18

Mitigation

In accordance with the *2021 City Environmental Quality Review (CEQR) Technical Manual,* where significant adverse impacts are identified, mitigation measures to reduce or eliminate the impacts to the fullest extent practicable are to be developed and evaluated.

Introduction

As detailed in the preceding chapters, approval of the Proposed Actions has the potential to result in significant adverse impacts related to transportation (i.e., operational traffic and bus) and construction (i.e., construction transportation and noise). Mitigation measures have been identified to address those impacts where feasible and/or practical. As discussed below in more detail, partial mitigation is proposed for some of the significant adverse impacts resulting from the Proposed Actions. If no mitigation has been identified, an unavoidable significant adverse impact may result.

Principal Conclusions

The Proposed Actions would result in significant adverse impacts with respect to Transportation (Traffic and Buses) and construction period traffic and noise.

Mitigation measures being proposed to address those impacts, where feasible and/or practical, are discussed below. If no possible mitigation can be identified, an unavoidable significant adverse impact would result.

Transportation

Traffic

The Proposed Actions would result in a significant adverse traffic impact at the intersection of Twelfth Avenue and West 55th Street during the Saturday peak hour. This identified significant adverse traffic impact could be fully mitigated with signal timing changes which is a standard traffic capacity improvement typically implemented by the New York City Department of Transportation (NYC DOT).

Implementation of the traffic measures are subject to review and approval by NYCDOT. The feasibility of the proposed mitigation measures will be further explored by the Applicant between the Draft and Final EIS. If the mitigation measures are deemed to be infeasible and no alternative mitigation measures can be identified, then the significant adverse traffic impacts would remain unmitigated.

Buses

The Proposed Actions would result in a capacity shortfall for the M57 (eastbound direction) during the AM peak hour and for the M12 (northbound and southbound directions) during the PM peak hour.

Significant impacts to the M57 bus route could be mitigated with the addition of two buses in the eastbound direction in the AM peak hour. Significant impacts to the M12 bus route could be mitigated with an additional bus in both directions during the PM peak hour. The general policy of New York City Transit (NYCT) is to provide additional bus service where demand warrants, taking into account financial and operational constraints.

Construction

Traffic

As discussed in **Chapter 16, Construction**, 11 intersections were analyzed for potential significant adverse traffic impacts during the AM and PM construction traffic peak hours. Significant adverse impacts were identified at two analysis intersections during the AM peak hour and five analysis intersections during the PM peak hour. Where significant adverse impacts during construction may occur, measures such as signal timing modifications could fully mitigate significant adverse traffic impacts at four of the five significantly impacted intersection during the PM construction peak hour. Mitigation for the intersection of West 55th Street and Twelfth Avenue would not be feasible during the AM and PM construction peak hours, and for the intersection of Eleventh Avenue and West 56th Street during the AM construction peak hour. Implementation of these measures are subject to review and approval by NYCDOT. The feasibility of the proposed mitigation measures will be further explored by the Applicant between the Draft and Final EIS. If the mitigation measures are deemed to be infeasible and no alternative mitigation measures can be identified, then the significant adverse traffic impacts would remain unmitigated.

Noise

Since noise levels during construction would have the potential to exceed the thresholds for exterior increases in noise, there would be potential for the project to result in high exterior and interior noise levels at existing noise receptors located in the vicinity of the development sites. As described in **Chapter 16, Construction**, Construction noise impacts would occur at a single existing commercial

office building located at 619 West 54th Street (R32), east of Development Site 1. No construction noise impact would occur at other receptors analyzed.

As such, noise control measures would be incorporated into a Construction Noise Mitigation Plan required under the New York City Noise Control Code to further reduce the noise impact from construction operations. Potential noise reduction measures could include a variety of source and path controls, such as temporary barriers and/or shrouds around specific equipment, and substitution with lower-noise-emitting equipment. With adherence to existing construction noise regulations and the implementation of a Construction Noise Mitigation Plan that includes an 8-foot construction noise barrier, as required by the New York City Noise Code, construction noise would be reduced but still exceed the thresholds for a significant adverse construction noise impact. As can be found through street observation, the existing commercial office building at 619 West 54th Street (R32) already has a central AC system as an alternative means of ventilation, and the building's single-paned window seems to be modern and of good quality with thicker than normal glass. If no other mitigation measures are identified, significant adverse impacts that cannot be fully mitigated through reasonably practicable measures would be considered unavoidable.

Transportation

As discussed in **Chapter 10, Transportation**, the Proposed Actions would result in significant adverse impacts to one intersection in the traffic study area and to two bus routes within the vicinity of the development sites. This section describes the mitigation measures that could reduce or eliminate the significant adverse impacts and indicates where impacts would remain unmitigated.

