

## 8.10 TRANSIT AND PEDESTRIANS

### 8.10.1 Introduction

As described in Section 8.1, “Project Description,” the E. 54<sup>th</sup> Street/Second Avenue Shaft Site is located on the northeast corner of the Second Avenue intersection with E. 54<sup>th</sup> Street. The construction of Shaft 33B at this site would require eliminating an existing enclosed sidewalk café that is currently occupying City-owned sidewalks and laying out a construction area entirely within the streets and sidewalks of Second Avenue and E. 54<sup>th</sup> Street. The elimination of the sidewalk café is expected to delay the initiation of Shaft 33B construction by approximately six months. In contrast to the preferred and alternative Shaft Sites previously discussed, water main connections from the E. 54<sup>th</sup> Street/Second Avenue Shaft Site would follow a substantially shorter route to the Third Avenue trunk main. This route would include connections to the latter stages of the First Avenue or Sutton Place route at Second Avenue and E. 55<sup>th</sup> and E. 56<sup>th</sup> Streets. As demonstrated in Section 3.10, “Transit and Pedestrian Methodology” and Section 4.10, “Transit and Pedestrians” for the preferred Shaft Site, the activation and operation of Shaft 33B and its water main connections would not generate pedestrian or transit trips exceeding the CEQR requirements for a detailed analysis. Therefore, the permanent operating conditions would not result in any potential adverse transit and pedestrian impacts. The following discussions address conditions related to the construction of the shaft and water main connections.

### 8.10.2 Shaft Site Construction Transit and Pedestrian Conditions

The assessment of potential impacts associated with the construction of Shaft 33B at the E. 54<sup>th</sup> Street/Second Avenue Shaft Site includes a detailed analysis of the adjacent sidewalks, crosswalks, and corner reservoirs. The construction site would occupy an area of approximately 10,000 square feet on portions of the Second Avenue and E. 54<sup>th</sup> Street roadbeds and sidewalks. It would narrow the Second Avenue east sidewalk and the E. 54<sup>th</sup> Street north sidewalk adjoining the intersection’s northeast corner to 5 feet each (from 17 and 13 feet, respectively). Currently, portions of these sidewalks are utilized by the enclosed extension of Lenny’s Restaurant, which would need to be eliminated during construction. To maintain a 16-foot wide entry traffic lane to the east side of E. 54<sup>th</sup> Street, the south sidewalk would also be narrowed to 5 feet. Since the shaft construction would not affect transit use in the area, no adverse transit impacts are anticipated. An analysis evaluating the potential impacts on pedestrian flow from the above restrictions is presented at the end of this section.

As detailed in Section 8.9, blasting activities would require the temporary shut down of traffic and pedestrian movements near the Shaft 33B Site pursuant to the requirements of the New York City Fire Department (FDNY). FDNY would likely cordon off the area adjacent to the preferred Shaft Site during periods of blasting, including the halting of vehicular and pedestrian traffic at specified locations, and employ a warning whistle communication protocol that could take up to five minutes to implement. FDNY has indicated that they could issue a waiver to the protocol

and reduce the whistle warning time to approximately one minute. The contractor intends to seek this waiver. During approximately a two or three-month period (depending on the excavation method used) of blasting, for which traffic stoppages may be required, this procedure could potentially result in short-term disruptions of vehicular traffic on both E. 54<sup>th</sup> Street and Second Avenue, the latter of which is traversed by the M15 bus route. Short-term clearing of pedestrian traffic would also likely be required for the sidewalks and crosswalks adjoining the northeast corner of the Second Avenue and E. 54<sup>th</sup> Street intersection. Following the all clear signal, nearby vehicular and pedestrian traffic is expected to recover to pre-blasting conditions within a few minutes. The period during blasting when traffic stoppages and the halting of pedestrian flow would be necessary is short-term, temporary, and intermittent. 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.

