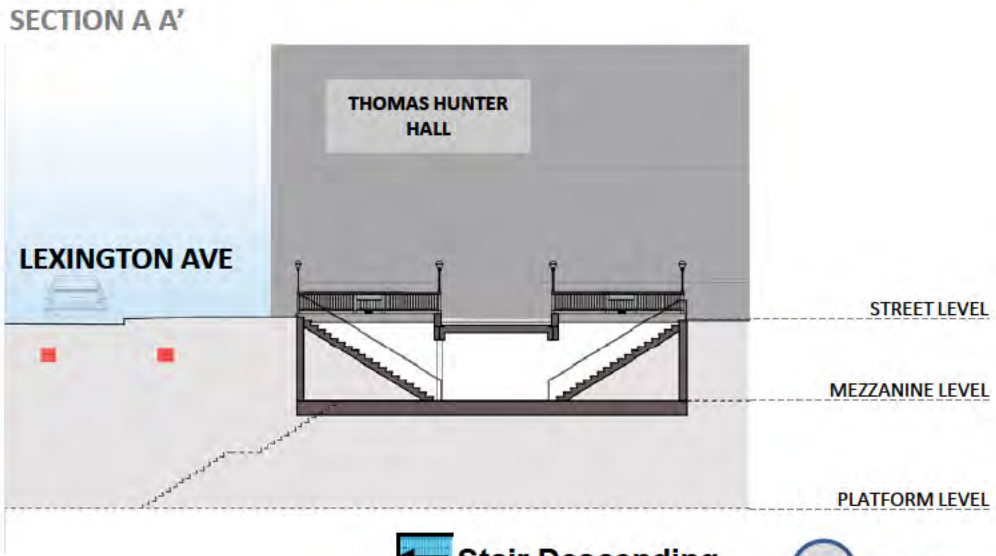
NORTH

Not to Scale

Option W1

Figure A-9





Stair Descending

Mezzanine Below

ECS Duct Bank

NORTH

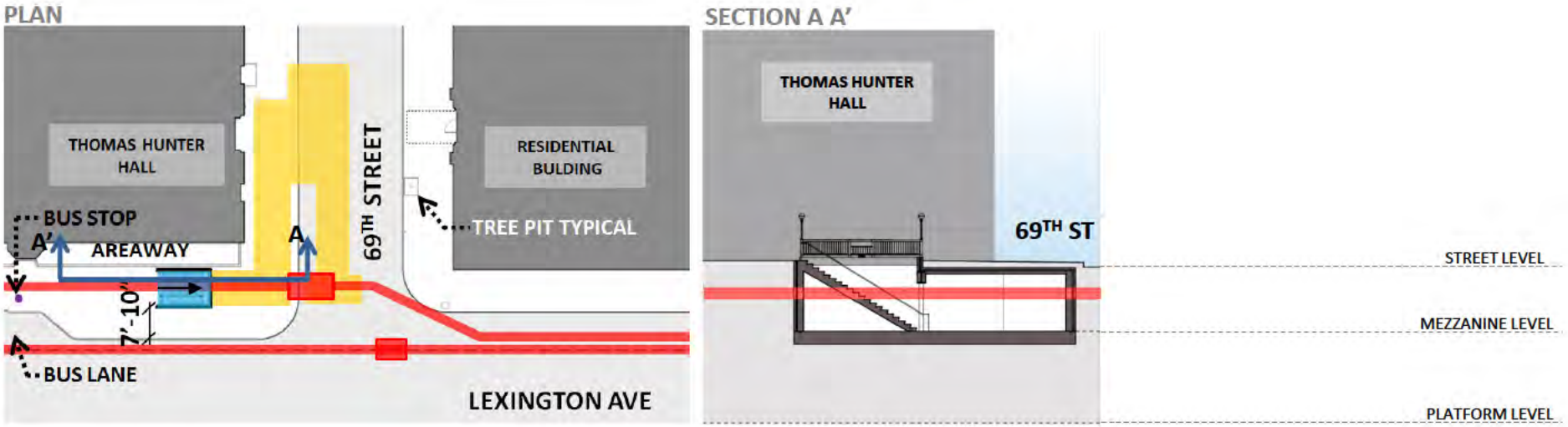
Not to Scale

SW CORNER

- Two 5' wide stairs
- **Emergency Exit Door of Thomas Hunter Hall maintained**
- **Loading dock of Thomas Hunter Hall maintained**
- **Stair clears ECS Duct Bank**
- 5 Parking spaces removed
- 2 Trees removed

Option W2

Figure A-10



SW CORNER

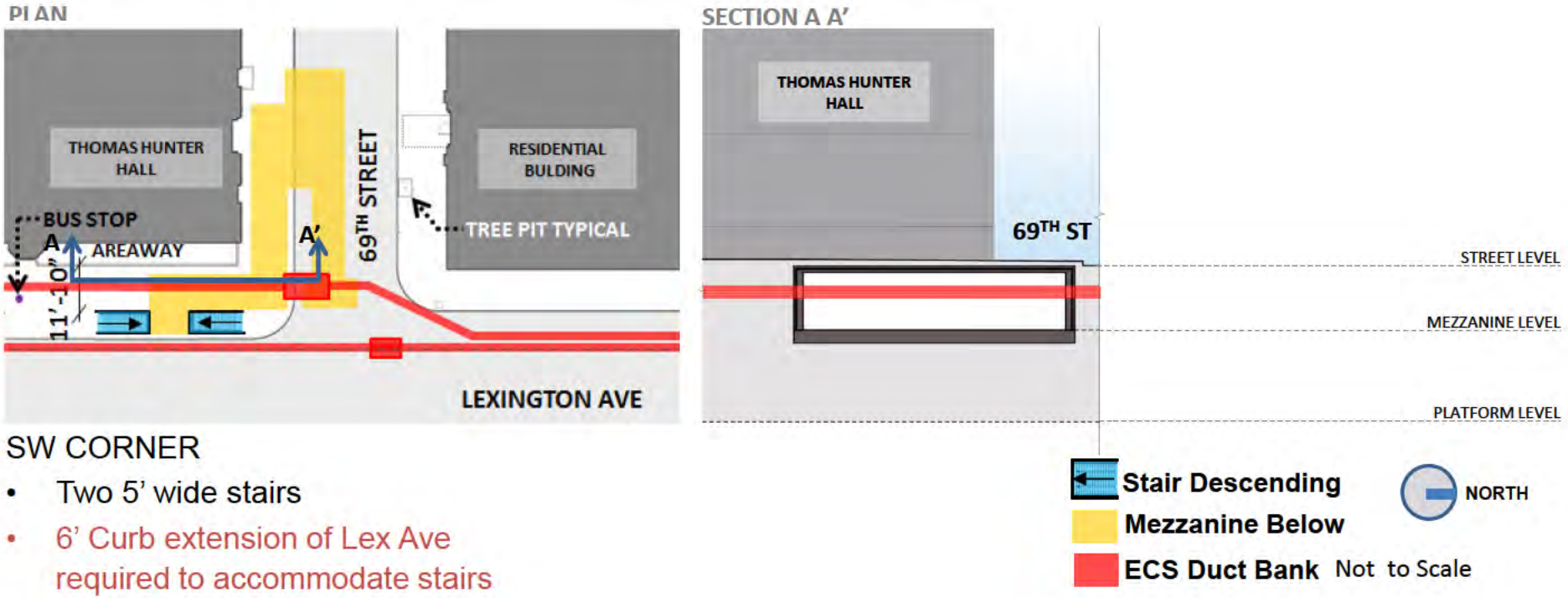
- 9' Wide stair
- 6' Curb extension of Lex Ave required to accommodate stair
- Bus lane interference due to curb extension
- Stair interferes with ECS Duct Bank below
- Stair impacts subway envelope and ventilators
- 1 Tree removed
- Additional construction cost and duration

Stair Descending
Mezzanine Below
ECS Duct Bank

NORTH

Not to Scale

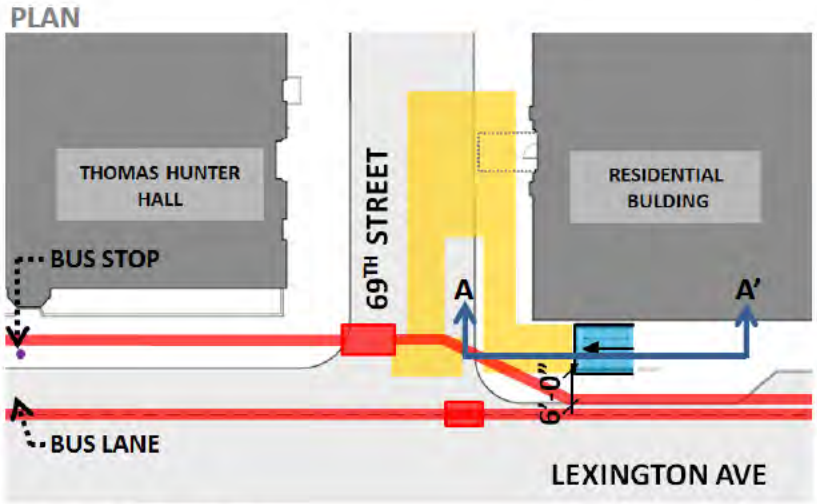
Option W3
Figure A-11

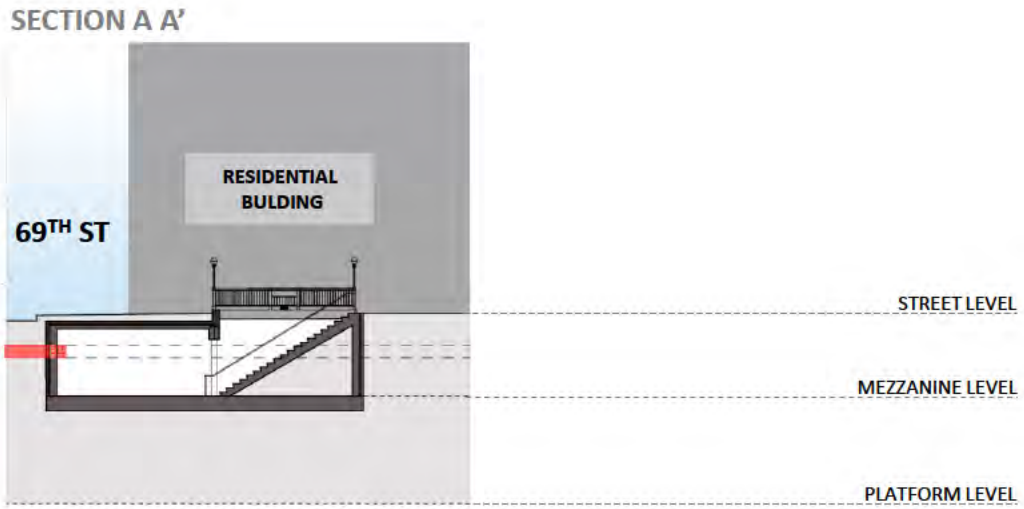


SW CORNER

- Two 5' wide stairs
- 6' Curb extension of Lex Ave required to accommodate stairs
- Bus lane interference due to curb extension
- Mezzanine interferes with ECS Duct Bank below
- Stair impacts subway envelope and ventilators
- 1 Tree removed
- Additional construction cost and duration

Option W3A
Figure A-12





NW CORNER

- 9' Wide stair
- 6' Curb extension of Lex Ave required to accommodate stair
- Bus lane interference due to curb extension
- Mezzanine interferes with ECS Duct Bank below
- Stair impacts subway envelope and ventilators
- 4 Parking spaces removed
- 1 Tree removed
- Additional construction cost and duration

Stair Descending

Mezzanine Below

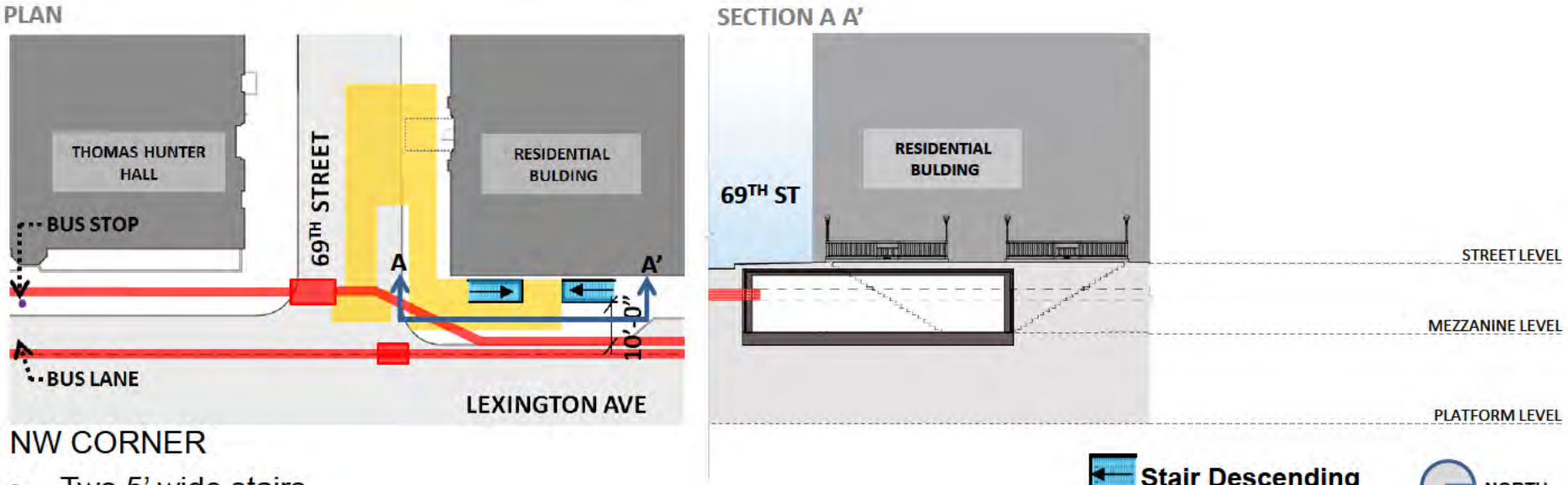
ECS Duct Bank

NORTH

Not to Scale

Option W4

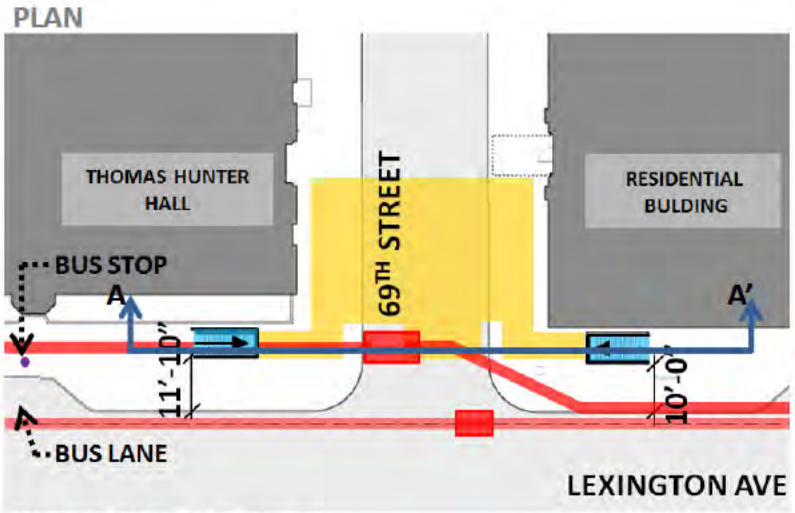
Figure A-13

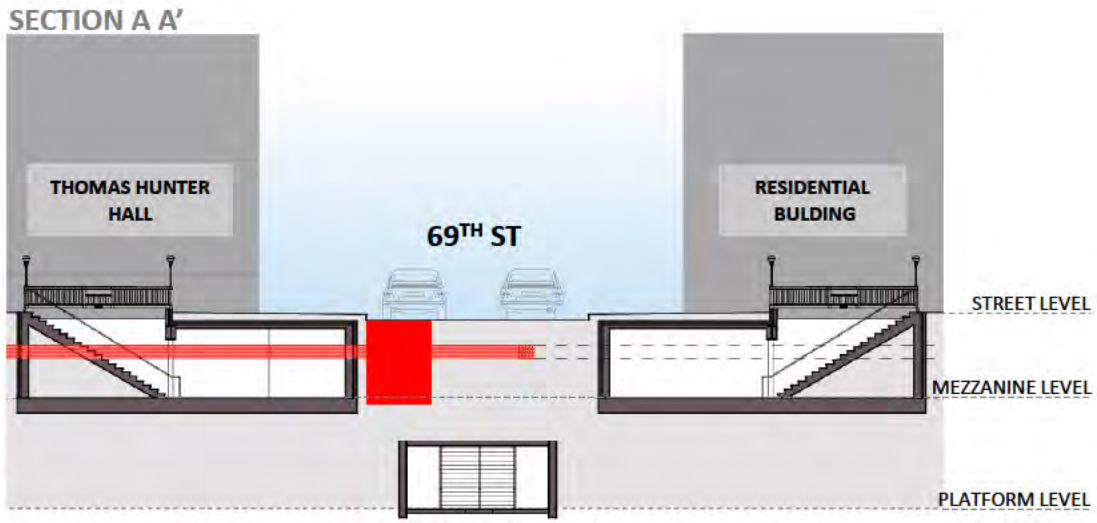


NW CORNER

- Two 5' wide stairs
- 6' Curb extension of Lex Ave required to accommodate stairs
- Bus lane interference due to curb extension
- Mezzanine interferes with ECS Duct Bank below
- Stair impacts subway envelope and ventilators
- 4 Parking spaces removed
- 1 Tree removed
- Additional construction cost and duration

