West Harlem Rezoning FEIS
CHAPTER 17: CONSTRUCTION

A. INTRODUCTION

This chapter assesses the potential impacts of the construction of buildings expected to result on sites in the West Harlem rezoning area from the proposed zoning map and text amendments. The following sections discuss the potential impacts resulting from the construction of the projected development sites as described in the reasonable worst case development scenario (RWCDS) presented in Chapter 1, "Project Description." Construction impacts, although temporary, can include noticeable and disruptive effects from an action that is associated with construction or could induce construction. Determination of the significance of construction impacts and need for mitigation is generally based on the duration and magnitude of the impacts. Construction impacts are usually important when construction activity could affect traffic conditions, hazardous materials, archaeological resources, the integrity of historic resources, community noise patterns, and air quality conditions.

The Proposed Action consists of zoning map and text amendments, which are expected to facilitate the construction of new multi-unit residential buildings and commercial and mixed-use buildings, as well as the conversion and/or enlargement of a few existing buildings. As discussed in Chapter 1, "Project Description," a total of four reasonable worst case development scenarios are considered in this EIS, each of which includes a total of 22 projected development, conversion, or enlargement sites, including two sites with alternate scenarios. For the purposes of this chapter, RWCDS 4 (no deed restriction on site 6 and new development on site 40) was determined to be the most conservative for analysis purposes, as it assumes the higher intensity use and construction duration for each of those two sites. Under RWCDS 4, the Proposed Action would result in a total of approximately 1,034 residential units 176,408 gsf of retail, 415,540 gsf of office and other commercial uses, and 447,162 gsf of community facility space on the 22 projected development sites, distributed over 90 blocks in West Harlem.

As described in other chapters of this EIS, the projected developments resulting from the Proposed Action are expected to range from 65 to 175 feet in height. The 22 projected development sites, including approximately 19 sites where new construction is projected, would be completed in the nine years following the adoption of the Proposed Action, i.e., by the analysis year of 2021. In addition, there are 16 potential development sites considered less likely to be developed by the 2021 analysis year.

According to the *CEQR Technical Manual*, construction duration is often broken down into short-term (less than two years) and long-term (two or more years). Where the duration of construction is expected to be short-term, any impacts resulting from such short-term construction generally do not require detailed assessment. As described below, it is estimated that most of the projected development sites entailing new construction would generally take 24 months to complete construction, and would therefore be considered short-term. However, as construction activity associated with the RCWDS would occur on multiple development sites within the same geographic area, such that there is the potential for several construction timelines to overlap, a preliminary assessment of potential construction impacts was prepared in accordance with the guidelines of the *CEQR Technical Manual*, and is presented in this chapter.

B. PRINCIPAL CONCLUSIONS

The inconvenience and disruption arising from the construction of projected development sites could likely include temporary diversions of pedestrians, vehicles, and construction truck traffic to other streets. Given that the 22 projected development sites are distributed over 90 blocks, no one location within the rezoning area would be under construction for the full nine years. As construction activity associated with the RCWDS would occur on multiple development sites within the same geographic area, such that there is the potential for several construction timelines to overlap, a preliminary assessment of potential construction impacts was prepared in accordance with the guidelines of the *CEQR Technical Manual*, and is presented in this chapter. As detailed below, construction of the development sites identified in the RWCDS for the Proposed Action has the potential to result in construction-period impacts related to traffic and historic architectural resources.

Throughout the construction period, access to surrounding residences, businesses, institutions, and open spaces in the area would be maintained (see discussions below in "Socioeconomic Conditions," and "Transportation"). In addition, throughout the construction period, measures would be implemented to control noise, vibration, and dust on the construction sites and minimize impacts on the surrounding areas in conformance with the City's building code. These measures would include the erection of construction fencing and, in some areas, fencing incorporating sound-reducing measures. Even with these measures in place, temporary impacts, and in some cases significant traffic impacts, are predicted to occur. However, because none of these impacts would be continuous in any one location or permanent, they would not create significant impacts on land use patterns or neighborhood character in the area. In addition to the activity associated with construction, some part of the parcels not yet in construction would be used for construction staging. These uses would not conflict with or significantly affect neighborhood character in the surrounding areas.

As discussed below, as the combination of peak construction and operational traffic in 2016 (peak cumulative year for construction analysis purposes) would result in 51 to 58 percent less traffic than the fully built-out project during the 8-9 AM and 5-6 PM peak hours, no new intersections are expected to experience significant adverse traffic impacts in these periods during the 2016 construction analysis year. It is likely, however, that some or all of the five intersections impacted under the Proposed Action in 2021 would also potentially be impacted in the 2016 construction analysis year. As such, it is anticipated that implementation of the mitigation measures required to address potential significant adverse traffic impacts in proximity to the West 126th/West 128th Street Cluster with full build-out of the Proposed Action in 2021 (as described in Chapter 18, "Mitigation") would also be effective at mitigating potential impacts from the combination of construction and operational traffic generated at this cluster in the 2016 interim year.

In addition, inadvertent construction-related damage could potentially occur to four eligible resources as a result of the Proposed Action. If these eligible resources are designated in the future prior to the initiation of construction, TPPN 10/88 would apply and indirect significant adverse impacts resulting from construction would be avoided. Should they remain undesignated however, the additional protective measures of TPPN 10/88 would not apply, and significant adverse construction-related impacts would not be mitigated.

As also discussed below, construction-related activities resulting from the Proposed Action are not expected to have any significant adverse impacts on transit or pedestrian conditions, air quality, noise, archaeological resources, or hazardous materials conditions, and a detailed analysis of construction impacts is not warranted. Moreover, the construction process in New York City is highly regulated to ensure that construction period impacts are eliminated or minimized.

C. REGULATORY FRAMEWORK

Governmental Coordination and Oversight

The governmental oversight of construction in New York City is extensive and involves a number of city, state, and federal agencies. Table 17-1 shows the main agencies involved in construction oversight and each agency's areas of responsibility. The primary responsibilities lie with New York City agencies. The New York City Department of Buildings (DOB) has the primary responsibility for ensuring that the construction meets the requirements of the Building Code and that buildings are structurally, electrically, and mechanically safe. In addition, DOB enforces safety regulations to protect both construction workers and the public. The areas of responsibility include installation and operation of construction equipment, such as cranes and lifts, sidewalk shed, and safety netting and scaffolding. The New York City Department of Environmental Protection (DEP) enforces the Noise Code, approves remedial action plans (RAPs) and Construction Health and Safety Plans (CHASPs), and regulates water disposal into the sewer system. The New York City Fire Department (FDNY) has primary oversight for compliance with the Fire Code and for the installation of tanks containing flammable materials. The New York City Department of Transportation (DOT) reviews and approves any traffic lane and sidewalk closures. New York City Transit (NYCT) is in charge of bus stop relocations, and any subsurface construction within 200 feet of a subway. The Landmarks Preservation Commission (LPC) approves studies and testing to prevent loss of archaeological materials and to prevent damage to fragile historic structures.

The New York State Department of Environmental Conservation (NYSDEC) regulates discharge of water into rivers and streams, disposal of hazardous materials, and construction, operation, and removal of bulk petroleum and chemical storage tanks. The New York State Department of Labor (DOL) licenses asbestos workers. On the federal level, the US Environmental Protection Agency (EPA) has wide ranging authority over environmental matters, including air emissions, noise, hazardous materials, and the use of poisons. Much of the responsibility is delegated to the state level. The US Occupational Safety and Health Administration (OSHA) sets standards for work site safety and the construction equipment.

TABLE 17-1
Construction Oversight in New York City

Agency	Area(s) of Responsibility
New York City	
Department of Buildings	Primary oversight for Building Code and site safety
Department of Environmental Protection	Noise, hazardous materials, dewatering
Fire Department	Compliance with Fire Code, tank operation
Department of Transportation	Traffic lane and sidewalk closures
New York City Transit	Bus stop relocation; any subsurface construction within 200 feet of a subway
Landmarks Preservation Commission	Archaeological and historic architectural protection
New York State	
Department of Labor	Asbestos workers
Department of Environmental Conservation	Dewatering, hazardous materials, tanks, Stormwater Pollution Prevention Plan, Industrial SPDES, if any discharge into the Hudson River
United States	
Environmental Protection Agency	Air emissions, noise, hazardous materials, toxic substances
Occupational Safety and Health Administration	Worker safety

Hours of Work

Construction activities for buildings in the city generally take place Monday through Friday, with exceptions that are discussed separately below. In accordance with city laws and regulations, construction

work would generally begin at 7:00 AM on weekdays, with workers arriving to prepare work areas between 6:00 AM and 7:00 AM. Normally, work would end at 3:30 PM, but at times the workday could be extended to complete some specific tasks beyond normal work hours, such as completing the drilling of piles, finishing a concrete pour for a floor deck, or completing the bolting of a steel frame erected that day. The extended workday would generally last until about 6:00 PM and would not include all construction workers on-site, but just those involved in the specific task requiring additional work time.

Occasionally, Saturday or overtime hours may be required to complete some time-sensitive tasks. Weekend work requires a permit from the DOB and, in certain instances, approval of a noise mitigation plan from the DEP under the City's Noise Code. The New York City Noise Control Code, as amended December 2005 and effective July 1, 2007 limits construction (absent special circumstances as described below) to weekdays between the hours of 7:00 AM and 6:00 PM, and sets noise limits for certain specific pieces of construction equipment. Construction activities occurring after hours (weekdays between 6:00 PM and 7:00 AM and on weekends) may be permitted only to accommodate: (i) emergency conditions; (ii) public safety; (iii) construction projects by or on behalf of city agencies; (iv) construction activities with minimal noise impacts; and (v) undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts and/or financial considerations. In such cases, the numbers of workers and pieces of equipment in operation would be limited to those needed to complete the particular authorized task. Therefore, the level of activity for any weekend work would be less than a normal workday. The typical weekend workday would be on Saturday from 7:00 AM with worker arrival and site preparation to 5:00 PM for site cleanup.

D. CONCEPTUAL CONSTRUCTION SCHEDULE AND ACTIVITIES

Construction Sequencing

Construction induced by the Proposed Action would be gradual, taking place over a nine-year period. Because the projected development sites within the area to be rezoned are in private ownership, the timing of the development of those sites is unknown. The Proposed Action, which is an area-wide rezoning, is not intended to facilitate any specific development on any of the projected development sites. As such, the reasonable worst case development scenario presented in Chapter 1, "Project Description," does not describe which of the sites would be developed first or assume a particular sequence of development. However, it is conservatively assumed that construction of all projected development sites would be completed by the end of the 2021 analysis year. Market considerations would ultimately determine the demand for development.

