June 30, 2022

NOTICE OF COMPLETION

FINAL ENVIRONMENTAL IMPACT STATEMENT

PENNSYLVANIA STATION AREA CIVIC AND LAND USE IMPROVEMENT PROJECT

Pursuant to the State Environmental Quality Review Act (Article 8 of the New York State Environmental Conservation Law) and the regulations adopted pursuant thereto (6 NYCRR Part 617), a Final Environmental Impact Statement ("FEIS") has been prepared for the proposed Pennsylvania Station Area Civic and Land Use Improvement Project, formerly known as the Empire Station Complex Civic and Land Use Improvement Project (as currently named and described, the "Proposed Project"), and copies thereof are available online or upon request to the offices of the lead agency as set forth below.

Project Location: The area of the Proposed Project is generally bounded by Sixth and Ninth Avenues to the east and west, and by West 30th and West 34th Streets to the south and north in Midtown Manhattan, consisting of 8 Project Development Sites. The Proposed Project is located on all or portions of nine Manhattan tax blocks – Blocks 754, 755, 780, 781, 783, 806, 807, 808, and 809 – that encompass Penn Station, Madison Square Garden (MSG), Moynihan Train Hall, and the surrounding blocks.

Project Description: The Proposed Project would redevelop the eight Project Sites with: ten new buildings in the district around Penn Station. New developments would incorporate ADA-compliant entrances and access ways to Penn Station and public transit and facilitate public realm improvements to address pedestrian, bicycle, and vehicular circulation and enhance the surrounding streetscape. Development facilitated by the Proposed Project would generate revenue for substantial improvements at Penn Station, subway stations, and other transit facilities in the Project Area – as well as the potential future expansion of Penn Station – to be accomplished through separate but related projects that would be undertaken by one or more of the public transportation entities – MTA, NJ Transit, and Amtrak.

The Proposed Project requires a number of actions, including: affirmation of a General Project Plan by Empire State Development

(ESD) in accordance with the New York State Urban Development Corporation Act, which will include an override of the New York City Zoning Resolution. Additionally, it is anticipated that prior to development of a Project Development Site, ESD would acquire an interest in title to the Site and ground lease the Site to the applicable private developer of that Site. ESD would also enter into various additional agreements in connection with the Proposed Project.

The Proposed Project, including the project buildings, public realm improvements, and specific improvements required on each site to improve the transit network and connections to Penn Station, provides a framework for long-term growth in the area surrounding Penn Station that if implemented would create a vibrant mixed-use district to benefit Penn Station, complement long term development initiatives and reinforce major infrastructure investments in the reconstruction and potential expansion of Penn Station, support the City's goal of encouraging high-density development around a world-class transportation hub, and support a dynamic regional economy.

SEQRA Classification: Type I

Lead Agency: New York State Urban Development Corporation
d/b/a Empire State Development
633 Third Avenue
New York, NY 10017

Lead Agency Contacts: Rachel Shatz
VP, Planning and Environmental Review
(212) 803-3252

Gabriella Green
VP, Real Estate / Executive Director of Penn Station Redevelopment
(212) 803-3116

The Executive Summary of the FEIS, which describes the Proposed Project and its potential environmental impacts, is incorporated hereto and made a part hereof.

Copies of the FEIS are available for inspection at ESD, 633 Third Avenue, New York, NY 10017. A flash drive of the entire FEIS and/or a paper copy of the Executive Summary of the FEIS are available at no charge upon request. Paper copies of the complete FEIS are available for purchase. The FEIS is also available at ESD's web site at: https://esd.ny.gov/penn-station-area. To inspect and/or obtain copies of the FEIS from ESD, please contact Stacey Teran at (212) 803-3729.

Comments on the FEIS may be submitted in writing directly to the lead agency. Comments must be received no later than 12:00pm on July 11, 2022. Written comments may be submitted by email to pennstationarea@esd.ny.gov.

This Notice and the Final Environmental Impact Statement have been sent to:

- Metropolitan Transportation Authority
- New York City Transit Authority
- Long Island Rail Road
- New York State Department of Environmental Conservation
- New York State Office of Parks, Recreation, and Historic Preservation
- New York City Department of Transportation
- Honorable Eric Adams, Mayor of New York City
- Mark Levine, Manhattan Borough President
- Manhattan Community Board 4
- Manhattan Community Board 5
- New York City Planning Commission
- New York City Department of City Planning
- New York City Department of Environmental Protection
- Mayor's Office of Environmental Coordination
- National Railroad Passenger Corporation a/k/a Amtrak
- New Jersey Transit
- Port Authority of New York and New Jersey
- Vornado Realty Trust

Pennsylvania Station Area Civic and Land Use Improvement Project

Final Environmental Impact Statement (FEIS)

Executive Summary

Lead Agency:
Empire State Development
633 Third Avenue
New York, NY 10017

June 2022

A. INTRODUCTION

The New York State Urban Development Corporation d/b/a Empire State Development (ESD) is considering the affirmation of a modified General Project Plan (GPP) for the Pennsylvania Station Area Civic and Land Use Improvement Project, a comprehensive redevelopment initiative to create a revitalized, transit-oriented mixed-use district centered around supporting and enhancing Penn Station and its intermodal connections (the Proposed Project). The Proposed Project would address substandard and insanitary conditions in the Project Area (as defined below) under the New York State Urban Development Corporation Act (the UDC Act) (the UDC Act)[1] by facilitating redevelopment of a cohesive, transit-oriented mixed-use district providing much-needed public transportation and public realm improvements in the area.

The Proposed Project would result in the development of up to ten new buildings on eight development sites in the Project Area. The Proposed Project's new developments would incorporate new onsite, Americans with Disabilities Act (ADA) compliant entrances and access ways to Penn Station and public transit and facilitate public realm improvements to address pedestrian, bicycle, and vehicular circulation and enhance the surrounding streetscape.

The Proposed Project would also support the reconstruction and potential expansion of Penn Station, which would be accomplished through separate but related projects that would be undertaken by one or more of the involved public transportation entities, namely, the Metropolitan Transportation Authority of the State of New York (MTA); the National Railroad Passenger Corporation doing business as Amtrak (Amtrak); and the New Jersey Transit Corporation, branded as NJ Transit (NJT) (collectively, the Railroads). . Development facilitated by the Proposed Project would generate essential revenue for substantial improvements at Penn Station, subway stations, and other transit facilities in the Project Area—as well as the potential future expansion of Penn Station.

A potential future southern expansion of Penn Station into properties located within Block 780 and portions of Block 754 and Block 806 (designated in the GPP as Sites 1, 2, and 3) is contingent on such a southern expansion being selected as the preferred alternative following the Railroad's completion of the environmental and historic resource review of the Penn Station expansion project under federal law. The federal review will consider a range of potential alternatives for the expansion of track and platform capacity in Penn Station, including but not limited to the potential southward expansion of the station. Such a station expansion would allow the Railroads to add new, below-grade tracks and platforms, significantly increasing the station's rail capacity. For

[1] The terms "substandard" and "insanitary" are used in the UDC Act. For example, UDC Act Section 10(c) requires that ESD make a finding, "That the area in which the project will be located is a substandard or insanitary area, or in danger of becoming a substandard or insanitary area and tends to impair or arrest sound growth and development of the municipality."

analysis purposes, it is assumed that the additional rail infrastructure, if constructed and operated by the Railroads on and under Sites 1, 2, and 3, would require the prior acquisition and clearing of those sites. The development framework set forth in the GPP would allow ESD, pursuant to the GPP, to thereafter coordinate and facilitate the development of five new buildings on Sites 1, 2 and 3 above the new Penn Station expansion. Thus, redevelopment of Sites 1, 2, and 3 in accordance with the GPP is contingent on the future selection and approval of a Penn Station expansion at these locations. The GPP would provide the framework for developments and other improvements above the potential expanded Penn Station with its below-grade tracks and platforms, major station entrance hall, vertical circulation and access points for commuters and station users, and a replacement Penn Station service building. The design, construction, and operation of an expanded Penn Station, if undertaken, would be assumed by one or more of the involved Railroads (MTA, Amtrak, and/or NJT). The specific assignment of responsibilities for those tasks is the subject of ongoing collaboration and planning among them.

This FEIS conservatively analyzes a future condition assuming the expansion of Penn Station at these locations, although as stated above, such future development there is contingent on selection of the potential southward expansion of the station as the preferred alternative, further governmental approvals that will be the subject of alternatives analyses, and their own federal environmental and historic resource review processes.

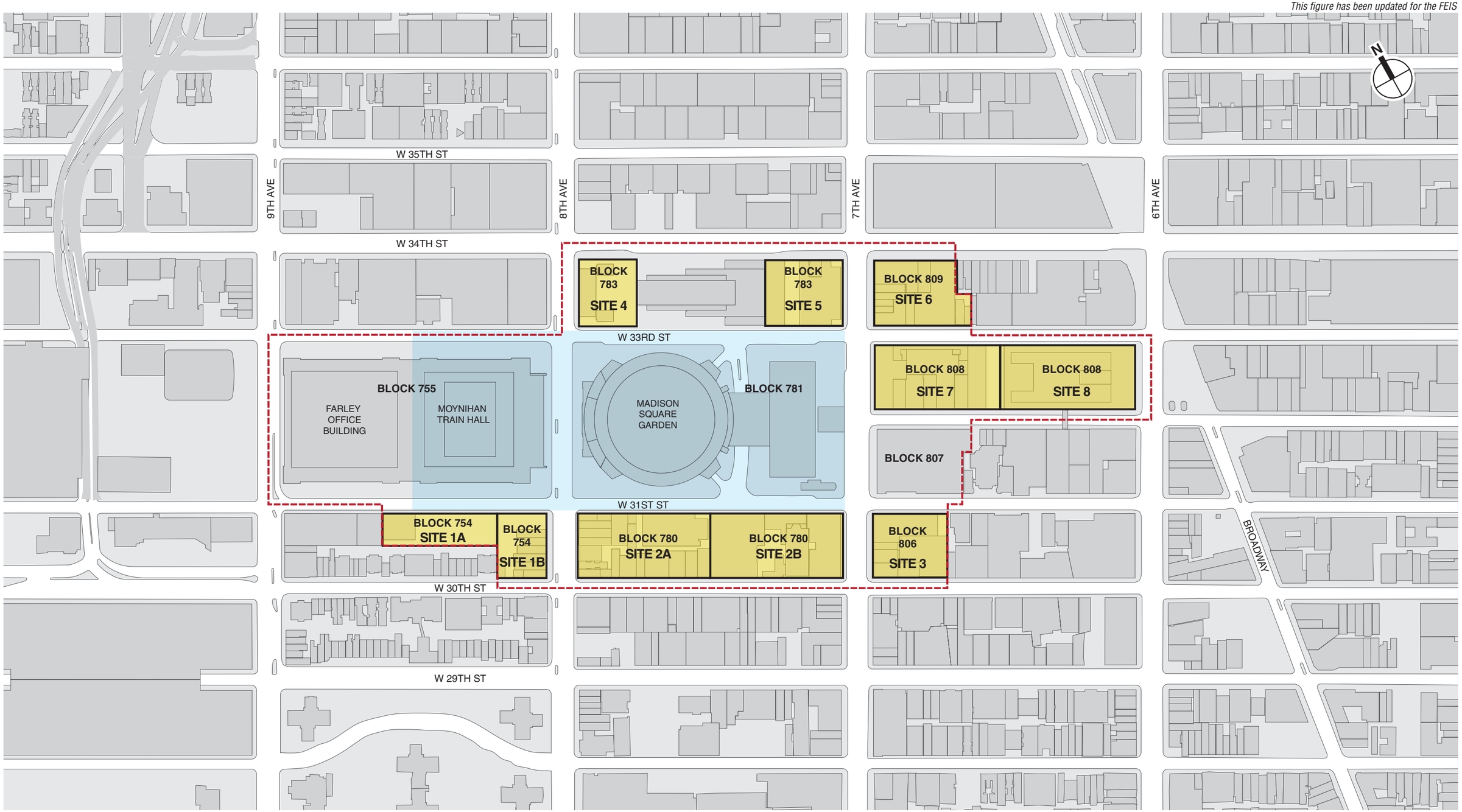
Subsequent to the adoption of the GPP for the Proposed Project and issuance of the Draft Environmental Impact Statement (DEIS) on February 18, 2021, ESD worked closely with and consulted the Project's Community Advisory Committee and its larger Working Group, including local elected officials and community stakeholders. After considering their comments and recommendations, ESD staff proposed certain revisions to the plan (the Proposed Revisions) for the Proposed Project. Generally, the Proposed Revisions reduce the density of the Proposed Project compared to the program that was analyzed in the DEIS, reduce encroachment on views of the Empire State Building along 33rd Street, add additional public space, require community facility space, require that one potential building be residential (and provide the option for three other buildings to include residential uses), and require improvements to facilities providing for pedestrian circulation, public transit access, and intermodal connections to Penn Station. The Proposed Project described and analyzed in this Final Environmental Impact Statement (FEIS) incorporates the Proposed Revisions.

The area of the Proposed Project is generally bounded by Sixth and Ninth Avenues to the east and west, and by West 30th and West 34th Streets to the south and north in Midtown Manhattan, Community Districts 4 and 5 (the Project Area). The Project Area includes all or portions of nine Manhattan tax blocks—Blocks 754, 755, 780, 781, 783, 806, 807, 808, and 809—that encompass Penn Station, Madison Square Garden (MSG), Moynihan Train Hall (see **Figure S-1**), and surrounding blocks. However, the Proposed Project would not include any new commercial buildings at the existing Penn Station, MSG, or Moynihan Train Hall. As shown in **Figure S-2**, the Project Area is centrally located in Manhattan, near Hudson Yards and the Midtown Central Business District, proximate to passenger rail service at Penn Station and subway service at three major stations, with unmatched connections to other portions of New York City and the region.

Despite its outstanding transit access, the Penn Station area today is characterized by outmoded building stock, a disjointed and uncoordinated public realm, overburdened and substandard mass transportation infrastructure (including poor pedestrian connections to and from Penn Station), and stagnant development activity. The Proposed Project would address these conditions by establishing a cohesive redevelopment framework, improving the above- and below-grade

6.14.22

This figure has been updated for the FEIS



Source: FXCollaborative Architects LLP

Project Area

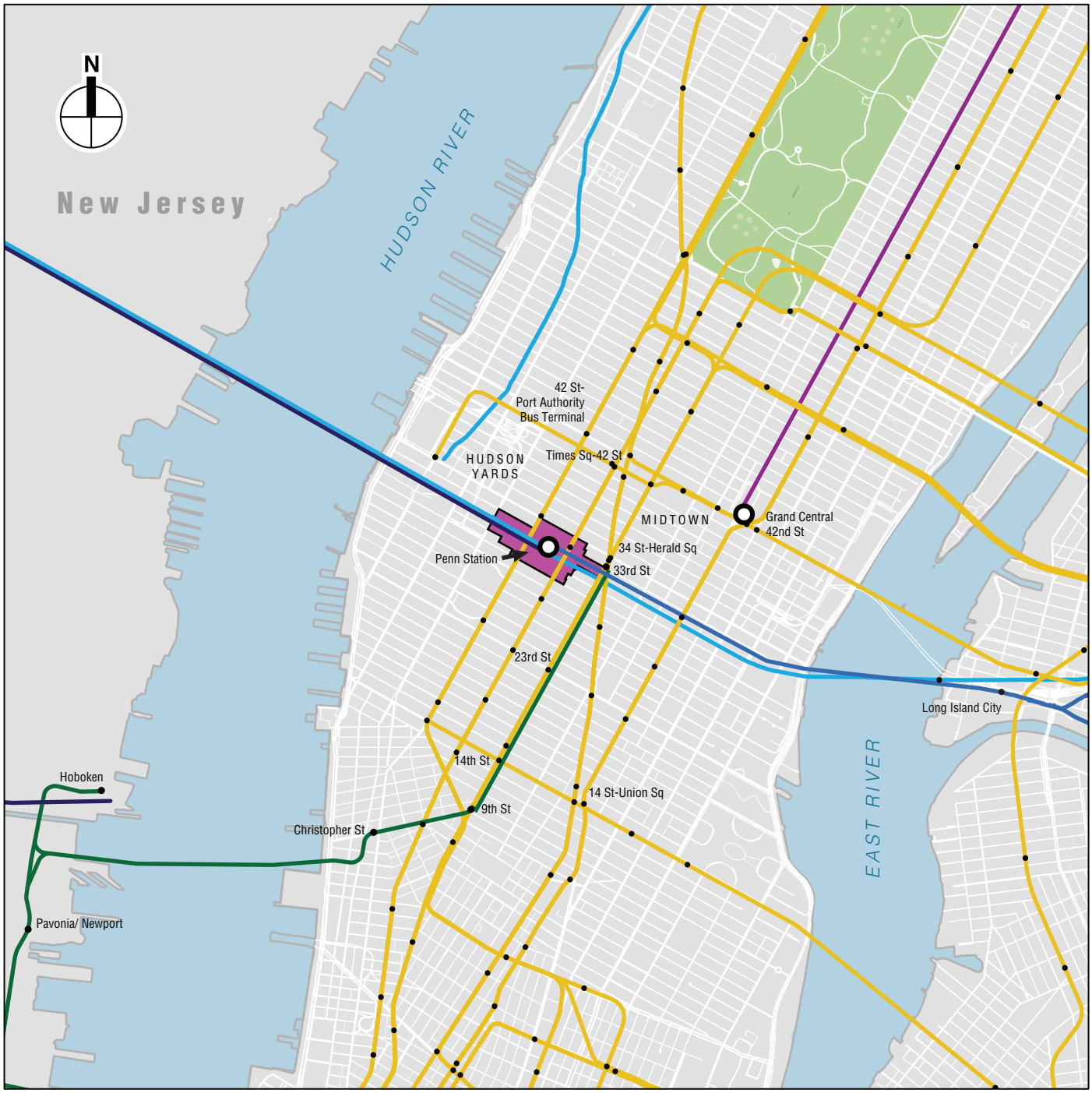
Development Sites

Existing Penn Station

PENNSYLVANIA STATION AREA
CIVIC AND LAND USE IMPROVEMENT PROJECT

Project Location
Figure S-1

6.14.22



0 5,000 FEET

Project Area

Long Island Rail Road

Metro North Railroad

PATH

New Jersey Transit

Amtrak

New York City Transit Subway

• *Subway Station*

PENNSYLVANIA STATION AREA
CIVIC AND LAND USE IMPROVEMENT PROJECT

Regional Location
Figure S-2

circulation network, and following an integrated approach to the improvement of the public realm. Redevelopment under the Proposed Project would capitalize on the Project Area's transit-rich location, transform the area to a premier mixed-use district, provide for public transportation and public realm improvements essential for a dynamic business district, and complement other transformative initiatives that have reshaped the Far West Side and Midtown over the past 20 years. Furthermore, the Proposed Project would reflect a public commitment to revitalize the area commensurate with the essential infrastructure investments already completed (Moynihan Train Hall, East End Gateway) and being planned for the future (the reconstruction and expansion of Penn Station). The Proposed Project would also promote the economic recovery of New York City and the region in the aftermath of the COVID-19 pandemic by supporting economic activity associated with the growth of Midtown and investments in regional rail and transit infrastructure.

Overall, the Proposed Project, including the project buildings, public realm improvements, and specific improvements required on each site to improve the transit network and connections to Penn Station, provides a framework for long-term growth in the area surrounding Penn Station that if implemented would create a vibrant mixed-use district to benefit Penn Station, complement long-term development initiatives and reinforce major infrastructure investments in the reconstruction and potential expansion of Penn Station, support the City's goal of encouraging high-density development around a world-class transportation hub, and support a dynamic regional economy.

SUMMARY OF THE PROPOSED PROJECT

In overview, the Proposed Project includes:

- **Creation of a revitalized, transit-oriented mixed-use district to benefit Penn Station, expansion of critical connecting transit infrastructure, and revitalization of the surrounding area**. The Proposed Project would result in up to 18 million gross square feet (gsf) of primarily Class A commercial office, retail, and hotel space and up to 1,798 dwelling units (DUs) on eight development sites within the Project Area (see **Figure S-1**).
- **Significant improvements to area subway stations and transit connections with Penn Station to support current** and **projected future ridership growth.** The Proposed Project includes transit improvements and connecting entrances to Penn Station at each development site in connection with new building construction. It is anticipated that intermodal transit improvements would be implemented at the following subway stations: 34th Street–Penn Station (Eighth Avenue A/C/E subway lines), 34th Street–Penn Station (Seventh Avenue 1/2/3 subway lines), and 34th Street–Herald Square (Sixth Avenue B/D/F/M/N/Q/R/W subway lines and Port Authority Trans-Hudson [PATH] train service). Additional public transportation improvements include creating a below-grade east–west corridor between the 34th Street–Penn (1/2/3 subway lines) and 34th Street–Herald Square subway stations, new station entrances, new stairways, widening existing stairways and platforms, and creating a below-grade north–south circulation corridor east of Seventh Avenue, and other improvement measures.
- **Implementation of public realm improvements.** ESD, through the GPP, would require the completion of public realm improvements in the Project Area in connection with the proposed developments. Improvements include widening sidewalks adjoining the Proposed Project buildings and creating new public spaces in the Project Area.

In addition, the Proposed Project would support separate but related projects to improve and expand Penn Station. These projects would be undertaken separately by one or more of the

involved Railroads and would be subject to their own environmental and historic resource reviews and approvals, as appropriate. Specifically, the Proposed Project would:

- **Support reconstruction of the existing Penn Station.** Revenue from the Proposed Project's new development would contribute funding for substantial improvements to the existing Penn Station as identified through a Penn Station Master Plan study.
- **Support the potential future expansion of Penn Station.** The Proposed Project would support the potential future expansion of Penn Station, if approved, by (i) providing a potential source of some of the funding needed for a future expansion, and (ii) facilitating, through the proposed GPP, transit-oriented development above the below-grade expansion of tracks and platforms south of the existing Penn Station, should that location be selected in the federal review process. Such an expansion of Penn Station would increase the overall station capacity for train operations and passenger flow. The expanded facility would incorporate up to 12 tracks (depending on final configuration) to substantially increase Penn Station's existing track and platform capacity. Subject to ongoing collaboration and planning among the involved Railroads and any required federal approvals and federal environmental reviews, the expansion of Penn Station would occupy the below-grade levels of Block 780 and portions of Blocks 754 and 806 (and areas beneath adjoining streets), if this location is selected as the approved location for the station's expansion. The Proposed Project would be designed and constructed to accommodate rail infrastructure on Sites 1, 2, and 3 in the event that those sites are selected for the potential future station expansion.

Because the Proposed Project would provide support for the Railroads' Penn Station reconstruction and potential future expansion projects, ESD's environmental review of the Proposed Project conservatively includes an analysis of the potential effects of those Railroad projects, based on currently available information.

To allow for the implementation of the Proposed Project, ESD is proposing to seek its Directors' affirmation of a modified GPP that would, among other things, override the New York City Zoning Resolution and other local laws, as applicable, in accordance with the UDC. As stated above, at this time, a determination has not been made by the Railroads or federal agencies to locate the Penn Station expansion on the blocks to the south of the existing station, nor as to whether the property acquisitions that would be needed for an expansion at that location (consisting of Block 780 and portions of Block 754 and Block 806) would be undertaken, in whole or in part, by ESD or by another entity, such as MTA or Amtrak. Decisions about property acquisition, including which public entity or entities would be responsible for those property acquisitions, would be made once a preferred alternative is selected for an expansion to Penn Station as a result of the federal approval process. The acquisition of property would be by negotiated purchase with the property owners and/or through the exercise of eminent domain. In addition, ESD and the City of New York would cooperate as contemplated by the UDC Act in connection with the construction of the public realm improvements located within City-owned mapped streets. Such improvements would be subject to the approval and remain under the jurisdiction of the New York City Department of Transportation (NYCDOT). Affirmation of a modified GPP for the Pennsylvania Station Area Civic and Land Use Improvement Project, the future actions that may be taken to acquire the property interests as necessary to facilitate the Proposed Project, and other actions authorized by the UDC Act in furtherance of the Proposed Project are collectively referred to as the "Proposed Actions."

ESD is working closely with the City of New York to accomplish the Proposed Project's development goals and the implementation of public realm and public transportation improvements for

the area. The planning, design, and implementation of public realm improvements are a collaborative effort of ESD with the New York City Department of City Planning (DCP) and NYCDOT. ESD is collaborating with the Railroads with respect to any potential expansion of Penn Station, the reconstruction of the existing Penn Station, and implementation of public transportation improvements. To facilitate implementation of the Proposed Project, ESD is also working with Vornado Realty Trust (Vornado), the owner of a significant number of properties in the Project Area that contain connections (or potential future connections) to Penn Station and the rail and transit infrastructure in the Penn Station area.

The Proposed Actions require discretionary approvals subject to environmental review under the New York State Environmental Quality Review Act (SEQRA) and its implementing regulations. Pursuant to SEQRA, ESD is the SEQRA lead agency for the Proposed Project.

B. BACKGROUND

Penn Station is the main intercity railroad station and a major commuter railroad station in New York City. Connections are available within Penn Station to Newark International Airport (via Amtrak and NJT service), John F. Kennedy International Airport (via LIRR and MTA New York City Transit [NYCT] subway service), and to LaGuardia Airport via NYCT subway to bus transfers. Penn Station provides connections to NYCT's Seventh Avenue Line station, serving the 1, 2, and 3 trains; and the Eighth Avenue Line station, serving the A, C, and E trains. These subway stations, and the Herald Square Subway Station and 33rd Street PATH Station located one block to the east of Penn Station at Sixth Avenue, are among the most heavily used subway stations in the City. With nearly 600,000 rail and subway trips per day, Penn Station is the busiest passenger transportation hub in North America, and offers unmatched connectivity between intercity rail service, commuter rail service, and local subway service. The station is located entirely underground between Seventh and Eighth Avenues and West 31st and West 33rd Streets.

The original Penn Station was built by the Pennsylvania Railroad and opened in 1910. It was a classic Beaux-Arts style building designed by the famed architecture firm of McKim, Mead, & White and featured an ornate marble and granite station house above ground covering the entire double superblock from West 31st to West 33rd Streets and Seventh to Eighth Avenues. The station was considered a masterpiece of the Beaux-Arts style and one of the great architectural works of New York City. The station was part of the Pennsylvania Railroad's New York Improvement and Tunnel Extension, which also included the tunnels and track connections extending from Weehawken, New Jersey, beneath the Hudson River, Manhattan, and the East River to Long Island City, Queens. Once completed, this massive engineering project enabled direct rail access to New York City from points south for the first time.

Passenger volumes began to decline after World War II—a time when America was investing in automobiles, highways, and suburban infrastructure rather than rail and subways. In the 1950s, the declining Pennsylvania Railroad sold the air rights to the property and reduced the size of the railroad station. In 1963, the above-ground train station was demolished. Over the next nine years, the below-grade concourses and waiting areas were reconstructed, creating the Penn Station that commuters and visitors use today, while MSG and the high-rise office buildings at 1 Penn Plaza and 2 Penn Plaza, between West 31st and West 34th Streets and Seventh and Eighth Avenues, were constructed. The current station has three underground levels: concourses on the upper two levels and train platforms on the lowest. The two levels of concourses were original to the 1910 station but were extensively modified during the construction of MSG into the cramped, poorly organized, and substandard corridors that exist today.

At the time Penn Station was demolished and replaced in the 1960s, the facility was designed to serve approximately 200,000 rail trips per day. Today, Penn Station is owned by Amtrak, a federally chartered corporation created under federal law. Penn Station is located on Amtrak's Northeast Corridor, a vital passenger rail link over which Amtrak provides rail service from New York City to Boston, Philadelphia, Baltimore, Washington, D.C., and intermediate points, with connections to Amtrak's national intercity commuter rail network. Penn Station currently serves more than double the number of rail trips that it was designed for in the 1960s.

LIRR's services are operated in the lower concourse level of the station, which LIRR leases from Amtrak and operates under a joint facilities agreement. Although it is now confined to the lower level of Penn Station, LIRR's portion of the station alone is the second-busiest rail station in the nation, second only to Grand Central Terminal. Based on 2019 data, LIRR provides over 237,000 daily trips on more than 450 daily trains within its platforms, concourses, and exits. Similarly, NJT's portion of Penn Station serves approximately 187,000 daily trips. LIRR and NJT customers also make heavy use of the adjacent NYCT subway stations to complete their journeys to and from workplaces or other destinations. Approximately one-half of commuting daily customers enter or leave the railroad station via the busy Seventh Avenue or Eighth Avenue subway stations, which accommodate 177,000 and 174,700 weekday trips, respectively.

LIRR is currently completing the East Side Access Project, which will provide direct access to Grand Central Terminal for LIRR service. Once East Side Access is complete at the end of 2022, the number of LIRR trains serving Penn Station will decrease. Following that milestone, MTA Metro-North Railroad (Metro-North) service to Penn Station will begin, bringing Metro-North rail service directly to Penn Station for the first time via the Penn Station Access project from four new Metro-North stations in the Bronx, providing direct commutes for this underserved area.

In the last decade, the number of average weekday Penn Station rail passengers on Amtrak, LIRR, and NJT trains has grown by 26 percent and subway ridership on the Seventh and Eighth Avenue lines has increased by 34 percent. Although they operate at capacity today, Amtrak, MTA (LIRR and Metro-North), and NJT project substantial demand for increased service.[2]

Despite its status as the busiest rail and transit hub in the nation, commercial office development around Penn Station has been limited by an overburdened transit infrastructure, aging building stock, and poor pedestrian circulation. Even with these challenges, the Project Area presents a significant opportunity for sustainable growth in New York City, thanks to its unparalleled rail and transit access.

Over the past two decades, the public and private sectors have embarked on transformative transit and land development proposals at Penn Station, the Far West Side, and East Midtown to improve transit infrastructure and sustain Manhattan as the nation's center of commerce and business. The Pennsylvania Station Area Civic and Land Use Improvement Project presents a unique opportunity to reinvigorate the area that surrounds Penn Station and support initiatives to improve and potentially expand the station.

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[2] The statistics cited in this section are based on recent data prior to the COVID-19 pandemic, which has changed short-term ridership patterns. The Railroads expect that as the pandemic subsides such ridership patterns will resume.

PENN STATION OPERATIONS

Penn Station has a total of 11 platforms and 21 platform tracks, shared by Amtrak, LIRR, and NJT. The platform tracks are connected to a network of tracks to the east and west. On the west, Amtrak and NJT trains enter and leave the station using the two tracks of the existing North River Tunnel; Amtrak trains from the Empire Line serving Albany and points north also connect into Penn Station on the west.

The blocks west of Penn Station are occupied by approach tracks that provide access to and from the station. These tracks are used for cross-Hudson rail service to the station for Amtrak's Northeast Corridor Line, NJT lines, and LIRR's rail connections to MTA's John D. Caemmerer West Side Yard, which is bounded by Tenth Avenue, Twelfth Avenue, West 30th Street, and West 33rd Street, and is used by LIRR for midday train storage and light maintenance. Tracks east of the station proceed eastward to the four-track East River Tunnels, which provide a continuing connection for Amtrak's Northeast Corridor Line to New England, and for LIRR's rail lines to Queens and Long Island. The East River Tunnels also provide access to Sunnyside Yard in Queens, a large Amtrak train storage and maintenance yard that is also used for midday train storage by NJT.

Over the past several years, the three railroads have performed extensive operations analyses and implemented infrastructure improvements that have allowed the railroads to increase service frequency. Today, the three railroads use the full capacity of the tracks and platforms in Penn Station during the peak hours of travel.

Penn Station has two levels of passenger space above the tracks and platforms. The main passenger hall, Amtrak ticketing and waiting area, and NJT concourse are located on the upper passenger level. The upper level also provides connections to street level. The lower passenger level consists of LIRR's concourse in the station, with connections to the Seventh and Eighth Avenue subway lines and NJT passenger access to its platforms. Several connecting concourses lead from LIRR's main passenger space to provide access to the track space below. The Penn Station Service Building is located at 236-248 West 31st Street, directly across from Penn Station. This building was constructed in 1908 and originally supplied electricity to the electric locomotives going in and out of Penn Station. The Penn Station Service Building houses mechanical, electrical, and plumbing systems that serve Penn Station, including steam piping and chiller units, as well as systems that service tracks, including switches and compressors, which control train movements beyond Penn Station. The electricity that powers the tunnel ventilation system originates in the Service Building. This powers Amtrak infrastructure that extends from Long Island to New Jersey.

MOYNIHAN TRAIN HALL

The need for improvements to Penn Station has been recognized almost since the original station building was demolished in 1963. In the past two decades, a number of highly visible improvements have been made. Most notable among these is the new Moynihan Train Hall completed in January 2021 at the Farley Building as part of ESD's Moynihan Station Civic and Land Use Improvement Project, which has brought a monumental above-ground passenger space back to Penn Station.

The landmark Farley Building, across Eighth Avenue from Penn Station, was constructed around the time of the original Penn Station, and its architecture is evocative of the now-demolished 1910 station building. As the Farley Building is directly above the western portion of most of Penn Station's existing tracks and platforms, the location of the Farley Building and its related below-

grade improvements offered a unique opportunity to create a new above-ground train hall serving Amtrak and LIRR passengers. The Moynihan Train Hall serves as the primary boarding and ticketing facility for Amtrak and an additional facility for LIRR. The train hall has a monumental, sky-lit passenger space with state-of-the-art wayfinding, information displays, and other visitor amenities. The Moynihan Train Hall expands Penn Station's passenger concourse space by 50 percent, and the shift of Amtrak's daytime passenger services to the new Moynihan Train Hall now opens space for other uses in the existing Penn Station.

Despite this improvement, the majority of train cars and passengers arriving at Penn Station continue to arrive beneath the unreconstructed part of the station east of Eighth Avenue and alighting passengers continue to navigate the substandard corridors and egress through those areas to exit the station.

OTHER PENN STATION IMPROVEMENTS

In addition to the Moynihan Train Hall, MTA, Amtrak, and NJT are currently completing other improvements at Penn Station. These include LIRR's newly completed East End Gateway, which creates a new entrance to LIRR's Penn Station concourse at West 33rd Street west of Seventh Avenue, and the LIRR Concourse project currently under construction, which will create a wider reconstructed passenger concourse to improve access, egress, and circulation, and relieve overcrowding at the northern edge of Penn Station. NJT is conducting preliminary design work for the Central Concourse Extension, a proposed corridor to provide additional access to Tracks 1 through 12. In addition, Amtrak is undertaking an ongoing series of repairs and upgrades to tracks and switches at Penn Station, collectively referred to as the Penn Station Infrastructure Renewal Project.

PENN STATION ACT

The New York Pennsylvania Station Public Safety Improvements Act (Penn Station Act), adopted in 2018 as Part MMM of Chapter 59 of the Laws of 2018 (enacted into law by the New York State Legislature), identified the rehabilitation of Penn Station and its connectivity to the surrounding areas as "a pressing public safety and transportation issue and is a major objective for the State to resolve and should be made a top priority." In particular, the Penn Station Act stated that the rehabilitation of Penn Station would require "improvements to access and egress and to the surrounding areas to position such areas to accommodate and attract passengers and evolving technological and business and commercial needs and practices" and directed ESD and other governmental, community and business entities to collaborate on solutions. The Proposed Project would help to achieve the goals of the Penn Station Act.

PENN STATION MASTER PLAN

As discussed in more detail below, Penn Station suffers from a number of design and operational deficiencies. To create a framework for addressing these problems, the Railroads have prepared a Master Plan for Penn Station, which is expected to be used as the basis for the design of the reconstruction of the existing station. The Penn Station Master Plan study provides for the integration of the different station components functionally, operationally, and architecturally to produce a cohesive station complex that will improve circulation and connections to the surrounding district. Key goals of the Penn Station Master Plan study include:

- Increasing station capacity and accommodating increased train service;

- Integrating the components of Penn Station, including the new Moynihan Train Hall and a potential future expansion of Penn Station;
- Integrating Penn Station with the surrounding area;
- Rationalizing station functions and systems;
- Improving pedestrian circulation;
- Improving safety and security; and
- Increasing revenue generation to support the station.

The Proposed Project would support the implementation of the Penn Station reconstruction by improving connectivity through the improvement of access points including stairs, escalators and elevators, and passageways in and around the station, and generating revenue from the new development to be applied towards the implementation of the plan.

REGIONAL RAIL INITIATIVES

Several rail improvement projects are currently planned that will change rail operations at Penn Station in the future. These include capital projects planned or proposed by LIRR, Metro-North, Amtrak, and NJT. These improvement projects are separate and independent from the Proposed Project.

LIRR EAST SIDE ACCESS

MTA is currently constructing the East Side Access Project, which will allow LIRR service to Grand Central Terminal in East Midtown. The project includes a new passenger terminal beneath Grand Central's existing passenger spaces as well as new tunnels, track connections, and rail storage and support spaces. When this project is complete, LIRR will serve both Penn Station and Grand Central Terminal. In combination with other LIRR initiatives, including the Main Line expansion (a new third track on the LIRR Main Line and new double track on Ronkonkoma Branch), this will allow LIRR to provide substantially more service across Long Island for its customers. With the introduction of service to Grand Central Terminal, LIRR will reduce its train frequency at Penn Station, freeing capacity for other rail movements there. The East Side Access Project is planned for completion in December 2022.

METRO-NORTH PENN STATION ACCESS

MTA is planning to bring Metro-North service to Penn Station, taking advantage of train capacity freed by the East Side Access Project. The Penn Station Access Project will create a new connection for Metro-North's New Haven Line service, making use of Amtrak's Hell Gate line (on its Northeast Corridor route) through the Bronx, Queens, and Penn Station. This project will create four new Metro-North stations in the East Bronx in areas not well-served by rail transit today. MTA has completed environmental review for this project and is currently progressing its design.

GATEWAY PROGRAM

The Gateway Program is a comprehensive program of phased rail infrastructure improvements to increase track, tunnel, bridge, and station capacity between Newark, New Jersey and Penn Station, that will eventually allow the doubling of passenger trains (including Amtrak and NJT service) on that segment of the Northeast Corridor. These improvements include a new two-track Hudson River rail tunnel to supplement the existing North River Tunnel, an upgraded replacement bridge

over the Hackensack River in New Jersey (Portal North Bridge), the addition of a new, two-track bridge over the Hackensack River (Portal South Bridge), and the potential Penn Station expansion. In addition, other infrastructure improvements are also required to allow increased rail service to Penn Station, including additional track improvements and a new rail storage yard for NJT in New Jersey. A connection at Secaucus Station would provide direct rail service to New York for a number of rail lines that currently terminate at Hoboken Terminal. All of these capacity improvements are necessary to significantly increase Amtrak and NJT rail service to Penn Station.

In addition to capacity expansion, the Gateway Program also includes preservation projects to update and modernize existing infrastructure and make repairs to infrastructure elements that are damaged due to age or events, such as Superstorm Sandy.

A number of components of the Gateway Program are currently advancing, including the Hudson Tunnel Project and repair of the East River Tunnels, described below.

HUDSON TUNNEL PROJECT

One key component of the Gateway Program, the Hudson Tunnel Project, has independent utility as a resiliency project. The Hudson Tunnel Project will create a new two-track tunnel under the Hudson River for Amtrak and NJT service on the Northeast Corridor and will rehabilitate the existing North River Tunnel, which was severely damaged during Superstorm Sandy. Having the new tunnel in place will allow Amtrak and NJT to divert train service from the existing tunnel so that it can be repaired. The new tracks will connect to Penn Station immediately south of the connections from the existing North River Tunnel and Amtrak's Empire Line service.

EAST RIVER TUNNELS REHABILITATION

Amtrak is planning the rehabilitation of the East River Tunnels that were damaged during Superstorm Sandy. The rehabilitation will occur one tube at a time to minimize disruption to rail service, but closure of one tube will nonetheless require service changes for Amtrak, LIRR, and NJT.

PLANNING CONTEXT

In New York City, planning initiatives often link high-density development with transit and public realm improvements. Notable examples of this approach include the Hudson Yards Rezoning and No. 7 Subway Line Extension and the Greater East Midtown Rezoning, which have facilitated high-density development coupled with investment in transit improvements and the public realm.

HUDSON YARDS REZONING AND NO. 7 SUBWAY LINE EXTENSION

Planning for Hudson Yards, an area of Manhattan bounded by West 42nd/West 43rd Streets, Seventh/Eighth Avenues, West 28th/West 30th Streets, and Hudson River Park, began in 2001. Since that time, the City of New York, MTA, and the State of New York have collaborated on planning initiatives to create a development program to transform Hudson Yards into a new mixed-use district accommodating job growth and new housing for New York City's growing population.

The heart of the Special Hudson Yards District is the John D. Caemmerer West Side Yard, spanning the superblocks between West 30th and West 33rd Streets and Tenth and Twelfth Avenues. The rezoning allowed the rail yard to be decked over with a new platform to allow for construction of new buildings. Bisected by Eleventh Avenue, the sites over the Caemmerer Rail Yard are known as the Eastern Rail Yard site and Western Rail Yard site.

As rezoned, the Special Hudson Yards District has the capacity for approximately 26 million square feet (sf) of new office development, 20,000 units of housing, 2 million sf of retail, and 3 million sf of hotel space. To support the new neighborhood, MTA extended the No. 7 subway line from 42nd Street-Times Square to a new terminal station in Hudson Yards at 34th Street and Eleventh Avenue. Since the adoption of the rezoning in 2005, several developments have been constructed and more are underway—most notably the development on the Eastern Rail Yard site, which opened in 2019 with almost 12 million sf of development in four office buildings, two residential buildings, a shopping mall, an arts center called the Shed, and an art installation known as the Vessel. It is anticipated that the Western Rail Yard site will be developed with up to 6.4 million sf of mixed-used development, providing residential and commercial uses (retail and office or hotel space), a new public school, and publicly accessible open space overlooking the High Line.

GREATER EAST MIDTOWN REZONING

In 2017, the City of New York approved the Greater East Midtown Rezoning. The rezoning will facilitate new, modern office buildings needed to spur jobs and keep New York a global capital of commerce. The plan ties that growth directly to improvements in the district's public transit and public space network, so as new buildings are developed, major investments in infrastructure like subway stations and public plazas will also be implemented. The rezoning affected 78 blocks between Third and Madison Avenues and East 39th and East 57th Streets.

The zoning changes will enable the development of new Class A commercial buildings, cementing East Midtown's position as a world-class business district that offers modern amenities and a range of office types. Buildings would be able to achieve higher densities provided the developments support enhancements to the area's public realm by providing transit improvements and/or purchasing unused floor area from the district's landmarks. The zoning framework is expected to generate 6.8 million sf of new commercial office space, along with an additional 6.6 million sf that will be upgraded into Class A office space. In "Transit Improvement Zones" near transit hubs, new buildings may include additional floor area when they undertake or pay for major subway station improvements.

C. PROJECT DESCRIPTION AND PURPOSE AND NEED

PURPOSE AND NEED FOR THE PROPOSED PROJECT

Penn Station, which is located at the center of the Project Area, is Amtrak's major train station for intercity rail service on the Northeast Corridor while also serving as major commuter rail stations for LIRR and NJT. Amtrak, which owns the station and primarily occupies the upper level, leases the next lower levels to LIRR and NJT and operates trackage and rail service below the station proper through joint service arrangements with them. Penn Station operates as part of a multi-modal transportation complex that also includes the interconnected Moynihan Train Hall (utilized principally by Amtrak), three adjoining subway stations on Sixth Avenue (not currently connected), Seventh Avenue, and Eighth Avenue, the PATH train, and a web of transit entrances and interconnecting pedestrian corridors. (The substandard "Gimbels passageway" between Penn Station and the Sixth Avenue subway station, however, has been closed for decades.) This transportation complex provides a critical civic facility for New York City and the region.

However, aside from the recently completed Moynihan Train Hall, nearly every element of this civic facility is substandard and impedes the growth and vitality of the area and the region. The

following sections describe some of the challenges and substandard conditions facing the Penn Station transportation complex and the immediately surrounding area, and provides more detail on the goals and objectives of the Proposed Project.

