Chapter 28: Comments and Responses

28.1 INTRODUCTION

This chapter of the Environmental Impact Statement (EIS) summarizes and responds to comments on the Draft EIS (DEIS) and Draft Section 4(f) Evaluation for the Hudson Tunnel Project. The Federal Railroad Administration (FRA), as lead Federal agency, and the New Jersey Transit Corporation (NJ TRANSIT), as joint lead agency, released the DEIS on July 6, 2017. FRA coordinated with the U.S. Environmental Protection Agency (EPA) to publish a Notice of Availability of the DEIS in the Federal Register on July 7, 2017, which officially opened the public comment period on the document and announced that the agencies would accept comments through August 21, 2017, although FRA and NJ TRANSIT continued to consider comments received after that time. During the public comment period, FRA and NJ TRANSIT held three public hearings to accept oral comments and written comments, and also accepted written comments submitted via mail, email, and through the Project website.

This chapter summarizes and responds to all substantive comments received on the DEIS, including those that FRA and NJ TRANSIT received after the close of the comment period.

This chapter is new for the Final EIS (FEIS). Please note that all abbreviations used in this chapter are defined in the chapter and also in the Glossary of this FEIS.

28.1.1 CONTENTS OF THIS CHAPTER

This chapter provides a summary of relevant comments received on the Hudson Tunnel Project and the DEIS during the public review period. It includes the following:

- Section 28.2 describes how FRA and NJ TRANSIT conducted the public review process, including how copies of the DEIS were made available and how comments were accepted.
- Section 28.3 provides a list of commenters on the DEIS, organized in the following categories: elected officials, public agencies, organizations, and individuals. Following each commenter in the list, a shortened version of the commenter's name is provided in parentheses, indicating how the commenter may be further noted in this chapter.
- Section 28.4 provides a summary of the relevant comments and a response to each, with the abbreviated name of the commenter(s) who made the comment provided in parentheses after each comment. These summaries convey the substance of the comments made, but do not necessarily quote the comments verbatim. Comments are organized by subject matter and generally parallel the chapter structure of the DEIS. Where more than one commenter expressed similar views, those comments have been grouped and addressed together.

Appendix 28 provides the full text of all comments received, including transcripts of the public hearings.

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28.1.2 ROLES AND RESPONSIBILITIES

28.1.2.1 RESPONSIBLE PARTIES

Many of the responses to comments provided in this chapter describe how the Hudson Tunnel Project may progress toward construction following completion of the National Environmental Policy Act (NEPA) review process. As of the date of this FEIS, no Federal funding has been committed for construction of the Hudson Tunnel Project. The following information describes the roles and responsibilities of parties involved in this FEIS and the NEPA review, and that may be

involved in and responsible for progressing the Project after the NEPA review. See also Section 28.1.2.2 for more detail regarding the change to roles and responsibilities since the publication of the DEIS.

- **FRA, NJ TRANSIT, and the PANYNJ:** FRA is the lead Federal agency for the preparation of the FEIS; NJ TRANSIT and the Port Authority of New York and New Jersey (PANYNJ) are joint lead agencies for the FEIS.
- **Cooperating Agencies:** Pursuant to the Council on Environmental Quality's NEPA regulations, Cooperating Agencies are Federal agencies, other than a lead agency, that have jurisdiction by law or special expertise with respect to environmental impacts for a proposed project. For the Hudson Tunnel Project, the U.S. Army Corps of Engineers (USACE) and the Federal Transit Administration (FTA) are Cooperating Agencies.
  - The USACE is a Cooperating Agency because it will have a permitting action as part of Project implementation; and
  - FTA is a Cooperating Agency given its technical expertise and current and potential future role in supporting the advancement of this Project through NEPA, final design, and construction.
- **Amtrak (the National Railroad Passenger Corporation):** Amtrak is the owner and operator of the Northeast Corridor (NEC) in the Project area, including the existing North River Tunnel and Penn Station New York (PSNY). Amtrak is responsible for developing the preliminary design of the Hudson Tunnel Project.
- **Project Partners:** Consisting of NJ TRANSIT, Amtrak, and the PANYNJ, who are working together to advance the Hudson Tunnel Project.
- **Gateway Program Development Corporation:** A New Jersey non-profit corporation established to coordinate, develop, operate, finance, manage, own, or otherwise engage in activities to effectuate the Gateway Program (described in Chapter 1, "Purpose and Need," Section 1.2.2), with support from various partner agencies. The Hudson Tunnel Project is an independent element of the larger Gateway Program.
- **Gateway Development Commission (GDC):** A public authority and government-sponsored authority created when the States of New York and New Jersey enacted the Gateway Development Commission Act in each of the two states in July 2019. GDC is governed by a Board of Commissioners comprised of three Commissioners from the State of New York, three Commissioners from the State of New Jersey, and one Commissioner appointed by Amtrak The GDC is empowered to facilitate and coordinate activities to effectuate the Gateway Program (described in Chapter 1, Section 1.2.2; the Hudson Tunnel Project is an independent element of the larger Gateway Program), including applying for and receiving Federal, state, and local funds. The predecessor to the GDC was the Gateway Program Development Corporation.
- **Lead Federal agency:** FRA is the lead Federal agency for NEPA review, including preparation of this EIS. For purposes of Project implementation, the lead Federal agency will be the agency that will provide the majority of Federal funding for Project implementation and be responsible for ensuring compliance with mitigation commitments identified in its Record of Decision (ROD). If FRA provides the majority of Federal funding for implementation of the Project, it will be the lead Federal agency responsible for ensuring that environmental and other Project commitments identified in its ROD are met. If FTA is the agency providing the majority of Federal funding for implementation of the Project, it will be the lead Federal agency ensuring environmental and other Project commitments identified in its ROD are met.
- **Project Sponsor:** The entity that receives Federal financial assistance that will be responsible for advancing the Project through final design and construction and for meeting the

commitments identified in the lead Federal agency's ROD. The PANYNJ is currently the Project Sponsor, and will be responsible for committing to mitigation measures through construction. The PANYNJ will remain the Project Sponsor until such time as the GDC assumes the role of Project Sponsor. The PANYNJ and the GDC anticipate that change will occur prior to the award of Federal financial assistance for the Project.[1]

- **Project contractor:** The party or parties that will build the Project under the direction of the Project Sponsor. The Project contractor will be selected by the Project Sponsor through a procurement process.
- **Permittees for Department of Army Permit:** Amtrak and NJ TRANSIT are the joint applicants for a Department of Army permit from the USACE. The USACE will be responsible for ensuring that the Permittee or Joint Permittees listed on any Department of Army permit relevant to the Project implement the measures necessary for compliance with the terms and conditions of the permit. As the Project design advances, the role of the Permittee(s) may be transferred to another entity or entities, subject to approval of the USACE, at which time the full responsibility for compliance with the terms and conditions of the Department of Army permit will also be transferred.

Throughout this FEIS, including in the responses to comments provided in this chapter, where the text refers to actions that will be taken by the Project Sponsor, the lead Federal agency will be responsible for ensuring that the Project Sponsor meets the commitments identified in this FEIS and the ROD.

28.1.2.2 PROJECT SPONSOR AND JOINT LEAD AGENCY

FRA, as the lead Federal agency, and NJ TRANSIT, as a joint lead agency, prepared the DEIS. On June 29, 2018, the PANYNJ notified FTA that the PANYNJ would serve as the grant applicant and NEPA Project Sponsor (see **Appendix 1** of this FEIS). On August 17, 2018, the PANYNJ formally notified the FRA about its intent to serve as NEPA Project Sponsor for the Hudson Tunnel Project. Pursuant to 23 CFR § 771.109(c)(2), as a local governmental entity, the PANYNJ subsequently became a joint lead agency for this FEIS.

Prior to becoming NEPA Project Sponsor and in addition to continuing its role as a Project Partner, the PANYNJ was a Participating Agency for the DEIS that provided support and assistance to the Project Partners during development of the preliminary engineering and planning for the Hudson Tunnel Project's design. In becoming a joint lead agency, the PANYNJ relied on the efforts of FRA and NJ TRANSIT in developing the DEIS and concurs with the conclusions of this FEIS.

This FEIS clarifies where and how FRA, NJ TRANSIT, and/or the PANYNJ led analyses, made or concurred with impact determinations, hosted and/or participated in public and/or agency meetings, and served in any other capacity in the NEPA process. Consistent with the roles and responsibilities identified above, as the current Project Sponsor, the PANYNJ will comply with mitigation measures and commitments identified in the ROD. The lead Federal agency will be responsible for ensuring that the Project Sponsor meets the commitments identified in this FEIS and the ROD.

[1] On May 12, 2021, the Board of the GDC voted to formally recognize its commitment to take over the role of Project Sponsor of the Hudson Tunnel Project from the PANYNJ prior to the award of any Federal financial assistance for the Project.

28.2 COMMENT PERIOD

28.2.1 DEIS AVAILABILITY

FRA and NJ TRANSIT made the DEIS available to the public on July 6, 2017 and FRA coordinated with EPA to publish a Notice of Availability of the DEIS in the Federal Register on July 7, 2017, which officially opened the public comment period on the document. The comment period remained open through August 21, 2017. FRA and NJ TRANSIT also considered comments received after August 21, 2017 in preparing the FEIS.

At the start of the public comment period, FRA and NJ TRANSIT sent electronic and/or hard copy notices to elected officials, interested organizations, stakeholders, Participating and Cooperating Agencies, other regulatory agencies, and members of the public,[2] informing them that the DEIS was available for review, providing information on the comment period and how to make comments, and inviting them to public hearings at which comments could be made. In addition, FRA and NJ TRANSIT posted notices with information on the availability of and instructions for how to comment on the DEIS; these notices were posted on the Project website and in the Project DEIS viewing locations listed in **Table 28-1**.

During the public comment period on the DEIS, the DEIS was available for review on the Project's website (www.hudsontunnelproject.com) and at the local DEIS viewing locations (libraries and other publicly accessible locations) listed in **Table 28-1** (and also on the Project website) during normal business hours.

Advertisements providing information on the DEIS and the public hearings appeared in local newspapers during the public comment period both at the start of the public comment period and again in advance of the public hearings. Advertisements were run in local newspapers, including English language newspapers and Spanish language newspapers[3] (with Spanish language advertisements). **Table 28-2** lists the newspapers and publication dates of the notices.

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[2] Members of the public were identified using the following sources: individuals included on distribution lists from an earlier trans-Hudson rail project, the Access to the Region's Core Project, for areas that would also be affected by the Hudson Tunnel Project; individuals who signed up for the Project mailing list; individuals who attended and provided address information at public scoping sessions (May 2016) and public information open houses (November 2016) for the Project; and lists of property owners along the Project alignment and in neighborhoods near the alignment in Secaucus, North Bergen, Union City, Weehawken, Hoboken, and New York City.

[3] Spanish is the second most widely spoken language in the Project area, after English.

Table 28-1
DEIS Viewing Locations

Affiliation	Address	
New Jersey		
Secaucus Main Library	1379 Paterson Plank Rd.	Secaucus
Town of Secaucus Town Hall	1203 Paterson Plank Rd.	Secaucus
North Bergen Library	8411 Bergenline Ave.	North Bergen
North Bergen Town Hall	4233 Kennedy Blvd.	North Bergen
Hudson County Brennan Court House Building	583 Newark Ave.	Jersey City
Jersey City - City Hall	280 Grove St.	Jersey City
Jersey City Main Library	472 Jersey Ave.	Jersey City
Union City Library	324 43rd St.	Union City
Union City Town Hall	3715 Palisade Ave.	Union City
Weehawken Town Hall	400 Park Ave.	Weehawken
Weehawken Township Library	49 Hauxhurst Ave.	Weehawken
Hoboken City Hall	94 Washington St.	Hoboken
Hoboken Public Library	500 Park Ave.	Hoboken
New York		
New York University Jack Brause Library	11 West 42nd St., #510	New York
Manhattan Community Board 4	330 West 42nd St., 26th Floor	New York
Manhattan Community Board 5	450 Fashion Ave., #2109	New York
New York Public Library Main Branch Library	Bill Blass Public Catalog Room 315, Fifth Ave. at 42nd St.	New York
New York Public Library Columbus Branch Library	742 Tenth Ave.	New York

Table 28-2
Media Outlets for Public Hearing Notices

Publication	Description	Date
The Star Ledger (Hudson County edition)	Daily general interest newspaper	July 9, 2017 July 30, 3017
Hudson Reporter (Bayonne, Hoboken, Jersey City, North Bergen, Secaucus, Union City, Weehawken, West New York editions)	Weekly general interest newspaper serving Hudson County, NJ	July 9, 2017: Hoboken, Jersey City, North Bergen, Union City, West New York, and Weehawken editions July 12, 2017: Bayonne Community News edition July 16, 2017: Secaucus edition July 23, 2017: Weehawken, Union City, West New York editions July 26, 2017: Bayonne Community News edition July 30, 2017: Hoboken, Jersey City, North Bergen, Secaucus editions
Jersey Journal	Daily newspaper serving Hudson County, NJ	July 7, 2017 July 28, 2017
El Especialito (Hudson County and West Side of Manhattan editions)	Weekly Spanish language general interest newspaper	July 7, 2017 July 28, 2017
Metro NY	Free daily newspaper targeting urban audience	July 10, 2017 July 31, 2017
AM NY	Free daily newspaper targeting urban audience	July 10, 2017 July 31, 2017
Community News Group (*Chelsea Now*)	Free weekly community newspaper distributed in New York City's Chelsea, Hell's Kitchen, and Hudson Yards neighborhoods	July 13, 2017 July 27, 2017

28.2.2 PUBLIC HEARINGS

FRA and NJ TRANSIT held three public hearings during the public comment period: on August 1, 2017 in New York City; on August 3, 2017 in Secaucus, New Jersey; and on August 10, 2017 in Union City, New Jersey. At each of the three hearings, FRA and NJ TRANSIT accepted oral and written comments on the Hudson Tunnel Project and the DEIS. These hearings also served as joint public hearings for public review of the Project's permit application being reviewed by the USACE. At the public hearings, NJ TRANSIT provided a brief formal presentation describing the purpose and need for the Project, the Preferred Alternative, and the conclusions of the DEIS. At the final public hearing, held in Union City, New Jersey, the USACE also made a presentation related to the issuance of permits for the Project.

The format of the public hearings included the opportunity for public comments to be submitted as follows: 1) by speaking publicly at the hearing, with all comments made publicly recorded by a stenographer for the record; 2) by providing written comments/materials to be entered into the meeting record; and/or 3) by providing oral comments privately to the stenographer, who recorded the comments for the meeting record/transcript. A court reporter transcribed the proceedings. In addition, before and after the hearings, FRA and NJ TRANSIT and representatives of the Project team were available to answer questions.

The public hearings were as follows:

August 1, 2017	August 3, 2017	August 10, 2017
Hotel Pennsylvania Skytop Ballroom, 18th floor 401 Seventh Ave. at West 33rd St. New York, NY	Secaucus Junction Rail Station Upper Level Long Hallway County Rd. & County Ave. Secaucus, NJ	Union City High School 2500 Kennedy Blvd. Union City, NJ

Each hearing included an afternoon and evening session, from 3-5 PM and from 6-8 PM, with a brief presentation about the Project at 3:15 PM and again at 6:15 PM. The hearing facilities were accessible to persons with disabilities, and Spanish and American Sign Language translators were present.

28.2.3 PUBLIC COMMENTS

During the public comment period, FRA and NJ TRANSIT accepted public comments made a number of different ways:

- In person at the public hearings, including comments made orally in front of the audience and comments made privately to a stenographer
- Written comments submitted at the public hearings
- Written comments submitted via the Project website: www.hudsontunnelproject.com/contact.html
- Written comments submitted via email: comment@hudsontunnelproject.com and team@hudsontunnelproject.com.
- Written comments mailed to the Project outreach office: 11 Hanover Square, 3rd Floor, New York, NY 10005
- Written comments mailed to the Project contacts at FRA and NJ TRANSIT

FRA and NJ TRANSIT accepted written comments through the end of the comment period on August 21, 2017; they also considered written comments received after the close of the comment period. FRA and NJ TRANSIT considered all substantive comments received on the DEIS; this chapter provides summaries of and responses to those comments.

28.3 LIST OF COMMENTERS

28.3.1 ELECTED OFFICIALS OR THEIR REPRESENTATIVES

28.3.1.1 FEDERAL

1. Cory A. Booker, United States Senator from New Jersey, letter dated August 10, 2017 and read into the public hearing record by Zach McCue on the same date (*Booker-US Senator NJ*)
2. Robert Menendez, United States Senator from New Jersey, comments submitted by email dated August 10, 2017 (*Menendez-US Senator NJ*)
3. Chuck Schumer, United States Senator from New York, oral testimony at public hearing on August 1, 2017, read into public hearing record by Nick Martin on the same date (*Schumer-US Senator NY)*

4. Joshua S. Gottheimer, United States House of Representatives, New Jersey, 5th Congressional District, comment submitted by email dated August 21, 2017 (*Gottheimer-US Congress NJ*)
5. John J. Faso, United States House of Representatives, New York, 19th Congressional District, letter dated August 21, 2017 (*Faso-US Congress NY*)

28.3.1.2 STATE

6. Bob Gordon, Senator, New Jersey Senate, oral testimony at public hearing on August 10, 2017 *(Gordon-NJ Senate)*
7. Sheila Oliver, Assemblywoman, 34th District, New Jersey General Assembly, oral testimony at public hearing on August 10, 2017 *(Oliver-NJ 34th Assembly District)*
8. Gordon M. Johnson, Assemblyman, 37th District, New Jersey General Assembly, letter dated August 2, 2017 (*Johnson-NJ 37th Assembly District*)
9. Brad Hoylman, State Senator, 27th District, New York State Senate, testimony provided in writing and read on August 1, 2017 (*Hoylman-NY 27th Senate District*)
10. New York State Senator Brad Hoylman, New York State Assemblymember Richard N. Gottfried, Manhattan Borough President Gale Brewer, and New York City Council Member Corey Johnson, letter dated August 21, 2017 (*Hoylman-Gottfried-Brewer-Johnson*)

28.3.1.3 COUNTY AND LOCAL

11. James J. Tedesco III, County Executive, Bergen County, New Jersey, letter dated July 26, 2017 (*Tedesco-Bergen County*)
12. Ronald G. Rios, Freeholder Director, Board of Chosen Freeholders, Middlesex County, New Jersey, letter dated August 21, 2017 (*Rios-Middlesex County*)
13. Peter Palmer, Freeholder Director, Board of Chosen Freeholders, Somerset County, New Jersey, letter dated July 29, 2017, oral testimony at public hearing on August 3, 2017 *(Palmer-Somerset County)*
14. Edwin J. Day, County Executive, Rockland County, New York, letter dated August 21, 2017 (*Day-Rockland County*)
15. Robert Baselice, Committeeman, Township of North Bergen, New Jersey, oral testimony at public hearing on August 10, 2017 *(Baselice-North Bergen)*
16. Ravi Bhalla, City Council Member, City of Hoboken, New Jersey, oral testimony at public hearing on August 10, 2017 *(Bhalla-Hoboken)*
17. Tiffanie Fisher, City Council Member, City of Hoboken, New Jersey, comment forms submitted on July 27, 2017 and oral testimony at public hearing on August, 10, 2017 (*Fisher-Hoboken*)
18. Brian P. Stack, Mayor, City of Union City, New Jersey, letter dated August 21, 2017 (*Stack-Union City*)
19. Richard F. Turner, Mayor, Township of Weehawken, New Jersey, letter dated August 3, 2017 and oral testimony at public hearing on August 3, 2017 (*Turner-Weehawken*)
20. Township of Weehawken [New Jersey] Council, Resolution 171-2017, dated August 15, 2017, transmitted by letter from Rola Dahboul, Township Clerk, dated August 18, 2017 *(Weehawken Resolution)*
21. Carmela Silvestri Ehret, Member of Township Council, Township of Weehawken, New Jersey, oral testimony at the August 10, 2017 public hearing (*Ehret-Weehawken*)

28.3.2 AGENCIES AND GOVERNMENTAL ORGANIZATIONS

28.3.2.1 FEDERAL

1. Advisory Council on Historic Preservation (ACHP), Charlene Dwin Vaughn, AICP, Assistant Director, Office of Federal Agency Programs, Federal Permitting, Licensing and Assistance Section, letter dated September 5, 2017 *(ACHP-Dwin Vaughn)*
2. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS), Louis A. Chiarella, Assistant Regional Administrator for Habitat Conservation, letter dated August 21, 2017, transmitted to the USACE by email from Kathy Middleton dated July 21, 2017 *(NMFS-Chiarella)*
3. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, NMFS, Kimberly B. Damon-Randall, Assistant Regional Administrator for Protected Resources, letter dated June 28, 2017, transmitted to the USACE by email from Daniel Marrone dated July 7, 2017 *(NMFS-Damon-Randall)*
4. U.S. Department of Homeland Security, Office of Infrastructure Protection, Daniel Genual, Protective Security Advisor and Chief, Vulnerability Assessments Infrastructure Development and Recovery Section, Protective Security Coordination Division, letter dated August 17, 2017, transmitted via email from Cherie Peacock dated August 21, 2017 *(DHS-IP-Genual)*
5. U.S. Department of Homeland Security, United States Coast Guard (USCG), J.W. Buck, Lieutenant Commander, USCG, Chief, Waterways Management Division, letter to the USACE dated August 18, 2017 *(USCG-Buck)*
6. U.S. Department of the Interior, Office of Environmental Policy and Compliance, Andrew L. Raddant, Regional Environmental Officer, letter dated August 15, 2017, transmitted by email from Diane Lazinsky dated August 15, 2017 *(USDOI-Raddant)*
7. U.S. Environmental Protection Agency (EPA), Region 2 Office, Judy Mitchell, Chief, Sustainability and Multimedia Programs Branch, letter dated August 14, 2017, transmitted by email dated August 14, 2017 from Lingard Knudson (*USEPA-Mitchell*)

28.3.2.2 STATE: NEW JERSEY

8. New Jersey Department of Environmental Protection (NJDEP), Ruth W. Foster, Ph.D., P.G., Acting Director, letter dated August 17, 2017, transmitted by email from Jessica R. Sponaugle dated August 17, 2017 *(NJDEP-Foster)*
9. New Jersey Department of Environmental Protection, New Jersey Historic Preservation Office (NJHPO), Katherine J. Marcopul, Deputy State Historic Preservation Officer, letter dated August 14, 2017, transmitted by email from Atalaya Armstrong dated August 18, 2017; letter submitted to U.S. Army Corps of Engineers dated August 16, 2017 *(NJHPO-Marcopul)*
10. North Jersey Transportation Planning Authority, Peter S. Palmer, Chairman, letter dated August 3, 2017 *(NJTPA-Palmer)*

28.3.2.3 STATE: NEW YORK

11. Hudson River Park Trust (HRPT), Madelyn Wils, President and Chief Executive Officer, letter dated August 21, 2017, transmitted by email on August 21, 2017 (*HRPT-Wils*)
12. Hudson River Park Trust, Noreen Doyle, Executive Vice President, letter dated August 23, 2017 commenting on the Draft Programmatic Agreement, transmitted by email on August 23, 2017 *(HRPT-Doyle)*

13. Metropolitan Transportation Authority (MTA), William Wheeler, Director, Special Project Development & Planning, letter dated August 21, 2017, transmitted by email dated August 18, 2017 *(MTA-Wheeler)*
14. New York State Historic Preservation Office (NYSHPO), Olivia Brazee, Historic Site Restoration Coordinator, letter dated July 27, 2017 *(NYSHPO-Brazee)*

28.3.2.4 STATE: OTHER

15. State of Connecticut Department of Transportation, James Redeker, Commissioner, letter dated August 30, 2017 *(CDOT-Redeker)*

28.3.2.5 COUNTY AND LOCAL: NEW JERSEY

16. Somerset County, NJ, Planning Board, Bernard V. Navatto, Jr., Chairman, letter dated August 16, 2017 *(Somerset County-Navatto)*
17. Township of Weehawken, letter dated August 18, 2017 from Cindy Nan Vogelman, Chasan Lamparello Mallon & Cappuzzo, PC representing Township, transmitted by email from Michael D. Witt dated August 18, 2017 *(Weehawken-Nan Vogelman)*
18. Township of Weehawken Department of Public Safety, Jeff Welz, Director of Public Safety, letter dated August 21, 2017, transmitted via email from Giovanni Ahmad dated August 21, 2017 *(Weehawken Safety-Welz)*
19. Township of Weehawken Zoning and Planning Board, John C. Meditz, Chairman, Weehawken Planning Board and Mark Gould, Chairman, Weehawken Board of Appeals, letter dated August 21, 2017, transmitted via email from Giovanni Ahmad dated August 21, 2017 *(Weehawken Planning-Meditz-Gould)*

28.3.2.6 COUNTY AND LOCAL: NEW YORK

20. Manhattan Community Board 4 (CB4), Betty Mackintosh, oral testimony provided at public hearing August 1, 2017 and written submittal of comments made (*CB4 Manhattan-Mackintosh*)
21. Manhattan Community Board 4, letter dated August 8, 2017, signed by Delores Rubin, Chair; John Lee Compton and Betty Mackintosh, Co-Chairs Chelsea Land Use Committee; transmitted via email from Jesse Bodine, District Manager, dated August 8, 2017 (*CB4 Manhattan*)
22. Manhattan Community Board 5 (CB5), comments dated August 8, 2017, transmitted via email from Wally Rubin, District Manager, dated August 9, 2017 *(CB5 Manhattan)*
23. New York City Department of Transportation, Michael Replogle, Deputy Commissioner for Policy, Oral testimony at public hearing, August 1, 2017 *(NYCDOT-Replogle)*
24. New York City Mayor's Office of Environmental Coordination, Hilary Semel, Director, letter dated August 21, 2017, transmitted by email dated August 21, 2017 from Timothy Gallagher, Mayor's Office of Environmental Coordination *(NYCMOEC-Semel)*

28.3.3 ORGANIZATIONS AND BUSINESSES

1. Akerman LLP, representing 260 Twelfth Avenue Holdings LLC, Richard Leland, letter dated August 18, 2017 *(Akerman-260 Twelfth Avenue)*
2. Arora Engineers, Frank Barber, Senior Special Systems Designer, comment via Project website, July 18, 2017 *(Arora-Barber)*
3. Beattie Padovano for 1715 Grand St, letter from Ira E. Weiner dated August 18, 2017 *(Beattie Padovano-1715 Grand)*

4. Beattie Padovano for Eagle Rock Properties, letter from Ira E. Weiner dated August 18, 2017 *(Beattie Padovano-Eagle Rock)*
5. Building and Construction Trades Council of Greater New York, Santos Rodriguez, oral testimony at public hearing on August 1, 2017 and written submission, August 1, 2017 *(BCTC-Rodriguez)*
6. Coalition for the Northeast Corridor, Mike Friedberg, Executive Director, comments dated August 18, 2017, submitted via email from Michael Friedberg, Holland & Knight, August 20, 2017 *(CNEC-Friedberg)*
7. Coalition for the Northeast Corridor, Steven Morrison, President, oral testimony at public hearing on August 1, 2017 *(CNEC-Morrison)*
8. Con Edison, David Gmach, Director New York City Public Affairs, letter dated August 21, 2017, transmitted by email from Caroline R. Kretz on August 21, 2017 *(Con Edison-Gmach)*
9. Consolidated Rail Corporation (Conrail), Ryan M. Hill, Director-Design & Construction, email dated July 13, 2017 (*Conrail-Hill*)
10. East of Hudson Rail Freight Task Force, Inc., William B. Galligan, Executive Director, written comments provided via Project website, August 21, 2017 and email dated August 22, 2017 *(East of Hudson-Galligan)*
11. Edison Properties, Anthony Borelli, Vice President, Planning and Development, email dated August 21, 2017 *(Edison-Borelli)*
12. Ehrlich Pest Control/Rentokil Steitech North America, Richard Jones, comments provided via Project website, July 12, 2017 *(Ehrlich-Jones)*
13. Elysian Charter School, Harry Laub, Ph.D., Director, via email dated August 19, 2017 (*Elysian-Laub*)
14. Empire State Gateway, Scott Spencer, oral testimony at public hearing on August 1, 2017, and letter dated August 1, 2017 *(ESG-Spencer)*
15. Environmental Defense Fund (EDF), Jim Tripp, oral testimony by Jim Tripp at public hearing on August 1, 2017, written statement signed by Jim Tripp, Senior Counsel, Ankit Jain, Summer Legal Intern and Ryan Rossner, Summer Legal Intern, dated August 1, 2017 (*EDF-Tripp*)
16. Friends of Hudson River Park, Connie Fishman, letter dated July 28, 2017 *(Friends of HRP-Fishman)*
17. Friends of Hudson River Park, Tony Simone, Director of External Affairs, oral testimony at public hearing on August 1, 2017 *(Friends of HRP-Simone)*
18. Gateway Program Development Corporation, Interim Executive Director, John Porcari, oral testimony at public hearing on August 10, 2017 *(GPDC-Porcari)*
19. General Contractors Association of New York, Felice Farber, Senior Director of Policy and External Affairs, oral testimony at public hearing on August 1, 2017 and written submission on August 1, 2017 *(GCA-Farber)*
20. Institute for Rational Urban Mobility (IRUM),George Haikalis, oral testimony at public hearing on August 1, 2017 and comments dated August 15, 2017, submitted via email dated August 15, 2017 *(IRUM-Haikalis)*
21. LaRouche Political Action Committee, John Scialdone, comments at public hearing on August 1, 2017 *(LPAC-Scialdone)*
22. Little Colombia Restaurant, Angela Hill-Quinonez, written comments provided at public hearing, August 10, 2017 *(Little Colombia Rest.-Hill-Quinonez)*
23. Laborers' International Union of America (LIUNA), Ciro Scalera, oral testimony at public hearing on August 10, 2017 and written comments, August 10, 2017 *(LIUNA-Scalera)*

24. Meadowlands Regional Chamber, Diana Fainberg, oral testimony at public hearing on August 3, 2017 *(MRC-Fainberg)*
25. Metallic Lathers and Reinforcing Ironworkers Local 46, Kevin Kelly, oral testimony at public hearing on August 1, 2017 *(ML46-Kelly)*
26. Municipal Art Society (MAS), written comments dated August 21, 2017, submitted by email from Thomas Devaney dated August 21, 2017 *(MAS-Devaney)*
27. Newark Regional Business Partnership, Chip Hallock, comments submitted via Project website, August 13, 2017 *(NRBP-Hallock)*
28. New Jersey Alliance for Action, Chris Hartman, Vice President, oral testimony at public hearing on August 3, 2017 *(NJAA-Hartman)*
29. New Jersey Association of Railroad Passengers and National Association of Railroad Passengers, Albert Papp, Jr., Director, oral testimony at public hearing on August 1, 2017 *(NJARP-Papp)*
30. New Jersey Business & Industry Association, Michele N. Siekerka, Esq., President & CEO, letter dated August 11, 2017 (*NJBIA-Siekerka*)
31. New Jersey Chamber of Commerce, Thomas Bracken, President and Chief Executive Officer, written comments dated July 31, 2017, submitted via email from Michael Egenton dated July 31, 2017 *(NJCC-Bracken)*
32. New Jersey Sierra Club, Toni Granato, oral testimony at public hearing on August 3, 2017 *(Sierra-Granato)*
33. NYC & Company, Fred Dixon, President and CEO, written statement dated August 1, 2017 *(NYC&Co-Dixon)*
34. New York/New Jersey Baykeeper, Debbie Mans, oral testimony at public hearing on August 3, 2017 *(NY/NJ Baykeeper-Mans)*
35. New York City Sandhogs Local 147 of Laborers International Union of North America (LIUNA), Christopher Fitzsimmons, Secretary Treasurer, oral testimony at public hearing on August 1, 2017 *(NYC Sandhogs-Fitzsimmons)*
36. New York, Susquehanna and Western Railway Corporation (NYSW), Nathan Fenno, President, letter dated August 18, 2017 *(NYSW-Fenno)*
37. Pantheon Properties, Mark J. Sheeran, written comments submitted via email from Mica Hernandez dated August 16, 2017; written comments submitted via email from Mica Hernandez dated August 18, 2017 *(Pantheon-Sheeran)*
38. Partnership for New York City, Michael Blaustein, oral testimony at public hearing on August 1, 2017 and written submission, August 1, 2017 *(Partnership for NYC-Blaustein)*
39. Raritan Valley Rail Coalition, Martin Robins, oral testimony at public hearing on August 3, 2017 *(RVRC-Robins)*
40. Real Transit, Matthew Handler, email dated July 29, 2017 *(Real Transit-Handler)*
41. ReThinkNYC, Barry Caro, oral testimony at the public hearing on August 1, 2017 and written comments dated August 1, 2017 (*ReThink-Caro*)
42. Real Estate Board of New York, Emily Minougou, oral testimony at public hearing on August 10, 2017 *(REBNY-Minougou)*
43. Regional Plan Association, Thomas Wright, President, letter dated August 21, 2017, submitted via email from Kate Slevin dated August 21, 2017 *(RPA-Wright)*
44. Sierra Club Hudson Chapter and New Jersey Chapter, Dave “Ace” Case, oral testimony at public hearing on August 10, 2017 and comment sheet submitted at hearing, August 10, 2017 *(Sierra-Case)*

45. Sierra Club Hudson County Group, Hugh Evans, comment submitted via email dated August 11, 2017 *(Sierra-Evans)*
46. SST Inc., John Hanti, comment submitted via Project website, August 15, 2017 *(SST-Hanti)*
47. TBM Supply, Tony Vengarick, via Project website, July 10, 2017 *(TBM-Vengarick)*
48. Tri-State Transportation Campaign, Director of New Jersey Policy, Janna Chernetz, oral testimony at public hearing on August 10, 2017 *(TSTC-Chernetz)*
49. Utility and Transportation Contractors Association of New Jersey, Robert A. Briant, Jr., Chief Executive Officer, letter dated August 21, 2017 *(UTCANJ-Briant)*

28.3.4 INDIVIDUALS

1. Petition signed by 339 individuals submitted via email on August 21, 2017 *(Petition)*
2. Acevedo, Oscar Jr., comment form submitted on August 21, 2017 (*Acevedo*)
3. Adamczyk, Chris, emails dated August 15, 2017; August 16, 2017; and August 17, 2017 (*Adamczyk*)
4. Andre, Richard, comment via Project website dated December 21, 2017 *(Andre)*
5. Andrew, email dated August 22, 2017 (*Andrew*)
6. Argueta, Luis, email dated August 18, 2017 (*Argueta*)
7. Babcock, Erin, email dated August 21, 2017 (*Babcock*)
8. Babic, Amy, email dated August 20, 2017 (*Babic*)
9. Beattie Padovano for von der Lieth, Chris, Weehawken resident, letter dated August 21, 2017, transmitted via email dated August 21, 2017 (*Beattie Padovano-von der Lieth*)
10. Benedetto, Rebecca, comment via Project website dated August 2, 2017 *(Benedetto)*
11. Bolcar, Anna, oral comments provided at August 10, 2017 public hearing (*A. Bolcar*)
12. Bolcar, Jennifer, oral comments provided at August 10, 2017 public hearing and email dated August 21, 2017 *(J. Bolcar)*
13. Bolcar, Stephen, oral comments provided at August 10, 2017 public hearing and email dated August 20, 2017 *(S. Bolcar)*
14. Boll, Joyce, comment via Project website dated August 19, 2017 *(Boll)*
15. Brusgard, Andrew, comment via Project website dated July 31, 2017 *(Brusgard)*
16. Bulow, George, oral testimony at public hearing on August 1, 2017 *(Bulow)*
17. Cahn, Denise, comment via Project website date August 8, 2017 *(Cahn)*
18. Calligy, Pat, email dated August 18, 2017 *(Calligy)*
19. Carey, John, oral testimony at public hearing on August 10, 2017 *(Carey)*
20. Carson, Meg, email dated August 20, 2017 *(M. Carson)*
21. Carson, Rob, email dated August 20, 2017 *(R. Carson)*
22. Caruso, Steve, comment via Project website dated August 14, 2017 *(Caruso)*
23. Cheng, Justin, email dated August 15, 2017 *(Cheng)*
24. Clift, Joseph, oral testimony at public hearing on August 10, 2017 and letter dated August 21, 2017 *(Clift)*
25. Coblentz, Sera, email dated August 16, 2017 *(Coblentz)*
26. Cooney, Ana Laura, email dated August 11, 2017 *(Cooney)*
27. Correia, Madeline, oral testimony at public hearing on August 10, 2017 *(Correia)*
28. Cromer, Daniel, email dated August 20, 2017 *(Cromer)*

29. Curry, Michael, email dated August 20, 2017 (*Curry*)
30. Czornomor, Jerry and Sharon, comment form submitted on August 2, 2017 *(Czornomor)*
31. Daniel, Robert, comment via Project website dated July 29, 2017 *(Daniel)*
32. Davidson, Brandon, comment via Project website dated August 17, 2017 *(Davidson)*
33. Davis, Blake, comment via Project website dated August 29, 2017 (*Davis*)
34. Debreczeni, Gabor, comment via Project website dated August 21, 2017 *(Debreczeni)*
35. Dembroe, Karen, comment via Project website dated August 16, 2017 *(Dembroe)*
36. Devaney, Chris, email dated August 8, 2017 *(C. Devaney)*
37. Dexter, Shelley, email dated August 21, 2017 *(Dexter)*
38. Digan, Kevin, email dated August 19, 2017 *(Digan)*
39. Doktor, Zita, email dated August 21, 2017 *(Doktor)*
40. Domingo, Dan and Mary Anne comment via Project website dated August 21, 2017 *(Domingo)*
41. Douglas, Jennifer, email dated September 8, 2017 *(Douglas)*
42. Duffy, John, comments via Project website dated July 7, 2017 *(Duffy)*
43. Dykhouse, Lourdes, oral testimony at public hearing on August 10, 2017 *(Dykhouse)*
44. Eberhard, Andrea, oral testimony at public hearing on August 3, 2017 *(Eberhard)*
45. Edelman, Laura, comments via Project website dated August 8, 2017 *(Edelman)*
46. Eggenberger, Michael, email dated August 10, 2017 and letter dated August 21, 2017 *(Eggenberger)*
47. Elliott, Meryl, email dated August 21, 2017 *(Elliott)*
48. Fairclough, Anna, email dated August 15, 2017 *(Fairclough)*
49. Farrell, Lindsay, email dated August 21, 2017 *(Farrell)*
50. Fox, Diane, oral testimony at public hearing on August 3, 2017 *(Fox)*
51. Fredericks, Janice, letter dated August 21, 2016 *(Fredericks)*
52. Gallagher, Sarah, comment via Project website dated July 7, 2017 *(Gallagher)*
53. Gilson, Steve email, dated August 10, 2017 *(Gilson)*
54. Glackin, Christina, email dated August 17, 2017 *(C. Glackin)*
55. Glackin, Destiny, email dated August 8, 2017 *(D. Glackin)*
56. Gordon, Ayana, email dated August 21, 2017 *(A. Gordon)*
57. Greenstrom, Carolyn, comment via Project website dated August 20, 2017 *(C. Greenstrom)*
58. Greenstrom, Rebecca, comment via Project website dated August 20, 2017 *(R. Greenstrom)*
59. Griffin, Avery, email dated August 21, 2017 *(Griffin)*
60. Griggs, Benjamin, oral testimony at public hearing on August 10, 2017 *(Griggs)*
61. Haan, Jackie, email dated August 18, 2017 and comment via Project website dated August 19, 2017 *(Haan)*
62. Hale, Robert, oral comments at public hearing, August 1, 2017 *(Hale)*
63. Hart, Allen, comment via Project website dated July 7, 2017 *(Hart)*
64. Heagney, Scott, oral testimony at public hearing on August 3, 2017 (*Heagney*)
65. Heitmann, Roger, email dated August 7, 2017 (*Heitmann*)
66. Herman, Joe, email dated August 18, 2017 (*Herman*)

67. Hite, John, email dated August 20, 2017 (*Hite*)
68. Hodgson, Jon, comment via Project website dated August 21, 2017 *(Hodgson)*
69. Hom, Melissa, email dated August 19, 2017 *(Hom)*
70. Howitt, Francis, email dated August 18, 2017 *(Howitt)*
71. Igwebuike, Benjamin Nna, oral testimony at public hearing on August 1, 2017 and written comment submitted at public hearing on August 1, 2017 *(Igwebuike)*
72. Jain, Ankit, oral testimony at public hearing on August 1, 2017 *(Jain)*
73. Janowitz, Sarah, email dated August 14, 2017 *(Janowitz)*
74. Jarosky, Tom, oral testimony at public hearing on August 10, 2017 *(Jarosky)*
75. Kambouchev, Nayden, emails dated August 18, 2017 *(Kambouchev)*
76. Kemper, Kevin and Jocelyn, emails dated August 18, 2017 and August 21, 2017 *(Kemper)*
77. Kim, Peter, comment via Project website dated August 9, 2017 *(Kim)*
78. La Brie, Alice, oral testimony at public hearing on August 1, 2017 *(La Brie)*
79. Lamb, Trevor, comment via Project website dated July 29, 2017 *(Lamb)*
80. Larkin, Alexis, comment via Project website dated August 7, 2017 *(Larkin)*
81. Laufer, Kristopher, email dated August 15, 2017 *(K. Laufer)*
82. Laufer, Sara, email dated August 20, 2017 *(S. Laufer)*
83. Leavy, Hannelore, oral testimony at public hearing on August 10, 2017 *(H. Leavy)*
84. Leavy, Kristian, oral testimony at public hearing on August 10, 2017 *(K. Leavy)*
85. Leong, Edward, email dated August 21, 2017 *(Leong)*
86. Lester, Hugh, email dated August 20, 2017 *(Lester)*
87. Li, James, oral testimony at public hearing on August 1, 2017 and written submission dated August 1, 2017 *(J. Li)*
88. Li, Xiaohe, emails dated August 17, 2017 and August 20, 2017 *(X. Li)*
89. London, Zev, comment form submitted on August 21, 2017 *(London)*
90. Lopez, Bryce email dated August 8, 2017 *(Lopez)*
91. Lui, Sabrina, emails dated August 8, 2017 and August 21, 2017 *(Lui)*
92. Lyons, David, email dated August 21, 2017 *(Lyons)*
93. Marchetti, Jr., James, letter dated August 18, 2017 *(Marchetti)*
94. Marcos, Laura, testimony submitted to stenographer at public hearing on August 10, 2017 *(Marcos)*
95. Mason, Monica, email dated August 18, 2017 *(Mason)*
96. McLaughlin, Jeanne, comment form submitted on August 21, 2017 *(J. McLaughlin)*
97. McLaughlin, Steve, comment form submitted on August 21, 2017 *(S. McLaughlin)*
98. Melnik, Ofer, email dated August 19, 2017 *(Melnik)*
99. Miller, Jennifer, email dated August 8, 2017 and comment form submitted on August 21, 2017 *(Miller)*
100. Murphy, Robin, email dated August 18, 2017 *(Murphy)*
101. Mylan, John, email dated August 18, 2017 *(Mylan)*
102. Navarra, Angela, email dated August 21, 2017 *(Navarra)*
103. Nephew, Richard, email dated August 21, 2017 *(Nephew)*
104. Nerich, Trista, oral testimony at public hearing on August 10, 2017 (*Nerich*)

105. Newman, John, email dated August 20, 2017 *(J. Newman)*
106. Newman, Kevie, email dated August 20, 2017 *(K. Newman)*
107. O'Brien, Margaret, email dated August 9, 2017 *(O'Brien)*
108. O'Kane, Susan, comment form submitted on August 18, 2017 *(O'Kane)*
109. Okubo, Hidemi, oral testimony at public hearing on August 10, 2017 *(Okubo)*
110. Olivieri, Peter, letter dated July 30, 2017 *(Olivieri)*
111. Patel, Anup, email dated August 18, 2017 *(Patel)*
112. Payton, Paul, email dated July 7, 2017 *(Payton)*
113. Penna, Mina, comment via Project website dated August 21, 2017 *(Penna)*
114. Public, Jean, email dated July 25, 2017 *(Public)*
115. Rausch, Jessi, email dated August 17, 2017 *(J. Rausch)*
116. Rausch, Michael, comment via Project website dated September 26, 2017 *(M. Rausch)*
117. Reeves, David, email dated August 9, 2017 *(D. Reeves)*
118. Reeves, Lori, emails dated August 8, 2017 and August 9, 2017 *(L. Reeves)*
119. Rodriguez, Tami, comment form submitted August 21, 2017 *(T. Rodriguez)*
120. Rolle, Joyce, letter received August 7, 2017 *(Rolle)*
121. Romero, Jacqueline, oral testimony at public hearing on August 10, 2017 *(Romero)*
122. Ronchi, Darcy, email dated August 5, 2017 *(Ronchi)*
123. Rossner, Ryan oral testimony provided to stenographer at public hearing on August 1, 2017 *(Rossner)*
124. Rovito, Joseph, oral testimony at public hearing on August 10, 2017; email dated August 7, 2017; three emails dated August 21, 2017; two comment forms submitted on August 21, 2017 *(J. Rovito)*
125. Rovito, Robert, comment form at public hearing on August 10, 2017 *(R. Rovito)*
126. Ryan, William, letter dated October 26, 2017 *(Ryan)*
127. Satten, Isaac, email dated August 18, 2017 *(Satten)*
128. Schellinck, Aaron, email dated August 21, 2017 *(Schellinck)*
129. Schlachter, Ivan, Lara, Addison, and Weston, oral testimony at public hearing on August 3, 21017, email dated August 20, 2017, and two emails dated August 21, 2017 *(Schlachter)*
130. Schwartz, Justin, email dated August 21, 2017 *(Schwartz)*
131. Sherman, Caitlin, comments via Project website dated August 12, 2017 *(Sherman)*
132. Silva, Victoria, email dated August 19, 2017 *(Silva)*
133. Sivo, Joseph, testimony made to stenographer at public hearing on August 10, 2017 *(Sivo)*
134. Sternlieb, Robert, oral testimony at public hearing on August 10, 2017, letter dated August 10, 2017 *(Sternlieb)*
135. Sullivan, Tom, oral testimony at public hearing on August 10, 2017 *(Sullivan)*
136. Taylor, Keith, comments via Project website dated August 30, 2017 (*K. Taylor*)
137. Taylor, Nick, comments via Project website dated September 1, 2017 (*N. Taylor*)
138. Telker, Kimberley, email dated August 21, 2017 (*Telker*)
139. Tom, Linda, email and comments via Project website dated August 14, 2017 (*Tom*)
140. Torun, Aydin, email dated July 10, 2017 (*Torun*)
141. Vaskis, John, email dated August 20, 2017 (*J. Vaskis*)

142. Vaskis, Nicole, email dated August 20, 2017 (*N. Vaskis*)
143. Vaughan, Trevor, oral testimony at August 3, 2017 public hearing *(Vaughan)*
144. Vavrecan, Tracey, email dated August 18, 2017 (*Vavrecan*)
145. Vetter, Darlene, comment via Project website dated August 14, 2017 (*Vetter*)
146. von Bergen, Edward, letter dated November 13, 2017 (*von Bergen*)
147. von der Lieth, Chris, oral comments provided at August 10, 2017 public hearing and letter dated August 10, 2017 (*von der Lieth*)
148. Wagh, Vinita, comment via Project website dated August 20, 2017 (*Wagh*)
149. Wells, Maurice, written comment at public hearing on August 10, 2017 (*Wells*)
150. Whitney, Craig, email dated August 21, 2017 (*C. Whitney*)
151. Whitney, Jennifer, email dated August 8, 2017 (*J. Whitney*)
152. Wise, Erika, email dated August 21, 2017 (*Wise*)
153. Woolley, Jonathan, oral comments at public hearing on August 1, 2017 and comment form submitted at August 1, 2017 public hearing (*Woolley*)

28.4 RESPONSE TO COMMENTS

This section presents a summary of the comments made on the Hudson Tunnel Project and the DEIS, with the abbreviated name of the commenter(s) who made the comment provided in parentheses after each comment. These summaries convey the substance of the comments made and generally do not quote the comments verbatim. Comments are organized by subject matter and generally parallel the chapter structure of the DEIS. Where more than one commenter expressed similar views, those comments are grouped and addressed together. FRA, NJ TRANSIT, and the PANYNJ have prepared responses to each comment and incorporated changes into the FEIS as appropriate.

