

6.9 TRAFFIC AND PARKING

6.9.1 Introduction

As described in Section 6.1, “Project Description,” the E. 59th Street/Second Avenue Shaft Site is located on the north side of E. 59th Street between First and Second Avenues within an area adjacent to the Queensboro Bridge that is currently used by NYCDOT as an equipment storage area for construction activities related to the ongoing rehabilitation of the Queensboro Bridge. The construction of Shaft 33B at this site would require the relocation of existing utilities, including a sensitive Con Edison oil-o-static line, which would delay the initiation of Shaft 33B construction by approximately one year. Similar to the preferred Shaft Site, water main connections from this alternative Shaft Site could follow many possible routes to the Third Avenue trunk main, including the First Avenue, Sutton Place, and E. 59th Street/E. 61st Street routes, as evaluated in Section 5.9, “Traffic and Parking” for water main connections. As demonstrated in Section 3.9, “Traffic and Parking,” of Chapter 3, “Impact Methodologies,” and Section 4.9, “Traffic and Parking” for the preferred Shaft Site, the activation and operation of Shaft 33B and its water main connections would not generate vehicular trips exceeding the CEQR requirements for a detailed analysis, and therefore, would not be expected to have a potential for significant adverse traffic impacts. Since this conclusion would also be applicable for the E. 59th Street/Second Avenue Shaft Site, the following discussions address conditions related to the construction of the shaft and water main connections.

6.9.2 Shaft Site Construction Traffic Conditions

Prior to the construction of Shaft 33B at the E. 59th Street/Second Avenue Shaft Site, one of the existing oil-o-static lines and an associated chamber would need to be relocated. This relocation would require a lane closure along the north side of E. 59th Street for approximately six months immediately adjacent to the area currently used by NYCDOT for equipment storage. Since E. 59th Street at Second Avenue currently operates as a wide one-way eastbound roadway with a single traffic lane delineated by construction jersey barriers, a reconfiguration of the lane alignment could be undertaken by removing these jersey barriers, such that a traffic lane would be maintained along the south curb of the roadway. Once the oil-o-static line relocation is complete, construction of Shaft 33B would take place at the E. 59th Street/Second Avenue Shaft Site. The duration of the Shaft construction has been estimated to range from 52 (using the raise bore construction method) to 65 (using the surface excavation method) months, as described in Section 6.1.

Similar to the construction at the preferred Shaft Site, the peak trucking activity would involve a maximum of 30 truck trips on a typical day or up to 5 truck trips during any peak hour. These truck estimates developed for a conservative impact assessment would be applicable for either the raise bore or surface excavation construction method. The arrival and departure routes of these truck trips would follow NYCDOT designated truck routes. Vehicle trips generated by

construction employees would also be negligible and are typically made outside of the Study Area peak hours. While the construction of the regulator/valve chambers, which would be approximately three months long, could extend beyond the boundaries of the NYCDOT equipment storage area, a traffic lane would be maintained similar to the manner described for the relocation of the Con Edison oil-o-static lines. Since construction at the E. 59th Street/Second Avenue Shaft Site would not result in the loss of traffic lanes or operational changes along Second Avenue or E. 59th Street and the total number of construction-related trips would not exceed the CEQR requirements for a detailed analysis, there would not be a potential for significant adverse traffic impacts at nearby intersections.

At the construction site, truck entering and exiting movements are expected to cause momentary disruptions to the use of the adjacent E. 59th Street roadway. Trucks would likely access the site via Second Avenue and depart via First Avenue. The entering and exiting maneuvers would be similar to those described for the preferred Shaft Site under the base configuration, which include some backing up of trucks either into or out of the site. While a flag person would be present to guide the safe execution of these maneuvers, similar traffic stoppages as those characterized for the preferred Shaft Site would be expected. In addition to typically directing these maneuvers with a flag person, NYCDEP would commit to providing the funding for a traffic enforcement agent(s) (TEA) at the E. 59th Street/Second Avenue Shaft Site as needed during its construction to facilitate vehicular and pedestrian flow.