PENN STATION

The combination of the low-cost construction redesign in the 1960s, inadequate investment in the station over time, and a steady rise in ridership has strained Penn Station's infrastructure and systems and degraded the user experience. Almost 60 years after the demolition and underground reconstruction of Penn Station, the facility is substandard, poorly configured, and in dire need of major investment to maintain operations, renew its infrastructure, improve its revenue stream, and re-establish the station as the premier rail transportation center in the region. A substantially improved Penn Station, along with the Moynihan Train Hall across Eighth Avenue, would catalyze the economic revival of the surrounding area.

Nearly 600,000 trips are navigated through Penn Station's narrow underground corridors (more than three times the number of daily trips in the 1960s), which are devoid of natural light, consistent wayfinding, or sufficient waiting areas. The impact of all these trips with passengers connecting to subways, sidewalks, and crosswalks create an immense burden on the pedestrian circulation elements in the vicinity of Penn Station.

The Railroads have conducted a comprehensive study of the existing conditions at Penn Station as part of the Penn Station Master Plan study. Commuters experience congested platforms and concourse levels, poor pedestrian accessibility (entrance and egress points are particularly difficult for persons with mobility issues to navigate), a lack of sufficient passenger waiting and overflow space, and a lack of sufficient public restroom facilities. The overall customer experience is universally perceived as very poor, particularly on the lower level, due to low ceiling heights, narrow corridors and concourses, poor lighting, and outdated and inadequate wayfinding and passenger information systems.

Penn Station train operations are currently at or near capacity, constrained by the number of tracks and platforms in the station and by the condition and capacity of the North (Hudson) River and East River Tunnels that serve it. Ridership to and from Penn Station, though impacted in the short term by the COVID-19 pandemic, is projected to continue to increase as service is expanded and the population in the LIRR, NJT, Amtrak, and Metro-North service areas continues to grow. Responding to this growing need, Amtrak, NJT, MTA, and New York State are planning and implementing extensive investments to alleviate the existing constraints, expand service, and extend existing service to new locations.

Although recent initiatives like the new Moynihan Train Hall and West End Concourse beneath the Farley Building have improved the passenger experience in parts of Penn Station, the station still operates well beyond its capacity in terms of both trains and passengers and remains over-crowded and confusing for passengers. The station has frequent train delays, unclear wayfinding, and aesthetically uninviting concourse levels. In addition, only three of the eight primary entrances are ADA-compliant, which contribute to circulation challenges and make it difficult for many users to access the station.

THE PENN STATION AREA AND PUBLIC REALM

Despite its proximity to the busiest transit hub in North America, commercial office development in the vicinity of Penn Station has been limited by overburdened and degraded transit infrastructure, aging building stock, and poor pedestrian circulation. The last major building in the Project Area (1 Penn Plaza) was constructed 50 years ago (1970–1972). Aside from the recent ESD-led transformation of the underutilized Farley Building into the Moynihan Train Hall and new commercial development, the neighborhood immediately surrounding Penn Station is characterized by outmoded office buildings, low quality retail offerings, congested sidewalks, and limited publicly accessible open space. Despite those shortcomings, the Project Area provides a significant opportunity for sustainable growth in New York City due to its unmatched access to the region's rail and transit network with the potential for future development to incorporate sustainable, resilient, and energy-efficient infrastructure.

The Project Area is one of the most transit-rich areas in the City, but the public realm, both above- and below-grade, is substandard and deters redevelopment. Substandard conditions in the above- and below-grade public realm include:

- The subway stations that serve Penn Station along Sixth, Seventh, and Eighth Avenues are among the busiest subway stations in the City (the 3rd, 6th, and 7th busiest in 2019).[3] Subway infrastructure below-grade is substandard, and portions of the stations experience pedestrian circulation constraints, including narrow stairs, corridors, and platforms that are subject to overcrowding during peak hours.
- There is limited connectivity among the three subway stations in the Project Area and Penn Station. In particular, there is no below-grade connection from Penn Station to the 34th Street–Herald Square–Sixth Avenue subway station; a passageway that formerly provided this connection, the "Gimbels passageway," has been closed for decades due to its poor condition. Instead, passengers transferring between Penn Station or the 34th Street–Penn Station–Seventh Avenue subway station and the Sixth Avenue subway station must exit to the street level to make the connection, contributing to inconvenience and sidewalk and crosswalk crowding.
- Within the 34th Street–Penn Station–Seventh Avenue subway station and the 34th Street–Penn Station–Eighth Avenue subway stations, there are an inadequate number of stairways to access the express platforms in each station, which are located in the center of the subway tracks and accessed via underpasses. Additional elevators would also be beneficial to improve circulation and access to the subway stations given the high volume of passengers. Targeted improvements are needed to improve circulation and transfers between local and express subway lines, as well as to relieve crowding on these platforms.
- Subway entrances above-grade are in many cases difficult to locate, with small, inconspicuous entryways in the base of existing buildings or stairways occupying sidewalk space needed for pedestrian circulation.
- Subway station elements, such as street-level entrances, in-station stairs, and platforms are in poor physical condition, as detailed in **Appendix A**.
- Above-grade, public realm spaces, including sidewalks and pedestrian circulation spaces, are overcrowded and poorly organized, and sidewalk widths are too narrow to accommodate the

[3] https://new.mta.info/agency/new-york-city-transit/subway-bus-facts-2019

high volume of pedestrians in the area. As many as 36 crosswalks and sidewalks in the vicinity operate at congested conditions during peak hours. High levels of vehicle traffic congestion during peak hours exacerbate the poor pedestrian experience and contribute to conflicts between turning vehicles and crossing pedestrians.

- The area has limited publicly accessible open space and much of what is available consists of Privately Owned Public Spaces (POPS) that are substandard by modern measures. For example, the open plazas around MSG are barren and lack amenities such as seating. The POPS at 1 Penn Plaza, although currently undergoing renovation to improve the plaza would still not meet current standards for POPS (e.g., not flush to grade) upon completion of the renovation.

GOALS AND OBJECTIVES

The goals and associated objectives for the Proposed Project are as follows:

- Goal 1: Revitalize the area surrounding Penn Station with new, sustainable, high-density mixed-use development
  - Provide a substantial amount of new mixed-use development to create a cohesive, transit-oriented district that will capitalize on the Project Area's central Manhattan location proximate to passenger rail service at Penn Station and three major subway stations;
  - Provide opportunities for the creation of new housing, including permanently affordable housing, to contribute to New York City's effort to meet the demand for housing;
  - Eliminate substandard and insanitary conditions in the Project Area;
  - Foster and support economic growth and tax revenue through (a) the creation of jobs and economic activity during construction, (b) through the provision of new commercial office space to accommodate New York City's long-term growth targeting the modern needs of commercial tenants (i.e., generous column spacing, large ceiling heights, upgraded mechanical systems and environmentally sustainable operations), and (c) the introduction of new households that will participate in the local economy; and
  - Maximize incorporation of sustainable design practices to achieve environmentally superior performance in the new buildings.
- Goal 2: Improve passenger rail and transit facilities and pedestrian circulation, access, and safety
  - Implement transit improvements at the 34th Street–Penn Station–Eighth Avenue [A/C/E], 34th Street–Penn Station–Seventh Avenue [1/2/3], and 34th Street–Herald Square–Sixth Avenue [B/D/F/M/N/Q/R/W/PATH] subway stations to better accommodate passenger volumes in these stations, and offer coherent wayfinding and a safer passenger experience;
  - Create a below-grade concourse system connecting the 34th Street–Herald Square and the 34th Street–Penn Station–Seventh Avenue subway stations;
  - Facilitate public realm improvements in the Project Area, including widened sidewalks, creation of shared streets, and installation of protected bike lanes; and
  - Create publicly accessible passive open space to serve residents, workers, and visitors in the area.
- Goal 3: Support improvements to address substandard conditions in Penn Station
  - Maximize revenue generated by the new development to fund, in part, improvements to Penn Station by MTA, Amtrak, and NJT; and

- Utilize the adjacency of certain development sites to expand Penn Station ingress and egress and increase identifiable entrances and overall station prominence distributed at key locations in the project area.

- Goal 4: Support and accommodate future capacity increases at Penn Station
  - Maximize revenue generated by the new development to fund, in part, the potential expansion of Penn Station into Block 780 (and portions of Blocks 754 and 806) to accommodate new, below-grade tracks and platforms, to be designed, constructed and operated pursuant to arrangements among MTA, Amtrak, and NJT. Such expansion is anticipated to significantly increase the station's overall track and platform capacity.
  - Accommodate the potential southward expansion of Penn Station in the design and construction of the development sites on the blocks comprising the potential expansion.
  - Provide and expand intermodal connections to support the projected increased ridership.

DESCRIPTION OF THE PROPOSED PROJECT

The Proposed Project is a comprehensive redevelopment initiative to create a revitalized, modern transit-oriented mixed-use district centered around Penn Station. It would address substandard and insanitary conditions in the Project Area by introducing much-needed public transportation and public realm improvements to the area and facilitating high-density redevelopment of nearby parcels to create a cohesive, transit-oriented commercial district. The primary components of the Proposed Project are described in more detail below. The following section also describes the reconstruction and potential expansion of Penn Station, which would be supported and accommodated by the Proposed Project.

TRANSIT-ORIENTED COMMERCIAL DISTRICT

The Proposed Actions would facilitate redevelopment on the blocks surrounding Penn Station within the Project Area, setting the stage to transform a poorly planned and under-developed area with outmoded buildings and an inhospitable public realm into a cohesive commercial district incorporating sustainability measures. The GPP would facilitate the construction of up to approximately 18 million gsf of new Class A commercial office space, retail, and hotel space and up to 1,798 DUs in ten buildings across eight development sites within the Project Area. The new developments would provide new entrances and connections for both Penn Station and the subway system, increasing and improving transit access for the area. The new development would generate funds to support improvements to and expansion of Penn Station and its interconnected pedestrian passageways and subway stations.

Sites 1 through 8 would be developed in accordance with Design Guidelines appended to the GPP. The development sites are shown in **Figure S-1**. The GPP would override the New York City Zoning Resolution, and would include Design Guidelines for the Proposed Project, which specify the parameters for permitted development in lieu of zoning.

The proposed developments are described below and summarized in **Table S-1**. As detailed below, several development sites would have multiple potential development scenarios under the Proposed Actions. For purposes of analysis in this FEIS, two reasonable worst-case development scenarios (RWCDS) were prepared for the Proposed Project: one that maximizes commercial uses (Maximum Commercial Scenario), and one that maximizes residential uses (Maximum Residential Scenario). This discussion describes the full range of potential development on these sites under the Proposed Actions.

Figures S-3 and **S-4** provide illustrative building massings for each development site. **Figure S-3** provides illustrative building massings for primarily commercial development throughout the

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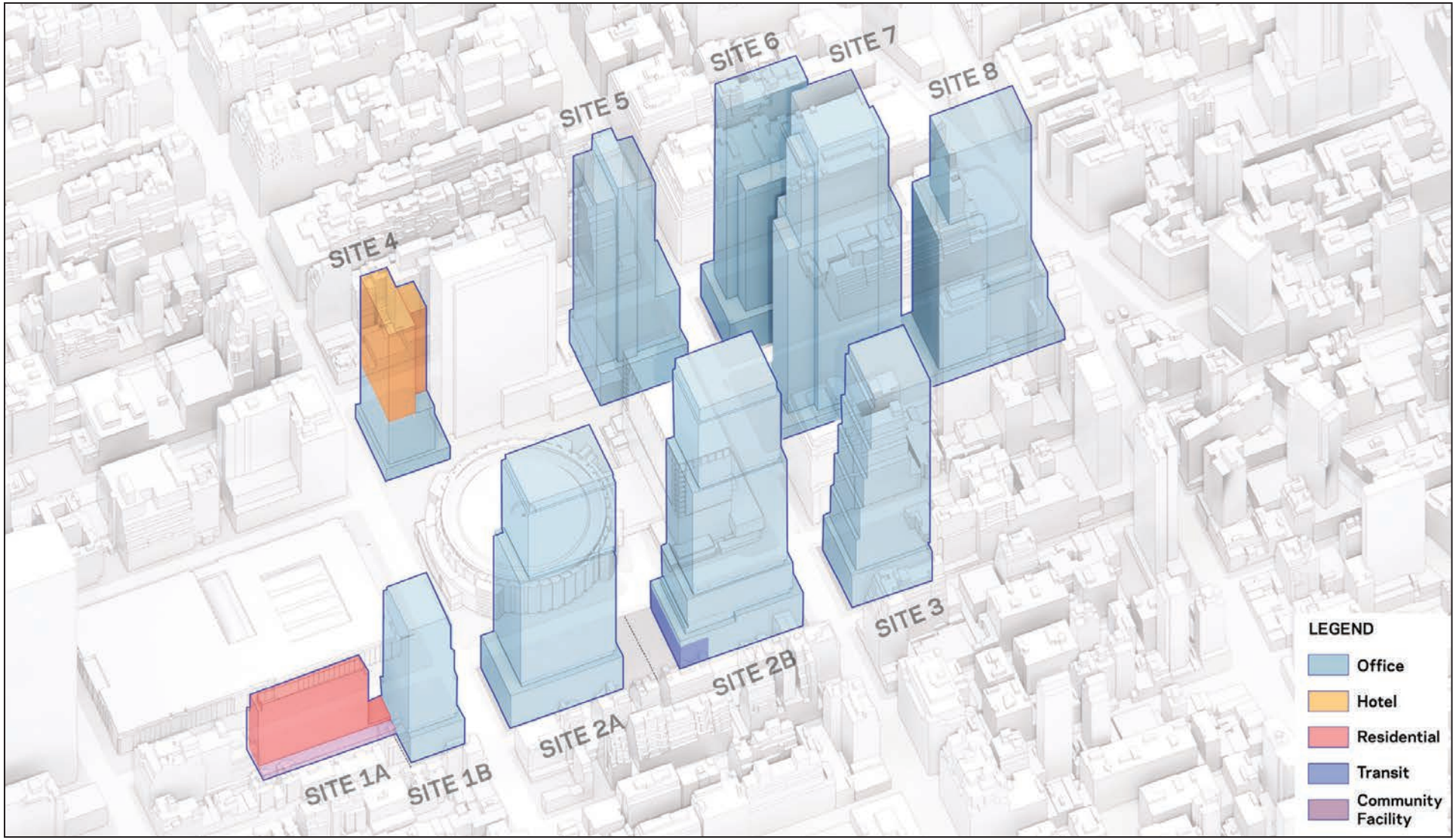

Source: FXCollaborative Architects LLP

PENNSYLVANIA STATION AREA
CIVIC AND LAND USE IMPROVEMENT PROJECT

Illustrative Massing - Commercial Scenario

Figure S-3

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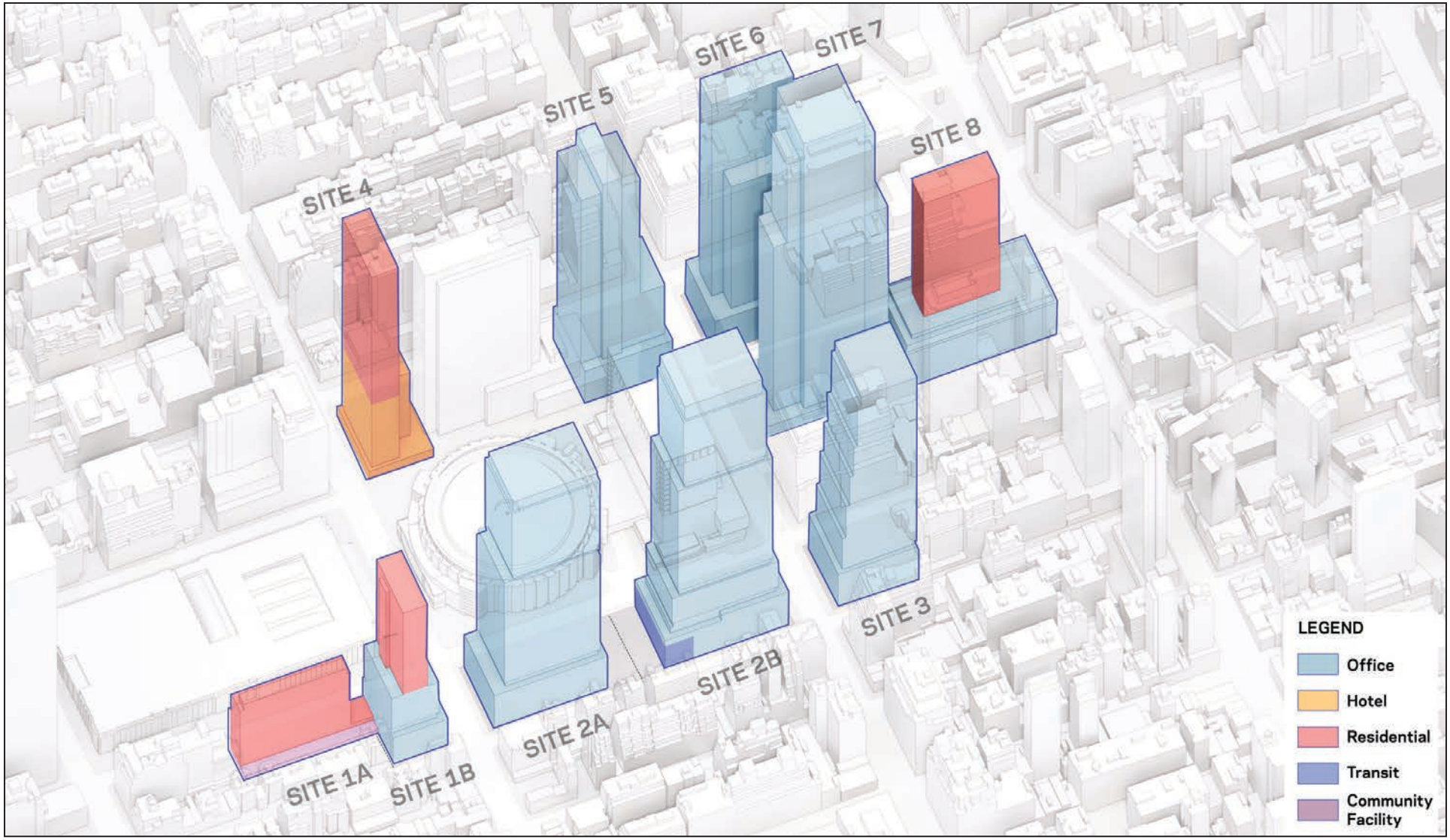

Source: FXCollaborative Architects LLP

***NOTE**: This figure shows illustrative massings for residential buildings on Sites 1A, 1B, 4, and 8. The Proposed Actions would permit residential development on these sites, up to a maximum of 1,798 dwelling units (DUs). Any combination of these buildings could include residential units so long as the combined total number of constructed DUs on all four sites does not exceed 1,798.*

Illustrative Massing – Residential Scenario

Figure S-4

Project Area. **Figure S-4** provides illustrative building massings with residential massings shown on the sites where residential development would be permitted.

Site 1

Site 1 is a 64,189-sf site at 403-415 Eighth Avenue, between West 30th and West 31st Streets (Block 754, Lots 34-41, 44, 51, and 63). Site 1 consists of Sites 1A and 1B, each of which would be redeveloped with a new building. These buildings would replace the existing lower-density mix of office, retail, hotel, residential, community facility, and parking uses.

Site 1A, located in the midblock portion of Site 1 along West 31st Street, would be redeveloped with a building containing approximately 488,000 gsf of floor area, including approximately 542 DUs (of which 30 percent, or 163 DUs, would be permanently affordable) and community facility and ground-floor retail spaces. Site 1A would be required to be a residential rental building with community facility and ground-floor retail uses.

Site 1B, located on the portion of Site 1 along Eighth Avenue, would have two potential development scenarios under the Proposed Actions—a commercial scenario and a residential scenario.

- Commercial Scenario: Under this scenario, Site 1B would be redeveloped with a building containing approximately 732,000 gsf of office and ground-floor retail space.
- Residential Scenario: Under this scenario, Site 1B would be redeveloped with an approximately 709,000-gsf building with 439 DUs (of which 30 percent, or 132 DUs, would be permanently affordable) and office and ground-floor retail space.

Site 2

Site 2 is a 158,000-sf site that occupies the full block bounded by West 30th and West 31st Streets and Seventh and Eighth Avenues (Block 780, all lots). Site 2 consists of Site 2A, on the western portion of the block, and Site 2B, on the eastern portion of the block. Site 2A/2B would be redeveloped with approximately 5.4 million gsf of office space with ground-floor retail and a new approximately 30,800-square-foot public plaza in the center of the block (or two plazas comprising the same total square footage, with one in the center of the block and one on Seventh Avenue).

Site 2A would be redeveloped with a building containing approximately 2.5 million gsf of office space and ground-floor retail.

In addition, Site 2A would include a new Penn Station service building in the base of the new building, as discussed below in "Penn Station Reconstruction and Expansion." Site 2B would be redeveloped with a building containing approximately 2.9 million gsf of office space and ground-floor retail. Site 2B would also accommodate a train hall for the potential expansion of Penn Station, as discussed below.

Site 2B Train Hall

The new train hall for the potential southern expansion of Penn Station would be located in the base of the building on Site 2B along West 31st Street with wrap-around frontage either in the midblock, adjacent to the new public plaza, or along Seventh Avenue. If the train hall is oriented to the midblock, the building on Site 2B would be setback 15 feet from the property line along Seventh Avenue. If the train hall is oriented toward Seventh Avenue, the building would be set back 50 feet from the property line along Seventh Avenue to provide for circulation space and an entry plaza.

This entry plaza would function as passive open space and would have programming, seating, and plantings. If the Seventh Avenue train hall option is developed on Site 2B, the size of the midblock open space would be reduced due to the shift in location for the building on Site 2B and an equivalent amount of new passive open space would be created in the plaza on the Seventh Avenue side of Site 2B. With either train hall option, Site 2 would include approximately 30,800 sf of publicly accessible open space.

Figures S-5 and **S-6** provide illustrative diagrams of the train hall options on Site 2B.

Site 3

Site 3 is a 44,438-sf site at 363-371 Seventh Avenue between West 30th and West 31st Streets (Block 806, Lots 1, 3, 6, 9, 69, and 76). Site 3 would be redeveloped with an approximately 1.6-million-gsf building with office and ground-floor retail uses, replacing the existing mix of predominantly hotel and commercial office uses.

Site 4

Site 4 is a 34,807-sf site on the east side of Eighth Avenue between West 33rd and West 34th Streets (Block 783, Lot 1 and part of Lot 70). Site 4 would be developed with an approximately 1.1-million-gsf mixed-use building. For analytical purposes, the FEIS assumes that three development scenarios may be permitted for this site under the Proposed Actions:

- Office/Hotel Scenario: Under this scenario, Site 4 would be redeveloped with a 1.1-million-gsf building with a mix of office, ground-floor retail, hotel uses, and accessory parking.
- Residential/Hotel Scenario: Under this scenario, Site 4 would be redeveloped with a 1.1-million-gsf building with a mix of residential, ground-floor retail, hotel uses, and accessory parking. This scenario would include approximately 630 DUs, of which 30 percent, or 189 DUs, would be permanently affordable.
- Residential/Office Scenario: Under this scenario, Site 4 would be redeveloped with a 1.1-million-gsf building with a mix of residential, ground-floor retail, office uses, and accessory parking. This scenario would include approximately 630 DUs, of which 30 percent, or 189 DUs, would be permanently affordable.

Site 5

Site 5 is a 45,425-sf site on the west side of Seventh Avenue between West 33rd and West 34th Streets (Block 783, Lots 34, 48, and part of Lot 70). Site 5 is expected to be developed with a 1.7-million-gsf building with office and ground-floor retail uses, replacing existing single-story retail, a six-story office podium, and relocating a Penn Station entrance to the corner.

Site 6

Site 6 is a 54,313-sf site on the east side of Seventh Avenue between West 33rd and West 34th Streets (Block 809, Lots 1, 3, 4, 5, 8, 16, 17, 69, 73, 80, and 82). Site 6 would be redeveloped with an approximately 2.1-million-gsf office and retail building with accessory parking, replacing existing lower-density retail, mixed-use commercial and residential buildings, and office uses.

Site 7

Site 7 is a 79,000-sf site on the east side of Seventh Avenue between West 32nd and West 33rd Streets (Block 808, Lot 7501). The site contains the Hotel Pennsylvania, which is currently closed

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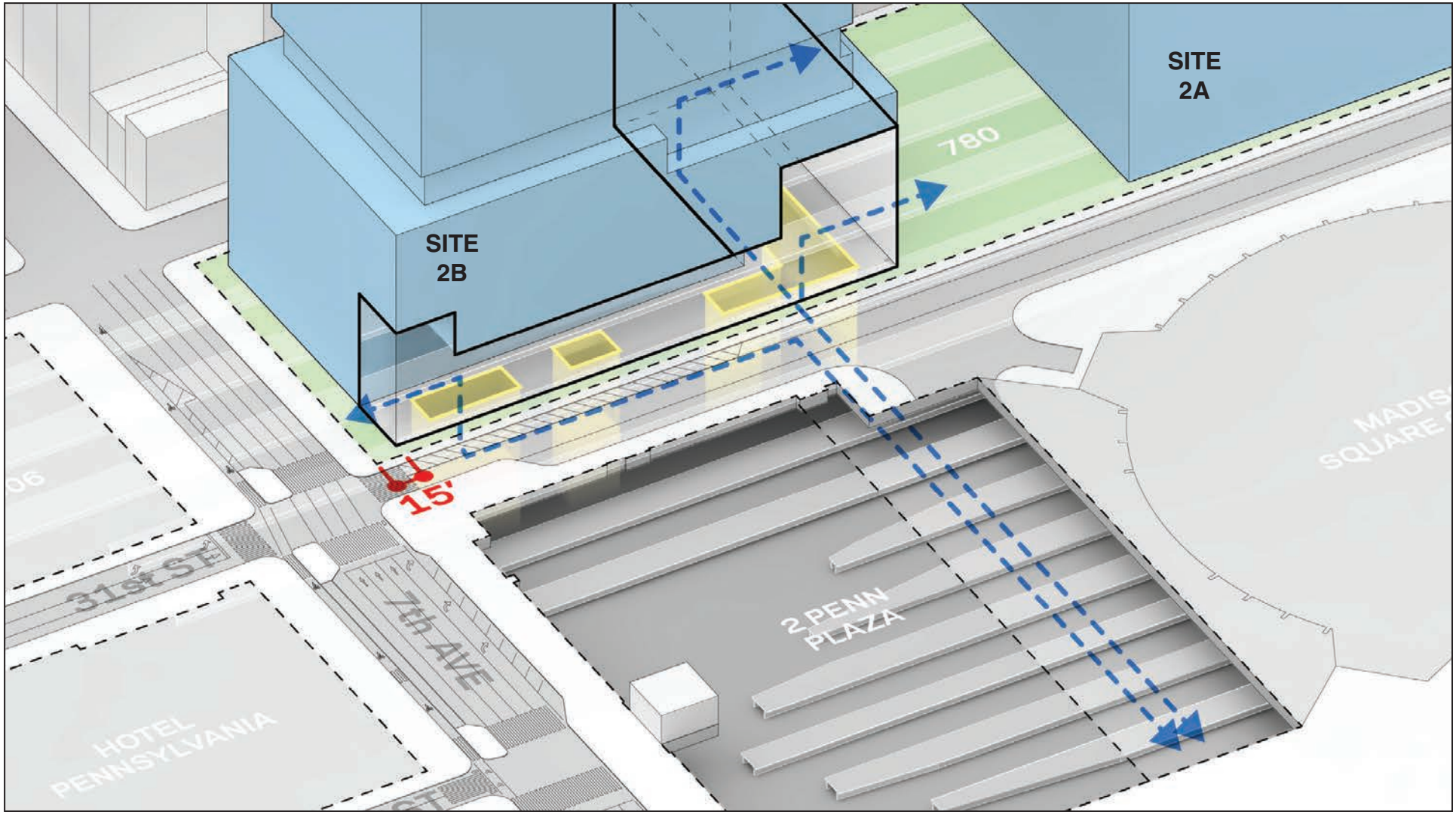


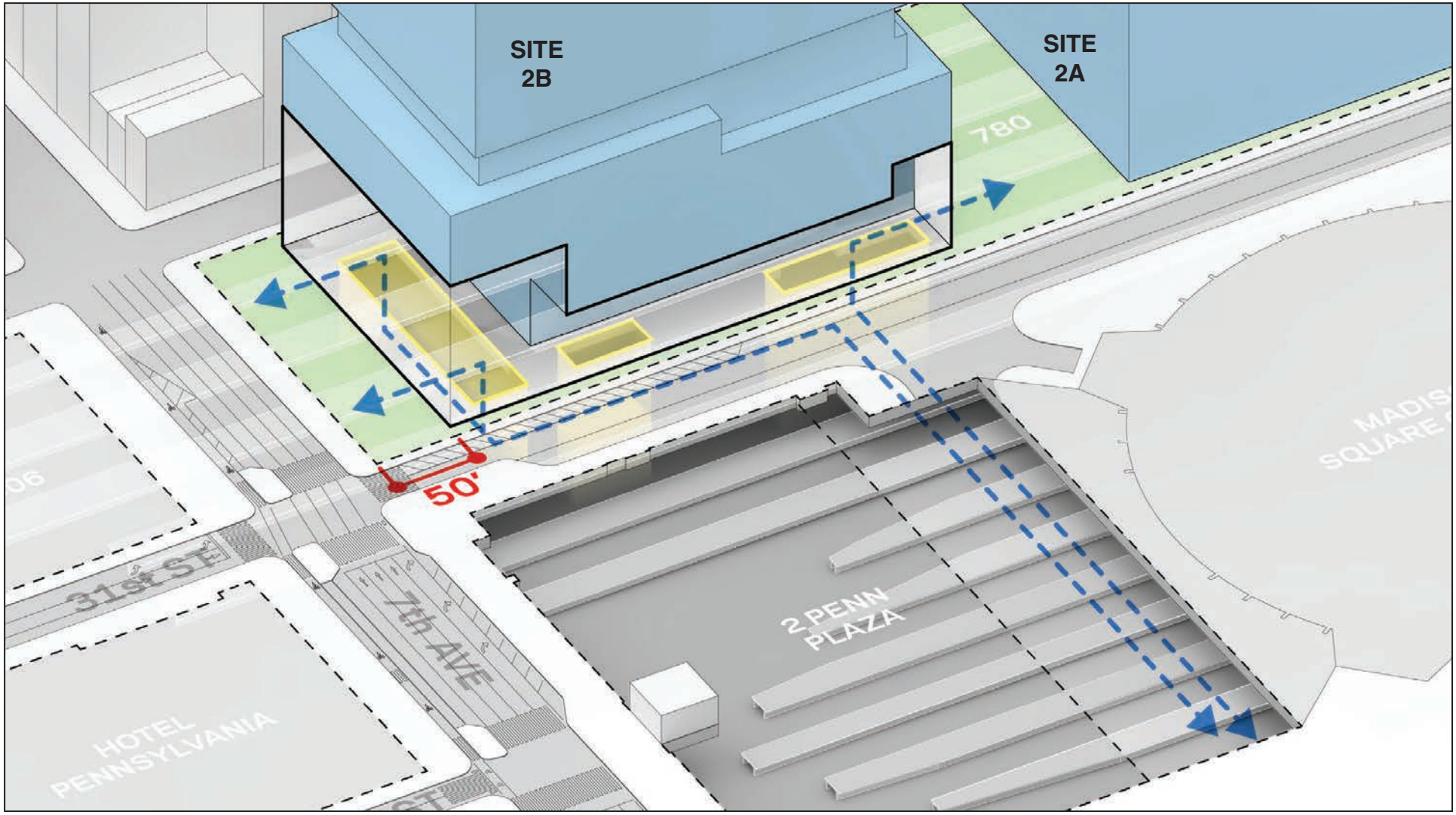
Source: FXCollaborative Architects LLP

PENNSYLVANIA STATION AREA
CIVIC AND LAND USE IMPROVEMENT PROJECT

Site 2B Midblock Train Hall Illustrative Diagram

Figure S-5

This figure is new to the FEIS



Source: FXCollaborative Architects LLP

PENNSYLVANIA STATION AREA
CIVIC AND LAND USE IMPROVEMENT PROJECT

Site 2B Seventh Avenue Train Hall Illustrative Diagram

Figure S-6

and undergoing demolition. The new building on Site 7 would contain approximately 2.6 million gsf of office, retail, and accessory parking uses.

Site 8

Site 8 is a 79,000-sf site on the west side of Sixth Avenue between West 32nd and West 33rd Streets (Block 808, Lot 40) with existing office and Manhattan Mall retail uses. Two development scenarios would be permitted for this site under the Proposed Actions:

- Office Scenario: Under this scenario, the existing building would be demolished, and Site 8 would be redeveloped with a 2.6 million gsf building with office, retail, and accessory parking.
- Residential Scenario: Under this scenario, the existing Manhattan Mall building would remain and an enlargement containing residential uses would be constructed above it. Accessory parking would also be added within the base of the existing Manhattan Mall building. This scenario would contain approximately 626 DUs, of which 30 percent, or 188 DUs, would be permanently affordable.

Building Forms

As noted above, the GPP would require that Sites 1 through 8 be developed in accordance with Design Guidelines, which specify the parameters for permitted development in lieu of zoning. The new buildings would have maximum base heights specified in the Design Guidelines, and the GPP would limit the overall floor area of each building. However, consistent with zoning in other high-density commercial areas of New York City, it would not impose height limits, except for on the midblock portion of Site 1, where a 350-foot height limit would be imposed (exclusive of rooftop mechanical equipment). Potential illustrative building heights for each site are provided in **Table S-1**. Illustrative building massings for each development site are shown in **Figures S-3** and **S-4**. If constructed, the buildings could be taller and slimmer or shorter and bulkier than shown in **Figures S-3** and **S-4**. Several factors have been taken into consideration to determine the development program and inform the illustrative depictions of the buildings, including the size of the development sites, the floorplate size necessary to accommodate modern office and residential developments, the amount of floor area necessary to achieve high-density commercial buildings that also provide space for on-site transit and public realm improvements, and the floor-to-ceiling heights sought by tenants of Class A office buildings. Additional details regarding the design parameters for each site established in the Design Guidelines, such as the maximum base heights and required tower setbacks, are described and analyzed in Chapter 3, "Land Use, Zoning, and Public Policy," and Chapter 9, "Urban Design and Visual Resources."

The proposed development program with the Proposed Project (the With Action condition) is summarized in **Table S-1**.

Residential Use

As shown in **Table S-1**, the Proposed Actions would permit residential development on Sites 1A, 1B, 4, and 8, up to a maximum of 1,798 DUs. Site 1A would be required to be a residential rental building, and the other three buildings could be developed with residential uses up to the maximum number of DUs on a "first come, first served" basis. Under this protocol, the building on Site 1A would be required to include residential uses, and developers on the other three sites could include residential uses so long as the combined total number of constructed DUs on all four sites does not exceed 1,798. Thirty percent of the residential units in each building would be set aside for affordable DUs, for a total of approximately 540 permanently affordable units.

Table S-1
Permitted Development Under the Proposed Actions

Site and Development Scenario	Total GSF	Total Commercial GSF	Office GSF	Retail GSF[4]	Hotel (Rooms)	DUs (# Affordable)	Parking Spaces	Community Facility GSF	Non-Program Area[1]	Illustrative Heights (in feet)
1A	487,955	6,000	0	6,000	0	542 (163)	0	18,398	48,796	275[2]
1B (Commercial Scenario)	731,911	592,848	584,348	8,500	0	0	0	0	139,063	605
1B (Residential Scenario)	708,676	254,078	245,578	8,500	0	439 (132)	0	0	99,098	665
2A	2,495,471	2,021,331	2,004,579	16,752	0	0	0	0	474,139	975
2B	2,867,235	2,322,461	2,303,213	19,248	0	0	0	0	544,775	1,150
3	1,612,820	1,306,384	1,294,384	12,000	0	0	0	0	306,436	915
4 (Office/Hotel Scenario)	1,100,000	866,000	289,160	100,000	734	0	100	0	209,000	664
4 (Residential/ Hotel Scenario)	1,100,000	406,660	0	100,000	472	630 (189)	100	0	209,000	915
4 (Residential/ Office Scenario)	1,100,000	406,660	306,660	100,000	0	630 (189)	100	0	209,000	915
5	1,739,510	1,409,003	1,289,003	120,000	0	0	0	0	330,507	1,018
6	2,079,849	1,659,678	1,539,344	120,334	0	0	100	0	395,171	1,130
7	2,600,000	2,081,000	1,879,000	202,000	0	0	100	0	494,000	1,270
8 (Commercial Scenario	2,600,000	2,081,000	1,875,000	206,000	0	0	100	0	494,000	975
8 (Residential Scenario)[3]	1,650,411	885,004	667,004	218,000	0	626 (188)	100	0	284,053	715

Notes:
1) Non-program area includes space for building mechanicals, circulation space associated with transit improvements on the ground and sublevels, back-of-house areas (e.g., hallways and corridors to the building core), certain building core space, and lobby and loading space on the ground and sublevels.
2) The Design Guidelines impose a height limit of 350 feet on Site 1A, exclusive of rooftop mechanical equipment. The illustrative heights for the other sites are presented for informational purposes; the Design Guidelines do not impose height limits on these sites.
3) Under the Residential Scenario for Site 8, the existing Manhattan Mall building would remain on Site 8 and a new building expansion containing residential uses would be constructed above it. Therefore, the program shown in the table for Site 8 includes approximately 885,000 gsf of commercial use (office and retail) associated with the existing Manhattan Mall building, and 481,354 gsf of residential use and parking to be constructed as part of the Residential Scenario.
4) The indicated square footage for retail uses may include physical culture or health establishments (gyms), and community facilities without sleeping accommodations. These uses are conservatively analyzed as retail uses in the technical analyses of the EIS.

Income bands for the affordable units have not been determined at this time. In addition, all residents displaced from the development sites who income certify (i.e. qualify for affordable housing by meeting the income requirements for the affordable units) would have a right to return to an affordable unit on Site 1A. There are currently 128 residences on the development sites, all on Sites 1, 2, and 3. There are no existing residences on Sites 4, 5, 6, 7, and 8.

It is anticipated that the affordable housing developed as part of the Proposed Project would be financed in part by the New York State Division of Housing and Community Renewal (HCR). HCR is committed to affirmatively furthering fair housing and removing barriers to housing choice for New Yorkers. As such, all marketing materials and leasing of HCR-funded units in new multifamily developments on Sites 1A, 1B, 4, and 8 would comply with all applicable fair housing laws and associated policies to reduce segregation, and encourage integration in housing by promoting housing choice and opportunities regardless of one's protected characteristics.

Sustainable Design Measures

As noted above, an objective of the Proposed Project is to incorporate sustainable design practices to achieve environmentally superior performance in the development and operation of the new buildings. The development on all sites would meet this objective as energy efficient measures and sustainable design elements are prescribed by the Design Guidelines for all buildings. Sites 1,

4, and 7 (assumed to be the first three buildings to be constructed as part of the Proposed Project) would be among the first new buildings to be designed and constructed after the passage of Local Law 97 of 2019, which places carbon intensity limits on most buildings larger than 25,000 sf, and those limits become more stringent over time. ESD would require compliance with the requirements of New York City's Climate Mobilization Act (CMA), including Local Law 97, so the Proposed Project commercial and residential buildings would be required to meet applicable future carbon intensity limits as well as the green/solar rooftop requirements established under the law. ESD would also require that all buildings be designed to operate with fully electric heating, ventilation, and air conditioning (HVAC) and hot water systems with the only on-site emission sources being emergency back-up generators (per New York City Department of Buildings [NYCDOB] requirements).

In addition to requiring compliance with the CMA and fully electric HVAC and hot water systems, the Proposed Project buildings would be subject to additional sustainability requirements as set forth in the Design Guidelines. These requirements would include:

- Achieve a LEED score exceeding the LEED Gold standard.
- Mandatory achievement of several LEED categories (or equivalent standards) that are typically optional, including:
  - Required embodied carbon analysis and optimization;
  - Enhanced mechanical electrical plumbing systems and envelope commissioning;
  - Advanced energy metering;
  - Enhanced refrigerant management; and
  - Heat island effect mitigation
- Stormwater management utilizing multiple strategies which may include grey water collection and treatment for reuse in landscape irrigation.
- Coordination with the Railroads on potential synergies between the mechanical systems for the potential Penn Station expansion and buildings above.

PUBLIC TRANSPORTATION AND PUBLIC REALM IMPROVEMENTS

Public Transportation Improvements

The Proposed Project would include public transportation improvements consisting of improvements to passenger rail and subway station facilities at and adjacent to Penn Station and new entrances and improvements to existing entrances to the station complex and subway stations that would be built outside the footprint of existing Penn Station. ESD, through the GPP and in collaboration with MTA, would require the completion of certain public transportation improvements as part of certain new building construction in the Project Area. It is anticipated that transit improvements would be implemented at the 34th Street–Penn Station–Eighth Avenue [A/C/E], 34th Street–Penn Station–Seventh Avenue [1/2/3], and 34th Street–Herald Square–Sixth Avenue [B/D/F/M/N/Q/R/W/PATH] subway stations. The proposed public transportation improvements are summarized below:

Sites 1, 2, and 3

- New Penn Station entrances and new below-grade connections to existing Penn Station with publicly accessible in-building connections.

Site 4

These improvements would be made to the 34th Street–Penn Station (Eighth Avenue) subway station:

- New Penn Station and subway entrance at the corner of Eighth Avenue and West 33rd Street with new ADA-compliant elevator at this entrance;
- New West 34th Street subway entrance with ADA-compliant elevator; widening of the uptown local C/E platform between West 33rd and West 34th Streets;
- One new and two widened express platform stairs;
- New underground passageway to connect 33rd Street Penn Station Level A concourse with A/C/E subway mezzanine between 33rd Street and 34th Street;
- Two new uptown local C/E platform stairs; and
- One reconfigured fare control area.

Site 5

These improvements would be made to the 34th Street–Penn Station–Seventh Avenue subway station:

- New Penn Station and subway entrance at the corner of Seventh Avenue and West 34th Street with escalators and an elevator, as well as new connections between Penn Station and the subway underpass and the fare control area at West 34th Street;
- New West 33rd Street subway entrance; and
- Relocation and widening of the downtown local No. 1 platform stairs, accompanied by an elevator, between West 33rd and West 34th Streets into the property line.

Site 6

These improvements would be made to the 34th Street–Penn Station (Seventh Avenue) subway station:

- Widen the uptown local No. 1 platform between West 33rd and West 34th Streets;
- New West 33rd Street subway entrance;
- New West 34th Street subway entrance;
- Widening stairs from West 33rd Street-Seventh Avenue underpass to Penn Station; and
- Widening West 33rd Street paid-zone stairs together with relocating an elevator.

This site would also include portions of the new north-south underground corridor, as discussed in more detail below.

Site 7

These improvements would be made to the 34th Street–Penn Station (Seventh Avenue) subway station:

- Widen the uptown local No. 1 platform between West 32nd and West 33rd Streets;
- New West 32nd Street subway entrance just east of Seventh Avenue;
- New West 33rd Street subway entrance just east of Seventh Avenue with ADA-compliant elevator,
- Widening of the paid zone stair at the west end of the 32nd Street underpass;
- New fare control area at the West 33rd Street underpass;
- Reconfigure West 33rd Street free zone underpass and widen stair and add an ADA-compliant elevator; and

- Add new express No. 2/3 platform stairs at the north and south portions of the station.

This site would also include the east-west underground corridor and a portion of the new north-south underground corridor, as discussed in more detail below.

Site 8

These improvements would be made to the 34th Street–Herald Square subway station:

- New subway entrances at West 32nd and West 33rd Streets and Sixth Avenue, plus additional escalators and/or other vertical circulation elements as needed in consultation with MTA and NYCT;
- Reconstruct two mezzanine stairs connecting the N/Q/R/W and B/D/F/M;
- Reconfigure the fare control area at the B/D/F/M mezzanine level; and
- Replace the PATH-related elevator in the new building on Site 8.[4]

This site would also include portions of the new east-west underground corridor, as discussed in more detail below.