Traffic

Of the four intersections analyzed, the Proposed Actions would result in significant adverse traffic impacts at one intersection (at one movement) during the Saturday peak hour. No significant adverse impacts were identified during the weekday AM or PM peak hours. **Table 18-1** summarizes the number of traffic impacts and whether they could be fully mitigated or partially mitigated, and **Table 18-2** summarizes the significantly impacted traffic movements. Details of the intersection capacity analyses and traffic mitigation measures for the Saturday peak hour are summarized in **Table 18-3**.

Table 18-1 Traffic Impact Mitigation Summary

Intersections	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
No significant impact	4	4	3
Fully mitigated impact	0	0	1
Partially mitigated impact	0	0	0
Unmitigated impact	0	0	0

Note: All four intersections are signalized.

Table 18-2 Summary of Significantly Impacted Traffic Movements

Intersection	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Twelfth Avenue and West 55th Street	-	-	WB-R

Notes: EB=Eastbound; WB=Westbound; NB=Northbound; SB=Southbound; L=Left turn; T=Through; R=Right turn

The overall finding of the traffic mitigation analysis indicates that all of the four intersections analyzed would either not be significantly impacted or could be fully mitigated with readily implementable signal timing changes. This measure represents one of the standard traffic capacity improvements that are typically implemented by NYC DOT.

Implementation of the traffic measures are subject to review and approval by NYCDOT. The feasibility of the proposed mitigation measures will be further explored by the Applicant between the Draft and Final EIS. If the mitigation measures are deemed to be infeasible and no alternative mitigation measures can be identified, then the significant adverse traffic impacts would remain unmitigated.

Table 18-3 Year 2029 No-Action vs. With-Action vs Mitigation Traffic Levels of Service – Saturday Peak Hour

		2029 No-Action				2029 With-Action				2029 Mitigation				
Intersection & Approach		**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mvt**	**V/C**	**Ctrl Delay[1]**	**LOS**	**Mitigation Measures**
Twelfth Avenue and West 57th Street														
Twelfth Avenue	NB	T	0.74	3.3	A	T	0.74	3.3	A	T	0.74	2.9	A	-Mitigation not required.[3]
		R	0.24	2.8	A	R	0.24	2.8	A	R	0.24	2.3	A	
	SB	T	0.88	3.7	A	T	0.89	4.0	A	T	0.89	4.0	A	
West 57th Street	WB	R	0.53	37.8	D	R	0.53	37.9	D	R	0.53	37.9	D	
Twelfth Avenue Northbound Service Road (stop-controlled)	NB	R	-	13.1	B	R	-	13.4	B	R	-	13.4	B	
Overall Intersection[2]		-	-	**6.6**	**A**	-	-	**6.8**	**A**	-	-	**6.6**	**A**	
Twelfth Avenue and West 56th Street														
Twelfth Avenue	NB	T	0.79	2.6	A	T	0.80	2.6	A	T	0.80	2.5	A	-Mitigation not required.[3]
	SB	UL	0.90	52.7	D	UL	0.92	54.7	D	UL	0.92	54.7	D	
		T	0.43	0.1	A	T	0.43	0.1	A	T	0.43	0.1	A	
Twelfth Avenue Northbound Service Road	NB	TR	0.35	3.8	A	TR	0.37	4.3	A	TR	0.37	4.4	A	
West 56th Street	EB	LT	0.62	1.5	A	LT	0.64	1.4	A	LT	0.64	1.4	A	
Overall Intersection[2]		-	-	**6.7**	**A**	-	-	**7.0**	**A**	-	-	**6.9**	**A**	

Table 18-3 Year 2029 No-Action vs. With-Action vs Mitigation Traffic Levels of Service – Saturday Peak Hour