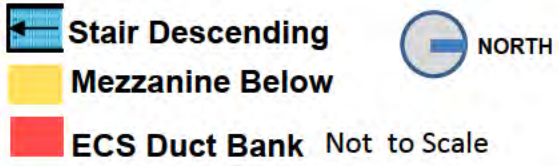
Option W4A
Figure A-14



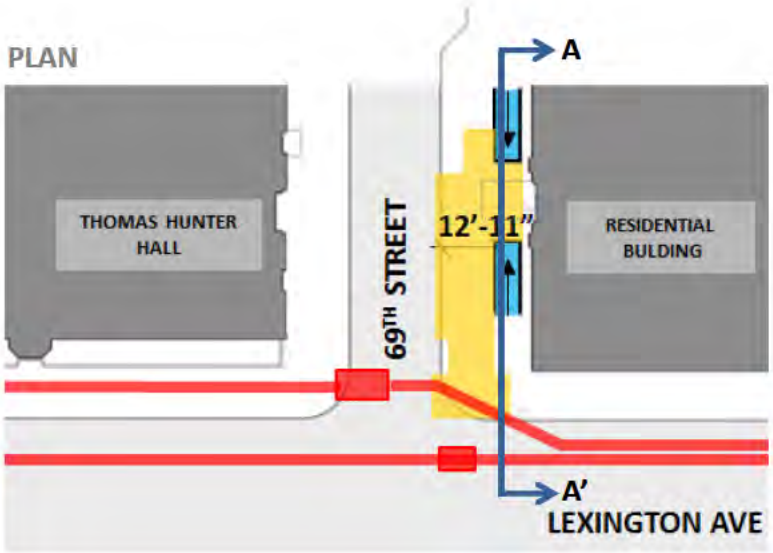


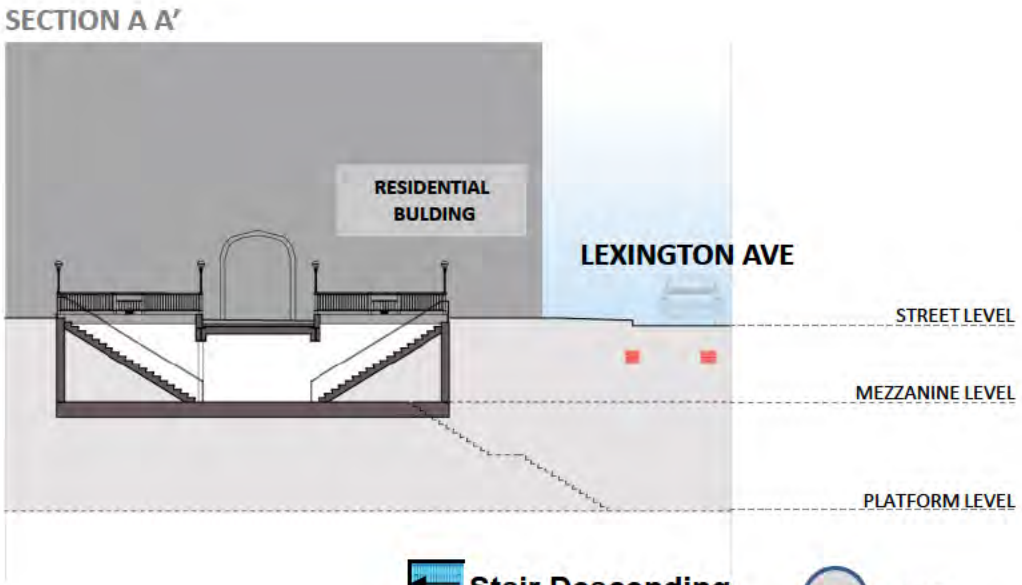
NW/SW CORNER

- Two 5' wide stairs
- 6' Curb extension of Lex Ave required to accommodate stairs
- Bus lane interference due to curb extension
- Stair and mezzanine interfere with ECS Duct Bank below
- 4 Parking spaces removed
- 2 Trees removed
- Additional construction cost and duration



Option W5
Figure A-15





NW CORNER

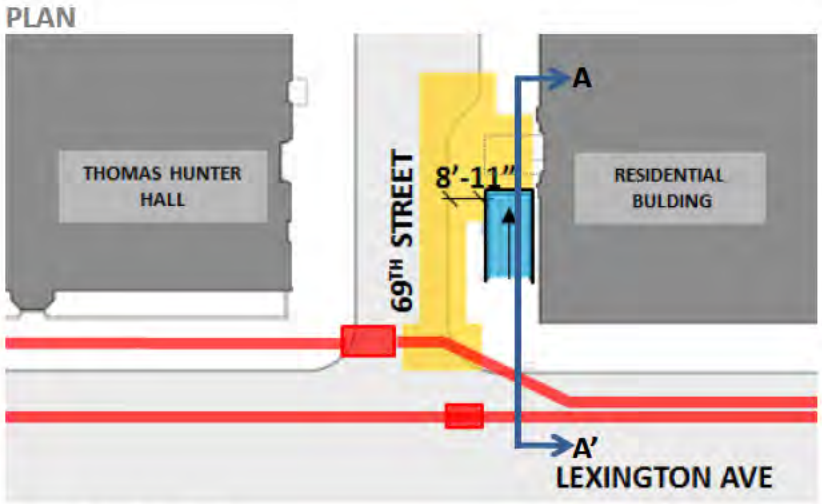
- Two 5' wide stairs
- **Stair clears ECS Duct Bank**
- 5 Parking spaces removed
- 2 Trees removed

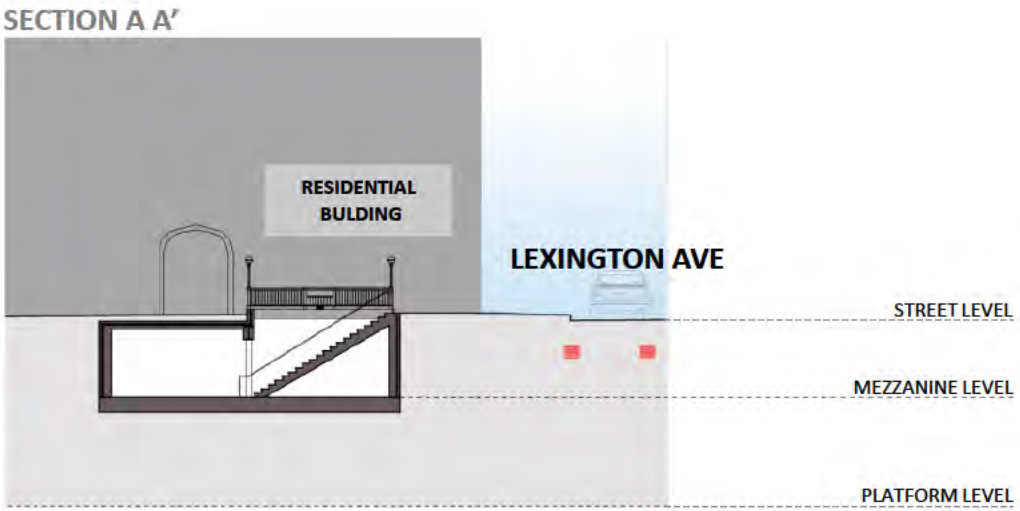
Stair Descending
Mezzanine Below
ECS Duct Bank

NORTH

Not to Scale

Option W6
Figure A-16





NW CORNER

- 9' Wide stair
- **Stair clears ECS Duct Bank**
- 4 Parking spaces removed
- 1 Tree removed

Stair Descending

Mezzanine Below

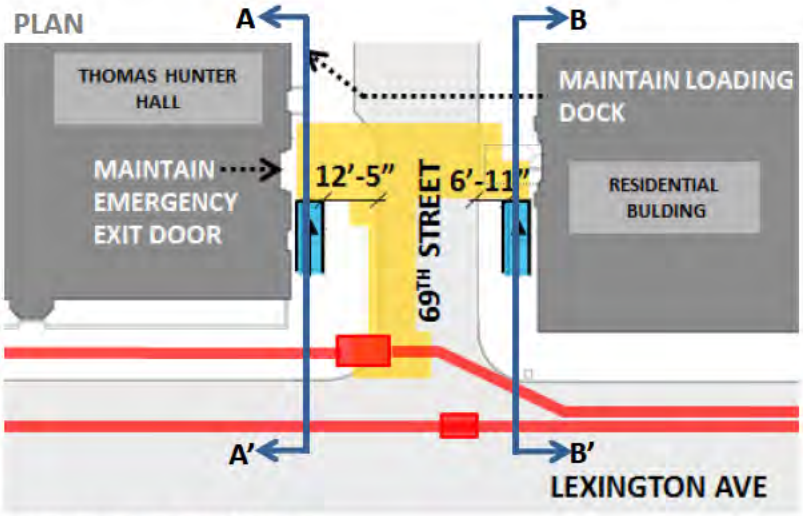
ECS Duct Bank

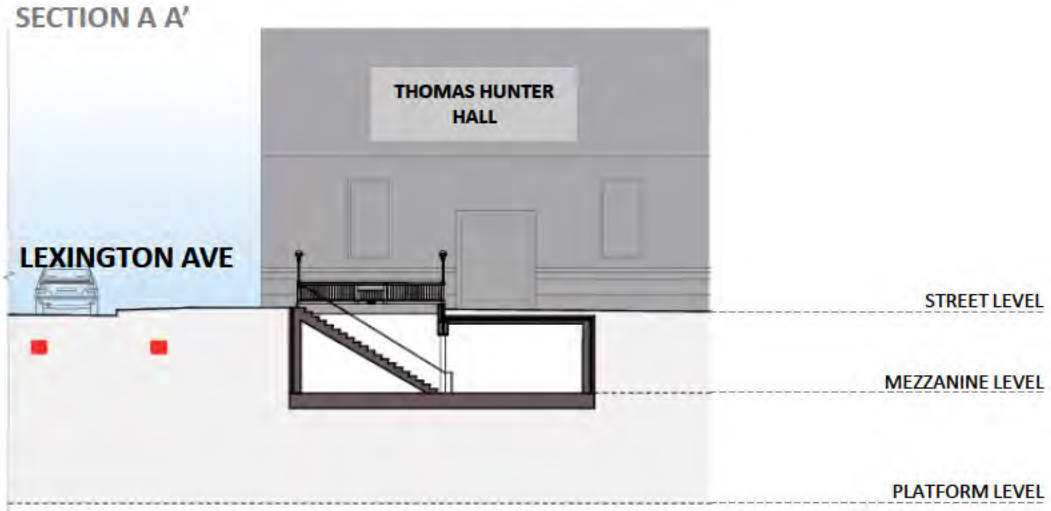
NORTH

Not to Scale

Option W7

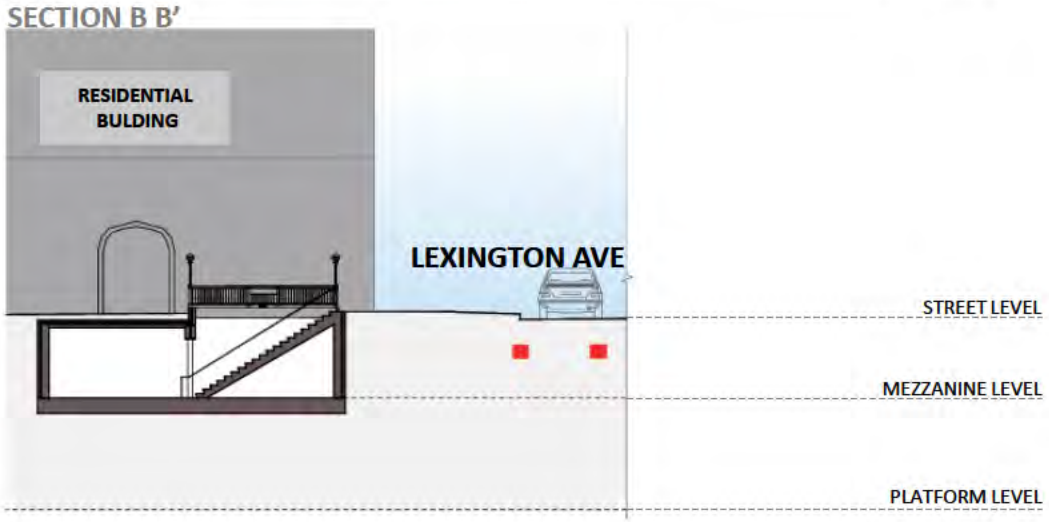
Figure A-17

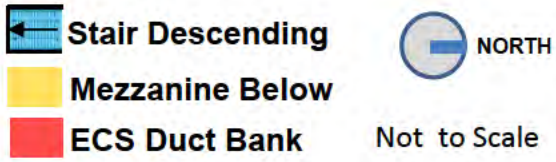




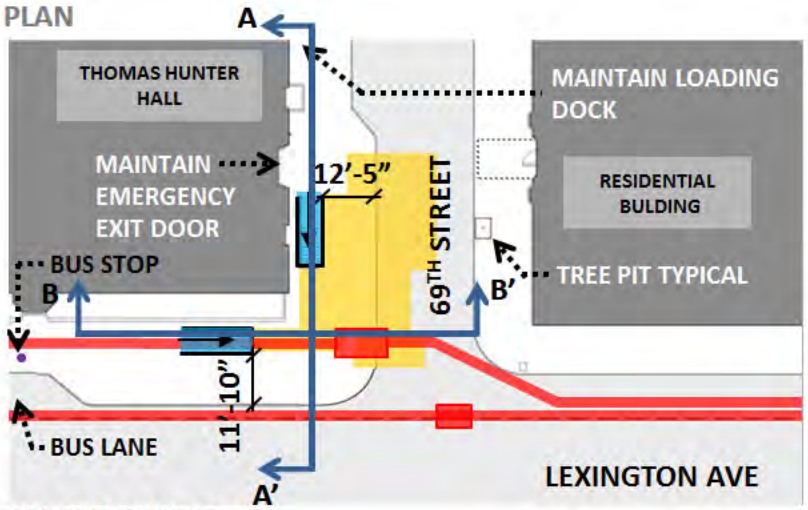
SW/NW CORNER

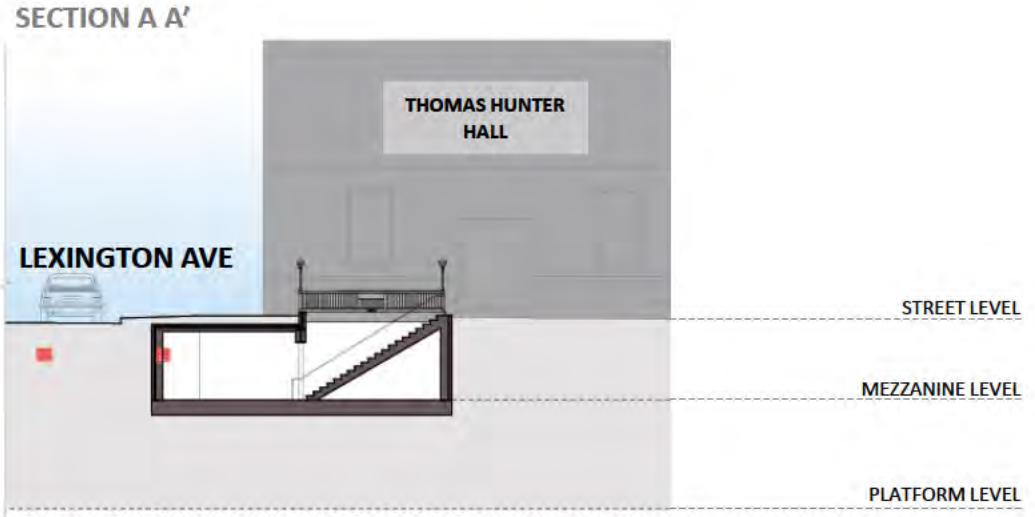
- Two 5' wide stairs
- **Stair clears ECS Duct Bank**
- 4 Parking spaces removed
- 3 Trees removed
- Neck down on both sides of 69th street required for adequate sidewalk clearance – DOT approval unlikely
- Additional construction cost and duration





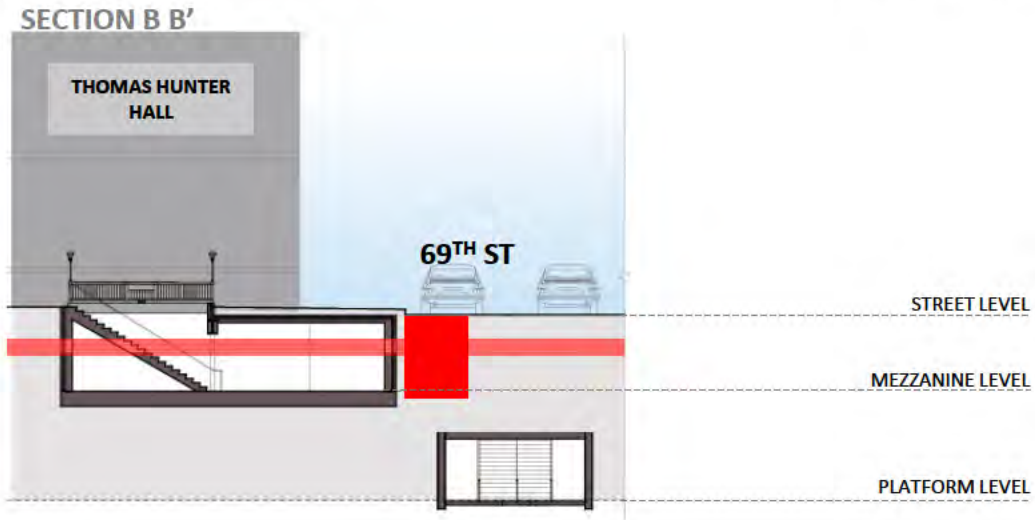
Option W8
Figure A-18

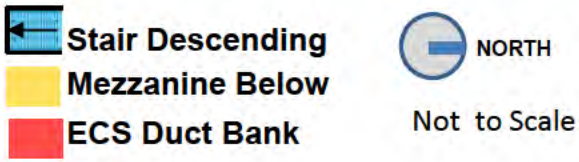




SW CORNER

- Two 5' wide stairs
- 6' Curb extension of Lex Ave required to accommodate stair
- Bus lane interference due to curb extension
- Stair and mezzanine interfere with ECS Duct Bank below
- 4 Parking spaces removed
- 2 Trees removed
- Additional construction cost and duration





Option W9
Figure A-19

CONCLUSION

As a result of the evaluation Option W1 - a nine-foot-wide street stair on the south sidewalk of East 69th Street west of Lexington Avenue was selected for inclusion in Alternative 2.

4.2.2 EVALUATION OF OPTIONS FOR A STREET ENTRANCE AT THE NORTH END OF THE STATION *EAST* OF LEXINGTON AVENUE

On the east side of Lexington Avenue, 12 options for street stair locations were evaluated applying the same criteria as above and evaluated with regard to the goals and objectives. Illustrations of the 12 options are provided in Figure A-20 through A-31. Analyses were conducted to evaluate the performance of the street stairs for station access options (see Appendix C). The street stair in all options operated at LOS A or LOS B during all peak time periods (AM, midday and PM). The detailed transportation analyses of all street stair options are included in Appendix C – Transportation.

Options E4, E4A, E5, E5A and E6 (Figures A-23 through A-27) would construct a street stair on the east sidewalks of Lexington Avenue. A street stair on the Lexington Avenue sidewalks, with the exception of Option E4A, would require extension of the sidewalk into the curb lane in the vicinity of the stair and potentially cause impacts to truck loading zones. The stair structure for all of these options would also interfere with ECS duct banks, requiring their relocation and increasing risk of communications failure while substantially increasing cost. These options would also interfere with the subway structure and sidewalk ventilators, leading to increased construction cost and duration.

Options E4, E4A, E5, E5A and E6 would interfere with truck loading zones on Lexington Avenue, create cost and constructability issues, and increase construction duration and associated impacts. Options E4, E4A, E5, E5A and E6 would not be consistent with the project goals and objectives and were eliminated from further consideration.

Options E1, E2, E3, E7, E8, E9 and E10 were deemed feasible and advanced for further evaluation and are described below.

E1 (Figure A-20)—would provide one nine-foot-wide stair adjacent to the curb (as opposed to the building), and would require the removal and replacement of two street trees and the permanent loss of three parking spaces.

E2 (Figure A-21)—would provide one nine-foot-wide stair in front of a display window on the ground floor retail portion of a residential building, and would require the removal and replacement of one street tree and the permanent loss of three parking spaces.

E3 (Figure A-22)—would provide two five-foot-wide stairs, one of which would be in front of a display window on the ground floor retail portion of a residential building, and would require the removal and replacement of two street trees.

E7 (Figure A-28)—would provide one nine-foot-wide stair in front of the windows on the ground floor of a residential building, and would require the removal and replacement of two street trees and the permanent loss of four parking spaces.