Underground Concourse Network

As an estimated 70 percent of Penn Station users are expected to have destinations east and north of the station, an important component of the Proposed Project's program of public transportation improvements is the creation of a new underground concourse network east of Seventh Avenue providing a below-grade connection from Penn Station to the 34th Street–Penn Station–Seventh Avenue subway station and the 34th Street–Herald Square subway station. The purpose of this concourse system is two-fold: to alleviate pedestrian sidewalk crowding on the Seventh Avenue side of Penn Station as well as to divert some Penn Station-subway intermodal trips to the generally less congested 34th Street–Herald Square Subway Station. This proposed Underground Concourse Network has three primary components:

1. One or two crossings beneath Seventh Avenue;
2. An east–west underground corridor connecting the 34th Street–Herald Square and the 34th Street–Penn Station–Seventh Avenue subway stations and providing access to Sites 7 and 8 with midblock emergency egress (the East-West Connector); and
3. A north-south underground corridor east of Seventh Avenue from approximately West 32nd Street to West 34th Street, with connections to Penn Station and the East-West Connector. This north-south underground corridor would be within the footprints of, and provide access to, Sites 6 and 7 (the North-South Corridor).

There are two options under consideration for the East-West Connector, subject to additional analysis for engineering and financial feasibility. One of the options would be located along West 33rd Street (the 33rd Street Option) and the other would be located along West 32nd Street (the 32nd Street Option). The overall underground concourse network would have a different configuration depending on which East-West Connector option is implemented.

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[4] The PATH-related elevator would be replaced only if the existing building on Site 8 is demolished and a new building constructed. If Site 8 is developed with a residential overbuild above the existing building, the existing PATH elevator would be maintained. Aside from the PATH-related elevator, the same transit improvements (or functionally equivalent improvements) would be implemented at Site 8 under the residential scenario for that site.

- Underground Concourse Network with 33rd Street Option: This network would include a North-South Corridor between approximately West 32nd Street and West 34th Street, an East-West Connector in the approximate location of the former Gimbels passageway on the south side of West 33rd Street (wider than the former Gimbels passageway), and a reconfigured fare control area under West 33rd Street to function as a Seventh Avenue undercrossing to connect Penn Station to the concourse network. In addition, one of the mezzanine stairs connecting the N/Q/R/W and B/D/F/M trains would be constructed together with this option.
- Underground Concourse Network with 32nd Street Option: This network would include a North-South Corridor from West 34th Street to a location south of West 32nd Street, an East-West Connector along West 32nd Street, and two Seventh Avenue undercrossings: (1) the same reconfigured fare control area under West 33rd Street and (2) a new undercrossing of Seventh Avenue between West 31st Street and West 32nd Street.

The construction of the Underground Concourse Network would occur over time with the development of Sites 6, 7, and 8. The East-West Connector (either option) would be constructed and operational as part of the development of Site 7, with an interim connection through or adjacent to Site 8 to the 34th Street–Herald Square subway station until Site 8 is redeveloped. When Site 8 is developed with either the commercial scenario or the residential scenario, the development would widen and enhance the eastern portion of the East-West Connector and add new or reconstructed station connections on both the West 32nd Street and West 33rd Street sides of the building. The portions of North-South Corridor within Sites 6 and 7 would be constructed at the time those sites are redeveloped.

Summary

Figure S-7 provides an overview map of the locations of the proposed transportation improvements, with the corresponding map numbers and improvement descriptions provided in **Table S-2** below. **Figure S-7** shows both the 33rd Street Option and the 32nd Street Option for the East-West Connector. **Figure S-8a through S-8c** provides additional illustrative technical details and diagrams for these transportation improvements as developed for analysis in this FEIS.

In addition, a potential underground passage from the potential expansion of Penn Station to Moynihan Train Hall is under consideration subject to additional analysis for engineering and financial feasibility.

Public Realm Improvements

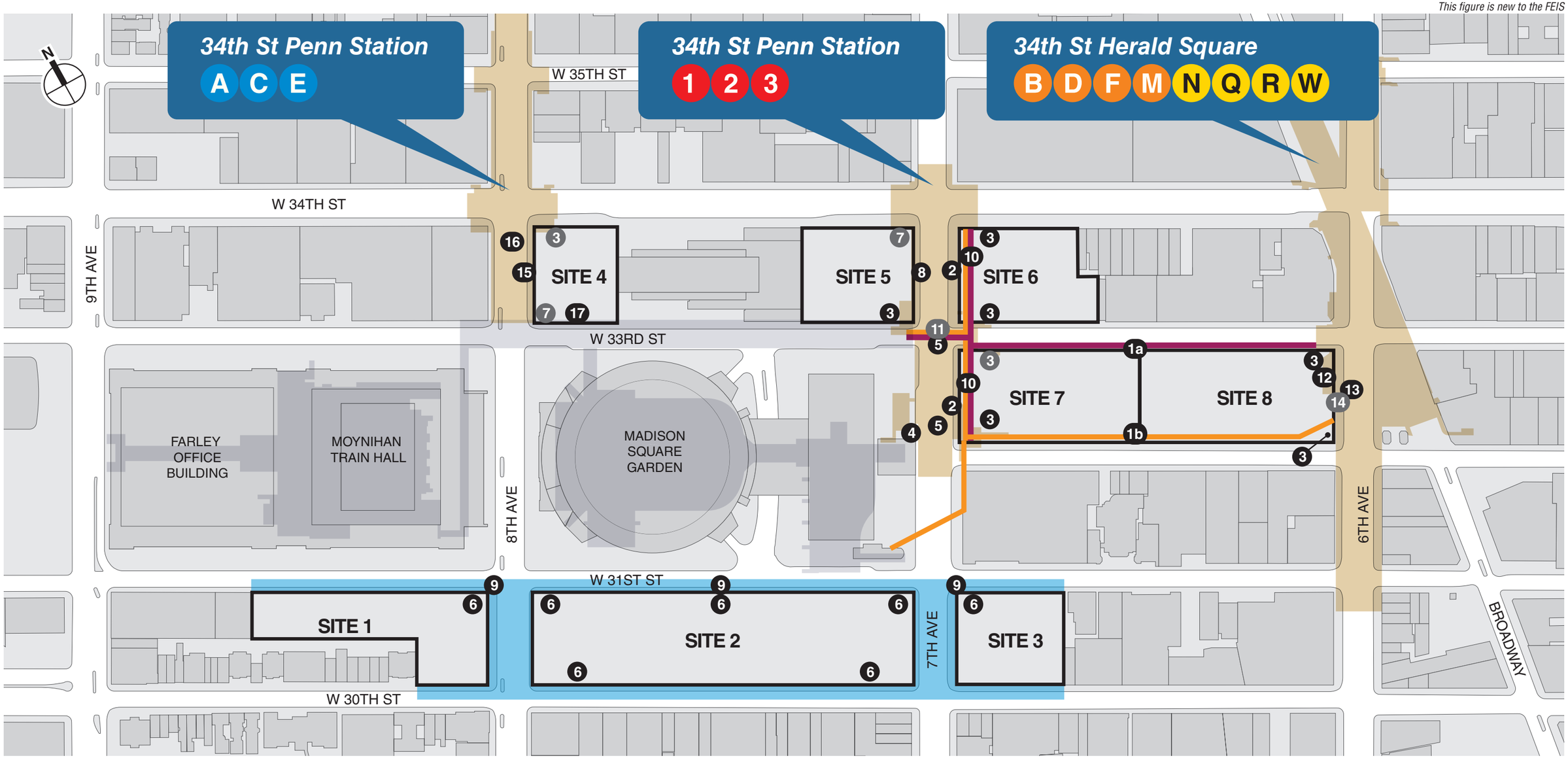
ESD, through the GPP, would require the implementation of above-grade public realm improvements in the Project Area in connection with the proposed developments. The above-grade public realm improvements include sidewalk widenings, new passive open space, the potential creation of shared streets, and the potential installation of protected and standard bike lanes. The public realm improvements are shown in **Figure S-9**. A Public Realm Task Force would be created to advise ESD on the design of these improvements, as set forth in the Design Guidelines.

Sidewalk Widenings

Sidewalks would be widened on the sites adjoining the City-owned mapped streets at the locations listed below and shown in **Figure S-9**. The widenings would be accomplished by setting the new buildings back from the property line.

6.14.22

This figure is new to the FEIS



Source: FXCollaborative Architects LLP

Development Sites

Potential Expansion of Penn Station

Penn Station Below-Grade Footprint

NYCT Subway Stations

Transit improvement

Transit improvement with elevator

Proposed Underground Concourse with East-West Connector along West 33rd Street

Proposed Underground Concourse with East-West Connector along West 32nd Street

Notes:
1) One of the two options for the East-West Connector would be selected and implemented.

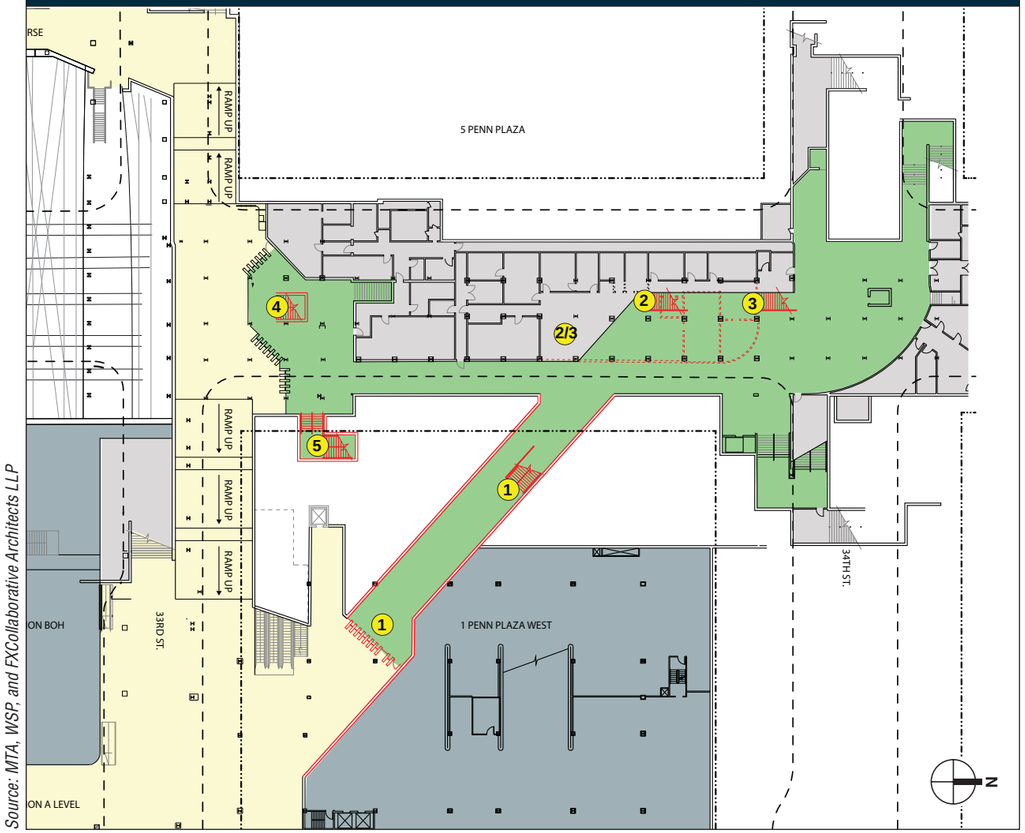
2) The location of transit improvements shown in this figure is illustrative and may be subject to further design and engineering refinements and, if applicable, to securing any property interests needed to construct and maintain the improvements.

Proposed Public Transportation Improvements

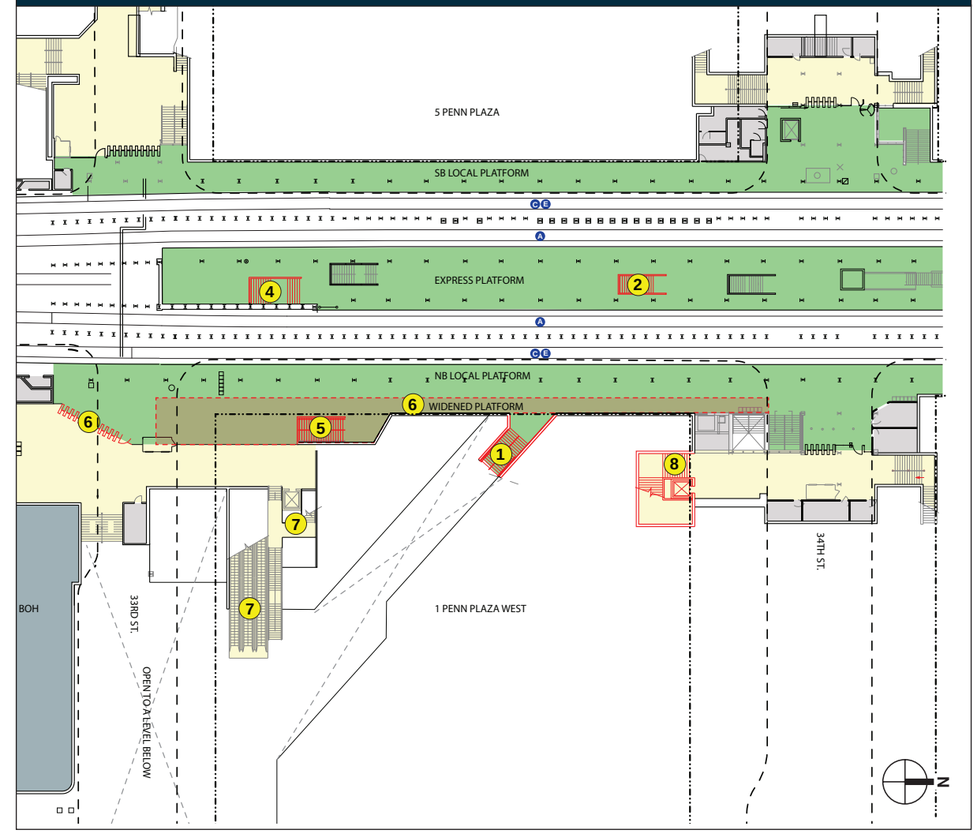
Figure S-7

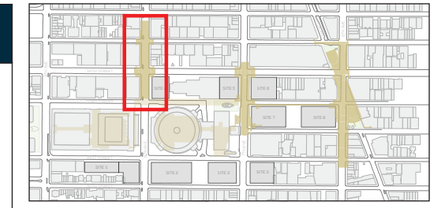
6.22.22

Eighth Avenue (A/C/E) Mezzanine Level (A Level Penn Station)



Eighth Avenue (A/C/E) Platform Level (B Level Penn Station)





- Free Zone
- Paid Zone
- Non NYCT Space
- Public Transportation Improvement Element
- Demolition for Transportation Improvements

Facility	Location	Element/Description	Phase	Associated w/
34th Street–Penn Station– Eighth Avenue [A/C/E] Subway Station	Bet. 33rd & 34th Streets	New 33rd Street easement access to subway and Penn Station (7). • Replace 4.4' S5/P4 with three escalators, one 6' stairs, and one elevator. New 34th Street easement access to subway (8). • Replace 10' S7/P6 with one 10' stairs and one elevator. New 20' passageway connecting Level A and existing subway passageway (1). • Flared to 30' wide to accommodate FCA. • One 10' stairs connecting to uptown local platform. Widen uptown local platform between 33rd and 34th Streets (6). • Reconfigure FCA N072 - reduce # of turnstiles from 11 to 8. New 10' stairs from FCA N067 to uptown local platform (5). Widen M23/M24 from 8.7' to 10' (4). New 7.5' express platform stairs (2). Flip and widen M27 from 5.7' to 7.5' (3).	1	Site 4

Note: The location of transportation improvements shown in the figure is illustrative and may be subject to further design and engineering refinements and, if applicable, to securing any property interests needed to construct and maintain the improvements.

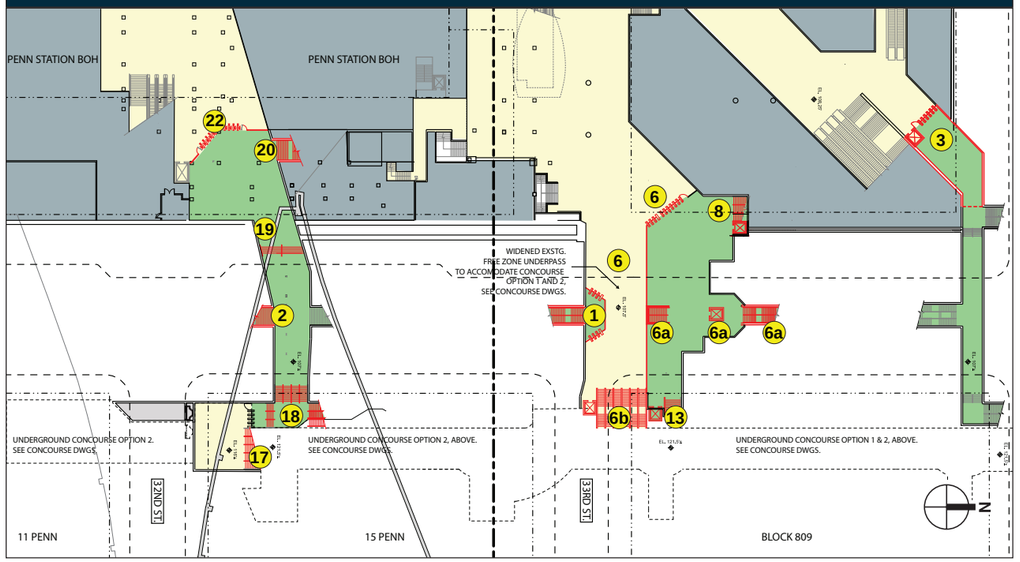
Source: MTA, WSP, and FXCollaborative Architects LLP

Proposed Public Transportation Improvements - Illustrative Technical Details and Diagrams

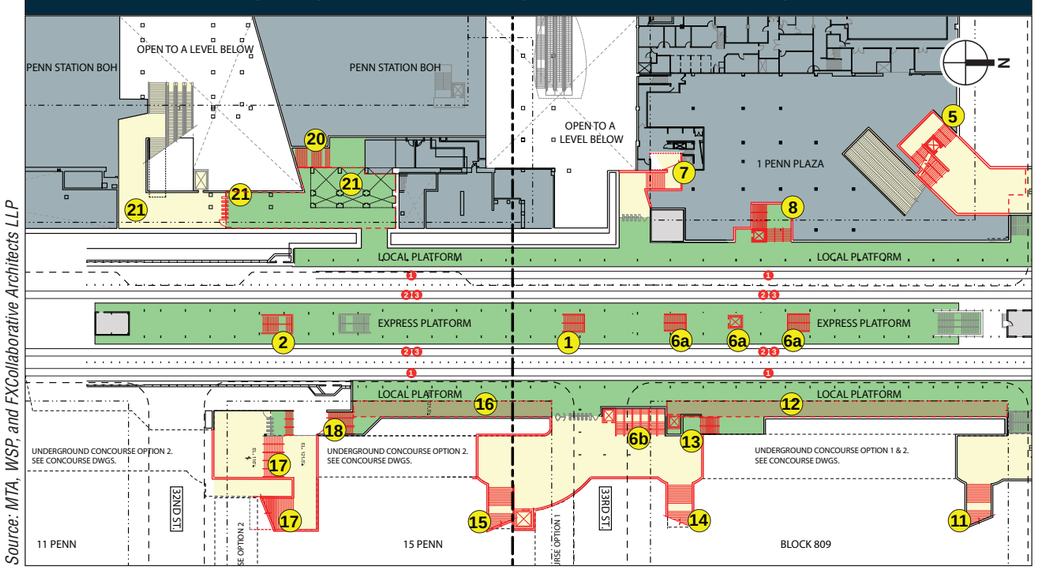
Figure S-8a

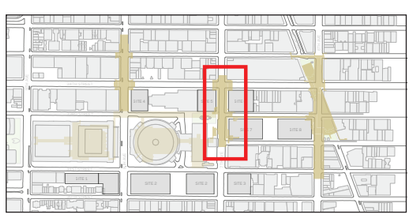
6.22.22

Seventh Avenue (1/2/3) Mezzanine Level (A Level Penn Station)



Seventh Avenue (1/2/3) Platform Level (B Level Penn Station)





- Free Zone
- Paid Zone
- Non NYCT Space
- Public Transportation Improvement Element
- Demolition for Transportation Improvements

Source: MTA, WSP, and FXCollaborative Architects LLP

PENNSYLVANIA STATION AREA
CIVIC AND LAND USE IMPROVEMENT PROJECT

Facility	Location	Element/Description	Phase	Associated w/
34th Street–Penn Station–Seventh Avenue [1/2/3] Subway Station	Herald Square Link (33rd Street East-West Connector Option or 32nd Street East-West Connector Option)	33rd or 32nd Street East-West Connector between Sixth and Seventh Avenues. 33rd St. Option (22'-0" under Site 7 and 14'-8" under existing Site 8 Manhattan Mall). • New 14' easement stairs connecting to Site 7. 32nd St. Option would be accompanied by underpass southward to the 31st to 32nd Street block, across Seventh Avenue to Penn Station Level A (22'-0").	1	Site 7
	East side of Seventh Avenue (North-South Corridor)	North-South Corridor (25') between 32nd and 33rd Streets.	1	Site 7
		North-South Corridor (25') between 33rd and 34th Streets.	2	Site 6
	Bet. 32nd & 33rd Streets	Widen uptown local platform between 32nd and 33rd Streets (16).	1	Site 7
		Replace 10.8' O17/P3 easement stairs at 33rd Street with widened 15' stairs (15).	1	Site 7
		Replace 10.5' O14/O15 easement stairs at 32nd Street with widened 15' stairs (17).	1	Site 7
		Widen uptown local platform stairs (18). • O9/O10 stairs from 5.7' to 10'. • O8 stairs from 9' to 20'.	1	Site 7
		New 10' express platform stairs at 32nd Street underpass (2).	1	Site 7
		Widen U10/U14 underpass stairs from 12.8' by 7.5' to 20.3' (19).	1	Site 7
		Widen and relocated O5/O6 stairs from 4.7' to 10' (20).	1	MTA
		Reconfigure FCA R135 and increase # of turnstiles from 6 to 10 (22).	1	MTA
		Add direct access from downtown local platform to Penn Station Level A (21). • New FCA with 5 turnstiles.	1	MTA
	Bet. 33rd & 34th Streets	Widen uptown local platform between 33rd and 34th Streets (12).	2	Site 6
		Widen underpass (6). • Relocate FCA R138 and maintain # of turnstiles at 12 (6).	1 2	Site 7 Site 5
		New 10' express platform stairs at 33rd Street underpass (1). • New FCA with 3 exit only turnstiles and a gate.	1	Site 7
		Shift 9.75' ML 10 and ML 13 express platform stairs and relocate elevator (6a).	1	Site 7
		Replace ML7/ML11 with new 15' stairs and an elevator (8).	2	Site 5
		Replace 6.8' reconstructed S1/P1/P2 with new 10' easement stairs (7). • Replace FCA R140 and increase # of turnstiles from 3 to 4.	2	Site 5
		New connection and FCA bet. Penn Station Level A and 34th Street subway underpass (3). • 5 turnstiles.	2	Site 5
		New easement street connections at Seventh Avenue and 34th Street (5). • Four 40"-tread escalators to Penn Station Level A. • New 20' stairs between Penn Station Level A and downtown local. • New 5' stairs between Penn Station Level A and street. • Replace S3/P5 with new 10' easement stairs bet. downtown local and street. • New elevator.	2	Site 5
		Widen ML4 from 12.8' to 30' at 33rd Street underpass (6b). • New elevator.	2	Site 6
		Widen ML6/ML8 from 4.75' to 10' (13). • Relocate elevator.	2	Site 6
		Replace 5.4' S2/P4 and 5.9' O18/O19 with new 10' easement stairs (14).	2	Site 6
		Replace 10' P6 with new 15' easement stairs (11).	2	Site 6

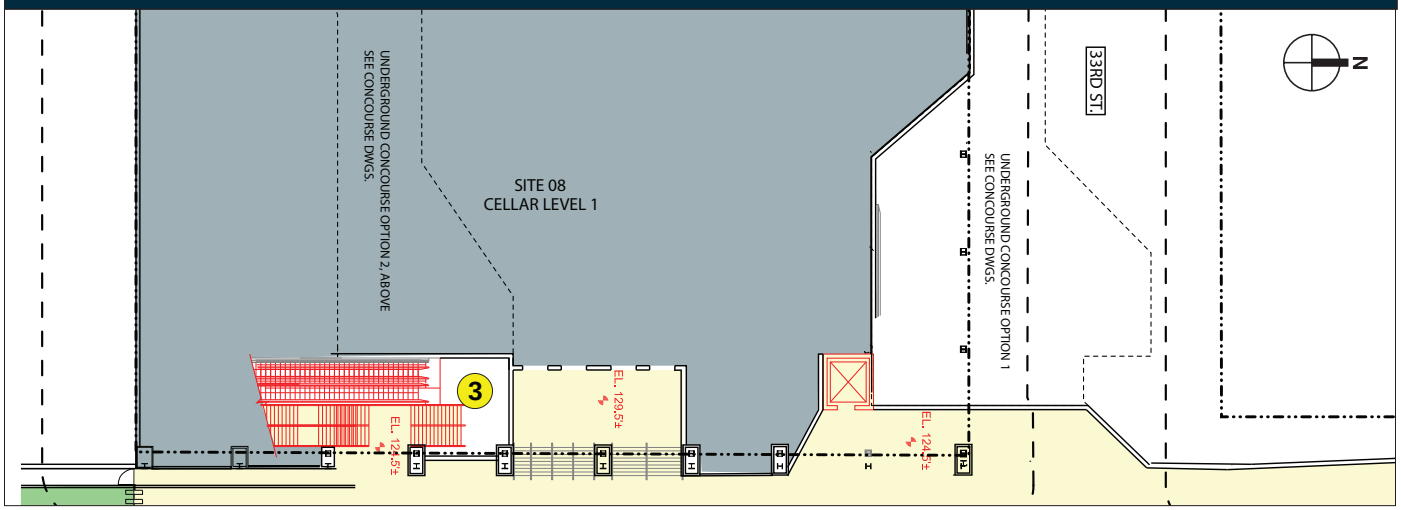
Notes:
1) The location of transportation improvements shown in the figure is illustrative and may be subject to further design and engineering refinements and, if applicable, to securing any property interests needed to construct and maintain the improvements.
2) One of the two options for the East-West Connector would be selected and implemented.
3) Improvements associated with MTA in the table above are assumed to be completed by MTA as part of the Penn Station reconstruction.

Proposed Public Transportation Improvements - Illustrative Technical Details and Diagrams

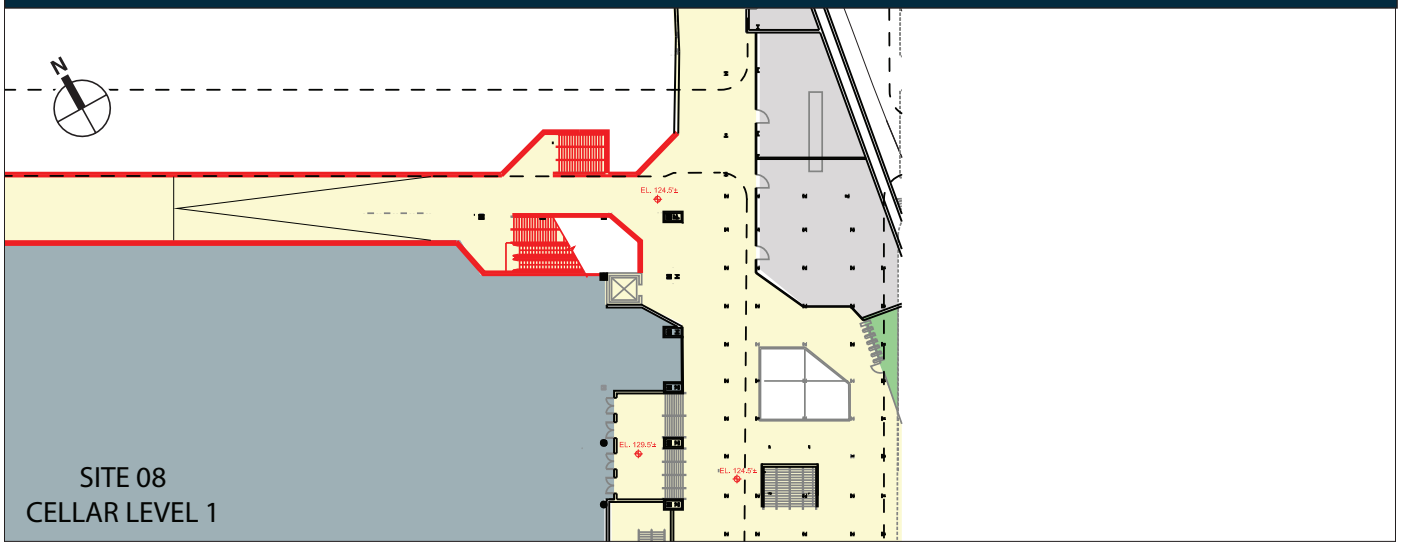
Figure S-8b

6.22.22

Herald Square - Mezzanine Level South - Enlarged



Herald Square Connector - Enlarged



Source: MTA, WSP, and FXCollaborative Architects LLP

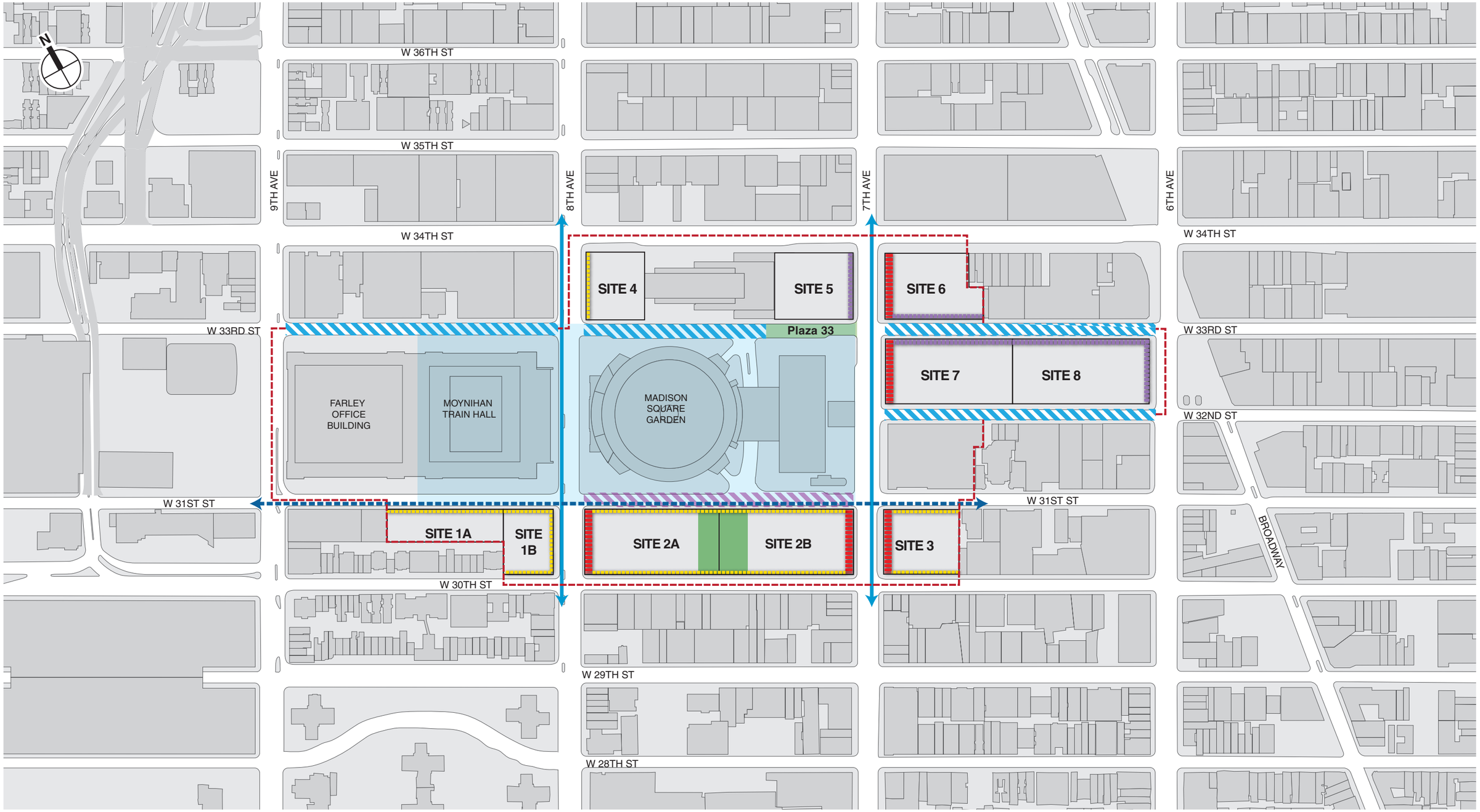
Facility	Location	Element/Description	Phase	Associated w/
34th Street–Herald Square–Sixth Avenue [B/D/F/M/N/Q/R/W/PATH] Subway Station	Herald Square Link	33rd Street Option between Sixth and Seventh Avenues. • New 15' stairs connecting to Herald Sq. IND mezzanine.	1	Site 7
		33rd Street Option between Sixth and Seventh Avenues. • Widen to 22'-0" under Site 8.	2	Site 8
	Bet. 32nd & 33rd Streets	Rationalize and expand capacity of easement entrances (3). Two reconstructed mezzanine stairs connecting BMT and IND trains. • Above IND mezzanine stairs associated with 33rd Street link • Reconstruct 7' ML1 to 15'. Increase # of turnstiles at FCA N507 (BMT mezzanine level) from 11 to 19. 33rd Street side of building: • New 9.5' street stairs and one 40"-tread escalator. • New elevator. 32nd Street side of building: • Replace 6' HM307 with 15' new easement stairs. • Replace 32"-tread E221/E222 with 40"-tread escalators Replace PATH elevator. (Only if development of Site 8 involves demolition of Manhattan Mall building).	2	Site 8

Notes:
1) The location of transportation improvements shown in the figure is illustrative and may be subject to further design and engineering refinements and, if applicable, to securing any property interests needed to construct and maintain the improvements.
2) One of the two options for the East-West Connector would be selected and implemented.

Proposed Public Transportation Improvements - Illustrative Technical Details and Diagrams

Figure S-8c

6.14.22



Source: FXCollaborative Architects LLP

Project Area
Development Sites
Existing Penn Station

Sidewalk Widenings
15'
10'
5'

Shared Street
Potential Shared Street
Bike Lane
Protected Bike Lane (constructed with permanent materials)

Proposed Open Space
Other Planned Open Space

PENNSYLVANIA STATION AREA
CIVIC AND LAND USE IMPROVEMENT PROJECT

Proposed Public Realm Improvements
Figure S-9

Table S-2
Transportation Improvements Summary

Map Number*	Transportation Improvement
1a	Establish the East-West Connector below West 33rd Street, connecting the 34th Street-Herald Square and the 34th Street (Seventh Avenue)–Penn Station Subway Stations, providing access to Sites 7 and 8 and including emergency midblock egress.
1b	Establish the East-West Connector below West 32nd Street, connecting the 34th Street-Herald Square and the 34th Street (Seventh Avenue)–Penn Station Subway Stations, providing access to Sites 7 and 8 and including emergency midblock egress. This option would include a new undercrossing below 7th Avenue between West 31st and West 32nd Streets.
2	Widen the uptown local No. 1 platform between West 32nd Street and West 33rd Street, and between West 33rd Street and West 34th Street
3	New easement subway entrances *(Gray shading of map number indicates new entrance with elevator)*
4	Widen the paid zone stair at the west end of the 32nd Street underpass
5	Add new express No. 2/3 platform stairs
6	New Penn Station entrances
7	New Penn Station and new subway station entrance within building *(Gray shading of map number indicates new entrance with elevator)*
8	Relocate and widen the downtown local No. 1 stairs and elevator to within Site 5 property line
9	New below-grade connections to existing Penn Station with publicly accessible in-building connections at Sites 1, 2, and 3
10	New North-South Corridor under Sites 6 and 7
11	New fare control area at the West 33rd Street underpass; reconfigure West 33rd Street free zone underpass and widen stair and new elevator; reconfigure fare control area with new elevator; widen paid zone stair and relocate elevator
12	Construct additional escalators and/or other vertical circulation elements as needed in consultation with the MTA and NYCT
13	Reconstruct two mezzanine stairs connecting the N/Q/R/W and B/D/F/M subway lines and reconfigure the fare control area at the B/D/F/M mezzanine level
14	Replace the PATH elevator in the new building on Site 8 (only if the existing building on Site 8 is demolished and a new building constructed. If Site 8 is developed with a residential overbuild above the existing building, the existing PATH elevator would be maintained.)
15	Widen the uptown local C/E platform between West 33rd Street and West 34th Street
16	Build one new express platform stair and widen two existing express platform stairs
17	Build new passageway to connect 33rd Street Penn Station concourse with A/C/E subway mezzanine between 33rd Street & 34th Street, build two new uptown local C/E platform stairs, and reconfigure fare control area

Notes: * Refer to Figure S-7 for map numbers.
The location of transportation improvements shown in Figure S-7 is illustrative and may be subject to further design and engineering refinements and, if applicable, to securing any property interests needed to construct and maintain the improvements.

- The entire north side of West 30th Street between Seventh and Eighth Avenues, and portions of the north side of West 30th Street, between Eighth and Ninth Avenues and Sixth and Seventh Avenues;
- The entire south side of West 31st Street between Seventh and Eighth Avenues, and portions of the south side of West 31st Street, between Eighth and Ninth Avenues and Sixth and Seventh Avenues;
- Both sides of West 33rd Street between Sixth and Seventh Avenues (all of the south side and western portion of the north side);
- Both sides of Eighth Avenue between West 30th and West 31st Streets, and the east side of Eighth Avenue between West 33rd and West 34th Streets;
- Both sides of Seventh Avenue between West 30th and West 31st Streets, both sides of Seventh Avenue between West 33rd and West 34th Streets, and the east side of Seventh Avenue between West 32nd and West 33rd Streets; and
- West side of Sixth Avenue between West 32nd and West 33rd Streets.

Under the Residential Scenario for Site 8, in which the existing building would be retained and an enlargement is built above it, the sidewalk widenings on the south side of West 33rd Street and the west side of Sixth Avenue along the site frontage would not be implemented.

Open Space and Other Public Space

The Proposed Project would introduce a new through-block open space on Site 2 between West 30th and West 31st Streets. The proposed open space would be a public plaza (or plazas) constructed in connection with the commercial buildings on Site 2. As noted above, the configuration of the open space would depend on whether Site 2B is developed with a midblock train hall or a Seventh Avenue-facing train hall. If the midblock train hall is developed, there would be one plaza on Site 2 located in the midblock portion of the site, with dimensions of approximately 156 feet by 198 feet. If the Seventh Avenue-facing train hall is developed, there would be a midblock plaza (with dimensions of approximately 121 feet by 198 feet) and a plaza on the Seventh Avenue side of Site 2B (with dimensions of approximately 35 feet by 198 feet).

In either configuration, the total publicly accessible open space to be created on Site 2 would be approximately 30,800 sf (0.71 acres) and would provide a variety of hard- and soft-scape features to support passive recreation and provide a midblock pedestrian connection between West 30th and West 31st Streets. Although a detailed design has not yet been developed, the plaza(s) is (are) expected to include a variety of seating typologies and a mix of paved and planted areas. The open space would include planting beds (surface and/or raised) with ground cover, flower beds, shrubs or lawn. In addition, the plaza(s) is (are) expected to include access and egress points to the expanded Penn Station. The proposed publicly accessible open space on Site 2 would provide new passive open space amenities directly above a modernized and expanded Penn Station, and would serve residents, workers, and visitors of the new commercial district surrounding Penn Station and the surrounding neighborhoods.

In addition to the proposed plaza area on Site 2, each development site would be required to provide public space in an amount calculated based on a percentage of the site area, as described in the Design Guidelines. The types of spaces that may be provided, as set forth in the Design Guidelines, include additional sidewalk widenings, pedestrian circulation space in front of transit or building entrances, or landscaped areas that may contain seating and passive activities for pedestrians in the surrounding neighborhood.

Shared Streets

The Proposed Project envisions the future provision of "shared streets" to relieve sidewalk crowding, and provide space for functional elements such as landscaped areas (zones), seating, and furniture. A "shared street" is a roadway designed for slow travel speeds where pedestrians and cyclists share the right-of-way with slow-moving vehicles. Shared Streets are designed to accommodate high pedestrian volumes and low traffic volumes and speeds.

Shared street corridors are contemplated along West 32nd Street between Sixth and Seventh Avenues, and West 33rd Street, between Sixth and Ninth Avenues. These street segments would potentially be converted to shared streets, which would enhance the pedestrian experience and provide an opportunity for passive recreation for residents, workers, and visitors to the area. Access to all buildings and businesses would be maintained, allowing for servicing, loading, and deliveries. In addition, at the request of the CACWG, ESD would recommend that NYCDOT study the implementation of a shared street on West 31st Street between Seventh and Eighth Avenues.

Shared streets could be developed through a variety of means, either temporary (e.g., roadway painting, moveable planters and street furniture) or permanent (e.g., a rebuilt street with the roadway flush from building line to building line, rather than with a typical curb line grade separation). Development of shared streets within City-owned mapped streets would require approval by NYCDOT and would remain within the control of NYCDOT.

Shared streets feature design elements to distinguish areas intended solely for pedestrians and the shared road. They typically include the installation of a tactile warning surface between the pedestrian-only areas and the shared road to guide people with visual impairments. Gutters or drainage inlets to handle stormwater are commonly located between the pedestrian-only zone and the shared road to define the spaces and manage stormwater runoff. Pedestrian areas may be programmed with furniture such as seating and planters, and mobility infrastructures such as bike-share stations. Considerations are typically made to create a safe environment for pedestrians and cyclists. For example, a common strategy is to place bike arrows on the pavement to remind drivers that they are sharing the road with cyclists.

Bicycle Lanes

The Proposed Project would allow for the installation of protected bicycle lanes along Seventh and Eighth Avenues and a standard bicycle lane along West 31st Street within the Project Area, subject to NYCDOT approval. Along Seventh Avenue, the existing bicycle lane, which currently terminates at West 30th Street, is expected to be extended north by NYCDOT. On Eighth Avenue, a bicycle lane already exists and would be maintained. The Proposed Project would allow for the enhancement of bicycle lane infrastructure within the Project Area along these two corridors. As part of the development of Sites 1, 2, and 3, the Proposed Project would accommodate bicycle lanes between Sixth and Ninth Avenues along West 31st Street. NYCDOT may consider extending these bicycle lanes along West 31st Street beyond the Project Area.

Potential Sky Concourse

The Proposed Project would potentially include a publicly accessible sky concourse above Plaza 33 with access through a portion of the 1 and 2 Penn Plaza office buildings. As currently proposed by Vornado, the sky concourse would be approximately 15 feet wide, and would be an enclosed, one-level transparent structure to be constructed of steel and glass. It would have minimum and maximum clearances above Plaza 33 of 14.5 feet and 20 feet, respectively, with a maximum height of 18 feet from floor to ceiling. The sky concourse would be approximately 75 feet long, connecting across 60-foot-wide West 33rd Street from the second-floor levels of 1 Penn Plaza and 2 Penn Plaza. Construction of the sky concourse would require the consent of the City.

PENN STATION RECONSTRUCTION AND EXPANSION

In the event of a future expansion of Penn Station, a portion of the revenues generated by the Proposed Project would support such an expansion project. The design, construction, and operation of an expanded Penn Station would be undertaken by one or more of the involved Railroads: MTA, Amtrak, and/or NJT. A potential expansion would substantially increase the station's track and platform capacity—addressing critical infrastructure constraints at Penn Station. The potential expansion of Penn Station would alleviate the limitations on train operations within Penn Station and would be integrated with existing Penn Station, including Moynihan Train Hall.

