Chapter 17: Mitigation

A. INTRODUCTION

This chapter describes and evaluates feasible options for mitigation to reduce or eliminate to the fullest extent practicable the significant adverse impacts identified in this Environmental Impact Statement (EIS). As discussed below, certain mitigation measures may require implementation by, or approval from, government agencies.

As described in Chapter 1, "Project Description," the American Museum of Natural History (AMNH or the Museum) is proposing the construction of a new building, the Richard Gilder Center for Science, Education, and Innovation (the Gilder Center). The Museum is located in Theodore Roosevelt Park, which is City-owned parkland under the jurisdiction of the New York City Department of Parks and Recreation (NYC Parks). The Gilder Center would be an approximately 203,000-gross-square-foot (gsf) addition on the west side of the Museum complex facing Columbus Avenue. The proposed project would also include approximately 42,000 gsf of renovations to existing Museum space and improvements to an approximately 75,000-sf adjacent public open space in Theodore Roosevelt Park.

The proposed project is expected to generate new trips to the Museum site due to a projected increase in daily attendance, as well as alter site access patterns by shifting more pedestrian trips and taxi pick-up and drop-off activity toward a more prominent entrance on the Columbus Avenue side of the Museum. The Museum's total estimated attendance and utilization with the project is just over 6.0 million per year, an incremental increase of approximately 745,000 people over the projected attendance and utilization without the proposed project. These attendance and utilization projections represent forecasted attendance for the 2021 Build year at a stabilized level after the opening of the Gilder Center.

PRINCIPAL CONCLUSIONS

The technical analyses determined that there would be significant adverse environmental impacts related to transportation, historic and cultural resources, and construction associated with the proposed project.

TRANSPORTATION

As discussed in Chapter 9, "Transportation," traffic conditions were evaluated at ~~nine~~ eleven intersections for the weekday midday, weekday PM, and Saturday peak hours. Because existing traffic and pedestrian conditions in the study area are already severe and susceptible to worsening in service levels, even small increases in traffic and pedestrian levels could result in significant adverse impacts. Therefore, in the 2021 With Action condition, significant adverse traffic impacts were identified at one intersection during the weekday PM peak hour, and at three intersections during the Saturday peak hour. All of the identified significant adverse traffic impacts could be fully mitigated with the implementation of standard traffic mitigation measures (e.g., signal retiming). Pedestrian conditions were evaluated at ten sidewalks, four corners, and four crosswalks for the weekday midday, weekday PM, and Saturday peak hours. In the 2021

With Action condition, significant adverse pedestrian impacts were identified at one crosswalk during the Saturday peak hour. Widening this crosswalk would mitigate the projected pedestrian impact. No significant adverse impacts were identified for transit, vehicular and pedestrian safety, and parking.

HISTORIC AND CULTURAL RESOURCES

As discussed in Chapter 5, "Historic and Cultural Resources," demolition of Building 15, a former power house built in 1903-1904, would constitute a significant adverse impact on architectural resources. The building was constructed as part of the 1874-1935 development of the Museum (although highly altered subsequently) and is included as part of the State and National Register (S/NR) listing of the Museum. Measures to avoid, minimize, and mitigate the project's adverse impacts on architectural resources would be implemented in consultation with New York State Office of Parks, Recreation, and Historic Preservation (OPRHP). In addition, demolition of the buildings on the project site, followed by site preparation and construction of the Gilder Center, could potentially result in inadvertent damage to nearby historic Museum buildings if adequate precautions are not taken. Therefore, a Construction Protection Plan (CPP) would be developed in coordination with the Landmarks Preservation Commission (LPC) and OPRHP and implemented in consultation with a licensed professional engineer. The CPP would describe the measures to be implemented during construction of the Gilder Center to protect the historic Museum buildings, including monitoring the buildings for cracks and movement and installation of physical protection as appropriate at the buildings surrounding the building site (Building 17, 7, 1, and 8). The mitigation measures are set forth in a draft Letter of Resolution (LOR) to be signed by the Museum, OPRHP, and Empire State Development (ESD).