A reasonable worst case for construction sequencing was developed for the purposes of assessing potential construction impacts. The larger projected development sites where there are known plans are assumed to begin construction first, closer to the time of project approvals (i.e., soon after 2013). In addition, sites that are currently vacant and are closest to the West 145th Street corridor (which would experience an upzoning on certain concentrated development sites as a result of the Proposed Action) as well as sites within the area around West 128th Street that is being rezoned into an MX district, are assumed to begin construction within a year of project approvals. Finally, vacant and other underbuilt sites are assumed to follow. In estimating the duration of the construction period for each site, it is generally assumed that single lot sites would generally take 24 months to complete construction, whereas sites with multiple lots are assumed to take longer, depending on existing conditions. For example, it is assumed that for site 40, which currently includes nine existing buildings, it would take approximately three years (36 months) to fully clear and build on the site. Conversion sites (projected development sites 53 to 55), however, would require a much shorter construction period and involve minimal external work

when compared to sites that are undergoing new construction. They are therefore excluded from this analysis.

An anticipated construction sequencing for use in the analysis of the Proposed Action was developed based on the above assumptions, and this is illustrated in Figure 17-1. The figure shows the different phases of construction as well as estimates of the numbers of construction workers and trucks associated with each phase. These are discussed in more detail below.

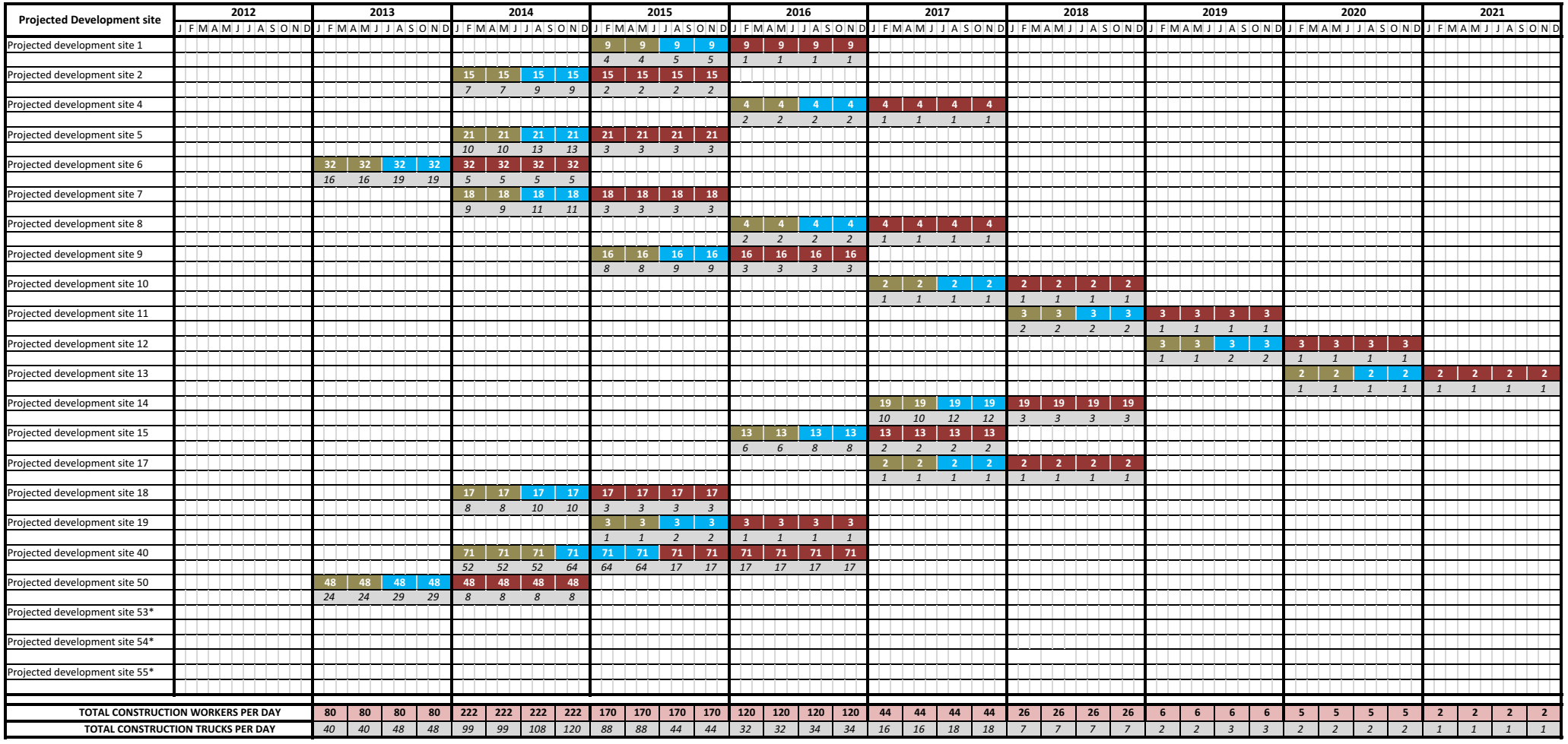
Typical Construction Activities

Following is a general outline of typical construction stages on the development sites. It should be noted, however, that the duration and extent of new construction activities would vary based on which site is being developed. For conversion sites, the construction process is much simpler and shorter in duration and involves much less external work, while the construction of site 40 would be more intensive, and is conservatively estimated to last for approximately 36 months.

- Months 1-6: Site clearance, excavation, and foundation. The first six months of construction would entail site clearance (including demolition of existing buildings); digging, pile-driving, pile capping, and excavation for the foundation; dewatering (to the extent required), and reinforcing and pouring of the foundation. Typical equipment used for these activities would include excavators, backhoes, tractors, pile-drivers, hammers, and cranes. Trucks would arrive at the site with pre-mixed concrete and other building materials, and would remove any excavated material and construction debris.
- Months 7-12: Erection of the superstructure and underground parking foundation (if any). Once the foundations have been completed, the construction of the building's steel framework, parking ramp, and decking would take place. This process involves the installation of beams, columns and decking, and would require the use of cranes, derricks, hoists, and welding equipment, as warranted.
- Months 13-24: Façade and roof construction, mechanical installation, interior and finishing work. This would include the assembly of exterior walls and cladding; installation of heating, ventilation and air conditioning (HVAC) equipment and ductwork; installation and checking of elevator, utility, and life safety systems; and work on interior walls and finishes. During these activities, hoists and cranes would continue to be used, and trucks would remain in use for material supply and construction waste removal. It should be noted that much of this work occurs when the building is fully enclosed, and therefore is not disruptive to the surrounding neighborhood.

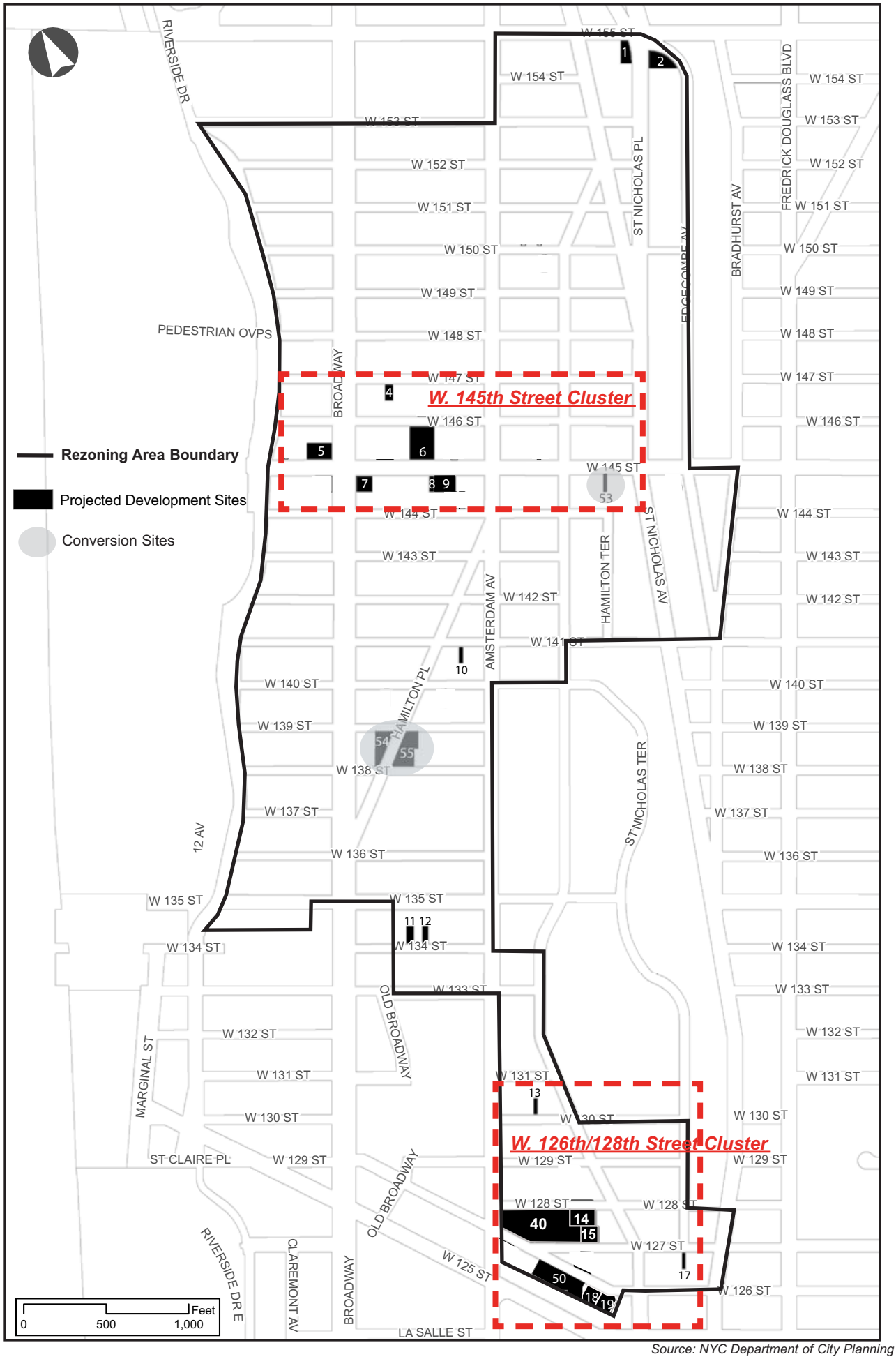
Construction staging would most likely occur on the projected development sites themselves and may, in some cases, extend within portions of sidewalks and curb and travel lanes of public streets adjacent to the construction sites. As shown in Figure 17-2, the majority of projected development sites are concentrated in two development clusters within the proposed rezoning area – one centered along West 145th Street, and another in the vicinity of West 126th and West 128th streets at the southern edge of the rezoning area. As such, the construction assessment in subsequent sections of this chapter focuses on these two clusters, which are shown in Figure 17-2.