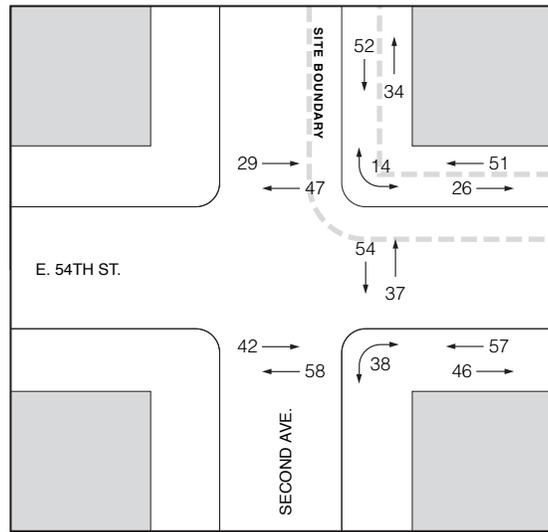
### **Pedestrian Operations Analysis**

As stated above, a pedestrian analysis was conducted to assess the potential effects from the narrowing the sidewalks connecting to and opposite from the northeast corner of Second Avenue and E. 54<sup>th</sup> Street. Because the construction of the E. 54<sup>th</sup> Street/Second Avenue Shaft Site would also result in a change in roadway widths and crosswalk paths, other pedestrian elements, including the south sidewalk across from the Shaft Site, the intersection's northeast and southeast corner reservoirs, and the north, east, and south crosswalks, were also addressed.

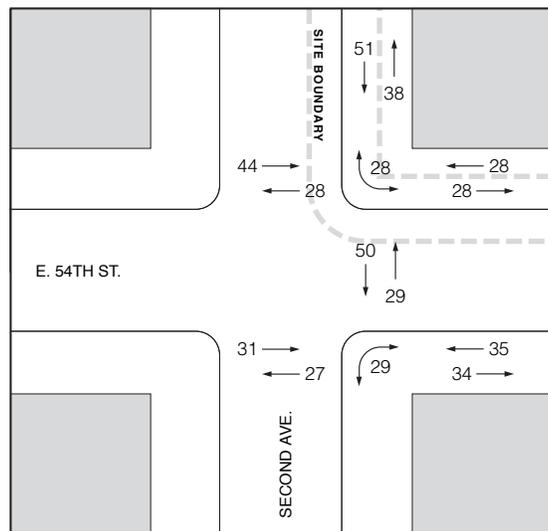
#### *Existing Conditions*

The sidewalks, corner reservoirs, and crosswalks adjacent to the E. 54<sup>th</sup> Street/Second Avenue Shaft Site were assessed for the AM, midday, and PM peak periods. Baseline pedestrian data were collected in March 2004, from which the three peak hours of analysis were determined to be 8:00 to 9:00 a.m., 12:00 to 1:00 p.m., and 5:00 to 6:00 p.m. As shown in Figure 8.10-1, existing peak hour pedestrian volumes at the Second Avenue intersection with E. 54<sup>th</sup> Street can be characterized as low to moderate, with peak hour sidewalk volumes along the east side of Second Avenue (north of E. 54<sup>th</sup> Street), the north side of E. 54<sup>th</sup> Street (east of Second Avenue), and the south side of E. 54<sup>th</sup> Street (east of Second Avenue) ranging from approximately 200 to 400, 150 to 250, and 250 to 400 pedestrians, respectively. The connecting crosswalk volumes are less than 200 pedestrians across Second Avenue and up to 350 pedestrians across E. 54<sup>th</sup> Street. As shown in Tables 8.10-1 through 8.10-3, all analyzed pedestrian elements are currently operating at acceptable levels (lower than 15 pedestrians per foot per minute [PFM] for sidewalks and higher than 15 square feet per pedestrian [SFP] for crosswalks and corners) during the analysis time periods.

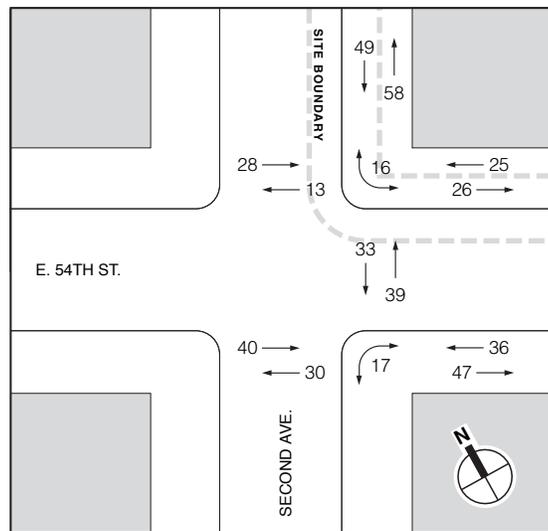
**AM PEAK 15-MINUTE  
PEDESTRIAN VOLUMES**