E8 (Figure A-29)—would provide one nine-foot-wide stair in front of the windows on the ground floor of a residential building, and would require the removal and replacement of three street trees and the permanent loss of five parking spaces.

E9 (Figure A-30)—would provide two five-foot-wide splayed stairs in front of the windows on the ground floor of a residential building, and would require the removal and replacement of three street trees and the permanent loss of five parking spaces.

E10 (Figure A-31)—would place the street stair in the ground floor retail area in a commercial space in the Imperial House Apartments building. The property would be offered to MTA/NYCT vacant and no property condemnation would be required and no businesses would be displaced. This option would not result in a loss of trees or parking spaces.

Of the above six options, E7, E8 and E9 were eliminated from further consideration because the stairs would be in front of a residential building with ground floor windows when other options exist. E2 and E3 were eliminated from further consideration because, when compared with E1 and E10, they would interfere with the ground floor display window at the Imperial House Apartments.

Option E10 would avoid visual impacts at the corner of East 69th Street east of Lexington Avenue, would not eliminate parking spaces, and would not impact street trees.

Alternative 2 with Option E1 or Option E10 would be consistent with the goals and objectives.

The Imperial House Apartment building is eligible for inclusion on the State/National Registers of Historic Places and therefore a Section 4(f) resource. According to the goals and objectives, impacts to historic and Section 4(f) resources should be minimized. Option E10 would involve a *de minimis* use of the resource, and therefore be consistent with this objective.

Because they would meet several goals and objectives, Alternative 2 with Option E1 and Option E10 were advanced.

CONCLUSION

As a result of the evaluation, Option E10—a nine-foot-wide street stair in a commercial space on the east side of Lexington Avenue mid-block between East 68th Street and East 69th Street, and Option E1, a nine-foot-wide street stair on the south sidewalk of East 69th Street east of Lexington Avenue were selected for inclusion in Alternative 2.

4.2.3 SUMMARY CONCLUSION OF EVALUATION OF 69TH STREET ACCESS OPTIONS

The street stair options located on the Lexington Avenue sidewalks (W3, W3A, W4, W4A, W5 or W9 and E4, E4A, E5, E5A, or E6) were eliminated from consideration as they would not be consistent with the goals and objectives. They would increase the total cost of Alternative 2 and also increase the construction duration of Alternative 2 by 6 months.

After evaluating the various options for locating the street stairs at the northern end of the station, at or near East 69th Street, Option W1 and Option E10 were selected for inclusion in Alternative 2. Alternative 2 with street stair Option E1 was also selected for evaluation in the EA.

Option W1 would provide a nine-foot-wide street stair on the south sidewalk of East 69th Street west of Lexington Avenue. Access to Hunter College buildings would be maintained during and after construction. This option would require the removal and replacement of one street tree and result in the permanent elimination of four on-street parking spaces.

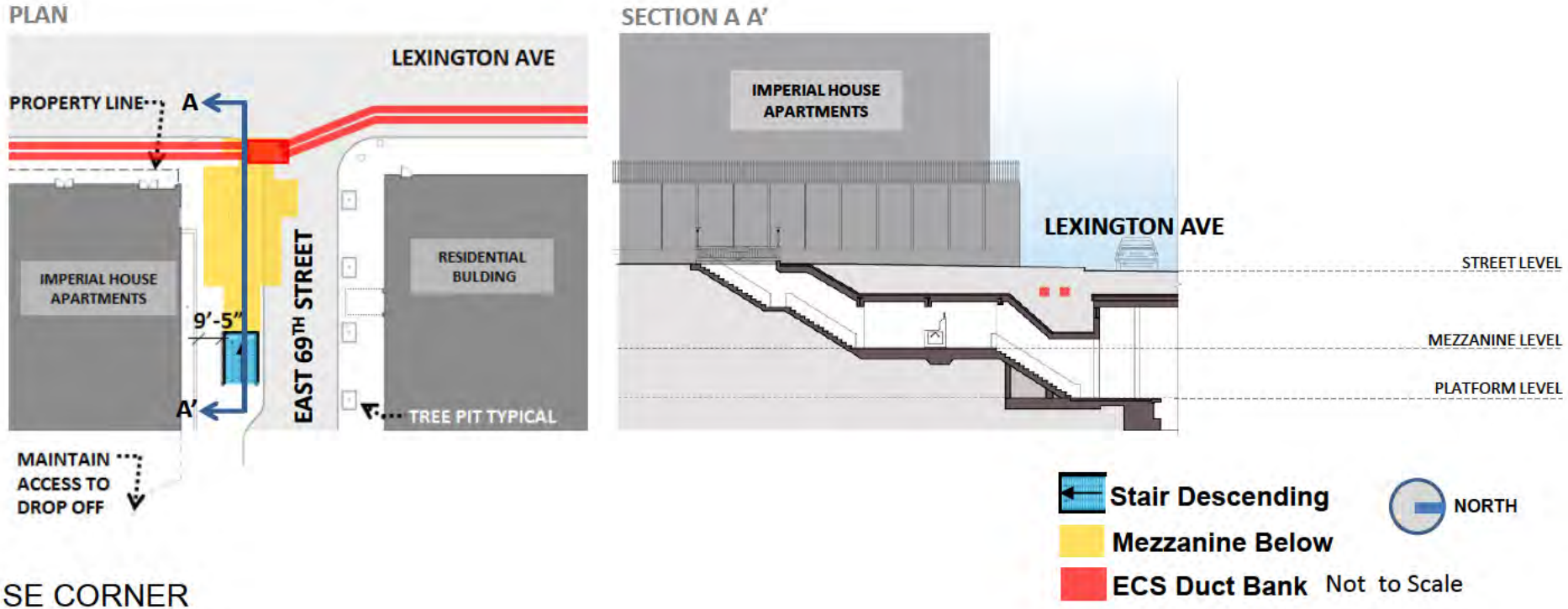
Option E10 provides one nine-foot-wide street stair within an existing retail space along the east side of Lexington Avenue mid-block between East 68th Street and East 69th Street. No trees would be impacted and no parking spaces would be eliminated. Access to all business along Lexington Avenue would be maintained during and after construction.

Option E1 provides one nine-foot-wide street stair on the south sidewalk of East 69th Street east of Lexington Avenue. Two trees would be impacted and three parking spaces would be eliminated.

A summary of the evaluation of street stair location options is provided in Table A-4.

5.0 PROPOSED PROJECT

Upon evaluating the preliminary alternatives and options for the ADA-compliant street elevator at East 68th Street and street entrances at or near East 69th Street, MTA/NYCT selected for evaluation in the EA Alternative 2 with an ADA-street elevator at the southeast corner of the intersection of East 68th Street and Lexington Avenue, with a street stair on the south sidewalk of East 69th Street west of Lexington Avenue, and a street stair in a commercial space in the Imperial House Apartments mid-block between East 68th and East 69th Streets on the east side of the avenue. MTA/NYCT also selected an optional configuration for Alternative 2: with a street stair on the south sidewalk of East 69th Street east of Lexington Avenue.

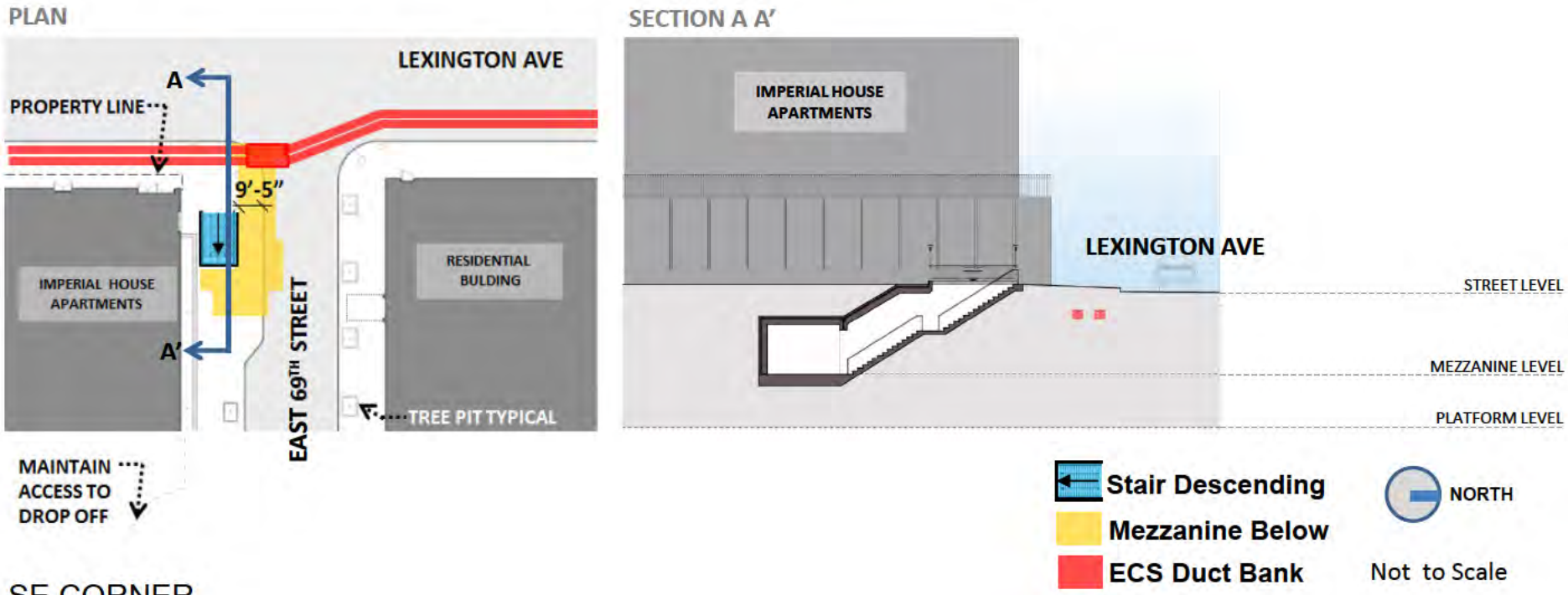


SE CORNER

- 9' Wide stair
- Access to Imperial House drop off maintained
- **Stair clears ECS Duct Bank**
- 3 Parking spaces removed
- 2 Trees removed

Option E1

Figure A-20

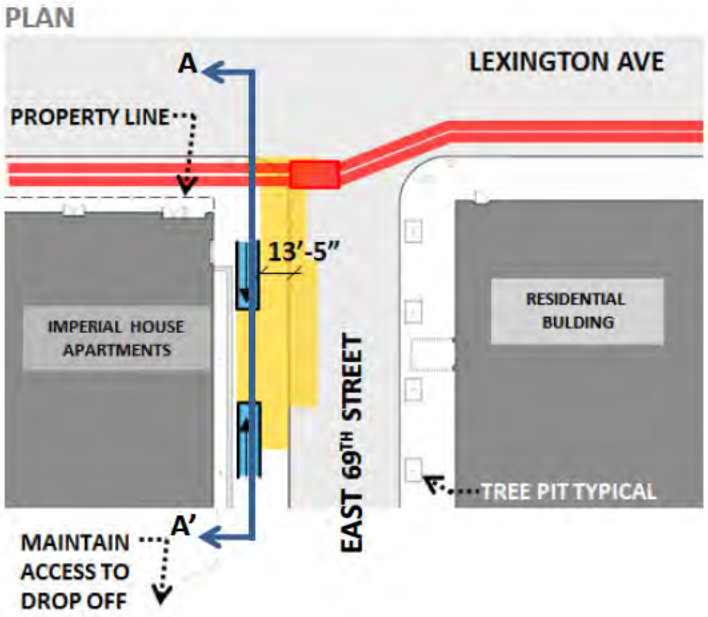


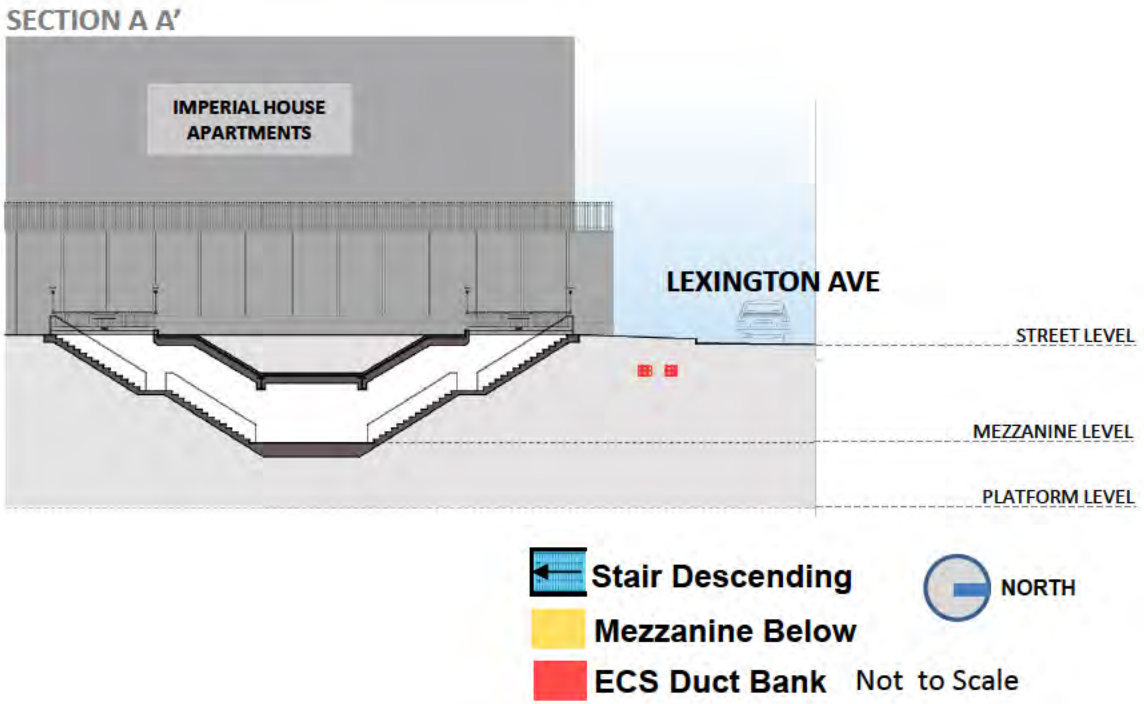
SE CORNER

- 9' Wide stair
- Access to Imperial House drop off maintained
- **Stair clears ECS Duct Bank**
- 3 Parking spaces removed
- 1 Tree removed

Option E2

Figure A-21

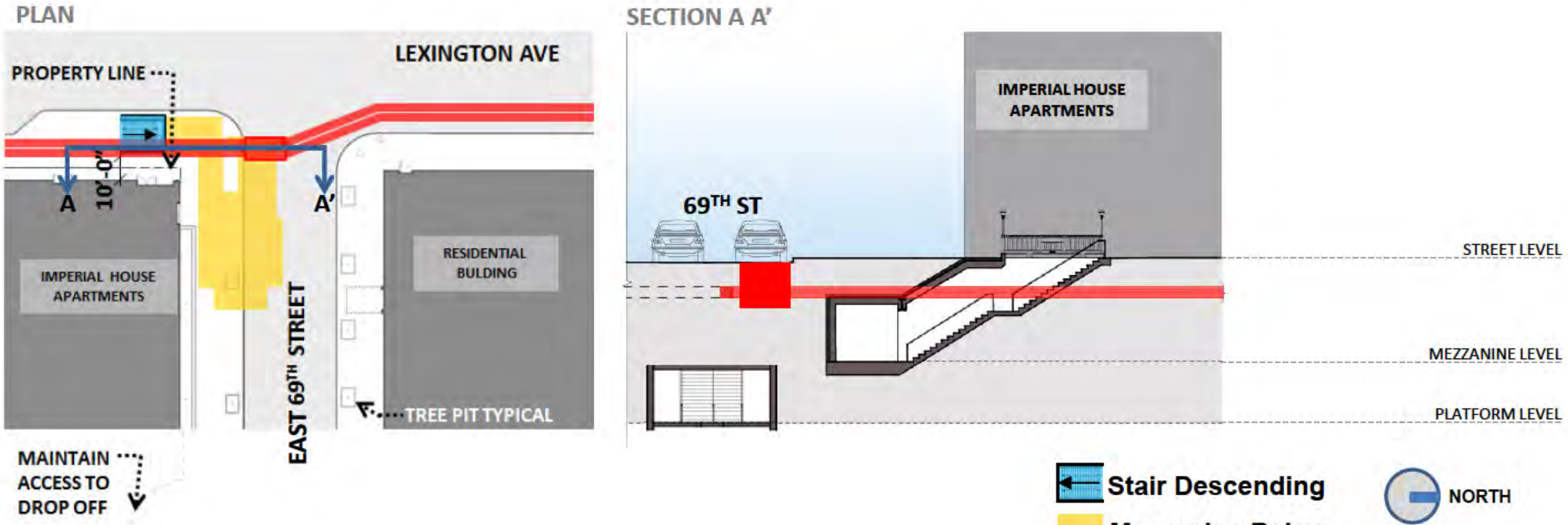




SE CORNER

- Two 5' wide stairs
- Access to Imperial House drop off maintained
- **Stair clears ECS Duct Bank**
- No loss of parking space
- 2 Trees removed

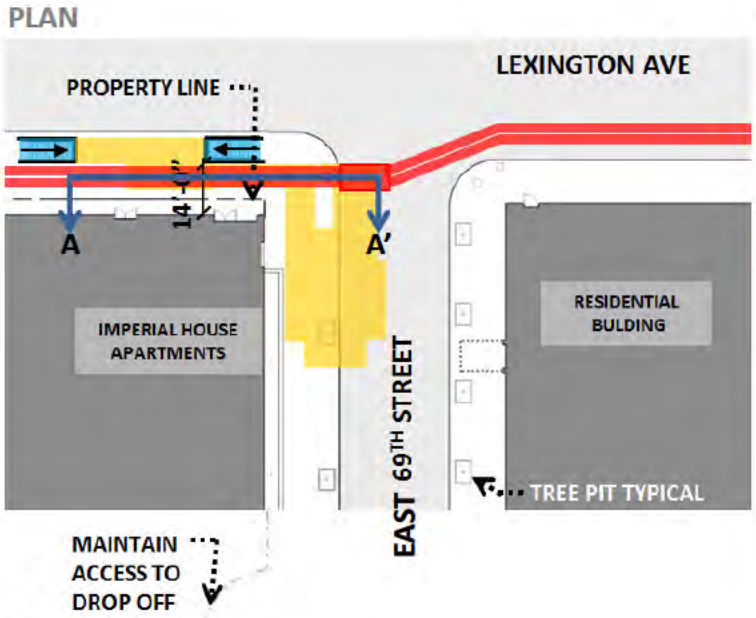
Option E3
Figure A-22

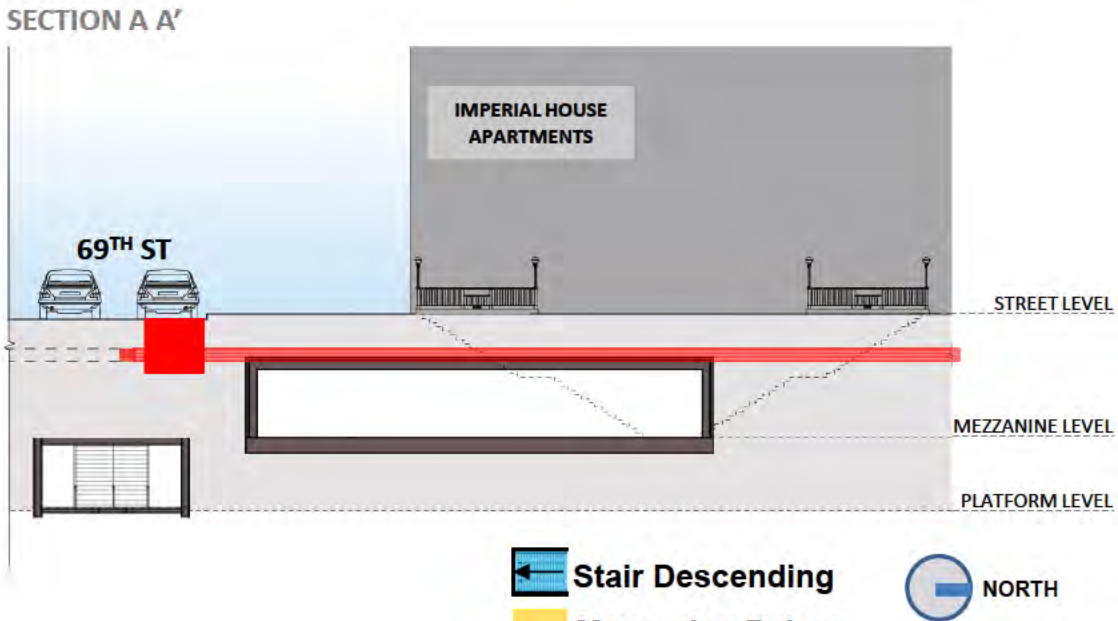


SE CORNER

- 9' Wide stair
- 6' Curb extension of Lex Ave required to accommodate stair
- Stair and mezzanine interfere with ECS Duct Bank below
- Stair impacts subway envelope and ventilators
- 4 Parking spaces removed
- 1 Tree removed
- Additional construction cost and duration

