

4.10 TRANSIT AND PEDESTRIANS

4.10.1 Introduction

As discussed in Chapter 2, “Purpose and Need and Project Overview,” construction of Shaft 33B at the preferred Shaft Site would occur in four stages and take 52 months to complete. The 52-month period includes an eight-month period during which no active construction would occur on site. Potential transit and pedestrian impacts associated with this proposed action at the preferred Shaft Site are described below. The methodology used to prepare this assessment is described in Chapter 3, “Impact Methodologies,” Section 3.10, “Transit and Pedestrians.” Potential transit and pedestrian impacts from the combined construction of the water main connections and the preferred Shaft Site are discussed in Chapter 5, “Water Main Connections,” Section 5.10, for water main connections.

4.10.2 Existing Conditions

Transit Analysis

The area in which construction-related activities would occur is within the upper East Midtown and lower Upper East Side sections of Manhattan. In this area, transit service is available at the E. 59th Street station (4, 5, 6, and N, R, W lines), at the E. 63rd Street station (F line), and at the E. 53rd Street station (6, and E and V lines), the Roosevelt Island Tramway at Second Avenue and E. 60th Street, and numerous local bus routes, as follows.

- M15: The M15 operates at all times between Second Avenue/E. 126th Street in East Harlem and South Ferry. Some buses from E. 126th Street terminate at Houston Street; others end their routes at Park Row/City Hall (on weekdays only). The M15 operates daily between South Ferry and Second Avenue/E. 126th Street with service frequencies of 4 minutes in the AM peak period (7:00 to 9:00 a.m.), 6 minutes in the midday (11:00 a.m. to 1:00 p.m.) and 5 minutes in the PM peak period (4:00 to 7:00 p.m.). Some buses operate between Park Row/City Hall and Second Avenue/E. 126th Street with a frequency of 8 minutes in all peak periods.
- M15 Limited: The M15 Limited operates daily between South Ferry (every day) or Park Row/City Hall (weekdays only) and Second Avenue/E. 126th Street, making limited stops north of Houston Street. It has service frequencies of 3 minutes, 6 minutes, and 5 minutes in the AM, midday, and PM peak periods, respectively.
- M31: The M31 operates daily between Eleventh Avenue/W. 54th Street and York Avenue/E. 92nd Street via York Avenue and E. 57th Street. It has service frequencies of 3 minutes, 8 minutes, and 6 minutes in the AM, midday, and PM peak periods, respectively.

- M57: The M57 operates daily between Broadway/W. 72nd Street and York Avenue/E. 60th Street via West End Avenue and E. 57th Street. It has service frequencies of 10 minutes in the AM and midday peak periods, and 8 minutes in the PM peak period.
- Several Queens-Manhattan (QM) express bus routes that operate during weekdays travel through the area. These routes have stops at the eastbound approach of E. 57th Street at Third Avenue and also at the northbound approach of Third Avenue at E. 56th Street.

As stated in Section 3.10, since the project would not generate a perceptible number of trips to the available transit service in the Study Area, a quantitative analysis of transit conditions was not conducted.

Pedestrian Operations Analysis

As with transit use, the project would not generate a perceptible number of pedestrian trips to the Study Area. However, since the construction of the preferred Shaft Site would take up existing pedestrian space, a quantitative analysis was conducted for the affected pedestrian elements.