Intersection & Approach		2029 No-Action				2029 With-Action				2029 Mitigation				Mitigation Measures
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	
Twelfth Avenue and West 55th Street														
Twelfth Avenue	NB	L	0.05	52.4	D	L	0.05	52.4	D	L	0.07	54.8	D	-Modify signal timing: shift 2 seconds of green time from the NB-lag phase to the WB phase and 1 seconds of green time from the WB-internal phase to WB phase. [NB-lag green time shifts from 9 sec to 7 sec; WB internal green time shifts from 10 sec to 9 sec; WB green time shifts from 29 sec to 32 sec].
		T	0.80	22.9	C	T	0.80	23.0	C	T	0.83	25.1	C	
		R	0.35	15.2	B	R	0.36	15.3	B	R	0.37	16.5	B	
	SB	T	0.98	46.1	D	T	0.98	47.0	D	T	0.98	47.0	D	
Twelfth Avenue Southbound Service Road	SB	T	0.51	26.7	C	T	0.51	26.7	C	T	0.51	26.7	C	
West 55th Street	WB	LT	0.40	41.5	D	LT	0.44	42.5	D	LT	0.40	39.1	D	
		R	1.07	124.1	F	R	1.18	161.8	F	R	1.06	117.6	F	
West 55th Street Service Road Access	WB	L	0.01	0.3	A	L	0.01	0.3	A	L	0.01	0.3	A	
Overall Intersection[2]		-	-	**36.7**	**D**	-	-	**39.2**	**D**	-	-	**38.1**	**D**	
Eleventh Avenue and West 55th Street														
Eleventh Avenue	SB	T	0.30	9.1	A	T	0.31	9.1	A	T	0.31	9.1	A	-Mitigation not required.
		R	0.21	14.1	B	R	0.46	21.3	C	R	0.46	21.3	C	
West 55th Street	WB	L	0.36	28.2	C	L	0.48	32.4	C	L	0.48	32.4	C	
		T	0.64	35.0	C	T	0.68	36.9	D	T	0.68	36.9	D	
Overall Intersection[2]		-	-	**16.1**	**B**	-	-	**17.6**	**B**	-	-	**17.6**	**B**	

[1] Control delay is measured in seconds per vehicle.

[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.

[3] Changes in delay at this intersection are due to mitigation proposed at a nearby intersection.

Denotes a significantly impacted movement

Buses

Bus Line-Haul Analysis

As discussed in **Chapter 10, Transportation**, the Proposed Actions would result in a capacity shortfall for the following bus routes:

- The M57 bus route in the eastbound direction in the AM peak hour;
- The M12 bus route in the northbound direction during the PM peak hour; and
- The M12 bus route in the southbound direction during the PM peak hour.

As detailed in **Table 18-4**, impacts to the M12 bus route could be mitigated with an additional bus in each direction during the PM peak hour. The M57 bus route could be mitigated with the addition of two buses in the eastbound direction in the AM peak hour. The general policy of the NYCT is to provide additional bus service where demand warrants, taking into account financial and operational constraints.

Table 18-4 With-Action with Mitigation Bus Analysis

Peak Hour	Route	Direction	Maximum Load Point	Peak Hour Buses	Project Increment	With-Action Available Capacity	Additional Peak Hour Buses[1]	Available Capacity With Mitigation[2]
AM	M57	EB	W 57th St/11 Ave	5	125	-95	2	13
			W 57th St/9 Ave	6	125	-90	2	18
PM	M12	NB	W 57th St/10 Ave	2	39	-35	1	19
		SB	11 Ave/W 42nd St	2	8	-1	1	53
			11 Ave/W 44th St	2	8	-1	1	53

Notes:
[1] Additional peak hour buses needed to accommodate project-generated demand
[2] Available capacity based on NYCT loading guidelines of 54 passengers per standard bus.

Implementation

Implementation of these measures would be subject to review and approval by NYCT. If, prior to implementation, NYCT determines that an identified mitigation measure is infeasible, an alternative and equivalent mitigation measure would be identified. In the absence of the application of a particular mitigation measure, the impact would remain unmitigated.

Construction

Traffic

As discussed in **Chapter 16, Construction**, 11 intersections were analyzed for potential significant adverse traffic impacts during the AM and PM construction traffic peak hours. Significant adverse impacts were identified at two analysis intersections during the AM peak hour and five analysis intersections during the PM peak hour. The following intersections would be significantly impacted:

- Twelfth Avenue and West 57th Street (PM peak hour)
- Twelfth Avenue and West 55th Street (AM and PM peak hours)

- Eleventh Avenue and West 57th Street (PM peak hour)
- Eleventh Avenue and West 56th Street (AM and PM peak hours)
- Eleventh Avenue and West 55th Street (PM peak hour)

Where significant adverse impacts during construction may occur, measures such as signal timing modifications could fully mitigate significant adverse traffic impacts at three of the four significantly impacted intersection during the PM construction peak hour. Mitigation for the intersection of West 55th Street and Twelfth Avenue would not be feasible during the AM and PM construction peak hours, and for the intersection of Eleventh Avenue and West 56th Street during the AM construction peak hour.

Detailed descriptions of the No-Action and With-Action Construction conditions traffic levels of service and traffic mitigation measures are presented in **Table 18-5** and **Table 18-6**. Standard traffic capacity improvements typically implemented by NYCDOT, such as signal timing modifications, are proposed and could provide full mitigation at the intersections of Twelfth Avenue and West 57th Street, Eleventh Avenue and West 57th Street, Eleventh Avenue and West 56th Street, and Eleventh Avenue and West 55th Street during the PM construction peak hour. Implementation of these measures would be subject to review and approval by NYCDOT.