CONSTRUCTION

Transportation

As discussed in Chapter 15 "Construction," traffic conditions were evaluated at ~~nine~~ eleven intersections for the weekday PM construction peak hour. Because existing traffic and pedestrian conditions in the study area are already severe and susceptible to worsening in service levels, even small increases in traffic could result in significant adverse impacts. Therefore, in the ~~2018~~ 2019 With Action condition, significant adverse traffic impacts were identified at one intersection during the weekday PM construction peak hour. The identified significant adverse traffic impacts could be fully mitigated with the implementation of standard traffic mitigation measures (e.g., signal retiming). No significant adverse impacts were identified for transit, pedestrians, vehicular and pedestrian safety, and parking.

Noise

~~As discuss in Chapter 15 "Construction,"~~Based on information available at the time, the DEIS identified that the proposed project ~~has~~ had the potential to result in construction noise levels that exceed *CEQR Technical Manual* noise impact criteria for an extended period of time at buildings on West 79th Street immediately across Columbus Avenue west of the "construction area" (the project site and the associated construction staging area). The DEIS disclosed that 101 West 79th Street and 112 West 79th Street (which uses the address 118 West 79th Street) could experience noise levels that would constitute significant adverse construction noise impacts. ~~The identified significant adverse construction noise impacts could be fully mitigated with receptor controls (i.e., storm windows and air conditioning units at residences that do not already have air conditioning).~~

As discussed in Chapter 15, "Construction," ~~B~~between the Draft EIS (DEIS) and Final EIS (FEIS), further noise reduction measures to reduce or eliminate the potential for these temporary significant construction noise impacts ~~will be~~were considered and evaluated. AMNH has identified further construction noise controls to reduce construction noise, including quieter person lifts and quieter excavators and loaders for landscaping. Furthermore, the schedule has been updated to reflect a shorter period of rock excavation based on the geotechnical report, the addition of pile installation for Support of Excavation (SOE), and separation of the landscaping work across two planting seasons. In addition, construction logistics during façade installation and interior work have been refined to reflect the typical condition of unloading one tractor trailer in the materials delivery lane (i.e., just inside the construction site fence along Columbus Avenue) and one box truck at the construction hoist. Based on these changes to the construction program, an updated construction noise analysis for the FEIS predicted lower noise levels throughout the latter 2 years of construction, and a reduction in the duration of the worst-case construction noise (3 months rather than 5). Based on the new construction noise control commitments and refined schedule and logistics, while construction noise would still be noticeable and potentially intrusive at times, there would not be any nearby receptors at which the duration and magnitude of construction noise would constitute a significant adverse impact (see NYCDEP correspondence in **Appendix C-3**). ~~In the event noise source control measures are not sufficient to mitigate the significant adverse construction noise impacts, then the receptor mitigation measures described above would be offered to residents at 101 and 112 (118) West 79th Street.~~

As presented above, construction noise from the proposed project does not represent a significant impact. Nonetheless, because receptor control measures were previously considered for 101 West 79th Street and 112 (118) West 79th Street based on the DEIS analyses (i.e., storm windows and air conditioning units at residences that do not already have air conditioning), AMNH has committed to make an offer of these measures to residents of those two buildings.

B. TRANSPORTATION

TRAFFIC

As discussed in Chapter 9, "Transportation," traffic conditions were evaluated at ~~nine~~ eleven intersections for the weekday midday, weekday PM, and Saturday peak hours. The 2021 With Action condition analysis identified the potential for significant adverse traffic impacts at one analysis intersection during the weekday PM peak hour, and at three intersections during the Saturday peak hour as summarized in **Table 17-1.**

Table 17-1
Summary of Significant Adverse Traffic Impacts

Intersection		Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
EB/WB Street	NB/SB Street			
West 77th Street	Columbus Avenue			SB-L
West 81st Street	Central Park West		WB-L	WB-L
West 77th Street	Central Park West			NB-LT
Total Impacted Intersections/Lane Groups		**0/0**	**1/1**	**3/3**

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

To mitigate the above significant adverse traffic impacts, standard traffic engineering measures (i.e. signal timing changes) were explored. All of the significant adverse traffic impacts can be mitigated using signal timing changes. **Table 17-2** describes the recommended signal timing

changes that would address the identified impacts from the proposed project. With the implementation of these mitigation measures, which are subject to review and approval by the New York City Department of Transportation (DOT) prior to implementation, the significant adverse traffic impacts identified in the traffic study area could be fully mitigated.