Although only a nominal amount of truck traffic is projected to enter and exit the site, some disruption along E. 59th Street and Second Avenue could be expected. On arrival, trucks would likely pull into the site head-first. Upon departure, the construction trucks would exit by backing out of the site onto eastbound E. 59th Street. This maneuver would require a flag-person to halt traffic flow on E. 59th Street in front of the project site for approximately 30 seconds on each occasion. Based on the projected truck traffic described above, this maneuver would occur no more than 5 times in any hour during the peak construction months. Furthermore, as shown in the construction truck estimates presented in Chapter 2, "Purpose and Need and Project Overview," typical truck activity at the Shaft Site is projected to be approximately 1 to 3 trucks a day. It is anticipated that such temporary and occasional disruption from daily deliveries to the E. 59th Street/Second Avenue Shaft Site would not result in sustained traffic back-ups on neighboring streets, Second Avenue, or the Queensboro Bridge. When larger trucks (55-footers) need to access the site for deliveries, which would generally occur two to three times a month on average or up to once a day during peak construction activities, the likely duration of disruption to traffic flow may be more evident. It is expected that these trucks would approach the site from Second Avenue and back into the site, with the help of a flag person. This maneuver, which would involve a flag person controlling traffic entering E. 59th Street from Second Avenue, could take approximately 2 minutes to complete, and would be necessary to ensure that these large trucks could readily exit the site head-out onto the eastbound roadway. This disruption in traffic would cause traffic congestion and increase the queue lengths which already exist on Second Avenue and on E. 59th Street. Based on the existing peak hour traffic volumes on E. 59th Street, approximately 160 vehicles during peak hours (or about 3 vehicles per minute) travel through the Second Avenue intersection onto the E. 59th Street roadway adjacent to the E. 59th Street/Second

Avenue Shaft Site. Therefore, the two minute traffic stoppage would result in up to a 6-vehicle build-up in queues for this movement. This is a conservative estimate since part of the two-minute interruption would take place when eastbound E. 59th Street traffic is stopped at a red light. Delaying the processing of 6 vehicles through the intersection during the peak hour could potentially create an increase in queue by about 120 feet assuming a car spacing of 20 feet during congested flow. A relatively smaller increase in queues could be expected for the Second Avenue southbound left-turn movement where existing volumes are fewer than 50 vehicles during peak hours. The above characterization is a reasonably conservative estimate of the type of disruptions that could occur during larger trucks' maneuvers in the peak hour time periods at the E. 59th Street/Second Avenue Shaft Site. However, as described, these maneuvers generally occur two to three times a month on average or up to once a day during peak construction.

As detailed in Section 6.1, construction at the E. 59th Street/Second Avenue Shaft Site could be conducted using either the raise bore method or the surface excavation method, both of which would require blasting to a depth of approximately 300 feet. For up to approximately the first 100 feet near the surface, temporary halting of vehicular and pedestrian traffic near the blast site would likely be required by FDNY. For the raise bore method, which involves excavating the shaft from the bottom and removing excavated materials via City Tunnel No. 3, this depth is expected to be achieved within approximately the first four months of the total eight-month blasting period. For the surface excavation method, since soil and rock removal would be transported by trucks, the blasting period would be longer, requiring a total of approximately twenty-four months, of which the first twelve months would encompass blasting within 100 feet from the surface. For the first four months of blasting under the raise bore method or the first twelve months under the surface excavation method, therefore, it is anticipated that flag persons would halt vehicular and pedestrian traffic at designated locations prior to blasting. As determined necessary by FDNY, warning whistles would be used to alert the area that blasting was about to begin. Blasting would be conducted only once the area near the site is clear of vehicular and pedestrian traffic.

Typically, a few minutes prior to blasting, warning whistles would alert the area that blasting was about to begin. The typical warning whistle communication protocol could result in the halting of vehicular and pedestrian traffic near the blast site as follows:

- 1 long whistle – vehicular and pedestrian traffic stopped
- 2 short whistles – blast will commence
- 3 long whistles – all clear: blast is completed and traffic flow can resume

This warning whistle communication protocol could take up to five minutes to implement. Because traffic levels in the area surrounding the E. 59th Street/Second Avenue Shaft Site are substantial throughout the day, traffic stoppage for a 5-minute period could result in sustained traffic back-ups for several key travel corridors (i.e., Second Avenue, Third Avenue, and Queensboro Bridge). The FDNY has indicated that they could issue a waiver to the protocol and reduce the whistle warning time to one minute. The contractor intends to seek this waiver. The waiver would permit a blasting sequence that is safe and functional, and would minimize the

need for traffic and pedestrian stoppages during such events. This blasting sequence would be as follows:

- The contractor would notify flag persons who are on standby at locations designated for traffic and pedestrian stoppages that everything is properly set up for the blast. Personnel from FDNY and the New York City Police Department (NYPD) would likely be on site during the initial blasts and may also participate in the traffic halting process, if warranted.
- At this time, the contractor would blow one long whistle, as noted above for standard blasting procedures, at which time flag persons would halt vehicular and pedestrian flow at the designated locations. Once traffic is stopped and the area near the site (generally approximately 100 to 150 feet away) is cleared, the flag persons would radio back to the site to confirm that stoppage is complete.
- The contractor would then blow two short whistles to signify that the blast is about to begin and set off the explosives with a trigger.
- Upon the instantaneous completion of the blast, the contractor would blow three short whistles and communicate to the flag persons via radio to indicate the end of the blasting sequence for vehicular and pedestrian traffic movements to proceed.

