

CHAPTER 6: TRAFFIC AND TRANSPORTATION CONDITIONS

6.1. INTRODUCTION

This chapter presents the results of the analysis of the potential impacts of the construction and operation of the proposed emergency ventilation plant for the 8th Avenue and 7th Avenue Subway Line tunnel segments on traffic and transportation. The chapter is divided into two separate sub-chapters as follows:

- Sub-Chapter 6 Part A (6A) Traffic and Parking; and
- Sub-Chapter 6 Part B (6B) Transit and Pedestrians.

Each sub-chapter includes a description of the relevant study area, analysis methodology, affected environment, and environmental impacts. Cumulative impacts to traffic and transportation are discussed in Chapter 20.

6.1.1. CONTEXT AND KEY ISSUES

The project area lies within a lively, vibrant, historic Greenwich Village community that manifests significant levels of weekday, weekend, and evening on-street activity by its residents, visitors and tourists. It also lies close to a major hospital complex, St Vincent's Hospital, which generates substantial levels of visitor and patient related activity as well as provides emergency ambulance service to a large portion of Manhattan.

While the emergency ventilation plant facility would not be expected to result in a measurable effect upon traffic and pedestrian levels and the community character, the construction activity of the emergency ventilation plant elements would temporarily disrupt sidewalks and roadways in the area. Construction will reduce and/or modify the roadway and/or sidewalk space or paths available to vehicular and pedestrian traffic in varying degrees during multiple construction stages. It is, therefore, imperative that vehicular and pedestrian traffic effects be evaluated thoroughly as part of this environmental impact study, with particular emphasis upon safety and a minimization of construction related impacts to mobility within and through the local community.

6.1.2. CONCLUSIONS

TRAFFIC AND PARKING

Existing traffic operations in the study area are influenced by the intersection of two street grids along Greenwich Avenue focused at its intersection with Seventh Avenue and West 11th Street. It is anticipated that the proposed emergency ventilation plant would not change traffic or parking from its current conditions, and therefore, analysis of the operational phase of the facility is not required. However, construction of the emergency ventilation plant would require temporary changes to vehicular travel paths, traffic regulations, and available on-street parking supply.

Construction of the Preferred Alternative and Alternatives SB1 or SB5 would be undertaken in four major construction stages, each with a specific developed plan for the maintenance and protection of traffic (MPT) (see Chapter 4: Construction Activities, for a detailed description of each construction stage and its concept level MPT plan). The concept level MPT plan for Construction Stages 1 and 2 are similar for

each alternative in that construction activities would require the detour of southbound Greenwich Avenue traffic, at its intersection with Seventh Avenue, to Seventh Avenue, then to Perry Street and back to Greenwich Avenue southbound. Trucks would be prohibited from turning left to Perry Street. This detour would not be required during Construction Stages 3 and 4.

The concept level MPT plan for Construction Stages 3 and 4 of each alternative would also be similar to each other, except that Alternative SB5 requires the closure of Perry Street between Seventh Avenue and Greenwich Avenue. The concept level MPT plan for Construction Stage 3 for each alternative would require a lateral shift in traffic on southbound Seventh Avenue, but no reduction in capacity would result. The concept level MPT plan for Construction Stage 4 would involve minimal on-street changes except with respect to the closure of Perry Street to traffic during the construction of Alternative SB5.

The concept level MPT plan for Construction Stages 1 and 2 was selected for detailed traffic analysis because of the potential for significant traffic impacts due to the necessary traffic detour during construction. Conditions for Stages 1 and 2 would be similar among the alternatives and not require individual analysis. The effects of the closure of Perry Street during Construction Stages 3 and 4 of Alternative SB5 were not analyzed due to the low traffic volumes on Perry Street that would have to be diverted, and thus, the low probability that there would be significant impacts. Traffic operations analysis of Stages 1 and 2 of the Preferred Alternative and Alternatives SB1 and SB5 indicated that a significant traffic impact would occur during construction working hours on the southbound Greenwich Avenue approach to Seventh Avenue. This impact could be mitigated by a minor shift in traffic signal timing that would be coordinated with NYCDOT. In addition, it was noted that traffic volumes on Seventh Avenue remain high after the weekday PM peak period and are also high on weekends, based upon a review of traffic data collected for this study and other previously collected traffic along the Seventh Avenue corridor. Because the traffic detour described above for Construction Stages 1 and 2 of each alternative will remain in place 24 hours a day, seven days a week, the possibility exists that a significant adverse traffic impact could occur due to this detour to Seventh Avenue traffic operations during evenings and weekends outside of the anticipated construction activity hours of emergency ventilation plant, especially during months of higher traffic levels. The duration of Construction Stages 1 and 2 would be 12 months for the Preferred Alternative and Alternative SB5 and 24 months for Alternative SB1. Measures to mitigate this condition, if it should occur, could include: the use of variable message signs to advise motorists of the construction activity in the area and encourage the use of alternate routes to Seventh Avenue; potential changes in the means and methods used in construction; and other public information methods. These mitigation measures would be further developed during MPT planning with NYCDOT during planning, design, and construction of the proposed project. The likelihood of the occurrence of a significant traffic impact on Seventh Avenue will be further evaluated during the development of detailed maintenance and protection of traffic plans during final design through the review of additional traffic data reflecting a broader range of potential weekly and seasonal variation. These efforts and the development and review of mitigation measures, if needed, will be undertaken in consultation with the NYCDOT whose representatives have agreed to participate in this effort.