28.4.1 GENERAL (COMMENTS 1-11)

Comment 1: Commenters expressed interest in working in support of future phases of the Project. Commenters also recommended specific supply companies and vendors to be used in the construction. (*Arora-Barber, Benedetto, Ehrlich-Jones, Little Colombia Rest.-Hill-Quinonez, N. Taylor, TBM-Vengarick*)

Response: The Hudson Tunnel Project is currently in the early phase of engineering and planning. Following completion of environmental review, final design will begin, followed by construction of the new tunnel and then rehabilitation of the existing tunnel. Specific details on the timing for the construction and the procurement, and evaluation process to be used for the procurement, are not yet available. Federal procurement regulations normally require competitive bidding. Therefore, proprietary products cannot be included in the specifications and specific manufacturers cannot be required to the exclusion of all other suppliers. Contract documents prepared for the Project will be based on industry standards, performance characteristics of the products, and materials.

Comment 2: A commenter noted that since the Hudson tubes were built 100 years ago, this tunnel can be built today. The boring equipment exists and is being used in other countries, and some of the equipment those countries are using would get the job done much quicker than the time that is being spent now discussing it. (*N. Taylor*)

Response: The preliminary design for the Hudson Tunnel Project is based on modern tunneling standards, including experience both in and outside the U.S., and is intended to address the urgent need for the Project. FRA and NJ TRANSIT have committed to completing a thorough environmental review process in as expeditious a manner as possible, while providing a reasonable period of time for public outreach and comment.

Comment 3: Interim measures should be undertaken to accommodate the existing and growing needs for alternative access between New Jersey and Midtown Manhattan until the expanded tunnel capacity is completed and operational. (*Rios-Middlesex County*)

Response: As described in Chapter 1, "Purpose and Need," Section 1.3, of the EIS, the purpose of the Hudson Tunnel Project is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel and to strengthen the resiliency of the NEC to support reliable service by providing redundant capability. These improvements must be achieved while maintaining uninterrupted commuter and intercity rail service. Thus, the Hudson Tunnel Project would create alternative access between New Jersey and Midtown Manhattan for use while the North River Tunnel is being rehabilitated. However, as expanding rail capacity between New Jersey and PSNY is not part of the purpose of the Hudson Tunnel Project, FRA and NJ TRANSIT did not evaluate alternatives to address rail capacity needs, and implementation of the Project would not expand rail capacity.

Comment 4: EPA has reviewed the DEIS in accordance with Section 309 of the Clean Air Act and NEPA. Based on the review of the DEIS, the EPA has rated the Project and document "Lack of Objections" (LO). (*USEPA-Mitchell*)

Response: Comment noted.

28.4.1.1 GENERAL SUPPORT FOR THE HUDSON TUNNEL PROJECT AND/OR THE GATEWAY PROGRAM

Comment 5: Numerous elected officials, representatives of governmental agencies and public interest groups, and members of the public expressed support for the Hudson Tunnel Project:

The North River Tunnel must be revitalized in order to preserve the competence of the busiest rail corridor in the nation. The proposed new tunnel would allow for repair of the existing tunnel, which sustained damage during Hurricane Sandy and already operates at peak capacity. Construction of a new rail tunnel under the Hudson River will increase the reliability of passenger rail service in the region, strengthen the resiliency of the NEC, and provide much-needed relief to an overburdened transportation network. Maintaining the existing tunnel's integrity and functionality and developing additional rail tunnels for capacity and resiliency are paramount to the integrity of the NEC, which is important to our regional and national economies. (*J. Bolcar, S. Bolcar, Booker-US Senator NJ, Carey, CB4*

Manhattan, CB5 Manhattan, CDOT-Redeker, Con Edison-Gmach, Curry, Day-Rockland County, Debreczeni, Duffy, EDF-Tripp, Gallagher, GCA-Farber, GPDC-Porcari, Gottheimer-US Congress NJ, Hart, Hoylman-NY 27th Senate District, Hoylman-Gottfried-Brewer-Johnson, Igwebuike, Jain, Johnson-NJ 37th Assembly District, Lamb, Larkin, J. Li, LIUNA-Scalera, MAS-Devaney, Menendez-US Senator NJ, MTA-Wheeler, Nephew, NJBIA-Siekerka, NJTPA-Palmer, NYCDOT-Replogle, NYC Sandhogs-Fitzsimmons, O'Kane, ReThink-Caro, Rios-Middlesex County, Rolle, Rossner, RPA-Wright, RVRC-Robins, Sierra-Case, Sierra-Evans, Somerset County-Navatto, N. Taylor, Tedesco-Bergen County, UTCANJ-Briant, Wells)

In 2014, Amtrak CEO Joseph Boardman posited that the tunnels had less than 20 years of useful life left before one or both tunnels would have to be shut down and repaired, and in 2015 U.S. Transportation Secretary Anthony Foxx called the lack of action to repair the tunnels "almost criminal." (*Hoylman-NY 27th Senate District*)

If this tunnel fails, tens of thousands of daily commuters would be diverted, creating an economic and environmental nightmare. Taking even one tube out of service would greatly reduce rail capacity, impacting hundreds of thousands of daily riders and overburdening other transportation infrastructure. This would result in even more congestion on our roadways, increased air pollution, and longer commutes, which would cost our residents, businesses, and economy. *(CNEC-Friedberg, EDF-Tripp, GCA-Farber, Gottheimer-US Congress NJ, Jain, Johnson-NJ 37th Assembly District, MRC-Fainberg, Rossner, Schumer-US Senator NY, Sierra-Case, Sierra-Evans, Wells)*

Our economy and the future growth of the economy in New Jersey are dependent on easy egress and transportation to the City of New York. This project is of critical importance to the region and is also a project of national significance. The NEC moves a workforce that contributes $50 billion annually to our nation's Gross Domestic Product (GDP). This segment of the railway network carries 200,000 passengers per day, and supports the travel of countless drivers who benefit from reduced traffic congestion. Loss of service on the NEC would result in a loss of $100 million a day in economic productivity. (*BCTC-Rodriguez, Booker-US Senator NJ, CDOT-Redeker, CNEC-Friedberg, CNEC-Morrison, GPDC-Porcari, Edison-Borelli, Gottheimer-US Congress NJ, Menendez-US Senator NJ, MTA-Wheeler, NJAA-Hartman, NJBIA-Siekerka, NJCC-Bracken, NRBP-Hallock, Partnership for NYC-Blaustein, NYC&Co-Dixon, Oliver-NJ 34th Assembly District, REBNY-Minougou, Schumer-US Senator NY, TSTC-Chernetz, UTCANJ-Briant*)

The Project is essential to provide well-paying jobs for thousands of local construction workers. *(ML46-Kelly, NYC Sandhogs-Fitzsimmons)*

The Hudson Tunnel Project is a critical solution to deteriorating rail infrastructure that will protect commuters from the impacts of future major storms and climate change. (*CNEC-Friedberg, EDF-Tripp, Hoylman-NY 27th Senate District, Jain*)

This Project would result in reductions in greenhouse gases that cause climate change. *(NYC Sandhogs-Fitzsimmons, Sierra-Granato)*

New York City and NYCDOT will work closely with the Project team to minimize impacts on local communities, city infrastructure and facilities, and construction-related impacts, such as traffic and noise. *(NYCDOT-Replogle)*

Response: Comments noted.

Comment 6: Numerous elected officials, representatives of governmental agencies and public interest groups, and members of the public expressed support for the overall Gateway Program:

The Gateway Program, which includes the Hudson Tunnel Project and the replacement of the Portal Bridge in New Jersey, is one of the most urgently needed infrastructure projects in the nation. (*Booker-US Senator NJ, Day-Rockland County, Edison-Borelli, GPDC-Porcari, Gordon-NJ Senate, Gottheimer-US Congress NJ, Kim, Menendez-US Senator NJ, MRC-Fainberg, NJARP-Papp, NJBIA-Siekerka, NJTPA-Palmer, Oliver-NJ 34th Assembly District, Palmer-Somerset County, Payton, REBNY-Minougou, ReThink-Caro, RPA-Wright, Schumer-US Senator NY, Somerset County-Navatto, Tedesco-Bergen County, TSTC-Chernetz*)

Bergen County (NJ), Middlesex County (NJ), Somerset County (NJ), and Rockland County (NY), and rail and business advocacy groups strongly support the Bergen Loop component of the Gateway Program and expansion of rail capacity for west-of-Hudson commuters. (*Day-Rockland County, Rios-Middlesex County, MRC-Fainberg, NJBIA-Siekerka, RVRC-Robins, Somerset County-Navatto, Tedesco-Bergen County*)

Response: Comments noted.

Comment 7: Commenters stated that the Project should move forward as quickly as possible. *(Daniel, GPDC-Porcari, Hale, Hart, Hoylman-NY 27th Senate District, Johnson-NJ 37th Assembly District, NJBIA-Siekerka, Payton, Woolley)*

Response: Comment noted. The urgent need to repair the North River Tunnel is reflected in the Project purpose (see Chapter 1, “Purpose and Need,” Section 1.3), which includes preserving the current functionality of existing passenger rail service between New Jersey and PSNY; in order to maintain such service without interruption, a goal of the Project (see Chapter 1, Section 1.5) is to ensure rehabilitation of the existing North River Tunnel occurs as soon as possible. In developing and evaluating alternatives to achieve the Project purpose, a key evaluation factor was the degree to which Project alternatives were responsive to this urgent need. More information regarding Project alternatives is provided in Chapter 2, “Project Alternatives and Description of the Preferred Alternative,” and Appendix 2-1, “Alternatives Development Report.”

28.4.1.2 GENERAL OPPOSITION

For comments made in opposition to specific construction methods proposed in the DEIS by elected officials, business representatives, and residents of Weehawken, see Section 28.4.7.

Comment 8: When the other project started, people were happy about it, but now we're more ambivalent. *(Correia)*

Response: Comment noted.

Comment 9: A commenter expressed opposition to the Project because she believes it would result in localized adverse impacts without providing a local benefit for residents of Hudson County. *(Okubo)*

Response: The purpose of the Project includes preserving the current functionality of passenger rail service between New Jersey and New York. As described in Chapter 1, "Purpose and Need," Section 1.2, the economy of the New York metropolitan region depends on a strong transportation network, and if the North River Tunnel is not repaired, severe adverse consequences to the regional economy are likely as rail service between New Jersey and New York becomes more unreliable and eventually may become impossible, as described in EIS Chapter 7, "Socioeconomic Conditions," Section 7.5. The economic benefits of the Project are described in Section 7.6.2 of the same chapter.

Furthermore, as described in the EIS in Section 5B.5.1 of Chapter 5B, "Transportation Services," if service disruptions increase or the North River Tunnel fails entirely, passengers would divert to trans-Hudson bus services, as well as to ferries, automobiles, and Port Authority Trans-Hudson (PATH) rail service, as occurs today when there is a disruption to NJ TRANSIT service between New Jersey and New York. Based on ridership prior to the COVID-19 global pandemic, these disruptions would affect up to 20,900 daily weekday Amtrak passenger trips and up to 189,000 daily weekday NJ TRANSIT passenger trips (one-way rides), on up to approximately 500 trains per day, as a worst-case scenario. Even if only one tube of the North River Tunnel closes, this would disrupt up to 75 percent of the train service through the tunnel. Because all trans-Hudson transportation routes and services were operating at or near capacity during peak travel hours prior to the COVID-19 pandemic, public transportation services paralleling the North River Tunnel (PATH trains, commuter buses, and ferries) would experience extreme overcrowding and delays and many passengers might elect not to make the trip or to make the trip via automobile on the region's congested roadway system.[4]

[4] Since completion of the DEIS, the COVID-19 global health crisis has resulted in substantial decreases in the number of people traveling by rail. Any evaluation of the long-term implications of the COVID-19 global health crisis at this time would be speculative; therefore, this EIS assumes that in the long-term, rail ridership will recover and return to previous levels. While Amtrak has reduced some service during the COVID-19 global pandemic, NJ TRANSIT continues to operate at its normal service volumes.

Comment 10: A commenter stated opposition to building a new project instead of maintaining and repairing existing infrastructure. *(Eberhard)*

Response: As described in Chapter 1, "Purpose and Need," the purpose of the Hudson Tunnel Project is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating existing North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. The existing tunnel must be repaired, and this must be achieved while maintaining uninterrupted commuter and intercity rail service. Construction of a new, second tunnel is required to preserve passenger rail service while the existing tunnel is repaired.

Comment 11: One commenter opposed building a new tunnel when the volume of commuters could change as companies move out of the region, and because of the vulnerability of a tunnel crossing. The commenter suggested that other modes could be used to transport additional commuters instead, such as buses, trains, planes, or ferries. *(Public)*

Response: The purpose and need for the Project are detailed in the EIS in Chapter 1, "Purpose and Need." As noted in Section 1.2 of Chapter 1, the economy of the New York metropolitan region depends on a strong transportation network, and if the North River Tunnel is not fully rehabilitated, severe adverse consequences to the regional economy are likely as rail service between New Jersey and New York becomes more unreliable and eventually may become impossible. One of the purposes of the Project is to address the vulnerability cited in the comment, by providing redundant capability under the Hudson River for passenger rail service. Prior to the COVID-19 pandemic, all trans-Hudson transportation routes and services, including those cited in the comment, were currently operating at or near capacity during peak travel hours. If rail service disruptions increase or the existing rail tunnel (the North River Tunnel) fails entirely, passengers would divert to trans-Hudson bus services, as well as to ferries, automobiles, and PATH rail service, as occurs today when there is a disruption to NJ TRANSIT service between New Jersey and New York. If this occurs, public transportation services paralleling the North River Tunnel (PATH trains, commuter buses, and ferries) would experience extreme overcrowding and delays and many passengers might elect not to make the trip or to make the trip via automobile on the region's congested roadway system.

FRA examined the current and future role of passenger rail along the NEC generally as part of its NEC FUTURE Program[5], and found through a Tier 1 programmatic NEPA analysis as well as robust coordination with NEC stakeholders and the public that an investment program to grow the role of rail best met national and regional goals for passenger rail transportation in the

[5] https://www.fra.dot.gov/necfuture/.

Northeast. A functioning and redundant trans-Hudson passenger rail crossing is a critical part of that investment program.

28.4.2 PROCESS AND PUBLIC OUTREACH (COMMENTS 12-22)

Comment 12: Given the complexity, regional significance, and cost of the Project, why wasn't a Project Sponsor selected prior to initiating the environmental review process? The selection of a Project Sponsor is critical to a project of this magnitude and should be done as quickly as possible. *(MAS-Devaney)*

Response: Ongoing discussions are taking place among the Federal government and the States of New York and New Jersey to determine the mechanisms by which this Project will be funded and implemented. In June 2018, the PANYNJ became the Project Sponsor for the Hudson Tunnel Project. See Section 28.1.2 for more information.

Comment 13: Related to HRPT, Table S-3 and Table 25-2 should be corrected regarding HRPT's role, to indicate the following: "Consultation related to (a) impacts within Hudson River Park, (b) securing short and long-term access to Park and heliport and (c) impacts on the purposes of the Hudson River Park Act." *(HRPT-Wils)*

Response: The tables in the FEIS have been revised.

Comment 14: Please review the comment letter provided on the preliminary DEIS that NJDEP sent on June 5, 2017, a copy of which is enclosed. This letter provided comments from the various permitting agencies that are included as part of NJDEP and included discussions of the permits that will be required for the Project and comments on the analyses presented in the preliminary DEIS. *(NJDEP-Foster)*

Response: FRA and NJ TRANSIT provided a preliminary draft of the DEIS to Cooperating and Participating Agencies for review prior to finalizing the DEIS document for public review. Many of the agencies, including NJDEP (in the letter cited in this comment), provided comments on the preliminary draft of the DEIS, and FRA and NJ TRANSIT reviewed those comments and revised the preliminary DEIS where appropriate. Thus, the DEIS provided to the public for comment reflects FRA's and NJ TRANSIT's incorporation of agency comments, including the letter cited by NJDEP. FRA and NJ TRANSIT continued to coordinate with all Cooperating and Participating Agencies, including NJDEP, throughout development of this FEIS. In addition, the Project Partners will continue to coordinate with permitting agencies during the permitting processes that follow completion of the FEIS.

Comment 15: Numerous commenters requested an extension of the public comment period for the DEIS to allow a sufficient opportunity to examine the document and prepare and submit responses. *(Adamczyk, Beattie Padovano-von der Lieth, S. Bolcar, A. Gordon, Jarosky, K. Laufer, Sierra Club-Case, Stack-Union City, von der Lieth, Weehawken-Nan Vogelman, Weehawken Planning-Meditz-Gould, Weehawken Safety-Welz)*

Other commenters stated that holding public review for the DEIS during the months of July and August, when many people are on vacation and therefore

unable to participate in the public review process, is unacceptable. *(Adamczyk, S. Bolcar, Lui)*

Response: Expedient completion of the Hudson Tunnel Project is a key goal for the Project, reflecting the urgent need to repair the North River Tunnel. As described in the DEIS and FEIS in Chapter 1 "Purpose and Need," Section 1.3 and Section 1.5 (Goal 2), the Project goals reflect the urgent need to repair the North River Tunnel. FRA and NJ TRANSIT provided a reasonable period of time for public outreach and comment. FRA determined not to extend the comment period for the DEIS, but committed to consider late comments submitted following the end of the comment period. FRA has reviewed and considered all substantive comments submitted both during the DEIS comment period and following the close of the comment period during preparation of the FEIS. In addition, FRA and NJ TRANSIT met with representatives of the local communities and other stakeholders during and after the comment period to clarify their concerns, review the impacts of the Preferred Alternative on those communities, and develop measures to reduce and avoid those impacts (see Chapter 25, "Process, Agency Coordination, and Public Involvement," Section 25.4.4).

As described in Chapter 25, "Process, Agency Coordination, and Public Involvement," Section 25.4, FRA and NJ TRANSIT have provided multiple opportunities for the public to provide comments about the Project. These included public scoping meetings held in May 2016, public meetings held in fall 2016 to review FRA and NJ TRANSIT's selection of the Preferred Alternative, and the public meetings held in summer 2017 during the DEIS public comment period. In addition to the meetings, written comments were accepted and reviewed during the scoping period in 2016 and after selection of the Preferred Alternative in fall 2016; these are summarized and responded to in the Scoping Summary Report for the Hudson Tunnel Project, dated December 2016 (which is available on the Project website, www.hudsontunnelproject.com), and the Alternatives Development Report for the Project, dated April 2017 (which is included in the EIS in Appendix 2-1). After FRA and NJ TRANSIT released the DEIS, the agencies held a 45-day comment period during which the public could submit comments via many different means, including oral comments at three different public hearings held over the course of two weeks, and written comments via mail, email, website, and at the public hearings. In addition, as noted above, comments submitted following the end of the DEIS comment period were also considered during preparation of the FEIS, and FRA and NJ TRANSIT met with representatives of the local communities following the end of the comment period, including meetings in fall 2017 and winter 2018. In this manner, FRA and NJ TRANSIT accepted feedback on the Project well beyond the official comment period in July and August 2017.

Comment 16: Commenters stated that insufficient efforts were made to bring the Project to the attention of the community, and that many people are still unaware of the Project. *(Adamczyk, Dykhouse, Lui, D. Reeves, Romero, R. Rovito)*

Response: FRA and NJ TRANSIT conducted a robust outreach effort that included a focused effort to compile a comprehensive mailing list of stakeholders, including elected

officials, potentially interested organizations, and owners and residents of properties near the proposed construction staging areas, and to provide multiple forums for those stakeholders to provide input. This outreach is described in the EIS in Chapter 25, "Process, Agency Coordination, and Public Involvement," Section 25.4.

The list of stakeholders comprised organizations and individuals included on distribution lists from an earlier trans-Hudson rail project, the Access to the Region's Core (ARC) Project, for areas that would also be affected by the Hudson Tunnel Project; individuals who signed up for the Project mailing list; individuals who attended and provided address information at public scoping sessions (May 2016) and public information open houses (November 2016) for the Project; and addresses along the Project alignment and near the proposed construction staging areas in Secaucus, North Bergen, Union City, Weehawken, Hoboken, and New York City. As the DEIS and FEIS were prepared, the Project mailing list was continually updated to incorporate additional individuals and organizations who commented or expressed interest in the Project.

Project outreach efforts included:

- A Project website (www.hudsontunnelproject.com) with a library of Project documents for public review, additional information on the Project, and a means for providing comments and requesting information.
- Fact sheets published at major Project milestones that were made available on the Project website and sent to the Project mailing list. These included Fact Sheet 1 (spring 2016), which provided a Project overview; Fact Sheet 2 (fall 2016) summarizing the scoping process and comments received, Fact Sheet 3 (fall 2016) presenting the Preferred Alternative, and Fact Sheet 4 (summer 2017) providing a Project update, information on construction methodologies, and information about the public comment period and public hearings. These were published in English and in Spanish (due to the presence of large Spanish-speaking communities in the vicinity of the Project area).
- Public meetings during the public scoping period, after announcement of the Preferred Alternative, and during the DEIS comment period. FRA and NJ TRANSIT used the Project website, meeting flyers, and email notices to the Project mailing list to publicize all public meetings, public hearings, and open houses. The flyers were in English and Spanish (due to the presence of large Spanish-speaking communities in the vicinity of the Project area), and were mailed or emailed to the Project mailing list. FRA and NJ TRANSIT also distributed flyers to libraries and community centers. Flyers and meeting notices were sent out at least two weeks in advance of meetings. In addition, meetings were advertised in area newspapers (in English, with Spanish ads in corresponding local area papers) and on the Project website.
- Targeted community meetings to provide additional outreach to specifically affected groups, including owners of property near the Project site and residents of neighborhoods close to the construction sites, including environmental justice communities in New Jersey.

- Coordination with local communities in New Jersey where construction activities would occur. Representatives of local communities in New Jersey requested that FRA and NJ TRANSIT coordinate directly with local government agencies and elected officials to reduce the impacts of the Project on their communities. They also requested that the local community be involved in developing mitigation for the Project's impacts. As a result, FRA and NJ TRANSIT met with representatives of the local communities and other stakeholders during development of the DEIS, during the public comment period for the DEIS, and after the comment period during development of the FEIS to clarify their concerns, review the impacts of the Preferred Alternative on those communities, and develop measures to reduce and avoid those impacts.

More information on the public outreach conducted for the Project provided in the FEIS in Chapter 25, "Process, Agency Coordination, and Public Involvement," Section 25.4.

Comment 17: Representatives of local communities in New Jersey requested that FRA and NJ TRANSIT coordinate directly with local government and elected officials to reduce the impacts of the Project on their communities. They also requested that the local community be involved in developing mitigation for the Project's impacts. (*Baselice-North Bergen, Stack-Union City*)

Response: FRA and NJ TRANSIT met with representatives of the local communities and other stakeholders during development of the DEIS, during the public comment period for the DEIS, and after the comment period during development of the FEIS to clarify their concerns, review the impacts of the Preferred Alternative on those communities, and develop measures to reduce and avoid those impacts (see Chapter 25 of the FEIS, "Process, Agency Coordination, and Public Involvement," Section 25.4). As described in response to **Comment 71**, after completion of the DEIS, to address concerns raised by local communities FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts to local residents associated with the Project. See also Chapter 3, "Construction Methods and Activities," Section 3.3.3. During ongoing coordination, elected officials and members of the public proposed ideas for mitigation of Project impacts on their communities, and FRA and NJ TRANSIT, in coordination with the PANYNJ, considered these ideas when developing mitigation proposed in the DEIS and the FEIS and incorporated many of them into the Project commitments that will be documented in the ROD.

The Project Sponsor will continue to coordinate with representatives of local communities regarding the Project, including measures to mitigate impacts. In addition, as noted in the FEIS (for example, see Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.8.1), the Project Sponsor will implement a comprehensive, active and responsive community outreach program during construction that will include a staffed local, neighborhood outreach office near each construction site; a dedicated Project liaison who will coordinate with the

community about construction activities, address concerns, and work with the community to accommodate special events where possible; a 24-hour hotline for emergencies and construction complaints; and regular meetings and notifications to about construction status and upcoming activities.

Comment 18: Representatives of affected neighborhoods in New York, including elected officials and CB4, requested continued regular coordination between the Project team and the community (including CB4 and local residents and businesses) as the Hudson Tunnel Project moves forward. *(CB4 Manhattan-Mackintosh, CB4 Manhattan, Hoylman-NY 27th Senate District)*

Response: FRA, NJ TRANSIT, and the other Project Partners have coordinated with CB4 and CB5, NYCDCP, adjacent property owners, and other stakeholders as the DEIS and FEIS were developed. After completion of the FEIS, the Project Sponsor will coordinate with stakeholders regarding measures to further avoid and mitigate adverse impacts.

Comment 19: One commenter expressed interest in joining a public advisory committee for the Project. *(Brusgard)*

Response: FRA and NJ TRANSIT have not convened a public advisory committee for the Hudson Tunnel Project. Chapter 25 of the DEIS and FEIS, "Process, Agency Coordination, and Public Involvement," Section 25.4, describes the public outreach process and public involvement opportunities for the Hudson Tunnel Project. As discussed there, the Project has included public outreach and opportunities for public involvement, including briefings for local government entities and stakeholders, local community meetings, and large public meetings.

Comment 20: One commenter noted that the website, posters, and presentation at Union City were very informative and helpful. *(Sierra-Wright)*

Response: Comment noted.

Comment 21: One commenter requested that the Frequently Asked Questions (FAQ) on the Project website and any other sources of public information be immediately updated to identify that residents of Weehawken will be seriously and directly impacted by Project work at the Hoboken construction staging area. *(Eggenberger)*

Response: The Project website (www.hudsontunnelproject.com) provides information on the Hudson Tunnel Project and its environmental and community impacts. Specific information about potential impacts on residents of Weehawken as well as residents of other communities near the proposed construction sites is provided in the DEIS, which is available on the Project website in the "Library" section. In the FAQ section, the response to the question about environmental impacts ("What are the potential environmental impacts of the Project") directs readers to the DEIS for information.

The EIS describes the impacts that would occur for residents of Weehawken during construction of the Project. The construction methods are described in

Chapter 3, "Construction Methods and Activities," with specific information about construction that would affect Weehawken presented in Sections 3.3.3 and 3.3.4 of that chapter. The impacts during construction and after completion of the Project and proposed measures to minimize and mitigate those impacts are described in each technical chapter of the EIS (i.e., Chapters 5 through 24) in the sections that discuss construction impacts and permanent effects in New Jersey. In addition, Table S-1 in the Executive Summary of the EIS provides a comprehensive listing of the impacts of the Preferred Alternative to the area near the proposed Hoboken staging area and proposed mitigation measures to address identified impacts. See also the response to **Comment 71**. As described there, based on the public comments received on the DEIS, additional engineering, and further coordination with representatives and residents of the Township of Weehawken and other local communities, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts to local residents associated with the Project.

Comment 22: The DEIS and supporting documents are based on outdated studies performed 10 years ago for the ARC Project. New studies need to be conducted to capture changes in the study area over the past decade. While using previous documents may be more efficient, no shortcuts should be taken on the environmental review. *(Adamczyk, Babic, J. Bolcar, Cheng, X. Li, NY/NJ Baykeeper-Mans, von der Lieth)*

Response: The ARC Project was an initiative proposed by NJ TRANSIT to increase passenger rail capacity into Midtown Manhattan. NJ TRANSIT conducted detailed studies and design for the ARC Project from 1995 through 2010, including a Draft, Supplemental Draft, and Final EIS, as well as supplemental studies after completion of the that FEIS in support of that project's construction. The ARC Project was cancelled in 2010 shortly after initial construction had begun. Additional information on the ARC Project is provided in the Hudson Tunnel Project EIS in Chapter 1, "Purpose and Need," Section 1.2.1.

The alternatives evaluation and environmental impact analyses presented in the Hudson Tunnel Project DEIS were prepared in 2016 and 2017 based on new examination conducted specifically for the Hudson Tunnel Project. The urgent need to repair the North River Tunnel is reflected in the Project purpose (see Chapter 1, "Purpose and Need," Section 1.3) and goals (Section 1.5 in Chapter 1, Goal 2: Maintain uninterrupted existing NEC service, capacity, and functionality by ensuring North River Tunnel rehabilitation occurs as soon as possible). One of the objectives in support of that goal is to use conclusions from prior planning studies as appropriate and to the maximum extent possible (see Chapter 1, Section 1.5). Therefore, where information from previous relevant projects, such as the ARC Project, was available, still relevant, and not outdated, it was used as appropriate in keeping with the Hudson Tunnel Project's goals and objectives.

For example, alternatives developed for the ARC Project were considered in developing alternatives for the Hudson Tunnel Project, but the evaluation of

alternatives for the Hudson Tunnel Project (presented in the "Hudson Tunnel Alternatives Development Report" provided in the EIS in Appendix 2-1) considered how well those alternatives met the different purpose and need for the Hudson Tunnel Project. In addition, the conceptual engineering design for the Hudson Tunnel Project took advantage of portions of the design work already completed for the ARC Project but then was advanced to reflect the specific requirements and changed setting of the Hudson Tunnel Project. During preparation of the DEIS for the Hudson Tunnel Project, information collected for the ARC Project on sensitive resources in the Project area informed the initial resource identification work for the Hudson Tunnel Project, but FRA and NJ TRANSIT verified and updated all information used for the Hudson Tunnel Project DEIS. FRA and NJ TRANSIT evaluated mitigation commitments made for the ARC Project and identified them for use for the Hudson Tunnel Project only where the measures were still applicable and effective. The conclusions made by FRA and NJ TRANSIT regarding impacts and mitigation measures are specific to the Preferred Alternative developed for the Hudson Tunnel Project.

28.4.3 PURPOSE AND NEED (COMMENTS 23-25)

Comment 23: The Hudson Tunnel Project addresses a largely metropolitan issue, not a national one. While Amtrak has developed plans for repairing its tunnel, which was damaged by Hurricane Sandy, Amtrak considers the North River Tunnel safe and operational for years to come. Amtrak can handle its passengers using its existing tunnel, by repairing it one tube at a time. Only 5.2 percent of morning peak-hour, peak-direction rail passengers using the existing tunnel are on Amtrak trains. The predominant users of the tunnel are NJ TRANSIT commuter trains. The need for locating two additional tracks immediately adjacent to the two existing Amtrak NEC tracks via Secaucus and not via Hoboken is not substantiated in the DEIS. (*IRUM-Haikalis*)

Response: As described in the DEIS and FEIS in Chapter 1, "Purpose and Need," Section 1.3, the purpose of the Hudson Tunnel Project is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. An alternative via Hoboken would not meet that goal, as addressed in the response to **Comment 43**. Contrary to the commenter's statement that Amtrak considers the North River Tunnel safe and operational for years to come, as early as October 2014, Amtrak stated in a press release after Superstorm Sandy that "The tunnels are safe for passenger train operations. Amtrak has a robust tunnel inspection program, conducts regular maintenance work, and will be performing interim work as needed. However, a permanent fix is required soon so that the tunnels remain available for long-term use by the traveling public." A key goal of the Hudson Tunnel Project is its completion as soon as possible, in order to address the ongoing deterioration in the North River Tunnel and the urgent need to rehabilitate that tunnel.

Comment 24: A commenter stated that one of the points of the purpose and need statement warrants reexamination. Maintaining full service throughout construction has the potential to cause major cost and schedule risk, and periodic summertime or year-round diversion of traffic, like the rail service diversions implemented in summer 2017, will hasten the completion of the Hudson Tunnel Project. In PSNY, reduced load may allow construction crews to start excavation through the Tenth Avenue bulkhead to the Hudson Yards box earlier than planned. Reduced traffic will also undoubtedly simplify tie-in work at the conclusion of the Project. Further, it is possible that a well-publicized 18-month diversion of service could enable both Hudson River tubes to be rehabilitated simultaneously. *(Hale)*

Response: As noted in the comment, a critical component of the purpose of the Hudson Tunnel Project is to rehabilitate the North River Tunnel while maintaining uninterrupted commuter and intercity rail service (see Chapter 1, "Purpose and Need," Section 1.3). Diverting service on an ongoing basis during regular commuter periods would require passengers to divert to other trans-Hudson services, including buses, ferries, PATH rail service, and automobiles, as occurs today when there is a disruption to NJ TRANSIT service between New Jersey and New York. If this occurs, public transportation services paralleling the North River Tunnel (PATH trains, commuter buses, and ferries) would experience extreme overcrowding and delays, as these systems are also at or over capacity (based on pre-COVID conditions), and many passengers might elect not to make the trip or to make the trip via automobile on the region's congested roadway system. The diversions implemented during summer 2017 occurred during a short period when the volume of peak-period commuters is normally lower, because of summer vacations. It may be possible to use diversions similar to those implemented in summer 2017 to support construction activities for the Hudson Tunnel Project, but this could only occur on a short-term basis during periods of lower peak-period ridership and therefore would not notably accelerate the overall construction of the Project.

As described in the EIS (Chapter 1, "Purpose and Need," Section 1.4.2), removing one tube in the existing North River Tunnel from operation without new redundant capability in place would reduce weekday service to volumes well below the current maximum capacity of 24 trains per hour in the peak direction. The reduction in service would reduce tunnel capacity by well over 50 percent, and potentially by as much as 75 percent. By contrast, the work conducted at PSNY in summer 2017 reduced peak hour capacity by approximately 25 percent. In addition, the summer 2017 service outage for emergency repairs was for two months in duration during a period that traditionally has lower peak-period ridership, whereas the rehabilitation of each tube of the North River Tunnel would take almost two years. During that short period in the summer of 2017, with lower commuter volumes, Amtrak and NJ TRANSIT coordinated with other trans-Hudson service providers, including PATH and ferry service, to maximize the capacity of those systems. Even with these accommodations, the disruption inconvenienced thousands of NJ TRANSIT customers. There is not enough regional transportation capacity to provide alternate service of that magnitude or

for that duration of time.[6] Impacts to regional transportation and economic activity would be severe.

The rehabilitation work within each tube of the North River Tunnel will require outages for the full two years, since the existing track, ballast, and rail systems will be completely removed and rebuilt, so short-term diversions of rail passengers would not facilitate the rehabilitation. Chapter 2, "Alternatives and Description of the Preferred Alternative," Section 2.3.3.2 describes alternative approaches that FRA and NJ TRANSIT evaluated after completion of the DEIS that would keep the North River Tunnel in service during rehabilitation, with work conducted overnight and on weekends only. That analysis concludes that in-service approaches to rehabilitation cannot be reliably conducted without material delays to commuter and intercity rail service, and thus would not meet the purpose and need of the Project.

The alternatives evaluation conducted for the Hudson Tunnel Project (included in the EIS in Appendix 2-1, the Alternatives Development Report completed in April 2017) evaluated the possibility of rehabilitating both tubes of the North River Tunnel simultaneously after the new Hudson River Tunnel is complete (see Section 3.4.2 of the report). However, in that alternative, adequate capacity could not be provided using the new tunnel to accommodate Amtrak's and NJ TRANSIT's full peak hour service because the new tunnel's tracks would not have the same flexibility in their connections to the platform tracks at PSNY as the North River Tunnel's tracks do.

Please also note that the construction schedule described and presented in the DEIS and FEIS in Chapter 3, "Construction Methods and Activities," Section 3.4, is based on preliminary design and will continue to be evaluated as Project design advances to identify ways to expedite the completion of the Project.

Comment 25: This proposal addresses a symptom rather than a problem, and there needs to be further exploration as to what the future transportation issues of this region will look like and how this would serve that rather than the present problem itself. *(K. Leavy)*

Response: The purpose of the Hudson Tunnel Project is to address the urgent need to repair the North River Tunnel, which was damaged during Superstorm Sandy. Future regional transportation issues are beyond the scope of the Project and addressing them as part of this Project would not allow a timely solution for the urgently needed rehabilitation of the existing tunnel. See also the response to **Comment 41**.

[6] The COVID-19 global health crisis has resulted in substantial decreases in the number of people traveling by rail. This FEIS does not assess the long-term implications of the COVID-19 global health crisis, since any evaluation at this time would be speculative. This FEIS assumes that in the long-term, rail ridership will recover and return to previous levels.

28.4.4 PROJECT COST AND FUNDING (COMMENTS 26-29)

Comment 26: Project supporters noted that for the Project to move forward, adequate funding must be identified. Elected officials provided assurance that they will continue to work to ensure the Project receives funding. (*Booker-US Senator NJ, Gordon-NJ Senate, Hoylman-NY 27th Senate District, NJBIA-Siekerka, N. Taylor, Wells*)

Response: Comment noted. Obtaining funding for the implementation of the Hudson Tunnel Project will be addressed by Federal, state, and local officials.

Comment 27: Please provide clarification of what funding the Project needs in Fiscal Year 2018, and whether Congress is on its way to providing that funding. *(Davis, RVRC-Robins)*

Response: Funding needs for the Hudson Tunnel Project for specific Federal Fiscal Years will depend on a variety of factors associated with where the Project is in its life cycle.

Comment 28: The New York State Scaffold Law, contained in New York State Labor Law § 240/241, imposes absolute liability on both contractors and owners for gravity-related injuries that take place at construction sites and results in high liability insurance costs that make all construction in New York State more expensive. The FEIS should consider and study the financial costs related to the New York State Scaffold Law and the potential cost-savings for the Hudson Tunnel Project of a Federal preemption from this law. (*Faso-US Congress NY*)

Response: The law that is the subject of this comment, as well as other statutory requirements in New York and New Jersey, will be taken into consideration in decision-making on the implementation of the Project. Cost estimates provided in the DEIS (see Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.8) are preliminary and based on conceptual design with high levels of contingency; costs in the FEIS presented in that same section in Chapter 2 are similarly based on relatively early design. The Project Partners developed the cost estimates using unit costs based on other comparable projects in the region. Costs will be continually evaluated as the design for the Project advances, with a goal of reducing Project cost wherever feasible and reasonable.

Comment 29: Several commenters raised concerns about the cost of the Project:

One commenter cited concerns about the expensive nature of this Project, most recently with the increase from $9 billion to almost $12 billion. Decision-makers should ensure no financial waste is in this project and keep the cost at a minimum. *(TSTC-Chernetz)*

Another commenter stated that the cost estimate for the Project is out of keeping with international standards. This project should cost between $6 and $7 billion, based on costs for other similar tunnel projects elsewhere in the world. *(Sullivan)*

One commenter stated that the lead agencies should explore project delivery options with cheaper capital costs, such as design build. *(RPA-Wright)*

Some commenters expressed concern that their taxes would increase to pay for the Project. *(D. Reeves, Public)*

Response: The $9 billion cost estimate cited by the commenter was developed for the ARC Project, a project with a different scope that was planned more than 10 years ago, and therefore is not a relevant comparison for the cost estimate for the Hudson Tunnel Project.

The costs for the Hudson Tunnel Project, as for any project, are based on the specific site and subsurface conditions where the Project is proposed, as well as the purpose for and design of the Project, and therefore comparisons to other projects in other parts of the world may not be relevant. In addition, the processes, regulations, and laws that affect design and construction of the Hudson Tunnel Project in the U.S. are different than in other parts of the world.

Cost estimates provided in the DEIS (see Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.8) were based on preliminary design with high levels of contingency; costs in the FEIS presented in that same section in Chapter 2 are similarly based on relatively early design. The total construction cost estimate includes costs related to design and engineering, construction, right-of-way acquisition, a 10 percent contingency, and other related Project costs, but excluding financing charges. These estimated costs will continue to be refined as engineering and design continues. Costs will be continually evaluated as the design for the Project advances, with a goal of reducing the Project cost wherever feasible and reasonable. In addition, alternative delivery options, such as design build, will be considered as the design advances.

Obtaining funding for the implementation of the Hudson Tunnel Project will be addressed by Federal, state, and local officials.

28.4.5 ALTERNATIVES TO THE PROPOSED PROJECT (COMMENTS 30-53)

28.4.5.1 ALTERNATIVES EVALUATION: GENERAL

Comment 30: The RPA agrees with the selection of the Preferred Alternative as the best option, however we note that the selection of the No Action Alternative would ultimately allow the North River Tunnel to fail, resulting in devastating effects. The Preferred Alternative would support and enhance transportation functionality across the region, foster social equity, and protect and enhance the environment. *(RPA-Wright)*

Response: Comment noted.

Comment 31: HRPT supports the Project's goals and objectives and believes that the Preferred Alternative is the one that best meets those goals and objectives. *(HRPT-Wils)*

Response: Comment noted.

Comment 32: The original plan was much better and made more sense, but it was scrapped for lack of funds and planning. *(O'Brien)*

Response: Comment noted. Please note that an earlier plan, the ARC Project, had a different purpose than the currently proposed project and would not meet the purpose for the Hudson Tunnel Project.

28.4.5.2 TUNNEL ALIGNMENT OPTIONS

Comment 33: From a security point of view, you don't want the old and new tunnels right next to each other because if there is a terrorism event, you want those tunnels separated. *(Carey)*

Response: Comment noted. With the Preferred Alternative, the existing and new tunnels would not be side by side.

Comment 34: Several commenters criticized the alternatives evaluation process conducted for the Hudson Tunnel Project:

The alternatives analysis that selected the Project's Preferred Alternative was not a true alternatives analysis—it was a process rigged to produce a final alternative that exactly duplicated the ARC FEIS track alignment from the middle of the Hudson River west to Secaucus by examining only slight engineering changes in the ARC FEIS tunnel alignment, instead of evaluating true alternatives. Project planners arbitrarily dismissed two rational, buildable alternatives (detailed in **Comment 36** and **Comment 37**) that were proposed during the scoping phase of the Project that would have far better achieved the Project's goal to improve service reliability and upgrade existing tunnel infrastructure in a cost-effective manner and the goal to not preclude future trans-Hudson rail capacity expansion. *(Clift)*

The Project seems to have zeroed in on one Preferred Alternative, without fully examining other potentially viable alternatives. No truly viable alternatives to the Preferred Alternative were analyzed. The alternatives analyzed do not fulfill the statutory obligation to review numerous alternatives. *(Adamczyk, Marcos, von der Lieth)*

Response: Regarding the two alternatives proposed by the commenter during scoping, please see the responses to **Comment 36** and **Comment 37**. The alternatives analysis conducted for the Hudson Tunnel Project was intended to identify alternatives that could meet the purpose and need for the Project, which, as stated in Chapter 1 of the EIS, is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel while maintaining uninterrupted commuter and intercity rail service. The Project is being advanced as a preservation project in recognition of the critically vulnerable condition of the existing North River Tunnel due to its age and damage from Superstorm Sandy. The Preferred Alternative was the only alternative that met that purpose and need.

FRA and NJ TRANSIT conducted a multi-step alternatives development and evaluation process to identify alternatives that meet the purpose and need for the Project. The alternatives evaluation process is presented in the "Alternatives Development Report" provided in Appendix 2-1 of the EIS and summarized in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.3, of the EIS. The process involved developing a list of preliminary alternatives, comprising many different possible means of providing a Hudson River rail crossing. FRA and NJ TRANSIT conducted a high-level qualitative evaluation for the preliminary alternatives to determine which of those alternatives met the purpose and need for the Project and, if so, were feasible and reasonable. Any alternatives that were not found to meet the purpose and need for the Project were eliminated from further analysis; alternatives that met the purpose and need but were not feasible and/or reasonable were also eliminated. The evaluation of the preliminary alternatives identified a single Build Alternative concept that would meet the purpose and need for the Project and is feasible and reasonable—a new rail tunnel under the Hudson River close to the NEC that would carry Amtrak and NJ TRANSIT service to PSNY while the existing North River Tunnel is being rehabilitated, and then would provide operational flexibility for both Amtrak and NJ TRANSIT once the tunnel rehabilitation is complete. In addition, FRA and NJ TRANSIT evaluated a range of potential tunnel alignment options for that Build Alternative, depending on the location of the ventilation shaft that must be provided for the new tunnel between the Palisades and the Hudson River. See also the response to **Comment 62**, which discusses how FRA and NJ TRANSIT evaluated potential tunnel alignment options.

Comment 35: You don't need four tracks from Newark to New York to run more trains for NJ TRANSIT. You need a third track from where the Midtown Direct trains come on at Swift Interlocking in Harrison. That could be done with the existing service through Secaucus Junction Station, an additional two tunnels or one tunnel under the river coming up at the corridor, and one new bridge with at least three tracks. You should be doing a Supplemental DEIS so that you're actually looking at a project that can be expanded into more capacity immediately. The politicians need to understand that all this money that's spent will not gain any capacity. *(Clift)*

Response: The purpose of the Hudson Tunnel Project is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. It is not to increase capacity or run more trains for NJ TRANSIT as the comment suggests. To meet this element of the Project purpose, the Hudson Tunnel Project would provide two new tracks in the Meadowlands leading to the new tunnel, which would have two separate tubes. Providing these tracks is necessary to allow diversion of train traffic from the existing North River Tunnel with the operational flexibility required while that service is diverted. Upon completion of the Hudson Tunnel Project, having four tracks through the Meadowlands and four tracks beneath the Hudson River would

meet one of the key components of the Project purpose: to strengthen the NEC's resiliency to provide reliable service across the Hudson River by facilitating on-going infrastructure maintenance, enhancing operational flexibility and avoiding impacts to NEC rail operations. While FRA, NJ TRANSIT, and the Project Partners are advancing the Project to accommodate current train volumes, one of the goals of the Project is not to preclude other projects that do enhance capacity on the NEC, which can be undertaken as separate initiatives from the Hudson Tunnel Project. Longer term, this infrastructure and operational flexibility (four-track configuration) does not preclude future rail capacity enhancements undertaken separately from the Hudson Tunnel Project. Ultimately, an increase in rail service capacity on the NEC between Newark and PSNY requires a number of capital projects to be implemented; no capacity increase can occur until those other substantial infrastructure capacity improvements are built. These other future projects would be undertaken separately and would be subject to their own environmental reviews and approvals, as appropriate.