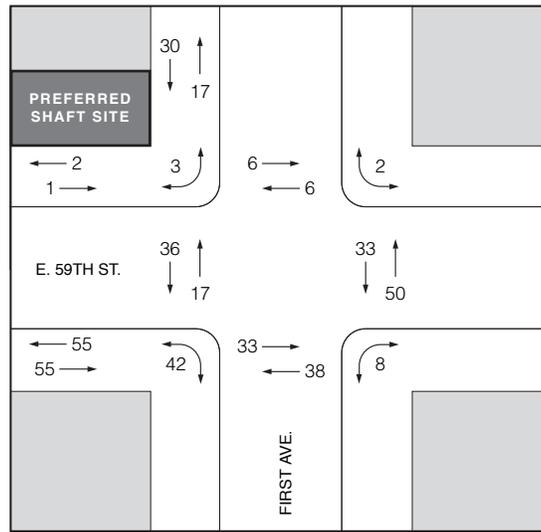
The sidewalks, corner reservoirs, and crosswalks adjacent to the preferred Shaft Site were assessed for the AM, midday, and PM peak periods. Existing peak hour pedestrian volumes at the First Avenue intersection with E. 59th Street can be characterized as low to moderate, with crosswalk volumes ranging from less than 50 to just over 500 pedestrians during peak hours. Adjacent to the construction site, peak hour sidewalk volumes along First Avenue (west side north of E. 59th Street) and E. 59th Street (north side west of First Avenue) are approximately 200 to 250 and 10 to 25 pedestrians, respectively. The connecting crosswalk volumes are less than 100 pedestrians across First Avenue and up to 300 pedestrians across E. 59th Street during peak hours. Figure 4.10-1 depicts the peak 15-minute volumes used for analysis. As shown in Tables 4.10-1 through 4.10-3, all analyzed pedestrian elements are currently operating at acceptable levels (15 SFP for crosswalks and corners, 15 PFM for sidewalks) during the analysis time periods.

4.10.3 Future Conditions Without the Project

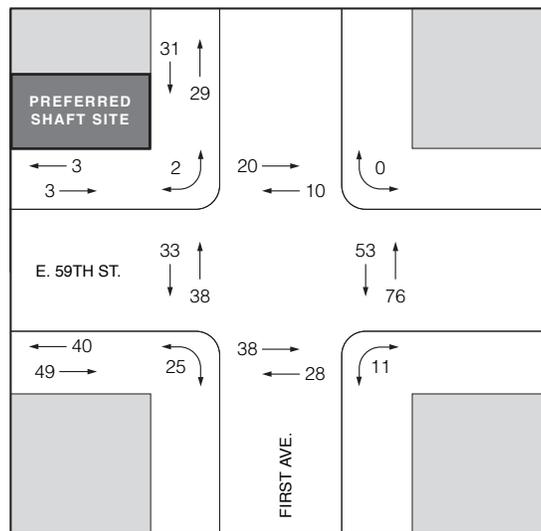
Transit Analysis

In addition to all existing transit service described above continuing to operate within the Study Area in the Future Without the Project (the No Build condition), the Metropolitan Transportation Authority (MTA) is currently studying the feasibility of implementing a bus rapid transit (BRT) program in New York City. The on-going study efforts for this transit program have identified 15 potential corridors, of which 5 would ultimately be chosen for implementation of the pilot program. The First/Second Avenue corridor is one of the 15 routes under consideration. Some of the possible measures that are considered as part of the BRT program and that may be implemented on First Avenue in the Future Without the Project include: all-day bus lanes, peak hour by direction bus lanes, bump-outs, new vehicles, and Intelligent Transportation System (ITS) strategies.

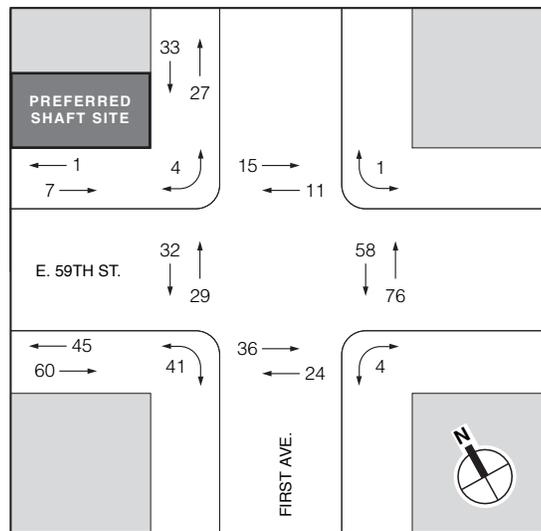
**AM PEAK 15-MINUTE
PEDESTRIAN VOLUMES**