All of the other projected development sites are generally scattered throughout the 90-block rezoning area, and/or have more than one street frontage. Both of these factors would reduce the potential for construction activity associated with these sites to be concentrated on any given block-front for an extended period of time, thereby minimizing disruption to the surrounding area. For example, the conceptual construction schedule shown in Figure 17-1 indicates that construction for projected



* Conversion sites 53 -55 would require a much shorter construction period and involve minimal external work when compared to sites that are undergoing new construction, and are not shown.

RWCDS Projected Development Sites - New Construction Site Clusters



Source: NYC Department of City Planning

development sites 1 and 2 at the northern boundary of the rezoning area would overlap. However, site 1 has frontage on both West 155th Street and St. Nicholas Place, whereas site 2 also has frontage on West 155th Street and St. Nicholas Place as well as on Edgecombe Avenue.

On the other hand, sites 11 and 12 have only one street frontage each, both located on the north side of West 134th Street between Amsterdam Avenue and Broadway. As such, it is likely that portions of the northern sidewalk on that blockfront would be intermittently blocked for construction activity, although given the small size of these two developments, and the minimal construction activity expected, such disruption would not be significant.

During the course of construction, traffic lanes and sidewalks adjacent to projected development sites may have to be intermittently or temporarily closed or protected for varying periods of time to allow for certain construction activities. Any sidewalk or street closures would require the approval of the New York City Department of Transportation's Office of Construction Management and Coordination (DOT-OCMC), the entity that insures critical arteries are not interrupted, especially in peak travel periods. Builders would be required to plan and carry out noise and dust control measures during construction. Construction activities would be subject to compliance with the New York City Noise Code and by EPA noise emission standards for construction equipment. In addition, there would be requirements for street crossing and entrance barriers, protective scaffolding, and strict compliance with all applicable construction safety measures.

Estimate of Construction workers

Based on the square footage of each of the 19 projected development sites that would entail demolition and new construction, and estimated construction costs, the person-years[1] of construction employment was estimated for each site. This calculated number was then divided by the anticipated construction period (24 months for most sites, except for site 40, as noted above), to estimate the average number of construction workers on site at any time per quarter. The resultant estimate of the number of workers per quarter for each site is also illustrated in Figure 17-1 and summarized in Table 17-2 below.

TABLE 17-2
Estimated Total Number of Construction Workers and Construction Trucks On-Site Per Day (19 Projected Development Sites With New Construction)

Year	**2013**				**2014**				**2015**				**2016**				**2017**			
Quarter	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*
Construction Workers	80	80	80	80	222	222	222	222	170	170	170	170	120	120	120	120	44	44	44	44
Construction Trucks	40	40	48	48	99	99	108	120	88	88	44	44	32	32	34	34	16	16	18	18
Year	**2018**				**2019**				**2020**				**2021**				**Project Total**			
Quarter	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	Peak		Average	
Construction Workers	26	26	26	26	6	6	6	6	5	5	5	5	2	2	2	2	222		75	
Construction Trucks	7	7	7	7	2	2	3	3	2	2	2	2	1	1	1	1	120		31	

Estimate of Construction Period Trucks

Based on prior EIS documents for new construction projects in Manhattan that contain a similar mix of uses, an estimate of the number of daily construction trucks generated per 100,000 gsf of development was developed for each of the three general construction phases described above. It was estimated that in

[1] A person-year is the equivalent of one person working full time for one year. This number is estimated from a RIMS II analysis based on the construction cost estimate for each of the 19 projected development sites entailing new construction (assuming $350/square foot for all projected development sites that are new construction).

the first phase of construction, approximately nine trucks would be generated per day per 100,000 gsf of development, 11 daily trucks per 100,000 gsf would be generated in the second phase, and three daily trucks per 100,000 gsf would be generated in the third phase. These ratios were then applied to each of the 19 projected development sites involving new construction and the resultant estimate of the number of daily trucks per quarter for each site (based on each site's total gsf) is also shown in Figure 17-1, and summarized in Table 17-2.

Determining Peak Year for Cumulative Construction and Operational Effects

According to the *CEQR Technical Manual*, if a project involves multiple development sites over varying construction timelines, a preliminary assessment must take into account whether the operational trips from completed portions of the project and construction trips associated with construction activities could overlap. For the purposes of establishing a reasonable worst case for the construction assessment, based on the conceptual construction schedule presented in Figure 17-1, 2016 was selected as the construction peak year for assessment in this chapter. As shown in Figure 17-1, in 2016, there would be six sites that are already completed and operational (sites 2, 5, 6, 7, 18, and 50), and 7 sites that are under construction (1, 4, 8, 9, 15, 19, and 40). Any prior year would not have sufficient operational sites for assessment purposes, whereas subsequent years would not have an adequate number of sites under construction.

E. PRELIMINARY ASSESMENT

In accordance with the guidelines of the *CEQR Technical Manual*, this preliminary assessment evaluates the effects associated with the Proposed Action's construction related activities including transportation, air quality, noise, historic and cultural resources, and hazardous materials.

Transportation

The Proposed Action would result in residential, commercial, and mixed-use development in newly constructed buildings on 19 of the 22 projected development sites in the rezoning area over a nine-year period. These developments would replace No-Action uses on the development sites, including commercial and community facility uses. During construction periods, projected development sites would generate trips by workers traveling to/from the construction sites, as well as trips associated with the movement of materials and equipment. Given typical construction hours, worker trips would be concentrated in off-peak hours and would not represent a substantial increment during the area's peak travel periods.

Construction Traffic

As discussed above, average daily construction worker and truck activities were forecast for each of the projected development sites involving new construction (refer to Figure 17-1). For a conservative reasonable worst-case analysis of potential construction traffic impacts, the peak levels of construction in each calendar quarter were used as the basis for estimating peak hour construction traffic volumes. The proposed construction schedule assumes peak construction activities would occur in the last quarter of 2014. As shown in Table 17-2 above, during peak construction months in 2014, the daily averages of construction workers and truck traffic were estimated at 222 workers and 120 trucks per day. These represent peak days of work, and many days during the construction period would have fewer construction workers and trucks on-site.

Although construction traffic would peak in 2014, as noted above, 2016 was selected as the reasonable worst case analysis year for assessing potential construction-related traffic impacts as it is during this year that overlapping travel demand from construction activities plus demand from completed portions of the project is expected to peak. As shown in Figure 17-1 and Table 17-2 above, during peak construction months in 2016, the daily averages of construction workers and truck traffic were estimated at 120 workers and 34 trucks per day. While this level of construction travel demand is less than what would occur at peak times in 2014, as shown in Figure 17-1 and described in more detail later in this chapter, in 2016 construction travel demand would overlap with operational demand from an estimated six projected development sites that would already have been completed (sites 2, 5, 6, 7, 18, and 50).

Peak Construction Worker Travel Demand and Truck Trips in 2014

It is anticipated that construction workers' travel to and from projected development sites would be primarily by public transportation (approximately 70 percent), with a lesser percentage by private autos (approximately 28.9 percent) at an average occupancy of approximately 2.04 persons per auto.[2] It is also estimated that 80 percent of all workers would arrive and depart in the 60-minute period before and after each shift.

The construction schedule assumes that all site activities would take place during the typical construction shift of 7:00 AM to 3:30 PM. Construction truck trips would occur throughout the day (with higher numbers of trips during the early morning), and trucks would remain in the area for relatively short durations. Construction worker travel would typically take place during the hours before and after the work shift.

Table 17-3 shows construction worker auto and construction truck trips during the 2014 peak construction period for each of the two development clusters identified earlier (West 145th Street and West 126th/West 128th streets). The estimated daily vehicle trips were distributed to various hours of the day based on typical work shift allocations and conventional arrival/departure patterns of construction workers and trucks. For construction workers, as noted above, the substantial majority (80 percent) of the arrival and departure trips are expected to take place during the hour before and after each shift. For construction trucks, deliveries would occur throughout the time period while the construction site is active. However, to avoid traffic congestion and ensure that materials are on-site for the start of each shift, construction truck deliveries would often peak during the hour before the regular day shift (25 percent of shift total), overlapping with construction worker arrival traffic. Based on these assumptions, the peak hour construction traffic was estimated for the entire construction period. The total vehicle trips per hour are shown in Table 17-3 along with passenger-car equivalent (PCE) values, which are based on one PCE per auto and two PCEs per truck. Each truck delivery therefore accounts for two truck trip-ends and four PCE trip-ends (in and out combined) during the same hour.

As shown in Table 17-3, in 2014 approximately seven trucks and eight autos are expected to arrive at the West 145th Street construction sites during the 6 AM to 7 AM peak arrival hour for construction-related activity, while three trucks and no autos are expected to do likewise during the 8 AM to 9 AM peak commuter travel hour for the study area. In the afternoon, there would be no truck trips and approximately eight auto trips (by departing construction workers) during the 3 PM to 4 PM peak departure hour for construction-related activity, while one construction-related auto trip would occur during the 5 PM to 6 PM peak travel hour for the study area. The maximum number of passenger car equivalents, estimated at 36, would occur in the 6 AM to 7 AM period, while PCE values during the peak 8-9 AM and 5-6 PM travel periods would be 12 and one, respectively. (There would be no operational traffic increment in

[2] Source: *Atlantic Yards Arena and Redevelopment Project FEIS* (2006); Appendix F; Exhibit F17a-1 showing data for a construction site in Times Square.

2014 as no projected development sites are expected to be completed by that time.) Consequently, these incremental construction vehicle trips, which would be disbursed among various roadways and parking facilities, would not reach the *CEQR Technical Manual* analysis threshold of 50 PCEs either in total or at any one intersection in proximity to the West 145th Street Cluster in any peak hour. A detailed construction traffic analysis is therefore not warranted for the West 145th Street Cluster, as no significant adverse construction traffic impacts would be expected to occur.