Table 17-2
Recommended Mitigation Measures: Proposed Project

Intersection	No Action Signal Timing	Recommended Mitigation Measures	Recommended Signal Timing
Weekday PM Peak Hour			
Central Park West and West 81st Street	WB-L/EB-L: Green = 6 s WB/EB: Green = 26 s NB/SB: Green = 36 s West / East Crosswalk LPI = 7 s	1) Shift 1 second of green time from the WB/EB phase to the WB-L/EB-L phase	WB-L/EB-L: Green = 7 s WB/EB: Green = 25 s NB/SB: Green = 36 s West / East Crosswalk LPI = 7 s
Saturday Peak Hour			
Columbus Avenue and West 77th Street	WB: Green = 23 s SB Through: Green = 36 s SB Through + Left: Green = 14 s North / South Crosswalk LPI = 7 s	Shift 1 second of green time from SB through phase to SB through + left phase	WB: Green = 23 s SB Through: Green = 35 s SB Through + Left: Green = 15 s North / South Crosswalk LPI = 7 s
Central Park West and West 81st Street	WB-L/EB-L: Green = 6 s WB/EB: Green = 26 s NB/SB: Green = 36 s West / East Crosswalk LPI = 7 s	1) Shift 1 second of green time from the WB/EB phase to the WB-L/EB-L phase	WB-L/EB-L: Green = 7 s WB/EB: Green = 25 s NB/SB: Green = 36 s West / East Crosswalk LPI = 7 s
Central Park West and West 77th Street	EB: Green = 31 s NB/SB: Green = 49 s	1) Shift 1 second of green time from EB phase to NB/SB phase	EB: Green = 30 s NB/SB: Green = 50 s

Notes: EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; LPI = Leading Pedestrian Interval

COLUMBUS AVENUE AND WEST 77TH STREET

A significant adverse impact was identified at the southbound left-turn lane group of this intersection during the Saturday peak hour, although the project generated incremental vehicle trips for the southbound left-turn movement totaled only 2 in the Saturday peak hour. Given the very small incremental increase from the proposed project, an additional vehicle on the southbound left turn every 30 minutes, the reported change in delay is likely overstated. The projected traffic impact for the southbound left-turn lane group could be fully mitigated by shifting one second of green time from the southbound through only phase to the southbound through-left phase.

CENTRAL PARK WEST AND WEST 81ST STREET

As described in Chapter 9, "Transportation," West 81st Street presents the most difficult traffic conditions within the study area, particularly at the Central Park West intersection. Movements on all four approaches of Central Park West and West 81st Street are at congested conditions during all three peak hours. Average vehicle delays at intersection movements already experiencing congested conditions are highly sensitive to future increases in traffic volumes, even if the incremental traffic volumes are relatively minimal. Significant adverse impacts were identified at the westbound left-turn movement of this intersection during the weekday PM and Saturday peak hours.

Although the project generated incremental vehicle trips forecasted for each of these lane groups are small, significant adverse impacts were nonetheless predicted based on analysis methodologies and impact thresholds prescribed in the *CEQR Technical Manual*. The westbound left-turn movement was projected to have only 3 incremental vehicle trips in the weekday PM peak hour and 3 incremental vehicle trips in the Saturday peak hour, an additional vehicle every 20 minutes. Given these very small incremental vehicle trips, the reported changes in delay are likely overstated.

CENTRAL PARK WEST AND WEST 77TH STREET

A significant adverse impact was identified at the northbound approach of this intersection during the Saturday peak hour, although the project generated incremental vehicle trips for the northbound approach totaled only 10 in the Saturday peak hour. Given the very small incremental increase from the proposed project, an additional vehicle on the northbound approach every six minutes, the reported change in delay is likely overstated. The projected traffic impact for the northbound approach could be fully mitigated by shifting one second of green time from the eastbound phase to the northbound/southbound phase.

Tables 17-3A and 17-3B compare the levels of service and lane group delays for the impacted intersections under the 2021 No Action, With Action, and Mitigation conditions for the weekday PM and Saturday peak hours, respectively.