**MIDDAY PEAK 15-MINUTE
PEDESTRIAN VOLUMES**



**PM PEAK 15-MINUTE
PEDESTRIAN VOLUMES**



NOT TO SCALE



CHAPTER 4: PREFERRED SHAFT SITE
4.10 TRANSIT AND PEDESTRIANS

Table 4.10-1
2004 Existing Conditions: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
AM Peak Period							
First Avenue between E. 59 th and E. 60 th Streets	West	11.5	47	0	A	4	A
E. 59 th Street between First and Second Avenues	North	10	3	0	A	4	A
	South	12.5	110	1	A	5-	A
Midday Peak Period							
First Avenue between E. 59 th and E. 60 th Streets	West	11.5	60	0	A	4	A
E. 59 th Street between First and Second Avenues	North	10	6	0	A	4	A
	South	12.5	89	0	A	4	A
PM Peak Period							
First Avenue between E. 59 th and E. 60 th Streets	West	11.5	60	0	A	4	A
E. 59 th Street between First and Second Avenues	North	10	8	0	A	4	A
	South	12.5	105	1	A	5-	A
Note: PFM = pedestrians per foot per minute							

Table 4.10-2
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
First Avenue at E. 59 th Street	Northeast	215	A	129	A	126	A
	Southeast	177	A	138	A	144	A
	Southwest	310	A	315	A	316	A
	Northwest	417	A	273	A	310	A
Note: SFP = square feet per pedestrian							

Pedestrian Operations Analysis

Pedestrian conditions in the Future Without the Project were assessed to establish a future baseline against which potential construction impacts would be evaluated. Since there are no 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 only 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 4.10-1. As shown in Tables 4.10-4 through 4.10-6, all analysis elements are expected to continue operating at favorable levels during the AM, midday, and PM peak periods.

CHAPTER 4: PREFERRED SHAFT SITE
4.10 TRANSIT AND PEDESTRIANS

Table 4.10-3
2004 Existing Conditions: Pedestrian LOS Analysis for Crosswalks

Location	Crosswalk	Width (feet)	Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	LOS	SFP	LOS
AM Peak Period								
First Avenue at E. 59 th Street	North	13.5	1772	A	1692	A	982	A
	East	13.5	285	A	281	A	86	A
	South	14	311	A	311	A	172	A
	West	13.5	447	A	291	A	166	A
Midday Peak Period								
First Avenue at E. 59 th Street	North	13.5	709	A	671	A	393	A
	East	13.5	184	A	178	A	55	B
	South	14	334	A	334	A	185	A
	West	13.5	334	A	287	A	124	A
PM Peak Period								
First Avenue at E. 59 th Street	North	13.5	818	A	762	A	453	A
	East	13.5	177	A	174	A	53	B
	South	14	367	A	367	A	204	A
	West	13.5	388	A	304	A	144	A
Note: SFP = square feet per pedestrian								

Table 4.10-4
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	
AM Peak Period								
First Avenue between E. 59 th and E. 60 th Streets	West	11.5	48	0	A	4	A	
E. 59 th Street between First and Second Avenues	North	10	3	0	A	4	A	
	South	12.5	112	1	A	5-	A	
Midday Peak Period								
First Avenue between E. 59 th and E. 60 th Streets	West	11.5	62	0	A	4	A	
E. 59 th Street between First and Second Avenues	North	10	6	0	A	4	A	
	South	12.5	91	0	A	4	A	
PM Peak Period								
First Avenue between E. 59 th and E. 60 th Streets	West	11.5	62	0	A	4	A	
E. 59 th Street between First and Second Avenues	North	10	8	0	A	4	A	
	South	12.5	107	1	A	5-	A	
Note: PFM = pedestrians per foot per minute								

**Table 4.10-5
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
First Avenue at E. 59 th Street	Northeast	211	A	126	A	124	A
	Southeast	172	A	134	A	141	A
	Southwest	302	A	305	A	308	A
	Northwest	411	A	268	A	303	A
Note:		SFP = square feet per pedestrian					

**Table 4.10-6
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
AM Peak Period								
First Avenue at E. 59 th Street	North	13.5	1772	A	1686	A	982	A
	East	13.5	279	A	274	A	84	A
	South	14	302	A	302	A	167	A
	West	13.5	439	A	283	A	163	A
Midday Peak Period								
First Avenue at E. 59 th Street	North	13.5	709	A	670	A	393	A
	East	13.5	179	A	174	A	54	B
	South	14	324	A	324	A	180	A
	West	13.5	325	A	276	A	120	A
PM Peak Period								
First Avenue at E. 59 th Street	North	13.5	818	A	759	A	453	A
	East	13.5	173	A	170	A	52	B
	South	14	361	A	361	A	200	A
	West	13.5	376	A	288	A	140	A
Note:		SFP = square feet per pedestrian						

4.10.4 Future Conditions With the Project

Construction

Transit Analysis

As discussed in Chapter 2, construction of Shaft 33B at the preferred Shaft Site would take 52 months to complete and as stated above, it is not expected to result in a perceptible number of transit trips. Hence, the Future With the Project (the Build condition) assessment addresses the potential disturbance construction may have on transit service in the Study Area.