TABLE 17-3
2014 Peak Construction Vehicle Trip Projections

Hour	Auto Trips (1)			Truck Trips (2)			Total Vehicle Trips			Total PCEs (3)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
	West 145th Street Cluster											
6 AM – 7 AM	8	0	8	7	7	14	15	7	22	22	14	36
7 AM – 8 AM	2	0	2	3	3	6	5	3	8	8	6	14
8 AM - 9 AM	0	0	0	3	3	6	3	3	6	6	6	12
9 AM – 10 AM	0	0	0	3	3	6	3	3	6	6	6	12
10 AM–11 AM	0	0	0	3	3	6	3	3	6	6	6	12
11 AM – 12 PM	0	0	0	3	3	6	3	3	6	6	6	12
12 PM–1 PM	0	0	0	3	3	6	3	3	6	6	6	12
1 PM – 2 PM	0	0	0	3	3	6	3	3	6	6	6	12
2 PM – 3 PM	0	0	0	1	1	2	1	1	2	2	2	4
3 PM – 4 PM	0	8	8	0	0	0	0	8	8	0	8	8
4 PM – 5 PM	0	1	1	0	0	0	0	1	1	0	1	1
5 PM – 6 PM	0	1	1	0	0	0	0	1	1	0	1	1
	West 126th Street/West 128th Street Cluster											
6 AM – 7 AM	15	0	15	21	21	42	36	21	57	57	42	99
7 AM – 8 AM	4	0	4	8	8	16	12	8	20	20	16	36
8 AM - 9 AM	0	0	0	8	8	16	8	8	16	16	16	32
9 AM – 10 AM	0	0	0	8	8	16	8	8	16	16	16	32
10 AM – 11 AM	0	0	0	8	8	16	8	8	16	16	16	32
11 AM – 12 PM	0	0	0	8	8	16	8	8	16	16	16	32
12 PM – 1 PM	0	0	0	8	8	16	8	8	16	16	16	32
1 PM – 2 PM	0	0	0	9	9	18	9	9	18	18	18	36
2 PM – 3 PM	0	2	2	4	4	8	4	6	10	8	10	18
3 PM – 4 PM	0	15	15	0	0	0	0	15	15	0	15	15
4 PM – 5 PM	0	1	1	0	0	0	0	1	1	0	1	1
5 PM – 6 PM	0	1	1	0	0	0	0	1	1	0	1	1

Notes:
(1) Construction auto trips were based on a peak of 71 daily workers for the W.145th Street cluster, and a peak of 136 daily workers for the W.126th Street/W.128th Street Cluster. A 28.9 percent auto share was assumed for construction workers, at an average occupancy of approximately 2.04 persons per auto. It is assumed that 80 percent of construction worker arrival and departure trips would take place during the hour before and after each shift.
(2) Construction truck trips were based on a peak of 29 daily trucks for the W.145th Street Cluster and 82 daily trucks for the W.126th Street/W.128th Street Cluster. Twenty-five percent of daily trucks were conservatively assumed to arrive in the hour before the start of each shift, 5 percent in the last hour of the shift, and 10 percent in each of the remaining hours during the work day. For analysis purposes, each truck delivery was assumed to result in two truck trips (four PCE trips) during the same hour.
(3) PCEs calculated at 1.0 PCE per worker auto and 2.0 per construction truck.

As shown in Table 17-3, in 2014 approximately 21 trucks and 15 construction worker autos are expected to travel to the area of the West 126th/West 128th Street Cluster during the 6 AM to 7 AM peak arrival hour for construction-related activity. A total of eight trucks and no autos are expected to do likewise during the 8 AM to 9 AM commuter peak travel hour for the study area. In the afternoon, there would be approximately 15 auto trips by departing construction workers and no truck trips during the 3 PM to 4 PM peak departure hour for construction-related activity, and one construction-related auto trip during the 5 PM to 6 PM commuter peak travel hour for the study area. The maximum number of passenger car equivalents, estimated at 99, would occur in the 6 AM to 7 AM period, while PCE values during the peak 8-9 AM and 5-6 PM travel periods would total 32 and one, respectively.

As the total number of construction-related PCEs generated by the West 126th Street/West 128th Street cluster would exceed the 50-trip *CEQR Technical Manual* analysis threshold in the 6 AM to 7 AM peak hour, a further screening analysis was undertaken to determine the potential for these trips to result in significant adverse impacts during this period. First, it was noted that construction activity in 2014 would displace No-Action travel demand from three of the projected development sites within this cluster – sites 18, 40a and 50. It is estimated that in the No-Action condition, these three sites will generate a total of 25 auto trips (23 inbound and two outbound) and eight truck trips (four inbound/four outbound) in the 6 AM to 7 AM peak hour, or the equivalent of 40 PCEs (31 inbound and 10 outbound). With the displacement of these trips by construction activity, the net change in trips to and from the West 126th Street/West 128th Street cluster in 2014 would total 59 PCEs (26 inbound and 32 outbound) compared to the No-Action condition. As these trips would be widely dispersed among various roadways and parking facilities in the area, and given the predominantly one-way cross-street grid, no one intersection in proximity to the West 126th Street/West 128th Street Cluster is expected to experience 50 or more PCEs in the 6 AM to 7 AM (or any other) peak hour, and a detailed 2014 construction traffic analysis for this cluster is not warranted. The potential cumulative effects of construction and operational traffic in 2016 are discussed below.

It should also be noted that in the peak 2014 construction period, only one projected development site is expected to be under construction other than those located in the West 145th Street and West 126th Street/West 128th Street clusters discussed above. As shown in figures 17-1 and 17-2, during the last quarter of 2014, a total of 15 construction workers and nine trucks would travel each day to and from projected development site 2 located at the northern boundary of the rezoning area near West 155th Street. Using the travel demand and PCE factors discussed above, this site is expected to generate a total of approximately 40 PCEs per day (4 auto trip PCEs and 36 truck trip PCEs). These trips would be concentrated primarily at the northern end of the rezoning area in proximity to West 155th Street. As the number of PCEs generated by construction of projected development site 2 would be less than the 50-trip *CEQR Technical Manual* analysis threshold in any peak hour, a detailed construction traffic analysis is therefore not warranted as no significant adverse construction traffic impacts would be expected to occur. As noted above, no other projected development sites are expected to be under construction in the peak 2014 construction period.

Cumulative Construction and Operational Traffic in 2016

Table 17-4 shows construction truck and worker auto trips in 2016 when construction travel demand would overlap with operational demand from completed projected development sites at each of the two development clusters identified earlier (West 145th Street and West 126th Street/West 128th Street). Also shown are both total vehicle trips and total PCEs. Construction auto and truck trips in 2016 were estimated based on the same travel demand assumptions utilized for the 2014 forecast and discussed previously.

As shown in Table 17-4, in 2016 approximately two trucks and three autos are expected to arrive at the West 145th Street construction sites during the 6 AM to 7 AM peak arrival hour for construction-related activity, while one truck and no autos are expected to do likewise during the 8 AM to 9 AM peak commuter travel hour for the study area. In the afternoon, there would be no truck trips and approximately three auto trips (by departing construction workers) during the 3 PM to 4 PM peak departure hour for construction-related activity, and one construction-related auto trip during the 5 PM to 6 PM peak travel hour for the study area. The maximum number of passenger car equivalents generated by this cluster, estimated at 11, would occur in the 6 AM to 7 AM period, while PCE values during the peak 8-9 AM and 5-6 PM travel periods would be four and one, respectively.

As shown in Table 17-4, in 2016 approximately seven trucks and ten construction worker autos are expected to travel to the area of the West 126th/West 128th Street Cluster during the 6 AM to 7 AM peak

arrival hour for construction-related activity. A total of three trucks and no autos are expected to do likewise during the 8 AM to 9 AM commuter peak travel hour for the study area. In the afternoon, there would be approximately 10 auto trips by departing construction workers and no truck trips during the 3 PM to 4 PM peak departure hour for construction-related activity, and one construction-related auto trip during the 5 PM to 6 PM commuter peak travel hour for the study area. The maximum number of passenger car equivalents, estimated at 38, would occur in the 6 AM to 7 AM period, while PCE values during the peak 8-9 AM and 5-6 PM travel periods would total 12 and one, respectively.

TABLE 17-4
2016 Peak Construction Vehicle Trip Projections

Hour	Auto Trips (1)			Truck Trips (2)			Total Vehicle Trips			Total PCEs (3)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
	West 145th Street Cluster											
6 AM – 7 AM	3	0	3	2	2	4	5	2	7	7	4	11
7 AM – 8 AM	1	0	1	1	1	2	2	1	3	3	2	5
8 AM - 9 AM	0	0	0	1	1	2	1	1	2	2	2	4
9 AM – 10 AM	0	0	0	1	1	2	1	1	2	2	2	4
10 AM–11 AM	0	0	0	1	1	2	1	1	2	2	2	4
11 AM – 12 PM	0	0	0	1	1	2	1	1	2	2	2	4
12 PM–1 PM	0	0	0	1	1	2	1	1	2	2	2	4
1 PM – 2 PM	0	0	0	1	1	2	1	1	2	2	2	4
2 PM – 3 PM	0	0	0	0	0	0	0	0	0	0	0	0
3 PM – 4 PM	0	3	3	0	0	0	0	3	3	0	3	3
4 PM – 5 PM	0	0	0	0	0	0	0	0	0	0	0	0
5 PM – 6 PM	0	1	1	0	0	0	0	1	1	0	1	1
	West 126th Street/West 128th Street Cluster											
6 AM – 7 AM	10	0	10	7	7	14	17	7	24	24	14	38
7 AM – 8 AM	2	0	2	3	3	6	5	3	8	8	6	14
8 AM - 9 AM	0	0	0	3	3	6	3	3	6	6	6	12
9 AM – 10 AM	0	0	0	3	3	6	3	3	6	6	6	12
10 AM – 11 AM	0	0	0	3	3	6	3	3	6	6	6	12
11 AM – 12 PM	0	0	0	3	3	6	3	3	6	6	6	12
12 PM – 1 PM	0	0	0	3	3	6	3	3	6	6	6	12
1 PM – 2 PM	0	0	0	3	3	6	3	3	6	6	6	12
2 PM – 3 PM	0	0	0	1	1	2	1	1	2	2	2	4
3 PM – 4 PM	0	10	10	0	0	0	0	10	10	0	10	10
4 PM – 5 PM	0	1	1	0	0	0	0	1	1	0	1	1
5 PM – 6 PM	0	1	1	0	0	0	0	1	1	0	1	1

Notes:
(1) Construction auto trips were based on a peak of 24 daily workers for the W.145th Street Cluster, and a peak of 87 daily workers for the W.126th Street/W.128th Street Cluster. A 28.9 percent auto share was assumed for construction workers, at an average occupancy of approximately 2.04 persons per auto. It is assumed that 80 percent of construction worker arrival and departure trips would take place during the hour before and after each shift.
(2) Construction truck trips were based on a peak of 7 daily trucks for the W.145th Street cluster and 26 daily trucks for the W.126th Street/W.128th Street Cluster. Twenty-five percent of daily trucks were conservatively assumed to arrive in the hour before the start of each shift, 5 percent in the last hour of the shift, and 10 percent in each of the remaining hours during the work day. For analysis purposes, each truck delivery was assumed to result in two truck trips (four PCE trips) during the same hour.
(3) PCEs calculated at 1.0 PCE per worker auto and 2.0 per construction truck.

