

### **3.1 INTRODUCTION**

This chapter evaluates the effects of the Modified Design on transportation, including subway and commuter rail, vehicular traffic and parking, surface transit, and pedestrian conditions, in comparison to the effects described in the 2004 FEIS. The 2004 FEIS concluded that significant adverse impacts would occur to transportation services during construction of the Project. The completed Project would result in beneficial impacts on transportation services. The Modified Design of Phase 2 would not change the conclusions of the 2004 FEIS. However, the deeper tunnel along 125th Street with the Modified Design would substantially reduce surface-level construction activities along 125th Street and the related traffic impacts during construction. The deeper tunnel would also reduce potential service disruption impacts to Metro-North Railroad and the Lexington Avenue (4/5/6) subway line during construction.

### **3.2 FEIS FINDINGS**

#### **3.2.1 CONSTRUCTION IMPACTS**

##### *3.2.1.1 SUBWAY AND COMMUTER RAIL*

The 2004 FEIS described that construction of the Second Avenue Subway would result in temporary disruptions to other subway service and commuter rail service at locations where the new subway would be in proximity to those services. In East Harlem, construction activity for the 2004 FEIS Design would affect the Metro-North Harlem-125th Street Station, where the work for the 2004 FEIS Design would involve underpinning the existing station's viaduct structure and construction of new escalators, elevators, and stairways for the subway station. During underpinning of the viaduct, the construction work might have required speed reductions for Metro-North commuter rail service; during other construction, street-level access to the Metro-North station could be affected but access was to be maintained at all times.

Also in East Harlem, the 2004 FEIS Design involved constructing the new Second Avenue Subway beneath and perpendicular to the existing Lexington Avenue line 125th Street station, including a new mezzanine level and new platform and track level beneath the existing station. The 2004 FEIS stated that this work would be done using a combination of cut-and-cover and traditional mining techniques. Escalators and stairs were to be constructed from the new mezzanine up through the lower level Lexington Avenue line station platforms, and escalators were also to be built from the new mezzanine to the upper level of the Lexington Avenue line station. As much of this construction was going to occur immediately under existing, active tracks, the 2004 FEIS stated that subway service disruptions would occur, including track outages (i.e., track closures where subway service would not operate) and limited platform area closures. The 2004 FEIS stated that construction work for the new 125th Street Station would affect service on the Lexington Avenue line on selected nights and weekends for approximately two years.

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### *3.2.1.2 VEHICULAR TRAFFIC AND PARKING*

In Chapter 5D, “Transportation—Vehicular Traffic,” the 2004 FEIS described that construction of the new subway could result in significant traffic impacts due to lane closures along the alignment, diversion of through traffic away from congested construction areas, and an increase of traffic from construction vehicles. It stated that lane closures would be expected at station construction locations and at shaft/access sites, which may include spoils handling and removal enclosures, that may be constructed within or adjacent to Second Avenue. The 2004 FEIS described that up to half of the Second Avenue roadway width would be needed at station locations to accommodate subway construction activities, which would reduce the width of Second Avenue adjacent to construction zones to three 12-foot lanes in most locations. It also described that where stations are constructed on two-way streets, such as 125th Street, the roadway would be narrowed to one travel lane per direction, with two travel lanes at some locations. With the 2004 FEIS Design, the length of the station construction and staging area would be four to five block lengths at each location. On the major cross streets, generally all six travel lanes would remain open for traffic, but during specific short-term construction operations, a minimum of one lane in each direction would be open for traffic. It noted that for minor cross streets that intersect a construction zone, at least two of the three east/west travel lanes would generally remain open for traffic.

The 2004 FEIS also described the construction activities required for insertion of Tunnel Boring Machines (TBMs) and at shafts where tunnel spoils are removed and construction materials are supplied, and identified a site at 125th Street and Third Avenue in East Harlem that would be used to insert the TBMs used for the curved tunnel between Second Avenue and 125th Street. The TBM was to be removed from a shaft in Second Avenue at around 122nd Street.