Option E4
Figure A-23

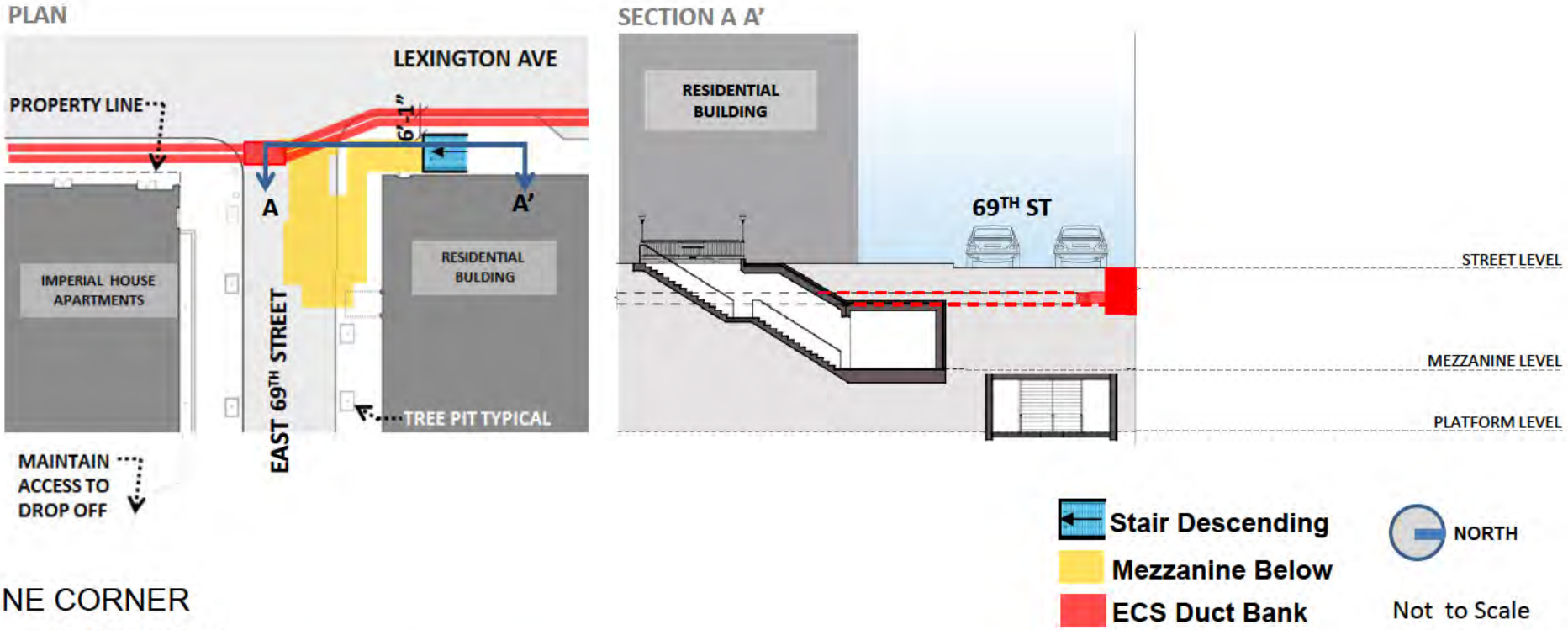




SE CORNER

- Two 5' wide stairs
- 6' Curb extension of Lex Ave required to accommodate stair
- Mezzanine interferes with ECS Duct Bank below
- Stair impacts subway envelope and ventilators
- 5 Parking spaces removed
- 1 Tree removed
- Additional construction cost and duration

Option E4A
Figure A-24

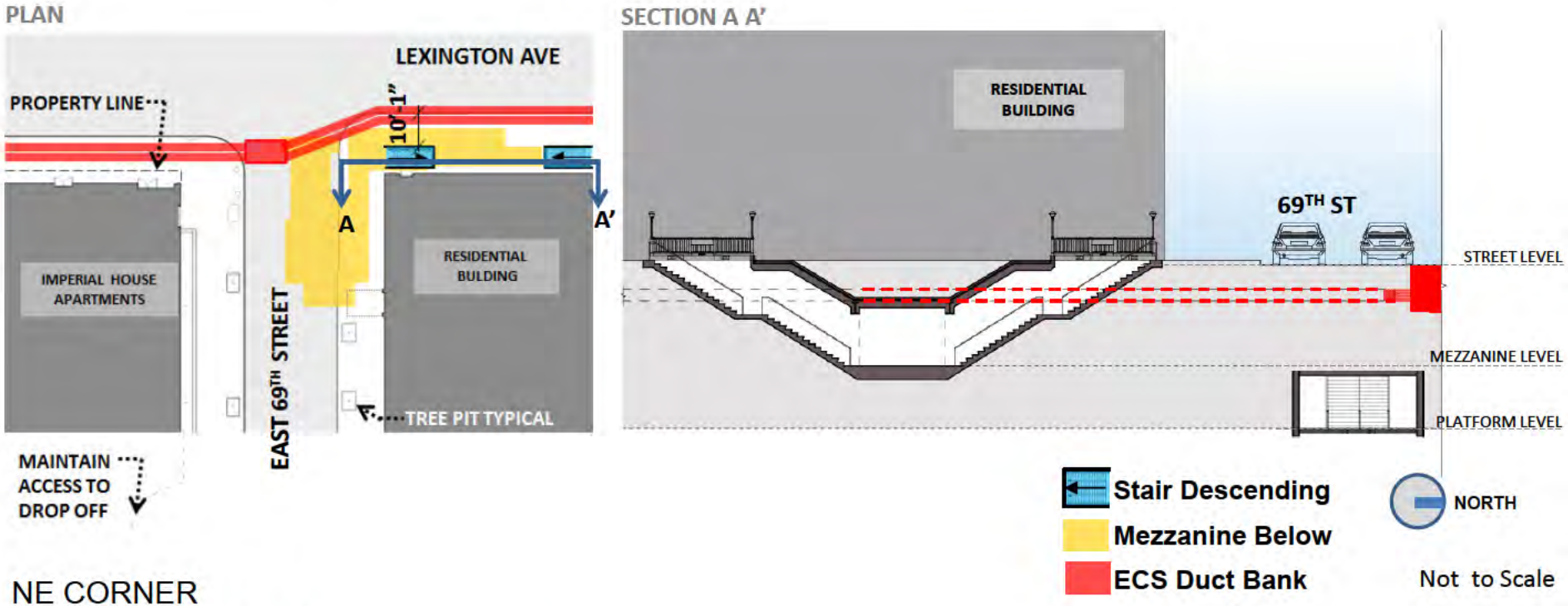


NE CORNER

- 9' Wide stair
- Mezzanine interferes with ECS Duct bank
- 6' Curb extension of Lex Ave required to accommodate stair
- Stair impacts subway envelope and ventilators
- 4 Parking spaces removed
- 2 Trees removed
- Additional construction cost and duration

Option E5

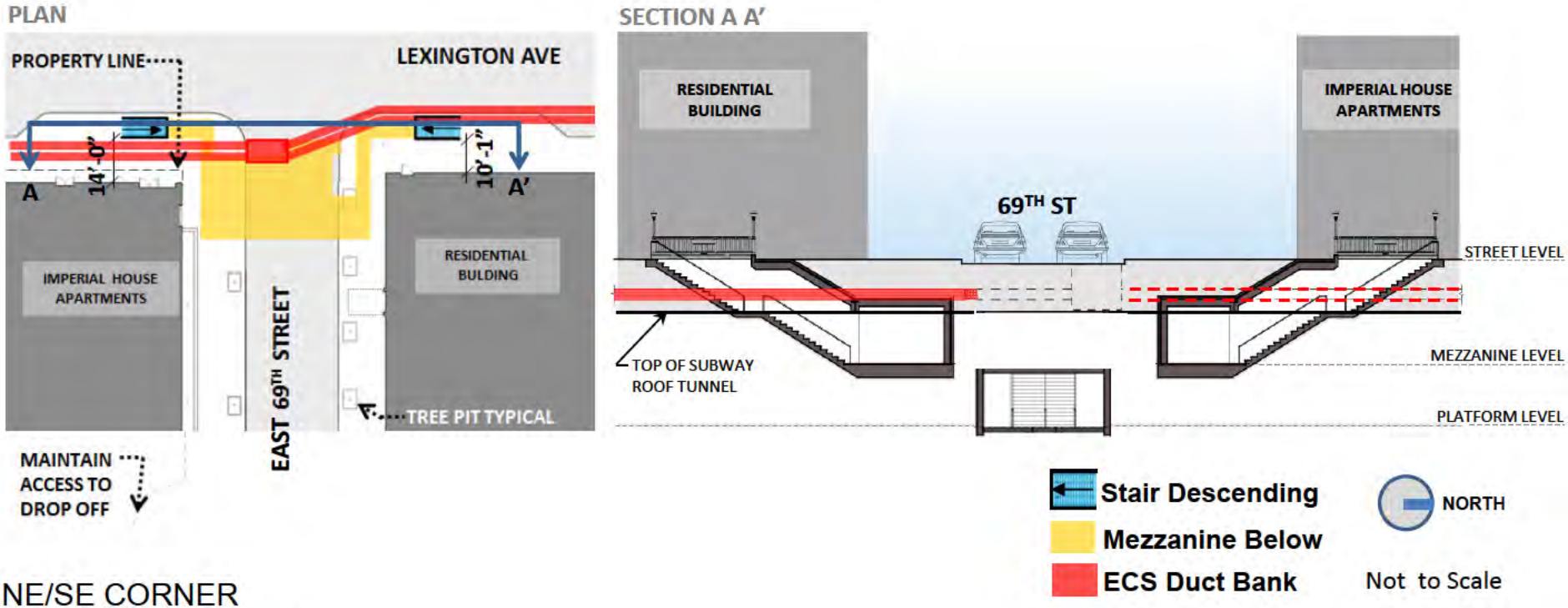
Figure A-25



NE CORNER

- Two 5' wide stairs
- Mezzanine interferes with ECS Duct Bank
- 6' Curb extension of Lex Ave required to accommodate stairs
- Mezzanine impacts subway envelope and ventilators
- 5 Parking spaces removed
- 2 Trees removed
- Additional construction cost and duration

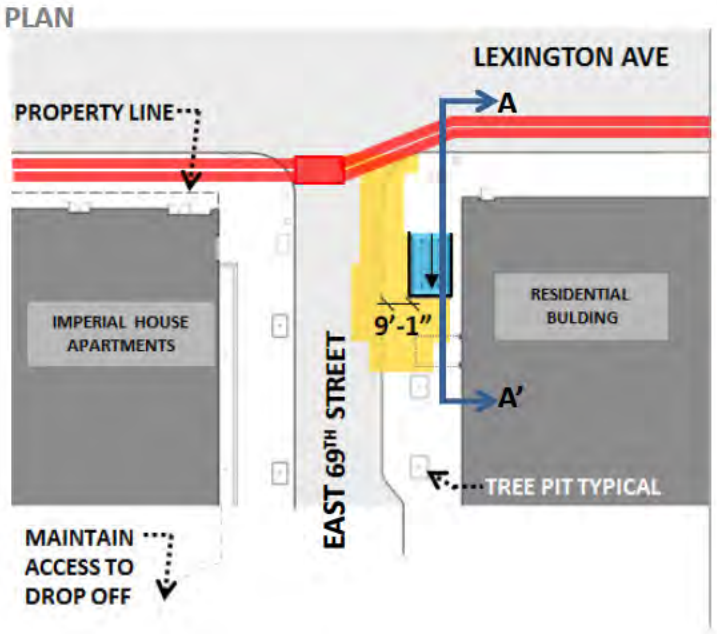
Option E5A
Figure A-26

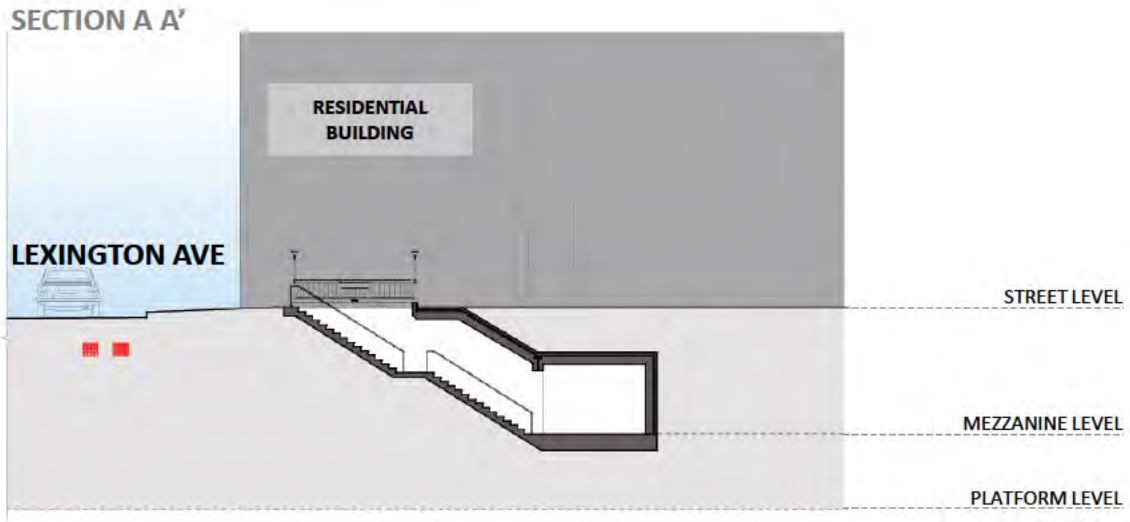


NE/SE CORNER

- Two 5' wide stairs
- 6' Curb extension of Lex Ave required to accommodate stairs
- Stair & mezzanine interfere with ECS Duct Bank below
- Stair impacts subway envelope and ventilators
- 8 Parking spaces removed
- 2 Trees removed
- Additional construction cost and duration

Option E6
Figure A-27





Stair Descending
Mezzanine Below
ECS Duct Bank

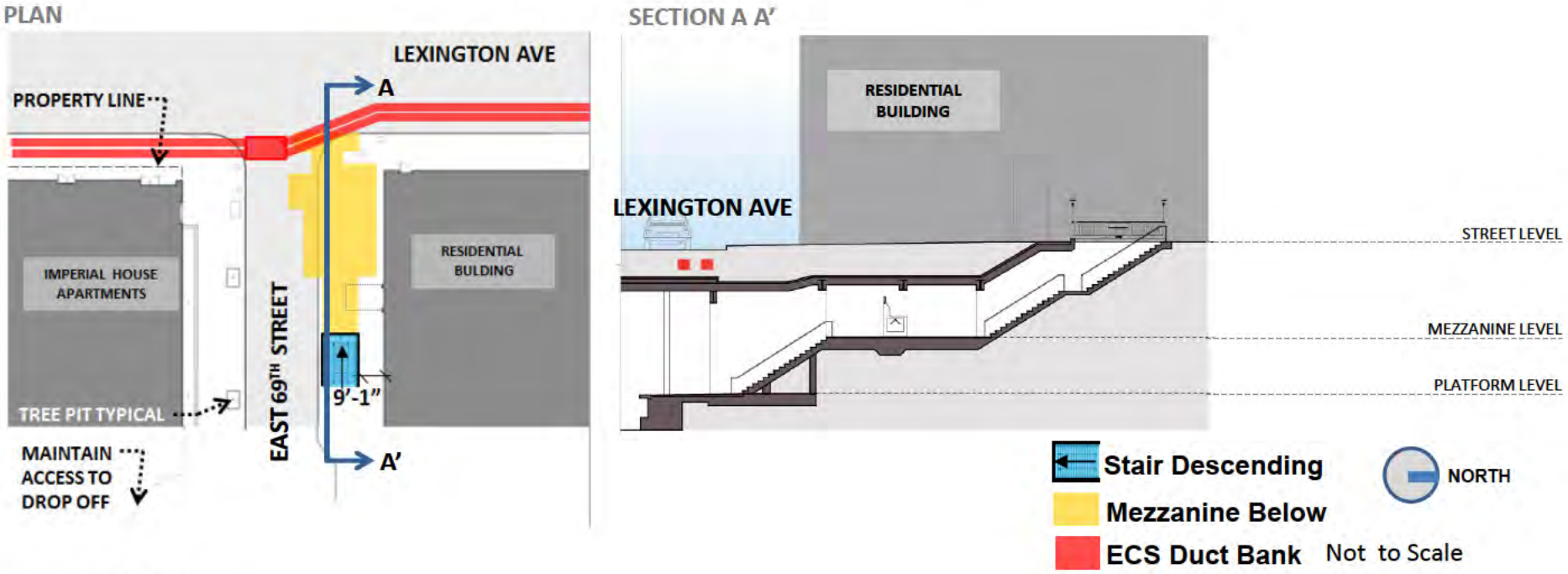
NORTH

Not to Scale

NE CORNER

- 9' Wide stair
- **Stair clears ECS Duct Bank**
- 4 Parking spaces removed
- 2 Trees removed