As noted previously, according to the *CEQR Technical Manual*, if a project involves multiple development sites over varying construction timelines, a preliminary assessment must take into account whether the PCEs associated with operational trips from completed portions of the project and construction trips associated with construction activities could overlap and exceed the 50 PCE threshold. If not, further analysis is not required.

As summarized in Table 17-5, for the West 145th Street Cluster, the total numbers of construction trips in 2016 during the 6-7 AM period (11 PCEs), 8-9 AM period (4 PCEs), 3-4 PM period (3 PCEs), and 5-6 PM period (1 PCE) are well below the 50 PCE threshold required for detailed analysis. In combination with the operational traffic expected to be generated by this cluster in 2016 (from two to 26 PCEs in each

peak hour),[3] the total vehicular demand generated by the West 145th Street Cluster would still be less than the 50 PCE *CEQR Technical Manual* analysis threshold, and a detailed 2016 construction traffic analysis for this cluster is not warranted.

TABLE 17-5
2016 Peak Hour Construction and Operational Traffic Volumes

	Peak Hour	Passenger Car Equivalents (PCEs)		
		Construction	Operational	Total
W.145th Street Cluster	6-7 AM	11	2	13
	8-9 AM	4	22	26
	3-4 PM	3	14	17
	5-6 PM	1	26	27
W.126th Street/W.128th Street Cluster	6-7 AM	38	7	45
	8-9 AM	12	124	136
	3-4 PM	10	58	68
	5-6 PM	1	160	161
Sites 1 and 2	6-7 AM	5	0	5
	8-9 AM	0	8	8
	3-4 PM	1	2	3
	5-6 PM	0	15	15

It should also be noted that in 2016, only one projected development site is expected to be under construction other than those located in the West 145th Street and West 126th Street/West 128th Street clusters discussed above. As shown in figures 17-1 and 17-2, during peak construction months in 2016, a total of nine construction workers and one truck would travel each day to and from projected development site 1 located at the northern boundary of the rezoning area near West 155th Street. In addition, nearby projected development site 2 is expected to be operational by 2016. As shown in Table 17-5, a total of from three to 15 PCE trips (construction + operational) would be generated by these two sites in any one peak hour in 2016. These trips would be concentrated primarily at the northern end of the rezoning area in proximity to West 155th Street. As this number of PCE trips would be less than the 50-trip *CEQR Technical Manual* analysis threshold in any peak hour, a detailed construction traffic analysis for these sites is not warranted as no significant adverse construction traffic impacts would be expected to occur. As noted above, no other projected development sites are expected to be under construction in 2016

Construction traffic generated by the West 126th/West 128th Street Cluster in 2016 (from one to 38 PCEs in each peak hour) would also be less than the 50 PCE per hour *CEQR Technical Manual* analysis threshold. However, as shown in Table 17-5, in combination with the operational traffic expected to be generated by this cluster in 2016 (from seven to 160 PCEs in each peak hour), the total vehicular travel demand generated by the West 126th/West 128th Street Cluster in 2016 is expected to exceed the 50-PCE threshold in the 8-9 AM, 3-4 PM and 5-6 PM peak hours, with 136, 68 and 161 PCEs during these periods, respectively. Given that these trips would be widely dispersed among various roadways and parking facilities in the area, as well as the predominantly one-way cross-street grid, it is not likely that the 68 PCEs per hour from 3-4 PM would result in an increment of more than 50 vph at any one intersection, and therefore this peak hour can be screened out as significant adverse impacts are unlikely.

[3] As noted previously, Scenario 4 is assumed as the RWCDS for the construction analyses whereas Scenario 3 is assumed for the transportation analyses discussed in Chapter 11, "Transportation." However, as the only difference between RWCDS 3 and RWCDS 4 is the program for projected development site 40, and as this site would not be operational in 2016, the travel demand generated by both scenarios in 2016 would be identical.

The travel demand forecast provided in Chapter 11, "Transportation," projected that when fully built-out in 2021, the West 126th/West 128th Street Cluster (referred to in Chapter 11 as "Cluster 1") would generate a net traffic increment of 268 vph (278 PCEs) in the 8-9 AM peak hour, and 370 vph (370 PCEs) in the 5-6 PM peak hour, substantially more than the combined construction/operational traffic for the 2016 construction period described above (see Table 17-6). As discussed in Chapter 11, with full build-out of the project in 2021, one or more movements at a total of five intersections in proximity to the West 126th/West 128th Street Cluster would be significantly adversely impacted in one or more peak hours. These intersections are:

- West 125th Street and Amsterdam Avenue
- West 125th Street and St. Nicholas Avenue
- West 126th Street and Amsterdam Avenue
- West 126th Street and Morningside Avenue
- West 127th Street and Morningside/Convent Avenues

TABLE 17-6
Comparison of Peak Project-Generated Traffic Volumes in 2016 and 2021
For the West 126th Street/West 128th Street Cluster

	Peak Hour	Passenger Car Equivalents (PCEs)			Percent Difference
		2021 (Full Build-Out)	2016 (Construction/ Operational)	Net Difference	
W.126th Street/ W.128th Street Cluster	8-9 AM	278	136	-142	-51%
	5-6 PM	370	161	-209	-57%

As the combination of peak construction and operational traffic in 2016 would result in 51 to 58 percent less traffic than the fully built-out project during the 8-9 AM and 5-6 PM peak hours, no new intersections are expected to experience significant adverse traffic impacts in these periods during the 2016 construction analysis year. It is likely, however, that some or all of the five intersections impacted under the Proposed Action in 2021 would also potentially be impacted in the 2016 construction analysis year.

Chapter 18, "Mitigation," provides a description of the mitigation measures required to address potential significant adverse traffic impacts in proximity to the West 126th/West 128th Street Cluster with full build-out of the Proposed Action in 2021 (see Table 18-1). It is anticipated that implementation of these measures in 2016 would also be effective at mitigating potential impacts from the combination of construction and operational traffic generated at the West 126th/West 128th Street Cluster in that interim year.

Street Lane and Sidewalk Closures

The Proposed Action includes 22 projected development sites dispersed over a 90 block rezoning area. As shown in Figure 17-2, these projected development sites (19 of which would involve demolition and new construction) are primarily clustered along the West 126th Street, West 127th Street, West 128th Street and West 145th Street corridors and would generally have frontages along these streets. As discussed above, there could be various curb lane and/or sidewalk closures associated with construction activities at these sites. These activities would include the unloading of construction materials from trucks and the loading of trucks with construction debris. Truck movements would be spread throughout the day and would

generally occur between the hours of 6:00 AM and 3:00 PM, depending on the stage of construction. Flaggers are expected to be present during construction to manage the access and movements of trucks. Little if any rerouting of traffic is anticipated, and moving lanes of traffic are expected to be available at all times along the affected streets. It is anticipated that some sidewalks immediately adjacent to the projected development sites under construction would also be closed to accommodate heavy loading areas for at least several months of the construction period for each site. Pedestrians would either walk on the opposite side of the street or in a sectioned-off portion of the street. Detailed Maintenance and Protection of Traffic (MPT) Plans for each site would be submitted for approval to NYCDOT's Office of Construction Mitigation and Coordination (OCMC). Appropriate protective measures for ensuring pedestrian safety surrounding each of the projected development sites would be implemented under these plans.

Transit and Pedestrians Screening

As previously discussed and shown in Figure 17-1 and Table 17-2, in the 2014 peak construction year, approximately 222 construction workers would travel to and from projected development sites each day. As no projected development sites are expected to be completed by 2014, there would be no overlapping operational travel demand during this period. As also discussed above, a total of approximately 70 percent of construction workers are expected to travel to and from the rezoning area by public transit (subway or bus) and 1.1 percent by walking. In addition, it is estimated that approximately 80 percent of all construction workers would arrive and depart in the peak hour before and after each shift. Therefore, construction worker travel demand is expected to generate a total of approximately 124 transit trips in each peak hour. Given that these transit trips would be distributed among multiple subway stations and bus routes in proximity to projected development sites throughout the rezoning area, the number of incremental trips at any one subway station (or station element) or any one bus route would be less than the 200-trip *CEQR Technical Manual* analysis threshold for a subway station analysis or the 50-trip threshold for a bus analysis (per route per direction) in all peak hours, and significant adverse transit impacts are not anticipated in the 2014 peak construction year.

The maximum number of walk trips associated with the transit and pedestrian modes in the 2014 peak construction year is expected to total 126 in any one peak hour. There would also be some additional pedestrian demand (approximately 50 trips) en route to and from area off-street public parking facilities. However, these trips would be widely dispersed among the sidewalks and crosswalks in proximity to each of the projected development sites under construction throughout the rezoning area, and the total number of new trips at any one sidewalk or crosswalk in any peak hour would not exceed the 200-trip *CEQR Technical Manual* pedestrian analysis threshold. Significant adverse pedestrian impacts are therefore not anticipated in the 2014 peak construction year.

Table 17-7 shows the net incremental transit (subway and bus) and walk-only trips that would be generated by the Proposed Action in 2016 when construction worker travel demand would overlap with operational demand from completed projected development sites at each of the two development clusters identified earlier (West 145th Street and West 126th Street/West 128th Street). As shown in Table 17-7, it is estimated that incremental subway trips would total no more than 54 in the vicinity of the West 145th Street Cluster and 170 in the vicinity of the West 126th Street/West 128th Street Cluster in any peak hour. Given that these subway trips would be distributed among multiple subway stations in proximity to each cluster, the number of incremental trips at any one station (or station element) would be less than the 200-trip *CEQR Technical Manual* analysis threshold in all peak hours, and significant adverse subway station impacts are not anticipated in the 2016 construction year.