Table 17-3A
2021 No Action, With Action, and Mitigation Conditions Level of Service Analysis
Weekday PM Peak Hour—Signalized Intersections

	2021 No Action				2021 With Action					2021 Mitigation			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS
Central Park West and West 81st Street													
Eastbound	L	0.42	26.9	C	L	0.43	27.1	C		L	0.39	25.6	C
	T	0.86	45.3	D	T	0.86	45.3	D		T	0.89	50.1	D
	R	0.14	24.8	C	R	0.14	24.8	C		R	0.15	25.7	C
Westbound	**L**	**1.07**	**113.4**	**F**	**L**	**1.09**	**118.0**	**F**	**+**	L	1.02	87.5	F
	LT	1.07	87.4	F	LT	1.07	87.4	F		LT	1.04	80.3	F
	R	0.78	48.0	D	R	0.77	47.6	D		R	0.81	52.9	D
Northbound	LTR	1.07	75.9	E	LTR	1.08	78.5	E		LTR	1.08	78.5	E
Southbound	LTR	1.08	85.6	F	LTR	1.08	88.0	F		LTR	1.08	88.0	F
	Int.		74.2	E	Int.		75.9	E		Int.		73.8	E

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection, "+" Denotes a significant adverse traffic impact.

Table 17-3B
2021 No Action, With Action, and Mitigation Conditions Level of Service Analysis
Saturday Peak Hour—Signalized Intersections

	2021 No Action				2021 With Action					2021 Mitigation			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS
Columbus Avenue and West 77th Street													
Westbound	LT	0.84	50.7	D	LT	0.84	50.7	D		LT	0.84	50.7	D
Southbound	**L**	**1.07**	**115.5**	**F**	**L**	**1.08**	**119.4**	**F**	**+**	L	1.01	96.0	F
	TR	0.81	14.7	B	TR	0.82	15.1	B		TR	0.82	15.1	B
	Int.		31.6	C	Int.		32.4	C		Int.		29.7	C
Central Park West and West 81st Street													
Eastbound	L	0.20	19.4	B	L	0.21	19.5	B		L	0.20	19.5	B
	T	0.81	40.8	D	T	0.81	41.3	D		T	0.84	44.9	D
	R	0.44	31.5	C	R	0.45	31.7	C		R	0.47	33.3	C
Westbound	**L**	**1.00**	**91.3**	**F**	**L**	**1.03**	**98.9**	**F**	**+**	L	1.01	91.3	F
	T	0.69	34.7	C	T	0.69	34.8	C		T	0.72	36.9	D
	R	0.68	40.8	D	R	0.69	41.6	D		R	0.72	45.2	D
Northbound	LTR	1.08	78.5	E	LTR	1.09	82.3	F		LTR	1.09	82.3	F
Southbound	LTR	0.93	45.0	D	LTR	0.96	49.5	D		LTR	0.96	49.5	D
	Int.		56.4	E	Int.		59.4	E		Int.		59.9	E
Central Park West and West 77th Street													
Eastbound	LR	0.62	30.7	C	LR	0.63	31.0	C		LR	0.65	32.7	C
Northbound	LT	1.07	69.2	E	LT	1.08	73.5	E	+	LT	1.05	63.1	E
Southbound	TR	0.68	17.6	B	TR	0.68	17.8	B		TR	0.67	16.8	B
	Int.		43.3	D	Int.		45.4	D		Int.		40.4	D

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection, "+" Denotes a significant adverse traffic impact.

PEDESTRIANS

As discussed in Chapter 9, "Transportation," pedestrian conditions were evaluated at ten sidewalks, four corners, and four crosswalks for the weekday midday, weekday PM, and Saturday peak hours. The 2021 With Action condition analysis identified the potential for a

significant adverse pedestrian impact at one crosswalk during the Saturday peak hour as summarized in **Table 17-4.**

Table 17-4
Summary of Significant Adverse Pedestrian Impacts

Intersection	Pedestrian Element	2021 With Action Condition		
		Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Columbus Avenue and West 81st Street	East Crosswalk			X
Total Impacted Pedestrian Elements		**0**	**0**	**1**

Note: X = Impacted.

Recommended measures to mitigate this significant adverse impact are described below, and the mitigated conditions are summarized in **Table 17-5**. The recommended crosswalk widening at this intersection is subject to review and approval by DOT.