Comment 36: One alternative proposed during scoping that should have been considered was to build the January 17, 2007 ARC DEIS alignment from PSNY west to Secaucus, which included a track duck-under to bring the track in the north tube of the new tunnel to the north side of the existing NEC at the Bergen portal, thereby providing the immediate opportunity to operate the NEC as a three-track railroad (with a reversing peak-direction center track) from the Hackensack River to the Bergen tunnel portal, making it possible to operate at least 12 additional peak-hour trains (+50 percent) into PSNY once a third track is built across the Hackensack River and platform extensions and passenger circulation improvements are made to PSNY Tracks 1-12. The Preferred Alternative makes this immediate opportunity impossible, given that its alignment is a separate two-track railroad that will require a new right-of-way with two additional tracks all the way across the Meadowlands to at least Swift Interlocking where Midtown Direct trains enter the NEC; construction of a highly complex expanded Swift Interlocking; two more tracks across the Hackensack River; and construction of a new station immediately south of and connecting with Secaucus Station. All must be funded and built before a single additional NJ TRANSIT peak-hour train, needed now, can be scheduled. *(Clift)*

Response: See the response to **Comment 35** regarding operation of a three-track system between New Jersey and PSNY. As an isolated investment, the "duck-under" track for westbound trains heading toward Secaucus would not increase trans-Hudson peak capacity until additional platform space is constructed in PSNY, which is not part of the Hudson Tunnel Project. Please also note that the commenter's suggestion that the Preferred Alternative requires modifications to Swift Interlocking, two more tracks across the Hackensack River, and construction of a new station connecting with Secaucus Station is not correct. Those capacity improvements for the NEC are not part of the Preferred Alternative.

During the alternatives evaluation for the Hudson Tunnel Project, FRA and NJ TRANSIT evaluated the alternatives that were considered for the ARC Project

to determine whether they would meet the purpose and need for the Hudson Tunnel Project. After this evaluation, a duck-under was not included as part of the Preferred Alternative because of the same constructability issues that were identified during the ARC Project, particularly relating to the difficulty in tunneling beneath the heavily used freight corridor used by Conrail and NYSW.

Comment 37: One alternative proposed during scoping that should have been considered was to build subaqueous tunnel tubes in two phases to minimize initial cost. First, build a single-track tube, thereby providing the immediate opportunity to operate a three-track railroad from the Hackensack River to PSNY; build the second tunnel tube at a later date, when additional funds become available. The two-track "tunnel box" that will extend from Twelfth Avenue to the existing PSNY approach tracks east of Tenth Avenue provides two approach tracks sufficient for a single new tunnel tube to accommodate the existing 24 peak-hour trains during sequential rehabilitation of the two existing tunnel tubes. Emergency access to and egress from this third trans-Hudson tube would be the same as for the two existing tubes: removal of an entire train and its passengers by an existing protect locomotive, obviating the need for a fourth tube to provide this safety function. *(Clift)*

Response: See the response to **Comment 35** regarding operation of a three-track system between New Jersey and PSNY. FRA and NJ TRANSIT evaluated an alternative that would complete one tube of the new Hudson River Tunnel at a time as part of the alternatives evaluation process for the Project. The alternatives evaluation process is presented in the "Alternatives Development Report" provided in Appendix 2-1 of the EIS and summarized in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.3, of the EIS. As described in the Alternatives Development Report in Section 3.3.9, an alternative with only one new tube beneath the river would have less ability to meet the Project purpose of maintaining uninterrupted commuter and intercity rail service on the NEC while the North River Tunnel is being rehabilitated. In this scenario, after the new single tube is completed, half the trans-Hudson train traffic would move to the new tube and the other half would remain in an existing tube of the North River Tunnel. While the first tube of the North River Tunnel is being rehabilitated, trains would be operating in only two tubes (as they do today), and one of those tubes would be the un-rehabilitated tube of the tunnel, which would be at risk of ongoing instability similar to conditions today. If a maintenance issue arose, as they do frequently today, the tube would need to be closed for repairs and trains on the NEC would have to operate in only the single tube of the new tunnel, resulting in reductions in train service on the NEC of well over 50 percent, and potentially as much as 75 percent. Since the North River Tunnel and tracks frequently require unplanned maintenance to address ongoing deterioration, having no second new tube to accommodate the remaining train traffic from the North River Tunnel would mean that this alternative would not provide reliable service. Therefore, this alternative does not meet the purpose of the Project, which is to rehabilitate the North River Tunnel while maintaining uninterrupted commuter and intercity rail service.

In addition, an alternative with only one new tube beneath the river would not provide the same level of safety for passengers as a tunnel with two tubes. The tunnel with two tubes would provide cross passages approximately every 750 feet for the length of the new tunnel, connecting the two separate tubes. The cross passages are provided to comply with the requirements of the National Fire Protection Association (NFPA) fire-life safety standard, NFPA 130. They would allow passengers to walk from one track to the other in the event of an emergency evacuation and would provide separate ventilation zones in the event of a smoke condition. An alternative with only one tube would not have cross passages and therefore emergency egress would be as cited in the comment, through this single tube. This would not meet the requirements of NFPA 130 related to fire-life safety requirements for new transit systems, because without cross passages it would not provide adequate safe haven for passengers in the event of an emergency in the new tunnel. The century-old North River Tunnel does not comply with modern emergency egress and fire protection/refuge requirements. All new construction must conform to modern standards for this purpose.

Further, phasing the construction of the second tube at a later date would still require installations within access facilities and shafts to be constructed for two tracks. Actual construction of the second tube would require interrupting operation of the first track to make required connections to track and support systems. The Project would need a new construction shaft for tunneling operations as the initial shafts will have been outfitted with required railroad systems. This requirement would further increase the Project cost and delay the construction schedule and therefore would not be reasonable.

Comment 38: Commenters stated that the Hudson Tunnel Project's alternatives evaluation should have considered alternative construction staging areas that would reduce the Project's construction impacts in Weehawken. (See also **Comment 71** in Section 28.4.7.2.) Commenters said that although NEPA requires that EISs include a detailed consideration of alternatives, Chapter 2 and Appendix 2 of the DEIS, "Project Alternatives and Description of the Preferred Alternative," do not include a meaningful consideration of alternatives that would minimize the adverse environmental impacts that would result from the tunnel spoils removal/transportation scenario that uses a shaft site and staging area at the Hoboken/Weehawken border. (*Cheng, Eggenberger, Ehret-Weehawken, Griffin, X. Li, Turner-Weehawken)*

Response: Project staging area locations for the Preferred Alternative are constrained by the tunnel alignment and the locations of the tunnel ventilation shafts, which were identified through an alternatives evaluation process. The alternatives evaluation process conducted to select the Preferred Alternative, which is presented in the Alternatives Development Report provided in Appendix 2-1 of the EIS and summarized in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.3, of the EIS, was intended to identify the alternative that best meets the purpose and need for the Project. That analysis demonstrated that only one alternative meets the purpose and need for the Project, a new trans-Hudson Tunnel that would allow rehabilitation of the existing North River Tunnel

to be conducted while maintaining existing levels of train service. In addition, FRA and NJ TRANSIT evaluated the range of potential tunnel alignment options for that Build Alternative, depending on the location of the ventilation shaft that must be provided for the new tunnel between the Palisades and the Hudson River. As described in Chapter 2 and Appendix 2-1, an alignment option with a ventilation shaft and fan plant at the location of the Hoboken staging site was identified as the option that best meets the Project goals and objectives. Following completion of the DEIS, in response to comments from local communities in New Jersey regarding local construction impacts as well as in consideration of additional design and engineering information, FRA and NJ TRANSIT conducted further evaluation of construction methods to identify methods that would reduce localized construction impacts in New Jersey (see response to **Comment 71** for more information).

Comment 39: The Council on Environmental Quality's NEPA regulations require that EISs rigorously explore and objectively evaluate all reasonable alternatives and FRA's NEPA procedures contain similar requirements. However, the four Build alternative alignments for the proposed tunnel evaluated in Chapter 2 of the DEIS all designate Lot 1 of Block 675 in New York as the site for long-term construction staging and the placement of a large ventilation shaft and fan plant. The DEIS does not contain any discussion or analysis of any alternative site for staging during what is predicted in the DEIS to be a nine-year period, but was represented at the August 10, 2017 public hearing as being an 11-year period, nor is there any discussion or analysis of any alternative location for the vent shaft and fan plant other than Lot 1 of Block 675. Because there are several significant adverse environmental impacts associated with the siting of the vent shaft and fan plant on Lot 1, the omission of any discussion or analysis of alternative locations is a serious flaw in the DEIS that should be corrected in the FEIS. Among the alternatives that should be reviewed and analyzed are: (a) alternative technologies for venting the proposed tunnel that are used in other places in the world; (b) employing only one vent shaft/fan plant in Manhattan at 450 West 33rd Street; and (c) additional locations for staging and locating the vent shaft/fan plant, the impacts of which would be less onerous and impactful to redevelopment plans for Block 675. *(Akerman-260 Twelfth Avenue)*

Response: Regarding the Hudson Tunnel Project's construction period in New York, please note that the presentation made at the August 10, 2017 public hearing described the overall construction for the Hudson Tunnel Project as 11 years, including both construction of the new Hudson River Tunnel and rehabilitation of the North River Tunnel. This is the same information presented in the DEIS (for example, see the discussion of the overall construction schedule provided in Section 3.4 of Chapter 3, "Construction Methods and Activities"). The DEIS also clearly states that construction activities in Manhattan on Block 675, which are the concern of this comment, would have a duration of seven years. For example, see the discussion in Chapter 3, Section 3.3.7.5, "Schedule," within the description of activities on Block 675 that is provided in Section 3.3.7, "Twelfth Avenue Shaft, Staging, and Fan Plant Site." This information is also provided in the summary of construction activities at each staging site provided in Section 3.5 of Chapter 3,

"Construction Methods and Activities." Regarding alternatives, please see the discussion that follows.

Alternative Locations for the Vent Shaft, Fan Plant, or Staging Area

With regard to the comment that additional locations for staging and siting the vent shaft and fan plant were not explored, the DEIS describes the reasons that the Preferred Alternative includes locating the vent shaft and fan plant on Lot 1 of Block 675 in both Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.3.2.1, and the Alternatives Development Report provided in Appendix 2-1, in Section 4.2.3 of that report. As discussed there, the new Hudson River Tunnel must pass beneath the western end of Block 675, there must be a vertical construction access and ventilation shaft from the surface to the tunnel close to the Hudson River, and the only suitable location for that shaft is on Block 675. Construction staging is then required to support construction of that shaft and associated ventilation functions. More information on each of those points follows:

- *A connection point for the new Hudson River Tunnel to PSNY must pass through the western end of Block 675*. The new Hudson River Tunnel must connect to the array of approach tracks that lead into PSNY so that the trains can reach existing PSNY tracks and platforms. This connection can only be made at the southwestern end of the PSNY approach tracks, because areas farther north are occupied by the existing tracks from the North River Tunnel, Amtrak's Empire Line, and the LIRR West Side Yard. Any other connection point would conflict not only with the existing rail infrastructure but also with the foundations and support for the platform supporting an extensive overbuild project (Hudson Yards). For these reasons, the new tunnel alignment must pass through the western end of Block 675 and other locations for the tunnel are not feasible. This connection point also satisfies a Project goal of utilizing existing infrastructure by making use of the Hudson Yards Right-of-Way Preservation Project that Amtrak is constructing to preserve a rail right-of-way beneath the extensive overbuild project at Hudson Yards.
- *A vertical access and ventilation shaft must connect from the surface to the new Hudson River Tunnel close to the Manhattan Hudson River waterfront*. A new Hudson River Tunnel must include a 130-foot-wide vertical shaft from the surface to the tunnel close to the Hudson River on each side of the river, to facilitate construction of the tunnel and then to serve as a permanent ventilation shaft and emergency egress point.

  During construction of the tunnel, the vertical shafts would provide direct access for tunneling operations. The shafts must be large in diameter (130 feet) to provide access to both tubes of the tunnel. For tunneling operations, the shafts on each side of the river would be used for demobilization and servicing of the tunnel boring machines (TBMs); access of crews, equipment, and materials for cross passage construction; and in Manhattan, for access of crews, equipment, and materials for construction of the adjacent tunnel sections. Given the geologic conditions near the waterfront, which at

shallower levels include soils that are not strong materials, the large shafts must be adequately supported to provide safe, stable working conditions for the construction crews, equipment, and materials, which is most effectively achieved by a vertical structure. These same vertical shafts would then be used as the permanent tunnel ventilation shafts because they would provide the shortest direct connection from the tunnel to the associated fan plant building and ventilation system equipment located above the tunnel. This would minimize Project cost and the space required for the ventilation system, which in turn would reduce necessary real estate acquisitions.

In addition to ventilation shafts, the ventilation system for the new Hudson River Tunnel would include fan plants, large structures housing the fans that would be an integral part of the regular and emergency ventilation system for the new tunnel. The two fan plants associated with the vertical shafts on each side of the river must be located at or near the vertical shafts and have a minimum footprint of approximately 20,000 square feet.

- *Block 675 Lot 1 is the only available site that satisfies all criteria for location of the vertical access and ventilation shaft and fan plant in Manhattan*. The only available site for the Hudson River Tunnel's vertical construction access and ventilation shaft and fan plant in New York is on Block 675, since the site is directly above the new tunnel alignment and there is no other appropriate site nearby. The area west of Block 675 is parkland, which is protected by Federal law from use either during construction or permanently when there is a feasible and prudent alternative, such as the use of Lot 1 of Block 675. Hudson River Park is also protected by New York State law from use for non-park purposes. The area east of Block 675 along the tunnel alignment is currently planned for large-scale redevelopment with the Hudson Yards project between Eleventh and Twelfth Avenues. Farther east, there is no vacant land above the tunnel alignment, since the large buildings of Hudson Yards are located here. In addition, a new fan plant this far east would not create vent zones within the tunnel of appropriate length to support the capacity of at least 24 trains per hour required for the Project, which is discussed below.

- *A construction staging area is required in connection with the vertical access and ventilation shaft and fan plant*. On each side of the river, the site of the vertical access shaft would also serve as a construction staging area. This is necessary to support construction of the shaft itself, and then to support the activities for which the shaft is being used.
- First, as the shaft is excavated, support walls would be installed to retain the earth. These are likely to be slurry walls. As described in Section 3.2.1.4 of Chapter 3, "Construction Methods and Activities," slurry walls are concrete walls constructed through the use of a slurry of bentonite, a natural, clay-like, thick liquid material that is mixed on-site and pumped into a trench, and then replaced by steel reinforcing bars and concrete placed afterward once the trench excavation is completed to the full required depth. The area near the shaft would house a slurry plant to prepare bentonite slurry required for the

installation of slurry walls as well as areas for laydown of required materials, including the steel reinforcing bars.

- Once the shaft is in place, it would serve as a major access point for workers and materials to enter and leave the tunnel. The area nearby would be used for materials storage, tunnel ventilation, and support facilities for the workers.

  Finally, after tunnel construction is complete, the fan plant associated with the Project's ventilation system would be constructed above or close to the vertical shaft. This would also require use of adjacent land to support the construction activities.

Consequently, for the reasons outlined above, an alternative location for the vent shaft, fan plant, or staging area in Manhattan is not available and would not be a reasonable alternative.

Employing Only One Vent Shaft/Fan Plant in Manhattan

The new Hudson River Tunnel would have a ventilation system designed to bring fresh air into the tunnel passively, through normal train movement. It would also have an active component, driven by fans, to remove hot air from the tunnel during congested (i.e., perturbed) conditions, which occur when trains are stopped or moving slowly for extended periods, particularly during the summer. The active component would also be used to control and exhaust hot air and smoke during emergency conditions, such as a fire on a train in the tunnel. The fans would be used to move smoke so that smoke-free emergency routes are available for safe evacuation of passengers and fire-fighting operations. Smoke would be pulled away from the train to allow passengers to exit to the nearest cross passage upstream of the fire. This system would comply with the latest fire-life safety standard, NFPA 130.

The Hudson Tunnel Project's ventilation design includes four ventilation supply/exhaust facilities that would each serve both tubes of the new Hudson River Tunnel. These would create six ventilation zones in each tube of the new tunnel. Ventilation zones are tunnel segments within which smoke can be contained during emergencies, based on coordinated operations at the supply/exhaust facilities serving those segments. To comply with the fire-life safety standards of NFPA 130, the Hudson River Tunnel's signal system would be designed so that only one train would operate in each vent zone, which would allow safe evacuation of trains operating in the tunnel in the event of a fire in one train. Using the exhaust/intake facilities, smoke could be pushed and/or pulled in a specific direction to be exhausted out of the Hudson River Tunnel, so that it could be directed away from other trains in the tunnel at the same time. Having six vent zones would support a tunnel capacity of 24 trains per hour in each direction while the North River Tunnel is being rehabilitated, the same level of operation as the existing North River Tunnel has today. This ventilation concept is described more fully in the FEIS, Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.2.6, and illustrated in Figure 2-9 of the FEIS.

To support six vent zones, the new Hudson River Tunnel would have intermediate fan plants on each side of the Hudson River (in Hoboken, New Jersey, and at Twelfth Avenue in New York) as well as additional supply/exhausts point at each tunnel portal (the portal at Tonnelle Avenue in New Jersey and the below-grade portal at Tenth Avenue in New York, connected to outside air via a fan plant).

Therefore, with regard to the comment about employing only one vent shaft/fan plant in Manhattan, removing one of the fan plants on one side of the river would mean a substantial reduction in train capacity. Therefore, providing only a single fan plant in Manhattan at 450 West 33rd Street would not meet the purpose and need for the Project.

Alternative Technologies

With regard to the comment about alternative technologies for venting the new Hudson River Tunnel, FRA and the Project Partners selected the ventilation design due to its compliance with existing safety standards and its ability to support the current level of operations (part of the Project purpose, in order to maintain uninterrupted operations for Amtrak and NJ TRANSIT trains during rehabilitation of the North River Tunnel). Alternative technologies such as jet fans can only induce airflow in the tunnels and not extract smoke out of the ventilation zone. This technology would not comply with current life-safety standards because in the event of a fire, it would bring smoke through non-incident vent zones downstream of the incident, rather than isolating the incident vent zone as could be achieved with the proposed design. Consequently, this would not be a reasonable alternative.

28.4.5.3 CAPACITY ENHANCEMENTS

Comment 40: A number of commenters stated their support for the Gateway Program (also see **Comment 6**) and requested that the Project incorporate the Bergen Loop, a component of the Gateway Program that would connect the Pascack Valley and Main/Bergen County Lines to the NEC. Other commenters noted that the Hudson Tunnel Project is separate from other components of the Gateway Program and requested that the Project be consistent with the timely and efficient future construction of the Bergen Loop. (*Day-Rockland County, J. Li, Woolley*)

Response: The Hudson Tunnel Project has the specific goal of addressing the urgent need to rehabilitate the existing NEC rail tunnel beneath the Hudson River. The only components it includes are those related to a new rail tunnel and rehabilitation of the existing tunnel; no changes are proposed at Secaucus Junction Station, and the station is outside of the Project area, as noted in the comment. While the Preferred Alternative may be an element of a future project to expand rail capacity, it would meet an urgent existing need and is a separate project from any future initiative to expand capacity. One of the goals of the Project is not to preclude other projects that enhance capacity on the NEC, which can be undertaken as separate initiatives from the Hudson Tunnel Project. (See Chapter 1, "Purpose and Need," Section 1.5—Goal 4: Do not preclude future trans-Hudson rail capacity expansion projects). Consistent with this goal, the Preferred Alternative would not preclude the Bergen Loop project.

Comment 41: Commenters stated that, given the significant effort and costs in both planning and constructing the Hudson Tunnel Project, undertaking a project that would not increase capacity for trans-Hudson Rail crossings represents a significant lost opportunity for improving transportation options for communities west of the Hudson River. Commenters stated that alternatives evaluated in the DEIS should not be limited to two alternatives (the No Action and the Preferred Alternative) and to the greatest extent practicable, additional regional passenger and infrastructure capacity measures should have been addressed and evaluated in the DEIS, potentially including capacity expansion at Secaucus Junction Station and PSNY. Multiple commenters stated that capacity enhancement including a direct connection between PSNY and Grand Central Terminal and potentially eastward to Queens (a route referred to as "through running") should be considered in the EIS. *(Cromer, IRUM-Haikalis, MAS-Devaney, NJARP-Papp, Palmer-Somerset County, Rethink-Caro, RPA-Wright, TSTC-Chernetz, Woolley)*

One commenter also noted that in Chapter 2, Section 2.6.1, the DEIS identifies future investments to expand passenger rail capacity that the Preferred Alternative should not preclude. With regard to additional station capacity in Midtown, the DEIS identifies a Penn Station south shallow concourse option as well as a deep-cavern station north of the existing PSNY. The commenter stated that this section should be amended to also include the potential for a shallow-cavern station beneath 34th Street or at another location north of existing PSNY, which was also considered in the DEIS for the Access to the Region's Core project. The FEIS should document whether a northern shallow expansion would require similar, or additional, infrastructure investments as those identified for a potential southern shallow-cavern station. *(NYCMOEC-Semel)*

Response: The purpose of the Hudson Tunnel Project is: to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. These improvements must be achieved while maintaining uninterrupted commuter and intercity rail service and by optimizing the use of existing infrastructure. (See Chapter 1, "Purpose and Need," Section 1.3, of the EIS.) Because of the urgent need to repair the North River Tunnel as quickly as possible without compromising Amtrak and NJ TRANSIT's existing NEC service, the Hudson Tunnel Project is being advanced as a resiliency project, without additional capacity enhancements that could complicate the Project and delay its funding and implementation. At the same time, one of the goals of the Project is not to preclude other projects that do enhance capacity on the NEC, which can be undertaken as separate initiatives from the Hudson Tunnel Project. While the Preferred Alternative may be an element of a future project to expand rail capacity, it would meet an urgent existing need and is a separate project from any future initiative to expand capacity. Consistent with this goal, the Preferred Alternative would not preclude capacity expansion at PSNY and Secaucus Junction Station and the potential for through-running of trains through Midtown Manhattan as separate future initiatives.

The Hudson Tunnel Project's eastern terminus would be near Tenth Avenue, where it meets the existing tracks leading into PSNY in Manhattan. No changes east of that point, including any expansion to PSNY or improved connections from PSNY to other transportation services, will be included in this Project, since such features would not address the purpose and need for this Project.

FRA and NJ TRANSIT conducted a multi-step alternatives development and evaluation process to identify alternatives that meet the purpose and need for the Project. The process involved developing an initial list of preliminary alternatives, comprising many different possible means of providing a Hudson River rail crossing, and conducting a high-level qualitative evaluation to determine which of those alternatives met the Project purpose and need and were feasible and reasonable. The result of that evaluation was a single Build Alternative concept with a range of alignment options. The potential alignment options were then evaluated against a more detailed set of quantitative and qualitative criteria meant to determine which alignment option best meets the Project purpose, need, goals, and objectives. The identified alignment option was incorporated into the Build Alternative for the Hudson Tunnel Project. A detailed description of the alternatives development and evaluation process is provided in the Alternatives Development Report included as Appendix 2-1 of the DEIS.

With regard to potential options for expansion at PSNY, Amtrak and NJ TRANSIT have identified that expansion of rail terminal capacity in New York City is one required future capital investment to address capacity constraints, but this capital investment is not part of the Preferred Alternative. As noted in the discussion cited in Section 2.6 of Chapter 2, "Project Alternatives and Description of the Preferred Alternative," the Preferred Alternative would not preclude other future projects to expand rail capacity in the area, including projects to expand the capacity at PSNY. However, expansion of PSNY is not part of the Hudson Tunnel Project and no new design information has been developed for such an expansion as part of the Hudson Tunnel Project.

Comment 42: One commenter provided detailed suggestions intended to ensure that the Hudson Tunnel Project design does not preclude the placement of the old diagonal mail platform at PSNY into passenger service (a concept he called the Diagonal Platform Project). The commenter stated that while the diagonal platform is currently inaccessible without a reverse move for trains coming from the existing tunnel tubes, trains coming from the new Hudson River Tunnel will have immediate and straightforward access to the diagonal platform passing through many fewer switches than if they were to access any of the platform tracks currently in use. The commenter believes that the Diagonal Platform Project would be inexpensive, quick to construct, and would provide badly needed expansion of platform space at the PSNY complex with benefits that far outweigh the disadvantages of other options for expanding capacity at PSNY. He noted that while the Diagonal Platform Project is not within the scope of the Hudson Tunnel Project, there are a number of steps the Hudson Tunnel Project should take so as to not preclude the Diagonal Platform Project or make it substantially more

expensive. Specifically, the commenter requested that the Hudson Tunnel Project should at least:

- Not invade with tracks or other infrastructure the existing diagonal platform – Figure 2-12b in the DEIS (Figure 2-13b in the FEIS) shows a relocated Track 1D that does so.
- Not remove or shift the tracks next to the diagonal platform (Tracks 1D and 3D).
- Ensure that both tracks next to the diagonal platform (Tracks 1D and 3D) have access to both new tubes, which it appears that the Hudson Tunnel Project would do.
- If reasonably possible, ensure that the Empire Connection tunnel, track 2MAIN (the former Track 2A), has access via switches to both tracks next to the diagonal platform, Tracks 1D and 3D.
- Not place any equipment such as signal huts, transformers, switching houses, and similar, on the diagonal platform or in other places that would require relocation of such equipment if the diagonal platform were to be put into passenger service.
- Avoid doing anything else that could be reasonably foreseen to interfere in the future with the Diagonal Platform Project. (*Kambouchev*)

Response: One of the goals of the Hudson Tunnel Project is not to preclude future capacity expansion projects that are undertaken as separate initiatives from the Hudson Tunnel Project (see Chapter 1, "Purpose and Need," Section 1.5, Goal 4). However, to meet its basic purpose, the Hudson Tunnel Project must be designed to allow 24 trains per hour to continue to reach PSNY during the peak hour while the North River Tunnel is being rehabilitated, as they do today. To meet this purpose, the Project must provide adequate track connections from the two tubes of the new tunnel to tracks at PSNY, which necessitates modifications to tracks in the area of the diagonal platform. The new track configuration would shorten the diagonal platform on the western end, as shown in the referenced figures. The Project would not substantively affect the length or access issues for the diagonal platform. The future viability of the diagonal platform for passenger use is outside the scope of this Project.

Comment 43: A commenter requested that the commenter's proposed "Hoboken Alternative" be fully studied in the DEIS. The commenter noted that the Hoboken Alternative was proposed during the ARC Project scoping in 2009, and again during the Hudson Tunnel Project scoping in 2016, and that he also submitted comments on the Scoping Report for the DEIS for the Hudson Tunnel Project in a letter dated November 30, 2016 pointing out errors in the Scoping Report's responses to the Hoboken Alternative, but that these errors were not corrected in the DEIS. According to the commenter, the DEIS treatment of the Hoboken Alternative was deeply flawed and one-sided, pointing out the obstacles but not the benefits of this routing. The commenter requested that the errors regarding the Hoboken Alternative in the Scoping Summary Report be corrected, the Hoboken Alternative be fully studied, and the DEIS be circulated for another round of public comments.

He stated that the Hoboken Alternative is superior to the Preferred Alternative for the following reasons:

- The Hoboken Alternative has a superior routing to the Preferred Alternative because it would serve Hoboken and Jersey City, which are an important economic engine for Hudson County, and connect with the Hudson-Bergen Light Rail (HBLR) to link to other communities in Hudson County. This improved connectivity to regional transit makes this alternative superior to the Preferred Alternative relative to this criterion. The Hoboken Alternative would have a lower net total public cost than the Preferred Alternative, thereby achieving this benefit at a negative cost. The geographic boundary of the "study area" defined in the scoping for the DEIS excludes this alternative, but this artificial boundary is an invalid means of screening out the alternative.
- Unlike the Preferred Alternative, the Hoboken Alternative would not disproportionately advantage well-to-do communities while unfairly denying the sizeable minority and low-income populations of Jersey City and Hoboken the improved access to Manhattan.
- The Hoboken Alternative would make use of existing NJ TRANSIT-owned rail property and therefore would avoid the significant damage to wetlands and permanent alteration of stormwater flow that would result from the Preferred Alternative. This is a feasible alternative that must be thoroughly considered in accordance with the requirements of the Clean Water Act.
- The Hoboken Alternative would eliminate the need to acquire additional properties in New Jersey, whereas the Preferred Alternative would require the costly acquisition of 117 parcels to accommodate the tunnel alignment.
- The Hoboken Alternative routing would allow a new Hudson River tunnel to connect directly to NJ TRANSIT's existing three-track Morristown Line moveable bridge over the Hackensack River. When combined with the existing two-track Portal Bridge, adequate mainline rail capacity would become immediately available. With the redundancy of the two bridges, properly maintained and with marine traffic carefully managed, no additional crossings would be needed in the immediate future.
- Because of its peculiar insistence on not increasing trans-Hudson capacity, the DEIS fails to take advantage of the Hoboken Alternative, which would double capacity and could be achieved sooner and at a lower cost than the Preferred Alternative. The Cumulative Impacts analysis related to trans-Hudson capacity in the DEIS (DEIS Section 20.6.4.1) makes it clear that the Gateway Program is intended to achieve a doubling of capacity, so if that can be achieved sooner and at lower cost, it is highly unethical for a public agency not to consider it fully. Like the Preferred Alternative, the Hoboken Alternative can be operated without an increase in service, and upon completion of a comprehensive rail plan for the region, the added capacity will be available to serve the region.
- With the Preferred Alternative presented in the DEIS, the larger Gateway Program would remain capacity-limited because of the presence of only two tracks west of the Hackensack River. In contrast, the Hoboken Alternative

has the potential for a greater expansion in service in the future by running NJ TRANSIT trains through PSNY and continuing on to Grand Central and north to the Bronx, Westchester, and Connecticut. The Hoboken Alternative would allow for a full four-track regional rail system across the Hudson River, linking Newark Penn Station with PSNY far more quickly and at substantially less cost than the Preferred Alternative.

- The Hoboken Alternative would cost less than the Preferred Alternative. It would have a shorter tunnel, portal to portal, and a similar surface track distance, and it would avoid the need for NJ TRANSIT's current plans for extensive landfill and expansion to the south of Hoboken Terminal (the Long Slip Fill and Rail Enhancement Project).
- While the portion of the tunnel under the Hudson River in the Hoboken Alternative would be 1.65 miles compared to the Proposed Action's under-river tunnel of 0.97 miles, this would not increase the impacts of the project because the impacts in the Hudson River are largely dependent on the grade. Grades are most important near the shore, before additional depth can be achieved. The Proposed Action described in the DEIS proposes only a single grade of 2.1 percent on the eastern approach to the river and therefore requires ground improvement in the river bottom for an area about 550 feet long. Assuming a 2 percent grade for the Hoboken Alternative would require a comparable ground improvement effort of 700 to 750 feet in length on the western shore of the river. The profile on the eastern shore would be identical to the Proposed Action.
- The Hoboken Alternative would meet the Project goals of improving service reliability in a cost-effective manner (Goal 1), of ensuring that the North River Tunnel rehabilitation occurs as soon as possible (Goal 2), and of minimizing impacts on the natural and built environment (Goal 3) far better than the Preferred Alternative.
- The Hoboken Alternative has the potential for a greater expansion in service in the future by running NJ TRANSIT trains through PSNY and continuing on to Grand Central and north to the Bronx, Westchester, and Connecticut.
- Additional information and specific responses to the Scoping Summary Report's review of the Hoboken Alternative are provided in IRUM's comment letter of November 30, 2016 that was provided to FRA and NJ TRANSIT as a comment on the Scoping Report.

(IRUM-Haikalis)

Response: The alternative the commenter describes as the "Hoboken Alternative" proposes an alignment for use by NJ TRANSIT trains (and not Amtrak trains) that would diverge from the NEC in Kearny, New Jersey, following the NJ TRANSIT Morris & Essex Line tracks to their terminus at Hoboken Terminal, where a new station would be constructed just south of Hoboken Terminal. At that location, NJ TRANSIT is currently constructing a different project, known as the Long Slip Fill and Rail Enhancement project, which involves filling an existing former barge canal and then constructing six new tracks to serve three boarding platforms on the land created. In the alternative that the commenter proposes, trains bound for

New York from this new station at Hoboken would travel in a new tunnel under the Hudson River northward to reconnect with the NEC at PSNY. Once the new tunnel was in place, NJ TRANSIT trains would be diverted to it and the existing North River Tunnel could be rehabilitated one tube at a time, with two-way Amtrak traffic (four trains in each direction in the peak hour) shifted to the single tube remaining in operation.

As noted in the comment, this comment was made during the scoping process and a response was provided in the Scoping Summary Report completed for the Project in December 2016 (available on the Project website at www.hudsontunnelproject.com). In addition, a discussion of the Hoboken Alternative was provided in the Alternatives Development Report completed in April 2017 and included in the DEIS in Appendix 2-1 (see Section 3.3.5 of that report). The evaluation in the Alternatives Development Report concluded that while this alternative might meet the purpose and need for the Project by creating a new connection to PSNY, it would not be reasonable, given its much greater scope, longer routing and longer tunnel segment, greater environmental impact, and likely higher cost than the Proposed Action.

As described in the DEIS and FEIS in Chapter 1, "Purpose and Need," Section 1.3, the purpose of the Hudson Tunnel Project is: to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. These improvements must be achieved while maintaining uninterrupted commuter and intercity rail service and by optimizing the use of existing infrastructure.

In pursuing the Hudson Tunnel Project, FRA and NJ TRANSIT have established a goal of fully rehabilitating the North River Tunnel as soon as possible. Project Goal 2, provided in Chapter 1, "Purpose and Need," Section 1.5 of the DEIS and FEIS, is to "Maintain uninterrupted existing NEC service, capacity, and functionality by ensuring North River Tunnel rehabilitation occurs as soon as possible," while acknowledging that trans-Hudson capacity may be increased through other initiatives separate from the Hudson Tunnel Project. However, the Hoboken Alternative would not meet that goal, given the much greater planning and design that would be required for its components in Hoboken—particularly the tunnel beneath an active terminal, as well as a new station and new track connections there. Moreover, the site that the commenter proposes for the new station is not available for that purpose, since NJ TRANSIT is currently constructing a different project at that location.

An additional component of the Hudson Tunnel Project purpose is to increase the NEC's resiliency by providing redundant capability under the Hudson River. With the Preferred Alternative's two new tracks along the NEC, Amtrak and NJ TRANSIT would have operational flexibility to easily move Amtrak and NJ TRANSIT trains between the North River Tunnel and new Hudson River Tunnel so as to adjust service to address service outages, whether unplanned or

for planned maintenance. In contrast, the Hoboken Alternative does not provide the same level of operational flexibility and needed redundancy for Amtrak and NJ TRANSIT operations on the NEC; while NJ TRANSIT trains could be shifted from the NEC to the Hoboken tunnel, this would be a major diversion that would result in shifts to station stops, schedules, and other operational characteristics. In addition, with a subaqueous tunnel that would be 50 percent longer than that of the Preferred Alternative, this alternative would require substantially larger ventilation facilities in order to maintain existing levels of train service (20 NJ TRANSIT trains during the peak hour). As discussed in response to **Comment 39**, modern fire-life safety requirements of NFPA 130 require that separate ventilation zones be provided for each train in the tunnel at the same time, and these ventilation zones are supported by fan plants that can supply air to and exhaust air from the tunnel. The additional ventilation needs would result in increased Project costs and the potential for additional environmental impact compared to the Preferred Alternative. If large enough fan plants cannot be provided, then this alternative could not provide adequate train capacity to maintain the existing service to PSNY.

For these reasons, the Hoboken Alternative would not meet several goals and objectives for the Hudson Tunnel Project and is not a reasonable alternative, and was not considered further nor evaluated in the DEIS.

With respect to the specific issues noted above in the comment:

- The “superior routing” for the Hoboken Alternative identified in the comment does not fully address one of the Project’s purposes, which is to create operational flexibility for the current users of the existing North River Tunnel, Amtrak’s NEC service and NJ TRANSIT’s commuter service between New Jersey and PSNY. The Preferred Alternative would improve and maintain transit service and regional connectivity for the entire Northeast as well as the areas served by NJ TRANSIT passenger rail service, which does not constitute a disproportionate advantage to well-to-do communities as claimed in the comment. Improving transit service for Hoboken and Jersey City or creating connections for Hudson County are not among the goals of the Project.
- In addition, while the commenter claims that the Hoboken Alternative would avoid certain adverse impacts (to wetlands and stormwater), in fact a tunnel through Hoboken Terminal would require tremendously disruptive activity in and around the terminal as well as disruptions associated with the new station and track connections required. In addition to adverse impacts in and near the Hudson River, this construction would disrupt service on NJ TRANSIT, PATH, and ferries operating from Hoboken. Given the needed work in an operational multimodal transit hub, such an undertaking would be extremely complex, time-consuming, and expensive.
- The Preferred Alternative does not require the “costly acquisition of 117 parcels,” as stated in the comment. Property acquisition for the Preferred Alternative is described in the EIS in Chapter 6B, “Property Acquisition.” As described in FEIS Section 6B.3, the Preferred Alternative would require

permanent acquisition of surface easements on portions of 11 properties in New Jersey and permanent acquisition of a surface easement or fee acquisition on one property in New York. Additional subsurface easements would be required in New Jersey where the tunnel would pass below the surface, but this is not a notable component of the Project cost.

- The comment also states that the Hoboken Alternative would avoid the need for a new crossing of the Hackensack River, which appears to be a comment about the purpose and need for the new Portal Bridge replacement project. As discussed in response to **Comment 44**, the Portal Bridge project is a separate critical infrastructure repair project and is not part of the Hudson Tunnel Project. It has already undergone its own separate environmental review and approval process. Any decision related to the Portal Bridge project is independent of decisions related to the Hudson Tunnel Project.

Comment 44: A commenter stated that the DEIS did not address the suggestions submitted in November 2016 that full consideration should be given to all options, including the economic impact of postponing or even eliminating the replacement of the Portal Bridge. The commenter said that current plans for the Portal Bridge replacement should be reviewed and a detailed cost-benefit analysis conducted. Given the limited marine traffic that requires this movable bridge to be opened, consideration to be given to permanently fixing this bridge in the closed position. *(IRUM-Haikalis)*

Response: The Portal Bridge project is a separate critical infrastructure repair project and is not part of the Hudson Tunnel Project. It has already undergone its own separate environmental review and approval process. FRA and NJ TRANSIT conducted environmental review of the Portal Bridge project in 2008; in addition, FTA also conducted environmental review of the Portal Bridge project in 2017.[7] Any decision related to the Portal Bridge project is independent of decisions related to the Hudson Tunnel Project. Therefore, there is no need or rationale for the Hudson Tunnel Project EIS to address any suggestions related to the Portal Bridge project.

Comment 45: A commenter asked why the Project is focused exclusively on infrastructure between Secaucus and PSNY without consideration of new Manhattan-based transit sites for future expansion. The commenter stated that while there needs to be at least a third cross-Hudson tube between Secaucus and PSNY to allow for the shutdown and repair of the North River Tunnel, considering the costs and benefits of the Preferred Alternative, some of the resources of the Project should be spent outside the Secaucus to PSNY corridor. With the goals identified in the DEIS, the commenter proposed the "Hudson Terminal Plan," which seeks to extend infrastructure from Hoboken Terminal to a new intermodal transit hub on the west side of Manhattan at 14th Street. The commenter stated that this plan

[7] https://railroads.dot.gov/sites/fra.dot.gov/files/fra_net/217/portal_rod_12-15-2008.pdf; https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/portal-bridge-capacity-enhancement-project-record.

would truly expand cross-Hudson capacity and reduce demand for passengers traveling to PSNY, whereas adding new tracks to PSNY as part of the Preferred Alternative would increase demand without adding station-based track capacity. The cost-benefits of this alternative appear not to have been sufficiently assessed considering the goals stated in the DEIS. *(Real Transit-Handler)*

Response: The purpose of the Project is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. The purpose of the Project is not to expand Hudson River passenger rail capacity. Improvements included in the Proposed Action must be achieved while maintaining uninterrupted commuter and intercity rail service and by optimizing the use of existing infrastructure. To meet this purpose, any Build Alternatives for the Project would need to connect to the NEC in New Jersey on the west and to the existing tracks leading into PSNY on the east. An alternative that brings trains to a new transit hub on the West Side of Manhattan at 14th Street would not meet the purpose and need for the Project, since it would not connect to existing PSNY and would not provide redundant capability under the Hudson River for both Amtrak and NJ TRANSIT trains. However, the Hudson Tunnel Project's Preferred Alternative would not preclude improvements proposed in the Hudson Terminal Plan.

Comment 46: A commenter stated that the Preferred Alternative is fatally flawed because it will provide no increase in transportation capacity for the region. He commented that the Project's stated purpose that all alternatives must connect to the existing PSNY is arbitrary and capricious and distorts the evaluation of all alternatives and the unbiased selection of an innovative, cost-effective solution that provides trans-Hudson transportation capacity for the next 100 to 200 years, without the constraints of 100-year-old platforms and tracks at PSNY. Given the cost and complexity of expanding PSNY and the limitations of the East River Tunnels, it's unlikely that additional station capacity will ever be built at PSNY. The need for safe and reliable trans-Hudson mobility is critical for the economic viability of the region. The once-in-a-lifetime opportunity to build a new trans-Hudson link should choose the best alternative based on cost and capacity to serve the needs of New Jersey and New York for the next 100 years. The DEIS analysis of alternatives is flawed because it failed to conduct a trade-off analysis to document and compare the cost, capacity, and constructability of each alternative.

The commenter noted that he provided these comments in a November 17, 2016 letter to the Project office that was never answered. He requested that the Preferred Alternative recommendation should be retracted and the EIS Scoping Summary Report should be revised and reissued to consider the cost, capacity, and constructability advantages of the Empire State Gateway alternative that was proposed during the alternatives process. The commenter contends that the Empire State Gateway project would provide a multi-modal transit solution for both buses and trains between New Jersey and New York with an innovative use

of twin suspension bridges over the Hudson and East Rivers that utilize the air rights at least 120 feet above 38th and 39th Streets across Manhattan. He stated that more than half of the project cost can be privately financed and repaid from user fees that include buses, trains, pedestrians and bikes on the Skyline Trail, radio/TV/cellphone antennas and utility conduits. According to the commenter, the Empire State Gateway project would more than double trans-Hudson transit capacity to serve New York for the next 100 to 200 years. It would also remove buses from the Lincoln Tunnel and eliminate the multi-billion cost of building a new Port Authority Bus Terminal. Since prefabricated technology would allow the bridge to be completed in less than 60 months, the Empire State Gateway project would meet the critical project need of providing a bypass route to allow rehabilitation of the existing Hudson Tunnel. A competitive, international RFP process would attract world-class solutions to maximize the use of private financing, minimize construction time and taxpayer costs and operate the Empire State Gateway as an iconic, international transportation landmark. *(ESG-Spencer)*

Response: The purpose of the Hudson Tunnel Project is: to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. These improvements must be achieved while maintaining uninterrupted commuter and intercity rail service. (See Chapter 1, "Purpose and Need," Section 1.3, of the EIS.) Providing an increase in capacity is not part of the stated purpose and need for the Project. Because of the urgent need to fully rehabilitate the North River Tunnel as quickly as possible without compromising Amtrak and NJ TRANSIT's existing NEC service, the Hudson Tunnel Project is being advanced as a resiliency project, without additional capacity enhancements that would complicate the Project and delay its funding and implementation. The Project seeks to maintain uninterrupted commuter and intercity rail service because of the importance to the region's economy of the approximately 500 daily trains that currently serve PSNY. Therefore, while the Project addresses maintenance and resilience of the NEC Hudson River crossing, it would not increase rail capacity. This future need to increase capacity, while important, is not part of the purpose or scope of the Hudson Tunnel Project. At the same time, one of the goals of the Project is not to preclude other future projects that do enhance capacity on the NEC, which can be undertaken as separate initiatives from the Hudson Tunnel Project.

FRA and NJ TRANSIT conducted a multi-step alternatives development and evaluation process that considered a broad range of alternatives to identify alternatives that best meet the purpose and need for the Project. This process is presented in the Hudson Tunnel Project Alternatives Development Report completed in April 2017 and included in the EIS as Appendix 2-1. The alternatives evaluation process involved developing an initial list of preliminary alternatives, comprising many different possible means of providing a Hudson River rail crossing. FRA and NJ TRANSIT conducted a high-level qualitative evaluation for

the preliminary alternatives to determine which of those alternatives met the purpose and need for the Project and, if so, were feasible and reasonable. Any alternatives that were not found to meet the purpose and need for the Project and were eliminated from further analysis; alternatives that met the purpose and need but were not feasible and/or reasonable were also eliminated. Thus, the methodology FRA and NJ TRANSIT used for alternatives evaluation involved more detailed analysis, including consideration of engineering, environmental, and cost considerations, only for alternatives that were found to meet the purpose and need for the Project and to be feasible and reasonable. FRA and NJ TRANSIT evaluated the Empire State Gateway alternative in the Alternatives Development Report (in Section 3.3.10 of the report) and concluded that the alternative would not meet the purpose and need for the Project. Consequently, it was eliminated from further consideration. The Scoping Summary Report for the Hudson Tunnel Project, dated December 2016, and the Alternatives Development Report both include a detailed evaluation of the Empire State Gateway alternative cited in the comment and in the cited November 17, 2016 letter. Please note that FRA and NJ TRANSIT did not provide personal responses to comments provided on the Project; instead, comments were considered during preparation of the Scoping Summary Report, Alternatives Development Report, DEIS, and FEIS.

The evaluation of the long list evaluation of alternatives identified a single Build Alternative concept that would meet the purpose and need for the Project and is feasible and reasonable—a new rail tunnel under the Hudson River close to the NEC that would carry Amtrak and NJ TRANSIT service to PSNY while the existing North River Tunnel is being rehabilitated, and then would provide operational flexibility for both Amtrak and NJ TRANSIT once the tunnel rehabilitation is complete.