Similarly, as shown in Table 17-7, incremental bus trips would total no more than 17 in the vicinity of the West 145th Street Cluster and 51 in the vicinity of the West 126th Street/West 128th Street Cluster in any

peak hour. Given that these bus trips would be distributed among multiple bus routes in proximity to each cluster, the number of incremental trips in one direction on any one route would be less than the 50-trip *CEQR Technical Manual* analysis threshold in all peak hours, and significant adverse bus impacts are not anticipated in the 2016 construction year.

As shown in Table 17-7, in 2016 the maximum number of pedestrian trips generated by the West 145th Street Cluster (including walk-only trips and walk trips to area subway stations and bus stops), is expected to total no more than 157 in any one peak hour. (There would also be some additional pedestrian demand from trips en route to and from area off-street public parking facilities.) However, these trips would be widely dispersed among the sidewalks and crosswalks in proximity to each of the projected development sites occupied or under construction within the West 145th Street Cluster, and the total number of new trips at any one sidewalk or crosswalk in any peak hour is not expected to exceed the 200-trip *CEQR Technical Manual* analysis threshold. Significant adverse pedestrian impacts in proximity to the West 145th Street Cluster are therefore not anticipated in the 2016 construction year.

By contrast, in 2016 the West 126th Street/West 128th Street Cluster is expected to generate 64 incremental transit and walk-only pedestrian trips in the 6-7 AM peak hour, 353 in the 8-9 AM peak hour, 292 in the 3-4 PM peak hour and 500 in the 5-6 PM peak hour (plus some additional pedestrian demand from trips en route to and from area off-street public parking facilities.) However, it is important to note that these trips would also be widely dispersed among the sidewalks and crosswalks in proximity to each of the projected development sites that would be either occupied or under construction within the West 126th Street/West 128th Street Cluster. Few if any of these sidewalks or crosswalks are therefore expected to experience incremental demand exceeding the 200-trip *CEQR Technical Manual* analysis threshold in any peak hour. In addition, as discussed in Chapter 11, "Transportation," no significant adverse pedestrian impacts are anticipated with the substantially higher numbers of incremental pedestrian trips forecast for this cluster with full build-out in 2021 (846 trips in the AM peak hour, 1,662 in the midday, 1,410 in the PM, and 1,217 during the Saturday midday). Therefore, significant adverse pedestrian impacts in proximity to the West 126th Street/West 128th Street Cluster are also not anticipated in the 2016 construction year.

It should also be noted that in 2016, only one projected development site is expected to be under construction other than those located in the West 145th Street and West 126th Street/West 128th Street clusters discussed above. As shown in figures 17-1 and 17-2, during peak construction months in 2016, a total of nine construction workers would travel each day to and from projected development site 1 located at the northern boundary of the rezoning area near West 155th Street. In addition, nearby projected development site 2 is expected to be operational by 2016. However, as shown in Table 17-7, the combined construction and operational transit demand from these two projected development sites is not expected to exceed 22 subway trips or 15 bus trips in any peak hour, well below the 200 subway-trip and 50 bus-trip analysis thresholds specified in the *CEQR Technical Manual*. In addition, total pedestrian trips (transit + walk-only) are not expected to exceed 59 in any peak hour, below the 200-trip *CEQR Technical Manual* pedestrian analysis threshold. Detailed construction transit and pedestrian analyses are therefore not warranted for these sites, as no significant adverse construction traffic or pedestrian impacts would be expected to occur. As noted above, no other projected development sites are expected to be under construction in the peak 2016 construction period.

Air Quality

According to the *CEQR Technical Manual*, an assessment of air quality and noise for construction activities is likely not warranted if the project's construction activities:

1. Are considered short-term;
2. Are not located near sensitive receptors;

TABLE 17-7
2016 Peak Hour Construction and Operational Transit and Walk Trips

	Peak Hour	Subway			Bus			Walk			Total Pedestrian Trips (Transit and Walk)		
		Construction	Operational	Total	Construction	Operational	Total	Construction	Operational	Total	Construction	Operational	Total
W.145th Street Cluster	6-7 AM	12	3	15	2	1	3	0	-2	-2	14	2	16
	8-9 AM	0	45	45	0	10	10	0	18	18	0	73	73
	3-4 PM	12	23	35	2	7	9	0	59	59	14	89	103
	5-6 PM	1	53	54	0	17	17	0	86	86	1	156	157
W.126thStreet/ W.128th Street Cluster	6-7 AM	42	8	50	7	3	10	1	3	4	50	14	64
	8-9 AM	0	125	125	0	51	51	0	177	177	0	353	353
	3-4 PM	42	58	100	7	21	28	1	163	164	50	242	292
	5-6 PM	5	165	170	1	76	77	0	253	253	6	494	500
Sites 1 and 2	6-7 AM	4	0	4	1	0	1	0	0	0	5	0	5
	8-9 AM	1	13	14	0	6	6	0	7	7	1	26	27
	3-4 PM	4	5	9	1	2	3	0	1	1	5	8	13
	5-6 PM	0	22	22	0	15	15	0	22	22	0	59	59

3. Do not involve construction of multiple buildings where there is a potential for on-site receptors on buildings to be completed before the final build-out; and
4. The pieces of diesel equipment that would operate in a single location at peak construction are limited in number.

If a project either does meet one or more of the criteria above or one of the above criteria is unknown at the time of review, a preliminary air quality or noise assessment is not automatically required. However, this project does not screen out of #2 and #4 above since all sites may be next to a sensitive receptor and the type of equipment cannot be anticipated. Therefore, this analysis considers other factors as recommended by the *CEQR Technical Manual*. These factors considered are (1) the duration of any heavy construction activity (2) the physical relationship of the project site to nearby sensitive receptors, (3) the type of construction activity, (4) the types of construction equipment (gas, diesel, electric), and (5) the nature and extent of possible use of Best Available Technology (BAT) for construction equipment.

1. The Duration of Any Heavy Construction Activity

The *CEQR Technical Manual* does not define "short-term" for air quality assessments, but it has generally been accepted that the term refers to a period of two years or less. While the horizon year for study is 2021, approximately 10 years from current conditions, it is expected that any actual development that would occur on an individual projected development site would take less than two years to complete. Moreover, the heaviest construction activity generally occurs during the demolition, excavation, and foundation stage which generally takes approximately six months depending on the size of the project. The majority of construction is spent on the building exterior and interior fitting.

2. The Physical Relationship of the Project Site to Nearby Sensitive Receptors

The development that would be induced by the Proposed Action could potentially occur next to sensitive receptors. However, as noted above, the development would occur over a 10 year time frame and for the most part would induce projects that would be completed in less than two years. Moreover, while it is possible that buildings on multiple projected development sites within the rezoning area could be under construction at the same time, it is anticipated that, except where clusters have been identified, such construction activities would likely occur on sites that are not adjacent to one another and would not have a cumulative effect on adjacent sensitive receptors.

This analysis assumes that development sites with multiple buildings (e.g. projected development site 40) would be constructed at the same time because the assemblages are assumed to be under single ownership and would likely be developed as a single project. For this assemblage it is unlikely that new buildings would be occupied adjacent to ongoing construction. Therefore there would be no overlap of construction adjacent to new sensitive receptors. Moreover, as indicated in Figure 17-1 and discussed above, the heaviest construction activity for site 40, which generally occurs during the demolition, excavation, and foundation stage, is estimated to last for approximately nine months, and would therefore not affect any nearby sensitive receptors for a period of over two years. Similarly, the heaviest construction activities for sites within the West 145th Street cluster would last for a period of approximately six months for each projected development site, and would therefore not affect any nearby sensitive receptors for an extended period of time.

3. The Type of Construction Activity

The typical construction of a development site, as aforementioned and illustrated in the phasing schedule (see Figure 17-1), consists of three general phases or types of construction. The first type of construction is demolition, excavation, foundation. The second type of construction is the building or outfitting of the

superstructure or skeleton of the building. The last type of construction that typically takes place is the exterior and interior outfitting of the building.

Demolition of interiors, portions of buildings or entire buildings are regulated by the NYC Department of Buildings, requiring abatement of asbestos prior to any intrusive construction activities including demolition. OSHA regulates construction activities to prevent excessive exposure of workers to contaminants in the building materials including lead in paint. New York State Solid Waste regulations control where demolition debris and contaminated materials associated with construction are handled and disposed. Adherence to these existing regulations would prevent impacts from development activities at any of the projected development sites in the proposed rezoning area.

4. Types of Construction Equipment

Depending on the phase of construction, different types of construction equipment are necessary. The heaviest construction equipment would be used during the demolition phase. Depending on the phase of construction, a handful of large non-road diesel engines will operate throughout the site. Ultra-low sulfur diesel (ULSD) would be used exclusively for all diesel engines throughout the construction sites as mandated by NYC law.

5. The Nature and Extent of Possible Use of Best Available Technology (BAT) for Construction Equipment

Nonroad diesel engines with a power rating of 50 horsepower (hp) or greater and controlled truck fleets (i.e., truck fleets under long-term contract with the project) including but not limited to concrete mixing and pumping trucks, could utilize the best available tailpipe (BAT) technology for reducing DPM emissions. Diesel particle filters (DPFs) have been identified as being the tailpipe technology currently proven to have the highest reduction capability. Construction contracts could specify that all diesel nonroad engines rated at 50 hp or greater would utilize DPFs, either installed on the engine by the original equipment manufacturer (OEM) or a retrofit DPF verified by the EPA or the California Air Resources Board, and may include active DPFs,[4] if necessary; or other technology proven to reduce DPM by at least 90 percent. This measure would be expected to reduce site-wide tailpipe PM emissions by at least 90 percent.

Additionally, a construction program could use construction equipment rated Tier 2 or higher for all nonroad diesel engines with a power output of 50 hp or greater. Tier 2 NOx emissions range from 40 to 60 percent lower than Tier 1 emissions and are considerably lower than uncontrolled engines.