The 2004 FEIS also noted that in addition to lane closures, the Second Avenue Subway construction would generate substantial truck traffic through the East Side of Manhattan for spoils removal from, and materials delivery to, the construction sites.

A detailed analysis of traffic impacts that would result from those lane closures in combination with the construction traffic expected at station sites was prepared (see Chapter 5D of the 2004 FEIS, “Transportation—Vehicular Traffic”). The 2004 FEIS evaluated traffic conditions during construction at six representative construction zones along the subway’s 8.5-mile-long alignment, selected for analysis as representative, worst-case locations for construction impacts. Each selected analysis location included both a potential shaft site/spoils removal area and a new subway station, and therefore would result in a longer construction duration, potentially larger construction area, and more trucking activity than other sites.

One of the selected analysis locations was the 125th Street Station and Second Avenue spoils removal area. In this area, the 2004 FEIS analysis considered intersections between 124th and 128th Streets, between Madison and First Avenues. In the 125th Street Station construction area, the 2004 FEIS Design included cut-and-cover construction along 125th Street, including for the 125th Street Station, which would have required closing lanes on 125th Street. The 2004 FEIS analysis assumed that 125th Street would be narrowed to one travel lane per direction from Third to Park Avenue to accommodate the construction of the 125th Street Station. Also, Second Avenue between 126th and 127th Streets would be narrowed to three travel lanes southbound and one travel lane northbound in order to accommodate the construction of two underground storage tracks. For each of these construction zones, it was assumed that curbside parking, stopping, and bus stops within the construction areas along Second Avenue and 125th Street would be prohibited during the construction phase. Taxis that currently queue on 125th Street at Park Avenue, near the

Metro-North Harlem-125th Street Station, would therefore have to be relocated temporarily. The 2004 FEIS also identified a spoils removal site, at 125th Street and Third Avenue, that was predicted to bring additional truck traffic to this area associated with removing excavated materials from the 125th Street curve.

The 2004 FEIS concluded that significant adverse traffic impacts would occur during construction at all station construction sites. Impacts in the 125th Street Station area could largely be mitigated using standard mitigation measures such as signal timing changes, lane restriping, or parking restrictions. At 125th Street and Lexington Avenue and at 125th Street and Second Avenue, the 2004 FEIS also recommended restriping the streets to allow for additional travel lanes.

The mitigation identified in the 2004 FEIS consisted of measures that could be implemented during the construction period; however, a final determination of appropriate measures would have been made as the design advanced. The 2004 FEIS committed to a comprehensive area-wide traffic management and mitigation plan that would identify specific mitigation measures throughout construction. As is typically the case, MTA would prepare such a plan that would then be reviewed by an Interagency Traffic Management Task Force comprised of affected and responsible agencies (e.g., MTA/NYCT, the New York City Department of Transportation (NYCDOT), New York State Department of Transportation (NYSDOT), MTA Bridges and Tunnels). The Interagency Traffic Management Task Force would also consult with local Community Boards. The plan would typically include a comprehensive traffic monitoring program to evaluate traffic conditions continually so that traffic detours and mitigation measures could respond as effectively as possible to traffic patterns as they changed.

During the construction of Phase 1, MTA continuously coordinated with NYCDOT, other transportation agencies, and the Community Board to develop, implement, and monitor an area-wide traffic management and mitigation plan.

The 2004 FEIS also described the loss of parking that would occur at each station location during construction activities. As noted in the 2004 FEIS, curbside parking spaces would be lost during construction on 125th Street, Second Avenue, and on side streets nearby. The 2004 FEIS analysis determined that available capacity exists throughout the area for displaced parkers in off-street parking garages and lots, and that an adequate parking supply would remain to meet demand, although it might not be as convenient as curbside spaces.