Option E7
Figure A-28

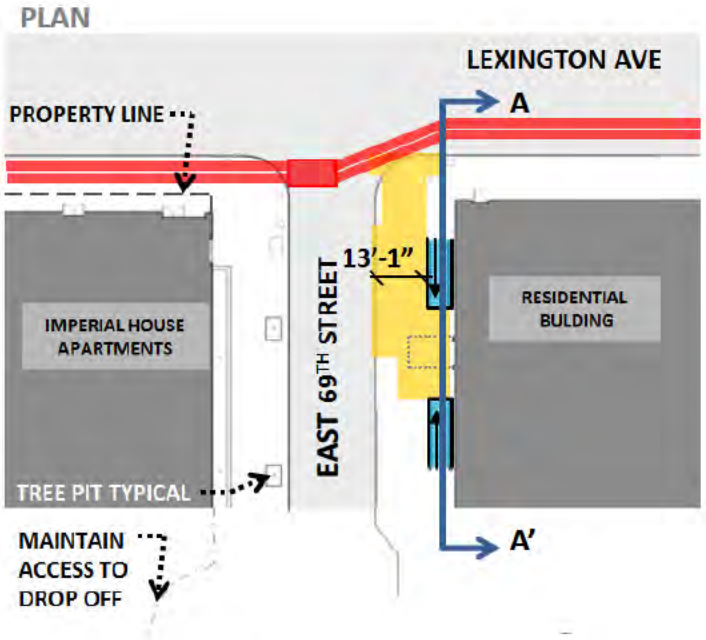


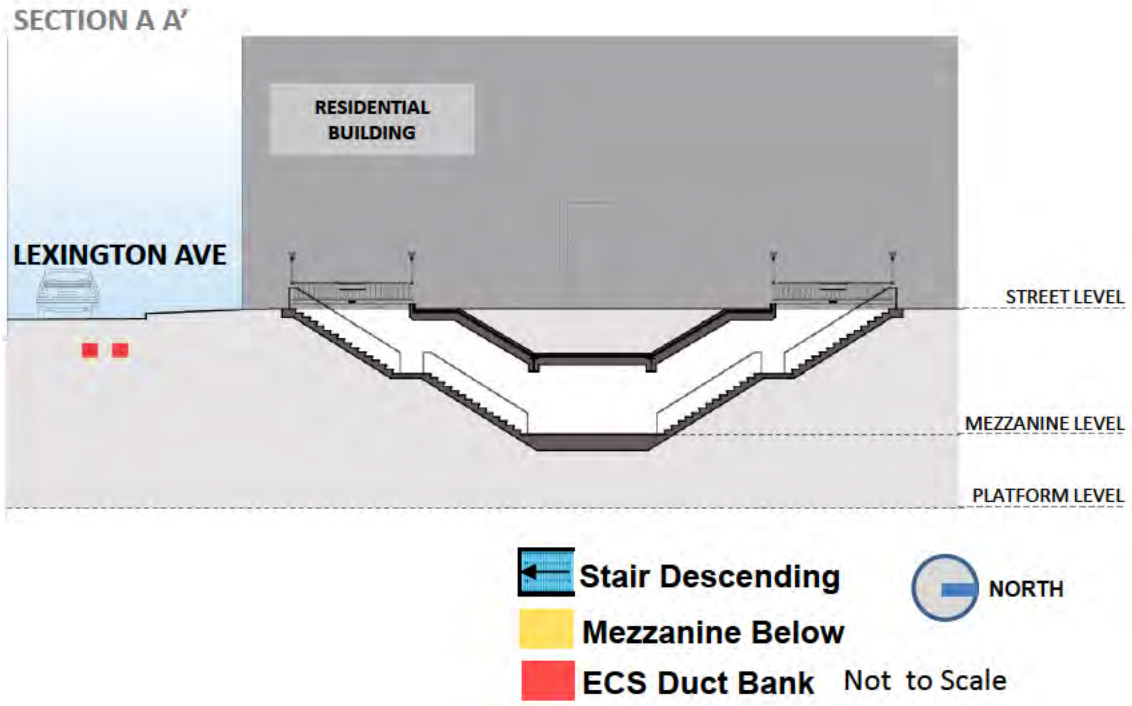
NE CORNER

- 9' Wide stair
- **Stair clears ECS Duct Bank**
- 5 Parking spaces removed
- 3 Trees removed

Option E8

Figure A-29



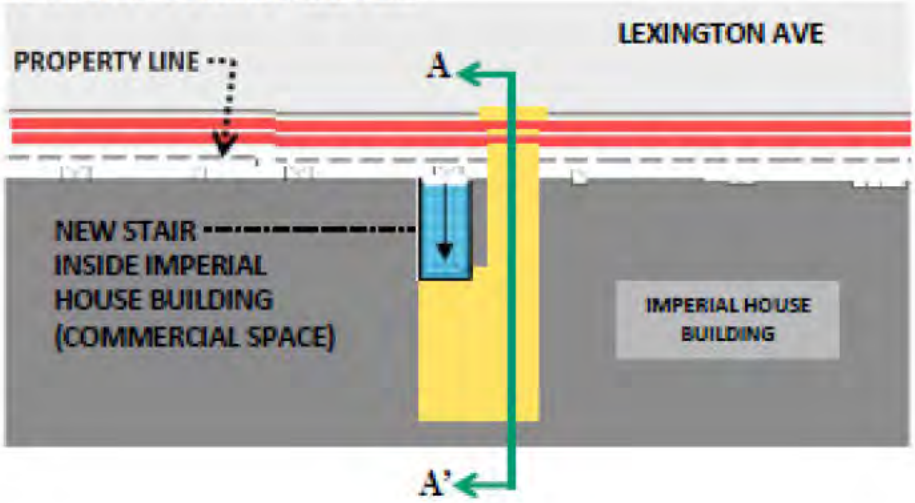


NE CORNER

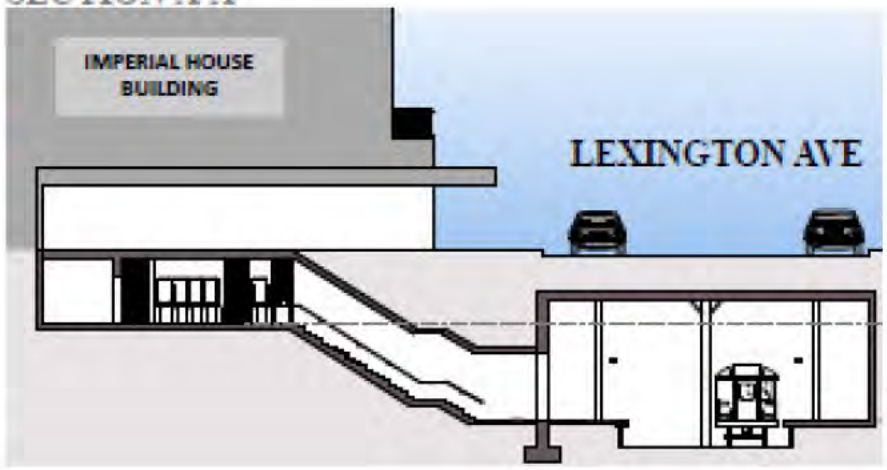
- Two 5' wide stairs
- **Stair clears ECS Duct Bank**
- 5 Parking spaces removed
- 3 Trees removed

Option E9
Figure A-30

PLAN AT STREET LEVEL



SECTION A A'



Not to Scale

MID-BLOCK

- 10' Wide stair
- No trees removed
- No parking spaces eliminated
- **Stair clears ECS Duct Bank**
- Property acquisition required

Stair Descending
Mezzanine Below
ECS Duct Bank

NORTH

Option E10
Figure A-31

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Table A-4: Comparison of Street Stair Options

West Side Entrances at East 69th St & Lexington Ave.

SCREENING CRITERIA	W1	W2	W3	W3A	W4	W4A	W5	W6	W7	W8	W9	W10*
IMPROVE CIRCULATION												
MINIMIZE COST												
MINIMIZE CONSTRUCTION RISK												
MINIMIZE REAL ESTATE ISSUES												
MINIMIZE IMPACTS DURING CONSTRUCTION												
IMPROVE, MAINTAIN AND MINIMIZE ENVIRONMENTAL IMPACTS												
ADVANCE? (Yes/No)	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

NOTE: * Option W10 is not technically feasible to construct due to inadequate overhead clearance

East Side Entrances at East 69th St & Lexington Ave.

SCREENING CRITERIA	E1	E2	E3	E4	E4A	E5	E5A	E6	E7	E8	E9	E10
IMPROVE CIRCULATION												
MINIMIZE COST												
MINIMIZE CONSTRUCTION RISK												
MINIMIZE REAL ESTATE ISSUES												
MINIMIZE IMPACTS DURING CONSTRUCTION												
IMPROVE, MAINTAIN AND MINIMIZE ENVIRONMENTAL IMPACTS												
ADVANCE? (Yes/No)	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES

LEGEND
Achieves Goals and Objectives Well
Moderately Achieves Goals and Objectives
Does Not Achieve Goals and Objectives

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

Draft Environmental Assessment

Appendix B: Correspondence

LEAD FEDERAL AGENCY:
Federal Transit Administration

SPONSORING AGENCY:
Metropolitan Transportation Authority/New York City Transit

January 2016

U.S. Department
of Transportation
**Federal Transit
Administration**

Region II
New Jersey
New York

One Bowling Green
Room 429
New York, NY 10004-1415
212-668-2170
212-668-2136 (fax)

October 27, 2015

Ms. Beth A. Cumming
Senior Historic Site Restoration Coordinator
New York State Office of
Parks, Recreation and Historic Preservation
Division of Historic Preservation
P.O. Box 189
Waterford, N.Y. 12188-0189

Subject: 68th Street Hunter College Station Improvement Project
Manhattan, NY
Project Sponsor: MTA/New York City Transit
11PR04083

Dear Ms. Cumming:

This letter is to inform you that the Federal Transit Administration intends to use your no-adverse effect finding letters dated August 29, 2012 and April 2, 2015 for the 68th Street Hunter College Station Improvement Project to make a de minimis Section 4(f) finding for the same project.

If you have any questions, please contact Mr. Donald Burns at (212) 668-2203.

Sincerely,

Marilyn G. Shazor
Regional Administrator

cc. Donald Burns, FTA
Derek Braithwaite, MTA/NYCT
Angelo Elmi, MTA/NYCT
File

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643

www.nysparks.com

August 29, 2012

Judith Kunoff, R.A.
Chief Architect
New York City Transit
2 Broadway
New York, NY 10004

Re: FTA
68th Street/Hunter College Station
New York County
11PR04083

Dear Ms. Kunoff,

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to the Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Our architectural historian for New York County notes that the imperial House at 931 Lexington Avenue is eligible for listing on the National Register of Historic Places, see the attached Resource Evaluation. She further notes that Thomas Hunter Hall is a contributing building to the Upper East Side Historic District.

Based upon our review of the proposed additional work, we concur that the proposed project will continue to have No Adverse Effect upon historic resources provided the following condition is met:

1. A construction protection plan is put in place for all historic buildings within 90 feet of the proposed construction activities. This plan should be created in accordance with the requirements stipulated in the New York City Department of Buildings, "Technical Policy Procedure Notice #10/88" and the New York City Landmarks Preservation Commission guidelines described in "Protection Programs for Landmarked Buildings."

If you have any questions, I can be reached at (518) 237-8643, ext. 3282

Sincerely,

Beth A. Cumming
Historic Site Restoration Coordinator
e-mail: Beth.cumming@oprhp.state.ny.us

cc: H. Wells/ S. McIvor – MTA
N. Chung – FTA via e-mail only

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

April 02, 2015

Mr. F.C. George Yee, R.A.
Acting Chief Architect, Capital Program Management
MTA New York City Transit
2 Broadway
New York, NY 10004

Re: FTA
ADA Elevators at 68th Street/Hunter College Subway Station
68th Street Station
11PR04083

Dear Mr. Yee, R.A.:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

We understand that the project proposes to place a station entrance/exit in the middle section of 931 Lexington Avenue (Imperial House) which was determined eligible for listing on the State and National Registers of Historic Places. Based upon our review of this modified work, our previous determination remains unchanged. It is the SHPO's opinion that the proposed work will have No Adverse Effect upon historic resources provided a construction protection plan is put in place for all historic buildings within 90 feet of the proposed construction.

If you have any questions, I can be reached at (518) 268-2181.

Sincerely,

Beth A. Cumming
Senior Historic Site Restoration Coordinator
e-mail: beth.cumming@parks.ny.gov

via e-mail only

NYC
Landmarks Preservation Commission

John Weiss
Deputy Counsel
jweiss@lpc.nyc./gov

One Centre Street
9th floor, North
New York, NY 10007

Tel 212-669-7921
Fax 212-669-7797

February 1, 2012

Hollie B. Wells
NYC Transit
2 Broadway, D6.125
New York, NY 10004

Re: Test Pits at E. 68th St. and Lexington Ave., Manhattan

Dear Ms. Wells:

I have reviewed the Landmarks Commission's map of the various historic districts on the Upper East Side (attached) and the roadbed at the intersection of East 68th Street and Lexington Avenue is **not** within the boundaries of a designated historic district. It appears that the sidewalk at the northwest corner of the intersection is in the Upper East Side Historic District, but the street is not. Consequently, no Landmarks Commission approval is needed for the proposed test pits.

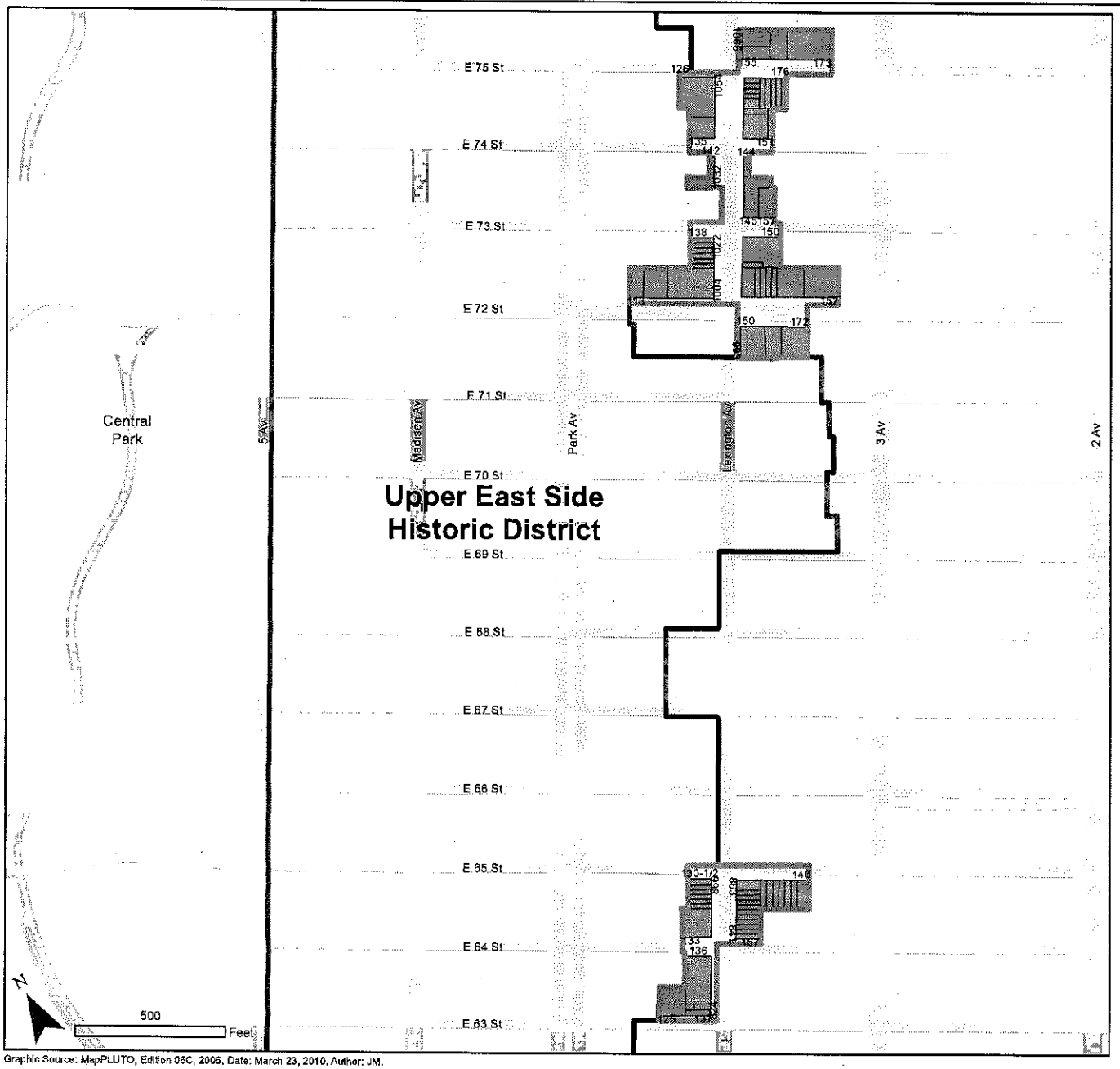
Please contact me if you need further information.

Yours truly,

John Weiss
Deputy Counsel

Attachment

Upper East Side Historic District Extension

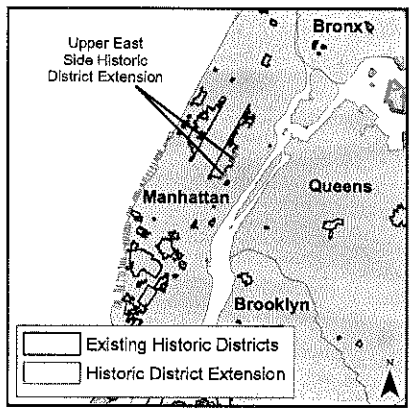


Graphic Source: MapPLUTO, Edition 06C, 2006. Date: March 23, 2010. Author: JM.

Upper East Side
Historic District Extension
Borough of Manhattan, NY
Landmarks Preservation Commission

Calendared: June 23, 2009
Public Hearing: October 27, 2009
Designated: March 23, 2010

- Boundary of Existing District
- Boundary of District Extension
- Tax Map Lots, District Extension



NYC™
Landmarks Preservation Commission

New York County

Federally Listed Endangered and Threatened Species and Candidate Species

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

Common Name	Scientific Name	Status

Status Codes: E=Endangered, T=Threatened, P=Proposed, C=Candidate, D=Delisted.

Information current as of: 6/29/2012

U.S. FISH AND WILDLIFE SERVICE

Fax

Long Island
National Wildlife Refuge Complex | Long Island Ecological Services Office

340 Smith Road, Shirley, NY 11967
631/286-0485 Fax: 631/286-4003 http://northeast.fws.gov

To: Doug Pierson

Fax Number: 212 636 4341

From: Steve Papa

Date: 6/27/2012

Pages to follow: 3

Subject: BA info NYCT 65th St / Hunter College Subway Station Improvements

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New York Field Office
3817 Luker Road, Cortland, NY 13045
Phone: (607) 753-9334
Fax: (607) 753-9699

Long Island Field Office
340 Smith Road, Shirley, NY 11967
Phone: (631) 286-0485
Fax: (631) 286-4003

Endangered Species Act List Request Response Cover Sheet

This cover sheet is provided in response to a search of our website* for information regarding the potential presence of species under jurisdiction of the U.S. Fish and Wildlife Service (Service) within a proposed project area.