However, significant impacts at the intersection of Twelfth Avenue and West 55th Street during both construction peak hours and the intersection of Eleventh Avenue and West 56th Street during the AM construction peak hour, could not be mitigated. This is primarily due to the reduction of West 55th Street's travel lanes approaching Twelfth Avenue from three lanes to two lanes and the reduction of West 56th Street's travel lanes approaching Eleventh Avenue from two lanes to one lane to facilitate construction activities and protect pedestrian traffic (see **Chapter 21, Unavoidable Significant Adverse Impacts**). The reduction in westbound 55th Street travel lanes would also increase the potential of westbound left turning vehicle conflicts with bicyclists. Per NYC DOT's recommendation, the applicant will coordinate with the New York City Police Department (NYPD) on the need to deploy traffic enforcement agents at the unmitigated intersection of Twelfth Avenue and West 55th Street during the stages of construction when there is a reduction in travel lanes. The cost responsibility for the deployment of traffic enforcement agents would be on the applicant.

The feasibility of the proposed mitigation measures will be further explored by the Applicant between the Draft and Final EIS. If the mitigation measures are deemed to be infeasible and no alternative mitigation measures can be identified, then the significant adverse traffic impacts would remain unmitigated.

Table 18-5 Year 2028 No-Action vs. With-Action vs. Mitigation Traffic Levels of Service – AM Construction Peak Hour

Intersection & Approach		2028 No-Action				2028 With-Action				2028 Mitigation				Mitigation Measures
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	
Twelfth Avenue and West 57th Street														
Twelfth Avenue	NB	T	0.48	3.4	A	T	0.48	3.4	A	T	0.48	3.4	A	-Mitigation not required.
		R	0.39	4.0	A	R	0.39	3.9	A	R	0.39	3.9	A	
	SB	T	0.61	0.4	A	T	0.62	0.5	A	T	0.62	0.5	A	
West 57th Street	WB	R	0.27	30.8	C	R	0.27	30.8	C	R	0.27	30.8	C	
Twelfth Avenue Northbound Service Road (stop-controlled)	NB	R	-	12.8	B	R	-	14.5	B	R	-	14.5	B	
Overall Intersection[2]		-	-	**3.8**	**A**	-	-	**4.1**	**A**	-	-	**4.1**	**A**	
Twelfth Avenue and West 56th Street														
Twelfth Avenue	NB	T	0.63	21.4	C	T	0.63	21.0	C	T	0.63	21.0	C	-Mitigation not required
	SB	UL	0.78	38.9	D	UL	0.82	40.9	D	UL	0.82	40.9	D	
		T	0.54	0.3	A	T	0.54	0.3	A	T	0.54	0.3	A	
Twelfth Avenue Northbound Service Road	NB	TR	0.30	21.7	C	TR	0.37	21.6	C	TR	0.37	21.6	C	
West 56th Street	EB	LT	0.61	2.8	A	LT	0.65	2.9	A	LT	0.65	2.9	A	
Overall Intersection[2]		-	-	**12.0**	**B**	-	-	**12.4**	**B**	-	-	**12.4**	**B**	

Table 18-5 Year 2028 No-Action vs. With-Action vs. Mitigation Traffic Levels of Service – AM Construction Peak Hour

Intersection & Approach		2028 No-Action				2028 With-Action				2028 Mitigation				Mitigation Measures
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	
Twelfth Avenue and West 55th Street														
Twelfth Avenue	NB	L	0.18	65.0	E	L	0.18	64.6	E	L	0.18	64.6	E	-Unmitigatable
		T	0.40	5.1	A	T	0.40	5.1	A	T	0.40	5.1	A	
		R	0.20	5.1	A	R	0.23	5.3	A	R	0.23	5.3	A	
	SB	T	0.92	32.8	C	T	0.93	33.4	C	T	0.93	33.4	C	
Twelfth Avenue Southbound Service Road	SB	T	0.35	17.2	B	T	0.35	17.2	B	T	0.35	17.2	B	
West 55th Street	WB	LT	0.32	55.3	E	LT	0.32	55.4	E	LT	0.32	55.4	E	
		R	0.33	54.3	D	R	0.65	69.8	E	R	0.65	69.8	E	
West 55th Street Service Road Access	WB	L	0.07	0.3	A	L	0.07	0.3	A	L	0.07	0.3	A	
Overall Intersection[2]		-	-	**23.8**	**C**	-	-	**24.6**	**C**	-	-	**24.6**	**C**	
Twelfth Avenue and West 54th Street														
Twelfth Avenue	NB	TR	0.47	11.0	B	TR	0.48	11.1	B	TR	0.48	11.1	B	-Mitigation not required
	SB	L	0.34	70.3	E	L	0.37	70.9	E	L	0.37	70.9	E	
		T	0.76	1.1	A	T	0.77	1.1	A	T	0.77	1.1	A	
Twelfth Avenue Southbound Service Road	SEB	T	0.25	2.1	A	T	0.25	2.1	A	T	0.25	2.1	A	
Overall Intersection[2]		-	-	**6.2**	**A**	-	-	**6.4**	**A**	-	-	**6.4**	**A**	