Strict fugitive dust control plans could also be a part of a possible construction program. For example, stabilized truck exit areas could be established for washing off the wheels of trucks that exit the construction site. Truck routes within a site could be either watered as needed or, in cases where such routes would remain in the same place for an extended duration, the routes could be stabilized, covered with gravel, or temporarily paved to avoid the re-suspension of dust. All trucks hauling loose material could be equipped with tight fitting tailgates and their loads securely covered prior to leaving the sites. In addition to regular cleaning by the City, streets adjacent to the sites could be cleaned as frequently as needed. Chutes could be used for material drops during demolition. An on-site vehicular speed limit of 5

[4] There are two types of DPFs currently in use: passive and active. Most DPFs currently in use are the "passive" type, which means that the heat from the exhaust is used to regenerate (burn off) the PM to eliminate the buildup of PM in the filter. Some engines do not maintain temperatures high enough for passive regeneration. In such cases, "active" DPFs can be used (i.e., DPFs that are heated either by an electrical connection from the engine, by plugging in during periods of inactivity, or by removal of the filter for external regeneration).

mph could also be imposed. Water sprays could be used for all excavation, demolition, and transfer of spoils to ensure that materials are dampened as necessary to avoid the suspension of dust into the air. Loose materials could be watered, stabilized with a biodegradable suppressing agent, or covered.

Fugitive Dust Impacts

Fugitive dust emissions from land clearing operations can occur from excavation, hauling, dumping, spreading, grading, compaction, wind erosion, and traffic over unpaved areas. Actual quantities of emissions depend on the extent and nature of clearing operations, the type of equipment employed, the physical characteristics of underlying soil, the speed at which construction vehicles are operated, and the type of fugitive dust control methods employed. Much of the fugitive dust generated by construction activities generally consists of relatively large-size particles (greater than 100 microns in diameter), which are expected to settle within a short distance (within 20 to 30 feet) from the construction site and to not significantly impact nearby buildings or people. All appropriate fugitive dust control measures—including watering of exposed areas and dust covers for trucks—would be employed during construction of each projected and potential development site. As a result, no significant air quality impacts from fugitive dust emissions would be anticipated during construction.

Diesel Emission Impacts

Emissions from the heavy-duty diesel-fueled construction equipment can also occur from excavation, hauling, dumping, spreading, grading, and compaction. Actual quantities of these emissions depend on the extent and nature of clearing operations, the type of equipment employed, the speed at which construction vehicles are operated, and the type of emission controlled methods employed. These emissions could impact exiting land uses as well as development sites that are already operational. For example, in the 2016 cumulative analysis year, development sites 18 and 50 would be operational while sites 19 and 40 would be under construction; similarly, sites 5, 6, and 7 would be operational while sites 4, 8, and 9 would be under construction.

Construction of each projected and potential development site would be accomplished using all appropriate emission control measures, including the mandated use of ultra-low sulfur fuel oil and engine idling restrictions. In addition, these excavation, hauling, dumping, spreading, grading, and compaction activities would generally occur for less than six months at each construction site. As a result, no significant air quality impacts emissions would be anticipated from these emissions.

Mobile Source Impacts

Mobile source emissions typically result from the operation of construction equipment, trucks delivering materials and removing debris, workers' private vehicles, or occasional disruptions in traffic near the construction site. These emissions, however, would be released from vehicles traveling on multiple roadways throughout the rezoning area based on the construction schedule of each development site. In general, the development sites are spread out sufficiently within the study area so as not to cause significant air quality impacts. However, some of the developments that are located in close proximity to one another (i.e., in clusters) may be built during the same time frames and cumulative impacts may result.

For the West 126th/West 128th Street cluster, for example, which is the biggest development cluster in the rezoning area (in terms of projected square footage), it is estimated (with sites 18, 40, and 50 assumed to be under construction in the peak construction year of 2014) that peak hour construction volumes would consist of 15 passenger vehicles and 42 trucks (21 in and 21 out, as per Table 17-3 above), and the streets

in the vicinity of this cluster are classified as collector roads (i.e., more than 5,000 average daily vehicle volumes)[5]. These vehicles, however, would be arriving at and departing from multiple development sites, and would therefore not be concentrated at any single intersection – it is estimated that construction traffic would be divided between four different intersections (West 127th Street and Convent Avenue, West 126th Street and Morningside Avenue, West 128th Street and Amsterdam Avenue, and West 126th Street and Amsterdam Avenue) – with no single intersection expected to experience more than 20 trucks and 5 autos in the peak (6-7 AM) period. As these values are less than the applicable *CEQR Technical Manual* threshold values (based on the peak hour heavy duty diesel truck equivalent emissions (PM2.5) screening worksheet referenced on Page 17-11 of the Manual, no significant air quality construction impacts from mobile sources are anticipated, and a detailed mobile source analysis is not warranted.

Moreover, according to the *CEQR Technical Manual*, if the operational analysis indicates that the project would not result in significant mobile source impacts, and the vehicular trip generation from construction would be less than that of the proposed project, then a more detailed assessment is usually not necessary. As discussed in Chapter 12, "Air Quality," the mobile source analysis conducted for the Proposed Action indicates that no significant mobile source air quality impacts are expected as a result of the Proposed Action. Moreover, as discussed above, the vehicular trip generation from construction, as well as the cumulative traffic in the 2016 worst-case scenario, would be significantly less than (less than 50%) that of the Proposed Action. Therefore, pursuant to CEQR guidelines, a detailed assessment of construction-related mobile source air quality is not warranted.

Noise

According to the *CEQR Technical Manual*, an assessment of air quality and noise for construction activities is likely not warranted if the project's construction activities:

5. Are considered short-term;
6. Are not located near sensitive receptors;
7. Do not involve construction of multiple buildings where there is a potential for on-site receptors on buildings to be completed before the final build-out; and
8. The pieces of diesel equipment that would operate in a single location at peak construction are limited in number.

If a project either does meet one or more of the criteria above or one of the above criteria is unknown at the time of review, a preliminary air quality or noise assessment is not automatically required. Instead, various factors should be considered, such as the types of construction equipment (gas, diesel, electric), the nature and extent of any commitment to use the Best Available Technology (BAT) for construction equipment, the physical relationship of the project site to nearby sensitive receptors, the type of construction activity, and the duration of any heavy construction activity.

The *2012 CEQR Technical Manual* states that significant noise impacts due to construction would occur "only at sensitive receptors that would be subject to high construction noise levels for an extensive period of time." This has been interpreted to mean that such impacts would occur only at sensitive receptors where the activity with the potential to create high noise levels would occur for durations of two years or longer. Impacts are determined by comparing the noise levels caused by construction activities with noise levels in the future without the potential project. In addition, the *2012 CEQR Technical Manual* states that impact criteria used for assessing vehicular impacts should be used for assessing construction impacts, See Chapter 14 "Noise", for an explanation of noise measurements and sound levels.

[5] ATR data for streets adjacent to this cluster indicate that average daily volumes on those streets exceed 5,000.

Noise and vibration levels at a given location are dependent on the kind and number of pieces of construction equipment operated, as well as the distance of the location from the construction site. Noise levels caused by construction activities can vary widely, depending on the phase of construction (e.g., demolition, land clearing and excavations, foundation, erection of structure, construction of exterior walls) and the specific task being undertaken. Increased noise levels caused by construction activities can be expected to be most significant during the early phases of construction before a building on a projected development site is enclosed. The most significant noise exposure would occur during the early phase of construction when jackhammers, pave breakers and possibly pile drivers would be used resulting in noise exposure within a small radius of a block or two away from a given projected development site. Most of the projected development sites entailing new construction are conservatively estimated to take 24 months to complete construction, and would therefore be considered short-term, except for site 40, for which the construction period is estimated at 36 months. However the critical noise generation phase consisting of demolition, excavation and foundation, only lasts 9 months for site 40, and therefore will result in a limited period of noise exposure.

Noise and vibration from construction equipment operation and noise from construction workers' vehicles and delivery vehicles traveling to and from construction sites can affect community noise levels. The level of impact of these noise sources depends on the noise characteristics of the equipment and activities involved, the construction schedule, and the location of potentially sensitive noise receptors.

Increases in noise levels caused by delivery trucks and other construction vehicles would not result in a significant adverse impact. Small increases in noise levels are expected to be found near a few defined truck routes and the streets in the immediate vicinity of the rezoning area. Construction activity associated with the RWCDS would be spread out over a nine-year period and be dispersed throughout the rezoning area and vicinity. The number of construction-related vehicle trips generated by the Proposed Action would be relatively small with a maximum of 42 delivery truck trips occurring in 2014 during 6 to 7 AM time period in the general area defined by the West 126th/West 127th Street Cluster 1 zone as indicated in Table 17-3. A quantitative estimate of what the maximum worst-case noise level increase that can be expected to occur, assuming this truck delivery schedule during the 6 to 7 AM time period, found that No-Action to With-Action noise levels can be expected to increase by a maximum level of 2.6 dBA near receptor R3 located in the general area where West 126th and West 127th Streets converge. However, maximum estimated L10 noise levels would still remain within the Marginally Unacceptable range throughout the Cluster 1 zone. Noise levels at other areas within Cluster 1 are projected to yield maximum noise level increases of less than 1.5 dBA over the future No-Action conditions (Receptor R1). Therefore, no significant adverse noise impacts from mobile sources (delivery trucks and other delivery vehicles) traveling to and from a development site location are anticipated.

Noise generated by construction activities adjacent to development sites already constructed will be short term in nature and result in minor annoyance to the occupants of these new buildings and other existing noise sensitive structures. Even though no long-term construction noise impacts are expected to occur as a result of the Proposed Action, there will be shorter duration time periods when noise generated from construction activities will exceed existing exterior ambient background noise levels. For example, in the 2016 cumulative analysis year, development sites 18 and 50 (adjacent to receptor R1) would be operational while sites 19 and 40 (adjacent to receptor R3) would be under construction. Similarly, development sites 5, 6, and 7 (adjacent to receptor R5) would be operational while sites 4, 8, and 9 are under construction. However, in general, as the number of construction-related vehicle trips generated by the Proposed Action would be relatively small and spread out over a nine-year period and be dispersed throughout the rezoning area, the Proposed Action would not result in significant adverse construction-related noise impacts.

Furthermore, as discussed in Chapter 14, "Noise," three of the projected development sites would be specified to provide adequate attenuation (as required by E-designations) to ensure acceptable interior noise levels. Construction noise at adjacent occupied buildings in the study area would at times produce noise levels that could cause short term annoyance, but due to their limited duration would not result in significant adverse noise impacts. Furthermore the owners/developers of individual buildings would be required to comply with the provisions of the New York City Noise Code and which requires that noise emission levels from construction equipment do not exceed defined limits.