**MIDDAY PEAK 15-MINUTE  
PEDESTRIAN VOLUMES**



**PM PEAK 15-MINUTE  
PEDESTRIAN VOLUMES**



NOT TO SCALE



NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 PROPOSED SHAFT 33B TO CITY WATER TUNNEL NO. 3  
 STAGE 2-MANHATTAN LEG  
 E. 54TH STREET/ SECOND AVENUE SHAFT SITE  
 2004 EXISTING PEDESTRIAN VOLUMES, SHAFT 33B  
 E. 54TH STREET/ SECOND AVENUE SHAFT SITE

FIGURE 8.10-1

**CHAPTER 8: E. 54<sup>TH</sup> STREET/SECOND AVENUE SHAFT SITE**  
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**Table 8.10-1**  
**2004 Existing Conditions: Pedestrian LOS Analysis for Sidewalks**

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
<b>AM Peak Period</b>							
Second Avenue between E. 54 <sup>th</sup> and E. 55 <sup>th</sup> Streets	East	6	86	1	A	5-	A
E. 54 <sup>th</sup> Street between First and Second Avenues	North	6.5	77	1	A	5-	A
	South	10	103	1	A	5-	A
<b>Midday Peak Period</b>							
Second Avenue between E. 54 <sup>th</sup> and E. 55 <sup>th</sup> Streets	East	6	89	1	A	5-	A
E. 54 <sup>th</sup> Street between First and Second Avenues	North	6.5	56	1	A	5-	A
	South	10	69	0	A	4	A
<b>PM Peak Period</b>							
Second Avenue between E. 54 <sup>th</sup> and E. 55 <sup>th</sup> Streets	East	6	107	1	A	5+	B
E. 54 <sup>th</sup> Street between First and Second Avenues	North	6.5	51	1	A	5-	A
	South	10	83	1	A	5-	A
<b>Note:</b> PFM = pedestrians per foot per minute							

**Table 8.10-2**  
**2004 Existing Conditions: Pedestrian LOS Analysis for Corner Reservoirs**

Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS	SFP	LOS
Second Avenue at E. 54 <sup>th</sup> Street	Northeast	226	A	232	A	326	A
	Southeast	212	A	298	A	310	A
<b>Note:</b> SFP = square feet per pedestrian							

**Table 8.10-3**  
**2004 Existing Conditions: Pedestrian LOS Analysis for Crosswalks**

Location	Crosswalk	Width (feet)	Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	LOS	SFP	LOS
<b>AM Peak Period</b>								
Second Avenue at E. 54 <sup>th</sup> Street	North	13.5	224	A	224	A	142	A
	East	14	318	A	307	A	92	A
	South	13.5	170	A	150	A	109	A
<b>Midday Peak Period</b>								
Second Avenue at E. 54 <sup>th</sup> Street	North	13.5	236	A	236	A	150	A
	East	14	367	A	352	A	107	A
	South	13.5	293	A	259	A	188	A
<b>PM Peak Period</b>								
Second Avenue at E. 54 <sup>th</sup> Street	North	13.5	415	A	415	A	263	A
	East	14	402	A	385	A	117	A
	South	13.5	243	A	217	A	156	A
<b>Note:</b> SFP = square feet per pedestrian								

*Future Conditions Without the Project*

Pedestrian conditions in the Future Without the Project (No Build conditions) were assessed to establish a baseline against which potential construction impacts would be evaluated. Since there are no

**CHAPTER 8: E. 54<sup>TH</sup> STREET/SECOND AVENUE SHAFT SITE**  
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major future developments nearby that would generate a perceptible number of pedestrian trips at the analysis locations, the No Build peak period pedestrian levels were estimated by applying a background growth of 0.50 percent per year projected over four years. As such, the peak 15-minute No Build pedestrian volumes are approximately the same as those depicted for existing conditions in Figure 8.10-1. Similar to existing conditions, all analysis elements are expected to operate at favorable levels during the AM, midday, and PM peak periods, as shown in Tables 8.10-4 through 8.10-6.