### 3.2.1.3 SURFACE TRANSIT

The 2004 FEIS stated that bus service along Second Avenue (the M15 bus route) would be adversely affected the most by the Second Avenue Subway construction. This would include potential bus stop relocations outside of construction zones and delays to southbound service because of traffic congestion through the construction zones. Similarly, bus stops along 125th Street would need to be relocated outside of construction zones. In addition, the 2004 FEIS noted that congestion on Second Avenue might divert some motorists and bus riders to Lexington Avenue. As a result, additional delays may be experienced by Lexington Avenue buses due to the additional traffic and diverted riders from Second Avenue. The additional riders from Second Avenue would increase boarding and alighting times at bus stops, increase bus occupancy levels, and possibly increase travel times along this route.

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### *3.2.1.4 PEDESTRIAN CONDITIONS*

The 2004 FEIS stated that sidewalks at least five feet wide would be maintained throughout the construction zones. Based on analysis methods at that time, the 2004 FEIS predicted that no impacts would have occurred if fewer than 650 pedestrians passed through the sidewalk location during a 15-minute period. The 2004 FEIS found that none of the sidewalk locations within the Phase 2 construction zones would be adversely impacted by construction of Phase 2 with the 2004 FEIS Design.

### **3.2.2 PERMANENT IMPACTS**

#### *3.2.2.1 SUBWAY AND COMMUTER RAIL*

The 2004 FEIS described the benefits of the new Second Avenue Subway as a new transit service. As discussed in the 2004 FEIS, the new subway would greatly improve transit access for and provide links between communities on the Far East Side of Manhattan, from East Harlem to the Financial District. In addition, it noted, in East Harlem the extension of the Q service via the Second Avenue line would create for the first-time a one-seat ride from East Harlem to West Midtown. The new service would also help to reduce crowding on the Lexington Avenue line as transit riders, including Metro-North commuters, switch to the new line.

The 2004 FEIS predicted that one of the highest volume transfer movements on the new Second Avenue line would occur at the 125th Street Station, where a total of about 12,700 passengers were predicted to transfer between the Lexington Avenue line and the Second Avenue line in the AM peak hour. It noted that while transfer connections on the new system would be designed to achieve satisfactory conditions, one possible exception was the transfer at the new 125th Street Station, where most of the transferring passengers (nearly 11,800) would transfer from the Lexington Avenue line to the Second Avenue Subway line in the AM peak hour. The 2004 FEIS noted that the constraints of the existing Lexington Avenue line platform width, stair layout, and uneven bi-directional flow may make it difficult to achieve better than borderline satisfactory conditions, although the transfer will be made as attractive as possible.

#### *3.2.2.2 VEHICULAR TRAFFIC AND PARKING*

The 2004 FEIS did not include a quantitative traffic analysis for the operational condition. The 2004 FEIS predicted that traffic operations would be the same or slightly better with the subway than without it due to improved transit accessibility.

The 2004 FEIS noted that once the Second Avenue Subway is operating, there would be little if any change to the number of curb spaces available throughout the Project corridor, except potentially some minor loss of curb spaces immediately adjacent to new subway station locations. At the 116th Street Station, it was noted that a secondary station entrance at the southeast corner of Second Avenue and 118th Street could be widened into the parking lane on 118th Street and displace three to four curbside parking spaces, which could also potentially displace three to four spaces on the southwest corner in order to channelize eastbound 118th Street traffic.

### 3.2.2.3 SURFACE TRANSIT

The 2004 FEIS noted that once the Second Avenue Subway is operational, bus services would continue in the corridor but bus ridership on the north-south bus routes would be reduced with the faster, higher-capacity subway service in place.