Attached is a copy of the New York State County List of Threatened, Endangered, and Candidate Species for the appropriate county(ies). The database that we use to respond to list requests was developed primarily to assist Federal agencies that are consulting with us under Section 7(a)(2) of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Our lists include all Federally-listed, proposed, and candidate species known to occur, as well as those likely to occur, in specific counties.

The attached information is designed to assist project sponsors or applicants through the process of determining whether a Federally-listed, proposed, or candidate species and/or "critical habitat" may occur within their proposed project area and when it is appropriate to contact our offices for additional coordination or consultation. You may be aware that our offices have provided much of this information in the past in project-specific letters. However, due to increasing project review workloads and decreasing staff, we are now providing as much information as possible through our website. We encourage anyone requesting species list information to print out all materials used in any analyses of effects on listed, proposed, or candidate species.

The Service routinely updates this database as species are proposed, listed, and delisted, or as we obtain new biological information or specific presence/absence information for listed species. If project proponents coordinate with the Service to address proposed and candidate species in early stages of planning, this should not be a problem if these species are eventually listed. However, we recommend that both project proponents and reviewing agencies retrieve from our online database an *updated* list every 90 days to append to this document to ensure that listed species presence/absence information for the proposed project is *current.*

Reminder: Section 9 of the ESA prohibits unauthorized taking** of listed species and applies to Federal and non-Federal activities. For projects not authorized, funded, or carried out by a Federal agency, consultation with the Service pursuant to Section 7(a)(2) of the ESA is not required. However, no person is authorized to "take**" any listed species without appropriate authorizations from the Service. Therefore, we provide technical assistance to individuals and agencies to assist with project planning to avoid the potential for "take**," or when appropriate, to provide assistance with their application for an incidental take permit pursuant to Section 10(a)(1)(B) of the ESA.

Additionally, endangered species and their habitats are protected by Section 7(a)(2) of the ESA, which requires Federal agencies, in consultation with the Service, to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. An assessment of the potential direct, indirect, and cumulative impacts is required for all Federal actions that may affect listed species.

For instance, work in certain waters of the United States, including wetlands and streams, may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended;16 U.S.C. 661 *et seq.*), the Service may concur, with or without recommending additional permit conditions, or recommend denial of the permit depending upon potential adverse impacts on fish and wildlife resources associated with project construction or implementation. The need for a Corps permit may be determined by contacting the appropriate Corps office(s).*

For additional information on fish and wildlife resources or State-listed species, we suggest contacting the appropriate New York State Department of Environmental Conservation regional office(s) and the New York Natural Heritage Program Information Services.*

Since wetlands, ponds, streams, or open or sheltered coastal waters may be present in the project area, it may be helpful to utilize the National Wetlands Inventory (NWI) maps as an initial screening tool. However, they may or may not be available for the project area. Please note that while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands or delineating wetland boundaries for Federal regulatory purposes. Online information on the NWI program and digital data can be downloaded from Wetlands Mapper, http://wetlands.fws.gov/mapper_tool.htm.

Project construction or implementation should not commence until all requirements of the ESA have been fulfilled. After reviewing our website and following the steps outlined, we encourage both project proponents and reviewing agencies to contact our office to determine whether an accurate determination of species impacts has been made. If there are any questions about our county lists or agency or project proponent responsibilities under the ESA, please contact the New York or Long Island Field Office Endangered Species Program at the numbers listed above.

Attachment (county list of species)

*Additional information referred to above may be found on our website at: http://www.fws.gov/northeast/nyfo/es/section7.htm

** Under the Act and regulations, it is illegal for any person subject to the jurisdiction of the United States to ***take*** (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import or export, ship in interstate or foreign commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any endangered fish or wildlife species and most threatened fish and wildlife species. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. "Harm" includes any act which actually kills or injures fish or wildlife, and case law has clarified that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

New York County

Federally Listed Endangered and Threatened Species and Candidate Species

This list represents the best available information regarding known or likely County occurrences of Federally-listed and candidate species and is subject to change as new information becomes available.

Common Name	Scientific Name	Status

Status Codes: E=Endangered, T=Threatened, P=Proposed, C=Candidate, D=Delisted.

Information current as of: 8/27/2012

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

Joe Martens
Commissioner

June 4, 2012

Doug Pierson
Louis Berger Group
48 Wall Street
New York City, NY 10005

Dear Mr. Pierson:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Hunter College 68th Street Subway Station Improvements, site as indicated on the map you provided, located in Manhattan.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

The enclosed report may be included in documents that will be available to the public. However, any enclosed maps displaying locations of rare species are considered sensitive information, and are intended only for the internal use of the recipient; they should not be included in any document that will be made available to the public, without permission from the New York Natural Heritage Program.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.ht ml.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,

Jean Pietrusiak, Information Services
NYS Department Environmental Conservation

Enc.
Cc: Reg 2, Wildlife Mgr.

495

Natural Heritage Report on Rare Species and Ecological Communities

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,
Albany, NY 12233-4757
(518) 402-8935

~The information in this report includes only records entered into the NY Natural Heritage databases as of the date of the report. This report is not a definitive statement on the presence or absence of all rare species or significant natural communities at or in the vicinity of this site.
~Refer to the User's Guide for explanations of codes, ranks and fields.
~Location maps for certain species and communities may not be provided 1) if the species is vulnerable to disturbance, 2) if the location and/or extent is not precisely known, 3) if the location and/or extent is too large to display, and/or 4) if the animal is listed as Endangered or Threatened by New York State.

Natural Heritage Report on Rare Species and Ecological Communities

BIRDS

Falco peregrinus

					Office Use
Peregrine Falcon	**NY Legal Status:**	Endangered	**NYS Rank:**	S3B - Vulnerable	1800
Breeding	**Federal Listing:**		**Global Rank:**	G4 - Apparently secure	ESU
	Last Report:	**	**EO Rank:**	**	
	County:	New York			
	Town:	New York City (New York County)			
	Location:	At, or in the vicinity of, the project site.			
	General Quality and Habitat:	**For information on the population at this location and management considerations, please contact the NYS DEC Regional Wildlife Manager for the Region where the project is located.			

1 Records Processed

More detailed information about many of the rare and listed animals and plants in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at http://www.natureserve.org/explorer, from NYSDEC at http://www.dec.ny.gov/animals/7494.html (for animals), and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

More detailed information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org. For descriptions of all community types, go to http://www.dec.ny.gov/animals/29384.html and click on Draft Ecological Communities of New York State.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

Joe Martens
Commissioner

April 09, 2015

Doug Pierson
The Louis Berger Group, Inc.
48 Wall Street
New York, NY 10005

Re: New York City Transit 68th Street/Hunter College Subway Station improvements, Lexington Avenue subway line
Town/City: New York. County: New York.

Dear Doug Pierson :

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities, at your site or in its immediate vicinity.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program

Nicholas Viest
Chair

Latha Thompson
District Manager

505 Park Avenue, Suite 620
New York, N.Y. 10022-1106
(212) 758-4340
(212) 758-4616 (Fax)
www.cb8m.com - Website
info@cb8m.com - E-Mail

The City of New York
Manhattan Community Board 8

May 17, 2012

Doug Pierson
The Louis Berger Group, Inc.
48 Wall Street
New York, NY 10005

Re: NYCT 68th Street/Hunter College Subway Station Improvements

Dear Mr. Pierson,

I am responding to your request for a list of soft development sites within ¼ -mile of the proposed project site.

The Community Board 8 office does not maintain a listing of planned developments in our district.

If you additional questions, please contact me at (212) 758-4340 or via email thompson@cb8m.com.

Sincerely,

Latha Thompson
District Manager

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

Prepared by

Sam Schwartz Engineering, D.P.C.

June 2015

Sam
Schwartz
Engineering
D.P.C.

Table of Contents

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

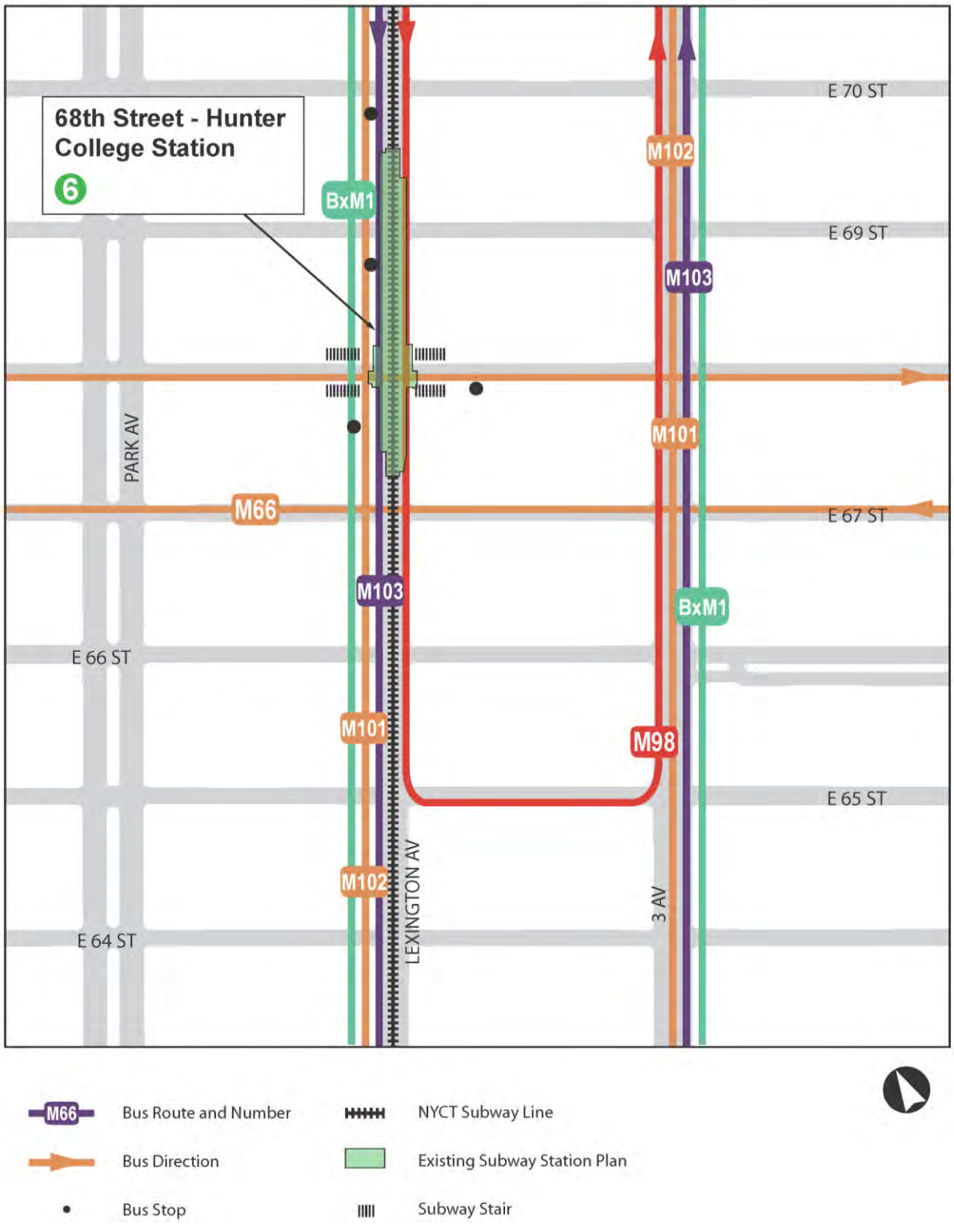
The 68th Street/Hunter College Station is served by the NYCT No. 6 train on the Lexington Avenue IRT Line which operates between Pelham Bay Park in the Bronx and City Hall in Manhattan. Southbound trains serve the 68th Street/Hunter College Station every three to six minutes from Pelham Bay Park and 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.

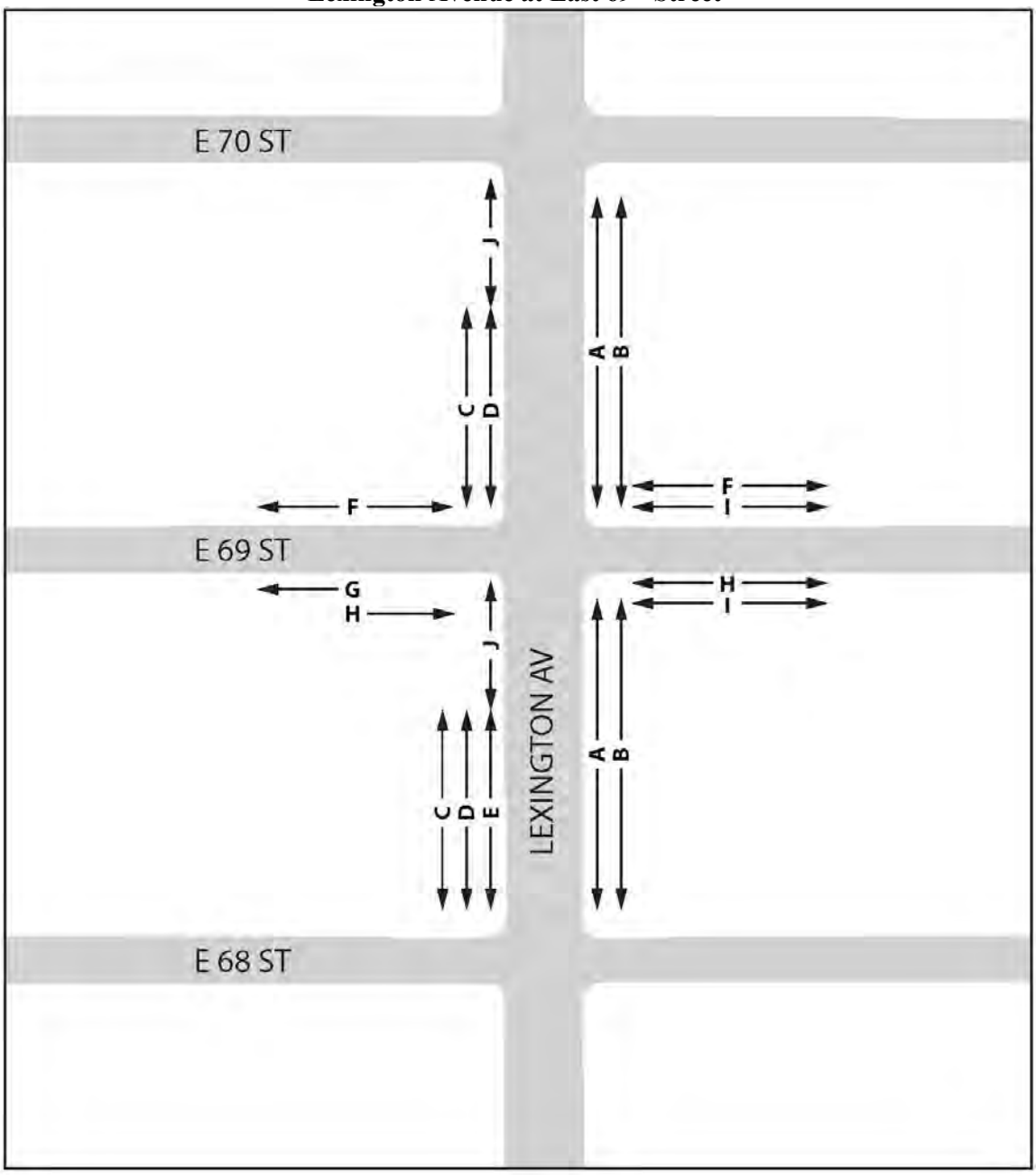
Table 13
Existing Conditions: On-Street Parking Capacity
Lexington Avenue at East 69th Street

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)

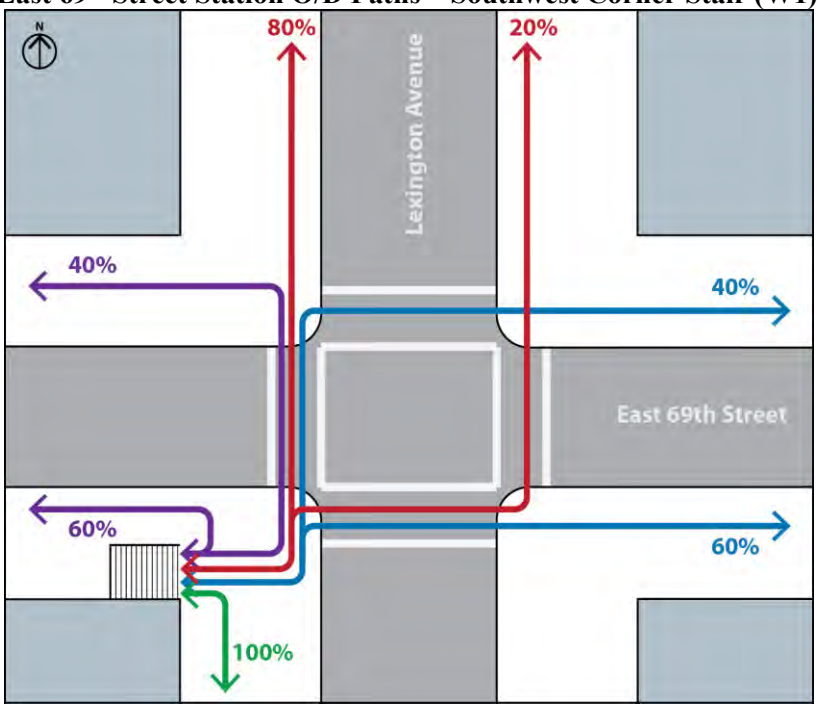


Figure 5
East 69th Street Station O/D Paths – Southwest Splayed Stairs (W2)

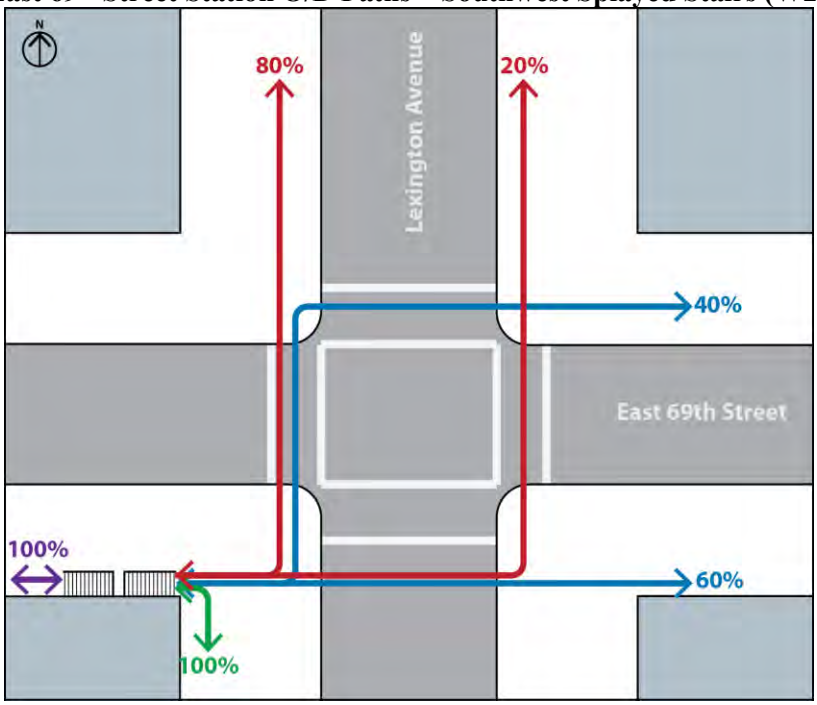


Figure 6
East 69th Street Station O/D Paths – Northwest Splayed Stairs (W6)