Blasting

As detailed in Section 4.9.4, “Future Conditions With the Project” for traffic and parking conditions, blasting activities would require the temporary shut down of traffic and pedestrian

movements near the preferred 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 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 one minute. The contractor intends to seek this waiver. During the approximately four-month period when blasting activities would occur, this procedure could potentially result in short-term disruptions of vehicular traffic at the E. 59th Street intersections with First and Second Avenues, which are traversed by the M15, M57, Q32, Q60, and Q101 bus routes. Following the all-clear signal, nearby traffic and the travel of these bus routes are expected to recover to pre-blasting conditions within a few minutes. The period during blasting when traffic stoppages and the halting of these bus routes 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.

Base and Alternate Site Configurations

The construction of either configuration of the preferred Shaft Site (detailed below in the assessment of pedestrian conditions) would be confined to the northwest corner of First Avenue and E. 59th Street. Its activities would not result in any operational disruption on the Study Area transit service or preclude the implementation of the potential BRT program currently under consideration. Therefore, no potential significant adverse impacts to transit service would result from the construction at the preferred Shaft Site.

Pedestrian Operations Analysis

Similar to transit use, the construction of Shaft 33B at the preferred Shaft Site would not result in a perceptible number of pedestrian trips. Hence, the Build analysis addresses the potential effects construction may have on pedestrian flow adjacent to the project site. If the preferred Shaft Site is selected, NYCDEP would commit to providing the funding for an additional TEA at the Shaft Site during its construction to facilitate vehicular and pedestrian flow near the preferred Shaft Site.

Blasting

As discussed above, blasting activities would require the temporary shut down of traffic and pedestrian movements near the preferred Shaft 33B Site. Adjacent to the preferred Shaft Site, this procedure could potentially result in the short-term clearing of pedestrian traffic for approximately one minute on E. 59th Street sidewalks west of First Avenue, west sidewalks of First Avenue between E. 58th and E. 60th Streets, and the north, south, and west crosswalks at the intersection of First Avenue and E. 59th Street. During this time, some pedestrians may seek alternate routes (i.e., crossing over to the east side of First Avenue) to travel around the clear zone and others would wait until the blasting sequence is completed before continuing with their routes. Following the all clear signal, nearby pedestrian flow is expected to recover to pre-blasting conditions almost instantaneously. The period during blasting when stoppages and the

CHAPTER 4: PREFERRED SHAFT SITE
4.10 TRANSIT AND PEDESTRIANS

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.

Base Configuration

As detailed in Section 4.1, “Project Description” for the preferred Shaft Site, construction of Shaft 33B at the preferred Shaft Site under the base configuration would encroach onto the adjacent sidewalks along both First Avenue and E. 59th Street and narrow each from 11.5 feet and 10 feet, respectively, to five feet. While the connecting crosswalks would not be affected, operating levels at these sidewalks and the intersection’s northwest corner reservoir would be different. Based on the analysis results shown in Tables 4.10-7 through 4.10-9, adequate operating conditions would be maintained, and the project would not result in potential significant adverse pedestrian impacts.

Table 4.10-7
2008 Build Conditions: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
AM Peak Period							
First Avenue between E. 59 th and E. 60 th Streets	West	5	48	1	A	5-	A
E. 59 th Street between First and Second Avenues	North	5	3	0	A	4	A
	South	12.5	112	1	A	5-	A
Midday Peak Period							
First Avenue between E. 59 th and E. 60 th Streets	West	5	62	1	A	5-	A
E. 59 th Street between First and Second Avenues	North	5	6	0	A	4	A
	South	12.5	91	0	A	4	A
PM Peak Period							
First Avenue between E. 59 th and E. 60 th Streets	West	5	62	1	A	5-	A
E. 59 th Street between First and Second Avenues	North	5	8	0	A	4	A
	South	12.5	107	1	A	5-	A
Note: PFM = pedestrians per foot per minute							