The impact during the construction of the emergency ventilation plant on curbside parking was also analyzed for each construction stage of each ventilation plant alternative. The temporary loss of on-street parking could result from the need to use the curbside area for construction equipment and materials storage and staging, to facilitate the traffic operations or pedestrian circulation elements of a specific concept level MPT plan, and to promote safe traffic and pedestrian operations or for actual construction activities. The loss in parking varies depending on the construction stages and among alternatives due to: the area of storage and staging area required; available off-street storage and staging area, and, the construction activity specific to each alternative and the construction stage and parking areas it affects. All alternatives would require the temporary loss of 15 or more on-street spaces during one or more stages of construction. It is estimated that construction of Alternative SB5 would cause the greatest loss

of on-street parking spaces (33 spaces). Alternative SB1 would have the least loss in on-street spaces. All parking space losses would be metered spaces.

It is projected that there would be 80 available on-street spaces in the analysis year during the weekday Midday hours in the study area, primarily of metered spaces, which could absorb the spaces lost in the construction area. Additionally, there would be over 40 spaces available in off-street parking facilities in the study area to accommodate the lost parking spaces during construction. Considering the activity level in the area during evenings and weekends, it is likely that parking demand during these time periods is comparable to and possibly exceeds at times, that of the weekday midday hours. However, taking into consideration the worst case scenario (highest number of spaces lost) during construction would be approximately 1.5 per cent of the total parking supply available in the study area, the effect of the loss of parking supply to the overall neighborhood would be insignificant.

TRANSIT AND PEDESTRIANS

It was also determined that the operation of the emergency ventilation plant would generate negligible transit and pedestrian trips and, therefore, analysis was focused upon the potential impacts during construction of the plant.

The effects of the construction of the emergency ventilation plant on pedestrian circulation, access and safety as well as transit service were also considered for each of four construction stages. It was determined that the construction of the ventilation plant would have minimal to no impact upon surface (bus) transportation. Interruptions to subway service may occur during certain construction activities and would be managed by MTA NYCT with similar measures as employed on other MTA NYCT construction projects that necessitated temporary short-term service interruptions.

Critical pedestrian elements that could potentially be affected by construction of the emergency ventilation plant include sidewalks on Seventh Avenue between Greenwich Avenue and Perry Street, on Greenwich Avenue between Seventh Avenue and Perry Street, and on Perry Street between Seventh Avenue and Greenwich Avenue. Likewise, certain intersection crosswalks and crossings could potentially be adversely affected during construction of the ventilation plant, specifically the south crosswalks at the intersection of Seventh Avenue with Greenwich Avenue, the east crosswalk at the intersection of Seventh Avenue and Perry Street and Perry Street crossing at Greenwich Avenue.

It was determined that the above noted sidewalks would likely be reduced to a minimum five feet in width under various construction stages for all the alternatives. In addition, sidewalks could also be closed and pedestrians routed into roadbeds *within barrier protected temporary walkways of five-foot minimum width*. Therefore, each sidewalk element was analyzed under the condition that a minimum width of five feet would be maintained throughout the construction period. No significant pedestrian impacts were identified. The sidewalks on Perry Street between Seventh Avenue and Greenwich Avenue would be closed to all but residents and emergency services during Construction Stages 3 and 4 of Alternative SB5. Affected sidewalks were analyzed considering the effects of this pedestrian diversion.

Analysis of the east and south crosswalks at the intersection of Seventh Avenue with Greenwich Avenue, and the east crosswalk at the intersection of Seventh Avenue with Perry Street also indicated that no significant impacts would occur. The increase in pedestrian/vehicle conflicts was noted at the east crosswalk at the intersection of at Seventh Avenue with Perry Street and on the crossing of Perry Street at Greenwich Avenue. Specific mitigation measures for these two crossings, including traffic rerouting, modification to the overlap of pedestrian and vehicular phases and temporary traffic signalization are planned and would be coordinated with NYCDOT.