Table 17-5
2021 No Action, With Action, and Mitigation Conditions
Pedestrian Level of Service Analysis

Location	Recommended Mitigation Measures	2021 No Action		2021 With Action		2021 Mitigation	
		SFP	LOS	SFP	LOS	SFP	LOS
Saturday Peak Hour							
East Crosswalk of Columbus Avenue and West 81st Street	Widen by 1 foot	15.0	E	**13.6**	**E+**	14.3	E

Note: SFP = square feet per pedestrian; LOS = Level of Service
"+" Denotes a significant adverse pedestrian impact.

C. HISTORIC AND CULTURAL RESOURCES

As discussed in Chapter 5, "Historic and Cultural Resources," demolition of Building 15, a former power house built in 1903-1904, would constitute a significant adverse impact on architectural resources. The building was constructed as part of the 1874-1935 development of the Museum (although highly altered subsequently) and is included as part of the S/NR listing of the Museum.

Measures to avoid, minimize, and mitigate the project's adverse impacts on architectural resources would be implemented in consultation with OPRHP. The mitigation measures include the following:

- restoration and reconstruction program nearing completion at Building 1;
- a design that incorporates a contemporary architectural approach for the Gilder Center reflecting the time in which it is built and with the proposed scale, massing, and materials respecting the historic Museum setting including landscaping design in keeping with the naturalistic character of the Theodore Roosevelt Park;
- consultation with OPRHP regarding the proposed design of the Gilder Center and its connections to the surrounding Museum buildings including submission of the design plans at the preliminary (100% completion of Design Development) and pre-final (50% completion of Construction Documents) completion stages for OPRHP review and comment; and

- submission to OPRHP of a development history narrative of the Museum complex and documentation of Building 15 per OPRHP's Recordation of Historic Structures standards.

In addition, demolition of the buildings on the project site, followed by site preparation and construction of the Gilder Center, could potentially result in inadvertent damage to nearby historic Museum buildings if adequate precautions are not taken. Therefore, a Construction Protection Plan (CPP) would be developed in coordination with LPC and OPRHP and implemented in consultation with a licensed professional engineer. This CPP would be prepared as set forth in Section 523 of the *CEQR Technical Manual* and in compliance with the procedures included in the DOB's TPPN #10/88 and LPC's *Guidelines for Construction Adjacent to a Historic Landmark* and *Protection Programs for Landmark Buildings*. The CPP would describe the measures to be implemented during construction of the Gilder Center to protect the historic Museum buildings, including monitoring the buildings for cracks and movement and installation of physical protection as appropriate at the buildings surrounding the building site (Building 17, 7, 1, and 8).

The mitigation measures are set forth in a draft Letter of Resolution (LOR) to be signed by the Museum, OPRHP, and ESD. The draft LOR is included as **Appendix A-1**.

D. CONSTRUCTION

TRANSPORTATION

As discussed in Chapter 15, "Construction," an analysis of the eleven~~nine~~ study area intersections showed that one of the eleven~~nine~~ intersections would be significantly impacted during the 3:00 PM to 4:00 PM construction peak hour: Columbus Avenue and West 81st Street. The significant adverse impact at the Columbus Avenue and West 81st Street intersection could be fully mitigated by applying temporary shifts in signal timing. **Table 17-6** summarizes the capacity analysis results and mitigation recommendations for the 3:00 PM to 4:00 PM construction peak hour. A discussion of the results for the impacted intersection is provided below.

COLUMBUS AVENUE AND WEST 81ST STREET

Southbound left-turn at the Columbus Avenue and West 81st Street intersection would deteriorate within LOS F (from a v/c ratio of 0.96 and ~~90.8~~91.9 seconds per vehicle [spv] of delay to a v/c ratio of ~~0.99~~1.00 and ~~97.9~~100.4 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. As shown in ~~**Figure 15-4**~~**Figure 15-8**, the project peak construction generated vehicle trips for the southbound left-turn movement totaled only ~~5~~ 6 in the weekday PM construction peak hour. These modest increases in project generated peak hour traffic are forecast to result in increases in delay that constitute significant adverse impacts. However, given the very small incremental increase from the proposed project, an additional vehicle on the westbound left-turn movement every 10~~2~~ minutes, the reported change in delay is likely overstated by the traffic analysis methodology specified in the 2014 *CEQR Technical Manual*. The significant adverse impact at the southbound left turn of this intersection could be fully mitigated by a temporary shift of 1 second of green time from the southbound permitted phase to the southbound protected left-turn phase.