These local requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards; that, except under exceptional circumstances, construction building activities be limited to weekdays between the hours of 7:00 AM and 6:00 PM; and that construction materials be handled and transported in such a manner not to create unnecessary noise. In addition, whenever possible, appropriate low noise emission level equipment and operational procedures can be utilized to minimize construction noise and its effect on adjacent uses. As such interior noise levels at existing buildings occupied with closed window conditions should for the most part show little change from interior noise levels in the absence of construction activities.

Other Technical Areas

Land Use and Neighborhood Character

According to the *CEQR Technical Manual*, a construction impact analysis of land use and neighborhood character is typically needed if construction would require continuous use of property for an extended duration, thereby having the potential to affect the nature of the land use and character of the neighborhood. A land use and neighborhood character assessment for construction impacts looks at the construction activities that would occur on the site (or portions of the site) and their duration. The analysis determines whether the type and duration of the activities would affect neighborhood land use patterns or neighborhood character. For example, a single property might be used for staging for several years, resulting in a "land use" that would be industrial in nature. Depending on the nature of existing land uses in the surrounding area, this use of a single piece of property for an extended duration and its compatibility with neighboring properties may be assessed to determine whether it would have a significant adverse impact on the surrounding area.

Construction of the 22 projected development sites would be spread over a period of nine years, throughout a 90-block rezoning area. Throughout the construction period, access to residences, businesses, and institutions in the area surrounding development sites would be maintained, as required by City regulations. In addition, measures would be implemented to control noise, vibration, emissions, and dust on construction sites, including the erection of construction fencing incorporating sound-reducing measures. Because none of these impacts would be continuous or ultimately permanent, they would not create significant impacts on land use patterns or neighborhood character in the area. Therefore, while construction of the new buildings projected in the RWCDS for the Proposed Action would cause temporary impacts, particularly related to noise, it is expected that such impacts in any given area would be relatively short term, even under the reasonable worst case construction sequencing, and therefore not create a neighborhood character impact (see the construction air and noise assessment above). Therefore, no significant construction impacts to land use and neighborhood character are expected.

Socioeconomic Conditions

According to the *CEQR Technical Manual*, construction impacts to socioeconomic conditions are possible if the proposed project would entail construction of a long duration that could affect the access to

and therefore viability of a number of businesses, and if the failure of those businesses has the potential to affect neighborhood character. During the construction period, construction activities would be dispersed throughout the 90-block proposed rezoning area and would not affect access to particular businesses over an extended duration. No other businesses are near enough to the proposed rezoning area to be affected by construction activities. Therefore, construction impacts to socioeconomic conditions are not expected.

Community Facilities

According to the *CEQR Technical Manual*, construction impacts to community facilities are possible if a community facility would be directly affected by construction (*e.g.*, if construction would disrupt services provided at the facility or close the facility temporarily, *etc.*). While there are community facilities throughout the rezoning area, none would be directly displaced by construction of the 22 projected development sites. It will not be necessary to alter the entrances to these facilities, nor will it be necessary to close them at any time during the construction period. There would be no direct or indirect construction effects to any community facilities. Hence, no construction impacts would be expected to community facilities in the area, and a further preliminary assessment is not needed for the disclosure of potential construction impacts to community facilities.

Open Space

According to the *CEQR Technical Manual*, construction impacts to open space are possible if the open space is taken out of service for a period of time during the construction process. No open space resources would be disrupted during the construction of the development sites identified in the RWCDS, nor would access to any publically accessible open space be impeded during construction within the proposed rezoning area. As such, no construction impacts related to open space are expected and a further preliminary assessment is not needed for the disclosure of potential construction impacts to open space resources.

Historic and Cultural Resources

According to the guidelines in the *CEQR Technical Manual*, construction impacts may occur on historic and cultural resources if in-ground disturbances or vibrations associated with project construction could undermine the foundation or structural integrity of nearby resources.

Chapter 7, "Historic and Cultural Resources," provides a detailed assessment of potential impacts on architectural and archaeological resources. This section summarizes potential impacts during construction. As discussed in Chapter 7, none of the lots comprising projected and potential development sites expected to entail new in-ground disturbance as a result of the Proposed Action have any archaeological significance. As such, the Proposed Action is not expected to result in any significant adverse impacts to archaeological resources during construction, and a detailed analysis is not warranted.

The New York City Building Code provides some measures of protection for all properties against accidental damage from adjacent construction by requiring that all buildings, lots, and service facilities adjacent to foundation and earthwork areas be protected and supported. Additional protective measures apply to LPC-designated Landmarks and S/NR-listed historic buildings located within 90 linear feet of a proposed construction site. For these structures, the NYC Department of Buildings (DOB)'s Technical Policy and Procedure Notice (TPPN) #10/88 applies. TPPN 10/88 supplements the standard building protections afforded by the Building Code by requiring, among other things, a monitoring program to reduce the likelihood of construction damage to adjacent LPC-designated or S/NR-listed resources (within 90 feet) and to detect at an early stage the beginnings of damage so that construction procedures can be changed.

Adjacent historic resources, as defined in the procedure notice, only include designated NYCLs, properties within NYCL historic districts, and listed S/NR properties that are within 90 feet of a lot under development or alteration. They do not include S/NR-eligible, NYCL-eligible, potential, or unidentified architectural resources. Construction period impacts on any designated historic resources would be minimized, and the historic structures would be protected, by ensuring that adjacent development projected as a result of the Proposed Action adheres to all applicable construction guidelines and follows the requirements laid out in TPPN #10/88. This would apply to construction activities on the following projected and potential development sites:

- Projected development site 2 – is located adjacent to the NYCL 409 Edgecombe Avenue, and within 90 feet of structures within the LPC-designated Hamilton Heights/Sugar Hill Northeast and S/NR-listed Sugar Hill Historic District.
- Projected development site 4 – is located within 90 feet of the former Hamilton Theater.
- Projected development site 17 is located within 90 feet of the former P.S. 157.
- Potential development site 24 – is located within 90 feet of the Hamilton Grange Branch of the NYPL (NYCL, S/NR).

In addition, there are four eligible resources in the study area that, because they are not listed or calendared for listing by the New York City Landmarks Preservation Commission or the New York State Historic Preservation Office, would not be afforded the added protections of TPPN 10/88. These resources include:

- Projected development site 15 – is within 90 feet of the residences at 2-14 Convent Avenue (S/NR-eligible).
- Projected development site 19 and part of projected development site 18 are within 90 feet of the S/NR-eligible St. Joseph's Roman Catholic Church complex.
- Potential development site 30 – is located within 90 feet of the LPC-eligible Engine Co. 23 building.
- Potential site 56 would be within the boundaries of the LPC-eligible Upper Riverside Drive HD, and projected development site 5 would be within 90 feet of buildings within this eligible district.

Therefore, for sites 15, 18, 19, 30, and 56, construction under the Proposed Action could potentially result in construction-related impacts to four non-designated resources. The resources would be afforded standard protection under DOB regulations applicable to all buildings located adjacent to construction sites; however, since the resources are not S/NR-listed or LPC-designated, they are not afforded the added special protections under DOB's TPPN 10/88. Additional protective measures afforded under DOB TPPN 10/88, which include a monitoring program to reduce the likelihood of construction damage to adjacent LPC-designated or S/NR-listed resources, would only become applicable if the eligible resources are designated in the future prior to the initiation of construction. If the eligible resources listed above are not designated, however, they would not be subject to TPPN 10/88, and may therefore be adversely impacted by construction of adjacent development resulting from the Proposed Action.

Natural Resources

According to the *CEQR Technical Manual*, natural resources may be affected during construction, particularly during such activities as excavation; grading; site clearance or other vegetation removal; cutting; filling; installation of piles, bulkheads or other waterfront structures; dredging; dewatering; or soil compaction from construction vehicles and equipment. A preliminary construction assessment is not

required for natural resources unless the construction activities would disturb a site or be located adjacent to a site containing natural resources.

There are no natural resources on any of the development sites identified in the RWCDS, or their vicinity. The Hudson River is a natural resource located to the west of the rezoning area, however, it is separated by a distance of more than 1,000 feet from the westernmost development sites, and within that separation is Riverside Drive, the Henry Hudson Parkway, and Riverside Park. It should also be noted that Section 3309.1 of the New York City Building code requires that provisions be made to control water run-off and erosion during construction and demolition activities, and NYSDEC has published a manual (New York Standards and Specifications for Erosion and Sediment Controls) which is the standard to be followed to comply with the Building Code. Given the separation of the RWCDS development sites from the Hudson River, and the requirement for erosion and sediment control within the building code, no natural resources would be directly impacted by development which could occur as a result of the Proposed Action. Therefore, no significant construction impacts to natural resources are expected, and a further preliminary assessment is not needed for the disclosure of potential impacts to natural resources.

Hazardous Materials

According to the guidelines in the *CEQR Technical Manual*, any impacts from in-ground disturbance that are identified in hazardous materials studies should be identified in this chapter as well. Institutional controls such as (E) designation or restrictive declarations should be disclosed here as well. If the impact identified in hazardous materials studies is fully mitigated or avoided, no further analysis of the effect from construction activities on hazardous materials is needed.

Any potential construction-related hazardous materials impact would be avoided by the inclusion of (E) designations for all of the RWCDS development sites, which are not under the control of the applicant. As detailed in Chapter 9, "Hazardous Materials," to ensure that the Proposed Action would not result in significant, adverse hazardous materials impacts, (E) designations would be mapped on 22 projected and 16 potential development sites as part of the Proposed Action. As discussed in Chapter 9, an (E) designated site is an area designated on a zoning map within which no change of use or development requiring a New York City Department of Buildings permit may be issued without approval of the Mayor's Office of Environmental Remediation (OER). These sites require the OER's review to ensure protection of human health and the environment from any known or suspected hazardous materials associated with the site. As described in Attachment A, "Project Description," the (E) designation ensures that the fee owner conduct a testing and sampling protocol and remediation, where appropriate, to the satisfaction of the OER before the issuance of a permit by the Department of Buildings. The environmental requirements for the (E) designation also include mandatory construction-related health and safety plan, which must also be approved by the OER.

In addition, demolition of interiors, portions of buildings or entire buildings are regulated by the NYC Department of Buildings requiring abatement of asbestos prior to any intrusive construction activities including demolition. OSHA regulates construction activities to prevent excessive exposure of workers to contaminants in the building materials including lead in paint. New York State Solid Waste regulations control where demolition debris and contaminated materials associated with construction are handled and disposed. Adherence to these existing regulations would prevent impacts from construction activities at any of the projected development sites in the proposed rezoning area.