### 3.2.2.4 PEDESTRIAN CONDITIONS

The 2004 FEIS examined pedestrian elements at representative station locations along the 8.5-mile long Project alignment. The analysis locations were selected because they either represented stations with higher street entrance/exit volumes, or would be located in areas with existing on-street pedestrian conditions that were likely to be impacted by additional pedestrian volumes. In East Harlem, the 125th Street Station was evaluated for effects on pedestrian conditions, including pedestrian elements on 125th Street at both Lexington Avenue and Park Avenues. The 2004 FEIS analysis concluded that pedestrian conditions would improve at corners and crosswalks at the 125th Street and Lexington Avenue intersection, but adverse impacts would result at the north and south crosswalks of 125th Street and Park Avenue. The specific impacts and recommended mitigation measures were identified as follows:

- North crosswalk of 125th Street across southbound Park Avenue during the AM peak hour. This impact could be mitigated by widening the painted striped crossing zone by four feet to provide more designated space for safe pedestrian crossing.
- South crosswalk of 125th Street across southbound Park Avenue during the AM and PM peak hours. This impact could be mitigated by widening the painted striped crossing zone by six feet to provide more designated space for safe pedestrian crossing.

The 2004 FEIS committed to ongoing coordination in the planning of station entrances as follows:

- As preliminary engineering continues, MTA will discuss specific entrance locations with the community.
- Planning for station entrance locations was to consider on-street pedestrian conditions before any station plans were finalized, and if adverse impacts were predicted, MTA was to consider a variety of potential mitigation measures, including widening the striped area of designated crosswalks, relocating street furniture, and creating sidewalk bump-outs.

## 3.3 UPDATE OF BACKGROUND CONDITIONS

Since the 2004 FEIS, East Harlem has seen substantial new development, much of which was predicted in the 2004 FEIS. An Environmental Impact Statement (EIS) was prepared by New York City in 2017 for an area-wide rezoning in East Harlem. To support the traffic analyses conducted for that EIS, the City of New York's traffic consultants collected updated background information with respect to traffic. MTA and the City established an agreement to share these data for purposes of the updated traffic analyses in this Supplemental EA (as discussed in Section 3.4 below).

Also since the 2004 FEIS, MTA has opened Phase 1 of the Second Avenue Subway and has implemented its Select Bus Service (SBS) program, which includes the M15 route along First and Second Avenues and the M60 route that operates on 125th Street between Columbia University and LaGuardia Airport. NYCDOT has rapidly expanded bicycle routes through the city, including a protected bicycle lane along Second Avenue. In addition, Citi Bike, New York City's provider of bike-sharing infrastructure, announced in September 2017 a planned expansion from 96th Street to 130th Street in East Harlem.

### 3.4 PHASE 2 MODIFIED DESIGN—CHANGES IN IMPACTS

#### 3.4.1 CONSTRUCTION IMPACTS

##### 3.4.1.1 SUBWAY AND COMMUTER RAIL

With the Modified Design, the temporary disruptions to other subway service and commuter rail service would be reduced in comparison to those of the 2004 FEIS Design.

At the Metro-North Harlem-125th Street Station, the potential for disruptions to Metro-North service on the Park Avenue viaduct would be reduced with the Modified Design, because the Modified Design would not involve cut-and-cover construction directly beneath the viaduct and would not require underpinning or support of its columns.

The Modified Design would also reduce the construction-period impacts to the Lexington Avenue line at the 125th Street Station in comparison to the 2004 FEIS Design, because the Modified Design would involve mining the new tunnel and station farther below the existing station rather than excavating from the surface to build a new station directly beneath and around the existing station as was proposed for the 2004 FEIS Design. Construction-related risk and the potential need for track outages would be greatly reduced. With the Modified Design, construction impacts to the Lexington Avenue line would be limited to the areas where the new connections are made. These would be at the two new entrances on Lexington Avenue, the two new transfer stairs to the lower platform level, and stair modifications between the lower and upper platform levels. The work would involve structural modifications to provide for new openings into the subway station structure, underpinning of the existing lower level columns where the new transfer stairs are located, and structural reframing for the stair modifications.