As discussed in the Alternatives Development Report (see Section 3.3.10), FRA and NJ TRANSIT concluded that the Empire State Gateway alternative would not meet the purpose and need of the Project. The alternative would not allow trains to reach PSNY and therefore could not maintain uninterrupted service on the NEC while the North River Tunnel is being repaired. With a new station located equidistant to Grand Central Terminal and PSNY, it would provide only limited interconnectivity with other modes of transportation. Moreover, construction of the two-track bridge with an elevated station would greatly limit the capacity of the NEC to process trains, in comparison to the 19 tracks at PSNY available to NEC trains. This would result in a degradation of rail service into New York during the reconstruction of the existing North River Tunnel. All trains using the new bridge would have to be moved east to Sunnyside Yard in Queens to allow arriving trains from New Jersey to detrain passengers.

In addition, the evaluation in the Alternatives Development Report also concluded that the proposed Empire State Gateway alternative is unreasonable and likely infeasible because of the substantial obstacles it would face related to environmental review, permitting, and approval, most likely resulting in a much longer development schedule than the Preferred Alternative. For example, this alternative does not have a feasible station location in Midtown Manhattan and

any new location would require substantial property acquisition in the densely developed urban core of Manhattan. Further, it is unclear how an aerial station would be designed and constructed to meet the 120-foot-high tracks in this alternative. In addition, land is not readily available at the sites proposed for the new support towers. In New Jersey, the towers would have to be placed in an area of Weehawken occupied by the Lincoln Tunnel's ventilation structure, the HBLR alignment, and a waterfront park—and directly above the Lincoln Tunnel itself. In Manhattan, the towers on the Hudson River shoreline would also be directly above the Lincoln Tunnel and could interfere with the Lincoln Tunnel ventilation building along the water's edge. Moreover, this proposal would have substantial community and environmental impacts to the residential properties on the Palisades in New Jersey and residential and commercial properties in New York City from the massive structures that would be placed very close to existing buildings and from the train operations on those structures within a few feet of these adjacent buildings. In terms of cost, this alternative would likely be substantially more expensive than a tunnel option. It would have to be twice as long as a tunnel because it would cross both the Hudson and East Rivers. Additional substantial costs would include property acquisition for the bridge pylons and Manhattan station; roadway work connecting to I-495 and the NJ Turnpike; and design, construction, and operation of the new elevated station.

Since the Empire State Gateway alternative did not pass the first screen in the alternatives evaluation, which sought to identify alternatives that meet the purpose and need for the Project and are feasible and reasonable, a detailed evaluation of the alternative was not included in the Alternatives Development Report. However, the Preferred Alternative for the Hudson Tunnel Project would not preclude the Empire State Gateway project.

Comment 47: One commenter proposed that instead of the Hudson Tunnel Project, the region should pursue development of a ferry system that would carry rail cars and/or buses across the Hudson River from a point near the Lincoln Tunnel Helix in Weehawken, New Jersey to a point in West Midtown Manhattan near the Javits Center and Hudson Yards. (*von Bergen*)

Response: The purpose of the Hudson Tunnel Project is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. This must be achieved while maintaining uninterrupted commuter and intercity rail service and optimizing the use of existing infrastructure. (See Chapter 1, "Purpose and Need," Section 1.3.)

The ferry alternative proposed in the comment would not meet the purpose and need for the Project. A rail-to-ferry system would not allow 24 trains per hour (the current level of train service) to reach PSNY in the peak hour. The commenter's backup materials propose operating two ferries, each with a capacity of 12 rail cars, making three round trips per hour, for a total capacity of 72 rail cars per hour in the peak direction. With a typical NJ TRANSIT train length of 10 cars per train,

this is equivalent to approximately 7 to 8 trains, which is well below the 24 peak-direction trains needed to meet the purpose and need for the Project. These trains would not reach PSNY, which is an important component of the purpose and need for the Project. Moreover, this alternative would not accommodate full trainsets, but instead would require train cars to be uncoupled for loading onto the ferry, a time-consuming process that would adversely affect the alternative's capacity to accommodate the required volume of passengers. This also means that the proposed rail-to-ferry system could not provide redundant trans-Hudson capability in the event that the current North River Tunnel experiences an outage. A low-capacity rail-to-ferry system would not allow uninterrupted rail service during the rehabilitation of the North River Tunnel. The rail-to-ferry system would require new rail connections to the NEC in New Jersey and to PSNY through densely populated neighborhoods, and thus would not optimize existing infrastructure; development of the right-of-way for these new connections would likely not be feasible.

28.4.5.4 ENHANCEMENTS TO SERVICE IN THE TUNNEL

Comment 48: Commenters stated that consideration should be given to capacity-expansion projects, such as the No. 7 subway line extension to Secaucus, that could play a critical role in meeting projected future trans-Hudson demand. One commenter noted that the Hudson Tunnel Project DEIS identifies alignments in New Jersey and in the vicinity of Hudson Yards that could potentially conflict with the conceptual alignment identified for the No. 7 extension and stated that it would be short-sighted to make any irrevocable engineering decisions for the Hudson Tunnel Project that would preclude further consideration of a No. 7 subway extension. Another commenter stated that while extension of the No. 7 subway line to Secaucus would add substantial rail capacity, the only mention in the DEIS of the No. 7 subway line is that it is 50 feet below the new Amtrak tracks leading into A Yard. Commenters requested that in the finalization of the alignment, the preliminary engineering, and the design phases of the Hudson Tunnel Project, the following be considered: the possibility of a No. 7 subway extension from its current terminus at West 34th Street and Eleventh Avenue in New York City to an expanded No. 7/bus multimodal facility directly south of and integrated with the Secaucus Junction Station, including No. 7 rail tracks, train storage, maintenance facility and crew quarters in Secaucus; and any opportunities for shared infrastructure between the Hudson River Tunnel and the No. 7 Extension. *(CB4 Manhattan-Mackintosh, CB4 Manhattan, Edison-Borelli, H. Leavy)*

Response: The purpose of the Hudson Tunnel Project is: to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. See Chapter 1, "Purpose and Need," Section 1.3, of the EIS.) Because of the urgent need to fully rehabilitate the North River Tunnel as quickly as possible without compromising Amtrak and NJ TRANSIT's existing NEC service, the Hudson Tunnel Project is being

advanced as a resiliency project, without additional capacity enhancements that could complicate the Project and delay its funding and implementation. Consideration of the No. 7 extension and/or other capacity expansion elements between New Jersey and New York are beyond the scope of this Project and do not meet the Project purpose and need.

At the same time, one of the goals of the Hudson Tunnel Project (Goal 4, presented in Section 1.5 of Chapter 1, "Purpose and Need") is not to preclude other projects that expand transit capacity, which can be undertaken as separate initiatives from the Hudson Tunnel Project. An alternative in which the new tunnel could be used by the Hudson Tunnel Project and the No. 7 subway line was evaluated in the Alternatives Development Report completed for the Project in April 2017, which was provided in the DEIS in Appendix 2-1. As discussed in Section 3.3.7 of that report, creating a connection from the existing No. 7 subway line and the Hudson Tunnel Project would be difficult and potentially infeasible, given the difference in elevation between the No. 7 subway line tunnel and the Hudson Tunnel Project in Manhattan. The No. 7 line has two storage tracks (referred to as "tail tracks") in two separate tunnels that extend beneath Eleventh Avenue in Manhattan from the south end of the subway line's 34th Street terminus station to 25th Street. Those two tunnels pass approximately 35 feet beneath, and perpendicular to, the Hudson Yards Right-of-Way Preservation Project that Amtrak is developing beneath the West Side Rail Yard to preserve a location for a rail connection to PSNY beneath a large new development that is planned above the rail storage yard. To create a connection between No. 7 line tunnel and the Right-of-Way Preservation Project alignment would require extensive and complex construction beneath Manhattan that would not be reasonable, due to the additional cost, time required, and potentially extensive construction impacts, and may not be feasible given the difference in grade between the two tunnels. Therefore, this alternative does not meet the Project purpose and need and is not a reasonable alternative, and was eliminated from further consideration.

Comment 49: One commenter stated that the new Hudson River Tunnel should be designed to accommodate a future PATH extension. *(Andrew)*

Response: The purpose of the Hudson Tunnel Project is: to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. (See Chapter 1, "Purpose and Need," Section 1.3, of the EIS.) Because of the urgent need to repair the North River Tunnel as quickly as possible without compromising Amtrak and NJ TRANSIT's existing NEC service, the Hudson Tunnel Project is being advanced as a resiliency project, without additional capacity enhancements that could complicate the Project and delay its funding and implementation. Therefore, the Preferred Alternative is not being designed to accommodate a future PATH extension. Such an extension could be designed in the future as a separate initiative, although the benefits of new PATH service may not outweigh the

difficulties of accommodating PATH service on the NEC between Newark Penn Station and PSNY, given that PATH already serves both Newark Penn Station and the PSNY vicinity (with a stop at West 33rd Street and Sixth Avenue in New York).

Comment 50: Commenters stated that the alternatives evaluation conducted for the Project focused too heavily on the mandate to retain the exact same functionality for the Amtrak NEC and NJ TRANSIT's commuter rail, without considering additional alternatives such as incorporating a bike lane in the tunnel, either in the same tube as or a separate tube from the train tunnel. *(Andrew, Griffin, Kim, K. Taylor)*

Response: As described in the EIS in Chapter 1, "Purpose and Need," Section 1.3, the purpose of the Hudson Tunnel Project is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. Chapter 2 of the EIS, "Project Alternatives and Description of the Preferred Alternative," describes the evaluation process used to develop and evaluate alternatives. As discussed there in Section 2.3, FRA and NJ TRANSIT conducted a multi-step alternatives development and evaluation process to identify alternatives that meet the purpose and need for the Project. Alternatives were dismissed if they did not meet the Project purpose and need or if they were found to be infeasible or unreasonable. More information on the alternatives evaluation process is provided in the Alternatives Development Report completed in April 2017 and included in the EIS in Appendix 2-1.

A passenger rail tunnel that includes a bike lane was evaluated during the alternatives development for the Hudson Tunnel Project. As described in Section 3.3.8 of the Alternatives Development Report, this alternative would not support the Project purpose and need. The addition of a bike lane would require a substantial increase in the width of the tunnel. However, a larger tunnel that meets the requirements of the USACE related to the depth of the tunnel beneath the Hudson River's Federal navigational channel and also allows Amtrak and NJ TRANSIT to connect to PSNY cannot be accommodated beneath the Hudson River. The proposed tunnel would be created using a tunnel boring machine, which is the state-of-the art for modern tunnels excavated beneath rivers and, for the Hudson River, would minimize impacts to the river bottom and to the Federal navigation channel in the river. Tunnel boring machines create a circular tunnel, and an increase in the width of the tunnel would therefore mean that the overall diameter of the tunnel would also have to increase, resulting in an equivalent increase in the height of the tunnel. However, based on comments provided to NJ TRANSIT and Amtrak during review of the permit application for the Hudson Tunnel Project, the USACE requires a minimum of 11 feet between the top of the tunnel beneath the Hudson River and the bottom of the authorized depth of the Hudson River Federal navigation channel; the USACE also requires that any modified soil above the new tunnel be a minimum of 5 feet below the authorized

depth of the Federal navigation channel.[8] These distances could not be provided for a larger tunnel unless it were at a lower elevation than the Preferred Alternative. With a lower tunnel, however, the tunnel alignment could not meet the existing tracks that connect to PSNY while maintaining the shallow slope required for Amtrak and NJ TRANSIT passenger rail operations. Therefore, a tunnel that includes a bike lane would not meet the purpose and need for the Project. In addition, providing pedestrian or bicycle access in the same tube where active train service is operating would raise safety issues for the bicyclists and pedestrians due to the proximity to trains, and security issues for the tunnel infrastructure itself. Creating a completely separate tube beneath the river for pedestrian or bicycle access would substantially add to the cost and schedule of the Project. Therefore, this alternative was eliminated from further consideration.

Comment 51: Commenters asked if the tunnel would be designed to accommodate taller double-decker cars such as Amtrak's superliner equipment The New Jersey Association of Railroad Passengers and National Association of Railroad Passengers requested that the new trans-Hudson rail tunnel be constructed with a cross section that would allow Amtrak's double-decker superliner equipment to access New York City. They commented that one of Amtrak's most successful trains is the auto train between Virginia and Florida and Amtrak would love to bring that train into the New York City area. *(Andre, NJARP-Papp)*

Response: A tunnel capable of accommodating Amtrak's double-decker superliner equipment beneath the Hudson River would not meet the purpose of the Hudson Tunnel Project, because it is not feasible to construct a new Hudson River Tunnel large enough to accommodate these large trains while (1) connecting to the existing tracks at PSNY, (2) maintaining the required depth below the Federal navigational channel, and (3) maintaining the shallow grade required for operation of NJ TRANSIT trains in the tunnel. To accommodate superliner equipment, the tunnel's diameter would have to be increased by up to approximately four feet, for a total outer tunnel diameter of approximately 32 feet. As discussed in response to **Comment 50**, a larger tunnel that could still allow Amtrak and NJ TRANSIT trains to connect to PSNY cannot be accommodated beneath the Hudson River.

In addition, physical clearance challenges east of the tunnel through Manhattan, including at and through PSNY, under the East River to Queens, and west of the tunnel in New Jersey, could not accommodate Amtrak's double-decker superliner equipment or would add additional complexity, require additional coordination with third parties, and add potentially prohibitive costs to the Project, as outlined below:

- PSNY does not have the ability to accommodate double-decker superliner equipment due to its horizontal and vertical clearance restrictions, which are the most restrictive along the NEC. The maximum height of any car operating

[8] Based on a letter dated September 1, 2017 from Jim Cannon, Project Manager Western Section, New York District, U.S. Army Corps of Engineers.

into the station is 14 feet, 6 inches, approximately 4 feet, 7 inches less that the Auto Train auto carrier cars.

- The existing East River Tunnels connecting PSNY to Queens limit equipment height to 14 feet 6 inches from top of rail, much less than superliner equipment. By comparison, the standard superliner equipment requires a height of 19 feet 1 inch.
- Near PSNY in Manhattan, an even more significant clearance restriction is the existing overhead bridges at Ninth, Eighth, and Seventh Avenues.
- West of the tunnel portal in New Jersey, passing beneath Tonnelle Avenue on the way to and from the tunnel portal would be a major obstacle, given the tight clearance there for the Preferred Alternative. Raising Tonnelle Avenue (U.S. Routes 1 and 9) would require extensive grade changes on that heavily trafficked road, and lowering the alignment below Tonnelle Avenue would mean that the Project's bridge over the adjacent freight right-of-way would have to be lower, which would result in clearance conflicts for that freight rail line unless the freight line were also lowered.
- Superliner passenger car use is only compatible with low-height passenger platforms set at 8 inches above top of rail. Except for a very small number of exempted locations, all intercity stations north of Washington, D.C. have platform heights set at 48 inches above the top of rail.

Comment 52: Commenters stated that FRA and NJ TRANSIT should evaluate the potential to use the proposed new rail tunnel to accommodate freight rail:

The lead agencies should consider width and grade requirements necessary to allow for the future operation of freight rail, double-stack containers (20 feet, 2 inches clearance with a buffer closer to 22 feet) through the tunnel during off-peak and overnight periods and whether they can be accommodated. *(RPA-Wright)*

The DEIS ignored the environmental impact of the region's growing dependence on large trucks to move goods and fails to evaluate all the potential environmental improvements that could result if freight trains used the tunnels when excess capacity is available. The PANYNJ's recently published Cross Harbor Freight Movement study concluded that a railroad tunnel would reduce train operating costs and improve the competitiveness of freight rail with trucking, so as to divert freight from trucks to rail and enhance the environment. No real evidence was presented in the DEIS that would prevent the use of freight trains, even 20-foot, two-inch double-stack cars, from operating in the tunnel. Many statements presented against the use of freight trains were contradicted elsewhere:

- The proposed Hudson River Tunnel could support freight trains. It would have an inside of diameter of 25 feet, which is large enough for freight trains. This should be large enough for Plate B, C, F, and H (double-stack) with a Metro-North-style third track on the left; a LIRR-style third track on the right side requires further investigation.
- Statements in the DEIS that freight trains would have to pass through PSNY are not correct. Options that can be pursued separately from the Hudson

Tunnel Project to allow a freight connection to Long Island would be (1) constructing a deep tunnel at approximately Twelfth Avenue and 29th Street to connect with LIRR's Montauk Branch; and (2) connecting to Track 1, which is not inside PSNY and does not have the same clearance constraints.

- The DEIS statement about the ability of freight trains to handle a 2.0 percent grade are misleading. Freight trains handle steeper grades in other locations.

The analysis conducted evaluating freight train use should be provided. *(East of Hudson-Galligan)*

Response: Please note that in accordance with NEPA and FRA's environmental procedures (23 CFR Parts 1500-1508; and *FRA Procedures for Considering Environmental Impacts*, 64 FR 28545, May 26, 1999, as updated in 78 FR 2713, January 14, 2013), the purpose of the DEIS is to disclose potential environmental impacts of the proposed action as well as measures to avoid, minimize, and mitigate those impacts. NEPA does not call for analysis of the environmental improvements that might occur as a result of other projects that are not proposed, nor the environmental impact of activities not related to the proposed action.

Similar comments were provided during scoping for the Hudson Tunnel Project and a shared passenger rail and freight tunnel beneath the Hudson River was considered in the Project's Alternatives Development Report completed in April 2017 and included in the DEIS in Appendix 2-1. As presented in Section 3.3.6 of that report, a shared passenger and freight tunnel would not meet the purpose of the Hudson Tunnel Project, which is related to passenger service rather than freight service. Moreover, a shared passenger and freight tunnel would in fact be in conflict with the Project purpose and need, as follows:

- The inside diameter design of the proposed Hudson River Tunnel, which would be 25 feet 2 inches, would be occupied by the volume of the train itself, the overhead catenary system, egress and maintenance walkways (bench walls or otherwise), high-voltage feeder cables (and associated enclosure), signal and communication cables, ventilation plenums, and the invert that holds the tracks and drainage underneath. The resultant clearance from top of rail to trolley wire (catenary) would be 16 feet, 3 inches. This is not large enough for Plate F or double-stack freight cars, which are typical on the nation's freight system today.
- To accommodate Plate F cars would require at least a five-foot increase in clearances (adding in the air gap from car roof to wire), representing a very sizeable increase in tunnel volume. However, such an increase in tunnel diameter cannot be accommodated beneath the Hudson River for an alignment running into PSNY. With a larger tunnel at the same depth as the Preferred Alternative, as would be required to connect to PSNY, there would not be adequate soil cover above the tunnel to meet the requirements of the USACE for tunnels beneath the Federal navigation channel (see the response to **Comment 50**). These distances could not be provided for a larger tunnel unless it were at a lower elevation than the Preferred Alternative. However, with a lower tunnel, in order to meet the approach tracks at PSNY, the new tunnel's tracks would have to have a grade steeper than the Project's

design requirement of a grade (slope) of no more than 2.1 percent. This is the steepest grade for NJ TRANSIT's trainsets (not freight trains, as stated in the comment) in terms of operational reliability.

Moreover, if it were feasible to provide a trans-Hudson rail tunnel as part of the Hudson Tunnel Project that could be used by freight trains while still meeting the Project purpose, providing adequate clearance for freight trains would be very difficult west of the tunnel portal in New Jersey. Specifically, passing beneath Tonnelle Avenue on the way to and from the tunnel portal would be a major obstacle, given the tight clearance there for the Preferred Alternative. Raising Tonnelle Avenue (U.S. Routes 1 and 9) would require extensive grade changes on that heavily road, and lowering the alignment below Tonnelle Avenue would mean that the nearby bridge to be constructed as part of the Preferred Alternative to carry tracks over the adjacent freight right-of-way would have to be lower, which would result in clearance conflicts for that freight rail line unless that line were also lowered.

In addition, use of the tunnel for freight trains would require much larger ventilation capacity and fan plant size to account for the greater fire heat release rate of a freight train in comparison to a passenger train. Larger fan plants would add to the cost of the Hudson Tunnel Project and would likely result in adverse impacts in terms of land use compatibility and visual effects.

Further, connections for the freight trains in Manhattan would add substantial difficulties to the tunnel construction in Manhattan, with the potential for associated environmental impacts. Routing freight trains through the new tunnel and then to a separate freight route under Manhattan as suggested in the comment would require construction of an interlocking to switch the freight trains away from the passenger tracks at a location under the Hudson River. Reserving space for the interlocking machinery and turnouts would require construction of a large chamber completely different from the rest of the tunnel sections. It would create many difficulties to assure (if even possible) it could be built safely and remain watertight. Please note that the statement that Track 1 is not inside PSNY is not correct. Track 1 is subject to the same clearance restrictions as the other tracks.

For these reasons, accommodating freight trains through the proposed new Hudson River Tunnel would not meet the Project purpose and an alternative that provides a shared passenger and freight rail tunnel while meeting the purpose for the Project is not feasible.

28.4.5.5 ENHANCEMENTS: NEW STATION IN NEW JERSEY

Comment 53: Commenters requested that the Preferred Alternative include a new station between Secaucus and PSNY that would serve the local community:

The entire north end of Hoboken is in the process of being redefined as a development area and will be developed. The Hudson Tunnel Project should include a station on the north end of Hoboken, since a shaft will be drilled to the tunnel in the area anyway. This would allow a connection to the HBLR and create

a benefit for the residents of Hudson County and add capacity to the line. (*Bhalla-Hoboken, Fisher-Hoboken, Tom, Woolley*)

The tunnel should be designed to accommodate, or at least not preclude, a rail station along the tunnel alignment in northern Hoboken, Weehawken, or Union City. A new transportation option into Manhattan is sorely needed by local residents and would serve all of Hudson County. This would provide a benefit to residents who otherwise will bear the burden of a substantial portion of the construction of the Project without realizing any Project benefits. *(Andrew, Cahn, Calligy, Cromer, Doktor, Edelman, Fisher-Hoboken, Gilson, C. Greenstrom, Heitmann, Herman, Howitt, H. Leavy, K. Leavy, Lester, Marcos, Mason, Mylan, Patel, Romero, Schwartz, Sherman, Tom, C. Whitney, J. Whitney)*

Response: FRA and NJ TRANSIT considered an alternative that included a new station in New Jersey as part of the alternatives development and evaluation process conducted for the Hudson Tunnel Project, which is presented in the Alternatives Development Report completed for the Project in April 2017 and included in the DEIS in Appendix 2-1. As described in that report in Section 3.3.3, a new station in New Jersey would not meet the purpose and need for the Project, which is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. An additional station in New Jersey along the new tunnel route would substantially reduce the capacity of the NEC to process trains into and out of PSNY. Having trains stop at the station would mean that the tunnel could not process the same number of trains in the peak periods, since train time through the tunnel would be slower (because each train would either be stopping at the station or waiting behind trains making the station stop). However, it is critical to the purpose and need of the Project to maintain equivalent train levels to the existing service Amtrak and NJ TRANSIT provide between New Jersey and PSNY.

In addition, once the new tunnel and rehabilitation of the existing tunnel are both complete and trains into and out of PSNY are operating using four tracks under the Hudson River, the need to stop certain trains at a new station stop along the tunnel route would greatly reduce the operational flexibility and redundancy of the new system, because trains headed to and from that station stop would have to use the new tunnel and would not have the option of using the existing tunnel, which does not have a stop in the same location. This would also be counter to the Project purpose and need, since this alternative would not add redundancy for tunnel operations. Finally, a new station stop along the tunnel route would also add to the travel time for thousands of rail passengers each day who are making trips by rail to and from New York City from destinations farther than Hoboken, which is not consistent with goals and objectives for the Project.

Since a new station would be counter to the Project purpose and need, it is not included in the Preferred Alternative. The Hudson Tunnel Project would not

preclude such a station, however, and it could be pursued later as a separate project.

28.4.6 PREFERRED ALTERNATIVE: PROJECT DEFINITION (COMMENTS 54-68)

Comment 54: The current North River Tunnel has third rail as well as overhead catenary wires for traction power, with the third rail used for rescue locomotives coming from either PSNY or North Bergen. Consideration ought to be given for the new Hudson Tunnel to also include third-rail traction power. (*Woolley*)

Response: As described in the EIS in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.4.1, the new tunnel would be equipped with third-rail power that could be used to rescue a stranded train.

Comment 55: A commenter asked whether it is possible to provide cross passages for the existing North River Tunnel when it is rehabilitated. *(Bulow)*

Response: Currently there are 10 cross passages in the land-side sections of the North River Tunnel: 9 on the New Jersey side and 1 on the Manhattan side. These cross passages would be upgraded as part of the Preferred Alternative. However, as noted in the comment, there are no cross passages in the portion of the North River Tunnel beneath the Hudson River, and the Preferred Alternative would not add cross passages there. Breaching the tunnel wall to install cross passages beneath the river would entail unacceptable risks to the tunnel infrastructure given currently available construction technology. The construction of new cross passages under the Hudson River would require penetration of the existing cast-iron tunnel liner in soft soil deposits that are saturated with groundwater. Preventing groundwater infiltration during such an operation, an essential element of maintaining the tunnel's integrity, is an extreme technical challenge. To prevent groundwater infiltration and tunnel instability in soft soil deposits, the state-of-the-art construction practice normally would employ ground freezing supported by pre-excavation grouting; however, this practice would have substantial risks when performed from within an existing tunnel where the liner must be removed, because there is no way to completely prevent groundwater from entering the tunnel as the ground freezing process is beginning (e.g., during the drilling and installation of the ground freezing pipes from within the tunnels). Furthermore, this process could be prohibitively expensive and, by requiring work in the bottom of the Hudson River for the length of the existing North River Tunnel's alignment, could result in extensive impacts to navigation and natural resources in the Hudson River.

Comment 56: The choice of grade, whether 2 percent or 3 percent, should be based on careful analysis, which should include environmental impacts as well as rail operating factors. Metro-North Railroad is operating to the lower level of Grand Central Terminal via four tracks, two with 3 percent grade and two with 2.7 percent grade. Electric multiple-unit rail cars have been in use to reach the lower level of Grand Central Terminal for over a century. The LIRR includes a 4,200-foot-long section

of 3 percent grade to reach the East River tunnels (currently under construction). *(IRUM-Haikalis)*

Response: The new Hudson River Tunnel must maintain a grade appropriate for NJ TRANSIT's passenger trains as well as Amtrak's fleet. Given the train lengths (and resulting weight) of NJ TRANSIT's commuter trains serving PSNY, the Project requires that grades should not exceed 2.1 percent for the tunnel design. This is the steepest grade for NJ TRANSIT's trainsets in terms of operational reliability. This information has been added to the FEIS in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," in Section 2.5.2. The example cited of Grand Central Terminal with steep grades is not comparable, as the ramp tracks where these grades are present are short and in very slow speed territory and Metro-North Railroad does not operate long and very heavy locomotive-hauled trains as NJ TRANSIT does.

Comment 57: A commenter asked how the Hudson Tunnel Project will dovetail with projects that may be initiated in the future. *(LPAC-Scialdone)*

Response: The Hudson Tunnel Project's Preferred Alternative was designed, and will continue to be designed, so as not to preclude other future projects to expand capacity in the area; this is one of the goals of the Project, as described in Chapter 1 of the DEIS, "Purpose and Need," Section 1.5 (Goal 4: Do not preclude future trans-Hudson rail capacity expansion projects).

Comment 58: A commenter requested that NJ TRANSIT restore full weekend service to New York as soon as the new tubes are in operation and route Raritan Valley Line trains directly into PSNY via the new tunnel. *(RVRC-Robins)*

Response: Future weekend service levels will be evaluated as the Project is completed and this will include an evaluation of running weekend Raritan Valley Line trains directly into PSNY. Future evaluation will need to assess service operations requirements and financial capacity.

Comment 59: The Preferred Alternative specifies full replacement of all tunnel bench walls when only 10 to 20 percent of the walls were inundated by seawater during Superstorm Sandy. According to the Project team, this is being done to meet NFPA 130 bench wall height standard. However, it is resulting in a fivefold increase in time (to five years) and cost (to $250M in 2014 dollars) to replace bench walls over entire 2½-mile tunnel length. The DEIS falsely claims that the bench walls were damaged from portal to portal—see page S-2, which states, "Chlorides from the seawater remain in the tunnel's concrete liner, bench walls, and ballast, causing ongoing damage to these elements as well as to embedded steel, track and third rail systems, and signaling, mechanical and electrical components. The damage to the bench walls and ballast and track systems necessitates full portal-to-portal replacement of these elements, which form integrated systems running the length of the tunnel." *(Clift)*

Response: An alternative that rehabilitates only portions of the North River Tunnel was considered in the Alternatives Development Report completed for the Hudson

Tunnel Project in April 2017 and included in the DEIS in Appendix 2-1 (see Section 3.4.1 of that report). As discussed there, the bench walls must be replaced portal to portal since it is not practical to construct the middle portion of a bench wall at different height than the two ends, given that the bench wall operates as one continuous system providing emergency egress and housing duct work inside.

Further, the North River Tunnel's bench walls must be replaced rather than retained, to facilitate repair of the damaged tunnel liner behind the bench walls and to create a walkway in the tunnel that provides adequate emergency egress from the tunnel and access for emergency personnel and maintenance workers. Chlorides from the seawater that entered the tunnel during Superstorm Sandy remain in the tunnel's concrete liner, causing ongoing damage that must be addressed. The areas of the tunnel liner behind the bench walls and beneath the tracks and ballast are currently not accessible, because of their location behind those permanent features. Moreover, a critical element of the rehabilitation project is providing new bench walls or other form of an access walkway at a floor height that is level with the floor of the Amtrak and NJ TRANSIT trains that operate in the tunnel, to provide safe egress from trains in emergencies. The existing bench walls in the North River Tunnel are 18 inches higher than the height of the floors for Amtrak and NJ TRANSIT trains that operate in the tunnel and therefore are too high to meet modern safety standards for egress and access. New bench walls (or other form of walkway) are needed at a lower height that is level with the floor of the Amtrak and NJ TRANSIT trains that operate in the tunnel.

In addition, the North River Tunnel's rock ballast is coated with chlorides remaining from the seawater that flooded the tunnel. The existing rail system in the North River Tunnel consists of rock ballast, treated timber ties, running rail, and third rail. Full removal of the chlorides from the ballast, including from the inaccessible surfaces, is not physically possible; therefore, the ballast needs to be entirely removed. This requires removal of the tie and rail systems as well, in order to remove the ballast.

The damage to the bench walls and ballast/track necessitates full portal-to-portal replacement of these elements, which form integrated systems running the length of the tunnel. Moreover, both systems would need to be reconstructed to meet modern standards including fire and life safety; it would be both impractical and unsafe to reconstruct a portion of either system to a higher standard while other portions remain constructed to an older, incompatible standard.

Please note that the text cited from the DEIS does not claim that the bench wall was damaged from portal to portal. Rather, it states that the bench wall and ballast must be replaced from portal to portal.

Comment 60: The Preferred Alternative specifies direct fixation track to replace existing ballasted track in tunnels not built for direct fixation. This is being done because this is the "current state of practice for rail tunnels" but it is adding $100 million in 2014 dollars to the cost of the Project. *(Clift)*

Response: The North River Tunnel rehabilitation would install low-vibration track (LVT), which is a type of direct fixation track. This type of track has been selected because, as noted in the comment, it is the current state-of-practice for rail tunnels. Building new track systems to modern, state-of-practice for rail tunnels is responsible capital investment and assures to the greatest extent possible that new infrastructure is built to modern standards for safety, durability, reliability, and minimizing maintenance requirements. Direct fixation track systems, including LVT track, provide better track stability, potential reduced depth and weight of the track section, and a higher engineered track modulus since direct fixation track minimizes the track envelope in tunnels and the final horizontal and vertical alignment are more accurate. In addition, direct fixation track systems result in substantially reduced long-term maintenance and increased service life relative to ballasted track (in which ties are laid on ballast, such as is present in the North River Tunnel today), since there is little to no trackbed degradation due to tie and ballast wear resulting in surface and line irregularities. The reduced maintenance requirements would result in substantial reductions in life-cycle cost over the trackbed's service life of 75 to 100 years.

Please note that the fact that the North River Tunnel was originally built with ballasted track, not direct fixation track, does not pose a concern for the installation of a direct fixation track system. The connection between the direct fixation track and the existing tunnel liner would be similar to that of ballasted track, in that no physical connection is needed between the track system and the tunnel liner. Direct fixation track has been retrofitted in other tunnels in the New York metropolitan region, including the PATH tubes under the Hudson River and a number of MTA New York City Transit subway tunnels (e.g., Montague and Clark tunnels under the East River and Canarsie Line tunnel).

Comment 61: Commenters asserted that the schedule for the Project is out of keeping with international standards and asked why the Project will take so long to build. *(K. Leavy, Sullivan)*

Response: The schedule for implementation of any underground project is based on the specific site and subsurface conditions where the tunnel is proposed, as well as the purpose and design of the Project. In addition, the processes, regulations, and laws that affect design and construction of the Hudson Tunnel Project in the U.S. are different than in other parts of the world. The urgent need to fully rehabilitate the North River Tunnel is reflected in the Project purpose (see Chapter 1, "Purpose and Need," Section 1.3), which is to preserve the current functionality of existing passenger rail service between New Jersey and PSNY; in order to maintain such service without interruption, a goal of the Project (see Chapter 1, Section 1.5) is to ensure rehabilitation of the existing North River Tunnel occurs as soon as possible. In developing and evaluating alternatives to achieve the Project purpose, a key evaluation factor was the degree to which Project alternatives were responsive to this urgent need.

28.4.6.1 NEW JERSEY

Comment 62: Commenters asked for more information on how the tunnel alignment of the Preferred Alternative in New Jersey was selected:

Commenters suggested that alignment options that place the tunnel ventilation shaft near the Weehawken property occupied by Dykes Lumber may be better than the selected alternative. One commenter added that this alignment option, Option 3, would not displace any actively used buildings since the site contemplated for the ventilation shaft in Option 3 is currently a parking lot. Option 3 would require around 180 easements, not much more than the 140 needed for Option 4. For a slightly increased pre-construction risk compared to Option 4, Option 3 would build a shorter and less curved tunnel, reducing cost and schedule risk and cutting travel time for eventual passengers. By the EIS's own estimate, the savings in construction risk have the potential to offset the slightly increased cost of property acquisition. *(Carey, Hale)*

Commenters also asked why the proposed new tunnel alignment would not be next to the existing North River Tunnel in a straight alignment, which may reduce construction cost, rather than the curved alignment of the Preferred Alternative. One of the commenters stated that the Preferred Alternative is taking a longer circuitous route just to ensure the route goes to the lot that NJ TRANSIT owns. (*Carey, von der Lieth*)

Response: FRA and NJ TRANSIT conducted a comparative evaluation of four potential alignment options for the Preferred Alternative. This evaluation was presented in Section 4 of the Alternatives Development Report, which was completed and released publicly in April 2017, and was provided in Appendix 2-1 of the DEIS. Both the Alternatives Development Report and the summary of the alternatives evaluation provided in the EIS in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.3, provide an explanation for how and why the alignment option for the Preferred Alternative was selected.

As described in the Alternatives Development Report and EIS, multiple alignment options are possible for the Build Alternative's tunnel between its portal at Tonnelle Avenue and the Manhattan shoreline. To identify the tunnel routing that best meets the Project goals and objectives, four conceptual alignment options were identified that met the locational and design criteria for the Project related to its eastern and western termini, the diameter of the tunnel, the maximum slope of the tracks in the tunnel, and other similar considerations (defined in Appendix 2-1, "Alternatives Development Report," Sections 4.1 and 4.2). These alignment options were developed based on potential locations where the New Jersey ventilation shaft and fan plant could feasibly be sited and thus encompassed the range of feasible alignment options. The ventilation shaft must be located directly above the tunnel and east of the Palisades. This is an area where few undeveloped properties exist, and therefore the limited options for the location of the ventilation shaft determined the alignment of the tunnel between the tunnel portal and the waterfront area of New Jersey east of the Palisades.

Based on the evaluation of alignment options, Option 4, the alignment option that places the ventilation shaft on a site owned by NJ TRANSIT, best met the Project goals and objectives. Option 4 is a tunnel alignment that curves south beneath the Palisades from the new tunnel's North Bergen portal, following the alignment of the former ARC Project, with a shaft site and staging area in Hoboken on the south side of West 18th Street. While Alignment Option 4 would have a slightly longer tunnel and therefore slightly longer construction duration and train travel times than the other alignment options evaluated, these differences were not found to be meaningful.

The alignment referred to as Option 3 would curve south beneath the Palisades from the North Bergen portal and would have a shaft site and staging area at one of two locations in Weehawken: 800 Harbor Boulevard or 1899 Park Avenue. While 800 Harbor Boulevard had been in use as a parking lot when the Alternatives Development Report was completed, it was planned for redevelopment with more than 500 apartments and the construction had already begun. That residential complex, Hamilton Cove, is now completed and occupied. Option 3 was found to preclude the development of that residential development or, alternatively, would require displacement of the active commercial use at Dykes Lumber Company. In addition, Option 3 carries an increased risk of delays to the Project schedule, rather than a decreased risk as stated in the comment, because of the need to acquire new property for the shaft site and to conduct other pre-construction activity. The evaluation of alignment options also determined that Option 3's slightly shorter tunnel length (609 feet shorter, as detailed in Table 2 of the Alternatives Development Report) would not result in a substantial improvement in construction schedule, cost, or travel time over Option 4.

An alignment parallel to the existing North River Tunnel was considered as Alignment Option 1 in the Alternatives Development Report (see Section 4 of Appendix 2-1 of the DEIS for a full description of the alignment options). This alignment option was dismissed because it would require displacing a bus layover and staging area within the Lincoln Tunnel Helix, which would result in unacceptable impacts to NJ TRANSIT's trans-Hudson bus operations serving the Port Authority Bus Terminal, affecting approximately 7,500 daily trans-Hudson commuters; and would likely have conflicts with the planned reconstruction of the Lincoln Tunnel Helix.

Overall, Option 4 was found to have the most advantages, namely:

- Least risk of delays to the Project schedule, because of the property acquisition, investigation, and remediation already conducted for the ARC Project;
- Minimal impacts to existing transit and other transportation services; and
- Least impact related to displacement of active uses (residential, business, and future residential), since NJ TRANSIT has already acquired the properties needed for the New Jersey shaft site and staging areas.

Based on the evaluation criteria, and in particular the key factors mentioned here, FRA and NJ TRANSIT selected Alignment Option 4 to be progressed as the tunnel alignment for the Preferred Alternative.

Comment 63: A commenter asked what the maximum train speed would be in the new tunnel, considering its curve from Union City to Weehawken. *(Czornomor)*

Response: The maximum speed for the trains in the new Hudson River Tunnel would be 60 miles per hour (mph), which is the same speed as for the existing North River Tunnel. This is the same maximum speed as for other tunnel alignment options evaluated that had less curved alignments. Peak-period trains would typically operate at a maximum of 60 mph under normal peak conditions, but the actual operating speed of all trains entering and leaving PSNY is controlled by dispatching and operational issues close to PSNY more than by the tunnel speed limit.

Comment 64: A commenter asked why a new ventilation shaft is needed at the Hoboken site and whether there are any alternatives so that this shaft could be eliminated. *(Carey)*

Response: See also the response to **Comment 39**, which is a similar question about the ventilation shaft proposed for Twelfth Avenue in New York. The new Hudson River Tunnel would have a ventilation system designed to bring fresh air into the tunnel passively, through normal train movement. It would also have an active component, driven by fans, to remove hot air from the tunnel during congested (i.e., perturbed) conditions, which occur when trains are stopped or moving slowly for extended periods, particularly during the summer. The active component would also be used to control and exhaust hot air and smoke during emergency conditions, such as a fire on a train in the tunnel. The fans would be used to move smoke so that smoke-free emergency routes are available for safe evacuation of passengers and fire-fighting operations. Smoke would be pulled away from the train to allow passengers to exit to the nearest cross passage upstream of the fire. This system would comply with the latest fire-life safety standard, NFPA 130.

The Hudson Tunnel Project's ventilation design includes four ventilation/exhaust facilities that would each serve both tubes of the new Hudson River Tunnel. These would create six ventilation zones in each tube of the new tunnel. Ventilation zones are tunnel segments within which smoke can be contained during emergencies, based on coordinated operations at the supply/exhaust facilities serving those segments. To comply with the fire-life safety standards of NFPA 130, the Hudson River Tunnel's signal system would be designed so that only one train would operate in each vent zone, which would allow safe evacuation of trains operating in the tunnel in the event of a fire in one train. Using the exhaust/intake facilities, smoke could be pushed and/or pulled in a specific direction to be exhausted out of the Hudson River Tunnel, so that it could be directed away from other trains in the tunnel at the same time. Having six vent zones in each tube would allow the operation of 24 trains per hour in each direction while the North River Tunnel is being rehabilitated, the same level of operation as the existing North River Tunnel has today. This ventilation concept

is described more fully in the FEIS, Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.2.6, and illustrated in Figure 2-9 of the FEIS.

To support six vent zones, the new Hudson River Tunnel would have intermediate fan plants on each side of the Hudson River (in Hoboken, New Jersey, and at Twelfth Avenue in New York) as well as additional supply/exhausts point at each tunnel portal (the portal at Tonnelle Avenue in New Jersey and the below-grade portal at Tenth Avenue in New York, connected to outside air via a fan plant). Removing one of the fan plants, such as at the Hoboken site, would mean a substantial reduction in train capacity, which would not meet the purpose and need for the Project.

As described in response to **Comment 34** and **Comment 38**, FRA and NJ TRANSIT conducted a multi-step alternatives development and evaluation process to identify alternatives that meet the purpose and need for the Project. The alternatives evaluation process is presented in the Alternatives Development Report provided in Appendix 2-1 of the DEIS and summarized in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.3, of the DEIS. That process identified one Build Alternative that could meet the purpose of the Project, a new rail tunnel together with rehabilitation of the North River Tunnel. FRA and NJ TRANSIT evaluated a range of potential tunnel alignment options for that Build Alternative, depending on the location of the ventilation shaft that must be provided for the new tunnel between the Palisades and the Hudson River; that process resulted in identification of the Preferred Alternative.

Comment 65: A commenter made a number of suggestions about the design for the Preferred Alternative's surface tracks through the Meadowlands. The suggestions were intended to ensure that the design best meets the Project goal of supporting future capacity enhancement projects and does not unnecessarily limit the number of tracks between the North Bergen tunnel portal and the western limit of the Project corridor. The commenter stated that the figures in the DEIS seem to indicate three running tracks between County Road and Secaucus Road and four tracks east of Secaucus Road. He noted that the three single-track bridges over the freight yard just west of County Road represent a choke point for what would otherwise be a four-track railroad between Secaucus Junction Station and PSNY. That choke point should not be made any longer than it needs to be and should not be extended to between County Road and Secaucus Road. According to the commenter, one to two additional tracks in this location could provide indispensable operational and maintenance flexibility, so a fourth and probably even fifth track in this specific location should be included in the Hudson Tunnel Project. This would provide the operational flexibility to operate up to three simultaneous parallel train moves through the area and space to store a full-length train, which is important when a train breaks down or for storing maintenance equipment that is currently stored on occasion in Yards A, D, or E inside PSNY. It would also allow operation of a shuttle service between Secaucus Junction Station and a new passenger platform at the diagonal mail platform in

PSNY if that is improved for passenger service. Since additional capacity expansion that may be included in a Gateway Program may never be built and since the embankment for new surface tracks in New Jersey will be built anyway, the cost of the extra track and switches would be minimal relative to the cost of the Hudson Tunnel Project and this additional track should be included in the Project now to ensure its benefits occur. *(Kambouchev)*

Response: With the Preferred Alternative, the NEC would have three tracks at the western limit of the Project corridor near County Road. Beginning approximately 600 feet east of County Road, the NEC would have four tracks with the Preferred Alternative. The four tracks would continue through the Meadowlands to the two tunnel portals. With the Preferred Alternative, the Secaucus–PSNY corridor would always have at least three main tracks in service during peak hours, providing many more rerouting and recovery options than exist today.

Regarding the potential to add a fifth track through the Meadowlands, this is not part of the Preferred Alternative. The purpose of the Hudson Tunnel Project is: to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. These improvements must be achieved while maintaining uninterrupted commuter and intercity rail service and by optimizing the use of existing infrastructure. (See Chapter 1, "Purpose and Need," Section 1.3, of the EIS.) Because of the urgent need to repair the North River Tunnel as quickly as possible without compromising Amtrak and NJ TRANSIT's existing NEC service, the Hudson Tunnel Project is being advanced as a resiliency project, without additional capacity enhancements that could complicate the Project and delay its funding and implementation. At the same time, one of the goals of the Project is not to preclude other projects that do enhance capacity on the NEC, which can be undertaken as separate initiatives from the Hudson Tunnel Project. The Hudson Tunnel Project does not preclude adding more infrastructure assets as part of a potential future project; however, the Preferred Alternative would meet an urgent existing need and will be evaluated as a separate project from any larger initiative. Regarding the potential future use of the diagonal mail platform in PSNY for passenger service, see the response to **Comment 42**.

Comment 66: A commenter requested that the Project include the addition of a third pocket track between Secaucus and the tunnel portal in North Bergen. This would help keep trains moving if there's a back-up on the tracks going into PSNY from an incident or from weekend or overnight construction work. Having an extra pocket track would improve the ability of NJ TRANSIT and Amtrak to store trains and would allow for trains to continue running on both tracks by diverting onto the pocket track. (*Woolley*)

Response: The NEC currently has space at PSNY and Secaucus for rescue locomotives to pull disabled trains clear of main tracks. With the Preferred Alternative, the Secaucus–PSNY corridor would always have at least three main tracks in service

during peak hours, providing many more rerouting and recovery options than exist today. The Preferred Alternative would also include track storage space for rescue locomotives. See also the response to **Comment 65**.

28.4.6.2 NEW YORK

Comment 67: Manhattan CB4 commented that early collaboration regarding the design of the Twelfth Avenue fan plant with the New York City Department of City Planning (NYCDCP), the owner of Lot 1 on Block 675, and CB4 would increase the chances that the design for the building would include many of the interests of these stakeholders. CB4 and local elected officials requested that they be included in coordination related to the design of visible elements of the Block 675 fan plant. They also noted that the DEIS states that the Hoboken fan plant will be designed to be compatible with the character of the surrounding area and that the Project Sponsor will coordinate with the local community and seek input in determining the appropriate design for the visible portions of the fan plant, and they request that the same consultation with "the local community" be used for the Twelfth Avenue fan plant. *(CB4 Manhattan-Mackintosh, CB4 Manhattan, Hoylman-Gottfried-Brewer-Johnson)*

In addition, the New York City Mayor's Office of Environmental Coordination commented that the timing and process of the design for the Twelfth Avenue fan plant beyond the 10 percent level should be explicitly set forth, as well as a listing of any junctures where NYCDCP would be consulted to ensure consistency with policy, land use compatibility, and urban design objectives. *(NYCMOEC-Semel)*

Response: Following completion of the FEIS and ROD, the Project Sponsor, in cooperation with the other Project Partners, will coordinate with NYCDCP and CB4 about visible elements of the fan plant as the Project design advances. The FEIS states that such coordination will occur in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.2.7.2. The coordination is also described in Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.7.4. Regarding coordination with the owner of Lot 1, please see the response to **Comment 122**.