The duration of the above sequence (including the preliminary notification to the flag persons to get ready) is estimated to be approximately 2 to 4 minutes, with the temporary stoppage of traffic lasting about 1 minute. This duration would only be slightly longer than the typical signal stoppage (usually 40 to 50 seconds) at nearby intersections, and while increasing delays, would not result in sustained back-ups on the key travel corridors indicated above. Following the all clear signal, nearby traffic is expected to recover to pre-blasting conditions within a few minutes after the one-minute stoppage. For blasting at the E. 59th Street/Second Avenue Shaft Site, the cordon for short-term stoppage of vehicular and pedestrian traffic is expected to include:

- E. 59th Street eastbound west of Second Avenue;
- Second Avenue southbound north of the entrance to the Queensboro Bridge lower-level inner roadway; and,
- Queensboro Bridge ramp approach to the Queens-bound upper-level roadway.

If the blasting occurs during the morning peak period when the Queens-bound upper level roadway on the Queensboro Bridge is reversed for Manhattan-bound traffic (6:00 a.m. to 10:00 a.m. on weekdays), the blockage would need to occur east of the blast site on the upper level roadway. Executing such measures would be more difficult operationally due to the higher travel speeds on the upper level roadway and logistically due to the walking distance required of assigned flag persons to get to and from the traffic stoppage location on the upper level roadway. If blasting is to occur during this time, FDNY would determine, after the first three blast sequences, if future stoppages would be necessary.

In addition, similar to the momentary stoppages imposed on vehicular and pedestrian traffic, egress of vehicles from the parking garage across the street from the E. 59th Street/Second

Avenue Shaft Site during these blasting events would be restricted. NYCDEP would implement protective measures, including monitoring and control measures, to minimize or avoid vibration effects. Construction specifications would require adherence to all applicable rules and regulations, including the rules and regulations of FDNY, and would require the use of modern blasting techniques including triggered multiple charges, blast mats, etc. Based on discussions with FDNY, at times when the passage of emergency vehicles coincides with blasting events, the execution of the above sequence would be halted until the passage of the emergency vehicles is completed.

As stated above, intermittent blast events conducted at the Shaft Site would halt vehicular and pedestrian traffic flows adjacent to the site. However, during the four-month period under the raise bore method or twelve-month period under the surface excavation method, blast events would likely occur only once or twice a day, with traffic stoppages enduring for approximately one minute for each blast in accordance with the whistle waiver NYCDEP would seek from FDNY. While three blasts a day could possibly occur, due to the length of the typical preparation needed to execute the blasting sequence described above, three blast events in one day is considered unlikely and would not occur on a regular basis, if at all. In addition, blasts may not occur every day during this period and would likely occur outside of the peak traffic hours based on typical blasting procedures employed. During the construction of Shaft 25B (another shaft site in Manhattan), traffic stoppages due to blasting activities have generally been 3 to 4 minutes long and those anticipated for Shaft 33B at the E. 59th Street/Second Avenue Shaft Site are expected to be shorter with the acquisition of a whistle waiver from FDNY. If the stoppage of traffic was undertaken for a longer period of time at the E. 59th Street/Second Avenue Shaft Site (i.e., 5 minutes), temporary additional queuing could occur along the affected corridors. For example, even outside of peak hour traffic conditions, if the traffic would be stopped at Second Avenue and E. 59th Street for 5 minutes, the temporary backups accumulating on Second Avenue could potentially extend for several blocks. Potential gridlock conditions may also impact key cross-town streets, such as E. 61st Street, the route feeding traffic from the FDR Drive, and E. 63rd Street, the exit route from the Queensboro Bridge upper level, possibly causing backups to York Avenue and onto the Queensboro Bridge upper level. Even if gridlock conditions were avoided at the exit of the Queensboro Bridge lower roadway by stopping southbound Second Avenue traffic at E. 60th Street, motorists from Queens would be required to continue west on E. 60th Street, rather than having the option to turn left onto Second Avenue. For eastbound E. 59th Street, traffic backups could extend beyond the Third Avenue intersection, causing long delays and possible traffic diversion to alternate routes. However, once the traffic starts flowing again, diversions to other routes would discontinue and traffic queues would dissipate. No major long-term diversions would be expected from these temporary stoppages due to blasting at the E. 59th Street/Second Avenue Shaft Site. The period during blasting, when traffic stoppages would be necessary is short-term and temporary and traffic halting events would be intermittent during the blasting period. Thus, consistent with the impact assessment guidance provided in the *CEQR Technical Manual*, such intermittent and temporary conditions would not have the potential to result in significant adverse impacts.