##### 3.4.1.2 VEHICULAR TRAFFIC AND PARKING

A new traffic analysis has been prepared to evaluate conditions during the construction of Phase 2 of the Second Avenue Subway with the Modified Design. Whereas the 2004 FEIS looked only at representative worst-case locations near the 125th Street Station area, the new analysis considers locations near all three Phase 2 stations—106th Street, 116th Street, and 125th Street. Traffic counts were conducted in May 2017, and information from the *East Harlem Rezoning Draft Environmental Impact Statement* (April 2017) was used to project future 2024 conditions, which is considered the midpoint of the construction period. Detailed information on this analysis is included in **Appendix A** and summarized below.

As described in Chapter 2, “Description of Phase 2 Modified Design,” the Modified Design would primarily use mining techniques to construct the 125th Street Station, as opposed to the cut-and-cover construction proposed for the 2004 FEIS Design. There would be some trucking activity to remove spoils from this area, but with a substantial reduction in excavation, this would be a less disruptive operation than was predicted in the 2004 FEIS.

Because of the changed background conditions, changes in projected future growth, and changes in analysis methodologies and software, it is not practical to compare the results on an intersection by intersection basis. The analysis conducted for the Modified Design considers 16 locations near the Phase 2 stations. The analysis identifies six intersections that would be adversely impacted during construction. Standard measures would mitigate these impacts to the extent feasible, but it

may not be possible to fully maintain traffic levels of service at the same levels as without construction (i.e., No Build conditions) at some locations.

MTA remains committed to a comprehensive area-wide traffic management and mitigation plan during construction of Phase 2. The plan will identify the specific means to mitigate construction period traffic impacts, and the implementation of the plan will be coordinated with NYCDOT, NYSDOT, and MTA Bridges and Tunnels. The plan will include a comprehensive traffic monitoring program, to continually evaluate traffic conditions so that traffic detours and mitigation measures respond effectively to traffic patterns as they change.

#### *3.4.1.3 SURFACE TRANSIT*

MTA will maintain bus service on 125th Street and Second Avenue during construction of Phase 2 (including the Select Bus Service routes that have been implemented since 2004), but it may need to relocate bus stops to nearby sidewalk areas to avoid certain construction zones. Extension of the tail tracks farther west along 125th Street with an associated ancillary facility in the Modified Design may require relocation of an additional bus stop during construction. However, use of mining techniques along 125th Street with the Modified Design rather than previously planned cut-and-cover construction would reduce surface-level impacts in this corridor and reduce construction-related impacts to bus services. Construction of Phase 2 would necessitate the temporary closure of sections of the protected bicycle lane on Second Avenue, which was created since 2004. MTA would coordinate this closure with NYCDOT to provide alternate routes or facilities for cyclists.

#### *3.4.1.4 PEDESTRIAN CONDITIONS*

MTA will maintain sidewalks of at least five feet wide through the Phase 2 construction zones, which would be sufficient at most locations to accommodate pedestrian flows. On 125th Street between Park and Lexington Avenues, projected pedestrian flows require a wider sidewalk to avoid a potential impact to pedestrians flow. In this area, MTA will provide a minimum of seven feet of width, which would avoid an adverse impact.

### **3.4.2 PERMANENT IMPACTS**

#### *3.4.2.1 SUBWAY AND COMMUTER RAIL*

Overall, with either the 2004 FEIS Design or the Modified Design, Phase 2 of the new Second Avenue Subway would introduce a new transit service that would provide access and transit options in a community that currently has only one rapid transit option. All stations would be fully accessible in accordance with the Americans with Disabilities Act (ADA), with elevators and escalators at each station within the entrance buildings.

Like the 2004 FEIS Design, the 125th Street Station in the Modified Design would provide direct transfers to the existing Lexington Avenue (4/5/6) subway station and provide connection to the Metro-North Harlem-125th Street Station. The Modified Design has been developed to provide for the additional capacity, and optimized to better distribute those transfers along both the Second Avenue Subway mezzanine and the Lexington Avenue line platforms. As described in Chapter 2 of this EA, "Description of Phase 2 Modified Design," Section 2.3.3.4.4, MTA is evaluating two possible configurations for passenger transfer between the new 125th Street Station and the Lexington Avenue line 125th Street station and will select the final option as design advances.