Regarding the schedule for continuing design, following completion of NEPA with the FEIS and ROD, as outlined in the "Roles and Responsibilities" section of this chapter (Section 28.1.2), the Permittees for the Project will seek the permits required for the Project (discussed in Chapter 25, "Process, Agency Coordination, and Public Participation," Section 25.2.5). At this time, FRA and the Project Partners anticipate that Project construction will begin as soon as permits and funding have been obtained, to be consistent with the overall Project construction schedule described in Chapter 3, "Construction Methods and Activities." As discussed in the EIS, the Project Sponsor, in cooperation with the other Project Partners, will coordinate regularly with NYCDCP and Community Board 4 regarding design of the visible elements of the Twelfth Avenue fan plant.

Comment 68: Commenters requested that more information be provided in the FEIS about the design of the Twelfth Avenue fan plant and suggested that the potential location

for the fan plant on West 29th Street is preferable to a potential location on the corner of 30th Street. They noted that the DEIS describes two potential locations for a fan plant on Block 675, the southeast corner of Twelfth Avenue and 30th Street or West 29th Street east of Twelfth Avenue, and says that the fan plant could be configured vertically or horizontally, as an independent or integrated structure. More information (e.g., dimensions and conceptual massing similar to what is shown in the DEIS in Figure 2-10) should be provided for all potential scenarios and the EIS should provide illustrations of the Twelfth Avenue fan plant with a horizontal orientation in the two potential locations. From a local perspective, the location of the Twelfth Avenue fan plant on West 29th Street might be advantageous because it might not block views from the High Line. However, this location might create further difficulties for new development on Block 675 Lot 1. The pros and cons of these two potential locations need to be more fully described. Strategies and timetable for coordination with NYCDCP on the location and design of the fan plant should be developed and included in the EIS. (*CB4 Manhattan-Mackintosh, CB4 Manhattan, MAS-Devaney, NYCMOEC-Semel*)

Response: Detailed design drawings are not available at this point in the Project's design. The description in the DEIS and FEIS in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.2.7.2, considers the potential massing for the fan plant to allow an understanding of potential impacts.

While the DEIS and FEIS describe two potential locations for the Twelfth Avenue fan plant, they also state that the preliminary design for the Hudson Tunnel Project does not identify a specific location, massing, bulk, or height for the Twelfth Avenue fan plant, to retain flexibility for future coordination with the owner of Lot 1. The shape, size, specific location on Block 675 Lot 1, and design treatment of the fan plant will be refined during advanced engineering. Design of the fan plant could be coordinated with other plans for the western end of the block and the fan plant could potentially be incorporated within a future commercial or residential building constructed on Lot 1. Potential dimensions and conceptual massing for the two illustrative locations are shown in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Figure 2-10 of the DEIS (Figure 2-11 in the FEIS). Dimensions and massing for a horizontal orientation are not shown because a horizontal orientation would be most likely if the fan plant is incorporated into a private development on the site, in which case it could serve as part of the base of the development. The specific dimensions would depend on how the fan plant is integrated into the larger development. Any illustration of this scenario would be purely hypothetical and thus speculative, since no details are currently available about private development plans for the site.

Additional text has been added to the FEIS about the potential advantages and disadvantages of the sample locations for the fan plant. See Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.2.7.2; Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.7.4.1; and Chapter 10, "Visual and Aesthetic Resources," Section 10.7.4.1.

As the Project moves forward, the Project Sponsor, in cooperation with the other Project Partners, will finalize the design for the Twelfth Avenue fan plant, including its location, dimensions, and massing, based on constructability and operational considerations, cost, and compatibility and suitability with the urban design of its setting and adjacent developments. The Project Sponsor, in cooperation with the other Project Partners, will coordinate with NYCDCP and CB4 about the design of the fan plant as the Project design advances.

28.4.7 CONSTRUCTION METHODS (COMMENTS 69-88)

28.4.7.1 GENERAL

Comment 69: The condominium development known as Riviera West, on Paterson Plank Road in North Bergen, New Jersey, experienced a rodent infestation as a result of the initial construction of the tunnel portal for the ARC Project in North Bergen. This, together with construction noise and traffic, led to vacancies in the building. Please consider this impact as you reinitiate construction. *(Ronchi)*

Response: The Project Sponsor will require that construction contract specifications include requirements for a rodent control program. Specifically, prior to beginning any construction or demolition operations, the contract terms will require the Project contractor to conduct a survey for evidence of current rodent activity and initiate a rodent control program by a certified pest control operator if the survey indicates that it is necessary. This is described in the EIS in Chapter 3, "Construction Methods and Activities," Section 3.2.4, and will be included in the ROD for the Project. In addition, the Project will include mitigation for the construction-related noise and traffic impacts, as discussed in the FEIS in Chapter 5A, "Traffic and Pedestrians," Section 5A.9, and Chapter 12A, "Noise," Section 12A.9.

Comment 70: This project should be constructed only by American-owned and operated participants. *(La Brie)*

Response: All procurement activities will follow Federal and state guidelines and regulations.

28.4.7.2 WEEHAWKEN AND HOBOKEN

FRA and NJ TRANSIT received many comments from residents and elected officials of communities near the proposed Hoboken staging area in New Jersey regarding the construction impacts of the Preferred Alternative on nearby communities, and particularly in the residential neighborhood of Weehawken known as the Shades that abuts the proposed Hoboken staging area. Commenters expressed concerns about effects on quality of life and property values, and impacts related to traffic, air quality, noise, and hazardous materials (see also additional comment summaries related to impacts near the Hoboken staging area that are provided for each EIS topic area later in this chapter).

Comment 71: Residents and elected officials of Weehawken are deeply concerned about the proposed construction methods and analysis (including construction timetable, construction hours of operation, and noise and dust pollution) and the impact that the Project as proposed in the DEIS will have on the quality of life of the residents and businesses located nearby. Construction activities from 7 AM to 11 PM for

years and numerous trucks coming into and out of the site will result in unacceptable impacts for a residential neighborhood. The Township of Weehawken would not allow work to start before 8 AM and would propose to finish by 4 PM.

Residents and elected officials of Weehawken are strongly opposed to the proposed construction activities in the Shades. While the Project is of significant importance to the region, the burden is heavily placed on the Township of Weehawken without proper evaluation of those methods and alternatives. The negative impacts associated with construction of the Preferred Alternative on the Shades area of Weehawken are to a great extent avoidable and that the required work could be accomplished with a far lesser impact to the Township and at a lower cost through the use of an alternative proposal, which would locate the point of removal of excavated materials to the west of the Palisades.

The Hoboken construction staging site should be abandoned due to the deleterious effects on the Shades neighborhood of Weehawken. The activities planned for that site should be moved to the Tonnelle Avenue construction staging site owned by NJ TRANSIT in North Bergen, where there are fewer residences and other uses that would be negatively affected by construction activities. The construction debris needs to be hauled westward anyway, and the Tonnelle Avenue site is adjacent to freight rail lines that could be used. The Tonnelle Avenue site is preferable to the Hoboken site for the following reasons:

- The Tonnelle Avenue site is zoned industrial and would have no impact on homeowners, bus routes, churches, or school bus stops. The Hoboken staging site is zoned for residential use and would affect hundreds of residents, five bus routes, four school bus stops, and one church.
- The Tonnelle Avenue site is considerably larger, is close to Route 3 and the NJ Turnpike, and has extensive rail freight access, which is not available at the Hoboken site.
- The Tonnelle Avenue site would not affect Lincoln Tunnel traffic while the Hoboken site would affect and be affected by Lincoln Tunnel traffic daily and on a significant basis.
- The Hoboken site would require 100 feet of excavation to reach the tunnel while the Tonnelle Avenue site would not.

The proposed Hoboken staging site is not the most cost-effective staging area for reasons including: unavoidable delays to traffic would extend the construction timeline, the necessary reimbursement for the significant environmental and other impacts to the neighborhood would increase Project costs, and there would be significant litigation if the Project goes forward with this proposal, which would drive up costs. The Project will go over budget if the Hoboken staging area is used as described in the DEIS.

(Acevedo, Babic, J. Bolcar, S. Bolcar, Cheng, Coblentz, Cooney, Dembroe, Dexter, Domingo, Eberhard, Eggenberger, Ehret-Weehawken, Fairclough, Farrell, Fox, Fredericks, C. Glackin, Hite, Janowitz, Kemper, Leong, X. Li, Lui, Lyons, Marchetti, Murphy, Navarra, Nephew, J. Newman, K. Newman, O'Kane,

Okubo, Olivieri, M. Rausch, Romero, Satten, Schlachter, Telker, Turner-Weehawken, N. Vaskis, Vavrecan, Vetter, von der Lieth, Weehawken Resolution, Weehawken-Nan Vogelman, Weehawken Planning-Meditz-Gould, Weehawken Safety-Welz)

Response: As described in response to **Comment 34** and **Comment 38**, FRA and NJ TRANSIT conducted a multi-step alternatives development and evaluation process to identify alternatives that meet the purpose and need for the Project. The alternatives evaluation process is presented in the Alternatives Development Report provided in Appendix 2-1 of the DEIS and summarized in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.3, of the DEIS. That process identified one Build Alternative that could meet the purpose of the Project, a new rail tunnel together with rehabilitation of the North River Tunnel. FRA and NJ TRANSIT evaluated a range of potential tunnel alignment options for that Build Alternative, depending on the location of the ventilation shaft that must be provided for the new tunnel between the Palisades and the Hudson River; that process resulted in identification of the Preferred Alternative.

FRA and NJ TRANSIT evaluated the construction impacts of the Preferred Alternative in the DEIS. The construction methods are described in Chapter 3, "Construction Methods and Activities," and the impacts are described in each technical chapter of the DEIS (i.e., Chapters 5 through 24). See also the response to **Comment 75 and Comment 112**.

Based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North Bergen and the Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts on local residents near the Hoboken staging area without either substantially increasing impacts to other communities and resources or affecting the Project's effectiveness in meeting its purpose and need. The alternatives analysis conducted and the revised construction methodology are described in the FEIS in Chapter 3, "Construction Methods and Activities," Section 3.3.3, and in Appendix 3-1 of the FEIS.

In the construction approach presented in the DEIS, the Hoboken staging area would have been used for three different phases of construction activity: (1) construction of a vertical shaft from the surface to the depth of the tunnel, which would serve as one of the permanent ventilation shafts and emergency access points for the new Hudson River Tunnel; (2) as an access point for deliveries of tunnel construction materials and for removal of excavated material from the tunnel (spoils) during construction of the river tunnel segment; and (3) construction of a ventilation fan plant that would provide ventilation for the train tunnel below for use when the tunnel is complete and in operation. In each of these three phases, trucks would bring deliveries to the site. In the first and second phase for the construction approach presented in the DEIS, trucks would

also remove spoils from the site—from excavation of the vertical shaft in the first phase and from excavation of the river tunnel in the second phase. FRA and NJ TRANSIT, working with the other Project Partners, have now identified a way to substantially reduce the activity at the Hoboken staging area during construction of the river tunnel segment. The revised construction methodology involves removing spoils from excavation of the river tunnel segment primarily at the Tonnelle Avenue staging area rather than at the Hoboken staging area. With the modified construction approach, the Hoboken staging area would still be used for construction activities related to construction of the vertical shaft from the surface to the tunnel and for construction of a new ventilation fan plant, since these are permanent features of the Project that must be located at the Hoboken site. The vertical shaft would be a permanent tunnel ventilation shaft and an emergency access point for the new rail tunnel when it is complete, and both the ventilation shaft and the ventilation fan plant are critical elements of the new rail tunnel's ventilation system (see response to **Comment 64**). Therefore, some construction trucks would still be needed at the Hoboken staging area.

The revised construction methodology is presented in the FEIS in Chapter 3, "Construction Methods and Activities," and is evaluated in the technical chapters of the FEIS (i.e., Chapters 5 through 24). The change in construction methodology results in a reduction in the number of trucks traveling to and from the Hoboken staging area from a peak of 16 trucks per hour in each direction (as presented and analyzed in the DEIS) to a maximum of 8 trucks per hour in each direction with the modified approach. This revised maximum, which FRA and NJ TRANSIT used for analysis of impacts in the FEIS, is conservative, since this level of trucking activity would not be required for all stages of construction at the Hoboken site with the modified approach. In addition, the Project construction contracts will mandate that trucking activity at the Hoboken staging area must be completed by 10 PM rather than 11 PM. The revised construction approach would substantially reduce the level of construction activity at the Hoboken staging area, to address concerns raised by the residents and elected officials of communities near the Hoboken staging area. At the same time, the revised construction approach would not substantially increase impacts to other communities. While the revised approach would shift some construction activity to the Tonnelle Avenue staging area, it would not alter the overall character of activities at Tonnelle Avenue that FRA and NJ TRANSIT analyzed in the DEIS. In either the DEIS approach or the modified approach, a total of 11 years of construction activities would occur at the Tonnelle Avenue staging area. In either the DEIS plan or the modified plan, noise levels exceeding FTA's criteria for construction noise impacts would occur as a result of these construction activities, including truck movements, at residences above the Tonnelle Avenue staging area and associated truck route. Both the DEIS plan and the modified plan would result in traffic impacts at intersections along Tonnelle Avenue resulting from trucking activities, with the same intersections adversely affected.

Reducing the hours of construction activities at the Hoboken staging area is not possible while continuing to meet the Project goal of completing the rehabilitation of the North River Tunnel as soon as possible, given the urgent need for that

repair (see Chapter 1, "Purpose and Need," Section 1.5, Goal 2). Reducing the hours of construction activity would necessarily extend the duration of construction, so that construction activities at the Hoboken staging area last longer and the overall duration of the Project's construction would also last longer. For example, reducing the construction hours from 16 hours per day to 8 hours per day as proposed in the comment would add 5 years to the construction activities at the Hoboken staging area, so that construction there would last 12 years rather than 7. This would also add five years to the overall Project construction schedule, so that the rehabilitation of the North River Tunnel would be completed five years later (in 2038 rather than 2033). As the Project design advances, the Project Sponsor will continue to evaluate whether construction hours can be reduced further, at least for some of the construction activities, without adversely affecting the Project's overall schedule.

In addition, as another method of reducing construction impacts on local communities near the Hoboken staging area, FRA and NJ TRANSIT have identified a third possible truck route option for access to and from the Hoboken staging area, which is analyzed in the FEIS. The DEIS described and analyzed two potential routes that could be used by trucks arriving at and departing from the Hoboken staging area. These routes, referred to as Options 1 and 2, made use of a new off-street haul route for trucks along the north side of the HBLR right-of-way near the staging area, in combination with portions of Park and Willow Avenues (for Option 1) or Willow Avenue only (for Option 2). Both routes would use 19th Street and JFK Boulevard East to connect to the regional highway network. The new option, Option 3, would use the same new off-street route for trucks along the north side of the HBLR right-of-way, and would follow the HBLR right-of-way all the way to 19th Street without using Willow or Park Avenue. The Project Partners are evaluating how to accommodate the presence of the proposed Rebuild By Design floodwall in conjunction with use of haul route Option 3 and will advance the design for Option 3 to reflect the constraints on available space resulting from the presence of the floodwall in the same area.

The impact analyses presented in the technical chapters of the FEIS (i.e., Chapters 5 through 24) have been revised from those in the DEIS to reflect the change in construction methodology and the potential new truck route, and the resulting changes in impacts. With the modified construction approach, the intensity of construction at the Hoboken staging area would be lower, and truck volumes (analyzed in Chapter 5A, "Traffic and Pedestrians," Sections 5A.6.2 and 5A.8.1) and maximum construction noise levels (analyzed in Chapter 12A, "Noise," Sections 12A.6.2 and 12A.9) would be lower.

In response to the specific items noted in the comment, please note that the DEIS included the use of the Tonnelle Avenue staging area as a construction staging area for the Preferred Alternative. This is described in the DEIS in Chapter 3, "Construction Methods and Activities," Section 3.3.2.6, and evaluated in each of the technical analyses presented in Chapters 5 through 24 of the DEIS. NJ TRANSIT acquired this site (consisting of parcels on both sides of Tonnelle Avenue) for use as a tunnel staging site for the ARC Project, which began construction but was cancelled in 2010, and NJ TRANSIT still owns the site today.

In the construction approach evaluated in the DEIS, construction of the segment of the new Hudson River Tunnel under the Palisades (i.e., between Tonnelle Avenue and the Hoboken ventilation shaft) would have been staged from the Tonnelle Avenue staging area in North Bergen, and construction of the segment of the new tunnel under the Hudson River (i.e., between the Hoboken ventilation shaft and Manhattan) would have been staged from the Hoboken staging area in Hoboken, adjacent to Weehawken. This sequencing approach would have allowed both the Palisades tunnel segment and the river tunnel segment to be constructed simultaneously, which could have allowed two different Project contractors to construct the two different tunnel segments. In the DEIS staging approach, the Tonnelle Avenue staging area was to be used for staging related to construction of the new tunnel from its portal at Tonnelle Avenue to the Hoboken shaft (i.e., the Palisades tunnel segment). Tunnel spoils from the Palisades segment of the new Hudson River Tunnel would have been removed at Tonnelle Avenue and deliveries would have been supplied to the tunnel from this point. In addition, this site was to be used for staging related to rehabilitation of the existing North River Tunnel after the new Hudson River Tunnel is complete.

Regarding the zoning of the two staging areas, please note that the Hoboken staging area, while adjacent to the Weehawken residential neighborhood of the Shades, is part of an industrial area of northern Hoboken that also includes small warehousing buildings on Willow Avenue north of the HBLR right-of-way and a sewage treatment plant, substation, bus parking, and other industrial uses south of the HBLR right-of-way. As discussed in the DEIS in Chapter 6A, “Land Use, Zoning, and Public Policy,” Section 6A.3.1.2 and shown in Figure 6A-6, the proposed Hoboken staging area is zoned for light industrial use. This discussion has been revised in the FEIS to more clearly describe zoning on the proposed Hoboken staging area. In addition, while the Tonnelle Avenue site is zoned “Industrial” on the west side of Tonnelle Avenue and “Highway Business” on the east side of the roadway, it is not true that activities there would have no impact on homeowners or churches as stated in the comment. As described in the DEIS and FEIS (for example, see Chapter 6A, “Land Use, Zoning, and Public Policy,” Section 6A.6.2.1.2 and DEIS Chapter 12, “Noise and Vibration,” Section 12.6.2.1.2 and FEIS Chapter 12A, “Noise,” Section 12A.6.2.2), construction activities at the Tonnelle Avenue staging area would result in noise levels that exceed impact thresholds at the residences directly above the construction site (on Grand Avenue and Paterson Plank Road in North Bergen) and at a Hindu temple located close to the site on Tonnelle Avenue. Section 12A.9 of FEIS Chapter 12A also describes how those noise impacts will be mitigated.

As discussed above, a vertical ventilation shaft would be constructed at the proposed Hoboken staging area to serve as a permanent ventilation feature for the new tunnel. Once it is constructed, this shaft would be used as an access point for underground tunnel construction. Thus, the statement in the comment that use of the Hoboken staging area would require excavation of the shaft while use of the Tonnelle Avenue site would not is not correct, since the shaft excavation must occur regardless of how the tunnel is excavated.

Comment 72: Commenters asked why spoils can't be removed and deliveries made to the tunnel from North Bergen or from Manhattan rather than from Hoboken. *(Carey, Okubo, Rovito)*

Response: As described in response to **Comment 71**, based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North Bergen and the Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts on local residents near the Hoboken staging area without substantially increasing adverse impacts on other communities. The revised construction methodology involves removing spoils from excavation of the river tunnel segment primarily at the Tonnelle Avenue staging area in North Bergen rather than at the Hoboken staging area.

The tunneling for the new Hudson River Tunnel would be staged from New Jersey rather than from New York for three reasons:

1. If excavation of the new Hudson River Tunnel were staged from New York, this would require the tunnel construction to commence at the riskiest section of the new Hudson River Tunnel, the shallow segment close to the Manhattan shoreline (referred to as the "low cover area" in the EIS), where ground improvement in the river bottom would be conducted before tunneling. This area also includes tunnel segments that would be excavated beneath Twelfth Avenue and Hudson River Park, where ground improvements also must be made before tunneling can occur, through the foundations of the New York Hudson River bulkhead, and in an area where numerous obstructions are present within the tunnel alignment. To manage construction risk, the tunnel should be constructed from New Jersey to New York, so the Project contractor completes this more difficult tunneling activity after tunneling procedures for the Project are well established. (For more information on these construction issues, see Chapter 3, "Construction Methods and Activities," Sections 3.3.5 and 3.3.6.)
2. Tunneling from New York would delay construction of the Project. Before the tunneling can occur in New York, the Twelfth Avenue shaft (a 130-foot-diameter shaft to be located between West 29th and West 30th Streets in Manhattan) must be completed and ground improvement must be implemented in the low-cover area of the tunnel alignment in the Hudson River and along the tunnel alignment in Hudson River Park and Twelfth Avenue. With construction from New Jersey, the Project contractor can implement the Twelfth Avenue shaft construction and ground improvements in New York at the same time that tunneling activities are under way in New Jersey.
3. The staging area in Manhattan is not large enough to support all the construction activities that would occur there if the tunnel spoils were removed in New York. With the proposed staging approach, the Manhattan site, referred to as the Twelfth Avenue staging area, would be used for staging all

of the construction activities occurring in New York, which include construction of a 130-foot-diameter vertical shaft and fan plant (similar to Hoboken) as well as the required ground improvements beneath Hudson River Park and Twelfth Avenue and in the Hudson River, relocation of a major sewer currently located under West 30th Street, and construction of tunnel segments connecting to the shaft. This would fully occupy the staging area as well as an adjacent property (a portion of Lot 12 of Manhattan Block 675) that would be used on a temporary basis prior to its development by a real estate developer.

Comment 73: Commenters submitted a petition signed by 339 individuals indicating their "opposition to digging at the Weehawken/Hoboken site for the Hudson Tunnel Project." *(Petition)*

Response: Chapter 1, "Purpose and Need," Section 1.3, of the EIS describes the purpose of the Project, which is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY, all while maintaining uninterrupted commuter and intercity rail service and optimizing the use of existing infrastructure. As described in response to **Comment 34** and **Comment 38**, FRA and NJ TRANSIT conducted a multi-step alternatives development and evaluation process to identify alternatives that meet the purpose and need for the Project. The alternatives evaluation process is presented in the Alternatives Development Report provided in Appendix 2-1 of the DEIS and summarized in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.3, of the DEIS. That process identified one Build Alternative that could meet the purpose of the Project, a new rail tunnel together with rehabilitation of the North River Tunnel. FRA and NJ TRANSIT evaluated a range of potential tunnel alignment options for that Build Alternative, depending on the location of the ventilation shaft that must be provided for the new tunnel between the Palisades and the Hudson River; that process resulted in identification of the Preferred Alternative.

As described in the EIS in the discussion of the Preferred Alternative (specifically, Chapter 2, Section 2.5.2.7.1), the Hoboken site (at the Hoboken/Weehawken border) would be used for a permanent tunnel ventilation shaft and ventilation fan plant; the shaft would also provide an emergency access and egress point for the tunnel below. Having a ventilation facility close to the river's edge in New Jersey is necessary to provide adequate air flow to the tunnel during emergencies and during periods when the tunnel is congested causing temperatures to rise in the tunnel. As described in Chapter 2 and Appendix 2-1, FRA and NJ TRANSIT have determined that the Hoboken shaft site is the most suitable location for this fan plant. For more information regarding vent shaft/fan plant siting, see the response to **Comment 64**.

Comment 74: A commenter asked whether the HBLR right-of-way can be used for deliveries and spoils removal rather than bringing materials to and from the Hoboken staging area by truck. *(Carey)*

Response: As described in response to **Comment 71**, based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North Bergen and the Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts on local residents associated with the Hoboken staging area. The alternatives analysis conducted and revised methodology are described in the FEIS in Chapter 3, "Construction Methods and Activities," Section 3.3.3, and in Appendix 3-1.

As part of the alternatives analysis, FRA and NJ TRANSIT considered the possibility of using the HBLR right-of-way for removing excavated materials from the Hoboken staging area. However, such use was found to be infeasible and unreasonable for a number of reasons, including the lack of adequate space on the Hoboken staging area site for a rail siding where freight cars could be loaded, the potential safety conflicts from simultaneous operation of light rail and freight trains and the disruption to HBLR operations even if freight operations were restricted to late-night hours, the limited periods of time when the HBLR right-of-way would be available for freight use (from 2:30 AM to 5:30 AM), and the adverse noise impacts that would result from freight train operations overnight in areas where there are currently no freight operations, including Weehawken. These and other factors are described in more detail in Appendix 3-1 of the FEIS.

Comment 75: The DEIS indicates that there may be serious impacts on air quality, noise and vibrations, and land use on the Shades neighborhood in Weehawken. However, the DEIS does not thoroughly cover these serious issues. *(Beattie Padovano-von der Lieth)*

Response: The DEIS includes a detailed assessment of the impacts of the Preferred Alternative during its construction and once it is complete on air quality, noise, vibration, and land use, as well as on other environmental areas and resources. These impact evaluations are presented in the DEIS in Chapters 5 through 24, under the headings "Construction Impacts of the Preferred Alternative" and "Permanent Impacts of the Preferred Alternative." Each chapter also includes a discussion of the measures to avoid, reduce, or mitigate impacts in a final section, "Measures to Avoid, Minimize, and Mitigate Impacts."

As described in response to **Comment 71**, after completion of the DEIS, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the impacts on local residents resulting from construction at the Hoboken staging area. The FEIS has been revised to incorporate these modifications to the construction methodology, and the FEIS also includes revised environmental

impact analyses reflecting these modifications. With these modifications, the number of construction-related trucks traveling to and from the Hoboken staging area during worst-case construction conditions would be reduced by half, which would reduce the predicted traffic and noise impacts associated with the construction.

FRA and NJ TRANSIT conducted a detailed, quantitative assessment for the DEIS of the Project's effects on air quality during construction using conservative (worst-case) assumptions about the equipment that may be on the Hoboken staging area during construction and the truck volumes moving to and from the site and concluded that the construction activities required for the Preferred Alternative would not result in adverse impacts on air quality. The DEIS presents the results of this analysis in Chapter 13, "Air Quality," Section 13.6.2. FRA and NJ TRANSIT identified measures that will be implemented to limit dust and air emissions during construction and summarized those measures in the DEIS in Section 13.9 of Chapter 13. In addition, Section 13.7 of Chapter 13 of the DEIS provides an analysis of air emissions when the construction is complete and the Project is operational and also concludes that no adverse impact would occur. The analysis of air quality has been updated for the FEIS to reflect the modifications to the construction staging approach; Chapter 13 of the FEIS presents the results (in particular, see Sections 13.6.2, 13.7, and 13.9).

FRA and NJ TRANSIT also conducted a detailed assessment for the DEIS of the Project's noise and vibration impacts during construction and after completion that is presented in the DEIS in Chapter 12, "Noise and Vibration." In particular, DEIS Section 12.6.2.1.3 presents the quantified evaluation of the noise effects in the Shades area of Weehawken resulting from construction activities on the Hoboken staging area and nearby truck routes, DEIS Section 12.6.2.2.3 presents the evaluation of vibration effects in the Shades area of Weehawken resulting from construction on the Hoboken staging area, DEIS Section 12.7.2 presents information on noise and vibration once the Project is complete and trains are operating in the tunnel, and DEIS Section 12.9 summarizes the mitigation measures proposed to reduce noise and vibration resulting from the construction. Similar to the air quality analysis, the analysis of noise and vibration in the DEIS used conservative (worst-case) assumptions about the equipment that may be operating on the Hoboken staging area and the truck volumes moving to and from the site. This DEIS analysis was conducted in accordance with the methodology developed by FTA for evaluation of impacts from transit projects (presented in FTA's guidance document, FTA-VA-90-1003-06, *Transit Noise and Vibration Impact Assessment*, May 2006; FRA has adopted this guidance for assessment of noise and vibration for non-high-speed rail projects). As discussed in the DEIS in Chapter 12, "Noise and Vibration," Section 12.6.2.1.3, the DEIS analysis concludes that noise levels at the Hoboken staging area would exceed FTA impact thresholds at the closest residential buildings in the Shades for approximately five months when piles are being installed within the shaft. In addition, in the DEIS FRA and NJ TRANSIT reported that noise levels would exceed the FTA construction noise impact threshold along the Project truck routes during the period of heaviest trucking, which had an estimated duration of

approximately four years. Section 12.9 of DEIS Chapter 12 identifies the proposed measures to address these construction noise impacts. Chapter 12, Section 12.7.2 of the DEIS presents an evaluation of the Project's effects on noise levels after construction and during normal operations in the tunnel, and concludes that no adverse noise impact would occur in Weehawken from operation of the Project. Finally, Chapter 12 also includes an evaluation of the vibration impacts of the Preferred Alternative during both construction (Section 12.6.2.2.3) and operation (Section 12.7.2) and concludes that no adverse impact would occur. See also the responses to specific comments on air quality later in this chapter in Section 28.4.19.

FRA and NJ TRANSIT revised the noise and vibration analyses for the FEIS to reflect the modifications made to the proposed construction staging approach, to follow updated guidance from FTA (*Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018), and to reflect changes that have occurred in the study area since the DEIS was completed. In addition, the chapter is now divided into two parts for the FEIS to simplify the presentation of the analysis. Revised information on noise is presented in the FEIS in Chapter 12A, "Noise"—see Section 12A.6.2.3 for the evaluation of construction impacts, Section 12A.7.2 for the evaluation of impacts once the Project is completed, and Section 12A.9 for the discussion of mitigation measures that will be implemented. Revised information on vibration is presented in the FEIS in Chapter 12B, "Vibration"—see Section 12B.6.2.3 for the evaluation of construction impacts, Section 12B.7.2 for the evaluation of impacts once the Project is completed, and Section 12B.9 for a discussion of mitigation measures that will be implemented). With the modifications made to the proposed construction staging approach, the noise effects of the Project's construction on the Shades neighborhood would be reduced and noise levels would no longer exceed FTA construction noise impact thresholds at any residences as a result of activities at the staging area. Noise resulting from construction-related traffic on the Project's truck routes would still exceed the FTA's construction noise impact thresholds, but would be substantially lower than was predicted in the DEIS. Section 12A.9 of the FEIS presents a detailed discussion of the mitigation measures that the Project Sponsor will implement to address construction noise at the Hoboken staging area. See also the responses to specific comments on noise and vibration later in this chapter in Sections 28.4.17 and 28.4.18.

FRA and NJ TRANSIT evaluated the effect of the Preferred Alternative during construction and once completed on sensitive land uses (such as residential uses) and on land use overall. That analysis is presented in the EIS in Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.6.2.1.4 (for effects during construction) and 6A.7.2.1.4 (for effects once construction is complete). Section 6A.8 describes the measures that the Project Sponsor will implement during construction to minimize the Project's adverse effects on the nearby residential neighborhood—for example, these include implementation of a noise wall between the construction staging area and the residential neighborhood to reduce construction noise and visual effects of construction in the Shades. The FEIS includes revised information about the effects of the Preferred Alternative in

Chapter 6A, in the same sections as cited, taking into consideration the modified construction staging approach now proposed. Section 6A.8 of the FEIS includes a detailed discussion of specific mitigation measures that the Project Sponsor will implement to minimize the effects of construction activities on the Hoboken staging area on the adjacent Shades neighborhood and other nearby communities. See also the responses to specific comments on land use later in this chapter in Section 28.4.11.

EPA, which is charged under Section 309 of the Clean Air Act with reviewing the EISs of other Federal agencies and commenting on their adequacy and the acceptability of the environmental impacts of a proposed action, has reviewed the DEIS and rated it "Lack of Objections" as noted in **Comment 4**; this rating indicates that EPA has not identified any potential environmental impacts requiring substantive changes to the Preferred Alternative.

Comment 76: Will NJ TRANSIT pay for damage caused to property due to its construction activities? What about relatively smaller issues such as construction trash, dust, and debris? Will there be a formalized complaint resolution system? *(Eggenberger)*

Response: The Project Sponsor will pay for all construction-related damages. Prior to construction activities, the Project contractor will perform pre-construction condition surveys to document existing conditions of each property within the influence of the construction. A copy of property pre-construction condition surveys will be available to the property owners. Also prior to construction activities, the Project Sponsor will develop and implement a vibration monitoring program within the area of potential influence of the construction to monitor impacts of construction vibration and ground movement. Upon completion of construction activities within an area, the Project Sponsor will perform post-condition surveys and compare them with the pre-construction survey information to determine if damage has occurred, in concurrence of the property owner. If construction operations cause damage to adjacent properties, the Project Sponsor will promptly repair or replace damaged items to the condition that existed before the damage, to the satisfaction of each adjacent property owner, at no cost the property owner. This information has been added to the FEIS in Chapter 12B, "Vibration," Section 12B.9.3. See also the response to **Comment 193**.

Throughout the Project's construction, the Project Sponsor will implement a comprehensive, active and responsive community outreach program that will include a staffed local neighborhood outreach office near each construction site; a dedicated Project liaison who will coordinate with the community about construction activities, address concerns, and work with the community to accommodate special events where possible; a 24-hour hotline for emergencies and construction complaints; and regular meetings and notifications about construction status and upcoming activities.

Comment 77: Commenters said that the Project schedule described in the DEIS does not seem realistic and therefore that the impacts in Weehawken are likely to be longer than

predicted in the DEIS. They stated that large-scale projects often have schedule overruns, and that the Project's construction trucks will be held up in the regular heavy congestion on local streets in Weehawken and on Route 495, which provides access to and from the NJ Turnpike, resulting in delays to the construction schedule. Some commenters also stated that since the Hoboken staging area is in a flood zone, the potential for flooding could also result in an extension to the schedule. (*S. Bolcar, Cheng, Eggenberger, Ehret-Weehawken, Fairclough, Fisher-Hoboken, C. Glackin, D. Glackin, Hite, Kemper, Leong, X. Li, Lui, J. Newman, Schlachter, Turner-Weehawken, von der Lieth*)

Response: The Project Partners developed the conceptual construction schedule presented in the DEIS based on experience with projects of a similar magnitude. Since completion of the DEIS, based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North Bergen and the Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction-related traffic traveling to and from the Hoboken staging area. The modified construction approach would substantially reduce the level of construction activity at the Hoboken staging area, to address concerns raised by the residents and elected officials of nearby communities. See the response to **Comment 71** for more information.

The traffic analysis included in the FEIS in Chapter 5A, "Traffic and Pedestrians," Section 5A.6.2.2, reflects the number of trucks and construction workers associated with the modified construction approach. It concludes that haul route Option 1, with trucks accessing the site using a combination of JFK Boulevard East, 19th Street, and the Park and Willow Avenue service roads, and haul route Option 2, with trucks accessing the site using a combination of JFK Boulevard East, 19th Street, and the Willow Avenue service road, would have adverse impacts at the intersections of Park Avenue/19th Street and Willow Avenue/19th Street. The specific impacts would vary depending on the truck route. The adverse traffic impacts that would occur with haul route Options 1 and 2 could be fully mitigated without adversely affecting other traffic by making adjustments to the timing of the traffic signals at those intersections. Haul route Option 3, with trucks accessing the site using JFK Boulevard, 19th Street, and an off-road haul route between 19th Street and the staging area along the north and west sides of the HBLR tracks, would not have adverse traffic impacts in Weehawken. In addition, with any of the haul route options, if construction workers park at a designated location off-site in Hoboken, as discussed in response to **Comment 78**, adverse traffic impacts would occur at several intersections south of the Hoboken staging area in Hoboken, and those could also be fully mitigated through changes to signal timing.

The Project Partners are evaluating how to accommodate the presence of the proposed Rebuild By Design floodwall in conjunction with use of haul route Option 3 and will advance the design for Option 3 to reflect the constraints on available space resulting from the presence of the floodwall in the same area. As

the design advances after completion of the EIS, the Project Sponsor will coordinate with the lead Federal agency regarding this and other design changes. Ultimately, the Project Sponsor will select the route or routes to be used in coordination with the Project contractor during final design. The Project Sponsor will update the local community on that and other advances in design through an ongoing outreach program that it will undertake through final design and construction.

The Project Sponsor, in coordination with the Project contractor, will make arrangements with suppliers for deliveries at the Hoboken staging area, and the suppliers will be responsible for ensuring that deliveries arrive when needed, accounting for traffic conditions on roadways on route to the staging area. The Project contractor will likely schedule critical time-sensitive deliveries, such as concrete, to occur during off-peak periods where the risk of delays because of traffic congestion is smaller.

Regarding the potential for flooding, as described in the EIS in Chapter 14, "Greenhouse Gas Emissions and Resilience," Section 14.3.5.5, as part of the design for the Project, the Project Sponsor will develop a storm risk management plan that identifies measures to be put in place to protect the staging area from flooding and the effects of severe storms.

Comment 78: A commenter asked how many construction workers would work at the Hoboken staging area, where they would park, how they would travel to the site, and what the traffic impacts from the construction workers would be. *(Fisher-Hoboken)*

Response: The number of construction workers at the Hoboken staging area would vary over the course of construction, depending on the specific activities occurring there. As discussed in response to **Comment 71**, to address the concerns raised by the representatives and residents of local communities related to traffic impacts, FRA and NJ TRANSIT, working with the other Project Partners, have developed revised construction methodologies that would shift most of the activity related to excavation of the new tunnel to the Tonnelle Avenue staging area. During construction of the vertical shaft and fan plant at the Hoboken staging area, approximately 40 workers would be on the site during each shift (with two shifts each day). During construction of the river tunnel segment, approximately 30 to 60 construction workers would be working during each shift. Most of the workers involved in construction of the river tunnel segment would be based at the Tonnelle Avenue staging area but some workers may also be based at the Hoboken staging area. This information has been added to the FEIS in Chapter 3, "Construction Methods and Activities," Sections 3.3.3.6 and 3.3.4.9 and Chapter 5A, "Traffic and Pedestrians," Section 5A.6.2.

At the Hoboken staging area, depending on the particular construction activities under way, workers may park on the eastern portion of the staging area or they may park off-site at a parking lot or garage nearby and travel to the staging area via shuttle bus. For workers who park on the site, the vehicular entrance into the site would be via the truck entrance to the site at the southern end of the Willow Avenue service road. It is possible, however, that the Project contractor would

identify an off-site parking location for use by workers, to avoid conflicts at the staging area between parking and other construction activities. In that case, workers would come to the staging area together in a bus or other shared transportation.

For the traffic analysis presented in the DEIS, FRA and NJ TRANSIT assumed that all construction workers based at the Hoboken staging area would park at the staging area. The analysis in the DEIS considered the combined effect of construction trucks and construction workers' vehicles on the roadway network traveling to and from the staging area using two different possible truck routes. For the FEIS, FRA and NJ TRANSIT evaluated a third possible truck route and also undertook an additional analysis to examine the effects of workers parking off site and traveling to and from the site in shuttle vans. For purposes of this analysis, FRA and NJ TRANSIT assumed that workers would park at parking garages south of the construction staging area in Hoboken, near 14th and 15th Streets. FRA and NJ TRANSIT analyzed the traffic impacts associated with these workers traveling to the potential off-site parking areas. Consequently, the revised traffic analysis in the FEIS evaluates traffic impacts of those workers in combination with truck traffic for the Project using the three potential truck route options.

The traffic analysis included in the FEIS in Chapter 5A, "Traffic and Pedestrians," Section 5A.6.2.2, reflects the number of trucks and construction workers associated with the modified construction approach and describes the impacts that would occur to the roadway network from the addition of new construction traffic associated with the Project. It concludes that if workers park at off-site garages in Hoboken, adverse impacts would occur at 16th Street/Park Avenue and 15th Street/Willow Avenue during the PM construction peak hour (i.e., during worker shift changes). Those impacts could be fully mitigated without adversely affecting other traffic by making adjustments to the timing of the traffic signal at those intersections.

Please also see Section 28.4.9.1 for additional comments on traffic impacts and responses to those comments.

Comment 79: A commenter noted that the construction truck routes must be strictly enforced and asked where the staging area for trucks waiting to load will be at the Hoboken staging area, since idling should be no more than three minutes. *(Czornomor)*

Response: The Project Sponsor will strictly enforce identified Project truck routes. Trucks will wait to be loaded within the Hoboken construction staging area. There will be no trucks waiting in the public right-of-way, to the extent practicable. The Project Sponsor would plan the trucking operation and the number of trucks in this manner. No idling would be permitted in excess of three minutes, consistent with New Jersey state law. The Project Sponsor will enforce this requirement by ensuring that it is included contract specifications and work plans.

Comment 80: Commenters stated that the construction trucks traveling to and from the Hoboken staging area would add to the severe traffic congestion that already exists in and

around the entrance to the Lincoln Tunnel, and this would cause emergency vehicles such as ambulances, fire engines, etc. to be delayed, which could cause life-threatening delays for the residents of Weehawken and its neighbors. Emergency vehicles already have a problem getting through during the rush hours. (*Ehret-Weehawken, Turner-Weehawken, Vavrecan, von der Lieth, Weehawken-Nan Vogelman, Weehawken Safety-Welz*)

Response: Since completion of the DEIS, based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North Bergen and Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce construction impacts on local residents near the construction staging area. The change in construction methodology results in a reduction in the number of trucks traveling to and from the Hoboken staging area from a peak of 16 trucks per hour in each direction (as presented and analyzed in the DEIS) to a maximum of 8 trucks per hour in each direction with the modified approach. This revised maximum, which FRA and NJ TRANSIT used for analysis of impacts in the FEIS, is conservative, since this level of trucking activity would not be required for all stages of construction at the Hoboken site with the modified approach. See the response to **Comment 71** for more information. With the revised construction staging approach, construction traffic would result in traffic impacts at up to two local intersections, depending on the truck route used: Park Avenue/19th Street and Willow Avenue/19th Street. The adverse traffic impacts could be fully mitigated without adversely affecting other traffic by making adjustments to the timing of the traffic signals at those intersections. Please also see Section 28.4.9.1 for additional comments on traffic impacts and responses to those comments.

In addition, as described in the EIS in Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.6.2.1.4, trucks using any of the three truck routes would pass the North Hudson Regional Fire and Rescue Engine 3 fire station at 1900 Willow Avenue, which has a driveway onto JFK Boulevard East as well as Willow Avenue. The Project Sponsor, in coordination with the appropriate local agencies, will develop and implement a traffic management plan (MPT plan) for this location to ensure that emergency vehicles have access to the street network and are not blocked by traffic queuing at the intersection.

Comment 81: Commenters stated that additional traffic congestion resulting from the Project's construction trucks would increase the area's vulnerability to acts of terror. Due to the amount of critical infrastructure located in the Township, Weehawken has been included as part of the Hudson County's Urban Area Security Initiative Borders, which is a Federal designation indicating areas at a greater risk of a terrorist attack. The DEIS does not adequately present an alternative plan that would mitigate or avoid such impact nor does the DEIS appropriately elaborate on how proposed efforts to minimize any disturbance are probable and even

practicable. (*Ehret-Weehawken, Turner-Weehawken, Vavrecan, Weehawken Safety-Welz*)

Response: Regarding traffic congestion, see response to **Comment 80**. Regarding security and the potential for terrorism, the EIS provides a discussion of safety and security measures to be implemented during construction in Chapter 18, "Safety and Security." As described in Section 18.6 of that chapter, safety and security during construction will be coordinated with various Federal and state law enforcement and safety agencies including the U.S. Department of Homeland Security, the Transportation Security Administration (TSA), New Jersey and New York State Police, Amtrak Police, NJ TRANSIT Police, MTA Police, and the PANYNJ Police, and local municipal police and fire departments including the New York City Police Department (including Counterterrorism Unit and Emergency Medical Services Unit), North Bergen Police (New Jersey), Fire Department of the City of New York (FDNY), North Hudson Regional Fire and Rescue (New Jersey), and New York City Office of Emergency Management. Safety and security measures will be developed to address natural events (e.g., severe storms, flooding, earthquakes), or emergencies caused by human error, mechanical failure, or intentional human intervention.

28.4.7.3 NEW YORK

Comment 82: CB4 commented that a significant percentage of the Project's construction jobs should be for residents of Community Board 4 and they recommended that the Project Sponsor and Project contractor post job opportunities on CB4's website. *(CB4 Manhattan)*

Response: All procurement will follow Federal and state guidelines and regulations. Where possible, promoting the availability of jobs to locally based workers and communities will be pursued.

Comment 83: Commenters noted that Chapter 3 of the DEIS, "Construction Methods and Activities," Section 3.3.5.1, describes that a cofferdam would be used around the in-water construction zone in the Hudson River and that a Pollution Prevention Plan would be implemented for the in-water construction activities in the Hudson River to minimize the potential for discharge of materials to the river. Commenters requested that the EIS provide details on the Pollution Prevention Plan, its success record in previous underwater tunnel construction, the maximum amount of pollution considered safe to the river and surrounding areas, and protocols for notifying the public of contamination. (*Hoylman-Gottfried-Brewer-Johnson*)

Response: The Project Sponsor will develop the Pollution Protection Plan during advanced design. Chapter 11, "Natural Resources," Section 11.6.3, of the EIS evaluates the potential impacts of the Preferred Alternative's construction activities, including the proposed in-water construction work, on water quality and aquatic species in the Hudson River. As discussed there, installation of cofferdams generally does not result in significant levels of sediment disturbance, and the greatest potential for increased turbidity typically occurs when the cofferdam is removed. Sediment disturbance associated with installation and removal of the cofferdams would

result in minor, short-term increases in suspended sediment and re-deposition of sediments and associated contaminants. Turbidity curtains would be deployed during cofferdam removal in order to minimize the effects of sediment resuspension. The Pollution Prevention Plan, which may include measures such as use of a containment boom and spill socks, will minimize the potential for discharge of materials to the Hudson River during sheet pile and king pile installation and deep soil mixing activities conducted from construction barges. Increases in suspended sediment associated with installation and removal of the cofferdams would be temporary and localized to the immediate vicinity of construction activities and would dissipate quickly after the completion of the activity. Similarly, any contaminants released to the water column as a result of sediment disturbance would dissipate quickly and would not result in adverse long-term impacts to water quality.