No changes to curbside parking or standing regulations would be required during the construction of Shaft 33B at the E. 59th Street/Second Avenue Shaft Site. However, the use of the NYCDOT storage area for Shaft 33B construction would discontinue the site's current use. If the rehabilitation of the Queensboro Bridge continues during the construction of Shaft 33B at this site, NYCDOT is expected to relocate the machinery and vehicles currently occupying the site to other nearby locations. Therefore, no significant adverse parking impacts to area parking conditions are anticipated.

6.9.3 Water Main Construction Traffic Conditions

Similar to the preferred Shaft Site, water main connections from the E. 59th Street/Second Avenue Shaft Site to the Third Avenue trunk main could follow many possible routes. For purposes of this EIS, it was assumed that the same potential routes would be followed as for the preferred Shaft Site, including the reasonable worst-case First Avenue Route and the two other representative routes, the Sutton Place route and the E. 59th Street/E. 61st Street route, as detailed in Section 5.9, "Traffic and Parking" for water main connections. As described in Section 6.1, the construction durations required for these connection routes to the E. 59th Street/Second Avenue Shaft Site have been estimated at 47 months for the First Avenue Route, 57 months for the Sutton Place route, and 31 months for the E. 59th Street/E. 61st Street route.

For the First Avenue and Sutton Place routes, to extend the water mains from the E. 59th Street/Second Avenue Shaft Site to First Avenue, similar maintenance and protection of traffic measures to those described for Segment 6 (E. 59th Street between First and Second Avenues) of the E. 59th Street/E. 61st Street route would be required, which include making use of the south sidewalk and restriping the eastbound roadway for the eastern half of the block and building a temporary eastbound roadway through the NYCDOT equipment storage area when construction occurs on the western half of the block. However, since the connections would require a wider trench to accommodate two water mains, it is expected that for up to 10 weeks, the westbound approach roadway to the Queensboro Bridge outer roadway on E. 59th Street, west of First Avenue, would need to be narrowed to only one westbound lane in order to maintain eastbound traffic flow. Also, during the initial weeks of water main connections on the western half of the E. 59th Street block between First and Second Avenues, construction at the Shaft Site would need to be halted (possibly during the 8-month equipment procurement period or after completion of the shaft), so that a temporary roadway could be routed over the E. 59th Street/Second Avenue Shaft Site to maintain access from Second Avenue. For the E. 59th Street/E. 61st Street route, water main connections would be the same as those described for the preferred Shaft Site along this route, except for the initial weeks when construction at the Shaft Site would also need to be halted to allow for the provision of a temporary eastbound roadway, as depicted in Figure 6.1-3.

Potential temporary adverse traffic and parking impacts for the water main connections from the E. 59th Street/Second Avenue Shaft Site to the Third Avenue trunk main would be similar in severity and duration to those identified for the preferred Shaft Site water main connections. For a short period of time when construction takes place on the eastbound E. 59th Street approach to First Avenue, some additional restriction of traffic en route to the Queensboro Bridge outer

roadway is anticipated from the temporary elimination of one westbound lane. It is expected that NYCDDC and NYCDOT would endeavor to address potential traffic disruptions that would result from this construction project similar to the manner discussed in Section 5.9.

6.9.4 Conclusions

The construction, activation, and operation of Shaft 33B at the E. 59th Street/Second Avenue Shaft Site would not result in any potential significant adverse impacts to Study Area traffic and parking conditions. However, in recognition of existing traffic congestion in the area of the Queensboro Bridge, NYCDEP would commit to providing the funding for TEA(s) at the Shaft Site as needed during its construction to facilitate vehicular and pedestrian flow nearby. Where potential temporary construction-related adverse impacts could occur for the different water main routes, conceptual mitigation measures and traffic management strategies explored in Section 5.16, “Mitigation Measures” for water main connections in the context of the preferred Shaft Site would also be applicable to the water main connections from the E. 59th Street/Second Avenue Shaft Site. Extensive queuing and potential traffic diversions anticipated to occur during the water main construction would be temporary adverse impacts and not persist beyond the completion of the construction efforts. The construction of Shaft 33B and its water main connections at the E. 59th Street/Second Avenue Shaft Site would not result in potential significant adverse traffic impacts.