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### 3.4.2.2 VEHICULAR TRAFFIC, PARKING, AND SURFACE TRANSIT

Operation of the Modified Design for Phase 2 of the Second Avenue Subway would not meaningfully alter traffic, parking, or surface transit conditions in the study area. Therefore, a traffic analysis is not warranted and was not prepared.

### 3.4.2.3 PEDESTRIAN CONDITIONS

A new pedestrian analysis was prepared to assess conditions upon completion of Phase 2 with the Modified Design. The analysis considers the effects of subway passengers entering and leaving the new subway stations on pedestrian flows on sidewalks and at corners and crosswalks near the proposed station entrances. The volumes of existing pedestrians at these locations were observed and counted in May 2017. In addition, future conditions were projected assuming the development projected to occur as a result of the East Harlem Rezoning is in place, based on information from *the East Harlem Rezoning Draft Environmental Impact Statement* (April 2017). As noted earlier, the new station entrances would include escalators, stairs, and elevators within the off-street entrances. Sidewalk entrances, including elevators in the sidewalks, are not proposed.

Since the 2004 FEIS, NYCDOT has installed curb extensions at Park Avenue and 125th Street. The curb extensions increase curb space and shorten the length of the adjacent crosswalks. This improves safety conditions by decreasing the distance that pedestrians must cross. However, the reduction in crosswalk area decreases the space available for pedestrians in terms of square footage per pedestrian in the crosswalk.

Based on the updated pedestrian analysis, the Modified Design would result in adverse impacts to pedestrian flows at four crosswalks—two near the 106th Street Station and two near the 125th Street Station:

- East crosswalk of Second Avenue across East 106th Street during the AM, midday, and PM peak hours;
- East crosswalk of Second Avenue across East 108th Street during the AM and PM peak hours;
- North crosswalk of 125th Street across southbound Park Avenue during the AM and PM peak hours; and
- South crosswalk of 125th Street across southbound Park Avenue during the AM, midday, and PM peak hours.

Similar to the impacts identified in the 2004 FEIS, these impacts could be mitigated by widening the painted striped crossing zone to provide more designated space for safe pedestrian crossing.

MTA remains committed to ongoing coordination in the planning of station entrances, as described in the 2004 FEIS. In particular, as design advances, MTA will discuss specific entrance locations with the community. In addition, planning for station entrance locations will consider on-street pedestrian conditions before any station plans are finalized, and if adverse impacts will result, MTA will implement mitigation measures to reduce pedestrian crowding, potentially including widening the painted area designated for crosswalks, relocating street furniture, and creating sidewalk bump-outs to increase pedestrian space.

### 3.5 CONCLUSIONS

The Modified Design would decrease construction impacts on Metro-North Railroad commuter service and Lexington Avenue line subway service that would have occurred for the 2004 FEIS Design. Consistent with the 2004 FEIS, construction of Phase 2 would result in temporary traffic impacts near the construction zone, which could be mitigated partially or fully in some cases; curbside parking spaces would be displaced temporarily near the construction zones, but parking capacity is available in nearby lots and garages; bus service, with some temporary modifications, would be maintained; and while the protected bicycle lane on Second Avenue did not exist in 2004, temporary closures and detours near the construction zone would be provided in coordination with NYCDOT. Conclusions of the updated pedestrian analysis are also consistent with the findings of the 2004 FEIS and five- to seven-foot-wide crosswalks would be provided near the construction zones to maintain pedestrian flow.

Also consistent with the 2004 FEIS, the Modified Design would not result in adverse impacts to traffic, parking, or surface transit once the subway is operational. As with the 2004 FEIS Design, the Modified Design would result in pedestrian flow impacts at several intersections, which would be mitigated by widening the painted crosswalk to increase the area for safe pedestrian crossing.

As a result of the Phase 2 Modified Design, there would not be any new significant adverse impacts to transportation not previously identified in the 2004 FEIS and Record of Decision. \*