Comment 84: Commenters noted that Chapter 3 of the DEIS, Section 3.3.6.1, states that to allow tunneling beneath the surface rather than cut-and-cover excavation, the soft soils in the Manhattan waterfront zone would be treated through ground freezing. The DEIS must detail the positive and negative consequences of cut-and-cover construction and ground freezing, including schedule, impact on the built environment including the bulkhead and park, and the respective associated costs. (*Hoylman-Gottfried-Brewer-Johnson*)

Response: The Project Partners are proposing tunneling, not cut and cover, for the Preferred Alternative in New York near the waterfront. Amtrak selected tunneling because it reduces the impact of construction in comparison to cut-and-cover construction, by limiting the extent of disruption at the surface. To support the surrounding soils so that tunneling can occur, soil improvement would be conducted. This would include ground freezing and other methods, including jet grouting and some permeation grouting (e.g., filling of voids between the bulkhead rip-rap stones with cementitious or similar material). These ground improvement methods are discussed in the EIS in Chapter 3, “Construction Methods and Activities,” Section 3.3.6. The FEIS includes discussion of a new option in this area, a combination of Sequential Excavation Method (SEM) excavation with ground freezing. The EIS does not compare the positive and negative consequences of ground freezing versus cut-and-cover construction as requested in the comment, because tunneling has been selected rather than cut-and-cover construction for this area.

Comment 85: A commenter requested that, as discussed during the meeting held on June 5, 2017 between the New York City Department of Environmental Protection (NYCDEP) and Amtrak, if the ground freezing under Twelfth Avenue is not a feasible option based on a future NYCDEP review, other soil stabilization methods should be considered. *(NYCMOEC-Semel)*

Response: As noted in the comment, the Project Partners have been coordinating with NYCDEP regarding the potential for impacts to the city’s infrastructure including a large sewer main beneath Twelfth Avenue. As the design progresses, the Project Sponsor will coordinate with NYCDEP to ensure that proposed construction methods at Twelfth Avenue are acceptable to NYCDEP. In this area,

jet grouting is a potential alternative soil stabilization method if ground freezing is not appropriate.

Comment 86: The DEIS must explicitly state that the areas disturbed by the freeze pipe installation, specifically the Hudson River Park and Twelfth Avenue, will be fully restored to original conditions, including landscape features such as trees and other shrubbery, at no cost to the HRPT or relevant New York City agencies. (*Hoylman-Gottfried-Brewer-Johnson*)

Response: The DEIS states that following completion of construction, the Project Sponsor will restore the affected area of Hudson River Park in coordination with HRPT (see Chapter 3, "Construction Methods and Activities," Section 3.3.6.1 and Chapter 8, "Open Space and Recreational Resources," Section 8.6.4.1). The FEIS now more clearly states that the Project Sponsor will restore the area of Hudson River Park and of Twelfth Avenue affected by construction of the Hudson River Tunnel at no cost to the HRPT or relevant New York City agencies.

Comment 87: In Chapter 3, the DEIS states that based on "conceptual design analyses performed to date, the Project team anticipates that tunneling through the bulkhead and part of its foundation with improved ground conditions (from ground treatment) would improve the stability of the bulkhead." These analyses should be made public. (*Hoylman-Gottfried-Brewer-Johnson*)

Response: As discussed in the DEIS and FEIS in Chapter 3, "Construction Methods and Activities," Section 3.3.6.3, the new Hudson River Tunnel would be constructed through the foundation of the New York Hudson River bulkhead. In this area, permeation (cement-based) grout would be installed from the land side of the bulkhead to fill any large voids in the bulkhead riprap prior to ground freezing. The grouting pressures would be as low as possible—high enough to travel horizontally through the riprap voids but low enough not to exceed the resistance of the overlying ground weight of 30 feet of overlying silt and clay—to limit the possibility of grout being released into the river. Instrumentation would be installed that continuously monitors changes of pressures in the ground during grouting. Safe limits of changes of pressures in the ground would be pre-established for specific locations as part of the monitoring plan.

Once the ground is frozen at the bulkhead, the tunnel would be constructed through the bulkhead either by boring with TBMs continuing from the river tunnel to the west or by underground mining from the east. Once the tunnel is in place, it would form a new foundation for the bulkhead and the cement grouting would lock the riprap in place, improving ground stability. It would also help to spread the load of the bulkhead that would rest on the tunnel's tubes after tunneling is complete.

The FEIS includes a description of a new construction in this area that Amtrak developed to reduce the risk associated with tunneling through the Manhattan bulkhead by allowing construction workers to remove portions of the bulkhead structure within the tunnel horizon using an excavator, thereby reducing the amount of bulkhead material that the TBMs would need to bore through when

they reach the bulkhead. This option, a combination of Sequential Excavation Method (SEM) mining and ground freezing, is described in the FEIS in Section 3.3.6.1.2 of Chapter 3.

More detailed analyses related to the specific design of the new tunnel are not appropriate for public release due to security considerations. However, Amtrak has been coordinating closely with HRPT regarding protection of the bulkhead both during and after construction, including construction methods to be used during ground improvements and tunneling and measures to be implemented to ensure the ongoing stability of the bulkhead above the tunnel. This information is set forth in Stipulation V.C.2 of the Programmatic Agreement developed for the Project in accordance with Section 106 of the National Historic Preservation Act (because the bulkhead is a historic structure). The Programmatic Agreement is provided in Appendix 9 of the FEIS. In addition, responses to concerns raised by HRPT related to the bulkhead are provided in **Comment 165**.

Comment 88: Regarding the proposed temporary use of Lot 12 of Block 675 as part of the construction staging area for the Preferred Alternative, scenarios should be vetted by FDNY and agreed to by the developer of Lot 12. *(NYCMOEC-Semel)*

Response: As described in the EIS (see Chapter 3, "Construction Methods and Activities," Section 3.3.7.2), the Project Partners have coordinated extensively with the developer of the proposed building that will occupy Lot 12 on Block 675 regarding the potential temporary use of a portion of Lot 12 for the Hudson Tunnel Project's staging. The Project Partners have also coordinated with FDNY regarding all relevant aspects of the Project, including construction issues and fire-life safety concerns. The Project Sponsor will continue this coordination following completion of the FEIS.

28.4.8 ANALYSIS FRAMEWORK (COMMENT 89)

Comment 89: In Figure 4-4, the dimensions of the Lot 12 easement should be provided. *(NYCMOEC-Semel)*

Response: This figure has been revised as requested for the FEIS.

28.4.9 TRAFFIC AND PEDESTRIANS (COMMENTS 90-102)

28.4.9.1 NEW JERSEY

Comment 90: Residents and representatives of communities near the Hoboken staging area commented about the impacts that the Project's construction traffic would have on traffic conditions on local streets:

Because of the narrow streets in Weehawken and the proximity of the construction site to the Lincoln Tunnel, gridlock will result from the construction trucking activities. This will cause unbearable delays for people from the Shades neighborhood of Weehawken as they try to enter and exit the neighborhood, and will worsen the already severe delays for local bus lines used by local commuters and schoolchildren. With more than 100 trucks per day on local streets, where will

residents park? *(Babcock, Beattie Padovano-Eagle Rock, Beattie Padovano-1715 Grand, J. Bolcar, S. Bolcar, M. Carson, R. Carson, Cheng, Coblentz, C. Devaney, Dexter, Domingo, Eggenberger, Elliott, Fairclough, Farrell, C. Glackin, D. Glackin, C. Greenstrom, R. Greenstrom, Griggs, Heagney, Fisher-Hoboken, S. Laufer, Leong, X. Li, Lui, Marchetti, J. McLaughlin, Melnik, Nephew, Nerich, Penna, T. Rodriguez, Schlachter, Turner-Weehawken, von der Lieth, Weehawken-Nan Vogelman)*

Traffic and population in the area surrounding the Hoboken staging site have increased significantly in the past 10 years. Traffic has increased and many more people walk through the area than when the ARC Project studies were conducted. With these limitations, the street network cannot accommodate the volume of trucks that is proposed in the DEIS. *(J. Bolcar, Cheng, Coblentz, Farrell, Fredericks, X. Li, von der Lieth)*

Response: As described in response to **Comment 71**, based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North Bergen and the Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts on local residents near the Hoboken staging area. The change in construction methodology results in a reduction in the number of trucks traveling to and from the Hoboken staging area from a peak of 16 trucks per hour in each direction (as presented and analyzed in the DEIS) to a maximum of 8 trucks per hour in each direction with the modified approach. This revised maximum, which FRA and NJ TRANSIT used for analysis of impacts in the FEIS, is conservative, since this level of trucking activity would not be required for all stages of construction at the Hoboken site with the modified approach. The analyses in the FEIS have been revised to reflect this design modification.

As described in the DEIS and FEIS in Chapter 3, “Construction Methods and Activities,” Section 3.3.3.4, during construction activities at the Hoboken staging area, trucks headed to and from the site would use designated truck routes that would move trucking activities away from residential areas, specifically the Shades neighborhood of Weehawken. No regular trucking activity would occur on Hackensack Plank Road, West 18th Street, or other local residential streets in the Shades neighborhood and therefore local street parking on those streets would not be affected by the construction activities. The Project Sponsor will strictly enforce identified Project truck routes.

The DEIS described and analyzed two potential routes (haul routes) that could be used by trucks to arrive at and depart from the Hoboken staging area. These routes, referred to in the DEIS as Options 1 and 2, made use of a new off-street haul route for trucks along the north side of the HBLR right-of-way, in combination with portions of Park Avenue (for Option 1) or Park and Willow Avenues (for Option 2); both routes would use 19th Street and JFK Boulevard East to connect to the regional highway network. While both routing options would make use of

the off-street route to shift truck activity away from the Shades neighborhood, the Option 2 route would reduce the number of trucks that would pass the southern and eastern sides of the Gateway apartment building located adjacent to the route between Park and Willow Avenues (1700 Park Avenue). Please note that use of the Park Avenue and Willow Avenue service roads could require elimination of some street parking on those roads and beneath the Willow Avenue viaduct near the HBLR tracks.

In response to comments from residents and elected officials from Weehawken, FRA and NJ TRANSIT, together with the other Project Partners, have identified a third possible truck route option that is analyzed in the FEIS. Option 3 would use the same new off-street route for trucks along the north side of the HBLR right-of-way, and would follow the HBLR right-of-way all the way to 19th Street without using Willow or Park Avenue. This would shift trucks away from local roads for a longer distance than Options 1 or 2. Specifically, Option 3 would move trucks away from the Shades neighborhood, similar to Options 1 and 2, but would also shift trucks away from the eastern and western sides of the Gateway apartment building at 1700 Park Avenue. Instead, trucks would pass the western side of the new Hamilton Cove apartment building at 800 Harbor Boulevard. The three potential truck routes are shown in the FEIS in Figure 3-7 in Chapter 3, "Construction Methods and Activities" and in Figures 5A-2 through 5A-4 of Chapter 5A, "Traffic and Pedestrians." The traffic analyses presented in the FEIS in Chapter 5A now include evaluation of the third truck route option, Option 3, as well as Options 1 and 2. The Project Partners are evaluating how to accommodate the presence of the proposed Rebuild By Design floodwall in conjunction with use of haul route Option 3 and will advance the design for Option 3 to reflect the constraints on available space resulting from the presence of the floodwall in the same area.

Regarding the ARC Project, see the response to **Comment 22**. As noted there, during preparation of the DEIS for the Hudson Tunnel Project, information collected for the ARC Project on sensitive resources in the Project area informed the initial resource identification work for the Hudson Tunnel Project, but FRA and NJ TRANSIT verified and updated all information used for the Hudson Tunnel Project DEIS. For the Hudson Tunnel Project EIS, FRA and NJ TRANSIT conducted a detailed new traffic analysis to evaluate the potential impacts of the traffic associated with the Project's construction activities on the local street network. This analysis used traffic counts collected in 2016, information on future growth that will occur between 2016 and the Project's peak construction year at the Hoboken staging area, and specific information on the worst-case construction truck volumes and construction worker volumes that would occur for the Hudson Tunnel Project during its peak construction period, based on the Project's conceptual construction schedule and staging approach. FRA and NJ TRANSIT did not use the traffic analyses prepared for the ARC Project for the Hudson Tunnel Project's traffic impact evaluation. The traffic analysis for the Hudson Tunnel Project was presented in the DEIS in Chapter 5A, "Traffic and Pedestrians," Section 5A.6.2.1.2. Since the analysis in the DEIS was based on traffic counts conducted in June 2016 that included the existing traffic moving

through the Project study areas, it therefore reflected the existing congestion in Weehawken (see Section 5A.3).

The revised traffic analysis included in the FEIS in Chapter 5A, "Traffic and Pedestrians," Section 5A.6.2.2, reflects the number of trucks and construction workers associated with the modified construction approach and describes the impacts that would occur to the roadway network from the addition of new construction traffic associated with the Project. It concludes the following:

- Haul route Option 1, with trucks accessing the Hoboken staging area using a combination of JFK Boulevard East, 19th Street, and the Park and Willow Avenue service roads: This option would have adverse traffic impacts at the intersections of 19th Street/Park Avenue and 19th Street/Willow Avenue during the construction peak hours (i.e., during worker shift changes). Those impacts could be fully mitigated without adversely affecting other traffic by making adjustments to the timing of the traffic signals at those intersections.
- Haul route Option 2, with trucks accessing the Hoboken staging area using a combination of JFK Boulevard East, 19th Street, and the Willow Avenue service road: This option would have adverse impacts at the intersection of Willow Avenue/19th Street during the construction peak hours (i.e., during worker shift changes) and the PM commuter peak hour (i.e., rush hour). Those impacts could be fully mitigated without adversely affecting other traffic by making adjustments to the timing of the traffic signals at those intersections.
- Haul route Option 3 (new for the FEIS), with trucks accessing the Hoboken staging area using JFK Boulevard, 19th Street, and an off-road haul route between 19th Street and the staging area that runs along the north and west sides of the HBLR tracks: This option would create a new intersection on 19th Street adjacent to the HBLR tracks for access to the new truck route. This option would not have adverse traffic impacts.
- In addition, for all three options, if workers park at off-site garages in Hoboken, adverse impacts would occur at 16th Street/Park Avenue and 15th Street/Willow Avenue during the PM construction peak hour (i.e., during worker shift changes). Those impacts could be fully mitigated without adversely affecting other traffic by making adjustments to the timing of the traffic signal at those intersections.

Comment 91: Commenters said that no pedestrian safety study was conducted for New Jersey in the DEIS, despite the fact that many in the area walk to bus stops, the light rail, or the local ferry and children ride their bikes and play in the streets. They said that pedestrian crossings are already unsafe and a school bus stop is also directly in the path of the route the trucks would take to access the site. The intersection of West 19th Street and Hackensack Plank Road is already a very dangerous intersection for pedestrians and more traffic there would make access to a nearby NJ TRANSIT bus stop more difficult. Such a study must be included in the EIS. *(J. Bolcar, Dexter, Eggenberger, Lui, von der Lieth)*

Response: As described in the DEIS in Chapter 3, "Construction Methods and Activities," Section 3.3.3.4, and Chapter 5A, Traffic and Pedestrians," Section 5A.6.2.1.2, during construction activities at the Hoboken staging area, trucks traveling to and from the Hoboken staging area would use designated truck routes that would move trucking activities away from residential areas. No regular trucking activity would occur on local streets near the staging area, including the streets where the school bus stop cited in the comment is located (Hackensack Plank Road and West 19th Street), or other local residential streets. The Project Sponsor will strictly enforce identified Project truck routes.

The DEIS described and analyzed two potential routes that could be used by trucks to arrive at and depart from the Hoboken staging area. These routes, referred to as Options 1 and 2, would use a new off-street haul route for trucks along the north side of the HBLR right-of-way, in combination with portions of Park Avenue (for Option 1) or Park and Willow Avenues (for Option 2). Trucks would then use 19th Street and JFK Boulevard East for access to the regional highway network. In response to comments from residents and elected officials from Weehawken, FRA and NJ TRANSIT, together with the other Project Partners, have identified a third possible truck route option that is analyzed in the FEIS. Option 3 would use the same new off-street route for trucks along the north side of the HBLR right-of-way, and would follow the HBLR right-of-way all the way to 19th Street without using Willow or Park Avenue.

In response to this comment, FRA and NJ TRANSIT have revised the FEIS to include an analysis of pedestrian safety for the Hoboken/Weehawken study area. This analysis is provided in Chapter 5A, "Traffic and Pedestrians," in Section 5A.3.1.2.4 (discussion of existing conditions), Section 5A.4.1.2.4 (evaluation of future conditions), and Section 5A.6.2.2.4 (evaluation of the impacts of the Preferred Alternative on safety). The analysis is based on the three most recent years of accident data (2017 through 2019) available from the New Jersey Department of Transportation (NJDOT) for the study area roadways that are proposed for use as possible truck routes. The new analysis in the FEIS concluded that construction-related vehicles for the Hudson Tunnel Project would result in conflicting movements between turning construction traffic (trucks and worker vehicles) and pedestrians at the intersections of 19th Street and Park Avenue, 19th Street and Willow Avenue, and 19th Street and the new access road along the HBLR with the new truck route (haul route Option 3). The intersection of 19th Street and Willow Avenue has high-visibility crosswalks. At the intersection of 19th Street and Park Avenue, the west crosswalk is a high-visibility crosswalk and the remaining crosswalks are striped as basic transverse crosswalks. To improve safety during Project construction, the Project Sponsor will coordinate with the Township of Weehawken to restripe the crosswalks at the intersection of 19th Street and Park Avenue as high-visibility crosswalks. In addition, if haul route Option 3 is used, the crosswalks at the new access point for the haul route on 19th Street will also be striped as high-visibility crosswalks.

Comment 92: Commenters said that hauling construction materials and debris by truck on local streets is a safety hazard and carries an increased risk of vehicular collisions. *(Cheng, Coblentz, Eggenberger, Farrell, Hodgson, X. Li, Schlachter)*

Response: See response to **Comment 91**. Note that with limited exceptions (19th Street and the short segments of the Willow and Park Avenue service roads alongside the viaducts), trucks would not be on local streets; rather, they would move via the main arterial roadway of JFK Boulevard East and then Route 495. As noted in response to **Comment 91**, the FEIS incorporates a revised traffic evaluation that includes an accident and safety analysis based on the three most recent years of accident data available from NJDOT for the study area roadways that would serve as truck routes.

Please also see responses to comments about the potential for trucks to be hauling contaminated materials in Section 28.4.22 of this chapter.

Comment 93: Commenters stated that the Project's heavy construction trucks would damage local streets and asked who would rebuild the roads to address the damage. *(Cheng, Griggs, X. Li)*

Response: The Project Sponsor will be responsible for maintenance, repair, and cleaning of designated trucking routes on local streets to mitigate inconvenience for local drivers and commuters and to guarantee required truck access to the construction site. The Project Sponsor will reconstruct any streets damaged by trucking activity associated with construction of the Preferred Alternative. The Project Sponsor will also undertake any advance or preventive rehabilitation of the proposed truck routes before the onset of construction. The Project Sponsor will ensure that these requirements are included in the contract specifications. This information is now provided in the FEIS in Chapter 3, "Construction Methods and Activities," in each discussion of truck routes in Section 3.1. It is also now provided in FEIS Chapter 5A, "Traffic and Pedestrians," Section 5A.9.1.

Comment 94: Commenters said that FRA and NJ TRANSIT should consider all the projects that will be happening in the Project area at the same time as construction of the Preferred Alternative, including the replacement of the Lincoln Tunnel Helix, rehabilitation of the Willow Avenue bridge, replacement of the Route 495 bridge over Tonnelle Avenue, the Rebuild By Design project, and ongoing construction on the Weehawken waterfront. The combination of all these projects will result in serious traffic congestion and may make the proposed schedule for the Hudson Tunnel Project infeasible. *(J. Bolcar, S. Bolcar, Carey, Cheng, C. Devaney, Fisher-Hoboken, Jarosky, Leong, X. Li, Lui, Schlachter, Turner-Weehawken)*

Response: As described in the DEIS in Chapter 6A, "Land Use, Zoning and Public Policy," Section 6A.4.1.1, FRA and NJ TRANSIT considered nearby projects in Weehawken and Hoboken that were known at the time that the DEIS was prepared and for which plans and schedule information were available. In Weehawken, these included large-scale waterfront redevelopment in the Lincoln Harbor Redevelopment Area, just beyond the study area boundary, as well as the Rebuild By Design project in Hoboken. As described in the DEIS in Chapter 5A,

"Traffic and Pedestrians," Section 5A.4.1.1, FRA and NJ TRANSIT accounted for these background projects in the Hoboken/Weehawken area in the traffic analysis by assuming that traffic volumes would grow from the existing conditions measured in 2016 by a conservative 1 percent annual compounded growth rate, consistent with the NJDOT annual commuter growth rate for local roads in Hudson County. This growth rate was intended to account for the traffic generated by the known projects identified in Chapter 6A, "Land Use, Zoning, and Public Policy."

In response to this comment, FRA and NJ TRANSIT have revised the FEIS to include an analysis of the Lincoln Tunnel Helix replacement project and the Willow Avenue bridge rehabilitation in Chapter 20, "Indirect and Cumulative Effects," Section 20.6.3. To the extent that information is available, the analysis in the FEIS identifies the overlapping construction periods and examines and discusses the potential impacts of those overlapping periods. In the new analysis provided in Chapter 20, FRA and NJ TRANSIT conclude that the Project Sponsor for the Hudson Tunnel Project will coordinate with sponsoring agencies for the various other projects proposed at the same time in and near the Project study area to avoid conflicts between the Hudson Tunnel Project and the other transportation improvements and development projects under way in the same area at the same time. Please note that rehabilitation of the Route 495 bridge over Tonnelle Avenue is nearing completion and is unlikely to have construction activities that occur at the same time as those for the Hudson Tunnel Project.

Comment 95: The Mayor of the City of Union City expressed concerns regarding the potential adverse impacts of the Project's construction traffic on traffic patterns in Union City and other local municipalities during the construction phase of the Project resulting from construction trucks. He also commented that the increase in traffic congestion will require additional and costly police presence. (*Stack-Union City*)

Response: Based on the analyses presented in the DEIS, FRA and NJ TRANSIT do not anticipate adverse effects on traffic conditions in Union City during construction of the Preferred Alternative. The EIS shows the truck routes that would be used for construction traffic in New Jersey, which do not include routes in Union City other than Route 495. See Chapter 3, "Construction Methods and Activities," Figures 3-6 and 3-7.

Based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North Bergen and Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce construction impacts on local residents near the construction staging area. The change in construction methodology results in a reduction in the number of trucks traveling to and from the Hoboken staging area from a peak of 16 trucks per hour in each direction (as presented and analyzed in the DEIS) to a maximum of 8 trucks per hour in each direction with the modified approach. This revised maximum, which FRA and NJ TRANSIT used for analysis of impacts in the FEIS, is conservative, since this

level of trucking activity would not be required for all stages of construction at the Hoboken site with the modified approach. See the response to **Comment 71** for more information. With the revised construction staging approach, construction traffic would result in traffic impacts at up to two local intersections in Weehawken, depending on the truck route used: Park Avenue/19th Street and Willow Avenue/19th Street. The adverse traffic impacts could be fully mitigated without adversely affecting other traffic by making adjustments to the timing of the traffic signals at those intersections. Where the use of traffic enforcement agents to direct and help keep traffic moving is appropriate, the costs for these agents would be Project costs that will be borne by the Project Sponsor rather than the local community.

Comment 96: Commenters raised concerns about the traffic impacts and traffic congestion that would result from trucks and workers going to the Tonnelle Avenue staging area. Given that significant and disruptive construction activities will occur at the Tonnelle Avenue site in North Bergen, New Jersey over an 11-year period, the lack of mitigation of traffic impacts is a concern. The FEIS should include an MPT plan developed in consultation with the local municipality and area residents. *(Correia, MAS-Devaney)*

Response: The DEIS included a detailed analysis of the Preferred Alternative's potential impacts on traffic conditions near the Tonnelle Avenue staging area during construction of the Project, including an analysis of the peak construction year for the new Hudson River Tunnel and an analysis of the peak construction year for the rehabilitation of the North River Tunnel. That information was presented in Chapter 5A, "Traffic and Transportation," Section 5A.6.2.1.1, and Section 5A.8.1 presented mitigation measures that would address the traffic impacts. The DEIS analysis concluded that during peak activities for construction of the new Hudson River Tunnel, adverse traffic impacts would occur at the traffic signal at the Wendy's restaurant driveway on Tonnelle Avenue (1500 Tonnelle Avenue) that could be partially mitigated by modifying the timing of the traffic signal; at northbound Tonnelle Avenue and 10th Street, which could not be mitigated; and on the northbound entrance ramp from Secaucus Road, which also could not be mitigated. During peak activities for rehabilitation of the North River Tunnel, the number of construction trucks and construction workers would be greater and this would result in traffic impacts at those locations and at the traffic light at Taco Bell on Tonnelle Avenue (2020 Tonnelle Avenue), and these impacts could not be mitigated (DEIS Chapter 5A, Table 5A-43).

As described in response to **Comment 71**, based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North Bergen and the Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts on local residents near the Hoboken staging area without substantially increasing the impacts on other communities. The revised construction methodology involves removing spoils from excavation

of the river tunnel segment primarily at the Tonnelle Avenue staging area rather than at the Hoboken staging area. The revised construction approach would substantially reduce the level of construction activity at the Hoboken staging area, to address concerns raised by residents and elected officials of nearby communities. At the same time, the revised construction approach would not substantially increase impacts to other communities. While the revised approach would shift some construction activity to the Tonnelle Avenue staging area, it would not alter the overall character of activities at Tonnelle Avenue that FRA and NJ TRANSIT analyzed in the DEIS. In either the DEIS approach or the modified approach, a total of 11 years of construction activities would occur at the Tonnelle Avenue staging area.

For the FEIS, FRA and NJ TRANSIT revised the traffic analysis provided in Chapter 5A, "Traffic and Pedestrians," to reflect the modified construction staging approach. With this modification, adverse traffic impacts would occur at the same locations as identified in the DEIS. During peak construction activities for the new Hudson River Tunnel, this would include adverse traffic impacts at the traffic signal at the Wendy's restaurant driveway on Tonnelle Avenue that could be partially mitigated by modifying the timing of the traffic signal; at northbound Tonnelle Avenue and 10th Street, which could not be mitigated; and on the northbound entrance ramp from Secaucus Road, which also could not be mitigated (see Table 5A-58 in FEIS Chapter 5A).Traffic impacts associated with the North River Tunnel rehabilitation that were described in the DEIS would remain unchanged.

For the FEIS, FRA and NJ TRANSIT also identified a new traffic mitigation measure to address the traffic impacts caused by construction traffic on Tonnelle Avenue. This measure, introduction of a new traffic signal at the site driveway for the Tonnelle Avenue staging area, would involve creating a signalized (actuated) intersection. This would require the removal of the island and jersey barrier that currently prevent traffic exiting from the site driveway from turning left onto northbound Tonnelle Avenue; it would also require the installation of a traffic signal. This would allow truck and worker traffic to turn left from the driveway and head northbound, as opposed to heading south to make a U-turn to continue northward. With the introduction of the new intersection, workers would no longer need to turn around at the jughandle and truck traffic would no longer need to turn around at Secaucus Road. This would greatly reduce the construction-related traffic at intersections on Tonnelle Avenue south of the construction staging area, so that some of the predicted traffic impacts would no longer occur. Implementation of this mitigation measure would require the approval of NJDOT and coordination with the local municipality (Township of North Bergen) during final design of the Project. The Project Sponsor will further evaluate during final design, in cooperation with the Project Partners and in coordination with NJDOT, the potential for introduction of this new traffic signal at the proposed location of the access driveway to the Tonnelle Avenue staging area.

As described in the EIS in Chapter 5A, "Traffic and Pedestrians," (Section 5A.8 of the DEIS and Section 5A.9 of the FEIS), for all construction locations, the Project Sponsor will develop MPT plans during final design in consultation with

the appropriate local transportation agencies. The MPT plans will be implemented to maintain travel lanes, and detour through traffic away from construction activities and equipment to the extent practicable.

28.4.9.2 NEW YORK

Comment 97: The DEIS states that construction across Tenth Avenue would be staged so that some traffic lanes would be maintained at all times, although limited closures may be required during off-peak periods. However, traffic is substantial in this area even during off-peak periods. Construction of large high-rise buildings in the area near the Twelfth Avenue staging site could cause additional congestion if they have not been completed by the start date of the Project. *(CB4 Manhattan-Mackintosh, CB4 Manhattan)*

Response: As described in Chapter 3, "Construction Methods and Activities," Section 3.3.8.3, cut-and-cover construction would be used at Tenth Avenue to construct the new tunnel crossing below the road. As described in the EIS in Chapter 5A, "Traffic and Pedestrians," for all construction locations, the Project Sponsor will develop MPT plans during final design in consultation with the appropriate local transportation agencies (i.e., NYCDOT for local roads, including Tenth Avenue, in New York City), approved by those agencies, and implemented to maintain travel lanes, and detour through traffic away from construction activities and equipment to the extent practicable. Mitigation measures for traffic impacts on roadways in New York resulting from Project construction are described in Section 5A.8.2 of DEIS Chapter 5A and Section 5A.9.4 of FEIS Chapter 5A. As discussed in the chapter, this would include the use of traffic enforcement agents to direct and help keep traffic moving where appropriate.

Comment 98: West 30th Street is heavily used for access to the Lincoln Tunnel. Maintaining as much vehicular access on West 30th Street as possible is a high priority. *(CB4 Manhattan)*

Response: The DEIS described that construction activities for the Preferred Alternative would involve full closure of the west end of West 30th Street near Twelfth Avenue for up to three years. FRA and NJ TRANSIT evaluated the impacts of this full closure on traffic in the DEIS in Chapter 5A, "Traffic and Pedestrians," Section 5A.6.4. During ongoing consultation with Project stakeholders and in response to this comment from CB4, the Project Partners now anticipate that at least one lane of West 30th Street would remain open throughout construction (other than the potential for short-term outages of up to several days related to sewer relocation). Chapter 5A of the FEIS includes revised traffic analyses that reflect this modification to the construction methodology.

Comment 99: Construction for the Project crosses Twelfth Avenue and trucks will use Twelfth Avenue for construction access. Any disruption of the traffic flow on this heavily used highway will have serious consequences for the adjacent neighborhood. Interruption of traffic should be minimized. Extensive notification to the community, coordination with the NYCDOT, and signage for drivers are imperative. *(CB4 Manhattan)*

Response: Chapter 3, "Construction Methods and Activities," of the EIS describes the proposed construction activities at and near Twelfth Avenue in Section 3.3.6. As discussed there, the new tunnel would be constructed beneath Twelfth Avenue using a mining technique to avoid the disruption that would occur with open excavation. There may be disruptions in Twelfth Avenue for installation of freeze pipes as part of the ground freezing activity that would be conducted to harden the soil for tunneling (see Section 3.3.6.1). In addition, some trenching across Twelfth Avenue may be required as part of the installation of the ground freezing system. The effects to traffic on Twelfth Avenue (New York State Route 9A) would be minimized by doing necessary work during nights, weekends, and other off-peak hours so the lane could be decked and in use during peak hours. These construction activities would be closely coordinated with the New York State Department of Transportation (NYSDOT) to ensure uninterrupted use of the travel lane during peak hours.

Chapter 5 of the EIS, "Traffic and Pedestrians," Section 5A.6.4, includes an analysis of the effect of the Project's construction-related traffic on nearby roadways in New York. The text of the FEIS reflects design refinements made since completion of the DEIS. The traffic analysis concludes that adverse impacts to traffic flow would occur for vehicles on West 29th Street turning right onto northbound Twelfth Avenue because of the addition of construction-related vehicles. This impact could be fully mitigated with a change to the timing of the traffic signal. No other adverse impacts were predicted for intersections along Twelfth Avenue.

As described in Chapter 5A, "Traffic and Pedestrians," Section 5A.8 of the DEIS and Section 5A.9 of the FEIS, during final design the Project Sponsor will develop MPT plans for all construction locations, including directional signage for drivers. The Project Sponsor will prepare all MPT plans in accordance with National Manual of Uniform Traffic Control Devices, and in coordination with NYCDOT and NYSDOT, with the corresponding notification to the community, to minimize disruptions to traffic flow on Twelfth Avenue.

Comment 100: The DEIS analyzes only one peak construction year for its assessment of traffic impacts in New York, 2021. This is apparently based on the assumption stated elsewhere in the DEIS that the total build-out of the Project will take nine years. However, the lead agencies have publicly conceded that the true estimated build-out will take 11 years. In that case, a construction impact analysis that includes only one peak impact year is inconsistent with New York City CEQR precedent, which requires multiple analysis years for construction projects having a duration of more than 10 years. *(Akerman-260 Twelfth Avenue)*

Response: The DEIS explains the proposed construction schedule in a number of different sections. For example, see the discussion of the overall construction schedule provided in Section 3.4 of Chapter 3, "Construction Methods and Activities," which states that the overall construction for the Hudson Tunnel Project—including both construction of the new Hudson River Tunnel and rehabilitation of the North River Tunnel—would be 11 years. The DEIS also states that construction activities in Manhattan would have a duration of approximately seven years. The final four

years of the Project's construction work, for the rehabilitation of the North River Tunnel, would not affect Manhattan. Therefore, the use of one peak impact year for the traffic analysis in Manhattan was appropriate and consistent with the methodologies of the *CEQR Technical Manual*. Please note that the FEIS describes a later schedule, but with the same overall durations as those described in the DEIS.

Comment 101: The DEIS reveals that the tunnel boring machines used to dig the tunnels under the Hudson River would be removed from the tunnels through the proposed shaft on Block 675, but there is no detailed discussion of the traffic impacts of moving them either whole or in pieces through the already crowded traffic network surrounding Block 675. *(Akerman-260 Twelfth Avenue)*

Response: Information on removal of the TBMs from the Twelfth Avenue shaft has been added to the FEIS in Chapter 3, "Construction Methods and Activities," Section 3.3.7.3. As discussed there, the removal of TBM components would occur over approximately one month for each TBM. These large pieces of equipment would be transported from the staging area by truck, most likely during off-peak and overnight hours, given their large size. Such short-duration, off-peak activities would have no meaningful impact on traffic, and thus do not merit consideration in the traffic analysis.

Comment 102: Please also incorporate the comments provided separately by NYCDOT. NYCDOT will provide comments on the transportation impacts of the Hudson Tunnel Project at a later date. *(NYCMOEC-Semel)*

Response: During preparation of the DEIS and FEIS, FRA and NJ TRANSIT coordinated with NYCDOT regarding the technical analyses conducted for the EIS and the analyses of traffic impacts in the New York study area provided in Chapter 5A, "Traffic and Pedestrians," reflect the comments and input provided by NYCDOT.

28.4.10 TRANSPORTATION SERVICES (COMMENTS 103-111)

28.4.10.1 NEW JERSEY

Comment 103: While one of the Project goals is to not preclude future trans-Hudson rail capacity expansion projects, the Preferred Alternative would negatively impact future site planning and transportation options in Hoboken and would fail to protect transportation expansion west of the Hudson River, such as future HBLR system expansion. *(Cromer)*

Response: The Preferred Alternative would involve the use of a property currently owned by NJ TRANSIT for construction staging and then for the permanent location of a tunnel ventilation building. The construction activities and the permanent presence of this new fan plant building would not affect or preclude opportunities for any other projects in Hoboken or Weehawken, or for projects to expand options for future transportation west of the Hudson, such as future HBLR system expansion.

Comment 104: Conrail does not have any concerns at this time regarding impacts to Conrail's existing property and operating right-of-way. Conrail has attended multiple meetings with the Project team regarding the construction and will continue to work with the Project to safely accommodate its construction across Conrail's property while preserving Conrail's operating freight rail traffic and property interests. *(Conrail-Hill)*

Response: Comment noted. During preparation of the DEIS, Amtrak and NJ TRANSIT coordinated with both Conrail and New York, Susquehanna & Western Railway regarding potential construction activities at and near the freight rail right-of-way; as the Project design continues, the Project Sponsor, in cooperation with the other Project Partners, will continue to coordinate with Conrail regarding construction in proximity to Conrail's freight right-of-way.

Comment 105: As stated in the DEIS, during construction of the new two-track bridge over the NYSW freight right-of-way, close coordination of construction activities will be required to minimize disruptions to freight rail operations, with the caveat that freight rail operations must retain priority. A significant portion of NYSW's revenues are derived from customers served at NYSW's North Bergen reload facility nearby and any disruption in service for these customers would have a severe negative impact on NYSW. In addition, the proposed bridge is less than a mile from NYSW's busy interchange with Norfolk Southern Railway and service disruptions would have negative impacts on NYSW and its customers throughout our system. *(NYSW-Fenno)*

Response: As stated in the DEIS and FEIS in Chapter 5B, "Transportation Services," Section 5B.6.7, and in Chapter 3, "Construction Methods and Activities," Section 3.3.1.1, the Project Sponsor, in cooperation with the other Project Partners, will schedule construction activities for the new rail bridge over the freight tracks and in proximity to NYSW's freight right-of-way in coordination with the freight rail companies to minimize any required disruptions to freight rail operations and to ensure that freight rail operations are not adversely affected. During preparation of the DEIS, the Project Partners coordinated with both Conrail and NYSW regarding potential construction activities at and near the freight rail right-of-way; as the Project design continues, the Project Sponsor, in cooperation with the other Project Partners, will coordinate with NYSW regarding the design and construction activities. For the response to NYSW's comment regarding proposed use of the North Bergen reload facility, see the response to **Comment 132.**

Comment 106: From a long-term standpoint, placement of a new bridge abutment for the two-track rail bridge over the freight right-of-way in North Bergen will necessarily reduce the capacity of the freight rail system by eliminating the possibility of construction of an additional track in the area occupied by the abutment. *(NYSW-Fenno)*

Response: The Hudson Tunnel Project would not result in a reduction in the capacity of the freight rail system. The proposed bridge abutments for the new two-track rail bridge over the freight rail tracks would be outside of the freight rail right-of-way. Since the DEIS and in response to this comment, Amtrak has modified the design

of the proposed new bridge to increase span length and vertical clearance for the freight railroads. The Project Sponsor will continue to coordinate with NYSW regarding the proposed design as the Project advances. This information has been added to the FEIS in Chapter 5B, "Transportation Services," Section 5B.7.7.

28.4.10.2 HUDSON RIVER

Comment 107: In comments provided to the USACE during the public comment period for the Hudson Tunnel Project's permit, USCG noted that the proposed in-river work in the Hudson River would occur within the Federal Channel, making it, and construction vessels, susceptible to wake and/or surge damage. If a permit is issued for this project, the Coast Guard does not intend to place any operational limitations on commercial vessels using the adjacent waterway. Therefore, the USCG requests that the USACE include as permit requirements the following:

- Submit information on the work to be conducted at a minimum to the First Coast Guard District for publication in the Local Notice to Mariners before starting operations.
- Provide Sector NY the final cofferdam locations, including the height they will extend above Mean High Water (MHW) and Mean Lower Low Water (MLLW).
- Notify the National Oceanic and Atmospheric Administration of the Project completion and specifications so they may initiate the appropriate chart and Coast Pilot corrections. *(USCG-Buck)*

Response: FRA, NJ TRANSIT, and the other Project Partners coordinated with the USCG during preparation of the DEIS, FEIS, and preliminary design for the Project, including an initial consultation meeting with the USCG Harbor Operations Committee on January 18, 2017 at Fort Wadsworth, Staten Island, New York, and other coordination with the USCG as a Participating Agency during development of the Project's DEIS and FEIS and a member of the Project's Federal and State Agency Task Force. The requested safety measures will be performed. As stated in the EIS in Chapter 5B, "Transportation Services," Sections 5B.6 and 5B.7, modifications to the river bottom would require a permit from the USACE and must meet conditions imposed by the USACE to protect the navigation channel and maritime safety. During construction, the Preferred Alternative will include measures to warn maritime traffic, including recreational boaters, of the construction zone and to ensure the continued safety of boaters. These measures will be developed in coordination with the USCG as the design advances, and will include notifications to mariners via the USCG, installation of lighting on barges and the cofferdam, and automatic identification system (AIS) transponders affixed to barges and the cofferdam to enable electronic locating of the cofferdam and tracking of the barges. Once construction is completed, the new hardened area of the river bottom would be designated as a no-anchor zone on navigation charts.

Based on further analysis during ongoing Project engineering, the Project Partners are now proposing modifications to the Project construction activities in the Hudson River from what FRA and NJ TRANSIT described and evaluated in the DEIS, including protection of a larger area. The Project Partners will continue to refine the design for the in-river work, in coordination with USACE and the

USCG, to minimize the potential for adverse impacts on navigation in the Hudson River during construction and will identify the final staging approach in coordination with USACE and USCG.

Comment 108: Several commenters stated that the DEIS does not describe the impact of the Project on boats and ferries using the Hudson River at or near the construction of the Project. They stated that the EIS should disclose potential impacts to the navigability of the channel during construction, including information about whether commercial shipping or recreational boating will be restricted in certain areas at specified times, and if so, what areas would be exclusion areas for boats during construction. Commenters also asked whether the Project will monitor impacts on boats and ferries and whether it will assist in establishing alternative routes. *(CB4 Manhattan, Hoylman-Gottfried-Brewer-Johnson)*

Response: The DEIS and FEIS describe the impact of the construction activities for the Preferred Alternative on maritime traffic in the Hudson River in Chapter 5B, "Transportation Services," Section 5B.6.8 as well as Chapter 3, "Construction Methods and Activities," Section 3.3.5.6. Based on further analysis during ongoing Project engineering, the Project Partners are now proposing modifications to the Project construction activities in the Hudson River from what FRA and NJ TRANSIT described and evaluated in the DEIS, including protection of a larger area.

The whole width of the Hudson River is navigable and used by passenger ferries, freight and barge traffic, cruise vessels, and other commercial and recreational boats, including small human-powered watercraft such as canoes and kayaks. The full width of the Hudson River from the New Jersey pierhead line to the New York pierhead line is part of the Federal navigation channel, with the wide central portion maintained to a minimum depth of 45 feet by the USACE and the adjacent side channels (also referred to as "wing" channels) maintained to a minimum depth of 40 feet. The ground improvement zone for the new Hudson River Tunnel would occupy an area approximately 1,200 feet long and 110 feet wide, with a 100-foot wide area to the north and south for barges and construction vessels (resulting in a construction area approximately 1,200 feet long and 310 feet wide in total). This would include a segment 600 feet long in the 45-foot-deep navigation channel and a segment 600 feet long in the 40-foot-deep wing channel.

Modifications to the river bottom will require a permit from the USACE in accordance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act and therefore must meet conditions imposed by the USACE to protect the navigation channel and maritime safety. Considering that the majority of the main navigation channel (which is approximately 2,000 feet wide in the affected area) would remain open for navigation during in-water construction, and that the Project Sponsor will incorporate safety measures during construction to protect maritime traffic (see response to **Comment 107**), FRA and NJ TRANSIT conclude that there would be no adverse impacts on maritime operations during construction of the Preferred Alternative.

In response this and other comments related to recreational boating, the FEIS now includes additional information on the potential effects to recreational boating activities in Chapter 8, "Open Space and Recreational Activities," Sections 8.3.2 and 8.6.3, the Hudson River is used by recreational boaters, including non-motorized boats (sailboats, kayaks, and outrigger canoes) operating from the boathouse in Hudson River Park at Pier 66. There are also moorings in the river east of the pierhead line between the Pier 66 boathouse and approximately West 29th Street. Three boating programs operate at the boathouse, Hudson River Community Sailing and two other clubs, New York Kayak Polo and New York Outriggers. These programs offer lessons and programs for school groups and others. While the in-water construction activities for the Project would not be within the area of the Hudson River that is part of Hudson River Park (the area east of the pierhead line), they would be fairly close (70 to 100 feet from the park boundary), and boaters moving between the navigation channel and the Pier 66 boathouse and nearby moorings would need to avoid the construction zone, which may be inconvenient but would not limit boaters' access to and from the channel. Construction for the Preferred Alternative would not affect any other areas of the Hudson River or limit boating activities in any other portion of the river.

28.4.10.3 NEW YORK

Comment 109: MTA has developed with NJ TRANSIT and Amtrak a longstanding regional cooperative planning process to assure the integrity of the hub of the NEC, PSNY, and the surrounding rail network and looks forward to using that cooperative planning process to maintaining a continuing dialog with NJ TRANSIT and Amtrak as the Project progresses. While the current design for the Preferred Alternative would not affect New York City Transit subway lines or services, plans and designs can change as project development advances. For this reason, it is important that the MTA be able to stay close to the Project team as the documents evolve to maintain a complete understanding about the physical and operational implications to MTA subway and rail structures and operations. More specifically, as the Project advances through planning and into design, the MTA expects to have ample opportunity to review Project-related data and documents including, but not limited to, Project features, impacts during construction and use, projections of future use, Project schedule, and progress. *(MTA-Wheeler)*

Response: During preparation of the DEIS and FEIS, FRA, NJ TRANSIT, and the other Project Partners coordinated with MTA regarding the Project; MTA was a Participating Agency for the NEPA review. The Project Sponsor, in cooperation with the other Project Partners, will continue to collaborate with the MTA as the Project advances through the design process to provide opportunity to review and coordinate on issues of Project design and construction that could affect MTA facilities, structures, and/or operations.

Comment 110: MTA requests editorial corrections to EIS Chapter 5B, provided in comments on the DEIS. *(MTA-Wheeler)*

Response: The requested revisions have been made to the FEIS.

Comment 111: Coordination with NYCDOT and bus companies is essential if designated on-street bus parking spaces will be have to be relocated during the Project construction period. Because so much other construction is taking place in the neighborhood, it is increasingly difficult to find on-street parking for these buses. *(CB4 Manhattan)*

Response: Construction activities for the Preferred Alternative would require the relocation bus parking from an approximately 250-foot-long area on the south side of West 30th Street that is currently designated for on-street bus parking spaces, signed as "Non-MTA Bus Layover Only," which is currently used by tour and charter buses. The Project Sponsor will coordinate with the NYCDOT's Office of Construction Mitigation and Coordination regarding the need to relocate this parking zone. This information has been added to the FEIS in Chapter 5B, "Transportation Services," Section 5B.6.5.