This FEIS assumes that the expansion of Penn Station would encompass Block 780 immediately to the south (bounded by Seventh and Eighth Avenues and West 30th and West 31st Streets), the western portion of Block 806 on the east side of Seventh Avenue, and the eastern portion of Block

754 on the west side of Eighth Avenue (referred to as Sites 1, 2, and 3 in this FEIS), although that is only one of several alternatives currently under consideration for expanding Penn Station. To assess the reasonable worst-case development scenario, this FEIS further assumes that development of an expanded Penn Station to the south would require the removal of all buildings currently existing on these blocks within the Project Area. The Proposed Project establishes a framework for redevelopment of Sites 1, 2, and 3 in the event that this occurs. Overall, the reasonable worst-case development scenario and the resultant analyses in the FEIS take into account, through best available information, the potential impacts of the Proposed Project including the potential southern expansion of Penn Station into Sites 1, 2, and 3.

However, it is anticipated that alternative locations for the Penn Station expansion will be considered during the federal review under the National Environmental Policy Act, the National Historic Preservation Act, and Section 4(f) of the U.S. Department of Transportation Act, and that a different alternative may be selected as a result of that review. The feasibility of preserving one or more of the buildings on the sites to the south of Penn Station, even with the construction of a potential station expansion on Sites 1, 2, and 3, also will be assessed during the federal review of the expansion project. If the preservation of one or more of these buildings is determined to be feasible and is required as a condition of federal funding of a potential Penn Station expansion, ESD would evaluate potential modifications to the GPP for Sites 1, 2, and 3 to conform to that determination.

Potential expansion of the station would add new platforms and up to 12 new tracks—the exact number and configuration will be determined by service operations and engineering studies currently in progress—and would facilitate substantial increases in service for NJT and Amtrak. If a southern expansion is selected as the preferred alternative, the track spacing would accommodate the structure and foundations required to support high-density development over an expanded Penn Station.

The potential expansion of Penn Station to the south would likely include a mezzanine level to connect passengers to Level A (the lower level) of the existing Penn Station under West 31st Street and could house mechanical and electrical systems and back-of-house space. Entrances to a southerly expansion of Penn Station into Block 780 and parts of Block 754 and 806 would be integrated into the proposed developments on Sites 1, 2, and 3. In addition, a new service building for the existing Penn Station and its expansion is assumed, for the purposes of this analysis, to be completed on Site 2A. This service building would be located in the base of the building on Site 2A and would provide mechanical, electrical, plumbing, and other essential systems to serve Penn Station, the potential southern expansion of Penn Station, and tracks beyond Penn Station. The new service building would be completed with the potential southern expansion of Penn Station. Additional above-grade development on Site 2A would be constructed around the service building at a later date.

A potential southern expansion of Penn Station is assumed to be constructed by 2032. When the new Hudson River Tunnel and other Gateway Program improvements are complete, the expansion could be used to its full capacity. While the Pennsylvania Station Area Civic and Land Use Improvement Project would provide partial funding of the potential expansion of Penn Station, all other components of the Gateway Program would be funded by other sources.

In addition to accommodating an expanded Penn Station, the Proposed Project would support the reconstruction of the existing Penn Station. Specifically, development under the Proposed Project would generate revenue that would contribute towards funding for substantial improvements to Penn Station as identified through the Penn Station Master Plan study. As noted above,

improvements under the Penn Station Master Plan study would address the functionality, operations, capacity, and safety of the current station and integrate the different station components into a single, well-functioning, multi-modal complex. The implementation of the Penn Station Master Plan study is a separate but related project to the Proposed Project, and it would be undertaken separately by one or more of the involved Railroads (MTA, Amtrak, and/or NJT).

Project Financing

Project financing is not part of the EIS scope; however, the discussion below is intended to provide context and background. The Proposed Project is complex, with multiple components and construction occurring over many years. In addition, the proposal involves various state and federal entities, such as ESD, MTA, NJT, and Amtrak, as well as private developers. A potential expansion of the station will require additional sources of financing, including federal and state funding, to cover the cost of construction. Financing a station expansion would likely require various partnership structures and federal and state appropriations that are currently unknown. ESD and its partners are exploring multiple funding options, which may include Payments In Lieu of Taxes (PILOTs), monetization of development rights and transfer fees, the sale of bonds, grants, and/or other mechanisms that could be utilized to finance and support the transit and public realm improvements of the Proposed Project as well as the reconstruction and potential expansion of Penn Station. In addition, the development of the commercial buildings, and the site-specific public realm and transportation improvements, would be privately funded with developer equity and private financing, but various value-capture structures to potentially offset some of the cost of the improvements are being explored.

Achievement of Project Goals and Objectives Without the Potential Penn Station Expansion

As discussed above, redevelopment of Sites 1, 2 and 3 in accordance with the GPP is contingent on the future selection and approval of a Penn Station expansion at those locations. However, the developments on Sites 4, 5, 6, 7, and 8 are not dependent on the Penn Station expansion or the redevelopment of Sites 1, 2, and 3, and would proceed in the absence of an expanded Penn Station. Redevelopment of Sites 4, 5, 6, 7, and 8 would further the goals and objectives of the Proposed Project even without the redevelopment of Sites 1, 2, and 3. Redevelopment of Sites 4, 5, 6, 7, and 8 would provide a substantial amount of new mixed-use development and contribute to the creation of a cohesive, transit-oriented district around Penn Station. These sites would eliminate substandard and insanitary conditions in their portion of the Project Area, support economic growth and tax revenue, and provide opportunities for the creation of new housing, including permanently affordable housing.

Redevelopment of Sites 4, 5, 6, 7, and 8 would also improve passenger rail and transit facilities and pedestrian circulation, access, and safety. As discussed above, these sites would implement numerous transit improvements to Penn Station's interconnecting subway stations, including the development of the Underground Concourse Network, and public realm improvements. Finally, redevelopment of these sites would support improvements to address substandard conditions in Penn Station by generating revenue to fund improvements to Penn Station and would take advantage of opportunities on these sites to provide access points to Penn Station.

D. REQUIRED ACTIONS AND ENVIRONMENTAL REVIEW

REQUIRED APPROVALS

The Proposed Project is expected to require the following discretionary actions and approvals, which collectively comprise the Proposed Actions:

EMPIRE STATE DEVELOPMENT

In order to implement the Proposed Project, ESD must affirm a GPP in accordance with the UDC Act, which would, among other things, provide for new development to create a transit-oriented mixed-use district to revitalize the area surrounding Penn Station, create new entrances and provide funding for the reconstruction and potential expansion of Penn Station, and effectuate improvements to the Project Area subway stations and interconnecting pedestrian corridors that are elements of the Penn Station transportation complex. The GPP would allow for the override of New York City's Zoning Resolution and other local laws, codes, and requirements.

ESD has no authority to authorize a Penn Station expansion or dictate the location of such expansion. Any development on the potential Penn Station expansion sites (Sites 1, 2, and 3) would be contingent on those sites first being deemed the preferred alternative for a station expansion by or for the involved Railroads (MTA, Amtrak, and NJT) pursuant to a federal approval process, environmental review under the National Environmental Policy Act (NEPA) and federal historic resource review (under Section 106 of the National Historic Preservation Act and Section 4(f) of the U.S. Department of Transportation Act). ESD has included Sites 1, 2, and 3 within the proposed GPP boundaries—and conservatively has studied a future condition assuming the station expansion at those locations—in order to (i) preserve the opportunity to facilitate joint development with the rail facility on those sites, should the station expansion proceed at those locations and (ii) include a potential station expansion and potentially other elements of the above- and below-grade pedestrian circulation network in the Project Area, as elements of Penn Station that could receive proceeds from the Proposed Project. If a preferred alternative different from a Penn Station expansion on Sites 1, 2, and 3 emerges from any federal approval process, ESD would evaluate potential modifications to the GPP as appropriate to achieve the goals of revitalizing the area and improving Penn Station, and would undertake additional environmental review as necessary and appropriate.

At this time, a final determination has not been made as to which public entity or entities would acquire the property interests needed for the potential expansion of Penn Station or which entity or entities would construct an expansion to the station. Any relocation and demolition of properties on Sites 1, 2, and 3 would not occur until after completion of the federal environmental and historic resource reviews, the expansion of Penn Station into such parcels is selected as the preferred alternative, and a determination has been made by the lead federal agency that there is no feasible and prudent alternative that would avoid the demolition of the historic resources on these blocks. If a Penn Station expansion proceeds on Sites 1, 2, or 3, it is anticipated that the portions of these properties (and the development rights above them) that are not needed for the potential expansion of Penn Station or to service the rail network would subsequently be conveyed or leased for the commercial and/or residential redevelopment that is described in "Project Description and Purpose and Need," and assessed in this FEIS. However, ESD would not exercise its override of zoning or other local laws or enter into binding development arrangements for Sites 1, 2, or 3 unless and until the involved Railroads commit to constructing a Penn Station expansion at those locations,

the federal historic resource review process is complete, and the necessary federal approvals for the expansion are in place.

METROPOLITAN TRANSPORTATION AUTHORITY

MTA would take such actions as are necessary to implement its responsibilities under the Penn Station Master Plan study developed by the Railroads, including requisite agreements with NJT and Amtrak and, potentially, Madison Square Garden (MSG). As of the preparation of this FEIS, the Penn Station Master Plan study has not been approved by the Railroads. In the future, ESD would enter into agreements with MTA relating to the use of proceeds from the Proposed Project's revenues to fund eligible improvements at Penn Station and the adjoining subway stations, new or refurbished below-grade pedestrian passageways connecting to Penn Station, or the potential expansion of Penn Station. The potential expansion may also involve a funding agreement with the Federal Railroad Administration (FRA) and/or the Federal Transit Administration (FTA), and it may require agreements among MTA (which also could involve MTA's operating entities New York City Transit [NYCT], the Long Island Rail Road [LIRR], and the Metro-North Railroad [Metro-North]) and the other Railroads. In the event the expansion encompasses Sites 1, 2 or 3, it could also require agreements with as-yet-unknown developer(s) of those sites regarding project design, construction phasing, and leasing arrangements. Additional agreements among the various parties may also be required.

CITY OF NEW YORK

ESD has been engaged in ongoing consultation with the City as required by the UDC Act in connection with the GPP, including, among other things, with respect to design and development parameters in lieu of zoning for the buildings to be constructed on each site and construction of the portions of the proposed public realm improvements within City-owned mapped streets.

NEW JERSEY TRANSIT

It is anticipated that NJT would need to enter into agreements with Amtrak (and potentially the as-yet-unknown developer[s] of the land above the potential Penn Station expansion) regarding project design, construction phasing, and operations. NJT may also need to modify existing agreements governing NJT obligations and use of Penn Station facilities.

AMTRAK

As the owner of Penn Station, Amtrak would enter into development, construction, and leasing agreements with ESD, MTA, NJT, or others as necessary.

PORT AUTHORITY OF NEW YORK AND NEW JERSEY

The Port Authority of New York and New Jersey (PANYNJ) would be involved in the design and construction of any transportation improvements affecting the 33rd Street Port Authority Trans-Hudson (PATH) station.

APPROVALS REGARDING A POTENTIAL PENN STATION EXPANSION TO THE SOUTH

Although the sites constituting a potential southward expansion of Penn Station are included within ESD's GPP boundaries, no preferred alternative for a potential station expansion has yet been selected. The siting, planning, environmental review, property acquisition, and construction

of a Penn Station expansion into the properties identified in this FEIS as Site 1 (part of Block 754), Site 2 (Block 780), and Site 3 (part of Block 806) would be subject to separate actions and approvals by or for the involved Railroads—Amtrak, MTA, and NJT. A potential Penn Station expansion project would require federal approval. It is anticipated that the expansion project would also require some level of federal funding. The approvals for a potential expansion may include:

- Designation of a federal lead agency (most likely the FRA and/or the FTA) and other cooperating agencies (i.e., those from which approvals are required) and participating agencies (i.e., those with an interest in the potential expansion);
- Environmental review under NEPA, including—but not limited to—an identification of the preferred alternative and any other reasonable and feasible alternatives;
- Determination of the scope of the environmental review;
- Selection of the preferred alternative for a potential expansion;
- Acceptance by the federal lead agency of the NEPA EIS and issuance by that lead agency of a Record of Decision upon completion of the NEPA review; and
- Review under federal historic preservation laws, including Section 106 of the National Historic Preservation Act and Section 4(f) of the U.S. Department of Transportation Act.

Although the Penn Station expansion is yet to be authorized and funded, the reasonable worst case scenario and the resultant analyses in the FEIS take into account, based upon available information, the potential impacts of a potential southern expansion of Penn Station into Sites 1, 2, and 3.

Property Acquisition

As noted above, a determination has not been made as to which public entity or entities would procure the property interests needed for a potential expansion of Penn Station. Property acquisitions by Amtrak would be governed by applicable federal law, including the Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 U.S.C. § 4601 et seq.) and regulations promulgated under 49 CFR Part 24 (collectively, the "Uniform Act"). Property acquisitions by ESD, MTA, or other New York State public entity would be governed by applicable state laws, including (if undertaken by ESD or MTA) the New York Eminent Domain Procedure Law. Because the potential southward expansion of Penn Station would require federal approvals and likely a significant amount of federal funding, residents and businesses displaced by the expansion would receive relocation assistance provided in accordance with the federal Uniform Act, regardless of which entity or entities—federal or state—undertake the required property acquisitions and relocations. Otherwise, relocation assistance to displaced residents and businesses would be provided in accordance with applicable state law.

In accordance with applicable federal or state law, owners of properties that would be acquired would be compensated at fair market value and would be provided all other benefits and assistance required by law. Residents of affected properties, whether owners or rental tenants, also would be entitled to receive relocation aid that could include assistance in finding and moving to comparable replacement housing.

E. ANALYTICAL FRAMEWORK

DEFINITION OF STUDY AREAS

The Proposed Project involves ten buildings across eight development sites, adjoining public rights-of-way (like streets and sidewalks), at grade and transit infrastructure (existing and proposed) in the Project Area that are associated with Penn Station and area subway stations and are primarily located below-grade (see **Figure S-1**).

For each technical area examined in the EIS, an appropriate study area or multiple study areas are defined for the specific analysis. A study area is the geographic area likely to be affected by the Proposed Project for a given technical area or the area in which impacts of that type could occur. Appropriate study areas differ depending on the type of impact being analyzed. The methods and study areas for addressing impacts are discussed in the individual technical environmental analysis chapters.

ANALYSIS YEARS

OPERATIONAL ANALYSIS

SEQRA requires analysis of a project's effects on its environmental setting. Because the Proposed Project would be completed and become operational at a future date, the environmental setting is the environment as it would exist at project completion and operation. Consequently, future conditions must be projected for a particular year, referred to as the "analysis year" in the FEIS. The analysis year is the year when a project is assumed to be substantially operational, and when the effects of the project would occur. For analysis purposes, the Proposed Project is assumed to be constructed over approximately 22 years. The FEIS will assess an interim analysis year of 2033 and a final analysis year of 2044. The exact schedule of the Proposed Project cannot be predicted with certainty, but the use of 2033 and 2044 analysis years will allow the FEIS to disclose the environmental impacts of the Proposed Project and allow for the identification of any appropriate environmental mitigation of such impacts.

By 2033, it is assumed that any potential southward expansion of Penn Station on Block 780 and portions of Blocks 754 and 806 would be constructed, and the tracks and train platforms would be in use. In addition, a new service building for the existing Penn Station and any southward expansion is assumed to be completed on Site 2A by 2033. Besides the new service building, the existing above-grade uses on Sites 1, 2, and 3 would be cleared, and developments Sites 1A and 1B would be completed. In addition, it is assumed that reconstruction of the existing Penn Station under the Penn Station Master Plan study would be completed, and commercial development on Site 7, including associated transit and public realm improvements, is assumed to be completed and operational. Development on Site 4 would also be completed, as either a commercial building, or a building with a mix of commercial and residential uses. The completed and operational components of the Proposed Project which are analyzed for the 2033 analysis year are referred to as "Phase 1."[5] The operational analysis for Phase 1 considers the potential environmental effects of the completed buildings in 2033. As noted below under "Construction Analysis," potential

[5] The use of the terms "Phase 1" and "Phase 2" in this FEIS is meant to encompass the portions of the Proposed Project assumed for analysis purposes to be completed by a particular analysis year, rather than a related collection of activities.

cumulative effects during a period when construction is occurring and completed buildings are operational are analyzed in Chapter 20, "Construction," as appropriate.

By 2044, it is assumed that all components of the Proposed Project would be completed and fully operational, including the developments on Sites 2 (2A and 2B), 3, 5, 6, and 8, as well as the southward expansion of Penn Station and the Penn Station reconstruction, and all public transportation and public realm improvements. The components of the Proposed Project which are analyzed for the 2044 analysis year are referred to as "Phase 2." For each analysis year, the With Action condition is evaluated and compared against the No Action condition.

While construction sequencing of project buildings within each of the phases described above is partially guided by current expectations of the developer or assumptions regarding the construction process for the potential southern expansion of Penn Station, it is not intended to serve as a prediction of the exact sequence of the Proposed Project's construction. Rather, it has been developed to provide for a reasonably conservative analysis of the range of environmental effects associated with the buildout of the Proposed Project, and to ensure that impacts are identified at the earliest points in which they would occur in the course of development and that mitigations are implemented at that time. The sequencing of the development sites is hypothetical, and there is the potential for buildings to be constructed in a different order than that which is studied in this FEIS. If the buildings were to be constructed in a different order, it would not materially change the overall conclusions at the full buildout of the project. Furthermore, Chapter 22, "Mitigation," identifies triggers for when the Proposed Project's identified significant adverse impacts would occur and when mitigation implementation would be necessary. For example, for direct impacts, the mitigation discussion identifies the particular site or sites on which development would result in the direct impact, and for indirect impacts the mitigation discussion identifies the amount of development that would result in the indirect impact, regardless of development sequencing or phasing.

The FEIS also considers an extended schedule scenario, as discussed below.

CONSTRUCTION ANALYSIS

For the purposes of analysis, construction of the Proposed Project is assumed to span over approximately 22 years and is delineated into two phases with completion years of 2033 and 2044. Construction activity associated with the Proposed Project would be substantial, and extended construction effects on the environment and sensitive receptors from construction activities are anticipated through 2044.

The construction impact assessment is based on the Proposed Project's conceptual construction schedule, preliminary logistics, on-site construction activities, and other relevant activities. For each of the technical areas, appropriate construction analysis year(s) have been selected to represent reasonable worst-case conditions relevant to that technical area, which can occur at different times for different analyses. Because there is uncertainty as to the construction schedule for the Proposed Project, which will depend in part on the demand for the substantial commercial office space that comprises a significant component of the Proposed Project, the conceptual construction schedule allows for an assessment of the potential for significant construction impacts under reasonable worst-case conditions, which would involve the concurrent construction of several project buildings, as well as the operation of completed buildings, as appropriate.

MITIGATION

Potential mitigation measures for all significant adverse impacts identified in this EIS are described in Chapter 22, "Mitigation." SEQRA requires that any significant adverse impacts identified in the EIS be minimized or avoided to the fullest extent practicable, balanced against social, economic, and other considerations. Where feasible mitigation is not available or practicable, the FEIS discloses the potential for unavoidable significant adverse impacts.

ALTERNATIVES

Alternatives analyzed in this FEIS include a No Action Alternative, a No Unmitigated Significant Adverse Impacts Alternative, and a Lower Density Alternative. As described above, with the Proposed Revisions, the Proposed Actions have been updated to permit residential development on Sites 1A, 1B, 4, and 8, up to a maximum of 1,798 units. Consequently, as residential development is now analyzed as part of the Proposed Project, the Residential Alternative analyzed in the DEIS has been eliminated. Analyses that were presented in the DEIS as part of the Residential Alternative are now presented as part of the Proposed Project in the relevant FEIS chapters.

The Lower Density Alternative has also been updated in the FEIS to include residential uses.

EXTENDED SCHEDULE SCENARIO

Notwithstanding current disruptions associated with the COVID-19 pandemic, the proximity of the Proposed Project's Class A office buildings to abundant transportation service is likely to make them attractive to prospective office tenants over the coming decades. Moreover, it is not reasonable to assume that the COVID-19 pandemic will continue to suppress demand for commercial office space and passenger rail and transit ridership through 2044, and the assumption that the Proposed Project would be completed by that year represents a reasonable worst-case scenario for the environmental analysis. In the event conditions stemming from the pandemic or other market forces suppress demand for commercial space for an extended period of time, the schedule actually followed for implementation of the Proposed Project would adjust to those market conditions.

In general, if demand for office space within the Project Area is insufficiently robust to warrant the completion of each of the Proposed Project's office buildings by the 2044 analysis year, then construction and occupancy of the Proposed Project office buildings would be deferred. If the development of the Proposed Project extends beyond 2044, many of the economic benefits would not accrue and environmental impacts of the construction and operation of the Proposed Project would not occur until a later date.

In the event that the Proposed Project's completion is extended beyond the analysis years of 2033 and 2044 (the extended schedule scenario), the environmental impacts from the Proposed Project would not be different or of a greater magnitude than the impacts studied and disclosed in the analysis chapters of this EIS. The EIS analysis accounts for known development projects likely to be built by the analysis years, including developments currently under construction or that can be reasonably expected due to the current level of planning and applications for public approvals. Therefore, the EIS analyses represent a reasonable worst-case depiction of future conditions, because they account for a full array of other nearby projects that could materialize within the study timeframes. To the extent that economic conditions affect the completion of the Proposed Project, it is expected that other background development projects would be subject to the same

market forces (e.g., reduced demand for commercial space). Therefore, an extended schedule for the Proposed Project resulting from prolonged adverse economic conditions would be expected to be accompanied by a delay in other background development projects, and future conditions in an extended analysis year would be projected to be similar to those described in this EIS for 2044.

In an extended schedule scenario, the program, bulk, density, and location of the Proposed Project would not change, nor would the projected worker population. It is also assumed that each development site (other than Sites 1, 2, and 3, which would be cleared only for a southward Penn Station expansion if that alternative is selected for the potential station expansion) would continue as in existing conditions and would only be demolished when construction is ready to commence. Therefore, an extended schedule scenario would result in the same or similar impacts as the Proposed Project, but at a later date, in the analysis areas of land use, zoning, and public policy; socioeconomics; community facilities and services; open space; shadows; historic and cultural resources; urban design and visual resources; hazardous materials; water and sewer infrastructure; solid waste and sanitation services; energy; air quality; greenhouse gas emissions and climate change; noise; public health; or neighborhood character. The extended schedule scenario would also result in the same or similar impacts with respect to transportation and construction, as discussed in more detail in Chapter 14, "Transportation," and Chapter 20, "Construction."

The completion of the Proposed Project at a later date would delay the delivery of some of the project benefits such as revitalization of the Project Area, economic growth and tax revenue through job creation and economic activity, implementation of transit and public realm improvements, and the Proposed Project's support for the reconstruction and expansion of Penn Station.

F. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE, ZONING, AND PUBLIC POLICY

The Proposed Project would not result in significant adverse impacts related to land use, zoning, or public policy. The Proposed Actions would facilitate development of eight sites with high-density commercial and residential developments containing a mix of Class A office space, housing (including needed permanently affordable housing), retail space, hotel space, and community facility space. The Proposed Project would also introduce new public open space and public realm improvements to address pedestrian, bicycle, and vehicular circulation and enhance the surrounding streetscape. The Proposed Project would increase density compared to the No Action condition. The increase would be consistent with broader land use trends of high-density mixed-use development around other rail and transit hubs in Manhattan (including the area adjacent to Grand Central Terminal) and capitalize on the Project Area's unparalleled transit access. The Proposed Project would enhance the above-grade and below-grade pedestrian circulation network connecting to the Penn Station complex and generate revenue for much-needed public transportation improvements at Penn Station and area subway stations. The Proposed Project would also support the potential expansion of Penn Station, which would serve New York's future transportation and economic needs. Overall, the Proposed Project would reinvigorate the Project Area by creating a modern, transit-oriented mixed-use district centered around Penn Station and would help create a corridor of high-density, predominantly commercial uses linking the Midtown Central Business District, Penn Station, and Hudson Yards. Therefore, the Proposed Project would not adversely affect the land use character of the primary or secondary study area and would not result in significant adverse land use impacts in either the Phase 1 or Phase 2 analysis years. The Proposed Project would not directly displace any land uses so as to

adversely affect surrounding land uses, nor would it generate land uses that would be incompatible with surrounding land uses, zoning, or public policies.

The Proposed Actions would override the New York City Zoning Resolution and impose Design Guidelines, developed in consultation with the City, in lieu of zoning. The override of existing zoning would be necessary to achieve the goals and objectives of the Proposed Project. The Proposed Actions would permit densities and bulk that would further public policies to support high-density development in areas well-served by public transit and the density permitted by the GPP would be consistent with the densities allowed in surrounding areas such as Hudson Yards and Midtown. Overall, the GPP and zoning overrides would foster high-density development appropriate for the Project Area's central location in Midtown Manhattan and unmatched rail and transit connectivity. Therefore, the Proposed Actions would not result in a significant adverse impact to zoning. With respect to public policy, the Proposed Project would result in development that is consistent with land use and zoning and furthers several stated public policies intended to promote sustainability, walkability, transit, employment, and economic development.

SOCIOECONOMIC CONDITIONS

The Proposed Project would not result in significant adverse impacts due changes in socioeconomic conditions, and would generate substantial economic benefits for New York City and New York State. Conclusions related to each of the five areas of potential socioeconomic impacts are summarized below, followed by a summary of economic benefits that would be generated by the Proposed Project.

DIRECT RESIDENTIAL DISPLACEMENT

The Proposed Project would directly displace an estimated 214 residents living in 128 residential units on Sites 1, 2, and 3. This direct displacement estimate conservatively includes all housing units on the development sites regardless of their current occupancy status or the terms upon which they would be vacated. The potential displacement of these residents would occur prior to the demolition of existing buildings, at an early stage of development during Phase 1 of the Proposed Project (which is assumed to be completed by 2033). Based on guidelines in the *CEQR Technical Manual*, the direct displacement of these residents, although causing individual disruption, would not result in a significant adverse impact because they do not represent a significant portion of the study area population (the 214 residents represent less than five percent of the study area population), and they do not have socioeconomic characteristics that differ markedly from the study area population as a whole.

As noted above, a determination has not been made as to which public entity or entities would procure the property interests needed for a potential expansion of Penn Station. Property acquisitions by Amtrak would be governed by applicable federal law, including the Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 U.S.C. § 4601 et seq.) and regulations promulgated under 49 CFR Part 24 (collectively, the "Uniform Act"). Property acquisitions by ESD, MTA, or other New York State public entity would be governed by applicable state laws, including (if undertaken by ESD or MTA) the New York Eminent Domain Procedure Law. Because the potential southward expansion of Penn Station would require federal approvals and likely a significant amount of federal funding, residents and businesses displaced by the expansion would receive relocation assistance provided in accordance with the federal Uniform Act, regardless of which entity or entities—federal or state—undertake the required property acquisitions and relocations. Otherwise, relocation assistance to displaced residents and businesses would be provided in accordance with applicable state law.

In accordance with applicable federal or state law, owners of properties that would be acquired would be compensated at fair market value and would be provided all other benefits and assistance required by law. Residents of affected properties, whether owners or rental tenants, also would be entitled to receive relocation aid that could include assistance in finding and moving to comparable replacement housing.

DIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

By 2044, the Proposed Project under the Maximum Commercial Scenario would result in the direct displacement of an estimated 8,937 employees and 472 firms. Prior to the demolition of buildings in Phase 1 (by 2033), an estimated 3,747 employees at 353 firms would be displaced. Prior to the demolition of buildings that would be redeveloped in Phase 2, an estimated 5,190 employees at 119 firms would be displaced. The potentially displaced workers represent approximately three percent of total jobs in the ¼-mile study area. Businesses and institutions subject to direct displacement are involved in a variety of industries including Professional, Scientific, and Technical Services; Manufacturing; Information; Accommodation and Food Services; and Retail Trade. The proportion of displaced jobs by sector would not exceed five percent of the sector jobs within the ¼-mile study area, with the exception of the following: Retail Trade (nine percent); Manufacturing (seven percent); and Professional, Scientific, and Technical Services (six percent).

Although displaced businesses and employees would experience disruption, the Proposed Project would not cause a significant adverse direct business and institutional displacement impact because the potentially displaced businesses and institutions provide goods and services that would still be found within the ¼-mile study area and that would continue to be available to local residents and businesses. None of the businesses or institutions serve a customer base that is uniquely dependent upon their location within the ¼-mile study area, nor are they subject to regulations or publicly adopted plans aimed at preserving, enhancing, or otherwise protecting them in their current location.

While the potentially displaced establishments and jobs are valuable individually and collectively to the City, the Proposed Project would provide modern office, retail, and hotel space in an area of the City where the commercial building stock is aging and in need of revitalization. The Proposed Project is necessary to maintain the Project Area's competitiveness and connectivity as a business district within the City and region. The Proposed Project would result in a net increase of 10.0 million gross square feet (gsf) of office space, and 118,000 gsf of retail space over what would be developed in the No Action condition. This amount of new commercial space would create opportunities for new businesses to locate within the Project Area. Furthermore, potentially displaced businesses would be able to find comparable space within the ¼-mile study area or the City at large.

Based on available information, the Proposed Project would displace 17 music-related businesses[6] that provide services to musicians and artists. The music-related businesses in the Project Area serve a broader trade area beyond the local economy and the ¼-mile study area. Thus, the direct displacement of some of these music-related businesses would not cause a significant adverse impact under the *CEQR Technical Manual* methodology as there are alternative venues that provide comparable services and employment opportunities within the ¼-mile study area,

[6] Reference USA Data (2019), fieldwork research (May 2020 – July 2020), and desktop research were used to identify specific businesses in the study area. As of March 2022, some of these businesses may have closed or relocated to new locations outside the Project Area.

borough, and City at large. The displaced businesses would also be able to find comparable space within the ¼-mile study area or the City at large.

INDIRECT RESIDENTIAL DISPLACEMENT

The Proposed Project is not anticipated to result in significant adverse impacts due to indirect residential displacement. The Proposed Project would include up to 1,798 residential units, of which 30 percent (up to 540 units) would be permanently affordable. The Proposed Project under the Maximum Residential Scenario is anticipated to result in a new population with higher incomes than the existing population and the increase in population due to the Maximum Residential Scenario is large enough to potentially affect real estate market conditions in the ¼-mile study area, as it would increase the ¼-mile population by over 5 percent. However, the ¼-mile study area is already experiencing a trend of increasing rents and the Proposed Project would not create or accelerate this trend. Absent the Proposed Project, the ¼-mile and ½-mile study area are expected to continue to experience the existing trend of increasing rents and increasing household incomes. The affordability requirement of the Proposed Project would also result in more affordable units in the Project Area than in the No Action condition. The Proposed Project would support the socio-economic diversity of the study area and ensure that households with a range of incomes could remain in the neighborhood. Therefore, the Proposed Project would not result in significant adverse impacts due to indirect residential displacement.

INDIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

The Proposed Project would not result in significant indirect business or institutional displacement impacts and, in general, existing businesses would benefit from the larger customer base that would be created by the worker and visitor populations introduced by the Proposed Project. While the introduction of new workers and visitors could alter existing economic patterns in certain portions of the study area, these changes would not lead to a substantial amount of indirect business or institutional displacement. Although the Proposed Project would directly displace 8,937 employees, the Proposed Project under the Maximum Commercial Scenario would support 54,400 new permanent jobs within the Project Area. Existing businesses could capitalize on new demand from both the worker population and services required from the new businesses in the area such that an increase in sales and services rendered could offset potential increased rents. In addition, the analysis found that neighboring submarkets are either consistent in development trends with the Proposed Project or are well-established commercial districts that have remained relatively stable within the Midtown market. In certain retail and commercial districts, the effects of rezoning efforts in Chelsea and the Garment District have already led to displacement of certain businesses in specific sectors (e.g., Manufacturing, Wholesale Trade), even in the absence of the Proposed Project. These displacement trends would be expected to continue to occur irrespective of the Proposed Project through the final analysis year of 2044.

The types of businesses and institutions that are most vulnerable to indirect displacement include Manufacturing and Wholesale Trade sector jobs that are housed in traditionally industrial-class real estate. Institutional uses are also vulnerable to displacement, since these uses may be less compatible with economic trends. Overall, these categories of businesses and institutions are not unique to the study area and do not have locational needs that would preclude them from relocating elsewhere in Manhattan or to Brooklyn, Queens, or the Bronx. In the case of the Garment District, garment manufacturing and wholesale establishments have already been dispersing and growing in smaller clusters outside of Manhattan due in part to the changing nature of retail supply chain distribution networks. Based on the assessment of displaced businesses, the potentially displaced

products and services may be found elsewhere within the ¼-mile study area. As noted earlier, the ¼-mile study area is already experiencing a trend of displacement of Manufacturing and Wholesale Trade businesses and this trend is expected to continue, even in the absence of the Proposed Project. Thus, the potential indirect displacement of businesses and institutions would not have a significant adverse impact on remaining businesses and residents in the ¼-mile study area.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

The Proposed Project would not result in a significant adverse impact on business conditions in any specific industry or any category of businesses. In addition, the Proposed Project would not indirectly substantially reduce employment or impair the economic viability in any specific industry or category of business. The analysis of direct business displacement studies the potential for adverse impacts due to the potential direct displacement of 17 music-related businesses. The Proposed Project would not significantly affect business conditions in the music industry, substantially reduce employment, or impair the economic viability of the music industry.

ECONOMIC BENEFITS

Proposed Project

Transit-oriented developments have the potential to create economic benefits for the local and regional economies. The Proposed Project would increase the density and capacity for additional businesses and firms through new commercial spaces within the Project Area. It would provide substantial, new high-density and commercial development proximate to Penn Station. The generation of new, permanent direct and indirect jobs in New York City and New York State would produce ongoing fiscal benefits for both New York City and New York State, including income and sales tax revenues. The new commercial spaces within the Proposed Project would enable greater business activity for current and new establishments located in and around Penn Station. Additionally, residential developments in the Proposed Project would add a new population to the area. These residents would spend a portion of their incomes on sales-tax-applicable items and would generate fiscal benefits to both New York City and New York State.

Based on estimated total development costs (not including the reconstruction or potential expansion of Penn Station) of $10.4 to $10.9 billion (in 2020 dollars), the construction of the Proposed Project buildings would generate approximately 66,700 to 70,200 direct and indirect person-years of construction-related employment in New York City, and approximately 79,700 to 83,800 direct and indirect person-years of employment in New York State. In turn, the construction-related employment would generate $6.7 to $7.0 billion in wages in New York City and $7.7 to $8.1 billion in wages in New York State. In terms of total economic output, construction of the Proposed Project would generate $14.8 to $15.6 billion in economic activity in New York City and $19.4 to $20.4 billion in New York State overall.

During annual operations, upon full build-out the Proposed Project would support an estimated 48,400 to 54,400 direct full-time equivalent (FTE) jobs. Job growth within the Project Area has been stagnant compared to the study area, and the new employment generated by the Proposed Project would serve to revitalize the Project Area into a modernized commercial district. In New York City, the Proposed Project would generate 49,700 to 56,100 indirect FTE jobs, for a total of 98,100 to 110,500 FTE jobs. In New York State, the Proposed Project would generate an additional 65,800 to 74,200 indirect FTE jobs for a total of 114,200 to 128,600 FTE jobs. This would generate $8.6 to $9.7 billion in total annual earnings within New York City and $9.7 to

$10.9 billion in total annual earnings in New York State. In terms of total economic output at completion, $38.5 to $43.4 billion would be generated annually in New York City and $44.1 to $49.7 billion in New York State overall.

In addition, the operations of the Proposed Project would generate income tax revenues from employee wages, sales tax revenues from employee expenditures, and hotel occupancy tax revenues from hotel activity on Site 4. The total annual tax revenues (excluding property taxes) for New York City, New York State, and MTA are estimated to be $618.8 to $716.8 million. New York City would receive approximately $235.3 to $283.6 million. New York State would receive approximately $366.1 to $413.6 million, while MTA would receive approximately $17.3 to $19.6 million in tax revenues. It should be noted that the analysis did not examine whether the benefits or impacts are net new to New York City and New York State.

This analysis does not include estimates of property tax revenue or other potential real estate revenues, as the terms of potential payment agreements or other financing options are yet to be determined. The Proposed Project would help finance transit and public realm improvements in the Project Area, including the reconstruction of Penn Station and the potential expansion of Penn Station. As mentioned in "Project Description and Purpose and Need," ESD is exploring multiple financing options, which may include Payments In Lieu of Taxes (PILOTs), and development rights and transfer fees that could be monetized to fund a portion of project costs. While the development of new buildings, and certain site-specific public realm and transportation improvements would be privately funded with developer equity and private financing based on development agreements, there would be value-capture frameworks (including PILOTs and other revenues generated by new development) to offset some of the cost of public improvements, the reconstruction of Penn Station, and the potential Penn Station expansion. ESD has proposed that the City would continue to receive current property tax revenues, adjusted annually, on all sites in the Project Area, so the City would not lose tax revenue. In addition, the PILOT structure would not continue in perpetuity but rather would be limited to the duration of any financing mechanism utilized to pay for the Penn Station and related public realm improvements. Thereafter, the PILOT agreements would be terminated, and the sites would revert to City tax rolls.

Potential Penn Station Expansion

Enhanced transportation infrastructure, including access/egress to station, street connections, as well as potential for future cross-Hudson capacity improvements, would allow for greater rail capacity, as well as improved accessibility for commuters, facilitating job growth in New York City. The Penn Station reconstruction and potential southward expansion of Penn Station would generate new direct and indirect construction-related employment in New York City and New York State. In turn, the construction-related employment would generate wages and annual economic activity in New York City and New York State. Increased rail capacity could also lead to an increase in economic activity for businesses located in and around the station. The new construction and economic activity would also generate fiscal benefits for both New York City and New York State, including income and sales tax revenues and transit fare revenues. The increased economic activity associated with the reconstruction of Penn Station and the potential southward expansion is not included in the figures above.

COMMUNITY FACILITIES

DIRECT EFFECTS

In the event Sites 1, 2, and 3 are selected as the preferred alternative for a southern expansion of Penn Station in the federal review process, the Proposed Project would result in direct effects associated with displacement of four community facilities: a homeless drop-in center; a house of worship that provides a food pantry, health and wellness programs, and meeting space for substance abuse recovery programs; an English language school, and a non-profit organization for Lithuanian Americans. A detailed assessment concludes that while these community facilities would be directly displaced by the Proposed Project, the displacement would not result in a significant adverse impact. With respect to the homeless drop-in center, house of worship, and English language school, comparable services are provided by other organizations and institutions in the vicinity of the Project Area. ESD would also work with the operator of the drop-in center to facilitate its right to return to the Project Area in a larger space to increase the facility's capacity, if desired. With respect to the non-profit organization for Lithuanian Americans, the facility serves a regional population and does not have unique locational requirements and it is anticipated that it could relocate in Manhattan or New York City.

Displacement of these community facilities would also be assessed during the federal review under the NEPA for the potential Penn Station expansion.

INDIRECT EFFECTS

The Proposed Project would introduce a new residential population and therefore detailed assessments of libraries and early childhood programs are warranted. Based on the *CEQR Technical Manual* screening methodology, detailed analyses of public schools are not warranted. Under the manual, detailed analyses of outpatient health care facilities and police and fire protection services are also not warranted, although a description of such facilities serving the Project Area is provided for informational purposes. The Railroads are developing an updated security and safety program for the integrated Penn Station complex. Development of the security and safety program will draw on guidance from the *U.S. Department of Transportation—Transit Security Design Considerations* developed for the Federal Transit Administration, applicable codes and statutes, transit agency stakeholder requirements, previous and ongoing Threat, Vulnerability, and Risk Assessments (TVRA[s]) and input from local, state and federal law enforcement and emergency response agencies.

The following sections summarize the principal conclusions of the analyses of public libraries and publicly financed early childhood programs.

Libraries

In both the 2033 and 2044 With Action conditions, there would be no libraries within the study area that would experience greater than the 5 percent increase in catchment area population that the *CEQR Technical Manual* defines as the threshold for a potential significant adverse impact (all increases would remain below 1 percent). Therefore, the Proposed Project would not result in a significant adverse impact to libraries in either analysis year.

Publicly Financed Early Childhood Programs

In both the 2033 and 2044 With Action conditions, publicly financed early childhood programs in the study area are predicted to operate over capacity. In the 2033 With Action condition, the

Proposed Project would result in a 16 percent increase in the utilization rate. In the 2044 With Action Scenario, the Proposed Actions would result in a 29 percent increase in the utilization rate. As these increases are above the five percent change threshold for a significant adverse impact, the Proposed Project would result in a significant adverse impact to publicly financed early childhood programs. Measures to mitigate that significant adverse impact to early childhood programs are discussed below in "Mitigation."

OPEN SPACE

The Proposed Project would result in significant adverse impacts to open space by directly and indirectly affecting open space resources. According to the *CEQR Technical Manual*, a proposed action may result in a significant adverse impact on open space resources if (a) there would be direct displacement/alteration of existing public open space within the study area that would have a significant adverse effect on existing users; or (b) it would reduce the open space ratio and consequently result in the overburdening of existing facilities or further exacerbation of a deficiency in open space. Typically, a reduction in the open space ratio exceeding five percent is considered to be significant. However, if an area is "underserved" and has a very low open space ratio, a reduction as small as one percent may be considered significant.

The open space analysis considers two study areas – a ¼-mile open space study area for the commercial population and a ½-mile study area for the residential population. Both study areas cover areas of Manhattan that are considered neither "underserved" nor "well-served" by open space as defined by the 2020 *CEQR Technical Manual*. Since these study areas do not fall into the "underserved" category, a decrease of five percent or more (rather than simply one percent) in the open space ratio for either study area is considered to be significant.

The Proposed Project's redevelopment of Site 5 would result in the direct displacement of a through-block plaza between West 33rd and West 34th Streets that is part of the 1 Penn Plaza privately owned public space (POPS), eliminating a substantial portion of that open space resource. In addition, the Proposed Project would introduce substantial non-residential and residential populations to the study areas that would place a significant demand on open spaces.

The passive open space ratio is used to determine the adequacy of open space for the non-residential population such as office workers, as this population tends to use passive open spaces. Passive open spaces encourage such activities as strolling, reading, sunbathing, and people watching. They include picnic areas, walking paths, seating areas, or gardens. Certain areas, such as lawns or public esplanades, can serve as both active and passive open spaces. In contrast, active open spaces are intended for vigorous activities, such as jogging, field sports, and children's active play. They include basketball and handball courts, jogging paths, ball fields, and playground equipment. Currently, the open space ratio for the non-residential population in the study area is well below the City's guidelines as indicated in the *CEQR Technical Manual*, and would remain well below the guidelines in both the With Action condition and the No Action condition for both the 2033 Phase 1 and 2044 Phase 2 analysis years.

Because residential populations tend to utilize both active and passive open spaces, the adequacy of open space for this population is informed by the active, passive, and total open space available to residents in a given study area. The total and active open space ratios in the study area for the Maximum Residential Scenario would remain below the City's guideline ratios in both the With Action and the No Action conditions in both the 2033 and 2044 analysis years. The passive ratio for residential users would remain above the City's guidelines.

DIRECT EFFECTS

In the 2033 With Action condition, the Proposed Project would cast shadows on study area open spaces, which is considered a direct effect on open space. Based on the shadows analysis, incremental shadows would fall on the Madison Square Garden (MSG) POPS and Farley Building Steps, resulting in significant adverse impacts to these open space resources. However, based on the air quality, noise, and construction impacts analyses, study area open spaces would not experience direct effects related to any of these areas of analysis that would cause a significant adverse impact to open space.

In the 2044 With Action condition, the Proposed Project would directly affect open space by introducing new through-block public plaza area on Site 2 between West 30th and West 31st Streets. The proposed public plaza area on Site 2 would be approximately 30,800 square feet (sf) (0.71 acres) and would provide a variety of hard and soft scape features to support passive recreation use as well as midblock pedestrian access between West 30th and West 31st Streets. It is expected that the proposed plaza would include a variety of seating types to provide varied seating options, a mix of paved and planted areas, and other amenities. The proposed public plaza on Site 2 would provide new open space amenities directly above a modernized Penn Station, and would serve the new commercial district surrounding Penn Station and the adjacent neighborhoods. The configuration of the open space on Site 2 would depend on whether the proposed train hall is developed as a midblock train hall or a Seventh Avenue-facing train hall. If a midblock train hall is developed, there would be one plaza on Site 2 located in the midblock portion of the site, with dimensions of approximately 156 feet by 198 feet. If the Seventh Avenue-facing train hall is developed, there would be a midblock plaza (with dimensions of approximately 121 feet by 198 feet) and a plaza along Seventh Avenue (with dimensions of approximately 35 feet by 198 feet). In either configuration, the total publicly accessible open space to be created on Site 2 would be approximately 30,800 sf (0.71 acres).