Table 17-6
No Action, With Action, and Mitigated Conditions
Weekday PM Construction Peak Hour Traffic Level of Service

Intersection	Construction 2019 No Action*				Construction 2019 With Action*					Construction 2019 Mitigation*				Recommended Mitigation Measures
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS	
Columbus Avenue and West 83rd Street														
Westbound	LT	0.40	18.8	B	LT	0.40	18.8	B						No significant adverse impact
Southbound	TR	0.84	24.4	C	TR	0.85	24.6	C	-					
-	Int.		23.5	C	Int.		23.7	C	-					
Columbus Avenue and West 82nd Street														
Eastbound	TR	0.34	18.0	B	TR	0.35	18.1	B						No significant adverse impact
Northbound	L	0.19	16.3	B	L	0.19	16.3	B	-					
Southbound	T	0.76	21.1	C	T	0.77	21.3	C	-					
-	Int.		20.5	C	Int.		20.6	C	-					
Columbus Avenue and West 81st Street														
Eastbound	T	0.80	51.0	D	T	0.80	51.0	D	-	T	0.80	51.0	D	Temporary shift of one second of green time from southbound through phase (with permitted left turn) to southbound left-through phase (with protected left turn)
-	R	0.13	28.4	C	R	0.13	28.4	C	-	R	0.13	28.4	C	
Westbound	L	1.02	82.9	F	L	1.02	82.9	F	-	L	1.02	82.9	F	
Southbound	**L**	**0.96**	**91.9**	**F**	**L**	**1.00**	**100.4**	**F**	**+**	L	0.92	81.0	F	
-	T	0.74	22.0	C	T	0.74	22.1	C	-	T	0.74	22.1	C	
-	Int.		45.1	D	Int.		46.0	D	-	Int.		44.2	D	
Columbus Avenue and West 80th Street														
Eastbound	R	0.17	22.1	C	R	0.17	22.1	C						No significant adverse impact
Southbound	T	0.78	13.5	B	T	0.79	13.6	B						
-	Int.		13.8	B	Int.		13.9	B	-					
Columbus Avenue and West 79th Street														
Eastbound	R	0.78	55.4	E	R	0.78	55.4	E						No significant adverse impact
Southbound	T	1.08	70.0	E	T	1.08	71.8	E	-					
	R	0.47	5.4	A	R	0.47	5.4	A	-					
-	Int.		54.2	D	Int.		55.5	E	-					
Columbus Avenue and West 78th Street														
Eastbound	R	0.38	26.0	C	R	0.38	26.0	C						No significant adverse impact
Southbound	T	0.73	12.3	B	T	0.73	12.3	B						
-	Int.		13.3	B	Int.		13.4	B	-					
Columbus Avenue and West 77th Street														
Westbound	LT	0.64	37.8	D	LT	0.64	37.8	D						No significant adverse impact
Southbound	L	0.83	66.1	E	L	0.83	66.1	E						
	TR	0.75	13.0	B	TR	0.76	13.0	B						
-	Int.		21.0	C	Int.		21.1	C	-					
Central Park West and West 83rd Street														
Northbound	LT	1.06	66.8	E	LT	1.08	69.0	E						No significant adverse impact
Southbound	TR	0.50	14.1	B	TR	0.50	14.1	B	-					
-	Int.		45.4	D	Int.		46.8	D	-					
Central Park West and West 82nd Street														
Eastbound	LR	0.39	24.8	C	LR	0.41	25.2	C						No significant adverse impact
Northbound	T	0.63	16.2	B	T	0.63	16.3	B	-					
Southbound	T	0.41	12.8	B	T	0.41	12.8	B	-					
-	Int.		15.9	B	Int.		16.0	B	-					
Central Park West and West 81st Street														
Eastbound	L	0.42	26.6	C	L	0.48	28.7	C						No significant adverse impact
-	T	0.91	52.1	D	T	0.94	56.8	E						
-	R	0.13	24.6	C	R	0.13	24.6	C	-					
Westbound	L	1.06	103.4	F	L	1.06	103.4	F	-					
-	LT	1.06	84.4	F	LT	1.06	84.4	F	-					
-	R	0.96	80.5	F	R	0.96	80.5	F	-					
Northbound	LTR	1.07	73.8	E	LTR	1.07	73.8	E	-					
Southbound	LTR	0.95	48.7	D	LTR	0.97	53.4	D						
-	Int.		67.7	E	Int.		69.2	E	-					
Central Park West and West 77th Street														
Eastbound	LR	0.42	25.4	C	LR	0.42	25.4	C						No significant adverse impact
Northbound	LT	0.97	40.8	D	LT	0.97	41.4	D	-					
Southbound	TR	0.63	16.4	B	TR	0.63	16.4	B	-					
-	Int.		29.5	C	Int.		29.8	C	-					