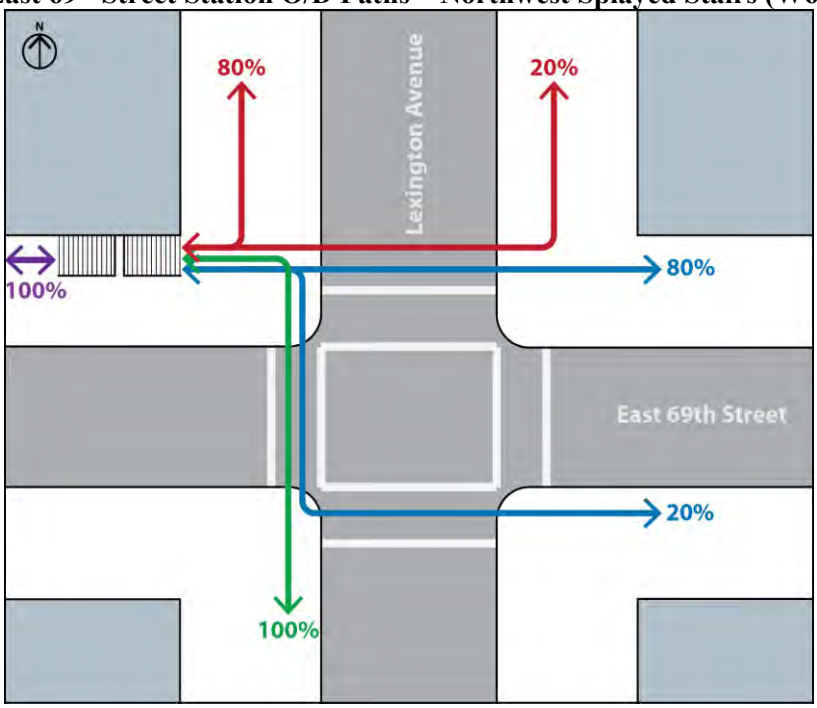


Figure 7
East 69th Street Station O/D Paths – Northwest Corner Stair (W7)

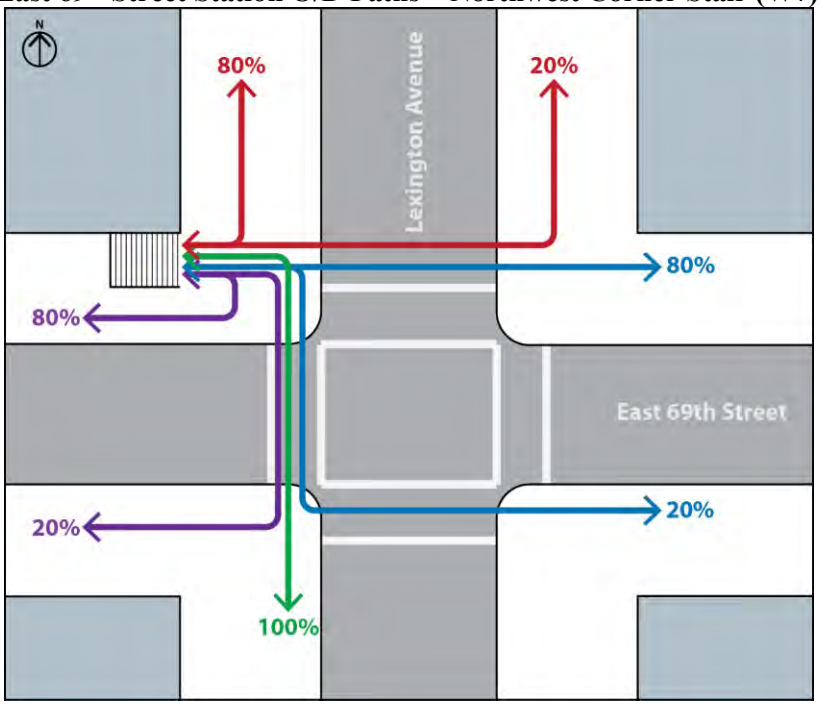


Figure 8
East 69th Street Station O/D Paths – Southeast Sidewalk Stair (E1)

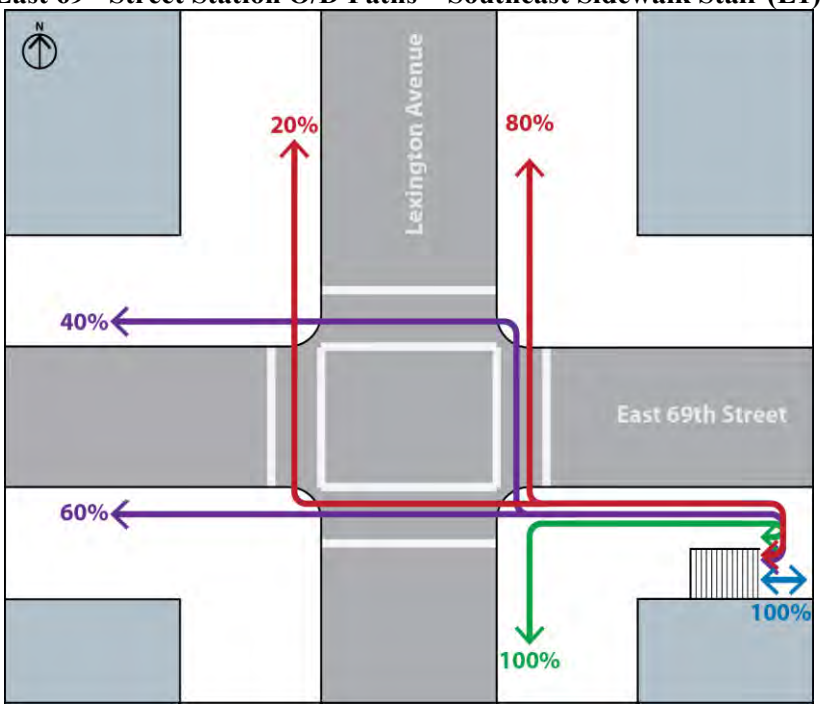


Figure 9
East 69th Street Station O/D Paths – Southeast Corner Stair (E2)

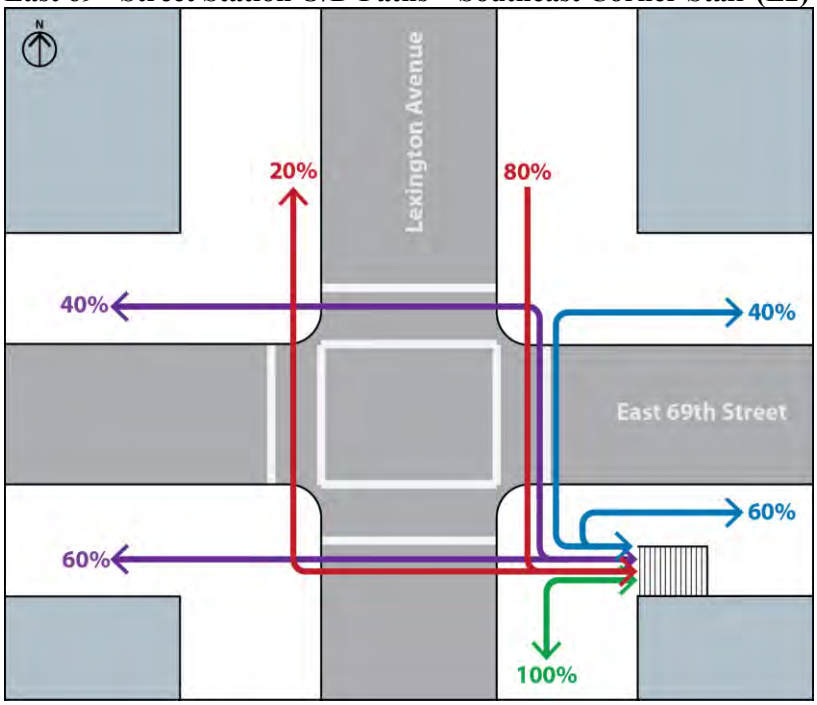


Figure 10
East 69th Street Station O/D Paths – Southeast Splayed Stairs (E3)

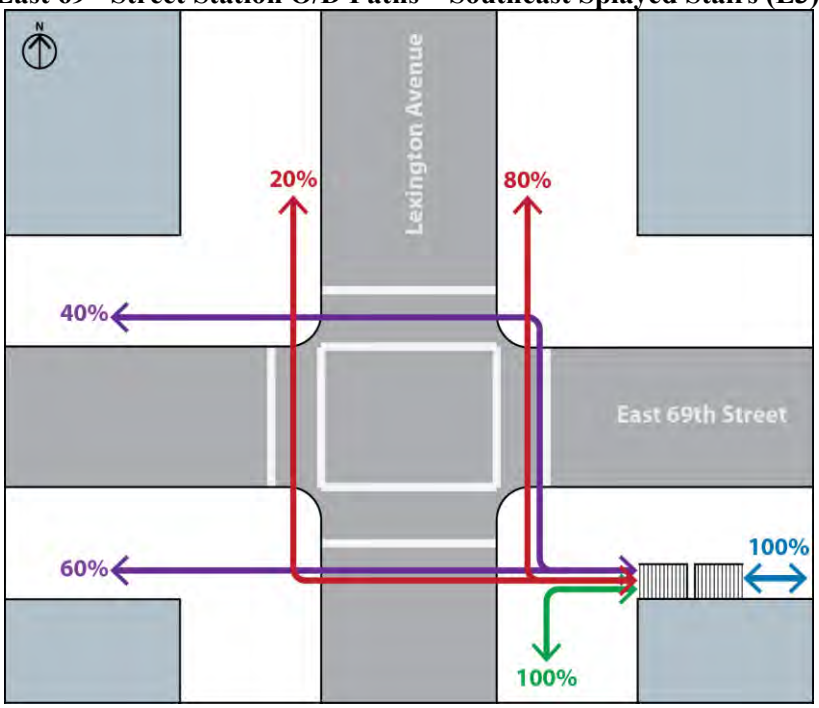


Figure 11
East 69th Street Station O/D Paths – Northeast Corner Stair (E7)

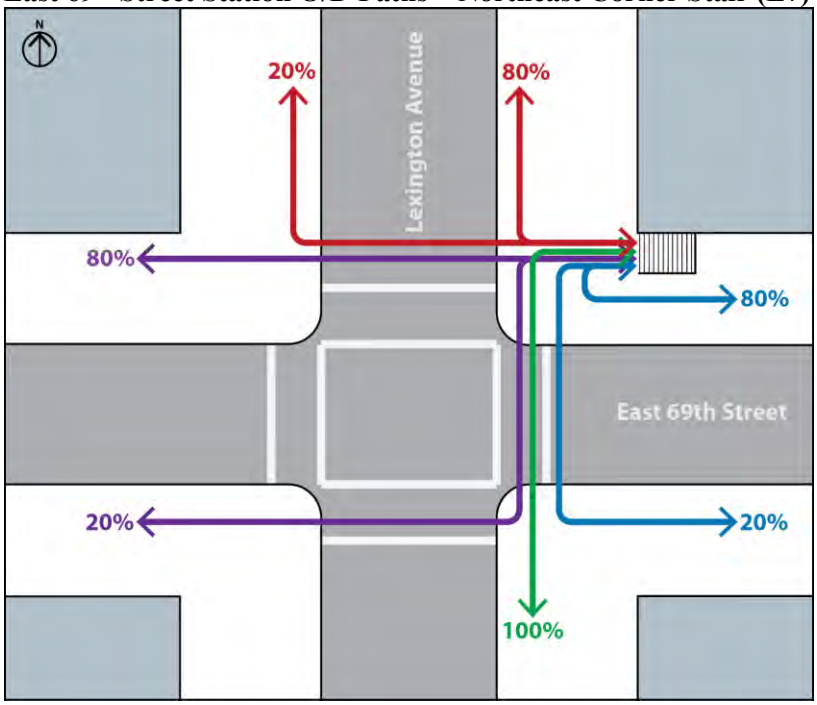


Figure 12
East 69th Street Station O/D Paths – Northeast Sidewalk Stair (E8)

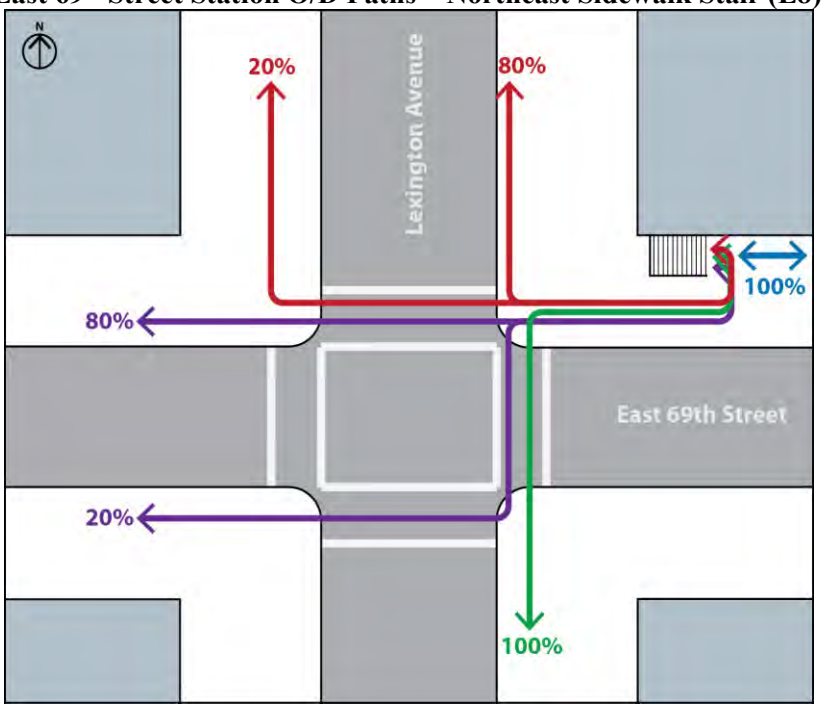


Figure 13
East 69th Street Station O/D Paths – Northeast Splayed Stairs (E9)

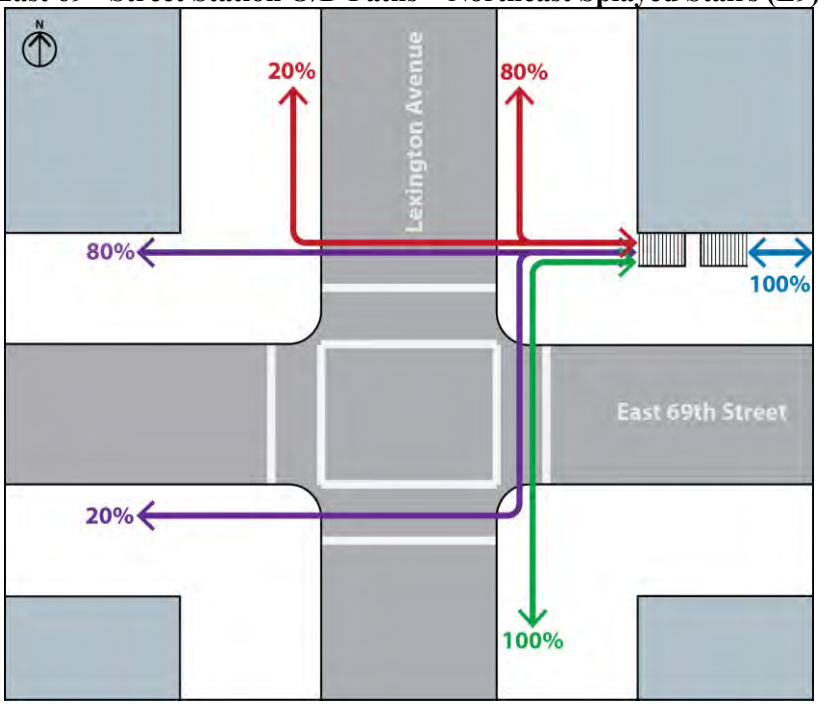
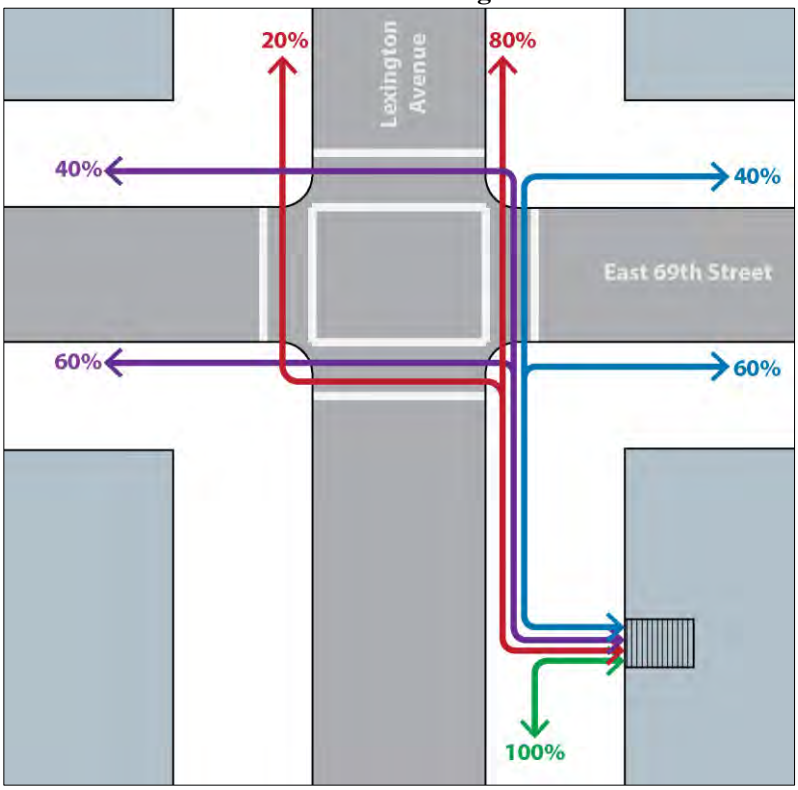


Figure 14
East 69th Street Station O/D Paths – 931 Lexington Avenue Sidewalk Stair (E10)