In addition to the proposed plaza on Site 2, Phase 2 of the Proposed Project would introduce other improvements that would enhance the public realm, including wider sidewalks and shared streets, which would reduce sidewalk crowding and allow for an improved pedestrian experience around Penn Station. Subject to the approval of NYCDOT, shared streets would be located along West 32nd Street between Sixth and Seventh Avenues, and West 33rd Street between Sixth and Ninth Avenues. Shared streets could provide space for seating and planters. Additionally, ESD would recommend that NYCDOT study the implementation of a shared street on West 31st Street between Seventh and Eighth Avenues.

In the 2044 With Action condition, the Proposed Project's redevelopment of Site 5 would also directly affect open space by eliminating the through-block east plaza that is part of the 1 Penn Plaza POPS. The elimination of the plaza represents a reduction of approximately 0.16 acres of passive open space as compared to the No Action condition. Although the Proposed Project would introduce improvements that would enhance the public realm—including wider sidewalks, shared streets, and a new public plaza on Site 2—the elimination of the plaza on the 1 Penn Plaza POPS as a result of construction on Site 5 would constitute a significant adverse direct impact to open space. Potential measures to mitigate the significant adverse direct open space impact are discussed below in "Mitigation."

Furthermore, as discussed in "Shadows," the Proposed Project would result in a significant adverse impact as a result of incremental shadows cast on six open space resources: the Madison Square Garden POPS, Plaza 33, Herald Square Park, Chelsea Park, the Penn South open space and the Farley Building's Eighth Avenue steps. Based on the analyses provided for air quality,

noise, and construction, study area open spaces would not experience significant adverse impacts associated with direct effects related to any of these areas of analysis.

INDIRECT EFFECTS

In the 2033 With Action condition, the Proposed Project is projected to result in a net increase in the worker population in the study area compared to the No Action condition. This projected increase in the worker population reflects new development on Sites 1, 4, and 7 in Phase 1 as well as the clearing of the existing buildings on Sites 2 and 3 to accommodate construction of the potential expansion of Pennsylvania Station (Penn Station). Phase 1 of the Proposed Project would result in a moderate decrease to the passive open space ratio for the worker population (a 0.74 percent decrease). Taking into account the combined residential and worker populations within the study area, there would be a 0.55 percent decrease in the combined open space ratio in Phase 1 is as compared to the No Action condition. Since there would be a moderate decrease in the open space ratios of less than five percent, Phase 1 of the Proposed Project would not result in a significant adverse impact associated with the worker population.

In the 2044 With Action condition, the Proposed Project would introduce new and enhanced publicly accessible open spaces, as well as other public realm improvements that would benefit workers and residents of the surrounding neighborhoods. Nonetheless, given the introduction of a substantial new worker population, the Proposed Project would result in a decrease in the passive open space ratio of approximately 7.27 percent. Taking into account the combined residential and worker populations within the study area, there would be a 6.43 percent decrease in the combined open space ratio. These decreases would exceed the *CEQR Technical Manual* threshold of a five percent decrease for a potential open space impact. The Proposed Project would overburden existing and proposed passive open spaces, particularly during the midday hours when the open spaces would be most heavily utilized by numerous users in addition to study area workers. Therefore, the Proposed Project would result in a significant adverse indirect impact to non-residential open space in 2044.

Potential measures to mitigate the significant adverse indirect impact to open space are discussed below under "Mitigation."

The new residential population introduced with the Proposed Project in the 2033 and 2044 analysis years would not result in any significant adverse impacts to open space.

SHADOWS

In the 2033 analysis year (Phase 1), the Proposed Project would cause significant adverse shadow impacts to one open space resource and one historic architectural resource with sunlight-sensitive features. In the 2044 analysis year (Phase 2), the Proposed Project would cause significant adverse shadow impacts to the same two resources as in Phase 1 plus an additional four open space resources and three historic architectural resources with sunlight-sensitive features.

The Proposed Project would result in the development of ten new buildings within the Project Area. These buildings would be developed in accordance with Design Guidelines, which would specify the parameters for permitted development in lieu of zoning and, consistent with zoning in other high-density commercial areas of New York City, would not impose height limits, except for on Site 1A, where a 350-foot height limit would be imposed. Therefore, to provide for a conservative analysis, the assessment accounts for the maximum buildable envelope for each development site (i.e., assuming minimum required setbacks), up to the illustrative building

height,[7] plus an additional 150 feet to provide for future design flexibility, rooftop mechanical space, and other potential rooftop structures, such as spires (except for Site 1A, which was conservatively analyzed as 400 feet in height).[8] The actual structures to be built on the development sites may have a different height and bulk than the conservative envelopes examined in this shadow assessment, resulting in somewhat different shadows.

Since the issuance of the DEIS, the Proposed Revisions would reduce the permitted maximum base heights and permitted floor area on certain sites. These changes would generally result in shorter buildings and smaller building envelopes than analyzed in the DEIS. However, the shadows analysis in the FEIS conservatively retains maximum buildable envelopes analyzed in the DEIS for each site. On Site 2, the FEIS has been updated to reflect the change with the Proposed Revisions with the larger building on Site 2B and the smaller building on Site 2A.

The analysis concludes that, in the 2033 analysis year, Phase 1 of the Proposed Project would cast incremental shadows on 39 sunlight-sensitive resources. As described in detail below, these new shadows would in most cases be of limited extent and duration over the course of a year with respect to the sunlight-sensitive resources and would not cause any significant adverse shadow impacts. Incremental shadow would fall on 18 of the 39 resources for 30 minutes or less on any given day, and would only occur in some but not all seasons. Other resources would receive longer durations of incremental shadow. In two cases, the incremental shadow would be substantial enough to significantly impact the use or appreciation of the resource, or, in the case of the historic resources, obscure a sunlight-dependent feature. Phase 1 of the Proposed Project would result in significant adverse shadow impacts to the Madison Square Garden (MSG) privately owned public space (POPS), and the skylights and Eighth Avenue steps of the Farley Building.

In the 2044 analysis year (Phase 2), the additional development from the Proposed Project would cast larger shadows for longer durations as compared to the future without the Proposed Project, reaching additional sunlight-sensitive resources. Specifically, in the 2044 analysis year, 49 sunlight-sensitive resources would experience incremental shadows. Most of the affected resources in 2044 would experience a limited extent and duration of new shadows as a result of the Proposed Project and would not be significantly impacted. However, nine sun-sensitive resources (including the two significantly impacted in Phase 1) would experience substantial durations and occasionally large extents of new shadow, significantly reducing their attractiveness and usability, or, in the case of the historic resources, obscuring a sunlight-dependent feature. Phase 2 of the Proposed Project would result in significant adverse shadow impacts to the following sunlight-sensitive resources: MSG POPS, Plaza 33, Herald Square Park, Chelsea Park, the Penn South open spaces, the Farley Building (the skylights, Eighth Avenue steps, and colonnade), St. Michael's Catholic Church, St. Francis of Assisi Church, and the former Greenwich Savings Bank. A range of potential measures to mitigate the significant adverse shadows impacts is discussed below in "Mitigation."

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7 The illustrative building height refers to the height of a massing developed for each site to provide examples of the buildings that could be developed with the Proposed Project pursuant to the parameters of the Design Guidelines referenced in the GPP.

8 As noted in "Project Description and Purpose and Need," the height limit for Site 1A has been reduced to 350 feet in this FEIS. The FEIS shadows analysis conservatively retains the 400 foot height limit as analyzed in the DEIS. The reduction to 350 feet would not result in any changes to the conclusions of the analysis.

HISTORIC AND CULTURAL RESOURCES

The Proposed Project would result in significant adverse impacts to architectural resources, however, no impacts to archaeological resources would occur.

ARCHAEOLOGICAL RESOURCES

There are no areas of archaeological sensitivity within the Project Area. LPC reviewed the blocks and lots included within the development sites and advised ESD in a letter dated July 14, 2020 that Sites 1, 2, 3, 4, 5, 6, and 8 were not potentially archaeologically significant. After considering such advice, ESD as the lead agency determined that no further archaeological analysis is required for those sites. An Archaeological Documentary Study of Site 7 and the adjacent streetbed of West 32nd Street prepared in September 2020 determined that Site 7 and the adjacent streetbed are not archaeologically sensitive due to the extensive excavation that occurred during the construction of the existing railroad easements and the Hotel Pennsylvania. In comment letters dated December 10 and December 14, 2020, OPRHP and LPC (respectively) concurred with the conclusions and recommendations of the Archaeological Documentary Study. Therefore, the Proposed Project would not result in significant adverse impacts on archaeological resources in either the 2033 (Phase 1) or 2044 (Phase 2) With Action conditions.

ARCHITECTURAL RESOURCES

In the 2033 With Action condition, in the event Sites 1, 2, and 3 are selected as the preferred alternative for a southern expansion of Penn Station in the federal review process, the Proposed Project would result in significant adverse direct impacts from the removal of six architectural resources currently located on those sites. In addition, one architectural resource on Site 7 is currently being demolished to allow for new commercial development on Site 7 with or without the Proposed Project. This is conservatively identified as a significant adverse impact in the 2033 With Action condition and is considered in the consultation with OPRHP under SHPA. Measures that could partially mitigate these significant adverse impacts are described below in "Mitigation;" these measures were developed in consultation with OPRHP.

In the 2033 With Action condition, development of the Proposed Project could have adverse physical impacts on 14 additional architectural resources that are located within 90 feet of proposed construction activities, close enough to potentially experience adverse construction-related impacts from ground-borne construction-period vibrations, falling debris, subsidence, collapse, or damage from construction machinery. Thirteen of the architectural resources, plus two additional architectural resources, could also be adversely affected by adjacent construction in the 2044 With Action condition. Therefore, Construction Protection Plans to protect the 15 architectural resources within 90 feet of construction would be required to be developed and implemented in coordination with OPRHP. For New York City Landmark-designated and eligible properties potentially affected by construction impacts, the Construction Protection Plans would also be submitted to LPC for review and comment. In addition, the Proposed Project would result in significant adverse shadows impacts on one architectural resource in the primary study area.

In the 2044 With Action condition, the Proposed Project would result in additional significant adverse shadows impacts on that same architectural resource in the primary study area, three architectural resources in the secondary study area, and one architectural resource that is located north of the secondary study area. Additionally, one architectural resource could be removed for the redevelopment of Site 8. However, a design of the redevelopment has not been determined, and it is not known based on current information whether the proposed redevelopment of Site 8

would involve the removal of the architectural resource. Therefore, the Proposed Project could have a direct significant adverse impact on this architectural resource. ESD, in consultation with OPRHP, has identified potential measures that could partially mitigate certain of these significant adverse impacts. Those measures are described below in "Mitigation." However, practicable mitigation has not been identified to address significant adverse shadows impacts on three of the five architectural resources, and those impacts would remain unmitigated. In the 2044 With Action condition, the Proposed Project would also result in significant adverse visual impacts with respect to the Empire State Building by obstructing certain views east and northeast towards the architectural resource. As discussed below in "Mitigation," practicable mitigation measures have not been identified for these significant adverse visual impacts on the Empire State Building, and they would remain unmitigated.

As noted above, the siting, planning, property acquisition, and construction on Sites 1, 2, and 3 would proceed only if a southern expansion alternative is selected for a potential expansion of Penn Station and would be subject to separate actions and approvals by the involved public transportation agencies and separate environmental review under NEPA and consultation pursuant to Section 106. which mandates that federal agencies consider the effects of their actions on any properties listed on or determined eligible for S/NR listing and afford the federal Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. Section 106 requires consultation with the SHPO, federally recognized Indian tribes that might attach religious and cultural significance to historic properties affected by the project, and additional consulting parties with a demonstrated interest in the project based on a legal or economic relation to affected properties or on an interest in the project's effects on historic properties. The lead federal agency, in consultation with the SHPO and consulting parties, must determine whether a proposed project would have any adverse effects on historic properties within the project's area of potential effect. When adverse effects are identified, Section 106 consultation typically results in a Memorandum of Agreement or Programmatic Agreement, outlining agreed-upon measures to avoid, minimize, or mitigate the project's effects on historic properties. Likewise, historic reviews on the state level typically result in the documentation of any agreements stemming from the consultation process in Letters of Resolution.

The involved public transportation agencies would also comply with Section 4(f) of the U.S. Department of Transportation Act of 1966 (Section 4(f)), which applies to projects that receive funding from or require approval by an agency of the U.S. Department of Transportation. Specifically, Section 4(f) prohibits such projects from taking actions that require the "use" of a historic property that is listed in or eligible for S/NR listing, unless a determination is made that there is no feasible and prudent alternative to such use, and all possible planning has been undertaken to minimize harm to the 4(f) property or that the use would have a "de minimis" impact. Because a potential expansion of Penn Station would require funding and approvals from an agency or agencies of the U.S. Department of Transportation (namely, the Federal Transportation Administration and/or the Federal Railroad Administration), the involved public transportation agencies for that project, if the project is approved, would be required to undertake the necessary evaluations, reviews, and consultations related to historic properties to comply with Section 106 and Section 4(f).

Since the reviews under Section 106 and Section 4(f) have not commenced, no determination has yet been made as to whether Sites 1, 2, or 3 would be selected as the location of a Penn Station expansion, or whether one or more of the architectural resources on those sites could be preserved in the event those sites are selected for a southward expansion alternative. Notwithstanding these separate reviews, because the Proposed Project would support a potential southward expansion of

Penn Station onto Sites 1, 2, and 3 (in the event they are selected in the federal review process as the preferred alternative for the expansion), the potential effects of that potential expansion alternative on those architectural resources are addressed in this EIS. To assess the reasonable worst-case development scenario, the FEIS assumes that the construction of a below-grade southward expansion of Penn Station on Sites 1, 2, and 3 would require removal of the architectural resources on those sites. It is anticipated, however, that alternatives to an expansion of Penn Station on Sites 1, 2, and 3 and the feasibility of preserving one or more of these architectural resources—even with the construction of a potential southward expansion of Penn Station on Sites 1, 2, and 3—will be assessed during the separate NEPA environmental review, Section 106 consultation, and Section 4(f) evaluation. If an alternative location for the Penn Station expansion is selected or the preservation of one or more of these resources is determined to be feasible and is required as a condition of federal approval of a Penn Station expansion, ESD would evaluate potential modifications to the GPP for Sites 1, 2, and 3 to conform to that determination. In the event a southward expansion of Penn Station on Sites 1, 2, and 3 is not selected, there would be no significant adverse effects on architectural resources on those sites.

As noted above, the Proposed Project would also support the reconstruction of Penn Station, which has been determined eligible for S/NR listing. Therefore, the MTA would consult with OPRHP under either SHPA or NHPA to address any potential impacts on architectural resources prior to construction activities for the Penn Station reconstruction project.

This EIS identifies the potential impacts from development of all eight sites within the boundaries of the GPP and identifies mitigation measures to fully or partially address adverse impacts on historic and cultural resources. Measures to mitigate the adverse impacts resulting from construction on Sites 4, 5, 6, 7, and 8 are stipulated in a Letter of Resolution (LOR) among ESD, Vornado, and OPRHP in accordance with Section 14.09 of the State Historic Preservation Act. The LOR is included in **Appendix G** of the FEIS. If a southward expansion alternative is selected and pursued for expansion of Penn Station, mitigation measures to address adverse effects to architectural resources on Sites 1, 2, and 3 would be developed through the Section 106 consultation process and stipulated in a Memorandum of Agreement or Programmatic Agreement among the lead federal agency, SHPO, and other applicable parties pursuant to the separate Section 106 consultation. ESD will seek designation as a consulting party in the Section 106 process.

The impacts of the Proposed Project on architectural resources are summarized in **Table S-3**.

Table S-3
Summary of Adverse Impacts on Architectural Resources

Resource	Adverse Impact from Removal	Potential Adverse Impact from Adjacent Construction*	Adverse Visual/Shadows Impact	Notes
(A) Lithuanian Alliance of America, 307 West 30th Street, S/NR-eligible	X			Significant Adverse Impact from Development on Site 1
(#1) Penn Station Service Building, 236-248 West 31st Street, S/NR-eligible, NYCL-eligible	X			Significant Adverse Impact from Development on Site 2
(#2) Fairmont Building, 239-241 West 30th Street, S/NR-eligible	X			Significant Adverse Impact from Development on Site 2
(#3) St. John the Baptist Roman Catholic Church Complex, 207-215 West 30th Street, S/NR-eligible, NYCL-eligible	X			Significant Adverse Impact from Development on Site 2
(#4) Penn Terminal Building, 370 Seventh Avenue, S/NR-eligible	X			Significant Adverse Impact from Development on Site 2
(#5) Stewart Hotel, 371-377 Seventh Avenue, S/NR-eligible, NYCL-eligible	X			Significant Adverse Impact from Development on Site 3
(#6) Hotel Pennsylvania, 401 Seventh Avenue, S/NR-eligible	X			Significant Adverse Impact from Development on Site 7
(#7) U.S. General Post Office, Block bounded by Eighth and Ninth Avenues, West 31st and West 33rd Streets, S/NR, NYCL		X	X	Potential Adverse Construction-Related Impacts from Construction on Site 1; Shadows Impact from Development on Sites 1, 2, 5, and 6
(#8) Former Equitable Life Assurance Company, 393 Seventh Avenue, S/NR-eligible, NYCL-eligible		X		Potential Adverse Construction-Related Impacts from Construction on Sites 3 and 7
(#22) St. Francis Roman Catholic Church Complex, 129-143 West 31st Street, S/NR-eligible, NYCL-eligible		X	X	Potential Adverse Construction-Related Impacts from Construction on Site 3;** Shadows Impact from Development on Sites 3 and 8
(#25) 23rd Police Precinct Station House, 134-138 West 30th Street, S/NR-eligible, NYCL		X		Potential Adverse Construction-Related Impacts from Construction on Site 3
(#27) Loft Building, 144-154 West 30th Street, S/NR-eligible		X		Potential Adverse Construction-Related Impacts from Construction on Site 3
(#30) Fur Craft Building, 242-246 West 30th Street, S/NR-eligible		X		Potential Adverse Construction-Related Impacts from Construction on Site 2
(B) Madison Square Garden, Block bounded by Seventh and Eighth Avenues, West 31st and West 33rd Streets, S/NR-eligible		X		Potential Adverse Construction-Related Impacts from Construction on Sites 2 and 4
(B) Penn Station, Block bounded by Seventh and Eighth Avenues, West 31st and West 33rd Streets, S/NR-eligible		X		Potential Adverse Construction-Related Impacts from Construction on Sites 2, 4, and 5
(B) 2 Penn Plaza (plaza portion), 397 Seventh Avenue, S/NR-eligible		X		Potential Adverse Construction-Related Impacts from Construction on Sites 2 and 5
(C) Gimbel Brothers Administration Building, 116 West 32nd Street, S/NR-eligible		X		Potential Adverse Construction-Related Impacts from Construction on Site 8

Table S-3 (cont'd)
Summary of Adverse Impacts on Architectural Resources

Resource	Adverse Impact from Removal	Potential Adverse Impact from Adjacent Construction*	Adverse Visual/Shadows Impact	Notes
(D) Gimbel Brothers Skybridge over West 32nd Street (S/NR-eligible)	X	X		Potential Significant Adverse Impact from Development on Site 8; Potential Adverse Construction-Related Impacts from Construction on Site 8
(E) FDNY Hook and Ladder 24, Engine 1, 142 West 31st Street, S/NR-eligible		X		Potential Adverse Construction-Related Impacts from Construction on Site 3
(F) The Fralber Building, 224 West 30th Street, S/NR-eligible		X		Potential Adverse Construction-Related Impacts from Construction on Site 2
(G) Loft building, 236 West 30th Street, S/NR-eligible		X		Potential Adverse Construction-Related Impacts from Construction on Site 2
(H) Fire Patrol No. 3, 240 West 30th Street, S/NR-eligible		X		Potential Adverse Construction-Related Impacts from Construction on Site 2
(I) Irwin House, 308 West 30th Street, S/NR-eligible		X		Potential Adverse Construction-Related Impacts from Construction on Site 1
(#37) Penn South Apartment Complex, Complex bounded by West 29th and West 23rd Streets, Eighth and Ninth Avenues, S/NR-eligible			X	Shadows Impact from Development on Sites 2, 3, 6, 7, and 8
(#40) St. Michael's Roman Catholic Church Complex, 414-424 West 34th Street S/NR-eligible, NYCL-eligible			X	Shadows Impact from Development on Sites 1 and 2
(#45) Empire State Building, S/NR, NYCL, NHL			X	Visual Impact from Development on Sites 2, 5, and 6***
Former Greenwich Savings Bank, 1352-1362 Broadway, S/NR, NYCL (This property is outside the study area.)			X	Shadows Impact from Development on Sites 5, 6, and 7

Notes:
* Resources that may experience an adverse impact from adjacent construction are located within 90 feet of proposed construction activities.
** The DEIS noted that the St. Francis Roman Catholic Church Complex could also experience potential adverse construction-related impacts from construction on Site 7. However, the portions of the complex that are located within 90 feet of Site 7 (which are later additions to the church on West 32nd Street) are non-contributing to the S/NR-eligible and NYCL-eligible resource. The contributing buildings of the church complex are approximately 115 feet south of Site 7. Therefore, the church would not experience potential adverse construction-related impacts from construction on Site 7.
*** The 2044 With Action development on Site 6 would partially obstruct views of the Empire State Building in eastward views along West 34th Street, the 2044 With Action developments on Sites 5 and 6 would partially obstruct views of the Empire State Building in eastward views along West 33rd Street, and the 2044 With Action development on the east (Seventh Avenue) portion of Site 2 would block partial views northeast to the Empire State Building available from the east portion of Chelsea Park along Ninth Avenue, and from Ninth Avenue and West 28th Street.
NYCL: New York City Landmark
S/NR: Listed on the State and National Registers of Historic Places.
S/NR-eligible: Officially determined eligible for listing on the State and National Registers of Historic Places.

URBAN DESIGN AND VISUAL RESOURCES

URBAN DESIGN

In the 2033 With Action condition under both the Maximum Commercial Scenario and the Maximum Residential Scenario, the Proposed Project would not result in a significant adverse impact to urban design. As with the No Action condition, the proposed developments on Sites 1A/1B, 4, and 7 would be constructed on existing blocks, and would not result in any changes to topography, street pattern and hierarchy, block shapes, or natural features. The proposed widened

sidewalks at Sites 1A/1B, 4, and 7 would be consistent with the urban design of the primary and secondary study areas where a variety of buildings, including more recently built towers are set back from the property line behind widened sidewalks, plazas, and landscaped areas. In addition to the sidewalk widenings and the transit improvements (station and subway easement entrances), each development site would be required to provide public space in an amount calculated based on a percentage of the site area, as further described in the Design Guidelines. The types of spaces that may be provided, as set forth in the Design Guidelines, include additional sidewalk widenings, pedestrian circulation space in front of transit or building entrances, or landscaped areas that may contain seating and passive activities for pedestrians in the surrounding neighborhood.

The inclusion of ground-floor retail at the sidewalks, similar to the No Action condition, would be consistent with the streetscape of the primary and secondary study areas. The proposed With Action developments on Sites 1A/1B, 4, and 7 would allow uses that are consistent with those uses currently developed or proposed within the primary and/or secondary study areas, including office, residential, hotel, and retail uses. The anticipated building massings, which could vary and include buildings with base and tower configurations and other configurations including buildings that do not have bases such as 2 Penn Plaza and the recently built towers at the nearby Manhattan West development, would be in keeping with the urban design of the primary and secondary study areas. In addition, the development of tall buildings along the avenues would be consistent with the urban design of the primary study area, such as 2 Penn Plaza, and the secondary study area.

The proposed developments on Sites 1A/1B, 4, and 7 would be built within a context of both older and newer buildings that vary in height, form, and materials, including shorter older buildings of masonry construction and taller newer buildings with steel, glass, and masonry curtain walls. The proposed developments on Sites 1B and 4 in the Maximum Commercial Scenario with illustrative building heights of 605 and 664 feet, respectively, would be shorter than 1 Penn Plaza (at approximately 750 feet tall) in the primary study area. The proposed mixed-use building on Site 1A, with an illustrative building height of 275 feet (and a height limit of 350 feet), would be shorter in height than the approximately 412-foot-tall office building at 2 Penn Plaza and the approximately 390-foot-tall building at 11 Penn Plaza in the primary study area. The proposed development on Site 4 in the Maximum Residential Scenario (915 feet) and on Site 7 (1,270 feet) would be among the tallest buildings in the area. However, the heights would be comparable to other tall buildings in the secondary study area including the Empire State Building and 30 Hudson Yards. The secondary study area also contains other tall buildings, although shorter than the proposed development on Site 7, such as the One and Two Manhattan West developments, and towers at Hudson Yards that have also been recently built or are projected to be complete by the 2033 analysis year. The height of the building on Site 7 would not be readily apparent to the pedestrian at street level in close proximity to the site, though it would be more discernable when viewed from farther away and in context with other tall towers located in the secondary study area.

It is assumed that Sites 2 and 3 would be cleared of buildings (except for the new service building for Penn Station on Site 2A and entrances to the Penn Station expansion) in the 2033 Phase 1 With Action condition. The sites would not have any ground-floor amenities or elements of visual interest to the pedestrian, and are expected to be surrounded by construction fencing except for entrances to the potential Penn Station expansion. This condition would have a negative effect on the pedestrian experience until the completion of the new buildings on Sites 2 and 3 in the 2044 analysis year. In the event that there is an extended period between the completion of the expansion of Penn Station and the commencement of construction of the new buildings on Sites 1, 2, and/or 3, MTA, in consultation with the City, would seek to activate one or more of the sites with temporary uses or other programming. The potential sky concourse proposed by Vornado above

Plaza 33 to connect the buildings at 1 and 2 Penn Plaza would be consistent with the urban design character of the primary and secondary study areas, where a number of structures and bridges span over streets.

While the size and height of the buildings contemplated as part of the Proposed Project would constitute a substantial change, the Proposed Project would also not result in significant adverse impacts related to urban design in the 2044 analysis year. The Proposed Project would not alter the location and arrangement of streets, street hierarchy, or block shapes in the primary and secondary study areas. The shared streets contemplated along West 32nd Street between Sixth and Seventh Avenues, along West 33rd Street between Sixth and Ninth Avenues, and potentially along West 31st Street between Seventh and Eighth Avenues, would be consistent with the urban design character of the Broadway Boulevard Plazas in the secondary study area, which also create pedestrian-friendly spaces and include seating, plantings, and street furniture; however, the intent is for a more civic character with higher-quality materials and favoring heavier pedestrian traffic. The proposed installation of bicycle lanes along a number of the avenues and on West 31st Street within the Project Area would be in keeping with the existing urban design character of the secondary study area and the City's urban design goals, where protected bike lanes are separated from vehicular traffic by a lane of parking, traffic islands, and plantings.

The proposed widened sidewalks adjacent to the development sites, potential landscaping and other potential pedestrian amenities that could be included in the public space required at each development site, as well as potential landscaping and trees on the proposed shared streets could provide plantings and publicly accessible spaces for pedestrians to utilize and enjoy, though in-ground trees would not be possible in many areas due to rail structures beneath. In addition, the proposed public plaza space on Site 2 would provide a new open space that would serve the new mixed-use district surrounding Penn Station and the surrounding neighborhoods and provide a significant new pedestrian amenity. The proposed open space would be anticipated to provide greenery and passive recreation opportunities for the pedestrian, such as seating, in an area where there are limited publicly accessible open spaces, and would have a positive impact on the pedestrian's experience.

The proposed developments would provide office, retail, residential, hotel, and open space uses that are consistent with the existing uses currently developed or proposed within the secondary study area, including commercial and residential uses. The Proposed Actions would facilitate the development of new, tall buildings on the development sites, which would be considerably taller than many of the older existing buildings in the secondary study area, but comparable in height to a number of the buildings built in the secondary study area within the past 20 years or planned or under construction by the 2033 analysis year. These new buildings would form a cluster of predominantly tall towers that are anticipated to be of steel, glass, and masonry curtain wall construction, consistent with the urban design characteristics of the Manhattan West development. In addition, the proposed developments would share some similar characteristics as Hudson Yards in terms of building scale and materials, though the developments would be set within an existing street grid and in context with older existing, lower-scale buildings.

The anticipated building massings that would be allowed pursuant to the Design Guidelines permit base and tower configurations and other configurations consistent with modern mixed-use and office development such as buildings that rise from the ground without a base. These building massings would be consistent with the urban design of the larger and taller more recent buildings constructed in the second half of the 20th century in the primary and secondary study areas and the buildings recently built or under construction within the past 20 years in the secondary study

area, such as the recently constructed towers at Manhattan West. Street wall requirements would permit varied geometry to accommodate heavy pedestrian circulation areas, including at transit entrances and office lobbies. The buildings would have large footprints, which would be consistent with the urban design of the primary study area including 1 Penn Plaza, 2 Penn Plaza, MSG, and the Farley Building and with the secondary study area, which includes a mix of buildings of smaller size and footprint and buildings that have large footprints and occupy all or portions of city blocks.

The buildings are anticipated to have contemporary designs, with curtain wall façades of glass, metal, or masonry, which would be consistent with the urban design character of a number of the taller, more recently constructed buildings in the primary study area, such as 1 Penn Plaza and 2 Penn Plaza, and in the secondary study area; as well as complementing the urban design character of some shorter buildings. The location of new buildings ranging in illustrative height between 605 feet and 1,270 feet along the avenues would be consistent with the urban design of the study area (i.e., the area within a ¼-mile of the Project Area), where recent new construction includes tall buildings of between 500 and 1,000 feet in height, as well as taller buildings of over 1,000 feet. Overall, the development of new taller and larger buildings would be consistent with trends in the secondary study area that have included and continue to include the development of tall, large buildings of contemporary designs and curtain wall cladding—in particular, groupings of such buildings at Manhattan West and Hudson Yards. Although most of the new buildings would be taller than existing buildings in the primary study area, the proposed buildings on Sites 1A and 1B would be shorter than 1 Penn Plaza (approximately 750 feet tall). In addition, though most of the new buildings would be among the tallest in the secondary study area, it is not anticipated that the height of the new buildings, when viewed in context with other tall towers visible to pedestrians within and outside the primary and secondary study areas, would result in significant adverse impacts to the pedestrian experience.

VISUAL RESOURCES

The Proposed Project would result in significant adverse impacts to visual resources in the 2033 and 2044 analysis years. Demolition of the Church of St. John the Baptist on Site 2 is assumed to occur as of the 2033 analysis year and the possible demolition of the copper Gimbel Brothers Skybridge spanning from the existing building on Site 8 across West 32nd Street would occur by the 2044 analysis year. As these elements are identified, based on *CEQR Technical Manual* criteria, as visual resources, demolition of these visual resources would constitute a direct significant adverse impact on visual resources. In addition, the obstruction of views east and northeast from certain vantage points within the western portion of the secondary study area towards the Empire State Building in the 2044 With Action condition would also constitute a significant adverse impact to visual resources. More proximate and complete views of the Empire State Building would remain unaffected in views north and south on Fifth Avenue, in all views from east of the Empire State Building looking west, and in views looking east to the Empire State Building from areas east of Sixth Avenue. Although these views would continue to be available, the new project buildings would block pedestrian views of the Empire State Building from certain vantage points in the west portion of the study area, constituting a significant adverse impact with respect to a visual resource. Potential measures to mitigate the significant adverse impacts to visual resources have been evaluated and are discussed below in “Mitigation.” As discussed in “Unavoidable Adverse Impacts,” these impacts would be unavoidable.

The proposed developments on Sites 1 through 8 would not obstruct view corridors on public streets as the proposed developments would be constructed on existing blocks. The potential sky

concourse above Plaza 33 west of Seventh Avenue would be visible in views from areas to the east and west of it on West 33rd Street. However, the potential sky concourse, which would be elevated above Plaza 33 by at least 14.5 feet, would not obstruct street level pedestrian views. As a largely transparent (glazed) structure, it would have less of a visual presence than other bridges that cross over streets in the secondary study area, which are larger and of solid steel or masonry construction. Moreover, there are no views of the Hudson River and extremely limited and distant views of New Jersey from locations east of the proposed sky concourse on West 33rd Street. In addition, the High Line already crosses over West 33rd Street near Twelfth Avenue, affecting views west closer to the river. Therefore, the potential sky concourse would also not obstruct view corridors on public streets and would not result in a significant adverse impact to urban design and visual resources.

The Proposed Project would also not affect views to parks that constitute visual resources in the secondary study area including Chelsea Park, Greeley Square, and Herald Square. Views on the High Line would also remain free of obstructions.

The Proposed Project's new buildings, in views throughout the secondary study area including from publicly accessible open spaces, would contribute to the continuously evolving Manhattan skyline, providing a grouping of new visual elements in much the same way as the tall, glazed towers of Manhattan West and Hudson Yards. These new buildings would also be visible from outside the secondary study area, adding to the diversity of the Manhattan skyline, which includes a variety of shorter and taller buildings of different massings, designs and materials.

HAZARDOUS MATERIALS

The Proposed Project would not result in significant adverse impacts related to hazardous materials. A hazardous materials assessment was performed to identify the potential for contamination in the buildings and the subsurface, based on past and current use. Potential contamination may be present in both the subsurface (related primarily to localized former gas stations, historic fill, current and abandoned heating oil underground storage tanks [USTs], and historical operations) and inside buildings (primarily related to asbestos, lead-based paint [LBP], and polychlorinated biphenyls [PCBs]). With the implementation of a variety of standard precautionary measures (e.g., identification of hazardous materials as part of Phase I and Phase II investigations, and handling/disposal of hazardous materials in accordance with applicable regulations and under the direction of material management plans and health and safety plans), no significant adverse impacts related to hazardous materials would be expected to occur as a result of construction of the Proposed Project. Following construction of the Proposed Project with the proposed measures, there would be no further potential for significant adverse impacts.

WATER AND SEWER INFRASTRUCTURE

The Proposed Project would not result in a significant adverse impact on the City's water supply, wastewater treatment, or stormwater management infrastructure in either analysis year. With respect to stormwater and sanitary sewage, the Proposed Project would result in decreases in the peak stormwater runoff rate in both analysis years and would not contribute to increased combined sewer overflow (CSO) events, as summarized below.

In the event of a southward expansion of Penn Station beneath Sites 1, 2, and 3, it is assumed that some or all of the existing water and sewer infrastructure where underground expansion is to take place would require relocation or re-routing. Other utilities within the right-of-way may require relocation as well.

WATER SUPPLY—2033

Phase 1 of the Proposed Project would result in an increase in water demand of 99,159 gallons per day (gpd) as compared to the Future without the Proposed Project (the No Action condition). This represents a 0.01 percent increase in demand on the New York City water supply system. Phase 1 of the Proposed Project would not result in a significant adverse impact on the City's water supply system.

SANITARY SEWAGE—2033

The Proposed Project would result in an increase of 73,638 gpd of sewage compared to the No Action condition. The increase in volume in sanitary flow to the combined sewer system would represent approximately 0.07 percent of the average daily flow to the North River Wastewater Treatment Plant (WWTP). This minor increase in sanitary flow would not result in an exceedance of the North River WWTP's capacity. Therefore, the 2033 With Action condition would not create a significant adverse impact on the City's sanitary sewage treatment system.

STORMWATER—2033

The overall volume of stormwater runoff is anticipated to increase due to the replacement of some existing paved areas and walkways with roof coverage, which is more impervious than pavement and walkways; however, with adherence to the New York City Department of Environmental Protection's (DEP) design standards, the peak stormwater runoff rate from the development sites is anticipated to decrease. The development sites are located in an area that is well-served by combined sewer infrastructure. Additionally, the incorporation of selected best management practices (BMPs) on Sites 1, 4 and 7 would contribute to a reduction in stormwater runoff rates compared to existing conditions. Phase 1 of the Proposed Project would result in a decrease of 48.80 cubic feet per second (cfs) in peak stormwater runoff rate compared to existing conditions, and 13.60 cfs in the peak stormwater runoff rate compared to the No Action condition. Given the small increment in flow volumes, and the incorporation of sanitary and stormwater source control BMPs, the Proposed Project is not expected to appreciably increase the frequency or volume of CSO events. Therefore, Phase 1 of the Proposed Project would not have a significant adverse impact on the downstream City combined sewer system.

WATER SUPPLY—2044

In 2044, Phase 2 of the Proposed Project would result in an incremental water demand of 2,445,443 gpd as compared to the No Action condition. This represents a 0.22 percent increase in demand on the New York City water supply system. Given the immense capacity of the City's water supply system, the relatively minor incremental increase in water consumption (as compared to citywide demand) and the development sites' location in an area well-served by water infrastructure, the Proposed Project's incremental demand would not result in a significant adverse impact on the City's water supply.

SANITARY SEWAGE—2044

The Proposed Project would result in an increment of 967,809 gpd of sewage. This incremental volume in sanitary flow to the combined sewer system would represent approximately 0.9 percent of the average daily flow to the North River WWTP. This volume would not result in an exceedance of the North River WWTP's capacity, and is not anticipated to create a significant adverse impact on the City's sanitary sewage treatment system.

STORMWATER—2044

The overall volume of stormwater runoff is anticipated to increase due to the replacement of some existing paved areas with roof coverage, which is more impervious than pavement and walkways; however, with adherence to DEP design standards, the peak stormwater runoff rate from the development sites is anticipated to decrease. As stated above, the development sites are located in an area that is well-served by combined sewer infrastructure. Additionally, with the incorporation of selected BMPs (specifically on-site detention), the peak stormwater runoff rates are expected to be reduced as compared to existing conditions. BMPs (such as on-site detention) are part of a comprehensive pollution control plan to reduce runoff of storm water from the development sites into the city sewer system. DEP's detention performance standard is intended to reduce peak discharges to the City's sewer system during rain events by requiring greater onsite storage of stormwater runoff and slower release to the sewer system. The implementation of DEP's stormwater performance standard over time is expected to provide additional capacity to the existing sewer system, thereby improving its performance. The Proposed Project would result in a decrease of 72.80 cfs in peak stormwater runoff rate compared to existing conditions, and 19.64 cfs in the peak stormwater runoff rate compared to the No Action condition. Given the small increment in flow volumes, and the incorporation of sanitary and stormwater source control BMPs, the Proposed Project is not expected to appreciably increase the frequency or volume of CSO events. Overall, the Proposed Project would not result in significant adverse impacts to water supply, wastewater treatment, or stormwater conveyance.

SOLID WASTE

This analysis finds that the Proposed Project would not result in a significant adverse impact on solid waste and sanitation services. In addition, the Proposed Project would not directly affect a solid waste management facility.

In the 2033 Phase 1 analysis year, the Proposed Project would result in a net increase in solid waste between No Action and With Action conditions of approximately 6 tons per week, comprised of a reduction of approximately 7 tons of waste handled by the New York City Department of Sanitation (DSNY), and an increase of approximately 13 tons of waste handled by private carters when compared to the No Action condition (0.02 percent of the City's anticipated future commercial waste generation). This correlates to approximately 1 additional truckload per week handled by private carters. Although this would be an increase compared with the No Action condition, the additional solid waste resulting from the Proposed Project would be a negligible increase relative to the approximately 12,260 tons of solid waste handled by DSNY or the 9,000 tons handled by private carters per day. As such, the Proposed Project would not result in an increase in solid waste that would overburden available waste management capacity and there would be no significant adverse impact to solid waste by 2033.

In the 2044 Phase 2 analysis year, the Proposed Project would result in an incremental increase in solid waste compared to the No Action condition of approximately 262 tons per week of solid waste, comprised of a reduction of approximately 10 tons of waste handled by DSNY, and an increase of approximately 272 tons of waste when compared to the No Action condition (0.35 percent of the City's anticipated future commercial waste generation) that would be handled by private carters.[9] This correlates to approximately 18 additional truckloads per week handled by

[9] The assessment of solid waste and sanitation services is conservatively based on the Maximum Commercial Scenario because this scenario would generate the most solid waste in the 2044 Phase 2

private carters. Although this would be an increase compared with the No Action condition, the additional solid waste resulting from the Proposed Project would be a negligible increase relative to the approximately 12,260 tons of solid waste handled by DSNY or the 9,000 tons handled by private carters per day. As such, the Proposed Project would not result in an increase in solid waste that would overburden available waste management capacity and there would be no significant adverse impact to solid waste. The Proposed Project would not conflict with, or require any amendment to, the City's solid waste management objectives as stated in the SWMP.

ENERGY

This analysis finds that the annual energy consumption for neither Phase 1 nor Phase 2 of the Proposed Project would result in a significant adverse impact related to energy. As presented in this analysis, the energy demand for each phase of the Proposed Project represents the total energy consumption for the Future with the Proposed Project (the With Action condition) in the applicable analysis year.

In the 2033 Phase 1 analysis year, the Proposed Project (new buildings on Sites 1, 4, and 7 and existing buildings on Sites 5, 6, and 8) is expected to result in an energy demand of approximately 649,196 million British thermal units (MMBTUs) of energy per year. Similarly, with the completion of the Proposed Project in 2044, the Proposed Project is projected to result in an energy demand of approximately 1,215,972 MMBTUs of energy per year by the 2044 analysis year. This would represent at most 0.59 percent of the regional electricity generation in New York City. Therefore, the Proposed Project would not result in a significant adverse impact related to energy.

The existing buildings at the Project Sites are estimated to consume approximately 1,063,070 MMBTU per year. In the Future without the Proposed Project (the No Action condition), existing buildings and planned developments would be subject to New York City's energy efficiency and carbon intensity regulations and are anticipated to result in more energy efficient buildings in the No Action condition. However, it is not known how each building will comply with these regulations, and projections of energy consumption in the No Action condition would require building specific information and estimates would be speculative in nature. Therefore, the analysis compares energy consumption in the With Action condition to existing energy consumption on the development sites, and presents the change in energy consumption compared to the existing conditions. When compared to the existing conditions, the Proposed Project would result in an overall decrease of energy consumption in the 2033 Phase 1 analysis year by 413,874 MMBTU per year, and an overall increase of 152,902 MMBTU per year over existing conditions on full build-out of the Proposed Project.

The commitment for buildings to use fully-electrified heating, ventilation, and air conditioning (HVAC) and hot water systems would result in estimated energy consumption being reduced substantially when compared to the City's energy consumption factors for buildings that utilize fossil fuel-fired systems. In addition, the Proposed Project would be required to comply with the NYCECC, which imposes performance requirements for heating, ventilation, and air conditioning (HVAC) systems, as well as the exterior building envelope of new buildings. In compliance with

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analysis year. While the Maximum Residential Scenario would result in more waste handled by DSNY than with the Maximum Commercial Scenario when compared to the No Action condition, it would be a negligible increase relative to the solid waste handled by DSNY per day. As such, the Proposed Project would not result in an increase in solid waste that would overburden available waste management capacity and there would be no significant adverse impact to solid waste.

this code, new development must meet standards for energy conservation, which include requirements relating to energy efficiency and combined thermal transmittance.

TRANSPORTATION

The transportation-related impact assessments prepared for this FEIS accounted for the anticipated changes in trip-making attributed to both the Proposed Project and the projected ridership increases from the potential expansion of Penn Station. The findings presented below were reviewed and concurred by DOT, MTA, and NYCT.

TRAFFIC

Traffic conditions were evaluated at 108 intersections for the weekday AM, midday, and PM peak hours. In the 2033 With Action condition, significant adverse traffic impacts were identified at 80 intersections during the weekday AM peak hour, 79 intersections during the weekday midday peak hour, and 76 intersections during the weekday PM peak hour. In the 2044 With Action condition, significant adverse traffic impacts were identified at 102 intersections during the weekday AM peak hour, 89 intersections during the weekday midday peak hour, and 94 intersections during the weekday PM peak hour. **Table S-4** summarizes the projected significant adverse traffic impacts for both the 2033 and 2044 With Action conditions. Potential improvement measures that may be implemented to mitigate these impacts are summarized below under "Mitigation."