**Table 8.10-4**  
**2008 No Build Conditions: Pedestrian LOS Analysis for Sidewalks**

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
<b>AM Peak Period</b>							
Second Avenue between E. 54 <sup>th</sup> and E. 55 <sup>th</sup> Streets E. 54 <sup>th</sup> Street between First and Second Avenues	East	6	88	1	A	5-	A
	North	6.5	79	1	A	5-	A
	South	10	105	1	A	5-	A
<b>Midday Peak Period</b>							
Second Avenue between E. 54 <sup>th</sup> and E. 55 <sup>th</sup> Streets E. 54 <sup>th</sup> Street between First and Second Avenues	East	6	91	1	A	5+	B
	North	6.5	58	1	A	5-	A
	South	10	71	0	A	4	A
<b>PM Peak Period</b>							
Second Avenue between E. 54 <sup>th</sup> and E. 55 <sup>th</sup> Streets E. 54 <sup>th</sup> Street between First and Second Avenues	East	6	109	1	A	5+	B
	North	6.5	53	1	A	5-	A
	South	10	85	1	A	5-	A

**Note:** PFM = pedestrians per foot per minute

**Table 8.10-5**  
**2008 No Build Conditions: Pedestrian LOS Analysis for Corner Reservoirs**

Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS	SFP	LOS
Second Avenue at E. 54 <sup>th</sup> Street	Northeast	221	A	225	A	319	A
	Southeast	207	A	289	A	302	A

**Note:** SFP = square feet per pedestrian

**Table 8.10-6**  
**2008 No Build Conditions: Pedestrian LOS Analysis for Crosswalks**

Location	Crosswalk	Width (feet)	Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	LOS	SFP	LOS
<b>AM Peak Period</b>								
Second Avenue at E. 54 <sup>th</sup> Street	North	13.5	218	A	218	A	138	A
	East	14	312	A	300	A	90	A
	South	13.5	167	A	147	A	107	A
<b>Midday Peak Period</b>								
Second Avenue at E. 54 <sup>th</sup> Street	North	13.5	230	A	230	A	146	A
	East	14	358	A	343	A	104	A
	South	13.5	283	A	249	A	182	A
<b>PM Peak Period</b>								
Second Avenue at E. 54 <sup>th</sup> Street	North	13.5	405	A	405	A	257	A
	East	14	392	A	375	A	114	A
	South	13.5	236	A	210	A	151	A

**Note:** SFP = square feet per pedestrian

**CHAPTER 8: E. 54<sup>TH</sup> STREET/SECOND AVENUE SHAFT SITE**  
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*Future Conditions With the Project*

As discussed, the shaft construction would encroach onto the adjacent sidewalks and narrow each to approximately 5 feet. Additionally, the north and east crosswalks would effectively function with the same width of 5 feet due to the channelization of pedestrian flow to and from the narrowed sidewalks. Because these temporary sidewalks would also extend through the existing northeast corner and the construction zones along both Second Avenue and E. 54<sup>th</sup> Street, pedestrian queuing to wait for crossing either roadway would no longer take place at the intersection corner. Since it would no longer function as a corner reservoir during construction, the operation of the northeast corner was not included in the Build conditions analysis. Based on the analysis results shown in Tables 8.10-7 through 8.10-9, adequate operating conditions would be maintained, and the construction of the E. 54<sup>th</sup> Street/Second Avenue Shaft Site would not result in potential adverse pedestrian impacts.