Table 18-5 Year 2028 No-Action vs. With-Action vs. Mitigation Traffic Levels of Service – AM Construction Peak Hour

Intersection & Approach		2028 No-Action				2028 With-Action				2028 Mitigation				Mitigation Measures
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	
Eleventh Avenue and West 57th Street														
Eleventh Avenue	SB	L	0.13	22.3	C	L	0.13	22.3	C	L	0.13	22.3	C	-Mitigation not required
		TR	0.29	18.9	B	TR	0.30	18.9	B	TR	0.30	18.9	B	
West 57th Street	EB	L	0.53	25.4	C	L	0.57	28.7	C	L	0.57	28.7	C	
		TR	0.52	28.6	C	TR	0.53	28.7	C	TR	0.53	28.7	C	
	WB	L	0.52	12.7	B	L	0.58	12.6	B	L	0.58	12.6	B	
		TR	0.36	26.2	C	TR	0.45	27.3	C	TR	0.45	27.3	C	
Overall Intersection[2]		-	-	**23.2**	**C**	-	-	**23.9**	**C**	-	-	**23.9**	**C**	
Eleventh Avenue and West 56th Street														
Eleventh Avenue	SB	LT	0.19	9.4	A	LT	0.19	10.1	B	LT	0.19	10.1	B	-Unmitigatable
West 56th Street	EB	TR	0.72	32.3	C	TR	1.45	245.8	F	TR	1.45	245.8	F	
Overall Intersection[2]		-	-	**22.6**	**C**	-	-	**144.6**	**F**	-	-	**144.6**	**F**	
Eleventh Avenue and West 55th Street														
Eleventh Avenue	SB	T	0.22	11.2	B	T	0.23	10.1	B	T	0.23	10.1	B	-Mitigation not required
		R	0.14	16.2	B	R	0.15	15.6	B	R	0.15	15.6	B	
West 55th Street	WB	L	0.24	29.1	C	L	0.26	28.9	C	L	0.26	28.9	C	
		T	0.37	31.6	C	T	0.39	31.3	C	T	0.39	31.3	C	
Overall Intersection[2]		-	-	**16.4**	**B**	-	-	**15.6**	**B**	-	-	**15.6**	**B**	

Table 18-5 Year 2028 No-Action vs. With-Action vs. Mitigation Traffic Levels of Service – AM Construction Peak Hour

Intersection & Approach		2028 No-Action				2028 With-Action				2028 Mitigation				Mitigation Measures
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	
Eleventh Avenue and West 54th Street														
Eleventh Avenue	SB	LT	0.23	3.0	A	LT	0.24	3.2	A	LT	0.24	3.2	A	-Mitigation not required
West 54th Street	EB	TR	0.47	30.6	C	TR	0.52	31.8	C	TR	0.52	31.8	C	
Overall Intersection[2]		-	-	**9.7**	**A**	-	-	**10.5**	**B**	-	-	**10.5**	**B**	
Tenth Avenue and West 57th Street														
Tenth Avenue	NB	L	0.45	26.7	C	L	0.66	37.9	D	L	0.66	37.9	D	-Mitigation not required
		T	0.43	4.0	A	T	0.43	4.8	A	T	0.43	4.8	A	
		R	0.48	6.5	A	R	0.49	7.4	A	R	0.49	7.4	A	
West 57th Street	EB	LT	0.49	35.7	D	LT	0.50	36.1	D	LT	0.50	36.1	D	
	WB	TR	0.52	23.2	C	TR	0.58	24.4	C	TR	0.58	24.4	C	
Overall Intersection[2]		-	-	**16.7**	**B**	-	-	**18.5**	**B**	-	-	**18.5**	**B**	
Tenth Avenue and West 55th Street														
Tenth Avenue	NB	L	0.17	6.8	A	L	0.23	7.2	A	L	0.23	7.2	A	-Mitigation not required
		T	0.52	7.5	A	T	0.53	7.7	A	T	0.53	7.7	A	
West 55th Street	WB	TR	0.41	25.4	C	TR	0.54	28.5	C	TR	0.54	28.5	C	
Overall Intersection[2]		-	-	**10.1**	**B**	-	-	**11.4**	**B**	-	-	**11.4**	**B**	
Tenth Avenue and West 54th Street														
Eleventh Avenue	NB	TR	0.57	18.7	B	TR	0.58	18.8	B	TR	0.58	18.8	B	-Mitigation not required
West 54th Street	EB	LT	0.50	16.6	B	LT	0.56	17.7	B	LT	0.56	17.7	B	
Overall Intersection[2]		-	-	**18.3**	**B**	-	-	**18.6**	**B**	-	-	**18.6**	**B**	

[1] Control delay is measured in seconds per vehicle.