6.2. CONSTRUCTION ENVIRONMENTAL PROTECTION PLAN (CEPP)

MTA NYCT recognizes the importance of avoiding and minimizing adverse impacts and proposes to implement construction techniques and/or operating procedures that would be proactively used to reduce the potential for adverse environmental impacts. Listed below are CEPP measures that would be implemented by MTA NYCT during construction:

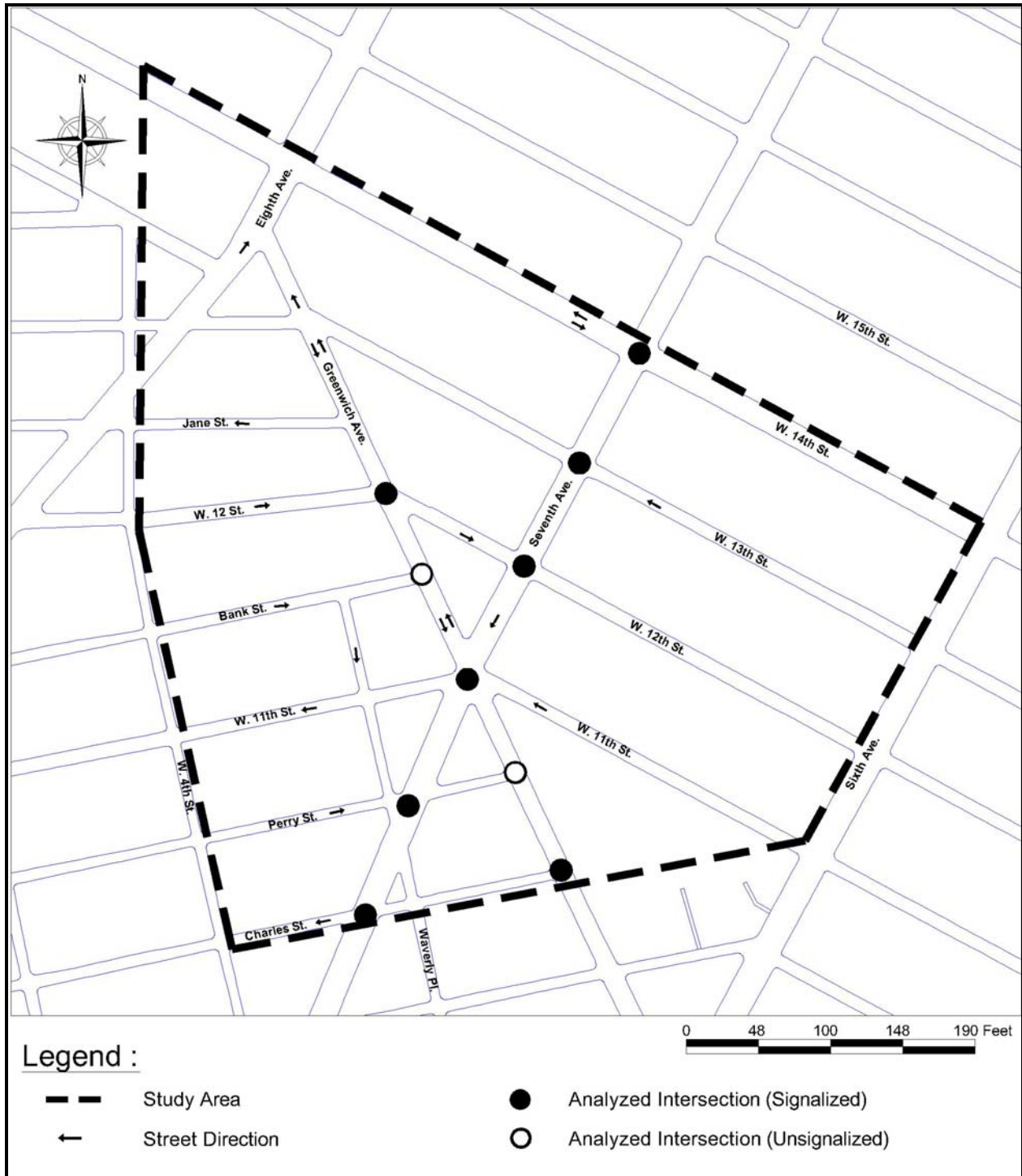
- Establishment of a project-specific pedestrian maintenance vehicular maintenance and protection plan;
- Promotion of public awareness through mechanisms such as signage, telephone hotlines and web site updates
- Ensure sufficient alternate street, building and station access during the construction period; and,
- Regular communication with NYCDOT and participation in its construction coordination.

In addition to the above, additional project-specific mitigation measures may be developed by MTA NYCT as the project progresses through design and construction. MTA NYCT would implement a CEPP during construction of the emergency ventilation plant project, which would include proactive measures to reduce environmental impacts during construction whenever possible.

6.3. STUDY AREA

The study area for traffic and transportation studies generally extends from West 14th Street in the north to Charles Street in the southwest and from West 4th Street in the west to Sixth Avenue in the east, as illustrated on Figure 6-1. Given the locations of the alternatives and the street and roadway conditions and relative traffic levels on the roadways, it was determined that the traffic analysis would be focused at the intersection of Seventh Avenue with Greenwich Avenue and West 11th Street. Traffic and pedestrian data was therefore compiled at intersections along the key vehicle and pedestrian travel corridors leading to and from this intersection with emphasis upon Seventh Avenue, Greenwich Avenue and Perry Street, as discussed in Sections 6A and 6B below.

FIGURE 6-1: TRAFFIC AND TRANSPORTATION STUDY AREA



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