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%

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

Draft Environmental Assessment

Appendix D: Station Congestion Photographs

LEAD FEDERAL AGENCY:
Federal Transit Administration

SPONSORING AGENCY:
Metropolitan Transportation Authority/New York City Transit

January 2016

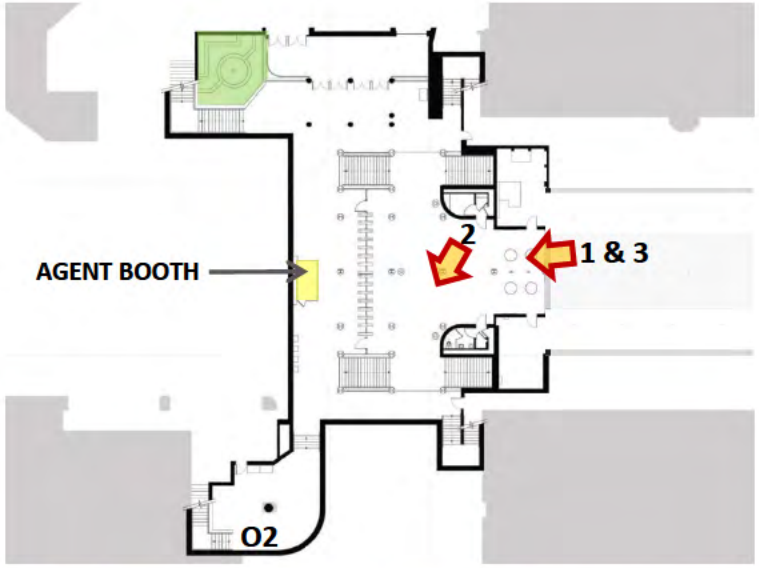
Urbahn + Dewberry
joint venture

ADA ELEVATORS AT 68TH STREET STATION

LEXINGTON AVENUE LINE (IRT)
BOROUGH OF MANHATTAN

Photographs of the station on October 14, 2015, 9am

EXISTING 68TH ST MEZZANINE

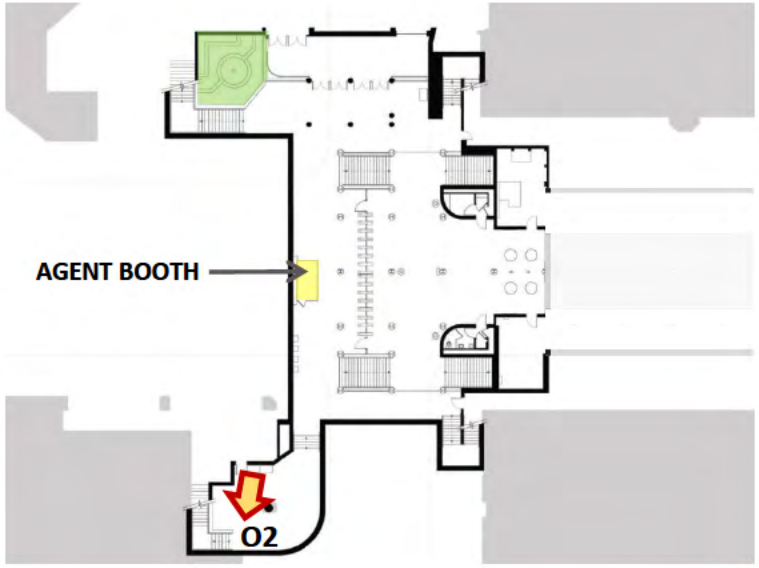


1

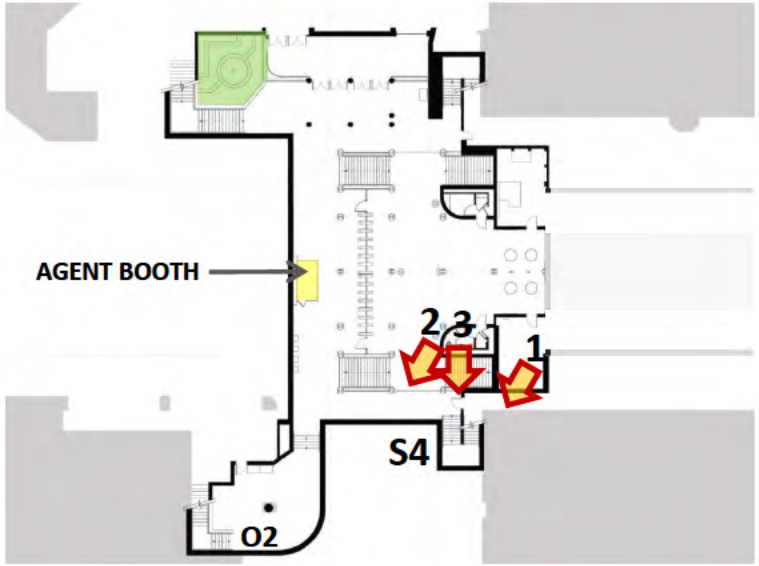
2

3

EXISTING 68TH ST MEZZANINE - STAIR O2

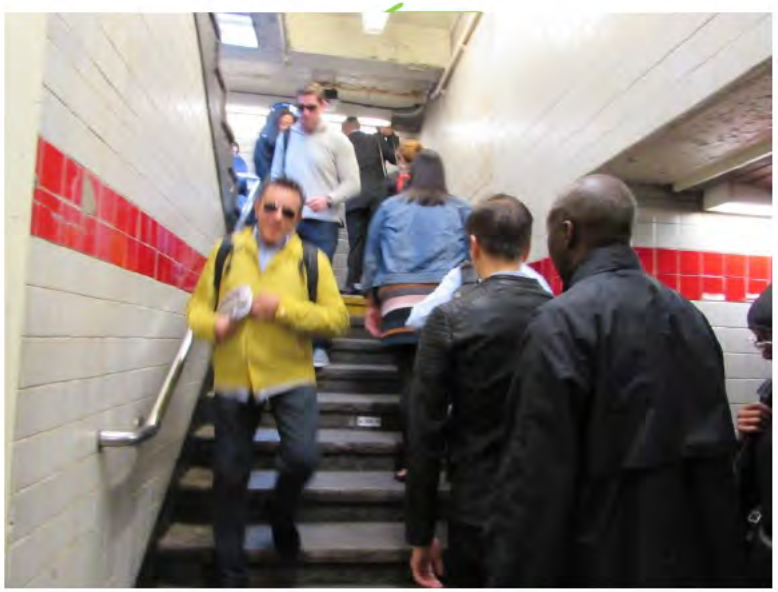


EXISTING 68TH ST MEZZANINE - STAIR S4



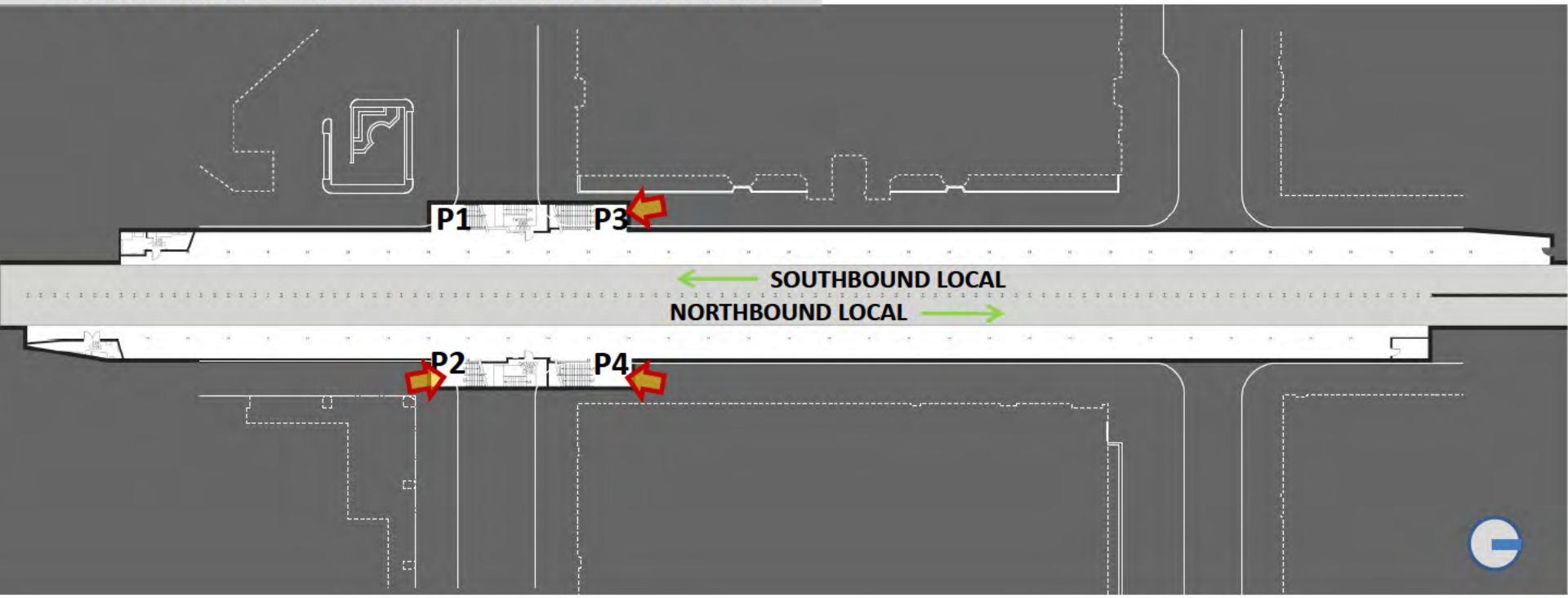
1

2



3

EXISTING PLATFORM LEVEL PLAN



P2

P3

P4

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

Draft Environmental Assessment

Appendix E: Environmental Justice Data

LEAD FEDERAL AGENCY:
Federal Transit Administration

SPONSORING AGENCY:
Metropolitan Transportation Authority/New York City Transit

January 2016

The United States Environmental Protection Agency's EJSCREEN (environmental justice screen) allows users to access high-resolution environmental and demographic information for locations in the United States, and compare their selected locations to the rest of the state, EPA region, or the nation.

According to the data from EPA's EJSCREEN (below), the minority population in the study area is 13 percent compared with a minority population of 42 percent in New York State. The low income population in the study area is 9 percent compared with a low income population of 32 percent in New York State.

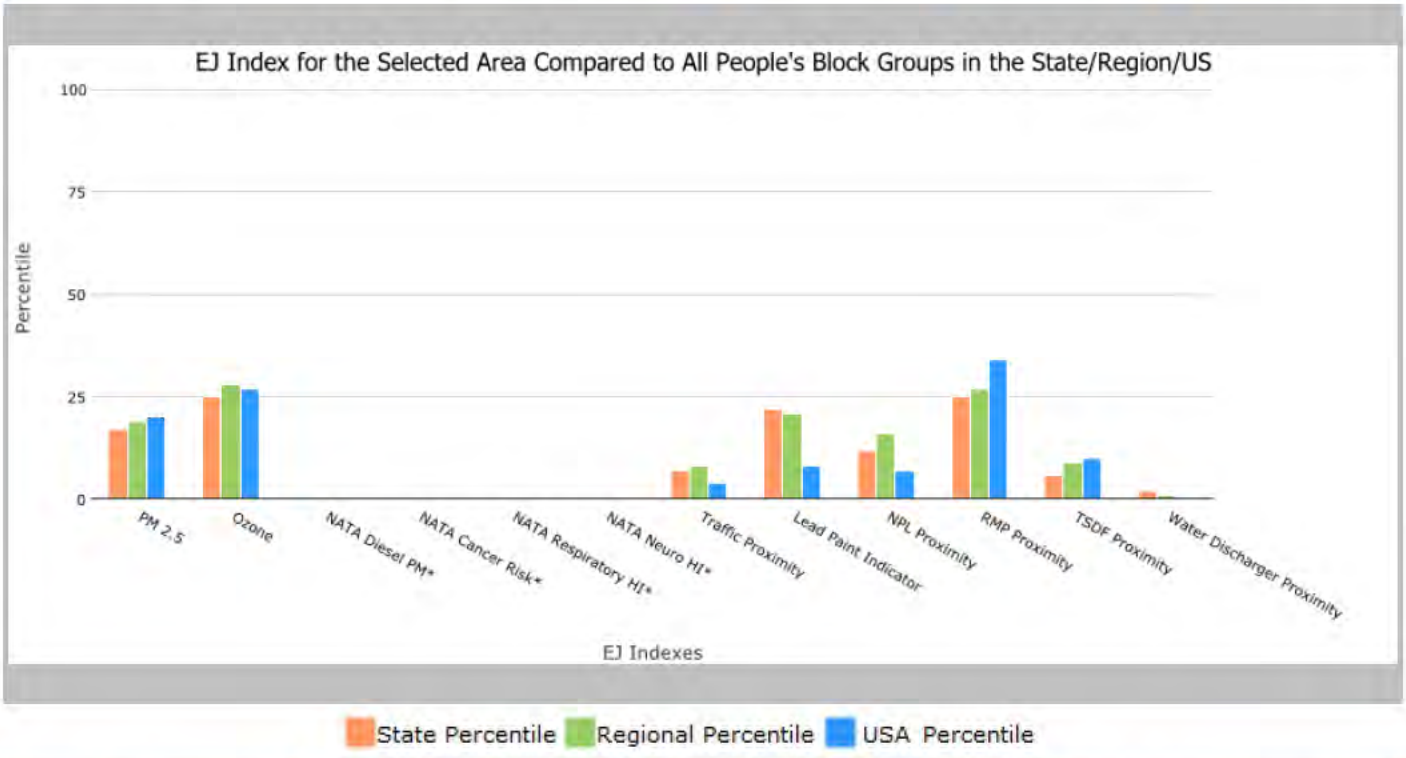
EJSCREEN Report

for the User Specified Area, NEW YORK, EPA Region 2

Approximate Population: 17149

68th Street Subway Improvements Project

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	17	19	20
EJ Index for Ozone	25	28	27
EJ Index for NATA Diesel PM*	N/A	N/A	N/A
EJ Index for NATA Air Toxics Cancer Risk*	N/A	N/A	N/A
EJ Index for NATA Respiratory Hazard Index*	N/A	N/A	N/A
EJ Index for NATA Neurological Hazard Index*	N/A	N/A	N/A
EJ Index for Traffic Proximity and Volume	7	8	4
EJ Index for Lead Paint Indicator	22	21	8
EJ Index for Proximity to NPL sites	12	16	7
EJ Index for Proximity to RMP sites	25	27	34
EJ Index for Proximity to TSDFs	6	9	10
EJ Index for Proximity to Major Direct Dischargers	2	1	0



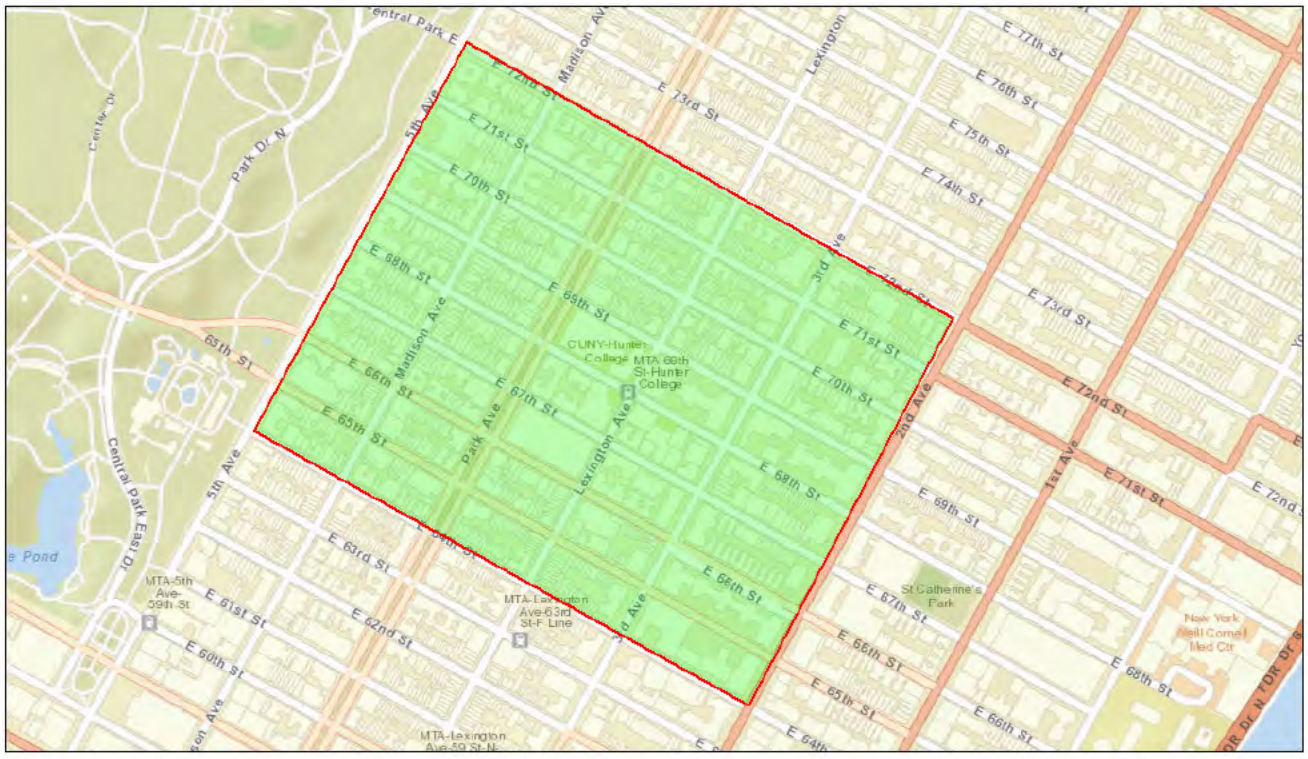
This report shows environmental, demographic, and EJ indicator values. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

EJSCREEN Report

for the User Specified Area, NEW YORK, EPA Region 2

Approximate Population: 17149

68th Street Subway Improvements Project



October 23, 2015

Digitized Polygon

1:9,028

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), Mapmyindia, © OpenStreetMap contributors, and the GIS User Community

EJSCREEN Report

for the User Specified Area, NEW YORK, EPA Region 2

Approximate Population: 17149

68th Street Subway Improvements Project

Selected Variables	Raw Data	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m^3)	11.8	9.89	97	9.94	98	9.78	89
Ozone (ppb)	43.2	43.7	30	44.7	21	46.1	30
NATA Diesel PM (µg/m^3)*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NATA Cancer Risk (lifetime risk per million)*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NATA Respiratory Hazard Index*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NATA Neurological Hazard Index*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Traffic Proximity and Volume (daily traffic count/distance to road)	180	180	78	160	79	110	85
Lead Paint Indicator (% Pre-1960 Housing)	0.54	0.58	42	0.53	47	0.3	77
NPL Proximity (site count/km distance)	0.16	0.14	76	0.19	69	0.096	87
RMP Proximity (facility count/km distance)	0.081	0.16	40	0.18	39	0.31	27
TSDF Proximity (facility count/km distance)	0.059	0.035	88	0.058	81	0.054	77
Water Discharger Proximity (facility count/km distance)	1.7	0.39	95	0.36	96	0.25	98
Demographic Indicators							
Demographic Index	11%	37%	14	35%	15	35%	10
Minority Population	13%	42%	31	41%	28	36%	31
Low Income Population	9%	32%	14	29%	18	34%	10
Linguistically Isolated Population	2%	8%	43	8%	42	5%	55
Population With Less Than High School Education	3%	15%	12	14%	13	14%	13
Population Under 5 years of age	6%	6%	59	6%	59	7%	53
Population over 64 years of age	29%	14%	95	14%	95	13%	95

* The National-scale Air Toxics Assessment (NATA) environmental indicators and EJ indexes, which include cancer risk, respiratory hazard, neurodevelopment hazard, and diesel particulate matter will be added into EJSCREEN during the first full public update after the soon-to-be-released 2011 dataset is made available. The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: http://www.epa.gov/ttn/atw/natamain/index.html.

For additional information, see: www.epa.gov/environmentaljustice