28.4.11 LAND USE, ZONING, AND PUBLIC POLICY (COMMENTS 112-129)

28.4.11.1 NEW JERSEY

Comment 112: The majority of the Project's impacts would occur during the construction period and within the Township of Weehawken. This unreasonable burden is much too great for the neighborhood and the severe, adverse impacts during construction will destroy the quality of life there. The standard of living, quality of life, and neighborhood character in neighborhoods adjacent to the Hoboken construction staging site will decline as a result of the construction work, traffic, air quality effects, dust, hazardous materials, noise and other effects over the seven-year construction period. These are in conflict with the Project goal of minimizing impacts on the natural and built environment. The DEIS does not satisfactorily address these impacts. The DEIS omits adequate data, whether actual based on another project or simulated based on experience, along with explanations to support a conclusion that the plan or any of alternatives avoid or mitigate the identified impacts. *(Acevedo, Beattie Padovano-von der Lieth, J. Bolcar, S. Bolcar, M. Carson, R. Carson, Cheng, Coblentz, Cromer, Curry, Dembroe, C. Devaney, Dexter, Digan, Domingo, Douglas, Eberhard, Eggenberger, Fairclough, Farrell, D. Glackin, C. Greenstrom, R. Greenstrom, Heagney, Heitman, Hite, Hodgson, Hom, Howitt, Janowitz, K. Laufer, S. Laufer, Leong, X. Li, London, Lopez, Lui, Lyons, Marchetti, Marcos, J. McLaughlin, S. McLaughlin, Miller, Murphy, Navarra, J. Newman, K. Newman, Olivieri, J. Rausch, L. Reeves, T. Rodriguez, J. Rovito, R. Rovito, Satten, Schellinck, Schlachter, Sherman, Silva, Telker, Turner-Weehawken. J. Vaskis, N. Vaskis, Vaughan, Vetter, von der Lieth, Wise)*

Response: The DEIS includes a detailed assessment of the impacts of the Preferred Alternative during construction and once it is complete on a full range of environmental issues that can affect quality of life. It provides a description of the construction activities required (Chapter 3, "Construction Methods and Activities," Sections 3.3.3 and 3.3.4), and detailed discussions of the impacts that would occur during construction in Chapters 5 through 24. These include traffic impacts

(Chapter 5A, "Traffic and Pedestrians," Section 5A.6.2.1.2), impacts to land use and community character (Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.6.2.1.4, and Chapter 7, "Socioeconomic Conditions," Section 7.6.3.1.4), effects on visual character (Chapter 10, "Visual and Aesthetic Resources," Section 10.6.2.3), noise impacts ("Chapter 12, "Noise and Vibration," Sections 12.6.2.1.3 and 12.6.2.2.3), air quality effects (Chapter 13, "Air Quality" Section 13.6.2), potential effects related to contaminated materials (Chapter 16, "Contaminated Materials," Section 16.6.2), and the potential for public health impacts (Chapter 19, "Public Health and Electromagnetic Fields," Section 19.2.4). For any adverse impacts identified in any of those areas, the DEIS also identifies measures that will be used to avoid, minimize, or mitigate those impacts.

FRA and NJ TRANSIT prepared the analyses in the DEIS following accepted methodologies and using actual data on existing environmental conditions collected and observed in the area around the Project sites, including close to the proposed Hoboken staging area in Weehawken and Hoboken. For example, information on land use, neighborhood character, and visual character is based on field surveys conducted for the DEIS in 2016 and 2017; information on traffic flows and conditions is based on counts conducted at local intersections in summer and fall 2016; noise levels were measured in Weehawken in fall 2016; and natural resources were observed at and near the Hoboken staging area in 2016. The analyses of traffic, air quality, and noise were based on quantitative models that use actual existing data, predicted changes in the future based on known developments and growth factors, and specific information about the Project construction (i.e., estimated numbers of construction trucks, numbers of construction worker vehicles, specific construction equipment likely to be on the site). For the traffic and noise assessments, where adverse impacts were predicted based on the quantified modeling, specific mitigation measures were also evaluated through the use of the same model to determine their effectiveness and the detailed results of that analysis are provided in appendices to the DEIS. For other evaluations, the effectiveness of mitigation measures is based on experience with other projects nationwide.

As discussed in the response to **Comment 71**, based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North Bergen and the Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts on local residents associated with the Hoboken staging area. The FEIS has been revised to incorporate this design modification and the technical analyses in the FEIS in Chapters 5 through 24 now reflect the modified Project. In addition, the FEIS has been revised to reflect updated conditions as of 2021, given the time that has passed since the DEIS was completed in 2017.

As described in the FEIS in Chapters 5 through 24 (in the last section of each chapter, and summarized in one location in Table S-1 of the Executive Summary), the Preferred Alternative will incorporate numerous measures to reduce or avoid

adverse impacts on the local community during construction to the extent practicable. For construction activities at the Hoboken staging area, these will include the following:

- Coordination with Hudson County, NJ TRANSIT, the City of Hoboken, or Township of Weehawken, as appropriate, regarding implementation of appropriate mitigation for traffic impacts at local intersections.
- Use of designated truck routes (haul routes) for construction traffic, making use of a new off-street access point to the Hoboken staging area along the north side of the HBLR right-of-way.
- A maximum (cap) of no more than 8 trucks per hour in each direction traveling to and from the Hoboken staging area.
- No construction-related trucks on local roads in Weehawken or Hoboken between 10 PM and 7 AM.
- Parking for construction workers either within the boundaries of the Hoboken staging area or at a designated off-site parking facility, with transportation provided to shuttle the workers between the staging area and the off-site parking facility. Construction workers will not park on local streets in Weehawken.
- In all locations where construction activities would affect local roadways and for roadways where construction-related traffic would be directed, use of mitigation measures including MPT plans to manage traffic disruptions. For more information on mitigating traffic disruptions, see Chapter 5A, “Traffic and Pedestrians,” Section 5A.9.
- Use of an MPT plan to ensure that fire trucks and emergency vehicles leaving from and returning to the North Hudson Regional Fire and Rescue Engine 3 fire station at 1900 Willow Avenue (between Willow Avenue and JFK Boulevard East) have access to the street network and are not blocked by traffic queuing at the intersection.
- Implementation of a comprehensive, active and responsive local community outreach program during construction that will include a staffed local neighborhood outreach office at each of the construction staging sites (i.e., Tonnelle Avenue, Hoboken/Weehawken, and New York); a dedicated Project liaison who will coordinate with the community about construction activities, address concerns, and work with the community to accommodate special events where possible; a 24-hour hotline for emergencies and construction complaints; and regular meetings and notifications about construction status and upcoming activities.
- Measures to minimize adverse effects related to construction noise, as detailed in FEIS Chapter 12A, “Noise,” Section 12A.9. These include community outreach and notification regarding potentially disruptive activities, such as blasting; noise reduction measures for construction equipment; conducting blasting no later than 6 PM except under special circumstances and only with permission from the North Hudson Regional Fire and Rescue; and a construction noise monitoring program. The Project Sponsor will

provide advance notice of blasting events to residents of nearby areas (see Chapter 12A, "Noise," Section 12A.9).

- Sound-reducing windows together with air conditioning units to allow for the maintenance of a closed-window condition, to reduce interior noise levels, for residences close to the Hoboken staging area and the associated construction truck routes (see Chapter 12A, Section 12A.9).
- A noise barrier along the entire northern edge of the Hoboken staging area property along West 18th Street and wrapping at least 100 feet on the western side of the property and extending to the truck haul route on the eastern side of the staging area, to buffer the nearby residential neighborhood from construction activities (see Chapter 12A, "Noise," Section 12A.9). The wall will be clad with aesthetically attractive materials developed in consultation with the local community and will be set back approximately 10 feet from the street curb line, to allow street parking and provide an area for landscaping in front of the wall; this landscaping will also be selected in consultation with the local community (see Chapter 10, "Visual and Aesthetic Resources," Section 10.8).
- Underpinning of Willow Avenue viaduct using drilled piles rather than driven piles to reduce resulting noise levels. The Project Sponsor will coordinate with the City of Hoboken and Township of Weehawken regarding pile installation for the underpinning of the Willow Avenue viaduct, to coordinate construction activities to avoid disruption to special events in nearby parks, and to provide advance notification so that the city and township can notify the public of this activity and its expected duration.
- A construction vibration monitoring program for buildings near the construction (including tunneling) that includes pre-construction inspection and vibration monitoring during construction for buildings adjacent to construction sites. See Chapter 12B, "Vibration," Section 12B.9.
- Implementation of a multi-approach dust control plan at the construction sites that includes requirements for watering the site, covering soils stored on site or being transported in trucks, vehicle washing and use of mud mats for vehicles before leaving the site, and continuous air monitoring at the perimeter of the construction sites to identify when additional measures should be taken to contain dust (see Chapter 13, "Air Quality," Section 13.9).
- Implementation of air emissions controls for construction equipment to minimize air pollution, including idling restrictions and mandatory emissions controls for construction vehicles and equipment (see Chapter 13, "Air Quality," Section 13.9).
- Use of downward-directed, shielded lighting at the Hoboken staging area to minimize light pollution affecting adjacent areas, with reduced lighting during hours when construction is not occurring on the site. If a 25-foot-high wall is used at the Hoboken staging area, lighting will not be higher than the noise wall along the site border (see Chapter 10, "Visual and Aesthetic Resources," Section 10.8).

- Use of erosion and sediment controls and best management practices to control runoff from the construction sites (see Chapter 11, "Natural Resources," Section 11.9).
- Storm risk management plan for staging areas located in flood zones to address potential for flooding during construction (see Chapter 14, "Greenhouse Gas Emissions and Resilience," Section 14.3.5.1).
- Comprehensive controls during construction at the Hoboken staging area to protect residents and workers in nearby areas from potential exposure to contaminated materials, including implementation of a Projectwide Soils and Materials Management Plan that specifies procedures for proper handling soils and excavated materials. Material would be sampled, stored, handled, and transported in accordance with all applicable regulations. During construction, continuous air monitoring would be conducted on the perimeter of construction staging areas to identify when additional dust control measures are required. (See Chapter 16, "Contaminated Materials," Section 16.8.)
- Remediation of contaminated materials at staging areas and restoration of disturbed areas following construction with clean fill or engineering controls.
- Security measures for staging areas (see Chapter 18, "Safety and Security," Section 18.8).
- Design of the Hoboken fan plant to be compatible with the character of the surrounding area and particularly the Shades residential neighborhood to the north. The Project Sponsor, in cooperation with the other Project Partners, will coordinate with the local community and seek input in determining the appropriate design for the visible portions of the fan plant.
- Design of the Hoboken fan plant to produce operational noise levels no greater than 65 dBA at the exterior of the nearest residential building, so that adverse noise impacts would not occur (see Chapter 12A, "Noise," Section 12A.9).
- Coordination of construction activities in Hoboken and Weehawken with the Rebuild By Design project to ensure that the two projects do not conflict during their construction and long-term permanent condition.
- Coordination between the Hudson Tunnel Project and other nearby development projects in NJ and NY to minimize conflicts and cumulative impacts during construction.

Comment 113: Property owners commented that construction for the Preferred Alternative would adversely affect their property, making it uninhabitable, lowering property values so that it cannot be sold, or causing rental tenants to leave:

Commenters said that property values in neighborhoods adjacent to the Hoboken construction staging site will decline during construction and owners will not be able to sell or rent their properties or move from the neighborhood. Commenters asked who would be responsible for their loss if the Project construction causes their tenants to leave. Other commenters asked how they would be compensated while their homes adjacent to the Hoboken staging area become uninhabitable,

and they commented that businesses and the community should be compensated for the inconvenience that would result from the construction. One commenter suggested that it is only fair that the Project should compensate property owners by paying rent on their homes at fair market value (pre-proposed construction value) for the duration of the construction. *(Acevedo, Babcock, M. Carson, R. Carson, Dexter, Douglas, Eberhard, Eggenberger, Fairclough, Griggs, K. Laufer, S. Laufer, Penna, Olivieri, J. Rausch, D. Reeves, T. Rodriguez, Romero, Schlachter, Telker, Tom, Turner-Weehawken, J. Vaskis, Vaughan, von der Lieth, Wise)*

Eagle Rock Properties, LLC, owns an apartment building at 1700 Park Avenue in Weehawken that is in close proximity to the proposed Hoboken staging site. The proposed truck routes will circle the building and destroy the tenants' ability to quietly enjoy their property. The building owner expects that most if not all of its tenants would move and the apartments would not be rentable. This construction would constitute a taking. *(Beattie Padovano-Eagle Rock)*

Response: As discussed in the response to **Comment 71**, based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North Bergen and the Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts on local residents associated with the Hoboken staging area. As described in the response to **Comment 112**, the FEIS identifies the potential adverse impacts during construction of the Hudson Tunnel Project on the nearby neighborhood and describes the measures that the Project Sponsor will incorporate to avoid, minimize, and mitigate the Project's adverse construction impacts on nearby neighborhoods. With these measures in place, FRA and NJ TRANSIT believe that the potential for adverse impacts to property values will be minimized and any such adverse impacts will be temporary.

Federally funded projects must adhere to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as codified in 42 USC §§ 4601 et seq. (Uniform Act), and the applicable implementing regulations set forth in 49 CFR Part 24. The Uniform Act protects the rights of property owners and tenants of real property to be acquired to implement the Project. For any properties that are rendered uninhabitable, property owners and tenants would be compensated in accordance with the Uniform Act.

Regarding the property at 1700 Park Avenue, NJ TRANSIT has held easements along the south and west sides of this property since prior to construction of the building, and these easements are evident in the shape of the building, which curves at its southwest corner to avoid the easement area. NJ TRANSIT obtained

these easements for the purpose of creating a truck route for the ARC Project.[9] The proposed truck routes for the Hudson Tunnel Project would use these existing easements and the public roads on the east and west sides of this building. The DEIS described and analyzed two potential routes that for trucks traveling to and from the Hoboken staging area. These routes, referred to as Options 1 and 2, would make use of a new off-street haul route for trucks along the north side of the HBLR right-of-way near the staging area, in combination with portions of Park and Willow Avenues (for Option 1) or Willow Avenue only (for Option 2); both routes would connect to the regional highway network using 19th Street and JFK Boulevard East. Thus, Option 1 would bring trucks along three sides of the building at 1700 Park Avenue, while Option 2 would bring trucks along only one side of the building. In addition, as another method of reducing construction impacts in Weehawken, FRA and NJ TRANSIT have identified a third possible truck route option for access to and from the Hoboken staging area, which is analyzed in the FEIS. The new option, Option 3, would use the same new off-street route for trucks along the north side of the HBLR right-of-way, and would follow the HBLR right-of-way all the way to 19th Street without using Willow or Park Avenue. This option would pass the southern side of 1700 Park Avenue through NJ TRANSIT's existing easement area.

Comment 114: The property owner of 1715 Grand Street, the vacant property in Weehawken that abuts the Hoboken staging area, plans to construct 214 luxury apartments on that site, but believes that it will be unable to do so for many years because of the Hudson Tunnel Project construction on the adjacent site. The property owner believes it will not be able to obtain financing or expend funding knowing it would be impossible to rent the completed building while this construction is ongoing for the next decade. Therefore, the owner believes the construction activity would be so intrusive that it would prevent the owner's legal rights to develop this property and would constitute a taking. *(Beattie Padovano-1715 Grand)*

Response: Please see the response to **Comment 113**. During construction, mitigation measures will be implemented to avoid, minimize, and mitigate the adverse impacts associated with construction of the Hudson Tunnel Project.

Comment 115: Store owners in the neighborhoods surrounding the Hoboken staging site will lose business as a result of construction. *(Olivieri, T. Rodriguez)*

Response: Please see the response to **Comment 112** and **Comment 113**. During construction, extensive mitigation measures will be implemented to avoid, minimize, and mitigate the adverse impacts associated with construction. These

[9] The ARC Project, which was proposed by NJ TRANSIT and approved in 2009, was intended to increase passenger rail capacity between New York and New Jersey and involved construction of a new passenger rail tunnel for use by NJ TRANSIT along approximately the same alignment through Hoboken as is now proposed with the Hudson Tunnel Project. With the ARC Project, the same site in Hoboken was proposed for construction staging and a permanent fan plant as is now proposed as part the Hudson Tunnel Project.

include the use of MPT plans to minimize adverse effects on traffic flow and to maintain access to nearby properties.

Comment 116: Communities located in proximity to the Hoboken construction staging site will suffer the effects of Project construction yet do not receive any direct benefit from the Project. *(Acevedo, Cromer, Curry, C. Greenstrom, Heitmann, Hom, Howitt, Marcos, Okubo, Sherman, Vaughan, von der Lieth)*

Response: Please see the response to **Comment 71**, which describes measures that FRA, NJ TRANSIT, and the other Project Partners have incorporated into the Project to reduce its impacts during construction, and **Comment 112**, which describes the measures to be implemented during construction to address construction-related impacts.

The purpose of the Project includes preserving the current functionality of passenger rail service between New Jersey and New York. As described in the EIS in Chapter 1, "Purpose and Need," Section 1.2, the economy of the New York metropolitan region depends on a strong transportation network, and if the North River Tunnel is not repaired, severe adverse consequences to the regional economy are likely as rail service between New Jersey and New York becomes more unreliable and eventually may become impossible, as described in EIS Chapter 7, "Socioeconomic Conditions," Section 7.5. The economic benefits of the Project are described in Section 7.6.2 of Chapter 7.

Furthermore, as described in the EIS in Section 5B.5.1 of Chapter 5B, "Transportation Services," if service disruptions increase or the North River Tunnel fails entirely, passengers would divert to trans-Hudson bus services, as well as to ferries, automobiles, and PATH rail service, as occurs today when there is a disruption to NJ TRANSIT service between New Jersey and New York. These disruptions would affect up to 20,900 daily weekday passenger trips on Amtrak and 189,000 daily weekday passenger trips on NJ TRANSIT (one-way rides) based on existing ridership prior to the COVID-19 global pandemic, on up to approximately 500 trains per day, as a worst-case scenario. Even if only one tube of the North River Tunnel closes, this would disrupt up to 75 percent of the train service through the tunnel. Because all trans-Hudson transportation routes and services were operating at or near capacity during peak travel hours prior to COVID-19, public transportation services paralleling the North River Tunnel (PATH trains, commuter buses, and ferries) would experience extreme overcrowding and delays and many passengers might elect not to make the trip or to make the trip via automobile on the region's congested roadway system.

Please also see the response to **Comment 53**, in which commenters requested that the Preferred Alternative should include a new station between Secaucus and New York.

28.4.11.2 NEW YORK

Comment 117: NYCMOEC provided clarifications and corrections to the DEIS text in Section 6A.3.3.3.4, "Block 675 Planning Framework." *(NYCMOEC-Semel)*

Response: The FEIS in Chapter 6A, "Land Use, Zoning, and Public Policy," has been revised accordingly; the FEIS also reflects updates related to the recent zoning change enacted by the City of New York in June 2018 on Block 675 and the construction of new residential buildings consistent with that zoning that is occurring there today.

Comment 118: NYCMOEC commented that the DEIS states that the proposed development on Block 675 Lot 12 is planned for completion by 2021, but the assumed completion year of that project (601 West 29th Street) and on Lot 39 (606 West 30th Street) should be 2022. In addition, NYCMOEC commented that the description of potential zoning changes and developments on Block 675 is inaccurate and should be revised to be consistent with the following. The NYCDCP is not proposing zoning changes to Block 675. Instead, there are two independent proposals by two developers, named "601 West 29th Street" (Lots 12, 29, 36) and "606 West 30th Street" (Lot 39) respectively. Each proposal carries a suite of zoning changes and land use actions. "Block 675 East" is not the name of either of the above-mentioned proposals. It is the title of the EIS being prepared jointly by the two project teams. The two project sites as well as an outparcel (Lot 38) are being considered together for the purposes of environmental review due to their adjacency, similarity of the land use actions being proposed, and concurrent development schedules. *(NYCMOEC-Semel)*

Response: All discussions of the proposed developments on the eastern end of Block 675 in the FEIS have been revised accordingly and updated to reflect the fact that the City of New York has adopted the zoning modification on Block 675 and those projects are currently in construction.

Comment 119: NYCMOEC commented that Section 6A.4.3.2, "Zoning," should also provide the zoning designations of Lot 1 and other sites within a 500-foot radius. In addition, since "Block 675 Planning Framework" is a policy statement rather than codified zoning, the description of it should be included in Section 6A.4.3.3, "Public Policy," rather than in Section 6A.4.3.2, "Zoning." *(NYCMOEC-Semel)*

Response: The EIS describes existing zoning on the Project site and immediate area in New York in Section 6A.3.3.2. That discussion includes text describing, and a map illustrating, the zoning within 500 feet of Lot 1. Section 6A.4.3.2, cited in the comment, describes future conditions. This section has been revised to eliminate the reference to the Block 675 Planning Framework and updated to reflect the fact that the City of New York has adopted the zoning modification on Block 675. In addition, a discussion of any other potential future zoning changes for the area within a 500-foot radius is now included.

Comment 120: For tunnel alignment on Block 675, the DEIS states that when the PANYNJ's current easement on the property expires, the existing uses on the site (PANYNJ security functions and commercial bus parking) will be relocated to other sites. Where? There are few available sites in the surrounding area. *(CB4 Manhattan)*

Response: Chapter 6A of the FEIS, "Land Use, Zoning, and Public Policy," Section 6A.4.3.1 (the discussion of future conditions on the site independent of the Hudson Tunnel

Project) describes that the PANYNJ's surface easement on Lot 1 expired in September 2020 and the existing uses have relocated. This has occurred independently of the Hudson Tunnel Project, and therefore this relocation is not an effect of the Hudson Tunnel Project.

Comment 121: The New York City Department of City Administrative Services and FDNY should be consulted on the description of the potential Emergency Medical Services (EMS) facility on Block 675 Lot 12 and any needs of the potential EMS facility. *(NYCMOEC-Semel)*

Response: The potential EMS facility on Lot 12 is not part of the Hudson Tunnel Project. As described in the EIS in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.5.3, the private developer building a new development on Lot 12 of Block 675 may include an EMS facility as part of that development. The discussion in the EIS about Lot 12 considers the potential for delays to the completion of the private development on Lot 12, including that EMS facility, because of the Hudson Tunnel Project's use of a portion of Lot 12 for construction staging.

Comment 122: The use of Block 675, particularly Lot 1, for long-term construction staging and as the location for a large vent shaft/fan plant is inconsistent with current and planned uses on Block 675. The DEIS incorrectly states in several places that no specific development plan has been proposed for Lot 1 of Block 675 at this time. However, the owner of the property intends to develop Lot 1 with a mixed-use redevelopment. As noted in the DEIS, under current zoning Lot 1 could be developed with a commercial building and/or hotel of up to approximately 941,000 zoning square feet, not accounting for the purchase of air rights from Hudson River Park. The property owner is considering incorporating into its plans the City's expressed policy to modify Block 675 zoning to permit higher densities on Lot 1 using additional air rights from the Hudson River Park. Accordingly, a permanent vent shaft/fan plant on Lot 1 and long-term use of that lot for construction staging would be inconsistent with future land use during the time of construction and operations of the Project. In addition, the DEIS states that the use of Lot 1 for construction staging for the prolonged period of construction would only delay development on Lot 1 but does not provide any real analysis of this impact on land use at Block 675. The assumption presented in the DEIS that a vent shaft/fan plant that is 130 feet in diameter and approximately 150 feet tall can be incorporated into a commercial or residential development is unrealistic and unreasonable and is not supported by any analysis. It is a speculative conclusion inconsistent with the requirements of NEPA. Since the Preferred Alternative described in the DEIS is in contradiction to the property owner's plans for development of its property, the analysis in the DEIS and the conclusion that the Preferred Alternative is not a significant adverse impact on these land use policies is plainly insufficient. *(Akerman-260 Twelfth Avenue)*

Response: The DEIS evaluated and described the Preferred Alternative relative to current and planned uses and public policy on Block 675 in Manhattan in Chapter 6A, "Land Use, Zoning, and Public Policy;" the FEIS has updated this analysis to

account for changed conditions since the DEIS. In terms of current uses on Block 675, Section 6A.3.3.1.1 of Chapter 6A of the FEIS describes that the PANYNJ's surface easement on Lot 1 expired in 2020 and Lot 1 is currently vacant. As noted in the comment, Section 6A.4.3.1 (the discussion of future conditions on the site independent of the Hudson Tunnel Project) of Chapter 6 of the DEIS describes the information made available, through all sources, to the FRA, NJ TRANSIT, and the PANYNJ about the future use of that site after expiration of a PANYNJ easement on the property. The DEIS states that in the future, the current owner of Lot 1 may redevelop the site and that while no specific development plan had been publicly proposed at the time of DEIS publication, a large commercial (office or hotel) building is permitted under the site's current zoning. At the time of DEIS publication, FRA and NJ TRANSIT were not aware nor had been made aware of any specific development proposal for the site, and the comment does not describe one; it refers only to the owner's intent and consideration of options. After publication of the DEIS, the developer made public certain details of the contemplated development project, which could entail a 25-story, 1-million-square-foot office building to be completed by 2024[10]; this information is included in the FEIS.

Section 6A.6.4.1 of the DEIS evaluates the effects of the construction activities for the Preferred Alternative on land use on Block 675 and Section 6A.7.4.1 evaluates the effects of the permanent elements of the Preferred Alternative on land use. In those two sections, the DEIS describes that both the construction staging and the permanent vent shaft and fan plant would affect any proposed future development on Lot 1. The analysis, presented in Section 6A.6.4.1, of temporary construction activities at the Twelfth Avenue staging area (Block 675 Lot 1) concludes that any new building proposed to be built on this site would likely be delayed until after completion of the Preferred Alternative. While the commenter claims that the DEIS does not provide meaningful analysis of the impacts of this delay on land use, any further analysis of this delay would have been speculative, since as noted above, FRA and NJ TRANSIT were not aware nor had been made aware of any specific development proposal for Lot 1 at the time of DEIS publication. The FEIS analysis has been revised to address the developer's potential plan for the site, as reported in the media.

Permanent impacts at Block 675 Lot 1 include the impact of the proposed new fan plant that would be located there; analysis presented in Section 6A.7.4.1 of the DEIS indicates that any new building constructed at the site must account for the presence of the fan plant at the site. However, the text of the DEIS does state that the Project Sponsor will seek to coordinate the design of the new fan plant with any private development proposed for Lot 1. The text of the DEIS also acknowledges again in this section that completion of any such new development would be delayed until after completion of this Project, at which time the development could proceed as planned with incorporation of the fan plant into the development project. Section 6A.7.4.3 of the DEIS describes that development of

[10] For more information, see: https://www.commercialcafe.com/blog/georgetown-1msf-office-tower-chelsea.

a new tunnel ventilation building on this part of Block 675 would be consistent with established public policy for the site included in NYCDCP's Block 675 Planning Framework. That public policy document specifically recognizes the need to incorporate the Hudson Tunnel Project into Block 675, including both a tunnel passing beneath the block and a tunnel ventilation building on the western portion of the block; therefore, the Project elements at Block 675 Lot 1 are anticipated in land use policies for this site.

This discussion has been revised and expanded for the FEIS to specifically state that if Amtrak is unable to coordinate the design of the new fan plant with a private development proposal for Lot 1, then the portion(s) of Lot 1 where the ventilation shaft and fan plant would be located would likely not be available for subsequent private development. In this case, Amtrak would acquire a portion or potentially all of the property (a possibility that is noted in both the DEIS and the FEIS in Chapter 6B, "Property Acquisition," Section 6B.3.2.2). The property owner would be compensated for this acquisition in accordance with the Uniform Act Relocation Assistance and Real Property Acquisition Policies Act of 1970, as codified in 42 USC §§ 4601 et seq., the applicable implementing regulations set forth in 49 CFR Part 24, and other applicable law.

FRA and NJ TRANSIT conclude that it is neither unrealistic nor unreasonable to assume that a 130-foot-wide below-grade shaft and a building with a footprint of approximately 15,600 square feet (120 feet by 130 feet) can be accommodated together with a private development on a site that is approximately 78,441 square feet in area—200 feet deep along Twelfth Avenue, 259 feet long along West 29th Street, and 525 feet long along West 30th Street. As described in the EIS (see Section 6A.7.4.1), the Hudson Tunnel Project's fan plant can be arranged with the fans oriented vertically (requiring a space up to 145 feet tall) or horizontally (requiring a lower building envelope). The horizontal arrangement in particular would allow the fan plant to become part of the base of a larger structure.

There are successful examples of other projects in which tunnel fan plants are incorporated into high-rise residential or commercial buildings. For example, the Intercontinental Hotel and condominium building at 500 Atlantic Avenue in Boston houses tunnel exhaust features for the Central Artery vehicle tunnel below.[11] In addition, a ventilation structure for the PATH system is enclosed within one of the new commercial buildings at the World Trade Center in New York, and a ventilation structure for the PSNY complex is enclosed within one of the office buildings above PSNY.

Amtrak and NJ TRANSIT have been coordinating with the two private developers that are constructing new buildings at the east end of Block 675 and Amtrak has also attempted to coordinate with the owner and/or developer of Lot 1. As the Project advances, the Project Sponsor, in cooperation with the other Project Partners, will coordinate with those developers to allow them opportunities to review and provide input on how the interim construction activity and permanent

[11] For more information, see: http://archive.boston.com/business/articles/2004/08/07/an_exhaustive_solution/.

infrastructure can be integrated with their development plans and schedule. Amtrak will also seek opportunities to coordinate with the property owner of Lot 1 on Block 675.

Comment 123: Regarding Section 6A.7.4.1, "Land Use," how would the above-grade fan plant structure impact the active streetscape, as the fan plant may reduce the active frontages on West 30th Street depending on its final location and design? *(NYCMOEC-Semel)*

Response: As noted in the EIS (see discussion in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.2.7.2 as well as Section 6A.7.4.1 cited in the comment), design for the Twelfth Avenue fan plant is currently at a preliminary stage. As the Project moves forward, the Project Sponsor will finalize the design for the Twelfth Avenue fan plant, including its location, dimensions, and massing. The design will reflect constructability and operational considerations, cost, and compatibility and suitability with the urban design of its setting and adjacent developments, including consideration of the factors identified in NYCDCP's Block 675 Planning Framework. The Project Sponsor, in cooperation with the other Project Partners, will coordinate with NYCDCP and CB4 about the visible elements of the fan plant as the Project design advances and will design the Twelfth Avenue fan plant to be compatible with the character of the surrounding area. This includes maximizing active street frontages to the extent practicable while balancing the emergency and fire and life safety functions of the building. As also noted in the EIS in the same sections of Chapters 2 and 6, the location for the fan plant structure has not yet been finalized; this fan plant may be located on either West 30th Street or West 29th Street.

Comment 124: The use of Lot 1 on Block 675 for long-term construction staging and a permanent vent shaft/fan plant would be contrary to public land use policies as enunciated by NYCDCP in its May 2017 Block 675 Planning Framework. The DEIS describes the terms of the Framework that call for increased density through a rezoning of the western portion of Block 675 to C6, which would allow for residential development, provide for additional increased development through the purchase of air rights from Hudson River Park, and allow for views toward the Hudson River. The proposed size and location of the vent shaft/fan plant shown in the DEIS clearly show that construction of that facility on Block 675 is plainly inconsistent with these policy goals set forth in the Framework. Since the Preferred Alternative described in the DEIS is in contradiction to the City's own Framework, the analysis in the DEIS and the conclusion that the Preferred Alternative is not a significant adverse impact on these land use policies is plainly insufficient. *(Akerman-260 Twelfth Avenue)*

Response: As noted in the comment, the DEIS describes NYCDCP's Block 675 Planning Framework issued in May 2017 in its discussion of public policy in Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.3.3.3.4. As described in the DEIS, the Block 675 Planning Framework recommends a rezoning of the block to C6 to facilitate redevelopment of the block with a mix of land uses. The Planning

Framework also specifically recognizes the need to incorporate the Hudson Tunnel Project into Block 675, including both a tunnel passing beneath the block and a tunnel ventilation building on the western portion of the block.

The Planning Framework is available on NYCDCP's website, which provides a policy statement and supporting presentation that NYCDCP made to the New York City Planning Commission on May 8, 2017. The Planning Framework states the following:[12]

"To support the transformation of the underutilized waterfront block into a vibrant mixed-use area that contributes to the vitality and growth of the neighborhood, development proposals on the block should:

- Include a mix of residential, commercial and public facility uses, as needed;
- Provide affordable housing within the MIH (mandatory inclusionary housing) framework;
- Activate the streetscape along West 30th St / 11th Ave and at prominent corners;
- Animate the High Line interface with a high level of transparency and active uses; and
- Accommodate public facility and infrastructure needs at appropriate locations."

NYCDCP's presentation to the New York City Planning Commission illustrated the "infrastructure needs" on Block 675 with an alignment plan for the Hudson Tunnel Project that shows the location of a shaft site, construction staging area, and ventilation facility on Block 675. Thus, the proposed size and location of the ventilation shaft and fan plant are in fact consistent with the policy goals of the Block 675 Planning Framework, particularly as acknowledged by its goal of accommodating public facility and infrastructure needs at appropriate locations. The Project Partners have coordinated closely with NYCDCP regarding the Block 675 Framework and its relationship to the Hudson Tunnel Project. As the design advances, the Project Sponsor will coordinate with NYCDCP and CB4 with regard to the fan plant design and its consistency with the urban design goals for Block 675. Moreover, as discussed in the response to **Comment 122** and discussed in the DEIS and FEIS in Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.7.4.1, the proposed Twelfth Avenue fan plant could be freestanding and adjacent to, or integrated with, a commercial or residential development built by another party as a separate project on Lot 1. That private development could be built according to the design goals established in the Block 675 Planning Framework. The EIS adequately addresses the compatibility of the Project with NYCDCP's Block 675 Planning Framework.

Regarding the Project's effects on public policy related to the ability of Hudson River Park to obtain revenue from the sale of development rights to sites on the east side of Twelfth Avenue, please see the response to **Comment 125**.

[12] http://www1.nyc.gov/site/planning/plans/block-675-planning-framework/block-675-planning-framework.page.

Comment 125: Several commenters stated that the Preferred Alternative's use of Block 675 Lot 1 for construction staging and/or the permanent site of a ventilation shaft and fan plant would be contrary to the stated public policy that HRPT should be able to sell development rights to properties east of the park to support the park's ongoing operations and maintenance:

> The DEIS appears to dismiss public policy encouraging the sale of air rights from the Hudson River Park to sites on the east side of Twelfth Avenue. The use of Block 675, particularly Lot 1, for long-term construction staging and as the location for a large vent shaft/fan plant is inconsistent with public policy regarding the ability of Hudson River Park to obtain much-needed revenue from the sale of development rights to sites on the east side of Twelfth Avenue. The DEIS acknowledges that the Hudson River Park Act was amended to allow HRPT to sell unused development rights to sites within one block east of the park and that the purpose of this amendment was to provide a means to generate revenue for the operations of the park, and that the City Planning Commission and City Council created the Special Hudson River Park District in the New York City Zoning Resolution to provide a mechanism for such transfers. However, after stating that the Preferred Alternative would delay future purchases of development rights from Hudson River Park, the DEIS does not describe this as an impact and does not propose any measure to mitigate or avoid this impact. *(Akerman-260 Twelfth Avenue)*
>
> The discussion in the EIS of the Project's impacts on public policy during construction should be revised to indicate that construction activities for the Preferred Alternative will likely delay private development of Block 675, Lot 1 and the future fan plant will impact any future development of that site. NYCDCP and HRPT have identified Lot 1 as part of a future expansion of the Hudson River Park Special District and the future site for use of transferred development rights from the park pursuant to the Hudson River Park Act. The delays and changes caused by the Preferred Alternative will therefore have an impact on the transfer of any development rights and the purpose of the Act. The Project Sponsor should ensure that those impacts are not significant by working with HRPT to mitigate financial losses related to the delays. *(HRPT-Wils)*

Response: In Chapter 6A, "Land Use, Zoning, and Public Policy," Sections 6A.6.4.1 and 6A.6.4.3 and Chapter 8, "Open Space and Recreational Resources," Section 8.6.4.1, the DEIS describes that construction activities for the Preferred Alternative will likely delay private development of Block 675, Lot 1 and that this may affect the timing of the sale of development rights from HRPT to the owner of Lot 1. For example, see Section 6A.6.4.3, "Public Policy," which states: "To the extent that construction activities for the Preferred Alternative delay future private development on Lot 1, this would also delay future purchase of development rights from Hudson River Park, if any are sought by a Lot 1 developer. Construction activities for the Preferred Alternative could delay completion of the portion of Hudson River Park between West 29th and West 34th Street, but otherwise would not affect public policies related to Hudson River Park."

The FEIS has been revised in those sections to elaborate on the effects of this delay. In Section 6A.6.4.3, the FEIS states that NYCDCP and HRPT have identified Lot 1 on Block 675 as a part of a future expansion of the Hudson River Park Special District and the future site for use of transferred development rights from the park pursuant to the Hudson River Park Act. At this time, there is no committed potential purchaser for those rights. Any developer of Lot 1 and potential purchaser of development rights from HRPT will have to take the construction staging of the Preferred Alternative into consideration. Until any such sale, the proceeds will not be available to HRPT to improve the park. Construction activities for the Preferred Alternative could delay future private development on Lot 1. However, this potential delay would not adversely affect the policy that HRPT be permitted to sell development rights to support its operations, nor the mandate that HRPT be economically self-sufficient. The public policies that established the ability for HRPT to sell development rights did not specify which properties would be receiving these rights, nor did they specify timing for the sale of such rights. Consequently, construction activities for the Preferred Alternative would not alter, nor be contrary to, the public policies and objectives of state and local controls establishing and supporting Hudson River Park.

Amtrak will need to negotiate several necessary agreements with HRPT for entry permits, as well as temporary and permanent easements. The relevant agreements could include negotiated provisions that take into account potential financial losses and funding delays.

The FEIS also includes an expanded discussion of the permanent impacts of the completed Hudson Tunnel Project related to public policies establishing and supporting Hudson River Park in Section 6A.7.4.3. As explained above, that discussion states that in the long-term, the Preferred Alternative would not affect public policies related to Hudson River Park. It would not interfere with the public policy intent of the Special Hudson River Park District nor the park's ability to sell development rights to properties on Block 675. Amtrak will seek to coordinate the design of the new fan plant with any private development proposed for Lot 1, and that development could still serve as a receiving site for development rights from Hudson River Park. If Amtrak is unable to coordinate the design of the new fan plant with a private development proposal for Lot 1, then the portion(s) of Lot 1 where the ventilation shaft and fan plant would be located would likely not be available for subsequent private development. In that case, the portion of Lot 1 occupied by the ventilation shaft and fan plant might not serve as a receiving site for development rights. The loss of a potential receiving site is not contrary to the public policy related to Hudson River Park or in conflict with the objectives of state or local land use plans, since the Hudson River Park Act does not designate specific properties as receiving sites and the New York City Zoning Resolution does not indicate Lot 1 as a receiving site.

Any potential financial losses associated with the potential loss of a receiving site or delay in development would be purely economic, and any attempt to quantify those losses for the FEIS would be speculative.

Comment 126: The discussion in the EIS of the completed Project's impacts on public policy should be revised to indicate that while in the long-term, the Preferred Alternative would not significantly impact public policies related to the Hudson River Park, there may be impacts for the duration of the Project. The purposes of the Hudson River Park Act include the Hudson River Park being economically self-sufficient. The Act states: "the costs of the operation and maintenance of the park [shall] be paid by revenues generated within the Hudson River Park and that those revenues be used only for park purposes." Similarly, the New York City Zoning Resolution includes a Special Hudson River Park District that is intended to "facilitate the repair and rehabilitation of piers, bulkheads and infrastructure within Hudson River Park, and to facilitate their maintenance and development" through the transfers of development rights. The Project's impacts may include:

- Delays in the development of Block 675, Lot 1; the planned inclusion of Lot 1 within the Special Hudson River Park District; and the sale of unused development rights from the park to the developer of Lot 1.
- Impacts on the value of development rights transferred from the park to the developers of Lots 12, 29, 36 and 39, which are subject to New York City's Uniform Land Use Review Procedure (ULURP) as defined in the Draft Scoping Document for the Block 675 East EIS issued on April 17, 2017 (CEQR No. 17DCP159M).
- During construction, closure of two or more landing pads at the heliport, which is authorized by the Act.
- During Project operation, limits on HRPT's ability to site a future rebuilt heliport, including increased costs of siting such heliport.
- Delays in completion of areas of the park within and adjacent to the Project site.

The EIS should also state that to avoid significant adverse impacts, the Project Sponsor will work with HRPT to address financial losses and delays associated with the construction or operation of the Project. *(HRPT-Wils)*

Response: The issues cited in the comment are predominantly potential construction-related effects of the Hudson Tunnel Project that will last for the duration of construction of the Project, but not following completion of construction. Therefore, these effects are described in the DEIS as temporary impacts, rather than as impacts of the completed Project; construction-related impacts on public policy are described in Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.6.4.3.

Regarding the specific points raised in the comment, the Preferred Alternative would not alter, nor would it be contrary to, the public policies establishing and supporting Hudson River Park:

- The DEIS describes the potential for a delay in the development of Lot 1, as discussed in response to **Comment 125** (for example, see Section 6A.6.4.3 in Chapter 6A, "Land Use, Zoning, and Public Policy"). As discussed in response to **Comment 125**, FRA and NJ TRANSIT do not agree that this delay is contrary to the Hudson River Park Act or any stated public policy or in conflict with the objectives of state or local land use plans. The delay would

not adversely affect the policy that HRPT be permitted to sell development rights to support its operations, nor the mandate that HRPT be economically self-sufficient. The public policies that established the ability for HRPT to sell development rights did not specify which properties would be receiving properties, nor did they specify timing for the sale of such rights. Amtrak will need to negotiate several necessary agreements with HRPT for entry permits, as well as temporary and permanent easements. The relevant agreements could include negotiated provisions that take into account potential financial losses and funding delays.

- Regarding the Project's effects on the value of development rights that HRPT may sell to owners of property on Block 675, see the response to **Comment 148**, which explains why FRA and NJ TRANSIT do not anticipate a drop in the appraised value of development rights that may be transferred from Hudson River Park to Block 675.
- Regarding the Project's effects on the West 30th Street Heliport during construction, as discussed in response to **Comment 150,** the DEIS and FEIS describe that the heliport generates revenues that support the park (see Section 6A.3.3.3.5 in Chapter 6A, "Land Use, Zoning, and Public Policy"). The DEIS also describes the need to close a portion of the West 30th Street Heliport, which provides funds to the Hudson River Park (see Section 6A.6.4.1 in Chapter 6A, "Land Use, Zoning, and Public Policy," DEIS page 6A-28) and states that the Project Sponsor will coordinate with the heliport operator and HRPT to minimize disruption to the heliport operation to the extent practicable. This discussion has been expanded in Section 6A.6.4.1 of the FEIS to more clearly state that if heliport operations are adversely affected and this affects the payments that the heliport operator makes to HRPT, this could in turn adversely affect HRPT's ability to maintain Hudson River Park. The Project Sponsor, in cooperation with the other Project Partners, will coordinate with the heliport operator and HRPT, which receives revenues from the heliport, to minimize disruption to the heliport operation to the extent practicable. This information is also provided in Chapter 8, "Open Space and Recreational Resources," Section 8.6.4.1.
- Regarding HRPT's ability to site a future rebuilt heliport, the DEIS describes the limitations on future development in Hudson River Park directly above the tunnel alignment in Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.7.4.1 and Chapter 8, "Open Space and Recreational Resources," Section 8.7.4.1. This is a permanent, rather than construction-related, effect of the Project. Text in the FEIS has been revised to describe the limits to future park construction in more detail (see also the response to **Comment 151**).
- Regarding HRPT's ability to complete areas of the park, the DEIS (Section 6A.6.4.1) also describes that the Hudson Tunnel Project would cause delays in completion of the areas of Hudson River Park within and near the tunnel construction site. See also the response to **Comment 146**.

- Regarding financial losses to HRPT, the FEIS now states in Section 6A.6.4.3 and 8.6.4.1 that Amtrak will need to negotiate several necessary agreements with HRPT for entry permits, as well as temporary and permanent easements. The relevant agreements could include negotiated provisions that take into account potential financial losses and funding delays.

Comment 127: The impacts on the funding and development of the park should be removed from the "indirect and cumulative" section of the Executive Summary and moved to the land use section and Table S-1 should address impacts on the Hudson River Park Act. *(HRPT-Wils)*

Response: The FEIS has been revised accordingly. See response to **Comment 125** and **Comment 126**.

Comment 128: The DEIS mentions a seven-year delay in the transfer of air rights from the Hudson River Park to the developers of Block 675 lots but that delay may be much longer. On the portion of Block 675 where the proposed Twelfth Avenue fan plant would be located, the park's future air right sales to that portion of the block would almost certainly be delayed for as much as a decade or more during the duration of tunnel construction. HRPT is already in discussions with the owners on Block 675 regarding the transfer of development rights, and would expect to receive revenue from two of the three affected properties as early as 2018 absent the tunnel project. In addition, since the work on the park to be undertaken with some of that revenue cannot proceed until tunnel construction in the park is finished, the delay in park construction will result in higher construction costs to HRPT. There is no mention in the DEIS of the financial consequences that will be caused by the delay in the park's ability to transfer and sell air rights to property owners on Block 675. The FEIS needs to identify funding, potentially including intermediate funding prior to the delayed transfer of air rights, or some other method that ensures that the park is made whole from this delay and the additional costs associated with it. (*CB4 Manhattan-Mackintosh, CB4 Manhattan, Friends of HRP-Fishman, Friends of HRP-Simone, Hoylman-Gottfried-Brewer-Johnson*)

Response: The DEIS describes that the Hudson Tunnel Project would result in a delay to HRPT's possible sale of development rights to Lot 1 on Block 675, as discussed in response to **Comment 125**. FRA, NJ TRANSIT, and the PANYNJ expect that the delay would be for the duration of the Hudson Tunnel Project's construction period on the block, which would be seven years, as is described in the DEIS. However, the Hudson Tunnel Project would not result in delays to the sale of development rights from the park to properties on Block 675 other than Lot 1. Development projects on lots other than Lot 1 are proceeding according to their proposed schedule and would not be delayed by the Hudson Tunnel Project.

See the response to **Comment 125** regarding financial compensation to HRPT.

Comment 129: Siting of the vent shaft and fan plant on Lot 1 would be contrary to the specific terms of the Easement Agreement dated September 3, 2010 between the property owner and the PANYNJ. The Easement Agreement prohibits the

placement of a permanent ventilation plant on the property (the proposed permanent ventilation plant referred to in the Easement Agreement was at the time planned as part of the ARC Project). Thus, there is a legal prohibition against locating the vent shaft/fan plant on the property. The DEIS should have disclosed this impact on land use and studied alternative sitings. *(Akerman-260 Twelfth Avenue)*

Response: The DEIS and FEIS describe the reasons that the permanent vent shaft and fan plant is proposed on Block 675 Lot 1 and why alternative locations are not feasible or reasonable in both Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.3.2.1, and the Alternatives Development Report provided in Appendix 2-1, in Section 4.2.3 of that report. More information about these reasons is provided in response to **Comment 39**. Chapter 6B, "Property Acquisition," of the EIS describes the need for acquisition of an easement or fee acquisition on Block 675 Lot 1 for the fan plant and for construction staging activities. Siting of the vent shaft and fan plant on Lot 1 will not give rise to an impact on land use for the reasons referenced above.