**Table 8.10-7**  
**2008 Build Conditions: Pedestrian LOS Analysis for Sidewalks**

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
<b>AM Peak Period</b>							
Second Avenue between E. 54 <sup>th</sup> and E. 55 <sup>th</sup> Streets	East	5	88	1	A	5+	B
E. 54 <sup>th</sup> Street between First and Second Avenues	North	5	79	1	A	5+	B
	South	5	105	1	A	5+	B
<b>Midday Peak Period</b>							
Second Avenue between E. 54 <sup>th</sup> and E. 55 <sup>th</sup> Streets	East	5	91	1	A	5+	B
E. 54 <sup>th</sup> Street between First and Second Avenues	North	5	58	1	A	5-	A
	South	5	71	1	A	5-	A
<b>PM Peak Period</b>							
Second Avenue between E. 54 <sup>th</sup> and E. 55 <sup>th</sup> Streets	East	5	109	1	A	5+	B
E. 54 <sup>th</sup> Street between First and Second Avenues	North	5	53	1	A	5-	A
	South	5	85	1	A	5+	B
<b>Note:</b> PFM = pedestrians per foot per minute							

**Table 8.10-8**  
**2008 Build Conditions: Pedestrian LOS Analysis for Corner Reservoirs**

Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS	SFP	LOS
Second Avenue at E. 54 <sup>th</sup> Street	Northeast	N/A	N/A	N/A	N/A	N/A	N/A
	Southeast	69	A	99	A	102	A
<b>Note:</b> SFP = square feet per pedestrian							

**Table 8.10-9**  
**2008 Build Conditions: Pedestrian LOS Analysis for Crosswalks**

Location	Crosswalk	Width (feet)	Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	LOS	SFP	LOS
<b>AM Peak Period</b>								
Second Avenue at E. 54 <sup>th</sup> Street	North	5	81	A	81	A	51	B
	East	5	111	A	107	A	32	C
	South	13.5	167	A	147	A	107	A
<b>Midday Peak Period</b>								
Second Avenue at E. 54 <sup>th</sup> Street	North	5	85	A	85	A	54	B
	East	5	128	A	122	A	37	C
	South	13.5	283	A	249	A	182	A
<b>PM Peak Period</b>								
Second Avenue at E. 54 <sup>th</sup> Street	North	5	150	A	150	A	95	A
	East	5	140	A	134	A	41	B
	South	13.5	236	A	210	A	151	A
<b>Note:</b> SFP = square feet per pedestrian								

### 8.10.3 Water Main Construction Transit and Pedestrian Conditions

Water main connections from the E. 54<sup>th</sup> Street/Second Avenue Shaft Site would follow a substantially shorter route to the Third Avenue trunk main. This route would include connections to the latter stages of the First Avenue or Sutton Place Route at Second Avenue and E. 55<sup>th</sup> and E. 56<sup>th</sup> Streets. As described in Section 8.1, the estimated duration of this work would be approximately 22 months. To extend the water mains along the west side of Second Avenue to E. 55<sup>th</sup> and E. 56<sup>th</sup> Streets, lane and/or sidewalk closures, similar to those described for the First Avenue segments under the Base Scenario and Scenario A, would be required.

While bus service would be maintained throughout the Study Area, temporary relocation of bus stops and disruption of the bus-only lane that operates during the AM and PM peak periods would occur in the manner detailed in Section 5.10. Construction activities may also interfere with the potential implementation of the bus rapid transit (BRT) program currently under study. NYCDDC, the entity responsible for the actual construction efforts, would coordinate with the Metropolitan Transportation Authority (MTA) to minimize disruptions to the BRT program potentially planned for the First and Second Avenue corridors.

As described for Scenario A of the First Avenue Route, a similar level of sidewalk narrowing could be implemented for the water main connections along the west side of Second Avenue. As depicted in 5.10, this condition and the sidewalk narrowing along E. 55<sup>th</sup> and E. 56<sup>th</sup> Streets are expected to continue to result in adequate pedestrian flow and not result in potential significant adverse impacts to pedestrians. Since the water main connections would begin at Second Avenue for the E. 54<sup>th</sup> Street/Second Avenue Shaft Site, the bicycle lane along E. 55<sup>th</sup> Street between Sutton Place and Second Avenue that would be temporarily displaced during both First Avenue and Sutton Place Route construction would remain during the water main connections from the E. 54<sup>th</sup> Street/Second Avenue Shaft Site.

#### 8.10.4 Conclusions

The construction, activation, and operation of Shaft 33B and its water main connections at the E. 54<sup>th</sup> Street/Second Avenue Shaft Site would not result in any potential significant adverse impacts to Study Area transit and pedestrian 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.