[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.

Denotes a significantly impacted movement

Table 18-6 Year 2028 No-Action vs. With-Action vs. Mitigation Traffic Levels of Service – PM Construction Peak Hour

Intersection & Approach		2028 No-Action				2028 With-Action				2028 Mitigation				Mitigation Measures
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	
Twelfth Avenue and West 57th Street														
Twelfth Avenue	NB	T	0.83	2.3	A	T	0.84	2.3	A	T	0.85	3.5	A	-Modify signal timing: Shift 2 sec of green time from NB phase to WB phase. [NB green time shifts from 101 sec to 99 sec. WB green time shifts from 38 sec to 40 sec.]
		R	0.38	1.7	A	R	0.38	1.7	A	R	0.39	2.5	A	
	SB	T	0.53	0.3	A	T	0.53	0.3	A	T	0.53	0.3	A	
West 57th Street	WB	R	0.88	67.4	E	R	0.98	83.1	F	R	0.93	72.0	E	
Twelfth Avenue Northbound Service Road (stop-controlled)	NB	R	-	11.3	B	R	-	11.3	B	R	-	11.3	B	
Overall Intersection[2]		-	-	**7.3**	**A**	-	-	**9.2**	**A**	-	-	**8.7**	**A**	
Twelfth Avenue and West 56th Street														
Twelfth Avenue	NB	T	0.90	8.0	A	T	0.91	7.7	A	T	0.91	7.7	A	-Mitigation not required
	SB	UL	0.94	79.4	E	UL	0.94	79.4	E	UL	0.94	79.4	E	
		T	0.51	0.3	A	T	0.51	0.3	A	T	0.51	0.3	A	
Twelfth Avenue Northbound Service Road	NB	TR	0.35	3.8	A	TR	0.35	3.6	A	TR	0.35	3.6	A	
West 56th Street	EB	LT	0.64	3.6	A	LT	0.64	3.6	A	LT	0.64	3.6	A	
Overall Intersection[2]		-	-	**10.2**	**B**	-	-	**10.1**	**B**	-	-	**10.1**	**B**	

Table 18-6 Year 2028 No-Action vs. With-Action vs. Mitigation Traffic Levels of Service – PM Construction Peak Hour

Intersection & Approach		2028 No-Action				2028 With-Action				2028 Mitigation				Mitigation Measures
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	
Twelfth Avenue and West 55th Street														
Twelfth Avenue	NB	L	0.02	55.0	D	L	0.02	55.1	E	L	0.02	55.1	E	-Unmitigatable
		T	0.83	3.4	A	T	0.84	3.5	A	T	0.84	3.5	A	
		R	0.36	2.9	A	R	0.36	2.9	A	R	0.36	2.9	A	
	SB	T	0.89	31.9	C	T	0.89	31.9	C	T	0.89	31.9	C	
Twelfth Avenue Southbound Service Road	SB	T	0.73	28.9	C	T	0.75	29.6	C	T	0.75	29.6	C	
West 55th Street	WB	LT	0.57	63.3	E	LT	0.64	66.9	E	LT	0.64	66.9	E	
		R	0.83	75.5	E	R	1.57	335.3	F	R	1.57	335.3	F	
West 55th Street Service Road Access	WB	L	0.01	0.9	A	L	0.01	0.9	A	L	0.01	0.9	A	
Overall Intersection[2]		-	-	**21.0**	**C**	-	-	**33.8**	**C**	-	-	**33.8**	**C**	
Twelfth Avenue and West 54th Street														
Twelfth Avenue	NB	TR	0.96	28.6	C	TR	0.96	29.0	C	TR	0.96	29.0	C	-Mitigation not required
	SB	L	0.61	67.6	E	L	0.61	67.6	E	L	0.61	67.6	E	
		T	0.73	1.3	A	T	0.73	1.4	A	T	0.73	1.4	A	
Twelfth Avenue Southbound Service Road	SEB	T	0.55	1.4	A	T	0.56	1.4	A	T	0.56	1.4	A	
Overall Intersection[2]		-	-	**16.8**	**B**	-	-	**16.9**	**B**	-	-	**16.9**	**B**	

Table 18-6 Year 2028 No-Action vs. With-Action vs. Mitigation Traffic Levels of Service – PM Construction Peak Hour