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection

*For analysis purposes, based on the anticipated construction start date in late 2017 and the estimated construction phasing, the peak construction traffic period is assumed to occur in 2019.

NOISE

As discussed in Chapter 15, "Construction," between DEIS and FEIS, further noise reduction measures to reduce or eliminate the potential for these temporary significant construction noise impacts were considered and evaluated. AMNH has identified further construction noise controls to reduce construction noise, including quieter person lifts and quieter excavators and loaders for landscaping. Furthermore, the schedule has been updated to reflect a shorter period of rock excavation based on the geotechnical report, the addition of pile installation for SOE, and separation of the landscaping work across two planting seasons. In addition, construction logistics during façade installation and interior work have been refined to reflect the typical condition of unloading one tractor trailer in the materials delivery lane (i.e., just inside the construction site fence along Columbus Avenue) and one box truck at the construction hoist. Based on these changes to the construction program, an updated construction noise analysis for the FEIS predicted lower noise levels throughout the latter 2 years of construction, and a reduction in the duration of the worst-case construction noise (3 months rather than 5). Based on the new construction noise control commitments and refined schedule and logistics, while construction noise would still be noticeable and potentially intrusive at times, there would not be any nearby receptors at which the duration and magnitude of construction noise would constitute a significant adverse impact (see NYCDEP correspondence in **Appendix C-3**).

As presented above, construction noise from the proposed project does not represent a significant impact. Nonetheless, because receptor control measures were previously considered for 101 West 79th Street and 112 (118) West 79th Street based on the DEIS analyses (i.e., storm windows and air conditioning units at residences that do not already have air conditioning), AMNH has committed to make an offer of these measures to residents of those two buildings.

~~Potential receptor controls that could be used to mitigate the temporary impacts at the two buildings (101 and 112 (118) West 79th Street) predicted to experience significant adverse construction noise impacts include the provision of storm windows to increase the amount of noise attenuation provided by the building façades and air conditioning units at residences that do not already have air conditioning so the residences can maintain a closed window condition during construction of the proposed project. Alternatively, potential noise source control measures that could be evaluated include identification of quieter equipment, changes to the logistics plan (with potentially different effects on the Park than the preliminary logistics plan shown in Figures 15-2 to 15-5), alternative noise barriers, or other shielding methods. Between the DEIS and FEIS, further noise reduction measures to reduce or eliminate the potential for these temporary significant construction noise impacts will be considered and evaluated. In the event noise source control measures are not sufficient to mitigate the significant adverse construction noise impacts, then receptor mitigation measures would be offered to residents at 101 and 112 (118) West 79th Street. Those residences that do not have an alternate means of ventilation would be offered air conditioning units so that they can maintain a closed window condition during construction of the proposed project. The buildings would also be offered storm windows to increase the attenuation provided by the building façades. With these receptor control measures, the predicted impacts at 101 and 112 (118) West 79th Street would be fully mitigated.~~

Table 17-6
No Action, With Action, and Mitigated Conditions
Weekday PM Construction Peak Hour Traffic Level of Service