Table S-4
Summary of Significant Adverse Traffic Impacts

Analysis Peak Hour	Total No. of Impacted Intersections/Lane Groups	
	2033 Phase 1 With Action Condition	**2044 Phase 2 With Action Condition**
Weekday AM	80/123	102/188
Weekday Midday	79/121	89/147
Weekday PM	76/120	94/175
Totals During Any Peak Hour	92/170	104/231

Notes: In total, 108 intersections, comprising nearly 400 lane groups, were included in the traffic study area for analysis.

TRANSIT

Based on a detailed assignment of project-generated bus trips and in consultation with NYCT, it was determined that none of the express or local bus routes serving the study area would incur 50 or more peak hour riders in a single direction. Therefore, a detailed bus line-haul analysis is not warranted and the Proposed Project is not expected to result in any significant adverse bus line-haul impacts. For subway operations, detailed analyses of station circulation elements and control areas were prepared for the 34th Street–Herald Square, 34th Street (Seventh Avenue)–Penn Station, and 34th Street (Eighth Avenue)–Penn Station Subway Stations for the weekday AM and PM peak hours. A subway line-haul analysis was also prepared for the subway lines serving the three stations for the weekday AM and PM peak hours. **Tables S-5 and S-6** summarize the projected significant adverse subway station and line-haul impacts, respectively, for the 2033 and 2044 With Action conditions. Potential improvement measures that may be implemented to mitigate these impacts are discussed below in "Mitigation."

Table S-5
Summary of Significant Adverse Subway Station Impacts

Analysis Peak Hour	Station Element	Total No. of Impacted Station Elements					
		2033 Phase 1 With Action Condition			2044 Phase 2 With Action Condition		
		34th-Herald Square	34th-Seventh Avenue	34th-Eighth Avenue	34th-Herald Square	34th-Seventh Avenue	34th-Eighth Avenue
Weekday AM	Stairways	3	2	0	8	3	0
	Escalators	1	0	0	2	0	0
	Passageways	0	0	0	0	0	0
	Control Areas	0	0	0	0	1	0
Weekday PM	Stairways	4	3	0	7	4	3
	Escalators	2	0	0	3	0	0
	Passageways	0	0	0	0	0	0
	Control Areas	0	0	0	0	0	0

Notes: In total, 101 existing or reconstructed station elements and 10 new station elements at the 34th Street–Herald Square, 34th Street–Seventh Avenue, and 34th Street–Eighth Avenue Subway Stations were included in the subway station analysis.

Table S-6
Summary of Significant Adverse Subway Line-Haul Impacts

Analysis Peak Hour	Direction of Travel	Impacted Subway Lines					
		2033 Phase 1 With Action Condition			2044 Phase 2 With Action Condition		
		34th-Herald Square	34th-Seventh Avenue	34th-Eighth Avenue	34th-Herald Square	34th-Seventh Avenue	34th-Eighth Avenue
Weekday AM	Southbound					2/3	E
Weekday PM	Northbound				D	1, 2/3	A, E

Notes: The 34th Street-Herald Square Station serves the B, D, F, M, N, Q, R, and W subway lines; the 34th Street-Seventh Avenue Station serves the No. 1, 2, and 3 subway lines; and the 34th Street-Eighth Avenue Station serves the A, C, and E subway lines.

Between DEIS and FEIS, a substantial number of additional station improvements were incorporated into the Proposed Project, and NYCT provided additional guidance on the anticipated distribution of future subway ridership along the various subway lines serving the study area. Accordingly, refinements to the future conditions subway station and line haul analyses were made, where appropriate, and presented in the FEIS.

PEDESTRIANS

Weekday peak-period pedestrian conditions were evaluated at key area sidewalk, corner reservoir, and crosswalk locations. Pedestrian conditions were evaluated at 102 sidewalks, 88 corners, and 82 crosswalks for the weekday AM, midday, and PM peak hours. In the 2033 With Action condition, significant adverse impacts were identified for three sidewalks and six crosswalks during the weekday AM peak hour; two sidewalks and 15 crosswalks during the weekday midday peak hour; and nine sidewalks, four corners, and 18 crosswalks during the weekday PM peak hour. In the 2044 With Action condition, significant adverse impacts were identified for 18 sidewalks, 10 corners, and 40 crosswalks during the weekday AM peak hour; six sidewalks and 36 crosswalks during the weekday midday peak hour; and 19 sidewalks, 15 corners, and 43 crosswalks during the weekday PM peak hour. **Table S-7** summarizes the projected significant adverse pedestrian impacts for both the 2033 and 2044 With Action conditions. Potential improvement measures that may be implemented to mitigate these impacts are discussed below in "Mitigation."

Table S-7
Summary of Significant Adverse Pedestrian Impacts

Analysis Peak Hour	Total No. of Impacted Pedestrian Elements					
	2033 Phase 1 With Action Condition			2044 Phase 2 With Action Condition		
	Sidewalks	Corners	Crosswalks	Sidewalks	Corners	Crosswalks
Weekday AM	3	0	6	18	10	40
Weekday Midday	2	0	15	6	0	36
Weekday PM	9	4	18	19	15	43
Totals During Any Peak Hour	11	4	26	23	17	53

Notes: In total, 272 pedestrian elements were included in the pedestrian study area for analysis.

VEHICULAR AND PEDESTRIAN SAFETY

Crash data for the study area intersections were obtained from DOT for the period between January 1, 2015 and December 31, 2017. During this period, a total of 1,663 reportable and non-reportable crashes, eight fatalities, 1,250 injuries, and 542 pedestrian/bicyclist-related crashes occurred at the study area intersections. A rolling yearly total of crash data identifies 22 study area intersections as high crash locations. A summary of the identified high crash locations, based on *CEQR Technical Manual* criteria, prevailing trends, project-specific effects, and recommended safety measures is provided in **Table S-8**.

In consultation with DOT, other study area analysis locations that are not considered high crash locations per *CEQR Technical Manual* criteria were reviewed to determine whether they are Vision Zero high priority intersections or part of high priority corridors. This review identified 57 other study area analysis intersections that are Vision Zero high priority intersections or part of high priority corridors. Additional safety measures were recommended, where applicable, at these locations to improve pedestrian safety. These include restriping faded crosswalks at the intersections of Second Avenue and East 34th Street and at Eighth Avenue and West 33rd Street.

PARKING

Under the 2033 With Action condition, public parking utilization is projected to be at 97, 118, 117, and 84 percent of the off-street parking capacity within ¼-mile of the Project Area during the weekday AM, midday, PM, and overnight time periods, respectively. The corresponding parking shortfall for the 2033 With Action weekday midday and PM time periods would be 1,219 and 1,125 parking spaces, respectively. These levels are expected to increase under the 2044 With Action condition to 105, 131, 120, and 84 percent during the weekday AM, midday, PM, and overnight time periods, respectively. The corresponding parking shortfall for the 2044 With Action weekday AM, midday, and PM time periods would be 355, 2,047, and 1,306 parking spaces, respectively. As stated in the *CEQR Technical Manual*, a parking shortfall resulting from a project located in Manhattan does not constitute a significant adverse impact, due to the magnitude of available alternative modes of transportation. If the projected level of parking demand materializes in the 2044 With Action condition, some motorists may alter their modes of transportation or would have to seek parking availability further beyond the Project Area.

Table S-8
Summary of High Crash Locations and Recommended Safety Measures

High Crash Intersection	Prevailing Trends	Anticipated Background and Project Changes	Recommended Safety Measures
First Ave & E 30th St	North and east crosswalks affected by failing to yield	Incremental trips: 77 vehicles and less than 200 pedestrians	None
First Ave & E 34th St	Lighting	Incremental trips: 130 vehicles and less than 200 pedestrians	None
Second Ave & E 30th St	Northeast corner pedestrians not using crosswalk	Incremental trips: 83 vehicles and less than 200 pedestrians	Widening north crosswalk to median and improving median
Second Ave & E 36th St	Queues from QMT	Incremental trips: 232 vehicles and less than 200 pedestrians	Improve Signage
Third Ave & E 23rd St	Conflicting vehicles with pedestrians	Incremental trips: 91 vehicles and less than 200 pedestrians	Install countdown timers
Third Ave & E 30th St	North and east crosswalks affected by failing to yield	Incremental trips: 100 vehicles and less than 200 pedestrians	None
Fifth Ave/B'way & W 23rd St	Conflicting vehicles with pedestrians	Incremental trips: 62 vehicles and less than 200 pedestrians	Vision Zero improvements implemented
Fifth Ave & W 31st St	No prevailing trends	Incremental trips: 208 vehicles and 208 pedestrians	Vision Zero improvements to be implemented
Sixth Ave & W 23rd St	Conflicting vehicles with pedestrians	Incremental trips: 89 vehicles and less than 200 pedestrians	None
Sixth Ave & W 30th St	North and east crosswalks affected by failing to yield	Incremental trips: 243 vehicles and less than 200 pedestrians	None
Seventh Ave & W 23rd St	Conflicting vehicles with pedestrians	Incremental trips: 110 vehicles and less than 200 pedestrians	None
Seventh Ave & W 34th St	No prevailing trends	Incremental trips: 416 vehicles and 870 pedestrians	None
Seventh Ave & W 42nd St	Conflicting vehicles with pedestrians	Incremental trips: less than 50 vehicles and less than 200 pedestrians	Intersection recently reconfigured due to SBS
Eighth Ave & W 23rd St	Conflicting vehicles with pedestrians	Incremental trips: 125 vehicles and less than 200 pedestrians	None
Eighth Ave & W 26th St	Conflicting vehicles with pedestrians	Incremental trips: 152 vehicles and less than 200 pedestrians	None
Eighth Ave & W 29th St	Conflicting vehicles with pedestrians	Incremental trips: 144 vehicles and less than 200 pedestrians	None
Eighth Ave & W 34th St	Conflicting vehicles with pedestrians	Incremental trips: 243 vehicles and 334 pedestrians	Improve Signage
Eighth Ave & W 39th St	Conflicting vehicles with pedestrians	Incremental trips: less than 50 vehicles and less than 200 pedestrians	Vision Zero improvements implemented
Eighth Ave & W 42nd St	Conflicting vehicles with pedestrians	Incremental trips: less than 50 vehicles and less than 200 pedestrians	None
Ninth Ave & W 31st St	Conflicting vehicles with pedestrians	Incremental trips: 173 vehicles and less than 200 pedestrians	Adjacent properties under construction
Ninth Ave & W 42nd St	Conflicting vehicles with pedestrians	Incremental trips: 73 vehicles and less than 200 pedestrians	None
Eleventh Ave & W 34th St	Conflicting vehicles with pedestrians	Incremental trips: 93 vehicles and less than 200 pedestrians	Adjacent properties under construction

Notes: Anticipated background and project changes – only general traffic increases and those relevant to specified crash trends are identified; LPI = Leading Pedestrian Interval.
Sources: DOT January 1, 2015 to December 31, 2017 crash data.

AIR QUALITY

The Proposed Project would not result in any significant adverse air quality impacts. The mobile source analyses determined that concentrations of CO and particulate matter less than 10 microns in diameter (PM_{10}) due to the Proposed Project would not result in any violations of National Ambient Air Quality Standards (NAAQS) at the intersections analyzed for the 2033 and 2044 analysis years and that incremental concentrations of CO would not exceed the *de minimis* criteria

referenced in the *CEQR Technical Manual*. Maximum 24-hour average concentrations of particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) would not exceed the *de minimis* criteria referenced in the *CEQR Technical Manual* for the 2033 and 2044 analysis years, and annual average concentrations would not exceed the *de minimis* criteria for the 2033 analysis year. Maximum annual average $PM_{2.5}$ concentrations are predicted to exceed the *de minimis* criterion at all three intersection sites analyzed in the 2044 analysis year. The potential exceedances would be limited to the immediate areas around these intersections, primarily sidewalk locations, and at two of the three locations, no residential, hotel, or other buildings with sensitive uses would be affected. The ambient air in each of the three affected areas would be in areas used only by transient users (pedestrians) and the overall exposure to the predicted $PM_{2.5}$ concentrations at the affected locations near these intersections would be infrequent and brief. Furthermore, while the maximum incremental increase in annual average $PM_{2.5}$ concentrations was predicted to exceed the *CEQR Technical Manual de minimis* criteria, the maximum total annual concentration is 11.1 $\mu g/m^3$, which is below the NAAQS of 12 $\mu g/m^3$. Therefore, the $PM_{2.5}$ concentrations exceeding the *CEQR Technical Manual* $PM_{2.5}$ *de minimis* criteria would not constitute a significant adverse air quality impact.

Emissions of CO and PM from the proposed parking garages at Sites 4, 6, 7, and 8 were analyzed. The analysis found that concentrations from the proposed parking facilities would not result in any significant adverse air quality impacts with respect to CO. For $PM_{2.5}$, maximum predicted increments from the proposed garages individually were found to not exceed the *CEQR Technical Manual de minimis* criteria; however, the mobile source intersection analysis determined that the intersection adjacent to Site 6 would exceed the *CEQR Technical Manual de minimis* criteria for annual average $PM_{2.5}$ for the 2044 analysis year; therefore, the cumulative incremental $PM_{2.5}$ annual average concentration (including the contribution from the intersection) also results in a concentration that exceeds the *CEQR Technical Manual de minimis* criteria on an annual average basis. However, no violation of the NAAQS would result from cumulative impacts of the Proposed Project's mobile sources of emission and emissions from the proposed parking garages, and thus no significant adverse air quality impacts are predicted.

Based on the analysis of the emissions from large and major sources of emissions in the study area on the Proposed Project, design requirements regarding the placement of operable windows and air intakes on portions of Sites 4, 5, and 7 would be imposed in the project documents to avoid the potential for significant adverse air quality impacts at these sites from an existing non-project source.

GREENHOUSE GAS EMISSIONS

The Proposed Project would be consistent with New York City's GHG reduction goals, and would be developed in compliance with recently adopted City requirements intended to reduce GHG emissions from buildings. In order to attain the City's *OneNYC* GHG reduction goal to achieve carbon neutrality by 2050, the City of New York enacted the Climate Mobilization Act (CMA). The CMA includes a number of laws geared towards moving New York City's buildings towards the City's goal of reducing GHG emissions by targeting increased energy efficiency, utilizing roof space for installation of solar energy sources and green roofing, and reducing GHG emissions associated with building energy use.

As part of the CMA, Local Law 97 (LL97) places carbon intensity limits on most buildings larger than 25,000 sf, and those limits become more stringent over time. The City, in consultation with stake-

holders, is establishing a program to implement those limits with enforcement of the first carbon intensity limits beginning in 2024. ESD would require compliance with the requirements of the CMA, so the Proposed Project commercial and residential buildings would be required to meet applicable future carbon intensity limits as well as the green/solar rooftop requirements established under the law.

The commercial and residential building energy use (in conformance with the carbon intensity limits specified in LL97) and vehicle use associated with the proposed developments envisioned under the GPP in the 2044 Phase 2 analysis year is expected to result in up to approximately 239 thousand metric tons of carbon dioxide equivalent (CO_2e) emissions per year for the Maximum Commercial Scenario, and up to approximately 218 thousand metric tons per year for the Maximum Residential Scenario. The GPP would require the use of fully electric heating, ventilation, and air conditioning (HVAC) and hot water systems as well compliance with the CMA in future years. Accordingly, GHG emissions associated with the Proposed Project are likely to decrease as both New York City and New York State make progress towards achieving 100 percent renewable electric grids. Fully electric buildings would also ensure consistency with the efficient buildings goal defined in the *CEQR Technical Manual* as part of the City's GHG reduction goal. Moreover, additional energy efficiency measures would be identified and incorporated into the project buildings as their design evolves. Among other things, the Design Guidelines require such buildings to exceed the LEED Gold standard, perform an embodied carbon analysis and optimize the selection of building materials based on the results, perform enhanced MEP and envelope commissioning, and implement advanced energy metering and enhanced refrigerant management.

The Proposed Project would also support the potential expansion of Penn Station. While the expanded Penn Station would not be subject to the Design Guidelines in the GPP, it is anticipated that the expanded Penn Station would seek to achieve a reduction in GHG emissions by 50 percent below current levels and to certify Penn Station as a zero carbon facility by 2050. Design elements for the station are currently being developed to meet these goals. As part of the design process, a sustainability framework for the expanded Penn Station is under development that will identify potential measures to achieve the emission reduction goals. These measures will be assessed for implementation throughout the design process.

New York State has enacted the Climate Leadership and Community Protection Act (CLCPA), which calls for stringent limits on the statewide emission of GHGs, requiring that those emissions on a statewide basis be reduced by 40 percent by 2030 and 85 percent by 2050, compared with statewide 1990 levels. Pursuant to the CLCPA, a newly created body called the Climate Action Council has issued a Draft Scoping Plan outlining recommendations for attaining the GHG emission limits established under the statute. A Final Scoping Plan is anticipated to be issued by the end of 2022. Based upon recommendations made in the Final Scoping Plan, the New York State Department of Environmental Conservation (DEC), as directed under the CLCPA, will promulgate regulations to reduce emissions, as necessary, to meet the statutory mandates. The CLCPA also calls for dramatic increases in the generation of power through renewable energy sources, and requires that significant portions of investments be directed to disadvantaged communities. The DEC regulations would apply across various sectors, including the buildings and construction industry.

Among other things, the Draft Scoping Plan identifies the need for widespread adoption of electric HVAC systems in order to achieve the GHG emission reduction goals. ESD expects that development in accordance with the GPP would be entirely consistent with and not hinder or interfere with the attainment of the future statewide emissions limits established under the CLCPA. If regulations promulgated by DEC under the CLCPA recommend additional regulations to impose

emission standards even more stringent than the City's CMA, developers of the buildings that would be constructed under the Proposed Project would be required to comply with such CLCPA regulations.

The Draft Scoping Plan also prioritizes the promotion of "mobility-oriented development" within the state and makes the specific recommendation that ESD should "designate priority development areas to concentrate development and make it easier to build in areas that facilitate low-carbon transportation modes."[10] Since the Project Area is exactly such an area, the Proposed Project would be consistent with this recommendation. The Proposed Project would result in high-density development in close proximity to Penn Station and would provide new entrances and connections for both Penn Station and the subway system, further increasing transit access for the area, consistent with this recommendation of the CLCPA. Furthermore, the Proposed Project would also support the potential expansion of Penn Station that would alleviate the limitations on train operations within Penn Station and would be integrated with Penn Station, including Moynihan Train Hall, and enable the Gateway Program to make full use of the Hudson River Tunnels with additional track and platform capacity.

The total emissions associated with construction of the mixed-use developments along with construction associated with the expanded Penn Station throughout the construction period, including both direct energy and emissions embedded in materials (extraction, production, and transport), would be approximately 1.5 million metric tons CO_2e, equivalent to approximately 6 or 7 years of operational emissions for the Maximum Commercial and Maximum Residential Scenarios, respectively.

The *CEQR Technical Manual* defines five goals by which a project's consistency with the City's emission reduction goals is evaluated: (1) efficient buildings; (2) clean power; (3) sustainable transportation; (4) construction-related emissions; and (5) building materials carbon intensity.

Under the GPP, the proposed commercial and residential developments are anticipated to comply with the requirements of the CMA due to the GPP requirement that all developments must use fully electric HVAC and hot water systems. Specific energy efficiency measures and design elements beyond this are not known at this time; however, potential measures to further reduce energy consumption—allowing the electrical grid to avoid the need for fossil fuel-fired electrical generation during peak demand events—have been identified for consideration, such as efficient lighting and heating controls and inclusion of rooftop solar arrays.

The proposed developments would also be subject to the City's 2020 building energy code (New York City Energy Conservation Code [NYCECC]), as such code is updated at the time of construction of a project building. The NYCECC currently imposes stringent energy efficiency requirements. In order to meet the requirements of the CMA, the building design efficiencies would likely exceed these recently enacted code requirements.

The Proposed Project would also support the other GHG goals by virtue of its inclusion and proximity to public transportation, avoidance of the use of fossil fuels for on-site combustion sources through the commitment to utilize fully electric HVAC and hot water systems, commitment to construction air quality controls, and the fact that as a matter of course, construction in New York City generally uses recycled steel and includes cement replacements,

[10] New York State Climate Action Council. *Draft Scoping Plan.* Chapter 11, "Transportation", Strategy T6. Mobility-Oriented Development. December 30, 2021.

to the extent practicable. All of these factors demonstrate that the proposed development supports the GHG reduction goal.

The Proposed Project would be a transit-oriented development located in close proximity to abundant mass transportation services, and would implement a wide variety of energy efficiency and sustainability measures to (i) comply with the stringent requirements of the CMA; (ii) meet any requirements of the CLCPA as applicable under future regulations; and (iii) meet or exceed the City's stringent building energy code. Accordingly, the Proposed Project would be consistent with the City's emissions reduction goals, as defined in the *CEQR Technical Manual*.

NOISE

In the 2033 analysis year, Phase 1 of the Proposed Project would not have the potential to result in any significant impacts as the predicted increases in noise levels would fall below the applicable *CEQR Technical Manual* significant adverse impact threshold (3.0 dBA). In the 2044 analysis year, traffic generated by the Proposed Project would be expected to produce significant increases in noise levels at receptors along West 31st Street between Ninth and Tenth Avenues, along West 31st Street between Sixth and Seventh Avenues, and along West 30th Street between Sixth and Eighth Avenues. The increases would occur primarily due to project-generated trucks travelling along the New York City Department of Transportation (NYCDOT) truck route on these streets. The increases would constitute a significant adverse impact at the receptors along these roadway segments. Proposed mitigation for impacted receptors is described below under "Mitigation."

In the 2044 With Action condition, the Proposed Project would result in noise levels at the newly introduced open space at Site 2 that would exceed the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet recommended by the *CEQR Technical Manual* noise exposure guidelines. However, the existing noise levels at these locations are currently in the low-to mid -70s dBA, exceeding the acceptable threshold, and the predicted levels at this open space are comparable to those at many open spaces in New York City. Consequently, the predicted noise exposure at the newly introduced open space would not constitute a significant adverse impact.

Based on the projected noise levels at newly introduced residential, commercial office, hotel guestroom and community facility receptors, up to 37 dBA window/wall attenuation would be required to achieve acceptable interior noise levels per the *CEQR Technical Manual* noise exposure guideline at these uses. To implement the attenuation requirements, ESD would include provisions specifying the appropriate window/wall attenuation applicable to each development site in project documents with the future developers of each site. By meeting the requirements specified in the project documents, buildings developed as a result of the Proposed Project would provide sufficient attenuation to achieve the *CEQR Technical Manual* interior noise level guidelines of 45 dBA L_{10} for residential, hotel guestroom, or community facility uses and 50 dBA L_{10} for commercial office uses. With implementation of the attenuation levels outlined above, the Proposed Project would not result in any significant adverse impacts at the newly introduced noise receptors.

As noted in "Project Description," ESD would recommend that NYCDOT study the implementation of a shared street on West 31st Street between Seventh and Eighth Avenues. If NYCDOT chooses to implement a shared street on West 31st Street between Seventh and Eighth Avenues, this street would remain open to vehicular traffic (including delivery vehicles), but some of its traffic could divert to other westbound cross-streets such as West 29th Street, West 34th Street, and West 35th Street. Some westbound truck traffic along West 31st Street may divert to West 29th Street for access to the Lincoln Tunnel via Tenth Avenue at West 30th Street/Dyer Avenue. Therefore, if the West 31st Street shared street is implemented by NYCDOT, the impacts

identified along West 31st Street may lessen in intensity or be eliminated altogether but new impacts could occur along West 29th Street instead as a result of the stated truck diversions, requiring the same mitigation measures specified for residences along West 31st Street.

PUBLIC HEALTH

The Proposed Project would not result in a significant adverse public health impact. As described in the relevant analyses of this Environmental Impact Statement (EIS), the Proposed Project would not result in unmitigated significant adverse impacts in the areas of hazardous materials, water quality, or air quality, and therefore would not have the potential for a public health impact related to these technical areas. As described in "Noise," the Proposed Project would result in a significant adverse noise impact at sensitive receptors along West 30th and West 31st Streets due to noise increases from project-generated trucks traveling on these streets, which would be unmitigated or only partially mitigated (see "Mitigation" section below). In addition, as noted in "Construction," construction activities for the Proposed Project would result in unmitigated significant adverse noise impacts at several sensitive receptor locations, as defined by *CEQR Technical Manual* thresholds, during certain phases of project construction. A public health assessment was conducted for these unmitigated noise impacts. The assessment determined that the predicted noise exposure that would be experienced by people inhabiting affected areas would be comparable to existing noise exposure at other nearby areas, and it would not exceed the threshold that would be expected to result in health effects. Therefore, the Proposed Project's unmitigated noise impacts would not result in a significant adverse public health impact.

NEIGHBORHOOD CHARACTER

The Proposed Project would effectuate a dramatic change in the Project Area, but would not result in a significant adverse impact on neighborhood character. The defining features of neighborhood character are a mixture of several high-density commercial buildings and lower-scale (and, in some cases, historic) commercial buildings and transportation infrastructure; high levels of pedestrian and vehicular activity and associated noise; and a varied neighborhood context with smaller buildings interspersed among taller buildings and iconic New York City landmarks. The assessment concludes that the Proposed Project is expected to enhance existing neighborhood character by reinforcing these defining features while improving pedestrian facilities and transit accessibility. As described above in "Project Description," the Proposed Project would address substandard conditions in the Project Area by facilitating redevelopment to create a cohesive, transit-oriented mixed-use district, introducing much-needed public transportation and public realm improvements in the area, and supporting the Penn Station reconstruction and potential Penn Station expansion.

The Proposed Project would not result in significant adverse impacts to land use, zoning, and public policy; socioeconomic conditions; or urban design. Although there would be significant adverse impacts with respect to open space, historic resources, shadows, visual resources, transportation, and noise, these impacts would not result in a significant adverse impact to the defining elements of neighborhood character, nor would a combination of effects result in a significant adverse impact to such a defining feature. Overall, the Proposed Project is expected to result in positive effects to neighborhood character by addressing substandard and insanitary conditions and transforming the area around Penn Station into a revitalized, modern transit-oriented mixed-use district. In addition to supporting a potential southward expansion of Penn Station and the reconstruction of the station, the Proposed Project would support an integrated intermodal transit network by providing transit improvements, including new entrances, stairs, elevators, wider subway platforms, and a new an east–west underground corridor connecting the

34th Street–Herald Square Station with the 34th Street–Seventh Avenue Station (the East-West Connector) and a north-south corridor on the east side of Seventh Avenue (the North-South Corridor) to provide alternative pathways for pedestrians. It would provide public realm improvements, including new open space, wider sidewalks, and potentially shared streets—amenities for residents, as well as workers and visitors.

The Proposed Project would reinvigorate the neighborhood by replacing aging and outmoded commercial buildings with new primarily Class A office and mixed-use buildings befitting the neighborhood's prime New York City and Midtown Manhattan location and unparalleled transit access. While the Proposed Project would result in a change to neighborhood character, the change represents an improvement over current conditions and future conditions absent the Proposed Project. The new development and the public realm and public transportation improvements introduced with the Proposed Project would unify the area around Penn Station, making it a more attractive and inviting neighborhood.

CONSTRUCTION

Construction activities associated with the Proposed Project would result in significant adverse impacts in the areas of transportation, noise, localized neighborhood character, and historic and cultural resources. For all other technical areas, the Proposed Project would not result in significant adverse construction impacts.

Construction associated with the Proposed Project would result in temporary disruptions in the surrounding area. The construction impact assessment is based on an illustrative construction schedule intended to reflect a reasonable worst-case scenario for the potential sequencing of construction events. However, if the construction schedule were to extend beyond the timetable assumed in this analysis, then construction activities for the Proposed Project as a whole would occur over a longer period of time. This scenario ("Extended Schedule Scenario") was also assessed and presented in Chapter 20, "Construction," under Section G, "Extended Schedule Scenario."

The illustrative construction schedule for the Proposed Project assumes that construction activities would typically occur from 7:00 AM to 3:30 PM, five days a week on weekdays. However, for the below-grade work for the potential expansion of Penn Station during Phase 1 construction, construction activity in close proximity to existing train tracks would be conducted primarily during nights and weekends to avoid disruptions to daytime train service; night and weekend work may also be necessary in order to meet the project construction schedule or to make up time due to weather delays and/or other circumstances. This scenario ("Alternative Construction Schedule Scenario") was also assessed and presented in Chapter 20, "Construction," under Section H, "Alternative Construction Schedule Scenario."

Analysis results specific to each of the technical areas are summarized below.

TRANSPORTATION

The Proposed Project's construction transportation analysis is based on peak two-year running average construction conditions. As detailed in Chapter 20, "Construction," the Proposed Project is not expected to result in any significant adverse parking, transit, and pedestrian impacts during construction.

Traffic

For traffic, conditions during construction were evaluated at 16 and 67 intersections for the Phase 1 and Phase 2 construction conditions, respectively, for the weekday AM and PM construction peak hours. During the Phase 1 construction condition, significant adverse traffic impacts were identified at 10 intersections during the weekday AM construction peak hour and 10 intersections during the weekday PM construction peak hour. During the Phase 2 construction condition, significant adverse traffic impacts were identified at 39 intersections during the weekday AM construction peak hour and 45 intersections during the weekday PM construction peak hour. **Table S-9** summarizes the projected significant adverse traffic impacts for both the Phase 1 and Phase 2 construction conditions. Potential improvement measures that may be implemented to mitigate these impacts are discussed below in "Mitigation."

Table S-9
Summary of Significant Adverse Construction Traffic Impacts

Analysis Peak Hour	Total No. of Impacted Intersections/Lane Groups	
	Phase 1 Peak Construction Condition	Phase 2 Peak Construction Condition
Weekday AM	10/13	39/60
Weekday PM	10/13	45/87
Totals During Any Peak Hour	13/19	52/104

Notes: In total, 16 and 67 intersections, comprised of approximately 50 and 250 lane groups, were included the traffic study area for analysis for Phase 1 and Phase 2 construction analyses, respectively.

Pedestrians

Construction worker trips would be dispersed to pedestrian elements surrounding the Project Area. These peak construction pedestrian increments would also take place during hours when background pedestrian levels are lower than they would be in the 8:00 AM to 9:00 AM and 5:00 PM to 6:00 PM commuter peak hours. Therefore, construction of the Proposed Project is not expected to result in any significant adverse pedestrian impacts. With regard to pedestrian facilities surrounding the construction sites, Maintenance and Protection of Traffic (MPT) plans that are subject to approvals and stipulations from DOT's Office of Construction Mitigation and Coordination (OCMC) would be implemented to appropriately protect and facilitate pedestrian flow, as well as to avoid impacts to pedestrian circulation. As with standard practices for construction projects in New York City, the temporary effects from these measures would change over time and across different parts of construction sites.

Transit

Construction worker-related transit trips would be dispersed to the numerous subway stations/lines, local bus routes, and commuter rail/bus options described above. These trips would also be made outside of the commuter peak hours, which correspond with lower background transit levels and are typically not subject to concern or assessment of operating conditions. Therefore, construction of the Proposed Project is not expected to result in any significant adverse transit impacts.

Parking

Under the Phase 1 Peak Construction condition, public parking utilization would increase to 80 and 130 percent within ¼-mile of the Project Area during the weekday AM and PM construction time periods, respectively. A shortfall of 1,974 parking spaces would occur during the weekday PM construction time period. These levels are expected to increase, under the Phase 2 Peak

Construction condition, to 81 and 135 percent within ¼-mile of the Project Area during the weekday AM and PM construction time periods, respectively. A shortfall of 2,321 parking spaces would occur during the weekday PM construction time period. As stated in the *CEQR Technical Manual*, a parking shortfall resulting from a project located in Manhattan does not constitute a significant adverse impact, due to the magnitude of available alternative modes of transportation. If the projected level of parking demand materializes in the Phase 1 and Phase 2 Peak Construction conditions, some motorists may alter their modes of transportation or would have to seek parking availability farther from the Project Area.

AIR QUALITY

The construction of the Proposed Project would require the use of both non-road construction equipment and on-road vehicles. Non-road construction equipment includes equipment operating on-site, such as cranes, loaders, and excavators. On-road vehicles include worker vehicles and construction trucks arriving to and departing from the construction site as well as operating on-site. The dispersion modeling analysis of construction-related air emissions for both non-road and on-road sources determined that particulate matter ($PM_{2.5}$ and PM_{10}), annual average nitrogen dioxide (NO_2), and carbon monoxide (CO) concentrations would be below their National Air Quality Ambient Standards (NAAQS), respectively. In addition, the requirement to use Tier 4 non-road diesel engines would reduce NO_x emissions and address the 1-hour NO_2 NAAQS. An emissions reduction program would be implemented for the Proposed Project to minimize the effects of construction activities on the surrounding community. Measures would include, to the extent practicable, dust suppression measures, use of ultra-low sulfur diesel (ULSD) fuel, idling restrictions, diesel equipment reduction, the utilization of newer equipment (i.e., equipment meeting the U.S. Environmental Protection Agency's [EPA] Tier 4 emission standard), and best available tailpipe reduction technologies. Therefore, construction of the Proposed Project would not result in significant adverse air quality impacts due to construction sources.

NOISE

Based on the construction predicted to occur at each development site, noise resulting from construction is expected to exceed the *City Environmental Quality Review (CEQR) Technical Manual* noise impact thresholds as well as result in "objectionable" and "very objectionable" noise level increases at some receptors. Twelve time periods were analyzed over the course of the Proposed Project's assumed construction schedule. The construction noise analysis has conservatively assessed the construction schedule established in the DEIS rather than the revised construction schedule. The differences in schedule would not change the conclusions of the detailed construction noise analysis conducted using the DEIS illustrative construction schedule, as the significant adverse noise impacts that would be expected with the updated construction schedule would not result in impacts not previously addressed in the analysis using the DEIS construction schedule. Receptors where noise level increases were predicted to exceed the construction noise evaluation thresholds for extended durations were identified. The noise analysis results show that the predicted noise levels would exceed the *CEQR Technical Manual* construction noise impact criteria at numerous receptors near the Project Area.

For development sites at which noise-sensitive uses (e.g., residential, hotel, community facility spaces) would be completed and occupied while other project construction would occur immediately adjacent, construction is predicted to result in "clearly unacceptable" noise levels and interior noise levels exceeding the 45 dBA criterion considered acceptable by up to 5 dBA. These exceedances would be intermittent and temporary, and would not occur during the nighttime hour when

residences and hotel guest rooms are most sensitive to noise. Consequently, noise resulting from construction of the proposed developments would not result in significant adverse noise impacts at completed project buildings.

At locations predicted to experience an exceedance of the noise impact threshold criteria, the exceedances would be due primarily to noise generated by on-site construction activities (rather than construction-related traffic). However, the noise analysis examined the reasonable worst-case peak hourly noise levels that would result from construction in a specific month selected for analysis, and consequently is conservative in predicting significant increases in noise levels. Typically, the loudest hourly noise level during each month of construction would not persist throughout the entire month. Furthermore, this analysis is based on conceptual site plans and construction schedules. If construction on multiple development sites do not overlap, construction noise would be less intense than the analysis predicts. However, if the construction schedule were to extend beyond the timetable assumed in the analysis, then construction activities for the Proposed Project as a whole would occur over a longer period of time. This would increase the duration of elevated construction noise levels at some locations, particularly those with line of sight to two or more Proposed Project buildings that are assumed to be constructed simultaneously rather than consecutively in the quantified analysis presented in Chapter 20, "Construction," although avoiding the overlap in construction activities for those specific receptors would reduce the maximum level of construction noise.

VIBRATION

The buildings of most concern with regard to the potential for structural or architectural damage due to vibration would be historic buildings (see Chapter 8, "Historic and Cultural Resources," for a list of historic structures) immediately adjacent to the development sites. Since these historic buildings and structures would be within 90 feet of the development sites, DOB TPPN #10/88 regulations would require acceptable levels of vibration and require vibration monitoring at these structures. For non-historic buildings and other structures immediately adjacent to the development sites, vibration levels would be in the range generally considered acceptable for a non-historic buildings or structures. In terms of potential vibration levels that would be perceptible and annoying, construction would have the potential to produce perceptible vibration levels at receptor locations within a distance of approximately 550 feet depending on soil conditions. However, the operation would only occur for limited periods of time at a particular location and therefore would not result in any significant adverse impacts. Consequently, significant adverse vibration impacts would not result from construction of the Proposed Project.

LAND USE AND NEIGHBORHOOD CHARACTER

Land Use

Construction activities would affect land use on the development sites, but would not affect land use conditions and patterns outside of these areas. As is typical with construction projects, during periods of peak activity, there would be some disruption to nearby areas. There would be construction trucks and construction workers coming to the Project Area as well as trucks and other vehicles backing up, loading, and unloading. These disruptions would have limited effects on land uses in the larger study area, as most construction activities would take place within the Project Area. Overall, the temporary and localized nature of construction would not result in any significant adverse impacts on local land use patterns of the nearby area.

Neighborhood Character

Long-term construction activity associated with the potential expansion of Penn Station and new buildings on Sites 1, 2, and 3 would result in significant adverse localized neighborhood character impacts in the immediate vicinity of these development sites during construction. Construction activities would be disruptive and concentrated on these sites for an extended period of time. Throughout the construction period, measures would be implemented to control air quality, noise, and vibration on the construction sites, including the erection of construction fencing and in some areas fencing incorporating sound reducing measures. This fencing would reduce potentially undesirable views of construction sites and buffer noise emitted from construction activities. Furthermore, in the event that there is an extended period between the completion of the expansion of Penn Station and the commencement of construction of the new buildings on Sites 1, 2, and/or 3, MTA, in consultation with the City, would seek to activate one or more of the sites with temporary uses or other programming. Nonetheless, long-term construction activities on Sites 1, 2, and 3 would constitute a substantial change to the character of these blocks, especially given their location in Midtown Manhattan adjacent to Penn Station to the north and residential uses to the south and west. Therefore, construction activity associated with the Proposed Project would have significant adverse localized neighborhood character impacts in the immediate vicinity of Sites 1, 2, and 3 during construction. However, the impacts would be localized and would not alter the character of the larger neighborhoods surrounding these development sites.

SOCIOECONOMIC CONDITIONS

Construction activities could temporarily affect pedestrian and vehicular access to businesses near the development sites. However, MPT plans would be developed and implemented to ensure that access to existing businesses near the Project Area would be maintained throughout the construction period. Construction would create direct benefits resulting from expenditures on labor, materials, and services, and indirect benefits near the Project Area created by expenditures by material suppliers, construction workers, and other employees involved in the construction activity. Construction also would contribute to increased tax revenues for the City and state, including those from personal income taxes. Construction activities associated with the Proposed Project would not result in any significant adverse impacts on socioeconomic conditions.

OPEN SPACES

Construction of the Proposed Project would directly affect three publicly accessible open spaces—the through-block east plaza at 1 Penn Plaza, Plaza 33, and the proposed plaza space on Site 2. At Site 5, the through-block east plaza of 1 Penn Plaza would be displaced by construction activities. This would constitute a significant adverse impact on open space under operational conditions. Construction of Site 5 would also likely use a portion of the adjacent Plaza 33 for construction staging activities, which would temporarily reduce the amount of open space in Plaza 33. This would be a temporary adverse effect on Plaza 33 and would not constitute a significant adverse impact to open space. At Site 2, in the event that there is an extended period between the completion of the expansion of Penn Station and the commencement of construction of the new buildings above-ground, the proposed plaza space could be opened on a temporary basis after the completion of the potential expansion of Penn Station, and then returned to use for construction staging activities during construction of one or both buildings on the site. After completion of the new buildings on Site 2, the proposed plaza space would be opened on a permanent basis. Therefore, the displacement of temporary Site 2 plaza space would not constitute a significant adverse impact to open space.

Other open space resources would not be used for construction staging, and access to other resources would be maintained throughout the duration of the construction period. While construction of the Proposed Project may cause temporary disruptions to the other nearby open spaces, it is expected that such disruptions in any given area would be temporary and would not be ongoing for the full duration of the construction period. Throughout the construction period, measures would be implemented to control air quality, noise, and vibration within the construction areas. Therefore, construction associated with the Proposed Project would not result in significant adverse impacts on nearby open spaces.

HISTORIC AND CULTURAL RESOURCES

For Phase 1 construction, in the event Sites 1, 2, and 3 are selected as the preferred alternative for a southern expansion of Penn Station in the federal review process, the Proposed Project would result in significant adverse direct impacts from the removal of six architectural resources currently located on those sites. In addition, one architectural resource on Site 7 is currently being demolished to allow for new commercial development on Site 7 with or without the Proposed Project. This is conservatively identified as a significant adverse impact for the construction of the Proposed Project and is considered in the consultation with OPRHP under the New York State Historic Preservation Act. In addition, during Phase 2 construction, one architectural resource could be removed for the redevelopment of Site 8. Although the proposed redevelopment of Site 8 would occur within the envelope permitted by the GPP, a design of the redevelopment has not been determined. Accordingly, it is not known based on current information whether the proposed redevelopment of Site 8 would involve the removal of the architectural resource. Therefore, the Proposed Project could have a direct significant adverse impact on this architectural resource. The seven architectural resources that would experience significant adverse direct impacts in Phase 1, and the one architectural resource that could experience a significant adverse direct impact in Phase 2, are described and summarized in Chapter 8, "Historic and Cultural Resources." Measures that could partially mitigate these significant adverse impacts are described below in "Mitigation." These measures were developed in consultation with OPRHP.

HAZARDOUS AND CONTAMINATED MATERIALS

The Proposed Project would not result in significant adverse impacts related to hazardous materials. A hazardous materials assessment was performed to identify the potential for contamination in the buildings and the subsurface, based on past and current use. Potential contamination may be present in both the subsurface (related primarily to localized former gas stations, historic fill, current and abandoned heating oil USTs, and historical operations) and inside buildings (primarily related to asbestos, LBP, and PCBs). With the implementation of a variety of standard precautionary measures (e.g., identification of hazardous materials as part of Phase I and Phase II investigations, and handling/disposal of hazardous materials in accordance with applicable regulations and under the direction of material management plans and health and safety plans), no significant adverse impacts related to hazardous materials would be expected to occur as a result of construction of the Proposed Project. Following construction of the Proposed Project with the proposed measures, there would be no further potential for significant adverse impacts.

WATER AND SEWER INFRASTRUCTURE

Infrastructure activities at the Project Area would include utility connections and potential upgrades to existing water, sewer, electric, gas, and telecommunications. These activities would be coordinated with DEP, Con Edison, or the appropriate private utility company to ensure that

service to customers in nearby areas is not disrupted. All utility lines would be located either in the streetbed or within the below-grade space. Residents and workers in nearby buildings are not expected to experience substantial disruptions to water supply or wastewater removal. Any disruption to service that may occur when new equipment (e.g., a transformer, or a sewer or water line) is put into operation is expected to be very short-term (i.e., hours). Therefore, the construction of the Proposed Project's infrastructure improvements would not cause any significant adverse impacts to nearby users of these services.

ALTERNATIVES

In accordance with SEQRA, the DEIS analyzed three alternatives to the Proposed Project: a No Action Alternative, a No Unmitigated Significant Impact Alternative, and a Lower Density Alternative. The conclusions for each alternative are provided below.

NO ACTION ALTERNATIVE

Consideration of the No Action Alternative is mandated by SEQRA and is intended to provide the lead and involved agencies with an assessment of the expected environmental impacts of no action on their part. Under the No Action Alternative, Sites 1, 2, 3, 6, and 8 would remain unchanged from existing conditions. As-of-right development would occur on Sites 5 and 7 and development pursuant to a prior ESD approval would occur on Site 4. The No Action Alternative assumes that Penn Station would not be expanded and most of the public transportation and public realm improvements would not be implemented. Accordingly, this alternative would not support the creation of a modern intermodal hub supporting the New York economy.