Intersection & Approach		2028 No-Action				2028 With-Action				2028 Mitigation				Mitigation Measures
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	
Eleventh Avenue and West 57th Street														
Eleventh Avenue	SB	L	0.28	24.6	C	L	0.28	24.6	C	L	0.28	24.6	C	-Modify signal timing: Shift 1 sec of green time from EB/WB phase to EBL/WBL-lag phase. [EB/WB green time shifts from 27 sec to 26 sec. EBL/WBL green time shifts from 12 sec to 13 sec].
		TR	0.74	27.0	C	TR	0.74	27.0	C	TR	0.74	27.0	C	
West 57th Street	EB	L	0.71	39.0	D	L	0.71	39.0	D	L	0.69	37.8	D	
		TR	0.39	26.5	C	TR	0.52	29.0	C	TR	0.55	30.2	C	
	WB	L	0.97	36.7	D	L	1.04	55.9	E	L	1.03	51.4	D	
		TR	0.75	37.6	D	TR	0.75	37.6	D	TR	0.78	40.6	D	
Overall Intersection[2]		-	-	**31.8**	**C**	-	-	**34.8**	**C**	-	-	**34.8**	**C**	
Eleventh Avenue and West 56th Street														
Eleventh Avenue	SB	LT	0.43	9.8	A	LT	0.45	11.0	B	LT	0.48	13.4	B	-Modify signal timing: Shift 3 sec of green time from SB phase to EB phase. [SB green time shifts from 45 sec to 42 sec. EB green time shifts from 28 sec to 31 sec.]
West 56th Street	EB	TR	0.51	27.4	C	TR	1.03	79.2	E	TR	0.93	53.0	D	
Overall Intersection[2]		-	-	**15.0**	**B**	-	-	**30.7**	**C**	-	-	**24.8**	**C**	
Eleventh Avenue and West 55th Street														
Eleventh Avenue	SB	T	0.40	5.6	A	T	0.42	4.9	A	T	0.42	4.9	A	-Modify signal timing: Shift 1 sec of green time from SB phase to WB phase. [SB green time shifts from 54 sec to 53 sec. WB green time shifts from 26 sec to 27 sec.]
		R	0.20	9.1	A	R	0.23	8.8	A	R	0.23	9.2	A	
West 55th Street	WB	L	0.49	27.6	C	L	0.54	29.3	C	L	0.52	27.8	C	
		T	0.93	52.8	D	T	0.97	62.1	E	T	0.94	53.6	D	
Overall Intersection[2]		-	-	**17.7**	**B**	-	-	**19.5**	**B**	-	-	**17.6**	**B**	

Table 18-6 Year 2028 No-Action vs. With-Action vs. Mitigation Traffic Levels of Service – PM Construction Peak Hour

Intersection & Approach		2028 No-Action				2028 With-Action				2028 Mitigation				Mitigation Measures
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	
Eleventh Avenue and West 54th Street														
Eleventh Avenue	SB	LT	0.45	3.5	A	LT	0.47	3.8	A	LT	0.47	4.2	A	-Mitigation not required[3]
West 54th Street	EB	TR	0.79	44.9	D	TR	0.79	44.9	D	TR	0.79	44.9	D	
Overall Intersection[2]		-	-	**12.0**	**B**	-	-	**11.9**	**B**	-	-	**12.2**	**B**	
Tenth Avenue and West 57th Street														
Tenth Avenue	NB	L	0.94	66.9	E	L	0.94	66.7	E	L	0.94	66.7	E	-Mitigation not required
		T	0.43	3.3	A	T	0.43	3.3	A	T	0.43	3.3	A	
		R	0.62	14.3	B	R	0.67	16.8	B	R	0.67	16.8	B	
West 57th Street	EB	L	0.87	91.3	F	L	0.88	92.5	F	L	0.88	92.2	F	
		T	0.53	30.1	C	T	0.60	34.7	C	T	0.60	34.8	C	
	WB	TR	0.86	35.1	C	TR	0.86	35.1	D	TR	0.86	35.1	D	
Overall Intersection[2]		-	-	**26.8**	**C**	-	-	**27.6**	**C**	-	-	**27.6**	**C**	
Tenth Avenue and West 55th Street														
Tenth Avenue	NB	L	0.39	8.5	A	L	0.38	8.4	A	L	0.38	8.4	A	-Mitigation not required
		T	0.58	7.9	A	T	0.59	7.9	A	T	0.59	7.9	A	
West 55th Street	WB	TR	0.94	58.0	E	TR	0.94	57.6	E	TR	0.94	57.6	E	
Overall Intersection[2]		-	-	**21.1**	**C**	-	-	**20.9**	**C**	-	-	**20.9**	**C**	

Table 18-6 Year 2028 No-Action vs. With-Action vs. Mitigation Traffic Levels of Service – PM Construction Peak Hour