Table 4.10-8
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
First Avenue at E. 59 th Street	Northeast	211	A	126	A	124	A
	Southeast	98	A	76	A	80	A
	Southwest	302	A	305	A	308	A
	Northwest	54	B	57	B	39	C
Note: SFP = square feet per pedestrian							

**Table 4.10-9
2008 Build Conditions: Pedestrian LOS Analysis for Crosswalks**

Location	Crosswalk	Width (feet)	Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	LOS	SFP	LOS
AM Peak Period								
First Avenue at E. 59 th Street	North	13.5	1772	A	1683	A	982	A
	East	13.5	279	A	274	A	84	A
	South	14	302	A	302	A	167	A
	West	13.5	439	A	283	A	163	A
Midday Peak Period								
First Avenue at E. 59 th Street	North	13.5	709	A	668	A	393	A
	East	13.5	179	A	174	A	54	B
	South	14	324	A	324	A	180	A
	West	13.5	325	A	276	A	120	A
PM Peak Period								
First Avenue at E. 59 th Street	North	13.5	818	A	758	A	453	A
	East	13.5	173	A	170	A	52	B
	South	14	361	A	361	A	200	A
	West	13.5	376	A	288	A	140	A
Note: SFP = square feet per pedestrian								

Alternate Site Configuration

The alternate site configuration would eliminate both adjacent sidewalks (on the west side of First Avenue and the north side of E. 59th Street) as well as portions of the adjacent roadways. Temporary walkways of five feet each would be provided for pedestrians on the west side of First Avenue and on the north side of E. 59th Street between the First Avenue and E. 59th Street intersection and the ends of the Shaft Site work zone. While these temporary walkways would be adequate in accommodating the low pedestrian volumes in the area of the preferred Shaft Site, NYCDEP would commit to providing the funding for an additional traffic enforcement agent (TEA) at the Shaft Site during its construction to ensure safe pedestrian access.

Operation

Transit Analysis

As described in Section 3.10.5, “Future Conditions With the Project Methodology,” for the transit and pedestrian analysis, the operation of Shaft 33B at the preferred Shaft Site would not generate a perceptible number of new trips to the Study Area. Since there would also not be any operational disruption on the Study Area transit service, the project is not expected to result in any significant adverse transit impacts.

Pedestrian Operations Analysis

Certain surface features of Shaft 33B, such as two relatively small flush mounted hatchways that provide access to the Shaft, a small (10-foot-high by 14-inch diameter) air vent located on the

CHAPTER 4: PREFERRED SHAFT SITE
4.10 TRANSIT AND PEDESTRIANS

site or the sidewalk, and up to two air release hydrants (3-foot high by 6-inch diameter), may take up some pedestrian space adjacent to the preferred Shaft Site. While these features may be located on site, if placed together on an adjacent sidewalk, they could potentially reduce the effective width of that sidewalk by up to three feet. This reduction in pedestrian space represents approximately 25 to 30 percent of the sidewalk effective widths adjacent to the preferred Shaft Site on the northwest corner of First Avenue and E. 59th Street. Comparing this sidewalk narrowing to those required for the construction of the base configuration of Shaft 33B, the resulting pedestrian space (7 to 9 feet of effective width) on the adjacent sidewalks would still be wider than what would be available during construction. Since operating conditions at these sidewalks during construction were projected to be favorable, as shown in Table 4.10-7, it is expected that adequate pedestrian space would be available during the operation of the shaft as well, and the operation of the project would not result in any potential significant adverse pedestrian impacts.

4.10.5 Conclusion

In conclusion, the above assessment shows that there would not be any predicted significant adverse impacts on transit service and pedestrian operations for the construction, activation, and operation of Shaft 33B at the preferred Shaft Site under either the base or alternate site configuration. However, in recognition of the traffic conditions in the area, if the preferred Shaft Site is selected, NYCDEP would commit to providing the funding for an additional TEA at the Shaft Site during its construction to facilitate vehicular and pedestrian flow nearby. Potential transit and pedestrian impacts from the combined construction of the water main connections and Shaft 33B at the preferred Shaft Site are discussed in Section 5.10, “Transit and Pedestrians,” in Chapter 5, “Water Main Connections.”