The potential for significant adverse impacts anticipated for the Proposed Project would not occur with the No Action Alternative, except in the areas of historic resources and construction noise. As with the Proposed Project, the No Action Alternative would result in the direct impact on Site 7 due to the demolition of Hotel Pennsylvania to allow for new commercial development on that site. Additionally, construction on Site 7 under the No Action Alternative could result in the same potential for impacts identified with the Proposed Project to the S/NR-eligible and NYCL-eligible former Equitable Life Assurance Company.[11] Similarly, construction on Site 4 under the No Action Alternative could result in accidental construction damage to Madison Square Garden and Penn Station, which are located within 90 feet and are contributing components of the Penn Plaza architectural resource (B, S/NR-eligible). As with the Proposed Project, ESD would likely require a CPP for Madison Square Garden and Penn Station under SHPA in connection with the No Action development of Site 4. Absent a CPP, these resources would be offered some protection through DOB controls governing the protection of adjacent properties from construction activities.

Furthermore, although the No Action Alternative would not result in the Proposed Project's significant adverse transportation impacts, transportation conditions under this alternative would be characterized by increased roadway congestion, increasingly congested subway station elements, subway lines, and pedestrian elements.

Overall, the No Action Alternative would not meet the goals and objectives of the Proposed Project. Specifically, the No Action Alternative would not:

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[11] The likelihood of adverse effects to this resource in the No Action Alternative is further minimized as it shares common ownership with Site 7.

- revitalize the area surrounding Penn Station with a substantial amount of new, sustainable, high-density mixed-use development that would eliminate substandard and insanitary conditions in the Project Area, foster and support economic growth and tax revenue; and maximize the incorporation of sustainable design practices;
- improve passenger rail and transit facilities and pedestrian circulation, access, and safety with the implementation of transportation and public realm improvements and the creation of new open space;
- support improvements to address substandard conditions in Penn Station; or
- support and accommodate future capacity increases at Penn Station.

NO UNMITIGATED SIGNIFICANT IMPACT ALTERNATIVE

The No Unmitigated Impact Alternative considers development that would eliminate the Proposed Project's unmitigated significant adverse impacts. The FEIS analyses identified significant adverse impacts for which no practicable mitigation has been identified to fully mitigate the impacts in the areas of: community facilities (early childhood program), open space, shadows, historic and cultural resources, visual resources, transportation, noise, and construction-period traffic, noise, and neighborhood character.

There is no practicable alternative that could be developed to avoid the unmitigated significant adverse impacts of the Proposed Project. Eliminating the Proposed Project's significant adverse impact on early childhood programs would require: 1) limiting the number of affordable housing units in the Proposed Project to an extent that would compromise the Proposed Project's objective of providing opportunities for the creation of new permanently affordable housing; or 2) providing suitable space for an early childhood program center with sufficient capacity on one of the development sites, such as in the community facility space planned for Site 1A. In order to eliminate the Proposed Project's unmitigated significant adverse impacts in the areas of open space, shadows, historic and cultural resources, visual resources, and noise, the Proposed Project would have to be reduced in size or modified to a point where it would not realize the goals and objectives of the Proposed Project, which include revitalizing the area surrounding Penn Station and eliminating substandard and insanitary conditions in the Project Area; fostering and supporting economic growth and tax revenue through the creation of jobs and economic activity; improving passenger rail and transit facilities; creating new open space; supporting improvements to address substandard conditions in Penn Station; and supporting and accommodating future capacity increases at Penn Station. Additionally, any level of development could result in the unmitigated significant adverse impacts in the areas of shadows, transportation, and construction. Additionally, with a reduction in size of this magnitude, the No Unmitigated Impact Alternative would require land acquisition and other fixed costs to be amortized over significantly less office and residential space, which would offer less incentive for construction of the new office and residential buildings. Therefore, there is no practicable alternative that could be developed to avoid the unmitigated significant adverse impacts of the Proposed Project.

LOWER DENSITY ALTERNATIVE

The Lower Density Alternative considers a project program that would include less total square footage of development, including less commercial office, residential, retail, hotel rooms, and parking square footage and spaces than the Proposed Project. Under this alternative, the commercial density would be reduced on certain sites and Site 8 would not be redeveloped. Compared to the Proposed Project, the Lower Density Alternative represents a reduction in

program density of approximately 28 percent under the Maximum Commercial Scenario, and approximately 23 percent under the Maximum Residential Scenario. The purpose of this alternative is to evaluate whether there would be a meaningful reduction in the significant adverse impacts of the Proposed Project with a smaller program.

Like the Proposed Project, the Lower Density Alternative would not result in significant adverse impacts with respect to: land use, zoning, and public policy; socioeconomic conditions; urban design; hazardous materials; water and sewer infrastructure; solid waste and sanitation services; energy; air quality; greenhouse gas emissions; public health; and neighborhood character.

Under the Lower Density Alternative, significant adverse impacts in the areas of community facilities (early childhood programs), open space, historic resources, noise, construction noise would be the same as or similar to those of the Proposed Project. The Lower Density Alternative would result in significant adverse transportation impacts (operational and during construction), but to a lesser extent than with the Proposed Project. With respect to shadows, the Lower Density Alternative would result in the same significant adverse impacts as the Proposed Project, with the exception of the impact to Herald Square Park. With no new development on Site 8, the Lower Density Alternative would cast less incremental shadow on Herald Square Park, and, unlike the Proposed Project, would not cause a significant adverse shadow impact to that park. With respect to visual resources, the Lower Density Alternative would result in the same significant adverse impacts as the Proposed Project, except with respect to the demolition of the copper Gimbel Brothers Skybridge spanning from Site 8 across West 32nd Street. If the owner of Site 8 retains the skybridge, the significant adverse impact that would occur with the Proposed Project would not occur.

With respect to traffic, it can be expected that the number of intersections with significant adverse impacts resulting from full build-out of the Lower Density Alternative would fall within the range of impacted intersections of the Proposed Project in Phases 1 and 2, during any analysis peak hour. Some of these impacts could be mitigated with the same types of mitigation measures as with the Proposed Project. Compared with Phase 2 of the Proposed Project, the number of unmitigated intersections under full build-out of the Lower Density Alternative would be expected to be fewer than the number of unmitigated intersections for Phase 2 of the Proposed Project. The Lower Density Alternative could result in unmitigated transit impacts at the same or slightly fewer subway station analysis elements as compared to Phase 2 of the Proposed Project. As with Phase 2 of the Proposed Project, the Lower Density Alternative would not result in any bus line-haul impacts.

With respect to pedestrians, the Lower Density Alternative is expected to result in moderately fewer overall impacted locations as compared to Phase 2 of the Proposed Project. However, because the existing Site 8 building and uses would remain under the Lower Density Alternative, it would not provide the building setbacks along the south side of West 33rd Street portion fronting Site 8 and the west side of Sixth Avenue that would otherwise accompany the Proposed Project's Site 8 development in the Maximum Commercial Scenario. Therefore, these two sidewalk segments, which are not impacted under the Proposed Project, could potentially be impacted under the Lower Density Alternative. Without the additional sidewalk circulation space afforded by the building setbacks, these impacts could potentially be unmitigated. Accounting for these potential two additional unmitigated sidewalk impacts and the potential reduction of unmitigated impacts at other pedestrian analysis elements due to the overall lower trip increments, the Lower Density Alternative could result in unmitigated pedestrian impacts at the same or a slightly fewer elements as compared to Phase 2 of the Proposed Project.

Thus, the Lower Density Alternative would not substantially avoid or reduce the significant adverse impacts that would occur with the Proposed Project and could result in new unmitigated significant adverse impacts with respect to pedestrians that would not occur with the Proposed Project.

In general, although the Lower Density Alternative would meet a number of the Proposed Project's goals and objectives, it would do so to a lesser degree than the Proposed Project because it would introduce less new commercial office and residential use and would not implement all of the public transportation and public realm improvements that would occur with the Proposed Project. As with the Proposed Project, the Lower Density Alternative would address substandard conditions in the Project Area by facilitating redevelopment to create a cohesive, transit-oriented mixed-use district, although the amount of commercial and residential development under this alternative would be less than the Proposed Project and would not capitalize on the Project Area's unmatched rail and transit access and would not be consistent with the maximum permitted densities of other transit-oriented districts in the City.

By providing for less overall development, the Lower Density Alternative would require land acquisition and other fixed costs to be amortized over less office and residential space, which would offer less incentive for construction of the new office and residential buildings, potentially delaying or forestalling their construction. Similarly, the Lower Density Alternative would foster and support economic growth to a lesser extent than the Proposed Project by creating fewer jobs and less economic activity. The Lower Density Alternative would be less supportive of the public policy goal of accommodating jobs and future economic growth in areas near transit hubs, and therefore a greater proportion of the City and state's future growth could be located in areas that are less transit-accessible than the Project Area under this alternative than with the Proposed Project.

Furthermore, the Lower Density Alternative would implement fewer public transportation and public realm improvements than the Proposed Project, as it would not provide the sidewalk widenings or public transportation improvements associated with Site 8, and it would generate substantially less revenue than the Proposed Project and would therefore be less successful at providing support for the Penn Station reconstruction and potential expansion of Penn Station. Therefore, the Lower Density Alternative would not meet the project goal of maximizing revenue to support those projects.

MITIGATION

EARLY CHILDHOOD PROGRAMS

The Proposed Project may result in a significant adverse impact to early childhood programs under the Maximum Residential Scenario. Under the analysis appearing in Chapter 5, "Community Facilities," a significant adverse impact to early childhood programs is predicted to occur with the completion and occupancy of approximately 192 affordable dwelling units (DUs) targeted to households earning up to 80 percent of the Area Median Income (AMI) (or approximately 22 children eligible for publicly funded early childhood programs). As indicated in Chapter 5, income bands for the affordable units have not been determined at this time. For analysis purposes, the assessment assumes that all of the affordable units introduced by the Proposed Project would be targeted to households earning up to 80 percent AMI and would meet the eligibility criteria for publicly funded early childhood programs. However, if some of the affordable units target higher income households, these households would likely have incomes exceeding the eligibility criteria for publicly funded early childhood programs, and more affordable housing units could be constructed before

a significant adverse impact to early childhood programs would occur, or such an impact may not occur at all.

Moreover, the demand for publicly funded early childhood programs depends not only on the amount of residential development in an area, but on the proportion of new low-income households with children that qualify (not all children meet the social and income eligibility criteria). Additionally, the analysis is based on the existing inventory of early childhood programs in the area and does not reflect shifts in demand or creation of new capacity. It is reasonable to expect that the market (i.e., childcare facility operators) may respond to demand by opening new early childhood programs in the study area and thereby avoid the significant impact determined through the conservative methodology used in Chapter 5, "Community Facilities," to assess the potential for impacts to the availability of early childhood program slots at local facilities.

Several factors may reduce the number of children in need of slots in publicly funded early childhood programs. Families in the study area could make use of alternatives to publicly funded early childhood programs. There are slots at homes licensed to provide family-based child care that families of eligible children could elect to use instead of public center child care. These facilities could provide additional slots in the study area but are not included in the quantitative analysis appearing in Chapter 5. Parents of eligible children are also not restricted to enrolling their children in early childhood programs in a specific geographical area closer to their place of employment and beyond the study area assumed in the FEIS analysis.

Measures to mitigate the significant adverse impact have been identified by ESD and would be further developed in consultation with the New York City Department of Education's (DOE) Division of Early Childhood Education, as explained below. Mitigation measures for the significant adverse impact could include a number of options: suitable space for an early childhood program center could be provided on one of the development sites, such as in the community facility space planned for Site 1A; additional early childhood program space could be provided at suitable locations off-site and within a reasonable distance (at a rate affordable to DOE providers); or additional capacity could be provided at existing facilities on- or off-site.

At this time, it is premature to determine whether such mitigation would be needed, and if so, which of the options described above should be implemented. Accordingly, at such time as ESD enters into a development agreement for a building that would include affordable housing, it would consult with DOE's Division of Early Childhood Education (or other appropriate agency at the time of mitigation consultation) to determine whether such building would trigger the need for additional early childhood program space. In the event such mitigation is determined to be necessary, ESD would include in such development agreement (or other binding agreement) provisions requiring the developer to arrange for such space through one or more of the options described above. The additional capacity to be provided under the development agreement would be at a level sufficient to avoid a significant impact to Early Childhood Education resulting from construction of the building containing the affordable housing units (considered together with any prior project buildings containing affordable housing). If an on-site facility or facilities are identified to be needed, the developer's design team would coordinate with the New York City Department of Transportation (DOT) regarding pick-up/drop-off locations, curbside parking regulations, school bus accommodations (if any), and pedestrian safety.

Based on the results of the analysis presented in Chapter 5, "Community Facilities," ESD anticipates that approximately 16 slots in early childhood programs would be necessary to reduce or mitigate the impact, because 16 slots would reduce the utilization rate to less than five percent as compared to the No Action condition. However, as a result of changes in the demand for and availability of childcare

slots at the time of construction of a new project building containing affordable housing units, the number of childcare slots that would be required to mitigate the impact could be more than or less than 16 slots. Absent the implementation of such mitigation measures, the Proposed Project could have an unmitigated significant adverse impact on publicly funded early childhood programs.

OPEN SPACE

Chapter 6, "Open Space," identifies direct and indirect impacts on open space resources. Specifically, the Proposed Project would result in the following significant adverse impacts to open space:

- Direct impact due to the elimination of a portion of the through-block east plaza on Site 5 that is part of the 1 Penn Plaza privately owned public space (POPS). The elimination of the plaza represents a reduction of approximately 0.16 acres of passive open space as compared to the No Action condition.
- Indirect impact due to the introduction of a substantial new worker population, causing a decrease in the passive open space ratio of approximately 7.27 percent. Taking into account the combined residential and worker populations within the study area, there would be a 6.43 percent decrease in the combined open space ratio for workers and residents.

The direct impact would occur with the elimination of the through-block east plaza at the commencement of construction at Site 5. The indirect impact would occur with the completion and occupancy of approximately 8.0 million gsf of office floor area, which would introduce approximately 32,000 office workers to the study area.

The significant adverse indirect impact on open space could be fully mitigated with the addition of approximately 0.37 acres (or approximately 16,000 square feet [sf], or the amount of open space necessary to result in a decrease in the open space ratio of less than 4 percent) of new passive open space. This amount of open space would be in addition to the open space introduced with the Proposed Project.

Open space mitigation measures have been explored by ESD and will be further developed in consultation with the New York City Department of Parks and Recreation (NYC Parks). To address the significant adverse indirect impact on open space, ESD would require future developers to implement one or both of the following measures:

1. Create additional passive open space in or near the Project Area (in addition to the proposed plaza on Site 2). Additional passive open space could be created on the development sites under the "public space" requirements of the Design Guidelines. Under the Design Guidelines, a certain percentage of each site must be set aside for public space. Public space can include transit entrances and sidewalk widenings that would not be considered "open space." However, the public space requirements could also be satisfied by the provision of passive open spaces such as plazas with seating or other amenities. At this time, it is not known which sites (other than Site 2) may include passive open spaces or the specific details and features of these spaces. The design and features of any additional passive open spaces would be developed as part of the design of the new buildings on each site, in consultation with the cross-jurisdictional public realm task force to be established, and subject to review by ESD.
2. Provide funding for open space improvements and/or maintenance of open space resources in the study area. Funding for open space improvements or maintenance could serve to

partially mitigate the significant adverse open space impact. ESD would require future developers to make a financial contribution towards open space improvements and/or maintenance of open space resources in the study area. The funding would be used for programs or improvements which would improve or increase open space within the ¼-mile (non-residential) open space study area (shown in Figure 6-1 of Chapter 6, "Open Space"), including, but not limited to: (a) creation of new open space; (b) renovation, repairs, or improvements to existing open space; and/or (c) expansion of hours of operation of existing facilities. The funding would be allocated in consultation with NYC Parks.

To address the significant adverse direct impact on open space, the modified GPP would require measures to compensate for the displacement of the existing POPS on Site 5 by one or more of the following measures: removing the bonused floor area from 1 Penn Plaza, providing new on-site open space, or requiring the developer of Site 5 to make an appropriate payment for use on public realm improvements in the Project Area. These measures would partially mitigate the direct open space impact. NYCDOT would retain jurisdiction and approval over any changes to the public right-of-way.

The amount of any financial contributions that may be required as mitigation for the significant adverse direct and indirect open space impacts would be established at the time that a development is proposed for each site. In establishing the amount of the financial contribution, ESD would account for the availability of other funds, the contribution of that development to the significant adverse open space impact, and the provision of any additional open space on the development site to satisfy the public space requirements of the Design Guidelines.

At this time, it is not possible to know exactly which mitigation measures would be most appropriate, because the condition of open spaces in the area may change and other spaces may be identified as needing repairs and upgrades in the future at the time that the open space impact occurs, and detailed development plans are not yet available for any of the development sites. ESD would require an appropriate contribution to the open space mitigation in the form of one or more of the mitigation measures listed above at the time that a development agreement is signed between ESD and the future developer(s) for each site. The requirement to implement the open space mitigation would be contained in the development agreement(s) or other binding documents between ESD and the future developer(s). Absent the implementation of such mitigation measures, the significant adverse impact would remain unmitigated.

The Proposed Project would also result in significant adverse direct impacts to open space due to shadows. Potential mitigation measures for shadow impacts to open space are discussed below.

SHADOWS

As described in Chapter 7, "Shadows," shadows cast by the Proposed Project in the 2033 analysis year would result in significant adverse shadow impacts to one open space resource (the Madison Square Garden [MSG] POPS) and one historic architectural resource with sunlight-sensitive features (the skylights and Eighth Avenue steps of the Farley Building).

In the 2044 analysis year, shadows cast by the Proposed Project would result in significant adverse shadow impacts to nine sunlight-sensitive historic and open space resources. The impacted sunlight-sensitive open space resources are the MSG POPS, Plaza 33, Herald Square Park, Chelsea Park, the Penn South open spaces, and the Farley Building steps. The impacted sunlight-sensitive historic resources are St. Michael's Roman Catholic Church, St. Francis of Assisi Church, the former Greenwich Savings Bank, and the Farley Building (the Eighth Avenue steps, colonnade,

and skylights). These nine sunlight-sensitive resources would experience substantial durations and occasionally large extents of new shadow, which would significantly reduce the attractiveness and usability of the open spaces, or, in the case of the historic resources, obscure sunlight-dependent features. Mitigation measures are described below.

Shadows On Open Spaces

The *City Environmental Quality Review (CEQR) Technical Manual* identifies several measures that could mitigate significant adverse shadow impacts on open spaces. These measures include modifying the height, shape, size, or orientation of the proposed developments in order to eliminate or reduce the extent and duration of incremental shadow on the resource; relocating sunlight-sensitive features within an open space to avoid sunlight loss; and undertaking additional maintenance to relocate or upgrade facilities or equipment or replace plantings.

Mitigation measures for shadow impacts that involve changes to the bulk or configuration of the proposed developments would be impracticable for the Proposed Project. Other potential mitigation measures for the shadows impacts to Chelsea Park, the Penn South open space areas north of West 26th Street, Herald Square Park, the MSG POPS, and Plaza 33 have been explored by ESD. To address the significant adverse shadow impacts on open spaces, ESD would require future developers to fund open space improvements and/or maintenance at the impacted open space resources. The funds would be used for renovation, repairs, or improvements to the impacted open space resources (such as relocating seating, providing more seating in sunlit areas, upgrading walkways, upgrading the Chelsea Park comfort station, replacing existing plantings with shade-tolerant species, or hiring additional maintenance staff to provide improved maintenance of these resources).

The amount of any financial contributions that may be required as mitigation for the significant adverse shadow impacts would be established at the time that a development is proposed for each site that contributes to the shadow impacts. In establishing the amount of the financial contribution, ESD would account for the availability of other funds and the contribution of that development (with its specific as-designed envelope) to the significant adverse shadow impact.

At this point, it is not possible to know exactly which improvements or maintenance would be most appropriate, because the condition of open spaces may change or other repairs or upgrades may be identified in the future at the time that the shadow impacts to open spaces occurs. ESD would commit to work with NYC Parks and the Penn South Cooperative, the owner of the Penn South open spaces, to allocate funding for the open space improvements and/or maintenance of open space resources at the time development agreements are signed between ESD and the future developer(s) for sites that are predicted to result in a significant adverse shadow impact to an open space resource (individually or collectively).

The provision of funding for open space improvements and/or maintenance would partially mitigate the significant adverse shadow impacts to open space resources. As the significant adverse shadows impacts would not be fully mitigated, the Proposed Project would result in unmitigated significant adverse shadows impacts to these resources.

Shadows on Historic Resources

The *CEQR Technical Manual* identifies potential mitigation measures to reduce or eliminate, to the greatest extent practicable, significant adverse shadow impacts to sunlight-sensitive historic features, including changes to the bulk or configuration of the proposed developments that cause or contribute to the significant adverse impact. As noted above, mitigation measures for shadow

impacts that involve changes to the bulk or configuration of the proposed developments would be impracticable for the Proposed Project. For significant adverse impacts to stained-glass windows and skylights, potential mitigation measures can also include the provision of artificial lighting to simulate the effect of direct sunlight. With respect to the Farley Building skylights, the FEIS concludes that artificial lighting for the significant adverse impact to the skylights would be impracticable. ESD will continue to consult with OPRHP regarding the significant adverse shadows impacts on the stained glass windows of the St. Francis Roman Catholic Church Complex and the stained glass windows of the St. Michael's Roman Catholic Church Complex. ESD has committed to require the developers of Sites 1, 2, 3, and 8 to offer artificial lighting, which would simulate the effect of direct sunlight on the stained glass windows of the historic resources, to the Churches in the future when development on Sites 1, 2, 3, and 8 proceeds. If one or more of the church owners do not accept the offer of artificial lighting, then the significant adverse effects to the St. Francis Roman Catholic Church Complex or St. Michael's Roman Catholic Church Complex, as the case may be, would be unmitigated.

ESD has advised OPRHP that ESD would consider the feasibility and efficacy of installing mirrors on nearby structures to mitigate significant adverse shadow impacts on historic resources. If the installation of mirrors is determined infeasible or ineffective, these significant adverse impacts would remain unmitigated.

HISTORIC AND CULTURAL RESOURCES

The Proposed Project would result in a significant adverse impact associated with direct and indirect effects on architectural resources. The Proposed Project would result in the demolition of six architectural resources located on Sites 1, 2, and 3 that would be removed for the potential southward expansion of Penn Station, and one architectural resource on Site 7 that is currently undergoing demolition to allow for new commercial development on Site 7 with or without the Proposed Project. These resources are: the Lithuanian Alliance of America (A, S/NR-eligible), Penn Station Service Building (#1, S/NR-eligible, NYCL-eligible), Fairmont Building at 239-241 West 30th Street (#2, S/NR-eligible), St. John the Baptist Roman Catholic Church Complex (#3, S/NR-eligible, NYC-eligible), Penn Terminal Building at 370 Seventh Avenue (#4, S/NR-eligible) Stewart Hotel (#5, S/NR-eligible, NYCL-eligible), and Hotel Pennsylvania (#6, S/NR-eligible). The Proposed Project could also result in the removal of the Gimbel Brothers Skybridge (D, S/NR-eligible) over West 32nd Street for the redevelopment of Site 8. The removal of the resources on Sites 1, 2, and 3 would only occur if a southern expansion alternative is selected for a potential expansion of Penn Station and at the conclusions of the NEPA process, Section 106 consultation, and 4(f) evaluation, the involved public transportation agencies make a determination that there is no feasible and prudent alternative to such use, and all possible planning has been undertaken to minimize harm to the 4(f) properties.

Because the Hotel Pennsylvania on Site 7 has been determined to be S/NR-eligible, a feasibility study was undertaken to evaluate the potential for retaining and renovating the building for continued hotel use or reusing the building for office or residential uses. As detailed in Chapter 21, "Alternatives," and **Appendix H**, "Pennsylvania Station Area Civic and Land Use Improvement Project Alternatives Analysis for the Hotel Pennsylvania Building," the analysis determined that it would not be feasible to retain this building.

As noted in Chapter 8, "Historic and Cultural Resources," the federal agency taking the lead in performing the environmental and historic resources review under the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act, and Section 4(f) of the

U.S. Department of Transportation Act will be considering alternatives or other measures that might preserve the historic resources on Sites 1, 2, and 3. ESD intends to seek to participate in the Section 106 process as a consulting party, with the intention of exploring further whether there are alternatives or other measures that might avoid to mitigate historic impacts on these sites. However, based upon the information currently available, ESD believes that retaining the architectural resources on Sites 1, 2, and 3 would substantially compromise the goals and objectives of the Proposed Project because as discussed in more detail in Chapter 21, "Alternatives," retaining these buildings would likely preclude the expansion of Penn Station into the area beneath these sites. Moreover, retaining the historic resources may prevent the redevelopment of Sites 1, 2, and 3, which would prevent achievement of the project goal of revitalizing the area immediately to the south of Penn Station with new, sustainable, high-density commercial development, eliminating substandard and insanitary conditions in the Project Area, fostering and supporting economic growth and tax revenue through the creation of jobs and economic activity, and accommodating New York City's long-term growth targeting the modern needs of commercial tenants at a transit-accessible location. Retaining these buildings would also be less supportive of the project objective of maximizing revenue generated by the new development to fund, in part, improvement and expansion of Penn Station, and would preclude the development of new open space on Site 2, which would not fulfill the project objective of creating new publicly accessible passive open space.

The retention of the architectural resources located on Sites 1, 2, and 3 would also greatly complicate—or perhaps preclude altogether—the potential southern expansion of Penn Station beneath Sites 1, 2, and 3. Further analysis of this issue is expected to be developed during the federal environmental review process.

Potential mitigation measures that could partially mitigate the impact of the demolition of the six architectural resources located on Sites 1, 2, and 3 may include (to the extent practicable and feasible):

- Historic American Buildings Survey (HABS) documentation. HABS Level II documentation of all six buildings could be conducted by a recognized professional credentialed for preparing such reports, to be submitted to LPC, OPRHP, the New York Historical Society, the Museum of the City of New York, and/or other repositories.
- Architectural salvage. Surveys of the historic resources could be conducted to determine if any significant exterior or interior architectural elements could be removed and incorporated into the proposed project. This could include paying for the relocation and installation of church artifacts from St. John the Baptist Roman Catholic Church to other church locations.

It is anticipated that potential measures to partially mitigate the adverse effects resulting from the expansion of Penn Station on Sites 1, 2, and 3 would be stipulated in a Memorandum of Agreement or Programmatic Agreement among the lead federal agency, OPRHP acting in its capacity as the State Historic Preservation Office, and other applicable parties in accordance with Section 106 regulations.

Mitigation measures for the demolition of the Hotel Pennsylvania on Site 7 have been developed in consultation with OPRHP and are stipulated in a Letter of Resolution (LOR) executed on June 21, 2022, by ESD, Vornado, and OPRHP in accordance with Section 14.09 of the State Historic Preservation Act. The LOR is included in **Appendix G** of this FEIS. Mitigation for the significant adverse impact to the Hotel Pennsylvania includes:

- HABS Level II recordation.

- Architectural salvage. Vornado has salvaged the following items from the Hotel Pennsylvania: two original guest room Servidors; a Hotel Pennsylvania letterbox originally located in the hotel lobby; the Ellsworth M. Statler commemorative plaque originally located in the hotel lobby; decorative elements from the former Dining Room/Café Rouge, including two remaining column capitals, or portions thereof, and ceiling beams that retain ornament; and will salvage some original electrical switchgear and electrical panels found in the sub-basement of the hotel. Each salvaged item has been wrapped and crated individually, labeled with its contents, and placed in Vornado's storage area in the second basement of 11 Penn Plaza. In addition, Vornado will make reasonable efforts to salvage a mosaic originally installed in the Gimbel's Passage. The mosaic consists of brown and white tiles that read above a directional arrow, "Pennsylvania Station, Seventh Avenue Subway, Statler Hilton." In the event this mosaic can reasonably be salvaged, Vornado will cause it to be cleaned by a restoration contractor and stored by Vornado with the other salvaged artifacts or by its contractor in a suitable location until its reinstallation. Vornado will consult with ESD and OPRHP regarding the installation of the recovered artifacts. Such reinstallation will be incorporated into an interpretive exhibit at a location that is accessible to the public.

The Gimbel Brothers Skybridge (D, S/NR-eligible) over West 32nd Street could be removed for the redevelopment of Site 8. Although the proposed redevelopment of Site 8 would occur within the envelope permitted by the GPP, a design of the redevelopment of this site has not been determined. Two alternative programs for Site 8 have been identified: a new office tower that would require removal of the existing building on Site 8 (and with it the removal of the Gimbel Brothers Skybridge) or the construction of a residential enlargement above the existing building on Site 8 (which may also require demolition of the Gimbel brothers Skybridge). Accordingly, it is not known based on current information whether the proposed redevelopment of Site 8 would involve the removal of the Gimbel Brothers Skybridge. Therefore, the Proposed Project could have a direct significant adverse impact on this architectural resource. As stipulated in the LOR, at such time as the necessary information concerning the conceptual design and proposed program for the Site 8 redevelopment is available, a thorough study as to whether feasible and practical alternatives would be available to avoid or minimize any adverse effects to the Gimbel Brothers Skybridge will be prepared in consultation with OPRHP. Further, if that future study determines that the redevelopment of Site 8 pursuant to the GPP would result in a significant adverse impact on the Gimbel Brothers Skybridge, measures that could partially mitigate that significant adverse impact would be developed and implemented in consultation with OPRHP as stipulated in the LOR.

Development of the Proposed Project could have adverse physical impacts on 15 architectural resources that are located within 90 feet of proposed construction activities, close enough to potentially experience adverse construction-related impacts from ground-borne construction-period vibrations, falling debris, subsidence, collapse, or damage from construction machinery. These resources are: U.S. General Post Office (#7, S/NR, NYCL); former Equitable Life Assurance Company (#8, S/NR-eligible, NYCL-eligible); St. Francis Roman Catholic Church Complex (#22, S/NR-eligible, NYCL-eligible); 23rd Police Precinct Station House (#25, S/NR-eligible, NYCL); loft building (#27, S/NR-eligible) at 144-154 West 30th Street; and Fur Craft Building (#30, S/NR-eligible); Madison Square Garden (B, S/NR-eligible); Penn Station (B, S/NR-eligible); plaza portion of 2 Penn Plaza (B, S/NR-eligible); Gimbel Brothers Administration Building (C, S/NR-eligible); Gimbel Brothers Skybridge (D, S/NR-eligible); FDNY Hook and Ladder 24, Engine 1 (E, S/NR-eligible); Fralber Building (F, S/NR-eligible); loft building (G, S/NR-eligible) at 236 West 30th Street; Fire Patrol No. 3 (H, S/NR-eligible), and Irwin House (I,

S/NR-eligible). Therefore, Construction Protection Plans to protect the 15 architectural resources within 90 feet of construction would be developed and implemented in coordination with OPRHP. The Construction Protection Plans would be required for Sites 1, 2, 3, 4, 5, 7, and 8. For the NYCL and NYCL-eligible properties potentially affected by construction impacts, the Construction Protection Plans would also be submitted to LPC for review and comment.

The Proposed Project would result in significant adverse shadows impacts on four architectural resources in the primary and secondary study areas—the Farley Building (#7, S/NR, NYCL), St. Francis Roman Catholic Church Complex (#22, S/NR-eligible, NYCL-eligible), the open spaces of the Penn South Apartment Complex (#37, S/NR-eligible), and St. Michael's Roman Catholic Church Complex (#40, S/NR-eligible, NYCL-eligible), and one architectural resource that is located north of the secondary study area: Greenwich Savings Bank (S/NR, NYCL). The sites that contribute to the shadows impact at each of these resources are discussed in Chapter 22, "Mitigation." As described therein, ESD has advised OPRHP that ESD would consider the feasibility and efficacy of installing mirrors on nearby structures to mitigate the significant adverse shadow impacts on the Farley Building (#7, S/NR, NYCL), the open spaces of the Penn South Apartment Complex (#37, S/NR-eligible), and the former Greenwich Savings Bank (S/NR, NYCL), as described in the LOR included in **Appendix G**. If the installation of mirrors is determined infeasible or ineffective, these significant adverse impacts would remain unmitigated. Regarding the significant adverse shadow impacts on the stained glass windows of the St. Francis Roman Catholic Church Complex and the stained glass windows of the St. Michael's Roman Catholic Church Complex, ESD will continue to consult with OPRHP and has committed in the LOR to require the developers of Sites 1, 2, 3, and 8 to offer artificial lighting, which would simulate the effect of direct sunlight on the stained glass windows of the historic resources, to the churches in the future when development on Sites 1, 2, 3, and 8 proceeds, as stipulated in the LOR. If one or more of the church owners do not accept the offer of artificial lighting, then the significant adverse effects to the St. Francis Roman Catholic Church Complex or St. Michael's Roman Catholic Church Complex, as the case may be, would be unmitigated.

In addition, completion of Site 6 of the Proposed Project would partially obstruct views east of the iconic Empire State Building along West 34th Street west of Sixth Avenue, completion of Sites 5 and 6 would partially obstruct views east of the Empire State Building along West 33rd Street at Ninth Avenue, and completion of Site 2 would block northeast views of the Empire State Building from the east portion of Chelsea Park along Ninth Avenue and from Ninth Avenue and West 28th Street within the larger urban design study area. As described below, the potential mitigation measures for these significant adverse impacts to this architectural and visual resource would not be practicable, as they would not meet the goals and objectives of the Proposed Project.

Mitigation measures for adverse impacts resulting from the development of Sites 4, 5, 6, 7, and 8 (as summarized in Table 8-1 of Chapter 8, "Historic and Cultural Resources") are stipulated in the LOR executed on June 21, 2022, by ESD, Vornado, and OPRHP.

VISUAL RESOURCES

The Proposed Project would result in a significant adverse impact to visual resources in the 2033 and 2044 analysis years; however, it would not result in a significant adverse impact related to urban design. Demolition of the Church of St. John the Baptist on Site 2 is assumed to occur with the start of construction on Site 2 and demolition of the copper Gimbel Brothers skybridge spanning from Site 8 across West 32nd Street could occur during construction of Site 8. Demolition of these

visual resources would constitute a direct significant adverse impact on visual resources. In addition, the obstruction of views east and northeast from certain vantage points within the western portion of the secondary study area towards the Empire State Building in the 2044 With Action condition would constitute a significant adverse impact to visual resources. In particular, the Proposed Project would partially obstruct views of the Empire State Building in views east on West 33rd and West 34th Streets, and would fully obstruct views northeast from West 28th Street and Ninth Avenue, and in views northeast from the east portion of Chelsea Park. Potential measures to mitigate the significant adverse impact to visual resources are discussed below.

Subject to the outcome of the federal reviews under NEPA, Section 106, and Section 4(f),, the visual resource on Site 2—the Church of St. John the Baptist—would be demolished by the 2033 analysis year. As the Church of St. John the Baptist is an architectural resource, partial mitigation measures would be developed as discussed above in "Historic and Cultural Resources." In addition, the visual resource connected to the existing building on Site 8—the copper Gimbel Brothers Skybridge—could be demolished by the 2044 analysis year under either the Maximum Commercial Scenario or Maximum Residential Scenario. It is not known based on current information whether the proposed redevelopment of Site 8 would involve the removal of the Gimbel Brothers Skybridge. As the Gimbel Brothers Skybridge is an architectural resource, a future study of feasible and practicable alternatives would be completed, and feasible and practicable mitigation measures developed as appropriate, as discussed above under "Historic and Cultural Resources."

The proposed development on Site 6 would partially block views of the Empire State Building along West 33rd and West 34th Streets. The proposed development on Site 5 would also partially block views of the Empire State Building on West 33rd Street at Ninth Avenue. In views northeast from the east portion of Chelsea Park along Ninth Avenue, from the south side of the intersection of Ninth Avenue and West 28th Street, and along the western portion of West 28th Street between Eighth and Ninth Avenues, the eastern building of Site 2 along Seventh Avenue would block views of the Empire State Building. As noted in Chapter 9, "Urban Design and Visual Resources," views to the Empire State Building in views north and south on Fifth Avenue and in all views looking towards the west would remain unaffected by the Proposed Project, as would views east from Sixth Avenue.

Mitigation options considered for the significant adverse impact to the Empire State Building as a visual resource included limiting the height of the proposed buildings on Sites 2, 5, and 6 and requiring a greater setback from West 33rd Street and/or West 34th Street on Site 6 and on West 33rd Street on Site 5. As noted in Chapter 9, "Urban Design and Visual Resources," to reduce obstruction of views of the Empire State Building in views east on West 33rd Street, the Design Guidelines require the tower at Site 6 to have an additional, intermediate 30-foot setback on West 33rd Street (inclusive of the 10-foot sidewalk widening) above 500 feet. This measure was explored between the DEIS and FEIS and incorporated into the Proposed Project in this FEIS. This setback would allow for greater visibility of the spire of the Empire Building in views east along West 33rd Street from locations west of Eighth Avenue. The FEIS analyses concluded that additional mitigation measures in the form of height reductions or setbacks would not be practicable. Accordingly, the significant adverse impact to the Empire State Building as a visual resource would remain unmitigated.

TRANSPORTATION

The Proposed Project could result in significant adverse impacts to traffic, transit, and pedestrians. Potential measures to mitigate these impacts to the extent practicable are summarized below. Since the publication of the DEIS, specific programming assumptions, project phasing, and assumed completion years have changed. Additionally, notable updates have been made to the transit-related improvements that would be undertaken as part of the Proposed Project. These include modification of easement connections within certain development sites, incorporation of additional underground concourses and additional station access facilities, and integration of several mitigation measures identified in the DEIS into the Proposed Project. Chapter 14, "Transportation," details the analysis results and updated impact findings associated with these changes. Accordingly, the related mitigation analyses have been revised and the results of these analyses were updated for this FEIS. Because of the Proposed Project's long build-out and the extent and severity of the transportation-related impacts identified, ESD in coordination with DOT, would require developers for the Proposed Project to undertake studies under a future transportation monitoring plan (TMP). The TMP studies, which would be undertaken at several development milestones, are expected to evaluate actual project-generated demand and background conditions during various stages of project development and occupancy and would consider adjusting the identified mitigation strategies as appropriate and practicable to address traffic and pedestrian issues at those points in time. This plan would be developed in consultation between ESD, and DOT for the identified mitigation strategies to address significant adverse traffic and pedestrian impacts. Regarding mitigation for the identified significant adverse subway station impacts, an assessment of when these impacts would materialize was prepared to inform decisions regarding the timing of mitigation implementation that ESD would make in coordination with the MTA and NYCT.

Traffic

Traffic conditions were evaluated at 108 intersections for the weekday AM, midday, and PM peak hours. In the 2033 With Action condition, significant adverse traffic impacts were identified at 80 intersections during the weekday AM peak hour, 79 intersections during the weekday midday peak hour, and 76 intersections during the weekday PM peak hour. Under the 2044 With Action condition, significant adverse traffic impacts were identified at 102 intersections during the weekday AM peak hour, 89 intersections during the weekday midday peak hour, and 94 intersections during the weekday PM peak hour. Potential measures considered to mitigate these impacts include signal timing changes, restriping, and changes to parking regulations. Due to the high level of congestion predicted for both the future No Action and With Action conditions, many of the identified impacts were determined, in consultation with DOT, to be potentially "unmitigatable," meaning that no practicable mitigation (i.e., signal timing changes, restriping, geometric modifications or changes to parking regulations) has been identified that would eliminate the significant impact identified at the relevant intersection under the methodology set forth in the *CEQR Technical Manual*. **Table S-10** summarizes the traffic mitigation analysis results for both the 2033 Phase 1 and 2044 Phase 2 analysis years.

Table S-10
Summary of Traffic Mitigation Analysis Results

Analysis Peak Hour	2033 Phase 1 With Action Condition			2044 Phase 2 With Action Condition		
	No. of Impacted Intersections	No. Fully Mitigated	No. Partially Mitigated or Unmitigated	No. of Impacted Intersections	No. Fully Mitigated	No. Partially Mitigated or Unmitigated
Weekday AM	80	43	37	102	27	75
Weekday Midday	79	45	34	89	41	48
Weekday PM	76	42	34	94	25	69

Notes: In total, 108 intersections, comprising of nearly 400 lane groups, were included in the traffic study area for analysis.

32nd Street Option East-West Connector

While the 32nd Street East-West Connector Option (located below-grade for pedestrian passage) would not affect future vehicular traffic volumes, the Proposed Project's proposed underground connections would alter on-street pedestrian flow patterns, including those crossing at several study area intersections. The effects of these passageway locations on vehicular conditions would be limited to the blocks in the immediate vicinity of Seventh and Sixth Avenues and West 31st Street through West 34th Street, where crosswalk volumes would differ. The effects of the different crosswalk volumes with the 32nd Street Option for the East-West Connector are discussed in Chapter 22, "Mitigation."

Transit

Detailed analyses of station circulation elements and control areas were prepared for the 34th Street-Herald Square Station, 34th Street (Seventh Avenue)-Penn Station, and 34th Street (Eighth Avenue)-Penn Station, as well as line-haul conditions along the subway lines serving these three stations for the weekday AM and PM peak hours. In the 2033 With Action condition, significant adverse impacts were identified for six station elements during the AM peak hour and nine station elements during the PM peak hour. Under the 2044 With Action condition, significant adverse impacts were identified for 13 station elements during the AM peak hour and 17 station elements during the PM peak hour. In addition, two subway lines during the AM peak hour and five subway lines during the PM peak hour would incur significant adverse line-haul impacts. Potential measures considered to mitigate these impacts include increasing operating speeds for escalators, streamlining the structure or widening of stairways, constructing new or reconfiguring stairways, adding turnstiles, and increasing operating frequency of subway trains on subway lines. In the event that certain mitigation measures are deemed, in consultation with the MTA and NYCT, impracticable and no other practicable mitigation measures can be identified, those impacts would be unmitigated. **Table S-11** summarizes the subway station mitigation analysis results for both the 2033 Phase 1 and 2044 Phase 2 analysis years.

Regarding the subway line-haul conditions identified for 2044 Phase 2 of the Proposed Project, the necessary changes in service frequency to fully mitigate the projected impacts are summarized in **Table S-12**. Since these changes are subject to the operational and fiscal feasibility of the MTA and NYCT, the identified impacts could be unmitigated.

32nd Street Option for the East-West Connector

The 32nd Street Option for the East-West Connector, which would have an additional connection under Seventh Avenue, is expected to draw more Penn Station riders underground and shift more subway riders to the 34th Street–Herald Square Subway Station. In comparison to the 33rd Street Option for the East-West Connector, the 32nd Street Option is expected to result in overall fewer subway station impacts at the 34th Street-(Seventh Avenue) Penn Station Subway Station and the 34th Street-(Eighth Avenue) Penn Station Subway Station, roughly the same number of station impacts at the 34th Street-Herald Square Subway Station, and fewer subway line haul impacts, as described in Chapter 22, "Mitigation."

Table S-11
Summary of Subway Station Mitigation Analysis Results

Analysis Peak Hour	Station Element	34th Street-Herald Square Station			34th-Seventh Ave Station			34th-Eighth Ave Station		
		No. of Impacted Elements	No. Fully Mitigated	No. Partially Mitigated or Unmitigated	No. of Impacted Elements	No. Fully Mitigated	No. Partially Mitigated or Unmitigated	No. of Impacted Elements	No. Fully Mitigated	No. Partially Mitigated or Unmitigated
2033 Phase 1 With Action Condition										
Weekday AM	Stairways	3	3	0	2	0	2	0	–	–
	Escalators	1	1	0	0	–	–	0	–	–
	Passageways	0	–	–	0	–	–	0	–	–
	Control Areas	0	–	–	0	–	–	0	–	–
Weekday PM	Stairways	4	4	0	3	0	3	0	–	–
	Escalators	2	1	1	0	–	–	0	–	–
	Passageways	0	–	–	0	–	–	0	–	–
	Control Areas	0	–	–	0	–	–	0	–	–
2044 Phase 2 With Action Condition										
Weekday AM	Stairways	8	4	4	3	0	3	0	=	=
	Escalators	2	2	0	0	–	–	0	–	–
	Passageways	0	=	=	0	=	=	0	=	=
	Control Areas	0	–	–	1	1	0	0	=	=
Weekday PM	Stairways	7	3	4	4	0	4	3	2	1
	Escalators	3	3	0	0	–	–	0	–	–
	Passageways	0	=	=	0	=	=	0	=	=
	Control Areas	0	–	–	0	=	=	0	–	–

Notes: In total, 101 existing or reconstructed station elements and 10 new station elements at the 34th Street-Herald Square, 34th Street-Seventh Avenue, and 34th Street-Eighth Avenue Stations were included in the subway station analysis.