Intersection & Approach		2028 No-Action				2028 With-Action				2028 Mitigation				Mitigation Measures
		Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	Mvt	V/C	Ctrl Delay[1]	LOS	
Tenth Avenue and West 54th Street														
Eleventh Avenue	NB	TR	0.61	19.4	B	TR	0.62	19.6	B	TR	0.62	19.6	B	-Mitigation not required[3]
West 54th Street	EB	LT	0.68	21.2	C	LT	0.76	27.8	C	LT	0.76	28.0	C	
Overall Intersection[2]		-	-	**19.8**	**B**	-	-	**21.6**	**C**	-	-	**21.6**	**C**	

[1] Control delay is measured in seconds per vehicle.
[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.
[3] Changes in delay at this intersection are due to mitigation proposed at a nearby intersection.
Denotes a significantly impacted movement

Noise

Construction of the phased development at the two development sites would involve standard construction activities and practices for buildings in New York City. Foundation/excavation and superstructure/exterior phases of construction are typically when the noisiest activities occur. The interior phases of construction typically involve minimal exterior equipment and substantially quieter noise conditions. The Development Site is near existing residential and commercial land uses. Based on the proximity of these noise-sensitive land uses, there would be potential for the project to result in high exterior and interior noise levels at existing noise receptors.

Construction noise from stationary sources has been evaluated for five different phases of construction. There would be two development sites with similar construction durations. For each phase of the construction at the development sites (Development Site 1 and Development Site 2) there would be demolition, excavation/foundation, superstructure/exterior, and interior finish phases of construction of the proposed buildings.

As described in **Chapter 16, Construction**, construction noise impacts would occur at the existing commercial office building at 619 West 54th Street (R32) located east of Development Site 1. In total, construction activities would cause exterior and interior noise impacts on one commercial office receptor due to exceedances of the thresholds for exterior increase in noise and/or thresholds for acceptable interior noise levels for commercial office uses.

Construction at the two development sites would be required to adhere to New York City's construction noise regulations, including the requirement to prepare and implement a Construction Noise Mitigation Plan and to construct an 8-foot-tall construction noise barrier, which is assumed in the noise modeling analysis. Even with these measures, construction noise would still exceed the thresholds for a significant adverse construction noise impact at certain receptor locations during certain phases of the construction work.

Noise from construction activities and some construction equipment is regulated by the New York City Noise Control Code. The New York City Noise Code (Section 24-228) limits noise from non-impulsive construction equipment to a maximum of 85 dBA, as measured 50 feet from the source. The code also limits noise from paving breakers, such as jackhammers, to 95 dBA at a distance of 1 meter and requires use of a pneumatic discharge muffler that provides an insertion loss of 5 dBA.

In addition, the New York City Noise Control Code limits construction activities to weekdays between the hours of 7:00 AM and 6:00 PM. In terms of source controls (i.e., reduction noise levels at the source or during the most sensitive time periods), the following measures, under New York regulations, would be implemented:

- The contractor would self-certify that all construction tools and equipment have been maintained to not generate excessive or unnecessary noise and that the noise emissions would not exceed the levels specified in Subchapter 5 of the NYC Noise Control Code and Table 22-1 of the 2021 *CEQR Technical Manual*.
- Where feasible, practical, and safe, the use of back-up alarms would be minimized and/or quieter back-up alarms would be installed in accordance with OSHA standards.
- Vehicles would not be allowed to idle more than three minutes, in accordance with New York City Administrative Code §24-163.

› The contractor would implement a training program to inform workers of methods that can minimize construction noise.

In terms of path controls (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors), the following measures, included under New York regulations, for construction would be implemented:

› The DOB regulations require a perimeter barrier or "construction noise barrier," and when the site is within 200 feet of a receptor the barrier shall be constructed in a specific manner (as described in the New York City Noise Code) to provide sufficient sound attenuation. Section 3307.7 of the New York City Building Code requires a solid perimeter noise barrier made out of wood or other suitable material be constructed where a new building is being constructed or a building is being demolished to grade.
› Where logistics allow, noisy equipment, such as cranes, concrete pumps, concrete trucks, and delivery trucks, could be located away from and shielded from sensitive receptor locations.
› Should noise complaints occur during construction, the contractor shall use path noise control measures such as temporary noise barriers and jersey barriers.

With adherence to existing construction noise regulations and the implementation of a Construction Noise Mitigation Plan, including an 8-foot construction noise barrier, construction noise would be reduced but still exceed the thresholds for significant adverse construction noise impacts. As can be found through street and field observation, the building at 619 West 54th Street (R32) already has a central AC system as an alternative means of ventilation, and the building's single-paned window seem to be modern and of good quality with thicker than normal glass.

Consequently, significant adverse noise impacts predicted to occur at the above-mentioned receptors would be unavoidable as discussed in **Chapter 21, Unavoidable Adverse Impacts**.