Intersection	Construction 2019 No Action*				Construction 2019 With Action*					Construction 2019 Mitigation*				Recommended Mitigation Measures
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS	
Columbus Avenue and West 83rd Street														
Westbound	LT	0.40	18.8	B	LT	0.40	18.8	B						No significant adverse impact
Southbound	TR	0.84	24.4	C	TR	0.85	24.6	C	-					
-	Int.		23.5	C	Int.		23.7	C	-					
Columbus Avenue and West 82nd Street														
Eastbound	TR	0.34	18.0	B	TR	0.35	18.1	B						No significant adverse impact
Northbound	L	0.19	16.3	B	L	0.19	16.3	B	-					
Southbound	T	0.76	21.1	C	T	0.77	21.3	C	-					
-	Int.		20.5	C	Int.		20.6	C	-					
Columbus Avenue and West 81st Street														
Eastbound	T	0.80	51.0	D	T	0.80	51.0	D	-	T	0.80	51.0	D	Temporary shift of one second of green time from southbound through phase (with permitted left turn) to southbound left-through phase (with protected left turn)
-	R	0.13	28.4	C	R	0.13	28.4	C	-	R	0.13	28.4	C	
Westbound	L	1.02	82.9	F	L	1.02	82.9	F	-	L	1.02	82.9	F	
Southbound	**L**	**0.96**	**91.9**	**F**	**L**	**1.00**	**100.4**	**F**	*	L	0.92	81.0	F	
-	T	0.74	22.0	C	T	0.74	22.1	C	-	T	0.74	22.1	C	
-	Int.		45.1	D	Int.		46.0	D	-	Int.		44.2	D	
Columbus Avenue and West 80th Street														
Eastbound	R	0.17	22.1	C	R	0.17	22.1	C						No significant adverse impact
Southbound	T	0.78	13.5	B	T	0.79	13.6	B						
-	Int.		13.8	B	Int.		13.9	B	-					
Columbus Avenue and West 79th Street														
Eastbound	R	0.78	55.4	E	R	0.78	55.4	E						No significant adverse impact
Southbound	T	1.08	70.0	E	T	1.08	71.8	E	-					
	R	0.47	5.4	A	R	0.47	5.4	A	-					
-	Int.		54.2	D	Int.		55.5	E	-					
Columbus Avenue and West 78th Street														
Eastbound	R	0.38	26.0	C	R	0.38	26.0	C						No significant adverse impact
Southbound	T	0.73	12.3	B	T	0.73	12.3	B						
-	Int.		13.3	B	Int.		13.4	B	-					
Columbus Avenue and West 77th Street														
Westbound	LT	0.64	37.8	D	LT	0.64	37.8	D						No significant adverse impact
Southbound	L	0.83	66.1	E	L	0.83	66.1	E						
	TR	0.75	13.0	B	TR	0.76	13.0	B						
-	Int.		21.0	C	Int.		21.1	C	-					
Central Park West and West 83rd Street														
Northbound	LT	1.06	66.8	E	LT	1.08	69.0	E						No significant adverse impact
Southbound	TR	0.50	14.1	B	TR	0.50	14.1	B	-					
-	Int.		45.4	D	Int.		46.8	D	-					
Central Park West and West 82nd Street														
Eastbound	LR	0.39	24.8	C	LR	0.41	25.2	C						No significant adverse impact
Northbound	T	0.63	16.2	B	T	0.63	16.3	B	-					
Southbound	T	0.41	12.8	B	T	0.41	12.8	B	-					
-	Int.		15.9	B	Int.		16.0	B	-					
Central Park West and West 81st Street														
Eastbound	L	0.42	26.6	C	L	0.48	28.7	C						No significant adverse impact
-	T	0.91	52.1	D	T	0.94	56.8	E						
-	R	0.13	24.6	C	R	0.13	24.6	C	-					
Westbound	L	1.06	103.4	F	L	1.06	103.4	F	-					
-	LT	1.06	84.4	F	LT	1.06	84.4	F	-					
-	R	0.96	80.5	F	R	0.96	80.5	F	-					
Northbound	LTR	1.07	73.8	F	LTR	1.07	73.8	F	-					
Southbound	LTR	0.95	48.7	D	LTR	0.97	53.4	D						
-	Int.		67.7	E	Int.		69.2	E	-					
Central Park West and West 77th Street														
Eastbound	LR	0.42	25.4	C	LR	0.42	25.4	C						No significant adverse impact
Northbound	LT	0.97	40.8	D	LT	0.97	41.4	D	-					
Southbound	TR	0.63	16.4	B	TR	0.63	16.4	B	-					
-	Int.		29.5	C	Int.		29.8	C	-					

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection

*For analysis purposes, based on the anticipated construction start date in late 2017 and the estimated construction phasing, the peak construction traffic period is assumed to occur in 2019.

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