Table S-12
Summary of 2044 Phase 2 Subway Line Haul Mitigation Analysis Results

Peak Hour	Line	Direction	Maximum Load Point	Average No. of Scheduled Trains Per Hour	No. of Additional Trains Needed to Mitigate Impact
Weekday AM	2/3	SB	34th St - Penn Station	21.5	2
	E	SB	Jackson Heights – Roosevelt Av	15.3	1
Weekday PM	1	NB	Columbus Cir	16.1	1
	2/3	NB	Times Sq	21.3	2
	A/D	NB	Columbus Cir	12.1	1
	E	NB	Lexington Av - 53rd St	14.6	1

Notes: The 34th Street–Herald Square Subway Station serves the B, D, F, M, N, Q, R, and W Subway Lines; the 34th Street (Seventh Avenue)–Penn Station Subway Station serves the No. 1, 2, and 3 Subway Lines; and the 34th Street (Eighth Avenue)–Penn Station Subway Station serves the A, C, and E Subway Lines. NB = Northbound; SB = Southbound
This table has been revised for the FEIS.

34th Street Undercrossings

As part of the Phase 2 development at Sites 5 and 6, which are situated on the west and east sides of Seventh Avenue, respectively, between West 33rd and West 34th Streets, new easement connections at both sites and the extension of the North-South Corridor through Site 6 would present an opportunity to extend the underground connections on both sides of Seventh Avenue to the north side of West 34th Street, where there are currently approximately 5.6-foot-wide stairs only connecting to the Seventh Avenue Subway Station. The incorporation of these connections may also require additional elevators and other changes along the north sidewalks of West 34th Street on both sides of Seventh Avenue. The feasibility of implementing these changes to

accommodate the enhanced connections would be subject to future design, study, and coordination with the MTA and DOT. The efficacy and potential adverse impacts of these 34th Street undercrossings are assessed in Chapter 22, "Mitigation."

Pedestrians

Detailed analyses of pedestrian conditions were prepared for a study consisting of 272 pedestrian elements, including 102 sidewalks, 88 corners, and 82 crosswalks) for the weekday AM, midday, and PM peak hours. In the 2033 With Action condition, significant adverse impacts were identified for three sidewalks and six crosswalks during the weekday AM peak hour; two sidewalks and 15 crosswalks during the weekday midday peak hour; and nine sidewalks, four corners, and 18 crosswalks during the weekday PM peak hour. Under the 2044 With Action condition, significant adverse impacts were identified for 18 sidewalks, 10 corners, and 40 crosswalks during the weekday AM peak hour; six sidewalks and 36 crosswalks during the weekday midday peak hour; and 19 sidewalks, 15 corners, and 43 crosswalks during the weekday PM peak hour. Potential measures explored to mitigate these impacts include street furniture removal/relocation, sidewalk/corner obstruction removal/relocation, curb extension, signal timing modification, and crosswalk widening. **Table S-13** summarizes the pedestrian mitigation analysis results for both the 2033 Phase 1 and 2044 Phase 2 analysis years.

Table S-13
Summary of Pedestrian Mitigation Analysis Results

Analysis Peak Hour	Sidewalks			Corners			Crosswalks		
	No. of Impacted Elements	No. Fully Mitigated	No. Partially Mitigated or Unmitigated	No. of Impacted Elements	No. Fully Mitigated	No. Partially Mitigated or Unmitigated	No. of Impacted Elements	No. Fully Mitigated	No. Partially Mitigated or Unmitigated
2033 Phase 1 With Action Condition									
Weekday AM	3	0	3	0	–	–	6	2	4
Weekday Midday	2	0	2	0	–	–	15	7	8
Weekday PM	9	0	9	4	1	3	19	4	15
2044 Phase 2 With Action Condition									
Weekday AM	18	1	17	10	4	6	40	6	34
Weekday Midday	6	0	6	0	–	–	36	11	25
Weekday PM	19	1	18	15	5	10	43	7	36

Notes: In total, 272 pedestrian elements were included in the pedestrian study area for analysis. Under the 2033 With Action condition, significant adverse impacts were identified at six, 15, and 18 crosswalks during the weekday AM, midday, and PM peak hours, respectively. However, the recommended traffic mitigation measures would result in one new crosswalk impact during the weekday PM peak hour for a total of 19 total crosswalk impacts.

32nd Street Option for the East-West Connector

The Proposed Project with the 32nd Street Option for the East-West Connector is expected to result in five fewer significant adverse pedestrian impacts in 2033 and two fewer in 2044 than the Proposed Project with the 33rd Street Option. The corresponding differences in potential mitigation measures at affected locations are detailed in Chapter 22, "Mitigation."

34th Street Undercrossings

The 34th Street undercrossing passageways would enable Penn Station riders to connect to the north side of West 34th Street without having to cross West 34th Street at-grade and potentially draw more pedestrian traffic northward before continuing east. The efficacy and potential adverse impacts of these 34th Street undercrossings are assessed in Chapter 22, "Mitigation."

Implementation of Mitigation Measures

Implementation of proposed traffic and pedestrian mitigation measures would be subject to modifications in light of the results of the TMP and the approval of NYCDOT prior to installation. These include signal timing changes, restriping, changes to parking regulations, street/sidewalk obstruction removal/relocation, curb extension, and crosswalk widening—standard measures routinely implemented throughout the City and generally considered to be feasible. ESD will required designated developers of the Project Area development sites to undertake future TMP studies. In consideration of the project build-out timeline analyzed in this EIS, four development milestones have been identified for undertaking the TMP efforts. The first would be the completion of the first two buildings (Sites 4 and 7, or an equivalent amount of floor area) of the Proposed Project. In recognition of the substantially greater level of development under Phase 2 of the Proposed Project, two interim points and the full build-out of Phase 2 have been identified as the other three milestones. The first Phase 2 interim point would be the completion of half of the development sites and the completion of the Penn Station expansion and related regional infrastructure improvements. The second Phase 2 interim point would be the completion of all the development sites except for Sites 2 and 3, or an equivalent amount of floor area. The completion of the Penn Station expansion and related regional infrastructure improvements are expected to be completed prior to the completion of the Phase 2 build-out. Should the Phase 2 development site build-out period or the completion of the Penn Station expansion and related regional infrastructure improvements extend substantially, additional interim TMP studies may be added at the discretion of ESD. Prior to undertaking any TMP, the designated developer would prepare a scope of work and submit for ESD and NYCDOT review and approval. The designated developer would submit a report summarizing the finding of each TMP as well as all necessary materials (drawings, LOS analyses, etc.) for ESD and DOT's review and approval. The designated developer is responsible for all costs associated with the TMP and the design and implementation of any subsequent measures recommended by the TMP.

Regarding the significant adverse subway station and line-haul impacts, ESD would continue to collaborate with MTA and NYCT in their consideration of the measures described above for mitigating the significant adverse subway station and line-haul impacts identified in this FEIS. However, their implementation would be subject to available project funding.

NOISE

By the 2044 analysis year, traffic generated by the Proposed Project would produce significant increases in noise levels at receptors along West 31st Street between Ninth and Tenth Avenues, along West 31st Street between Sixth and Seventh Avenues, and along West 30th Street between Sixth and Eighth Avenues. The increases would occur primarily due to project-generated trucks travelling along the New York City Department of Transportation (DOT)-designated truck route on these streets. The increases would constitute a significant adverse impact at the receptors along these roadway segments. These locations are shown in **Table S-14.** These operational noise impacts are projected to occur upon the completion and occupancy of approximately 4.75 million gsf of office space on the proposed development sites.

Table S-14
Operational Noise Impact Locations

Address	Block	Lot
371 Ninth Avenue	729	7502
432 West 31st Street	728	55
252 West 30th Street[1, 3]	779	7501
234 West 30th Street[1]	779	62
360 Seventh Avenue[1]	779	45
355 Seventh Avenue[1, 2]	805	97
130 West 30th Street[1, 2]	805	7501
143 West 31st Street[2, 3, 4]	807	17
137 West 31st Street[2, 3, 4]	807	18
133 West 31st Street[2, 3, 4]	807	22
132 West 32nd Street[2, 3, 4]	807	7501
110 West 32nd Street[2, 3, 4]	807	50
109 West 31st Street[2, 3, 4]	807	7502
855 Sixth Avenue[2]	806	7502

Notes:
[1] Construction at Site 2 predicted to contribute to significant adverse noise impact at this location requiring mitigation.
[2] Construction at Site 3 predicted to contribute to significant adverse noise impact at this location requiring mitigation.
[3] Construction at Site 7 predicted to contribute to significant adverse noise impact at this location requiring mitigation.
[4] Construction at Site 8 predicted to contribute to significant adverse noise impact at this location requiring mitigation.

Many of the buildings at these locations feature modern façade construction including insulated glass windows and an alternate means of ventilation that would allow for the maintenance of a closed-window condition. At impacted residential buildings' façades that do not already have one or both of these features, ESD would require project developers to make mitigation measures (i.e., storm windows and/or alternative means of ventilation in the form of window air conditioners) available at no cost for purchase and installation on the buildings' West 31st Street or West 30th Street façades. Building façades with insulated glass windows or storm windows and alternative ventilation would provide sound attenuation such that even during warm weather conditions, interior noise levels would be approximately 25 dBA less than exterior noise levels. However, traffic generated by the Proposed Project by the 2044 analysis year would still result in interior noise levels up to approximately 9 dBA higher than 45 dBA during the peak hour of truck activity. Therefore, the significant adverse noise impacts predicted to occur at the above-mentioned residences would be only partially mitigated. In addition, at locations noted in **Table S-14** to experience significant adverse noise impacts resulting from construction of the Proposed Project, ESD would require the provision of receptor noise controls prior to the start of construction on any development site whose construction contributes to the predicted impact at that receptor (see **Table S-15**), and thus these sites would have these features in place at the time the operational impact would materialize.

As noted above in "Project Description and Purpose and Need," ESD would recommend that NYCDOT study the implementation of a shared street on West 31st Street between Seventh and Eighth Avenues. If NYCDOT chooses to implement a shared street on West 31st Street between Seventh and Eighth Avenues, this street would remain open to vehicular traffic (including delivery vehicles), but some of its traffic could divert to other westbound cross-streets such as West 29th

Street, West 34th Street, and West 35th Street. Some westbound truck traffic along West 31st Street may divert to West 29th Street for access to the Lincoln Tunnel via Tenth Avenue at West 30th Street/Dyer Avenue. Therefore, if the West 31st Street shared street is implemented by NYCDOT, the impacts identified along West 31st Street may lessen in intensity or be eliminated altogether but new impacts could occur along West 29th Street instead as a result of the stated truck diversions, requiring the same mitigation measures specified above for residences along West 31st Street.

CONSTRUCTION

Traffic

Construction of the Proposed Project would result in temporary significant adverse traffic and noise impacts during the peak construction period for both Phase 1 and Phase 2 construction. The same or similar traffic mitigation measures identified to mitigate the operational impacts could be implemented early at the discretion of DOT to mitigate the temporary traffic impacts during construction.

Noise

Significant adverse noise impacts are predicted to occur at multiple sensitive locations as a result of construction of the proposed developments associated with the Proposed Project under either the illustrative construction schedule scenario (i.e., the construction schedule which assumes construction would occur only Monday through Friday) or the alternative construction schedule scenario (i.e., the construction schedule which assumes night and weekend work for the expansion of Penn Station as well), as shown below in **Table S-15**.

Where feasible and practicable, construction would use drilled piles or caissons instead of impact-driven piles. This pile installation method is approximately 10 dBA quieter than impact-driven piles. Since impact-driven piles were the dominant noise source for most construction sites, this would reduce maximum noise levels at most impacted receptors. However, it is not possible at this time to confirm that drilled piles would be feasible and practicable for all pile installation work.

Construction of the proposed buildings at the development sites would be required to follow the requirements of the New York City Noise Control Code for construction noise control measures. Specific noise control measures would be incorporated in noise mitigation plan(s) required under the New York City Noise Code, including a variety of source and path controls.

Table S-15
Locations with Significant Construction Noise Impacts

Address	Block / Lot	Impact from Illustrative or Alternative Construction Schedule	Associated Development Site(s)
105 West 28th Street	Block 804 / Lot 32	Both	Sites 3 and 8
140 West 28th Street	Block 803 / Lot 62	Both	Sites 3 and 4
261 West 28th Street	Block 778 / Lot 7501	Both	Site 2 (Trainshed)
124 West 29th Street	Block 804 / Lot 54	Both	Site 3
211 West 29th Street	Block 779 / Lot 31	Both	Site 2
215 West 29th Street	Block 779 / Lot 7502	Both	Site 2
221 West 29th Street	Block 779 / Lot 27	Both	Site 2
247 West 29th Street	Block 779 / Lot 12	Both	Sites 2 and 7
249 West 29th Street	Block 779 / Lot 10	Both	Sites 2 and 7
252 West 29th Street	Block 778 / Lot 70	Both	Site 2
253 West 29th Street	Block 779 / Lot 8	Both	Sites 2 and 7
257 West 29th Street	Block 779 / Lot 7	Both	Sites 2 and 7
301 West 29th Street	Block 753 / Lot 35	Alternative	Sites 2 (Trainshed) and 7
130 West 30th Street	Block 805 / Lot 7501	Both	Sites 2 and 3
135 West 30th Street	Block 806 / Lot 13	Both	Sites 3 and 7
143 West 30th Street	Block 806 / Lot 7501	Both	Sites 3 and 7
208 West 30th Street	Block 779 / Lot 49	Both	Site 2
214 West 30th Street	Block 779 / Lot 52	Both	Site 2
234 West 30th Street	Block 779 / Lot 62	Both	Site 2
252 West 30th Street	Block 779 / Lot 7501	Both	Sites 2 and 7
308 West 30th Street	Block 753 / Lot 7502	Both	Sites 1, 2, and 7
313 West 30th Street	Block 754 / Lot 31	Both	Sites 1 and 7
314 West 30th Street	Block 753 / Lot 51	Alternative	Sites 1, 2, and 7
315 West 30th Street	Block 754 / Lot 30	Both	Sites 1 and 7
317 West 30th Street	Block 754 / Lot 29	Both	Sites 1 and 7
319 West 30th Street	Block 754 / Lot 28	Both	Sites 1 and 7
321 West 30th Street	Block 754 / Lot 27	Both	Sites 1 and 7
324 West 30th Street	Block 753 / Lot 56	Both	Sites 1, 2, and 7
337 West 30th Street	Block 754 / Lot 19	Both	Sites 1 and 7
341 West 30th Street	Block 754 / Lot 18	Both	Sites 1 and 7
342 West 30th Street	Block 753 / Lot 65	Both	Sites 1, 2, and 7
345 West 30th Street	Block 754 / Lot 16	Both	Sites 1 and 7
361 West 30th Street	Block 754 / Lot 8	Both	Sites 1 and 2
363 West 30th Street	Block 754 / Lot 1	Both	Sites 1 and 2
109 West 31st Street	Block 807 / Lot 7502	Both	Sites 3, 7, and 8
116 West 31st Street	Block 806 / Lot 52	Both	Site 3
133 West 31st Street	Block 807 / Lot 22	Both	Sites 3, 7, and 8
137 West 31st Street	Block 807 / Lot 18	Both	Sites 3, 7, and 8
143 West 31st Street	Block 807 / Lot 17	Both	Sites 3, 7, and 8
110 West 32nd Street	Block 807 / Lot 50	Both	Sites 3, 7, and 8
132 West 32nd Street	Block 807 / Lot 7501	Both	Sites 3, 7, and 8
142 West 32nd Street	Block 807 / Lot 64	Both	Sites 3, 7, and 8
144 West 32nd Street	Block 807 / Lot 65	Both	Sites 3, 7, and 8
36 West 33rd Street	Block 834 / Lot 66	Both	Sites 3 and 8
42 West 33rd Street	Block 834 / Lot 69	Both	Sites 3 and 8

Table S-15 (cont'd)
Locations with Significant Construction Noise Impacts

Address	Block / Lot	Impact from Illustrative or Alternative Construction Schedule	Associated Development Site(s)
49 West 33rd Street	Block 835 / Lot 9	Both	Sites 7 and 8
315 West 33rd Street	Block 757 / Lot 22	Both	Site 2 (Trainshed)
321 West 33rd Street	Block 757 / Lot 20	Both	Site 2 (Trainshed)
40 West 34th Street	Block 835 / Lot 65	Both	Sites 7 and 8
44 West 34th Street	Block 835 / Lot 67	Both	Sites 7 and 8
124 West 34th Street	Block 809 / Lot 59	Both	Sites 2, 3, 6, 7, and 8
126 West 34th Street	Block 809 / Lot 60	Both	Sites 2, 3, 6, 7, and 8
128 West 34th Street	Block 809 / Lot 61	Both	Sites 2, 3, 6, 7, and 8
130 West 34th Street	Block 809 / Lot 62	Both	Sites 2, 3, 6, 7, and 8
134 West 34th Street	Block 809 / Lot 64	Both	Sites 2, 3, 6, 7, and 8
136 West 34th Street	Block 809 / Lot 65	Both	Sites 2, 3, 6, 7, and 8
138 West 34th Street	Block 809 / Lot 66	Both	Sites 2, 3, 6, 7, and 8
140 West 34th Street	Block 809 / Lot 67	Both	Sites 2, 3, 6, 7, and 8
142 West 34th Street	Block 809 / Lot 68	Both	Sites 2, 3, 6, 7, and 8
223 West 34th Street	Block 784 / Lot 28	Both	Sites 4 and 7
243 West 34th Street	Block 784 / Lot 18	Both	Sites 4 and 7
245 West 34th Street	Block 784 / Lot 17	Both	Sites 4 and 7
249 West 34th Street	Block 784 / Lot 15	Both	Sites 4 and 7
255 West 34th Street	Block 784 / Lot 12	Both	Sites 4 and 7
315 West 34th Street	Block 758 / Lot 28	Both	Sites 2 and 4
218 West 35th Street	Block 784 / Lot 54	Both	Sites 4 and 7
835 Avenue of the Americas	Block 805 / Lot 7502	Both	Sites 2 and 3
846 Avenue of the Americas	Block 831 / Lot 7502	Both	Sites 2 and 8
855 Avenue of the Americas	Block 806 / Lot 7502	Both	Site 3
874 Avenue of the Americas	Block 832 / Lot 78	Alternative	Site 8
960 Avenue of the Americas	Block 837 / Lot 1	Both	Sites 3 and 8
315 Seventh Avenue	Block 803 / Lot 7501	Alternative	Sites 3 and 5
341 Seventh Avenue	Block 805 / Lot 1	Both	Sites 2 and 3
355 Seventh Avenue	Block 805 / Lot 97	Both	Sites 2 and 3
360 Seventh Avenue	Block 779 / Lot 45	Both	Site 2
474 Seventh Avenue	Block 785 / Lot 43	Both	Sites 3 and 4
370 Eighth Avenue	Block 778 / Lot 75	Both	Site 2 (Trainshed)
372 Eighth Avenue	Block 778 / Lot 74	Alternative	Site 2 (Trainshed)
374 Eighth Avenue	Block 778 / Lot 73	Alternative	Site 2 (Trainshed)
376 Eighth Avenue	Block 778 / Lot 72	Alternative	Site 2 (Trainshed)
378 Eighth Avenue	Block 778 / Lot 71	Alternative	Site 2 (Trainshed)
382 Eighth Avenue	Block 779 / Lot 1	Both	Sites 2 and 7
383 Eighth Avenue	Block 753 / Lot 36	Alternative	Sites 2 (Trainshed) and 7
387 Eighth Avenue	Block 753 / Lot 37	Alternative	Sites 2 (Trainshed) and 7
389 Eighth Avenue	Block 753 / Lot 38	Alternative	Sites 2 (Trainshed) and 7
391 Eighth Avenue	Block 753 / Lot 39	Alternative	Sites 2 (Trainshed) and 7
393 Eighth Avenue	Block 753 / Lot 40	Alternative	Sites 2 (Trainshed) and 7
481 Eighth Avenue	Block 758 / Lot 37	Both	Sites 2 and 4
270 Ninth Avenue	Block 751 / Lot 1	Alternative	Site 2

Table S-15 (cont'd)
Locations with Significant Construction Noise Impacts

Address	Block / Lot	Impact from Illustrative or Alternative Construction Schedule	Associated Development Site(s)
305 Ninth Avenue	Block 752 / Lot 1	Alternative	Sites 2 (Trainshed) and 7
342 Ninth Avenue	Block 753 / Lot 78	Both	Sites 1 and 2
360 Ninth Avenue	Block 754 / Lot 5	Both	Sites 1 and 2
1227 Broadway	Block 831 / Lot 68	Both	Site 8
1260 Broadway	Block 834 / Lot 11	Both	Sites 2 and 8
1282 Broadway	Block 835 / Lot 1	Both	Sites 7 and 8
1313 Broadway	Block 810 / Lot 40	Alternative	Peak construction truck traffic from all sites

In terms of source controls (i.e., reducing noise levels at the source or during the most sensitive time periods), the following measures would be implemented in accordance with the New York City Noise Code:

- Equipment that meets the sound level standards specified in Subchapter 5 of the New York City Noise Control Code would be utilized from the start of construction. Table 20-22 in Chapter 20, "Construction," shows the noise levels for typical construction equipment and the mandated noise levels for the equipment that would be used for construction under the Proposed Actions.
- As early in the construction period as logistics would allow, diesel- or gas-powered equipment would be replaced with electrical-powered equipment such as welders, water pumps, bench saws, and table saws (i.e., early electrification) to the extent feasible and practicable.
- Where feasible and practicable, construction sites would be configured to minimize back-up alarm noise. In addition, trucks would be prohibited from idling in violation of Title 24, Chapter 1, Subchapter 7, Section 24-163 of the New York City Administrative Code.
- Contractors and subcontractors would be required to properly maintain their equipment and mufflers.

In terms of path controls (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors), the following measures for construction would be implemented to the extent feasible and practicable:

- Where logistics allow, noisy equipment—such as cranes, concrete pumps, concrete trucks, and delivery trucks—would be located away from and shielded from sensitive receptor locations.
- Noise barriers at least eight feet tall constructed from plywood or other materials consistent with the noise barrier performance requirements set forth in DEP's "Rules for Citywide Construction Noise Mitigation," would be erected to provide shielding; and
- Path noise control measures (i.e., portable noise barriers, panels, enclosures, and acoustical tents, where feasible) for certain dominant noise equipment would be employed to the extent feasible and practical. The requirements for construction of portable noise barriers, enclosures, tents, etc. are set forth in DEP's "Rules for Citywide Construction Noise Mitigation."

Many of the buildings where impacts have been identified feature modern façade construction, including insulated glass windows and an alternative means of ventilation that would allow for

the maintenance of a closed-window condition. At façades of impacted buildings that do not already have one or both of these features, ESD would require project developers to make mitigation measures (i.e., storm windows and/or alternative means of ventilation in the form of window air conditioners) available on façades that face construction at no cost for purchase and installation. The mitigation measures would be implemented at each receptor prior to the start of construction on any development site whose construction contributes to the predicted impact at that receptor (see **Table S-15**). Building façades with insulated glass windows or storm windows and alternative ventilation would provide sound attenuation such that even during warm weather conditions, interior noise levels would be approximately 25 dBA less than exterior noise levels. However, construction of the Proposed Project during the most noise-intensive construction activity nearest a receptor would result in interior noise levels up to 62 dBA L_{10}, which is 17 dBA greater than the level considered acceptable according to *CEQR Technical Manual* noise exposure guidelines. Consequently, significant adverse noise impacts predicted to occur at the above-mentioned residences would be only partially mitigated.

Neighborhood Character

As discussed in Chapter 20, "Construction" long-term construction activity associated with the potential expansion of Penn Station and new buildings on Sites 1, 2, and 3 would result in significant adverse localized neighborhood character impact in the immediate vicinity of these development sites during construction. Construction activities would be disruptive and concentrated on these sites for an extended period of time. Throughout the construction period, measures would be implemented to control air quality, noise, and vibration on the construction sites, including the erection of construction fencing and in some areas fencing incorporating sound reducing measures. This fencing would reduce potentially undesirable views of construction sites and buffer noise emitted from construction activities. Furthermore, in the event that there is an extended period between the completion of the expansion of Penn Station and the commencement of construction of the new buildings on Sites 1, 2, and/or 3, MTA, in consultation with the City, would seek to activate one or more of the sites with temporary uses or other programming. There are no other practicable measures to mitigate the significant adverse localized neighborhood character impact in the vicinity of Sites 1, 2, and 3. Therefore, this impact would remain unmitigated.

Historic and Cultural Resources

During Phase 1 construction activities, the Proposed Project would result in significant adverse direct impacts on six architectural resources located on Sites1, 2, and 3 that would be removed for the potential below-grade expansion of Penn Station, and one architectural resource on Site 7 that is currently undergoing demolition to allow for new commercial development on Site 7 with or without the Proposed Project. In addition, during Phase 2 construction, one architectural resource could be removed for the redevelopment of Site 8. See discussion above under "Historic and Cultural Resources" regarding potential mitigation measures for these impacts.

UNAVOIDABLE ADVERSE IMPACTS

COMMUNITY FACILITIES

The Proposed Project may result in a significant adverse impact to early childhood programs under the Maximum Residential Scenario. Under the analysis appearing in Chapter 5, "Community Facilities," a significant adverse impact to early childhood programs is predicted to occur with the

completion and occupancy of approximately 192 affordable dwelling units (DUs) targeted to households earning up to 80 percent of the Area Median Income (AMI) (or approximately 22 children eligible for publicly funded early childhood programs).

As discussed above in "Mitigation," measures to mitigate the significant adverse impact to early childhood programs have been identified by ESD and would be further developed in consultation with the DOE Division of Early Childhood Education. Absent the implementation of such mitigation measures, the significant adverse impact on publicly funded early childhood programs would remain unmitigated and constitute an unavoidable adverse impact of the Proposed Project.

OPEN SPACE

The Proposed Project would result in direct and indirect significant adverse impacts on open space resources. Specifically, the Proposed Project would result in a direct impact due to the elimination of portion of the through-block east plaza on Site 5 that is part of the 1 Penn Plaza POPS, and an indirect impact would occur as the result of the introduction of a substantial new worker population, causing a substantial decrease in the passive open space ratio for workers and the combined open space ratio for workers and residents. As discussed in Chapter 21, "Alternatives," alternatives that would avoid these open space impacts would be impracticable.

As discussed above in "Mitigation," open space mitigation measures have been explored by ESD and will be further developed in consultation with the New York City Department of Parks and Recreation (NYC Parks). To address the significant adverse impact on open space, ESD would require future developers to create additional passive open space in or near the Project Area (in addition to the proposed plaza on Site 2) and/or provide funding for open space improvements and/or maintenance of open space resources in the study area. In addition, the modified General Project Plan (GPP) would require measures to compensate for the displacement of the existing POPS on Site 5. These measures would partially mitigate the open space impact. Absent the implementation of such mitigation measures, the significant adverse open space impacts would remain unmitigated and constitute an unavoidable adverse impact of the Proposed Project.

SHADOWS

Shadows cast by the Proposed Project in the 2033 analysis year would result in significant adverse shadow impacts to two sunlight-sensitive resources: Madison Square Garden (MSG) POPS and the Farley building skylights. In the 2044 analysis year the Proposed Project would cast shadows resulting in significant adverse impacts to those same two resources, Madison Square Garden (MSG) POPS and the Farley building skylights, plus the Farley Building Eighth Avenue steps and colonnade, and seven additional sunlight-sensitive historic and open space resources: Plaza 33, Herald Square Park, Chelsea Park, the Penn South open spaces, , St. Michael's Roman Catholic Church, St. Francis of Assisi Church, and the former Greenwich Savings Bank. These nine sunlight-sensitive resources would experience substantial durations and occasionally large extents of new shadow, which would significantly reduce the attractiveness and usability of the open spaces, or, in the case of the historic resources, obscure sunlight-dependent features.

Mitigation measures to eliminate or minimize the significant adverse shadow impacts are described above in "Mitigation." As discussed above, mitigation measures for shadow impacts to open spaces and historic resources that involve changes to the bulk or configuration of the proposed developments would be impracticable for the Proposed Project. In addition, artificial lighting for the significant adverse impact to the Farley Building skylights would be impracticable. For significant adverse impacts to stained-glass windows, measures to partially mitigate these

impacts are described above in "Mitigation." Because these impacts cannot be fully mitigated, the significant adverse shadow impacts would constitute unavoidable significant adverse impacts of the Proposed Project.

ESD has advised OPRHP that ESD would consider the feasibility and efficacy of installing mirrors on nearby structures to mitigate significant adverse shadow impacts on historic resources. If the installation of mirrors is determined infeasible or ineffective, these significant adverse impacts would remain unmitigated and would constitute unavoidable significant adverse impacts of the Proposed Project.

HISTORIC AND CULTURAL RESOURCES

The Proposed Project would result in significant adverse impacts to architectural resources in the 2033 and 2044 analysis years.

In the 2033 With Action condition, in the event Sites 1, 2, and 3 are selected as the preferred alternative for a southern expansion of Penn Station in the federal review process, the Proposed Project would result in significant adverse direct impacts from the removal of six architectural resources currently located on those sites. In addition, one architectural resource on Site 7 is currently undergoing demolition to allow for new commercial development on Site 7 with or without the Proposed Project; this is conservatively identified as a significant adverse impact in the consultation with OPRHP under the New York State Historic Preservation Act. These architectural resources are: (A, S/NR-eligible) Lithuanian Alliance of America at 307 West 30th Street; (#1, S/NR-eligible, NYCL-eligible) Penn Station Service Building at 236-248 West 31st Street; (#2, S/NR-eligible) Fairmont Building at 239-241 West 30th Street; (#3, S/NR-eligible, NYCL-eligible) St. John the Baptist Roman Catholic Church Complex at 207-215 West 30th Street; (#4, S/NR-eligible) Penn Terminal Building at 370 Seventh Avenue; (#5, S/NR-eligible, NYCL-eligible) Stewart Hotel at 371-377 Seventh Avenue; and (#6, S/NR-eligible) Hotel Pennsylvania at 401 Seventh Avenue. Measures that could partially mitigate these significant adverse impacts are described above in "Mitigation;" these measures were developed in consultation with the OPRHP. In the absence of practicable mitigation, the significant adverse direct impacts would be unavoidable adverse impacts of the Proposed Project.

In the 2044 With Action condition, the Proposed Project could also result in a significant adverse direct impact from the removal of the Gimbel Brothers Skybridge (D, S/NR-eligible), which is supported at its northern end by structures within the existing building on Site 8. However, as more fully discussed in Chapter 8, "Historic and Cultural Resources," it is not known based on current information whether the proposed redevelopment of Site 8 would involve the removal of the Gimbel Brothers Skybridge. Therefore, as stipulated in the LOR among ESD Vornado, and OPRHP in accordance with Section 14.09 of the State Historic Preservation Act, at such time as the necessary information concerning the conceptual design and proposed program for the Site 8 redevelopment is available, a thorough study as to whether feasible and practical alternatives would be available to avoid or minimize any adverse impacts to the Gimbel Brothers Skybridge will be prepared in consultation with OPRHP. Further, if that future study determines that the redevelopment of Site 8 pursuant to the GPP would result in a significant adverse impact on the Gimbel Brothers Skybridge, measures that could partially mitigate that significant adverse impact would be developed and implemented in consultation with OPRHP as stipulated in the LOR. In the absence of practicable mitigation, the significant adverse direct impact would be an unavoidable adverse impact of the Proposed Project.

In the 2044 With Action condition, the Proposed Project would result in significant adverse shadows impacts on four architectural resources in the primary and secondary study areas and one architectural resource that is located north of the secondary study area. These architectural resources are: (#7, S/NR, NYCL) U.S. General Post Office, on the block bounded by Eighth and Ninth Avenues, West 31st and West 33rd Streets; (#22, S/NR-eligible, NYCL-eligible) St. Francis Roman Catholic Church at 129-143 West 31st Street; (#37, S/NR-eligible) Penn South Apartment Complex, bounded by West 29th and West 23rd Streets, Eighth and Ninth Avenues; (#40, S/NR-eligible, NYCL-eligible) St. Michael's Roman Catholic Church at 414-424 West 34th Street; and the former Greenwich Savings Bank (S/NR, NYCL) at 1352-1362 Broadway, which is outside the study area. Measures to partially mitigate the significant adverse impacts on St. Francis Roman Catholic Church Complex and St. Michael's Roman Catholic Church Complex are described above in "Mitigation;" consultation with OPRHP regarding these potential measures is ongoing. Potential measures to mitigate the significant adverse shadow impacts on the other three architectural resources would not be practicable and the significant adverse impacts would remain unmitigated. However, as noted above, ESD has advised OPRHP that ESD would consider the feasibility and efficacy of installing mirrors on nearby structures to mitigate significant adverse shadow impacts on historic resources. If the installation of mirrors is determined infeasible or ineffective, these significant adverse impacts would remain unmitigated. In the absence of practicable mitigation, the significant adverse shadow impacts would be unavoidable adverse impacts of the Proposed Project.

In the 2044 With Action condition, the Proposed Project would also result in significant adverse visual impacts with respect to the Empire State Building by obstructing views towards the architectural resource east on West 33rd and West 34th Streets and northeast from the east portion of Chelsea Park, and from Ninth Avenue and West 28th Street. Potential measures to mitigate these significant adverse visual impacts would not be practicable; therefore, the obstruction of views to the Empire State Building would be an unavoidable significant adverse impact of the Proposed Project.

VISUAL RESOURCES

The Proposed Project would result in a significant adverse impact to visual resources in the 2033 and 2044 analysis years. Demolition of visual resources on two development sites, the Church of St. John the Baptist on Site 2 by the 2033 analysis year and possibly the copper Gimbel Brothers skybridge spanning from Site 8 across West 32nd Street by the 2044 analysis year, would constitute a direct significant adverse impact on visual resources. In addition, the Proposed Project would obstruct views of the Empire State Building in eastward views along West 33rd and West 34th Streets and in views northeast from the east portion of Chelsea Park along Ninth Avenue, from the south side of the Ninth Avenue and West 28th Street intersection, and along the western portion of West 28th Street between Eighth and Ninth Avenues. The obstruction of these views east and northeast from certain vantage points within the western portion of the secondary study area towards the Empire State Building in the 2044 With Action condition would constitute a significant adverse impact to visual resources. As discussed above, potential measures to mitigate the significant adverse impact to visual resources were assessed. As the St. John the Baptist Roman Catholic Church Complex is an architectural resource, partial mitigation measures would be developed as discussed above. As it is possible that the proposed redevelopment of Site 8 could involve the removal of the Gimbel Brothers Skybridge, the Proposed Project could have a direct significant adverse impact on this visual resource, which is also a historic resource as discussed above. In the absence of practicable mitigation for the resources discussed above, the significant adverse direct impacts would be unavoidable adverse impacts of the Proposed Project. Potential mitigation measures considered with respect to the obstruction of views to the Empire State

Building from certain vantage points within the western portion of the study area would not be practicable; therefore, the significant adverse impacts constitute an unavoidable significant adverse impact of the Proposed Project.

TRANSPORTATION

Under the 2033 and 2044 With Action conditions, a number of significant adverse transportation impacts could not be fully mitigated during one or more analysis peak hours; therefore, these unmitigated impacts would constitute unavoidable significant adverse impacts of the Proposed Project.

In the 2033 With Action condition, the Proposed Project would result in significant adverse traffic impacts that could not be fully mitigated at 37, 34, and 34 intersections during the weekday AM, midday, and PM peak hours, respectively. For transit, the Proposed Project would result in significant adverse subway station element impacts that could not be fully mitigated at two and four analysis elements during the weekday AM and PM peak hours, respectively. For pedestrians, the Proposed Project would result in significant adverse pedestrian impacts that could not be fully mitigated at seven, 10, and 27 analysis elements during the weekday AM, midday, and PM peak hours, respectively.

In the 2044 With Action condition, the Proposed Project would result in significant adverse traffic impacts that could not be fully mitigated at 75, 48, and 69 intersections during the weekday AM, midday, and PM peak hours, respectively. For transit, the Proposed Project would result in significant adverse subway station element impacts that could not be fully mitigated at seven and nine analysis elements during the weekday AM and PM peak hours, respectively. For pedestrians, the Proposed Project would result in significant adverse pedestrian impacts that could not be fully mitigated at 57, 31, and 64 analysis elements during the weekday AM, midday, and PM peak hours, respectively.

Regarding mitigation for traffic and pedestrian impacts, ESD in coordination with DOT, would require developers for the Proposed Project to undertake a future TMP to evaluate actual project-generated demand and background conditions during various stages of project development and occupancy and would consider adjusting the identified mitigation strategies as appropriate to address traffic and pedestrian issues at those points in time.

For transit elements for which potential mitigation has been identified, ESD in coordination with the MTA and NYCT will assess in further detail the feasibility, practicability, and the implementation timing of the potential transit mitigation measures. In the event that upon subsequent review and engineering studies certain mitigation measures are deemed impracticable and no other practicable mitigation measures can be identified, those impacts would be unmitigated. Furthermore, mitigation measures identified for station elements within the footprint of a development site may be implemented together with the construction of that development site; therefore, if the development of a building at a development site is delayed or does not occur, the mitigation measures at that development site may be delayed or may not be implemented. For certain transit elements, no practicable mitigation has been identified.

Should there be delays in implementing certain traffic, transit, or pedestrian mitigation measures because a development site has not been constructed, then the projected impacts would be unmitigated until the development site is constructed and the corresponding mitigation measures implemented. In the event that certain development sites are not developed, then some of the projected impacts may not occur and others would be unmitigated.

NOISE

Traffic noise generated by the Proposed Project would increase noise levels resulting in significant adverse noise impacts at receptors along West 31st Street between Ninth and Tenth Avenues, along West 31st Street between Sixth and Seventh Avenues, and along West 30th Street between Sixth and Seventh Avenues, primarily due to project-generated trucks travelling along the New York City Department of Transportation (DOT)-designated truck route on these streets. As discussed above in "Mitigation," many of the buildings at these locations feature modern façade construction, including insulated glass windows and an alternate means of ventilation that would allow for the maintenance of a closed-window condition. At impacted residential buildings' façades that do not already have one or both of these features, ESD would require project developers to make mitigation measures (i.e., storm windows and/or alternative means of ventilation in the form of window air conditioners) available at no cost for purchase and installation on the buildings' West 31st Street or West 30th Street façades. Building façades with insulated glass windows or storm windows and alternative ventilation would provide sound attenuation such that even during warm weather conditions, interior noise levels would be approximately 25 dBA less than exterior noise levels. However, traffic generated by the Proposed Project by the 2044 analysis year would still result in interior noise levels up to approximately 9 dBA higher than 45 dBA during the peak hour of truck activity. Therefore, the significant adverse noise impacts predicted to occur at the above-mentioned residences would be only partially mitigated. In addition, some building owners may not accept the offer of storm windows and/or alternative means of ventilation; at these locations, the significant adverse noise impacts would be unmitigated. Because these impacts cannot be fully mitigated, the impacts would constitute an unavoidable significant adverse impact of the Proposed Project.

CONSTRUCTION

Transportation

As discussed above, there would be temporary significant adverse traffic impacts during the Phase 1 and Phase 2 peak construction conditions that cannot be fully mitigated during one or more construction analysis peak hours. In the Phase 1 peak construction condition, there would be significant adverse traffic impacts that could not be fully mitigated at two intersections during both the weekday AM and PM construction peak hours. In the Phase 2 peak construction condition, there would be significant adverse traffic impacts that could not be fully mitigated at 14 and 27 intersections during the weekday AM and PM construction peak hours, respectively.

Noise

As discussed above, the detailed analysis of construction-period noise determined that construction of the Proposed Project has the potential to result in construction-period noise levels that would constitute significant adverse construction-period impacts at multiple sensitive locations (see **Table S-15**).

As discussed above in "Mitigation," additional control measures beyond those already identified in the construction assessment were explored to determine if there are feasible and practicable measures that could mitigate the potential construction noise impacts listed above. Where feasible and practicable, construction would use drilled piles or caissons instead of impact-driven piles. Construction of the proposed buildings at the development sites would be required to follow the requirements of the New York City Noise Control Code for construction noise control measures. At façades of impacted buildings that do not already have one or both of these features, ESD

would require project developers to make mitigation measures (i.e., storm windows and/or alternative means of ventilation in the form of window air conditioners) available on façades that face construction at no cost for purchase and installation. With the provision of such measures, the façades of these buildings would be expected to provide approximately 25 dBA window/wall attenuation. Even with these measures, interior $L_{10(1)}$ noise levels at these buildings would at times during the construction period exceed the 45 dBA guideline recommended for residential and community spaces according to CEQR noise exposure guidelines by up to approximately 17 dBA. Because it is not possible at this time to confirm that drilled piles would be feasible and practicable for all pile installation and interior noise levels could still exceed the acceptable threshold even with the provision of receptor noise mitigation, the significant adverse construction noise impacts would be only partially mitigated. In addition, some building owners may not accept the offer of storm windows and/or alternative means of ventilation; at these locations, the significant adverse construction-period noise impacts would be unmitigated. Because these impacts cannot be fully mitigated, the impacts would constitute an unavoidable impact.

Neighborhood Character

Long-term construction activity associated with the proposed expansion of Penn Station and new buildings on Sites 1, 2, and 3 would result in significant adverse localized neighborhood character impacts in the immediate vicinity of these development sites during construction. Construction activities would be disruptive and concentrated on these sites for an extended period of time. Throughout the construction period, measures would be implemented to control air quality, noise, and vibration on the construction sites, including the erection of construction fencing and in some areas fencing incorporating sound reducing measures. This fencing would reduce potentially undesirable views of construction sites and buffer noise emitted from construction activities. Furthermore, in the event that there is an extended period between the completion of the expansion of Penn Station and the commencement of construction of the new buildings on Sites 1, 2, and/or 3, MTA, in consultation with the City, would seek to activate one or more of the sites with temporary uses or other programming. There are no other practicable measures to mitigate the significant adverse localized neighborhood character impacts in the vicinity of Sites 1, 2, and 3. Therefore, this impact would constitute an unavoidable adverse impact of the Proposed Project.

GROWTH-INDUCING ASPECTS OF THE PROPOSED PROJECT

The Proposed Project is not expected to induce additional growth beyond the Project Area. While the Proposed Project would improve existing infrastructure, including passenger rail and subway facilities, the infrastructure in the study area—i.e., the ¼-mile area surrounding the Project Area—is already well-developed such that improvements associated with the Proposed Project would not induce additional growth in that surrounding area. The study area's residential market demand is already heavily influenced by its location proximate to a major commercial district and transit hub. Similarly, the retail uses introduced by the Proposed Project are already present in the study area and available to residents, workers, and visitors. For these reasons, the Proposed Project is not expected to induce residential growth in the ¼-mile study area.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

There are a number of resources, both natural and man-made, that would be expended in the construction and operation of the Proposed Project. These resources include the building materials used in construction; energy in the form of gas and electricity consumed during construction and operation of project-generated development by various mechanical and processing systems; and

the human effort (time and labor) required to develop, construct, and operate various components of the Proposed Project.

The resources are considered irretrievably committed because their reuse for some purpose other than for the Proposed Project would be unlikely. The development associated with the Proposed Project also constitutes a long-term commitment of land resources, thereby rendering land use for other purposes highly unlikely in the foreseeable future. However, the land use changes, transit and rail improvements, and public realm improvements generated under the Proposed Project would be compatible in terms of use and scale with existing conditions and trends in the area as a whole. None of the development sites possess any natural resource of significant value, and the sites are in large part developed or have been previously developed.

These commitments of land resources and materials are weighed against the benefits of the Proposed Project, which would result in approximately 18 million gross square feet (gsf) of primarily Class A commercial office, retail, and hotel space and up to 1,798 dwelling units (DU) in ten buildings across eight development sites within the Project Area. The Proposed Project would support the reconstruction and potential expansion of Penn Station. In addition, the Proposed Project would provide several significant public benefits (including the provision of transit improvements at area subway stations) and public realm improvements (including new publicly accessible open space, improvements to pedestrian circulation, and shared streets). ✷