28.4.12 SOCIOECONOMIC CONDITIONS (COMMENTS 130-138)

Comment 130: While the DEIS studies the socioeconomic impacts that the Preferred Alternative may have on New York and New Jersey, it is lacking a thorough analysis of the socioeconomics of cities and townships that are along the NEC. A worst case scenario analysis studying the economic effects of the No Action Alternative on New York City, New Jersey, Washington, D.C., Boston and the nation should be completed to underscore the importance and urgency of this Project. *(REBNY-Minougou)*

Response: The DEIS and FEIS describe the adverse economic effects of the No Action Alternative in Chapter 7, "Socioeconomic Conditions," Section 7.5, "No Action Alternative." That section of the EIS states that the No Action Alternative would result in adverse effects on socioeconomic conditions in New Jersey, New York, and the cities in the Northeast that currently benefit from Amtrak's intercity rail service. Without proper maintenance of the transportation infrastructure, delays on Amtrak and NJ TRANSIT service for unplanned maintenance and repairs would continue to worsen. As trans-Hudson travel demand continues to grow, more and more people would be affected as access to work, home, and areas of commerce would be more difficult in New Jersey, New York, and throughout the NEC. Increasing travel time required for work commutes and the movement of goods and services in the region would increase the cost of doing business and ultimately make the region a less desirable location to live and work. With the No Action Alternative, the projected growth in population and employment would not be sustainable and the deterioration in travel conditions would adversely impact the local tax base and economic activity in the Northeast as individuals and businesses move away or avoid locating within the region. Please note, however, that given the uncertainty about the timing and extent of any potential closure of the North River Tunnel that might occur in the future, for purposes of analysis in the EIS, FRA and NJ TRANSIT have assumed that the North River Tunnel would

remain functional and in operation at least through the EIS analysis year of 2033. Since the No Action Alternative is the baseline against which the impacts of the Preferred Alternative are compared in the EIS, this approach allows for a conservative and rigorous analysis of the impacts of the Preferred Alternative (see discussion in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.4, "No Action Alternative"). A worst-case scenario analysis of the economic effects of the No Action Alternative between Washington, D.C. and Boston is not required by NEPA and would require FRA and NJTRANSIT to make overly speculative assumptions about the timing and extent of any potential closure of the existing crossing.

Comment 131: The analysis of socioeconomic conditions provided in DEIS Chapter 7 uses IMPLAN, an input-output model. IMPLAN is an input-output model that has no price/substitution effects and is therefore likely to overstate the impacts of the Project even when conservative estimates are used. This should be addressed, at least in a footnote. *(DHS-IP-Genua)*

Response: Input-output models such as IMPLAN are widely accepted tools for estimating the economic benefits of a construction project and are commonly used in EISs for large-scale projects like the Hudson Tunnel. For example, the FEIS for the Tappan Zee Bridge replacement project also used IMPLAN to estimate economic benefits from construction.[13] IMPLAN uses the most recent economic data from sources such as the U.S. Bureau of Economic Analysis, the U.S. Bureau of Labor Statistics, and the U.S. Census Bureau to predict effects on the local economy from direct changes in spending. The model contains data on 536 economic sectors, showing how each sector affects every other sector as a result of a change in the quantity of its product or service. IMPLAN models the direct impact of an event, the indirect impact of business-to-business purchases necessary for the direct impact production (i.e., supply chain purchases), and the resulting household spending due to the additional income and spending in the region.

Input-output models such as IMPLAN do not make any prediction on what behavior changes will occur in the economy. For example, if a firm leaves a region, some of the employees will likely become re-employed in the region within the year. Since IMPLAN does not make any assumption on these types of triggered impacts, its use is most appropriate for projects—such as construction of the Hudson Tunnel Project—that would not lead to significant structural changes in the economy. In addition, since input-output models assume static prices without "substitution" effect (i.e., the theory that as prices rise—or income decreases—consumers will replace more expensive items with less costly alternatives), as the economy changes over time, the model's data may become less reflective of current economic conditions. In this respect, there is potential for an input-output model to overestimate longer-term impacts. A footnote about substitution effects and the potential for a model to overstate longer-term impacts

[13] http://www.newnybridge.com/documents/feis/vol1/18-construction-impacts.pdf, pg. 18-34.

has been added to the FEIS discussion of the economic benefits in Chapter 7, "Socioeconomic Conditions," Section 7.6.2.

Comment 132: NYSW finds the suggestion that the proposed use for 4.5 years of a portion of our facility in North Bergen for construction access would have no impact "based on the large amount of parking available in the vicinity" is ludicrous. NYSW is not aware of any parking available in the vicinity and regularly receives requests from third parties seeking parking locations. More importantly, parking capacity down the street or a distance from the existing tracks is of little utility for a facility that receives railcars of lumber to unload and stage for loading onto trucks. The proposed use of NYSW's property will significantly reduce our capacity to handle commodities at the site and the unspecified volume of construction truck traffic will likely negatively impact NYSW's operations in the facility. *(NYSW-Fenno)*

Response: In the conceptual construction approach presented and evaluated in the DEIS, the Preferred Alternative included a temporary access road to the construction site for the surface alignment in the Meadowlands that extended through NYSW's North Bergen reload facility. Chapter 7, "Socioeconomic Conditions," of the DEIS, Section 7.6.3.1.2, described the proposed use of a portion of the reload facility and stated that the construction road would temporarily reduce the amount of space available at the reload facility. It also stated that NYSW has a large adjacent property and may be able to shift some of the reload function to that property. It did not state that there would be no impact based on the large amount of parking available in the vicinity. In response to this comment from NYSW, Amtrak has modified the proposed construction approach to eliminate the proposed construction access road through the NYSW lumber reload facility in North Bergen. Instead, the modified design includes a truck turnaround on the proposed construction access road parallel to the new surface alignment, with access from Secaucus Road as described in the FEIS. This new turnaround would not increase the footprint of disturbance for the Project in the Meadowlands, since the Project's overall footprint was reduced in the Meadowlands by other design modifications made following completion of the DEIS. (For more information on design modifications made since the DEIS, see the Foreword of the FEIS, Section F.2.2.) The FEIS reflects the modified approach. Chapter 3, "Construction Methods and Activities," Section 3.3.17, describes the revised construction access for the surface track construction in New Jersey and other chapters of the FEIS include this modification in the analysis of Project impacts during construction.

Comment 133: The property owner of 401 Penhorn Avenue in Secaucus requested that the design be modified to move a proposed easement "bump out" to the south to minimize the impact to the parking lot. *(Pantheon-Sheeran)*

Response: The Preferred Alternative would require temporary and permanent easements along the new surface tracks in the Meadowlands in New Jersey to accommodate construction activities and some permanent features of the new right-of-way. Chapter 6B, "Property Acquisition," of the DEIS illustrated the potential easements in Figures 6B-1 through 6B-9. Figure 6B-4 of the DEIS showed a

communications equipment platform adjacent to the new tracks that required an easement through the parking lot at 401 Penhorn Avenue. Since completion of the DEIS, Amtrak has continued to advance the design of the Preferred Alternative, including incorporating design refinements based on further engineering analysis and information. Updated information on the potential easement at 401 Penhorn Avenue is provided in the FEIS in Chapter 7, "Socioeconomic Conditions," Figure 7-4. As illustrated in the figure, the equipment platform has been relocated. Please note that the permanent and temporary easements illustrated in both the DEIS and FEIS are largely for an underground drainage feature to be installed beneath the parking lots of properties adjacent to the NEC in the Meadowlands, and would not require permanent changes to the use of the parking lots of those properties. The Project Partners coordinated with owners of properties adjacent to the surface tracks during preparation of the conceptual design and the Project Sponsor, in cooperation with the other Project Partners, will coordinate with property owners and tenants of properties that would be affected by Project construction as the design advances to coordinate access and construction.

Comment 134: The property owner of 201 Penhorn Avenue in Secaucus commented that the property is a multi-tenant warehouse property and truck access to the loading docks is essential for the building's utility. Any taking, either temporary or permanent, of the paved truck swing area along the western property line would eliminate the truck access to the loading docks used by four warehousing tenants in the building. Eliminating access to these warehouses would destroy the utility of the property. The property owner provided an illustration of the areas of the parking lot where any Project-related effects would affect truck access.*(Pantheon-Sheeran)*

Response: Updated information on the potential construction easement at 201 Penhorn Avenue is provided in the FEIS in Chapter 7, "Socioeconomic Conditions," Figure 7-6. As illustrated in the figure, during construction of the Preferred Alternative, construction workers would need temporary access to the northern portion of the parking lot at 201 Penhorn Avenue to install a below-grade drainage feature beneath the parking lot. This would take approximately five months, and would occur either all at once or in stages over a five-year period. This construction easement would include areas cited in the comment as areas that would eliminate truck access to the loading docks. Information on this potential impact has been added to the FEIS in Chapter 7, Section 7.6.3. The Project Partners coordinated with owners of properties adjacent to the surface tracks during preparation of the conceptual design and Amtrak is currently evaluating the construction staging approach to further reduce these disruptions wherever practicable. As the Project design advances, the Project Sponsor, in cooperation with the other Project Partners, will continue to coordinate with the property owner and building tenants about specific access requirements to minimize the disruption that would occur to business activities, where practicable. If any temporary displacement of businesses is required, affected property owners and tenants would be compensated in accordance with the Uniform Act.

Comment 135: The installation of tracks and associated infrastructure in the Project's surface alignment through the Meadowlands would require partial acquisitions of nearby industrial properties. The EIS should include information about the proposed scope and timing of the Project's restoration of those properties after construction. *(MAS-Devaney)*

Response: The potential temporary and permanent easements on properties adjacent to the proposed new surface tracks through the Meadowlands are described in the DEIS and FEIS in Chapter 6B, "Property Acquisition," Section 6B.3.1; Chapter 7, "Socioeconomic Conditions," Section 7.6.3.1 describes the potential impacts to businesses as a result of the easements. Specific information about the scope and timing of restoration of affected properties will be developed in coordination with the affected property owners as the design advances. This is noted in the FEIS in Chapter 7, "Socioeconomic Conditions," Section 7.6.3.

Comment 136: The analysis of socioeconomic conditions treats all construction disruptions as temporary with properties being restored after the Project's construction ends. This fails to address the fact that some of these disruptions could very well lead to business closures due to Project-induced congestion, lack of parking and access, noise, etc. This could be serious for those using the health care and social assistance programs on the New York side as well as those service providers, which account for a reported 18.5 percent of the area's employment. *(DHS-IP-Genua)*

Response: The analysis of the construction impacts of the Preferred Alternative on nearby businesses is provided in Chapter 7, "Socioeconomic Conditions." As described in Section 7.6.3 of that chapter, the types of effects that would occur would vary substantially depending on the location of the construction activity. In terms of traffic congestion, lack of parking and access, noise, etc., cited in the comment, most of the construction activities would not result in the potential for closures to nearby businesses. Construction traffic would be managed through the use of MPT plans and access would be maintained to nearby businesses. In terms of the health care and social assistance programs cited in the comment, there are no health care and social assistance programs in the immediate proximity of the proposed construction activities and therefore none would be adversely affected during construction. In New York, Chapter 7 of the DEIS does identify health care and social assistance as an important component of the area's employment (see Section 7.3.2.1.2, which shows that approximately 19 percent of the employment in the New York study area was in this sector), that does not mean that such as hospitals or clinics are located in proximity to the construction site. (Moreover, the updated analysis included in the FEIS shows that this sector now constitutes approximately 9 percent of the employment in the area.) As described in the DEIS in Section 6A.3.3 of Chapter 6A, "Land Use, Zoning, and Public Policy," the area near the proposed construction site in New York consists of a mix of light industrial and newly developed residential uses and substantial construction activity at present. While the Hudson Tunnel Project would involve heavy construction, such construction activities are commonplace in this area of New York City and New Jersey, and there would continue to be appropriate measures taken to ensure

that access to businesses would be maintained, including signage during the construction period. Moreover, as discussed in the EIS, the Project Sponsor will implement a number of mitigation measures to avoid or reduce impacts to traffic and pedestrian conditions, air quality, and noise. With these measures, access to the study area's health care and social assistance programs would, therefore, be maintained.

Comment 137: Commenters stated that the proposed construction activities in New Jersey would result in reduced property tax revenues for local municipalities:

Construction activities adjacent to the Hoboken construction site will cause property values to decline. If property taxes are reduced accordingly, that revenue will be lost to the rest of the residents of town. This will be another financial burden on the town. *(Douglas, Griggs, Romero, Schlachter, Turner-Weehawken)*

There's going to be a loss of tax revenue for the City of Union City in excess of $1 million a year. *(Griggs)*

Response: Regarding the potential for property values to decline, see response to **Comment 113**. As discussed in response to **Comment 71** and **Comment 112**, based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North Bergen and the Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts on local residents near the Hoboken staging area. In addition, the Project Sponsor will incorporate a comprehensive range of measures to avoid, minimize, and mitigate the Project's adverse construction impacts on nearby communities. With these mitigation measures in place and given that construction activities would be temporary, FRA and NJ TRANSIT do not expect that property values would experience long-term adverse effects near the Project sites in New Jersey. Since tax revenues are based on long-term values, FRA and NJ TRANSIT do not anticipate a corresponding loss of tax revenue for New Jersey municipalities in the study area. This information has been added to the FEIS in Chapter 7, "Socioeconomic Effects," Section 7.6.3.1.5.

Please note that FRA and NJ TRANSIT do not anticipate adverse effects on the City of Union City during construction of the Preferred Alternative. As discussed above in response to **Comment 95**, FRA and NJ TRANSIT do not anticipate adverse effects on traffic conditions in Union City during construction of the Preferred Alternative. In addition, the analysis presented in the FEIS in Chapter 12A, "Noise," concludes that no adverse noise impact would occur in Union City during construction. That chapter evaluates three receptors on Manhattan Avenue in Union City overlooking the Hoboken staging area and concludes that construction-related noise levels would be below noise impact thresholds established by FTA (see Section 12A.6.2.3.2).

Comment 138: The DEIS does not mention the economic impact on the West 30th Street Heliport during construction or the loss of revenue to HRPT. *(CB4 Manhattan)*

Response: The DEIS describes that the Preferred Alternative would require relocation of helicopter fueling facilities, as well as rendering one or more of the landing pads inaccessible for approximately 18 months (see Section 7.6.3.2 in Chapter 7, "Socioeconomic Conditions" and Section 6A.6.4.1 in Chapter 6A, "Land Use, Zoning, and Public Policy"). Both sections of the DEIS also note that the Project Sponsor will coordinate with the West 30th Street Heliport operator and HRPT, which receives revenues from the heliport, to minimize disruption to the heliport operation during construction of the Preferred Alternative to the extent practicable (see Section 7.8). The text of the FEIS in the same sections has been revised to more clearly describe the effects of construction on the heliport, including potential effects associated with a new construction option in that area, and that revenues from the heliport's operations are a component of Hudson River Park's funding and therefore any loss of revenues at the heliport could adversely affect revenues to HRPT, which would in turn adversely affect HRPT's ability to maintain Hudson River Park.

28.4.13 OPEN SPACE AND RECREATIONAL RESOURCES (COMMENTS 139-154)

28.4.13.1 NEW JERSEY

Comment 139: Commenters stated that there are four parks in close proximity to the Hoboken staging area (Weehawken children's park on Grand Street; multi-use soccer/dog park on 16th between Park and Willow Avenue bridges; 14th street viaduct park in Hoboken with basketball, outdoor events/activities, dog park; and the new multi-use park on 12th-13th street in Hoboken). Thousands of children, adults, and dogs play in this area every week and the Project's construction would put all of these people at risk for air and noise pollution. *(A. Bolcar, S. Bolcar, Lui, von der Lieth)*

Response: The DEIS evaluates the potential for construction impacts on the parks near the proposed Hoboken staging area in Chapter 8, "Open Space and Recreational Resources," Section 8.6.2. As discussed there, six parks would be located in proximity to the Preferred Alternative's Hoboken construction staging area or local truck routes: Pizzuta Park on Grand Street in Weehawken (the children's park cited in the comment), 1600 Park in Hoboken (the multi-use soccer/dog park cited in the comment), Firefighters' Memorial Park in Union City, the 19th Street Basketball Courts in Weehawken, and Harborside/Hoboken Cove Park and the Hudson River Waterfront Walkway in Hoboken. The other two parks cited in the comment (14th Street viaduct and the park at 12th-13th Streets) are well over 1,000 feet from the Project site, outside the study area of 500 feet from the Project site. The study area was developed based on a consideration of potential impacts of the Preferred Alternative, and consistent with the analyses of land use, zoning, and public policy, noise, and vibration; therefore, these two parks would not be affected by construction activities. The analysis presented in Chapter 8 of the DEIS includes consideration of the air quality and noise effects of the construction

activities within the specified study areas, based on the detailed, quantified analyses of air quality and noise presented in the DEIS in Chapter 13, "Air Quality," Section 13.6.2, and Chapter 12, "Noise and Vibration," Section 12.6.2.1.3. This analysis was revised for the FEIS to incorporate modifications made to the Preferred Alternative's construction methodology to reduce construction-related impacts near the Hoboken staging area (see response to **Comment 71**).

Based on the analysis of the Preferred Alternative's effects during construction on nearby parks presented in the FEIS, FRA and NJ TRANSIT conclude that no adverse impacts related to air quality or noise would occur at parks near the Hoboken construction staging area. The analysis of air quality, which is provided in Chapter 13, "Air Quality," Section 13.6.2, relied on a quantitative estimate of air emissions developed using an air quality model, taking into account the specific construction activities and equipment likely to occur on the construction staging area and the truck activity on Project truck routes nearby. The air quality analysis concluded that no exceedances of air quality standards would result from the construction activity for the Preferred Alternative. Similarly, the analysis of noise impacts was based on the projected construction activities and location of equipment on the Hoboken staging area as well as truck activity on Project truck routes nearby. This analysis is presented in the FEIS in Chapter 12A, "Noise," Section 12A.6.2.3. To conduct the noise analysis, FRA and NJ TRANSIT used the methodologies provided in the FTA's noise assessment guidance manual for use in evaluating noise and vibration from new transit projects, which FRA has adopted for non-high-speed rail projects. FRA and NJ TRANSIT updated this analysis for the FEIS using a more recent edition of this guidance manual (*Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018). Based on the noise analysis, noise levels during construction at Pizzuta Park, the 19th Street Basketball Courts, and Firefighters' Memorial Park would not exceed the FTA's construction noise impact thresholds. At 1600 Park, Harborside/Hoboken Cove Park, and the Hudson River Waterfront Walkway, installation of piles for underpinning the Willow Avenue bridge above the new tunnel alignment would result in noise levels that exceed FTA construction noise impact thresholds for up to approximately two months on weekdays. Given that these parks are generally used for active recreation, which is typically not noise-sensitive, and the relatively short duration of the construction activity, this noise increase would not be an adverse impact. The Project Sponsor will coordinate with the City of Hoboken and the Township of Weehawken, which have jurisdiction for these parks, regarding pile installation for the underpinning of the Willow Avenue viaduct, to avoid disruption to special events at these parks and to provide advance notification, so that the city and township can provide public notification of this activity and its expected duration.

Comment 140: The DEIS states that construction truck traffic would increase noise levels at the 19th Street Basketball Courts in Weehawken beyond FTA thresholds, constituting an adverse noise impact, but concludes that "the 19th Street Basketball Courts have active recreational uses which are normally not noise-sensitive" and cites the park's proximity to a heavily trafficked intersection as a reason to determine

that noise would not disrupt the ability to use the park. Given the amount and duration of the construction traffic, we find this conclusion to be substantially flawed. Irrespective of noise impacts, it ignores the serious public health risks that adverse air quality from prolonged construction traffic would have on an open space resource that is used for active recreation. As such, we request that FRA and NJ TRANSIT arrive at demonstrable mitigation measures to attenuate noise and reduce air quality impacts on this resource and include them in the FEIS. Furthermore, we advise FRA and NJ TRANSIT to hold meetings to discuss these impacts and potential mitigation measures with the community and include correspondence of such in the FEIS. *(MAS-Devaney)*

Response: See response to **Comment 139**, which describes that based on the revised analyses presented in the FEIS, FRA and NJ TRANSIT conclude that construction activities for the Preferred Alternative would not result in adverse effects on the 19th Street Basketball Courts. As also described in response to **Comment 139**, the DEIS and FEIS present quantified analyses of air quality during construction that demonstrate that no adverse air quality effects would occur. With the modified construction staging approach incorporated into the Preferred Alternative for the FEIS, construction truck traffic traveling to and from the Hoboken staging area would be substantially reduced and would not result in construction noise levels exceeding the FTA impact thresholds at the 19th Street Basketball Courts.

The DEIS and FEIS also include an evaluation of the Project's potential effects on public health in Chapter 19, "Public Health and Electromagnetic Fields." As described in Section 19.2.1.2 of that chapter, the public health analysis considers the potential for health effects related to air quality, contaminated materials, and noise. As described in the chapter, the Preferred Alternative would include measures to address potential adverse impacts during construction related to air quality, contaminated materials, and noise, and with these measures in place, FRA and NJ TRANSIT do not anticipate adverse effects on public health.

Comment 141: Construction activities, including heavy trucking and installation of piles, would occur approximately 150 feet from 1600 Park in Hoboken for a period of four months. The FEIS should include documented correspondence between FRA and NJ TRANSIT and the City of Hoboken to support that construction activities will be coordinated to avoid noise impacts at the park to the extent practicable. *(MAS-Devaney)*

Response: As described in response to **Comment 139**, the analysis of the Preferred Alternative's impacts during construction on nearby parks was revised for the FEIS to incorporate modifications made to the Preferred Alternative's construction methodology to reduce construction-related impacts near the Hoboken staging area. With this revision, installation of piles for underpinning the Willow Avenue bridge above the new tunnel alignment would result in noise levels that exceed FTA construction noise impact thresholds for up to approximately two months on weekdays at 1600 Park. As discussed in the FEIS in Chapter 8, "Open Space and Recreational Resources," Section 8.6.2, given that this park is used for active recreation, which is generally not noise-sensitive, and the relatively short duration

of the construction activity, this noise increase would not be an adverse impact. As described in the FEIS (see Chapter 8, "Open Space and Recreational Resources," Section 8.8), the Project Sponsor will coordinate with the City of Hoboken and the Township of Weehawken, which have jurisdiction for this park, regarding pile installation for the underpinning of the Willow Avenue viaduct, to avoid disruption to special events in 1600 Park and to provide advance notification, so that the city and township can provide public notification of this activity and its expected duration.

Comment 142: Commenters asked whether there will be a park on the Hoboken staging area for the neighborhood once construction is complete, and if so, would contamination be remediated before creating such a park. *(Schlachter)*

Response: As described in the DEIS in Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.7.2.1.4, the Project Sponsor, in cooperation with the other Project Partners, will design the shape, size, and design treatment of the fan plant in Hoboken to be compatible with the character of the surrounding area. The Project Sponsor, in cooperation with the other Project Partners, will coordinate with the local community and seek input in determining the appropriate design for the visible portions of the fan plant, including landscaping and other treatments on the property.

Once construction is complete on the Hoboken staging area site, the new Hoboken fan plant would occupy about half the property. The Project does not include plans to convert the remaining property into a park.

Regarding contamination, the Project Sponsor will remediate the contamination on the staging area as part of the construction for the Preferred Alternative. See the discussion in the FEIS in Chapter 16, "Contaminated Materials," Section 16.8.

28.4.13.2 NEW YORK

28.4.13.2.1 Hudson River Park

Comment 143: HRPT appreciates the efforts that the Hudson Tunnel Project has made to minimize the extent and nature of physical impacts on Hudson River Park during Project construction. We generally concur that the Project's direct construction impacts on the park would not be significant. *(HRPT-Wils)*

Response: Comment noted.

Comment 144: Hudson River Park, by virtue of its "ownership" of the water as well as the land and piers, has tenants and other occupants whose operations take place over and in the river. The EIS should identify those entities and facilities that are located in the Project area and specify any exclusion zones and other limitations that will affect recreation and boating, including commercial boating, human-powered boating, commuter ferry routes, etc. Impacts on these and other park operations—including bikeway usage—both how and for how long, should be clearly and specifically addressed in the EIS. *(Friends of HRP-Fishman, Friends of HRP-Simone)*

Response: The DEIS and FEIS describe that Hudson River Park includes extensive in-water activities and water-based recreation and describes the entities and facilities that are located near the Hudson Tunnel Project site in Chapter 8, "Open Space and Recreational Resources," Section 8.3.3.1. This discussion has been expanded in the FEIS in that section and Section 8.3.2. The DEIS and FEIS also describe the in-water construction work that would be required for the Hudson Tunnel Project and how that might affect recreational and commercial use of the Hudson River waters during the construction period. This information is provided in Chapter 8, Section 8.6.3. It is also provided in Chapter 3, "Construction Methods and Activities," Section 3.3.5.6, and in Chapter 5B, "Transportation Services," Section 5B.6.8.

Based on further analysis during Project engineering, the Project Partners are now proposing modifications to the in-water construction activities and potential modifications to the ground improvement in Hudson River Park, which are described and evaluated in the FEIS.

In response this and other comments related to recreational boating, the FEIS now includes additional information on the potential effects to recreational boating activities in Chapter 8, "Open Space and Recreational Activities," Sections 8.3.2 and 8.6.3, the Hudson River is used by recreational boaters, including non-motorized boats (sailboats, kayaks, and outrigger canoes) operating from the boathouse in Hudson River Park at Pier 66. There are also moorings in the river east of the pierhead line between the Pier 66 boathouse and approximately West 29th Street. Three boating programs operate at the boathouse, Hudson River Community Sailing and two other clubs, New York Kayak Polo and New York Outriggers. These programs offer lessons and programs for school groups and others. While the in-water construction activities for the Project would not be within the area of the Hudson River that is part of Hudson River Park (the area east of the pierhead line), they would be fairly close (70 to 100 feet from the park boundary), and boaters moving between the navigation channel and the Pier 66 boathouse and nearby moorings would need to avoid the construction zone, which may be inconvenient but would not limit boaters' access to and from the channel. Construction for the Preferred Alternative would not affect any other areas of the Hudson River or limit boating activities in any other portion of the river.

The DEIS and FEIS describe the temporary impacts that would occur in the upland portion of Hudson River Park, including the bikeway, during construction in Chapter 8, "Open Space and Recreational Resources," Section 8.6.4.1. This discussion is now modified to reflect the additional construction approach that the Project Partners are evaluating for ground improvement in Hudson River Park. See also the response to the **Comment 145**.

Comment 145: According to the DEIS, a 1,500-foot portion of the Hudson River walkway adjacent to the West 30th Street Heliport would be closed for nine months for ground freezing operations during tunnel construction. The DEIS does not provide descriptions or drawings of how public access would be provided. This should be included in the FEIS. *(MAS-Devaney)*

Response: In Chapter 8, "Open Space and Recreational Resources," Section 8.6.4.1, the DEIS described that during the installation and removal of ground freezing equipment (five months for installation and four months for removal, for a total of nine months), a narrow area of the Hudson River Park walkway (about half the width of the walkway, an area about 10 feet wide about 150 feet long, or 1,500 square feet) would be used for installation of the freeze pipes. A small area near the walkway could also be affected. The walkway would remain open during this time, with a minimum width of approximately 8 feet through the construction zone. Therefore, the DEIS does describe how public access would be provided: it would be maintained during the nine-month installation period, except for possible short-term interruptions to allow trenching across the walkway, during which time pedestrians would be detoured around the construction zone.

The FEIS describes that based on further analysis during Project engineering, Amtrak is now considering a second option for Project construction in this area that would result in closure of 200 linear feet of the walkway for a longer period (1.5 years). The walkway would be shifted into the adjacent Route 9A bikeway, which would be narrowed accordingly. The FEIS describes this new construction option and provides figures to illustrate the affected area in Chapter 3, "Construction Methods and Activities," Section 3.3.6.1, including Figures 3-9 and 3-10. Chapter 8, "Open Space and Recreational Resources," Section 8.6.4.1, provides an evaluation of the impacts of this construction activity on Hudson River Park.

Comment 146: Commenters noted that the Preferred Alternative would delay HRPT's plans to complete Hudson River Park in the vicinity of the Project site and requested mitigation for the delay:

The Project will delay HRPT's plans for completion of Hudson River Park in the vicinity of the Project site for at least two years. It will also make construction of the park more costly given the need to adhere to physical and construction methodology limitations. To mitigate impacts on the park and these delays, the Project Sponsor should work with HRPT to restore and complete unfinished portions of the park after the construction of the Project within the park is complete. *(HRPT-Wils)*

In terms of park restoration following the Project construction that impacts the park, the length of time that the future finished park and heliport are delayed due to the Project must also be considered. The new park development and the heliport relocation are linked and cannot be divorced from the Project's scheduled impacts or completion. *(Friends of HRP-Fishman, Friends of HRP-Simone)*

Even with the Project's goal of limiting disturbance to Hudson River Park, the public will lose the use of part of the park during construction. CB4 believes that the Hudson Tunnel Project should restore Hudson River Park beyond the area affected by the Project. Funds should be set aside for the construction of the Hudson River Park long promised to our community. *(CB4 Manhattan)*

To compensate for the Project's inconvenience to visitors to Hudson River Park, the Hudson Tunnel Project should pay to build out the park north of 29th Street

up to 35th Street after Project construction is complete. This should include permanently relocating the heliport to a floating structure and converting its current site for public park use. (*Hoylman-Gottfried-Brewer-Johnson*)

Response: The DEIS and FEIS describe the direct impacts to Hudson River Park during construction of the Hudson Tunnel Project in Chapter 8, "Open Space and Recreational Resources," Section 8.6.4.1. As discussed there, the new tunnel would be constructed below-grade using tunneling techniques to limit disruption at the surface in the park. To facilitate the tunneling, some ground improvement would be required in Hudson River Park for a period of approximately 1.5 years to support the below-ground tunnel, and this improvement (using a ground freezing technique) would require a small segment of the park walkway to be closed. The DEIS described ground improvement through the use of ground freezing, with a narrowing of the park walkway for a distance of approximately 150 feet for a total of nine months. The walkway would remain open during this time, with a minimum width of approximately 8 feet through the construction zone. The FEIS describes that based on further analysis during Project engineering, Amtrak is now considering a second option for Project construction in this area that would affect approximately 200 linear feet of the walkway for a longer period (1.5 years). During that time, the full width of that segment of walkway would be closed and the walkway would be shifted into the existing Route 9A bikeway, which would be narrowed accordingly. Both construction options would involve use of the southern portion of the West 30th Street Heliport as a construction staging area to support the ground improvement.

The EIS describe the delays that the Hudson Tunnel Project would cause in completion of the area of Hudson River Park near the tunnel construction site. This is described in Chapter 6A, "Land Use, Zoning, and Public Policy, Section 6A.6.4.1, and Chapter 8, "Open Space and Recreational Resources," Section 8.6.4.1, which both state that park improvements could not be made in the vicinity of the tunnel construction during the 1.5 years when construction activities for the Preferred Alternative that occupy park space (including the southern portion of the heliport) are occurring. The DEIS and FEIS also state that following completion of construction, the Project Sponsor will restore the affected area of Hudson River Park in coordination with HRPT (see Section 8.6.4.1 in Chapter 8, "Open Space and Recreational Resources"). The FEIS clarifies that where activities for the Preferred Alternative would directly affect Hudson River Park, the Project Sponsor will seek to mitigate and minimize Project impacts to the greatest extent practicable, such as by requiring restoration or improvement of the park upon the Project Sponsor's completion of work that occupies or affects the park. Following completion of the construction, the Project Sponsor will restore the affected area of Hudson River Park in coordination with HRPT. The Project Sponsor will undertake this restoration at no cost to HRPT or relevant New York State and City agencies.

The DEIS and FEIS also describe the limitations on future development in Hudson River Park directly above the tunnel alignment in Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.7.4.1 and Chapter 8, "Open Space and Recreational Resources," Section 8.7.4.1. Text in the FEIS has been revised to

further describe the limits to future park construction, including for a relocated heliport, imposed by the permanent presence of the new tunnel.

Please note that relocation of the heliport itself is required by the Hudson River Park Act and will not be undertaken by the Project Sponsor as part of the Hudson Tunnel Project. Regarding the relocation of the heliport, the discussion of potential impacts to the heliport from construction activities for the Preferred Alternative has been expanded and clarified in the FEIS. As discussed in multiple chapters of the FEIS (for example, Chapter 8, Section 8.6.4.1 and Chapter 6A, Section 6A.7.4.1), a 2013 amendment to the Hudson River Park Act called for relocation of the West 30th Street Heliport to a floating structure between West 29th and West 32nd Streets. The timing for that relocation is not known. HRPT is coordinating with the Project Partners and has stated that it would not complete new park facilities in the area required for Hudson Tunnel Project construction prior to completion of the tunneling. Amtrak will need to negotiate several necessary agreements with HRPT for entry permits, as well as temporary and permanent easements. The relevant agreements would include negotiated provisions that take into account potential financial losses and funding delays.

Comment 147: Several commenters stated that the EIS should describe in more detail the Hudson River Park Act, how it governs Hudson River Park, and whether the Preferred Alternative would be consistent with the intent of that law:

HRPT is very concerned about how the Hudson Tunnel Project would impact the laws and public policies governing HRPT and therefore Hudson River Park's finances. Specifically, existing New York State and City laws—the Hudson River Park Act and the Special Hudson River Park District—contain mandates explicitly intended to help finance the construction and operations of the park. Multiple aspects of these policies make Hudson River Park different than traditional New York State and New York City parks, and the EIS should acknowledge this more directly. While the DEIS identifies the laws and policies governing Hudson River Park, it does not provide sufficient detail on the impacts the Project would create on those laws and policies, and therefore on the park. Consequently, HRPT believes that additional measures need to be incorporated into the Project to avoid creating significant adverse impacts on land use and public open space. *(HRPT-Wils)*

As outlined in the Hudson River Park Act, Hudson River Park is financially self-sufficient and operates without the support of the New York City or New York State Parks Departments. Its water area is a New York State-designated estuarine sanctuary. A non-tourism heliport is a permitted use and generates significant revenue toward the park's operations and maintenance. Air rights may be transferred and sold from the park to the adjacent block on the opposite side of West Street and the proceeds become the property of HRPT as a matter of New York State and New York City policy. These aspects all have the potential to be disrupted by the Hudson Tunnel Project. The FEIS should more fully discuss these effects on the park and their existence by law in the Hudson River Park Act. *(Friends of HRP-Fishman, Friends of HRP-Simone)*

Response: The DEIS and FEIS describe the Hudson River Park Act, Hudson River Park's need to be self-sufficient, the estuarine sanctuary in the water, the non-tourism heliport that generates revenue for the park, and the ability for HRPT to sell development rights. See Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.3.3.3.5, and Chapter 8, "Open Space and Recreational Resources," Sections 8.3.2 and 8.3.3.1. To clarify, the text of the FEIS has been revised so that information on impacts to the park itself and land use and public policies related to the park is included in Chapter 8 as well as in Chapter 6A. The effects of the Hudson Tunnel Project on these aspects of Hudson River Park are also described in the FEIS in those two chapters.

Please see the response to **Comment 126**, which explains why the Preferred Alternative would not alter, nor would it be contrary to, the public policies establishing and supporting Hudson River Park.

Comment 148: The EIS should describe the adverse impacts on Hudson River Park from the loss of funds because of the drop in appraised value, construction noise, and ongoing noise from the new vent facility on the properties on Block 675. (*CB4 Manhattan-Mackintosh, CB4 Manhattan, Friends of HRP-Fishman, Friends of HRP-Simone*)

Response: FRA and NJ TRANSIT do not anticipate a drop in appraised value of the development rights that Hudson River Park may sell because of the Hudson Tunnel Project's permanent fan plant located on Block 675. Potential development on Block 675, which is the basis for the appraised value, would not be adversely affected given that the fan plant is already incorporated into the NYCDCP Block 675 Planning Framework. As discussed in the response to **Comment 122**, the Project Partners have been coordinating with two private developers that are proposing buildings on Block 675 and have attempted to coordinate with the owner and/or developer of Lot 1. As the Project advances, the Project Sponsor will coordinate with those developers to allow them opportunities to review and provide input on how the interim construction activity and permanent infrastructure can be integrated with their development plans and schedule. The Project Sponsor, in cooperation with the other Project Partners, will also seek opportunities to coordinate with the property owner of Lot 1 on Block 675.

As also described in the response to **Comment 122**, the EIS notes that design of the permanent Twelfth Avenue fan plant could potentially be incorporated within a future commercial or residential building constructed at this site. In addition, the proposed construction staging for the Preferred Alternative on Lot 1 and the permanent fan plant on Lot 1 would not affect development for the other two developers on Block 675. The construction activities for the Preferred Alternative would temporarily occupy a portion of Lot 12 on Block 675, which would delay completion of a portion of the new development on West 29th Street, but the majority of the planned development could proceed as scheduled (and is currently under way), with an EMS facility or one-story parking garage that would potentially occupy a portion of Lot 12 completed at a later time, after Project construction is complete.

Regarding construction noise, as described in the FEIS in Chapter 12A, "Noise," Section 12A.6.3, construction activities for the Hudson Tunnel Project would result in construction noise levels that would exceed impact thresholds at the two new residential buildings on the east end of Block 675 for approximately 2.5 years. However, as part of the zoning change for that part of the block, the City Planning Commission recognized that the rail tunnel construction activities on the adjacent property would result in high noise levels and required that these buildings be constructed with contemporary standard façade construction techniques, their facades would therefore provide attenuation sufficient to result in interior noise levels during construction of the Project that would be at levels considered acceptable for residential use according to New York *City Environmental Quality Review (CEQR) Technical Manual* noise exposure guidelines. Once completed, the new fan plant would not result in audible noise increases at nearby properties (see Chapter 12A, "Noise," Section 12A.7.3).

Comment 149: It is possible that all of Lot 1 on Block 675 would need to be acquired for the ventilation shaft, preventing any sale of air rights after the Project is complete. Funds from Block 675 would have supported restoration of the bulkhead throughout the park and completion of the park in this area (among other things). The Project must be required to purchase the development rights from the park, estimated to be $75 million for Lot 1, or otherwise compensate the park and HRPT for the lost development rights revenue. If the vent shaft is constructed in such a manner to permit private development, the Project could then sell the air rights it purchased from the park. *(Hoylman-Gottfried-Brewer-Johnson*)

Response: The EIS acknowledges the possibility that all or a portion of Lot 1 on Block 675 could be acquired for the Hudson Tunnel Project (see Chapter 6B, "Property Acquisition," Section 6B.3.2). However, the EIS also describes that design of the proposed new fan plant on Block 675 Lot 1 could potentially be incorporated within a future commercial or residential building constructed at this site. See Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.7.4.1; see also the response to **Comment 122**. As the Project moves forward, Amtrak will coordinate with the property owner of Lot 1 on Block 675. The response to **Comment 125** discusses the Project's potential to affect the sale of development rights from Hudson River Park to Lot 1 on Block 675.

Comment 150: Commenters said that the FEIS should address the effects on HRPT's revenue resulting from the temporary impacts to the heliport during construction of the Preferred Alternative:

As codified in the Hudson River Park Act, the heliport needs to be treated more directly as part of the park. There would be a financial impact on Hudson River Park and the purposes of the Hudson River Park Act from the temporary closure of a portion of the heliport. The FEIS should acknowledge the effects on park revenue that could result from temporary landing pad closures during construction. The FEIS should also address the type of access agreements or easements for construction and operation (and their duration) that is sought from

HRPT, which can authorize such access only within the limits of the Act. *(HRPT-Wils)*

The financial and physical impacts of the Project on the heliport, from which the park collects occupancy fees, are not adequately addressed. The full amount of income to the park from the heliport must be maintained under any temporary scenario during implementation of the Project, including any reductions in operational income from physical or operational limitations on the heliport or in the nearby park areas. *(Friends of HRP-Fishman)*

Response: The DEIS describes that the heliport generates revenues that support the park (see Section 6A.3.3.3.5 in Chapter 6A, "Land Use, Zoning, and Public Policy") and states that the Project Sponsor will coordinate with the heliport operator and HRPT to minimize disruption to the heliport operation to the extent practicable. The text of the FEIS has been revised to more clearly state that disruptions to the heliport could reduce revenues that support the park. This is now described in Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.6.4.1; Chapter 7, "Socioeconomic Conditions," Section 7.6.3.2; and Chapter 8, "Open Space and Recreational Resources," Section 8.6.4.1. In addition, the FEIS states that the Project Sponsor will coordinate with the heliport operator and HRPT, which receives revenues from the heliport, to minimize disruption to the heliport operation to the extent practicable and that Amtrak will work with HRPT to come to an agreement on reasonable compensation to address impacts. This will be addressed in the several necessary agreements to be negotiated with HRPT for entry permits as well as temporary and permanent easements.

Comment 151: HRPT is concerned about the limitations that the Project will impose on future construction of Hudson River Park. Representatives from the Project have confirmed that to ensure the integrity of the new Hudson River Tunnel, HRPT, its tenants, and contractors will be restricted from installing certain infrastructure in areas where the tunnel will be located. Beyond these areas, there will also be zones where the Project will require HRPT and its representatives to use more costly methods of construction to effectuate required park improvements. This relates especially to the potential need for future bulkhead/esplanade repairs and the need to relocate the existing heliport to comply with the Hudson River Park Act. The FEIS should provide a detailed description of any limitations that will physically prohibit future park progress, including the creation of a new or relocated heliport, within or around the future tunnel alignment and should also acknowledge that HRPT's mandate to relocate the heliport in a location consistent with the Hudson River Park Act will be more difficult and more costly as a result of the Project, and mitigation should be identified to address such concerns. *(HRPT-Wils)*

Response: Text in the FEIS has been revised to clarify the limits to future park construction, including for a relocated heliport, imposed by the permanent presence of the new tunnel. See Chapter 8, "Open Space and Recreational Resources," Sections 8.7.3 and 8.7.4.1. As described there, within the boundaries of Hudson River Park (which includes water area from the New York bulkhead to the pierhead line), the West 30th Street Heliport could be relocated to an in-water site consistent with

the Hudson River Park Act, which calls for relocation of the heliport to a floating structure located between West 29th and West 32nd Streets. Any pile supports for such a structure could not be located in the approximately 125-foot-wide area where the new Hudson River Tunnel would be buried beneath the river bottom. This tunnel easement area in the Hudson River would be located close to West 29th Street, and would not affect relocation of the heliport to the area designated in the Hudson River Park Act. For the land areas of Hudson River Park, the permanent location of the tunnel beneath the park would mean that no deep foundations (any type of driven, vibrated, augured, or bored pile or caisson) could be located above or within a 25-foot horizontal distance of the footprint of the tunnel or any ground treatment area bordering the tunnel. No other restrictions would apply to this area, and this park space could be landscaped or developed for other recreational uses. As noted in Section 8.7.3, the presence of the below-grade tunnel alignment would still allow relocation of the West 30th Street Heliport to an in-water site consistent with the Hudson River Park Act. The Project Sponsor, in cooperation with the other Project Partners, will seek to mitigate and minimize Project impacts on Hudson River Park to the greatest extent practicable. Amtrak will work with HRPT to come to an agreement on reasonable compensation to address impacts. This will be addressed in the several necessary agreements to be negotiated with HRPT for entry permits as well as temporary and permanent easements.

Comment 152: The DEIS states that the West 30th Street Heliport could be relocated to an in-water site, a floating structure between West 29th and West 32nd Streets. Much more detail about this possibility should be included in the DEIS. If the heliport is to be relocated to a floating structure, how much area should be designated for the heliport? Off-shore placement of the facility will be constrained by the location of the existing and new tunnels. There should be a map showing the possible location. *(CB4 Manhattan)*

Response: The DEIS and FEIS describe the possible future relocation of the heliport in Chapter 6A, “Land Use, Zoning, and Public Policy,” Section 6A.4.3.1.2. As discussed there, the 2013 amendment to the Hudson River Park Act called for relocation of the West 30th Street Heliport to a new floating structure between West 29th and West 32nd Streets. The exact timing of the relocation is unknown. The DEIS describes this future relocation of the heliport in the description of changes that will occur in the Project area in the future independent of the Hudson Tunnel Project. The relocation of the heliport is not part of the Hudson Tunnel Project and therefore no additional information can be provided on this subject in the FEIS. As discussed in response to **Comment 151**, text has been revised in the FEIS to describe the limitations to future park construction, including for a relocated heliport, imposed by the permanent presence of the new tunnel.

Comment 153: The DEIS states that if the West 30th Street Heliport is not relocated from the Project site prior to construction of the Preferred Alternative, once construction of the waterfront portion of the Project alignment is complete, helicopter operations could resume and there would be no permanent impact to the heliport as a result of the Project. The DEIS does not provide in-depth analysis of the West 30th

Street Heliport by describing restrictions needed should it not be relocated prior to the commencement of this project. Movement of the heliport to make way for the Hudson River Park has long been promised to the community. *(CB4 Manhattan)*

Response: The Preferred Alternative would not preclude relocation of the heliport to another location consistent with the requirements of the Hudson River Park Act. As described in the response to **Comment 151**, the DEIS describes the potential restrictions that would occur to the heliport if it is not relocated prior to construction and this discussion has been expanded in the FEIS to provide more detail.

28.4.13.2.2 High Line

Comment 154: As indicated in the DEIS, a portion of the High Line may experience noise levels exceeding FTA impact criteria for a period of up to 12 months. The FEIS should identify if any specific noise reduction measures beyond typical construction fence are contemplated at this location to help further shield or minimize construction noise for the surrounding neighborhood. *(MAS-Devaney, NYCMOEC-Semel)*

Response: Chapter 8, "Open Space and Recreational Resources," Section 8.6.4.2 of the DEIS describes a potential construction noise impact on a portion of the High Line close to the Twelfth Avenue staging area and cut-and-cover construction area in West 30th Street. Since completion of the DEIS, Amtrak has advanced the design of the Project and, as a result, some of the construction methodologies have been modified. FRA and NJ TRANSIT have revised the noise analysis for the FEIS to reflect modifications in construction methodology and more refined information about construction equipment. Chapter 8 of the FEIS (Section 8.6.4.2) incorporates the revised noise information and Chapter 12A, "Noise," provides more detail in Section 12A.6.2.3.4. Those revised analyses in the FEIS conclude that with the new construction option under consideration, which involves SEM excavation in West 30th Street rather than cut-and-cover with pile driving, construction noise would be audible and potentially intrusive on the High Line within about 400 feet of the construction activity, but it would not be at a level that would exceed FTA construction noise impact thresholds. If cut-and-cover excavation with pile driving is conducted, noise levels would exceed the FTA noise impact criterion for construction noise within about 200 feet of the construction activity for a period of about seven months. This noise would not constitute an adverse noise impact because of its short duration; in addition, the great majoring of the 1.5-mile-long High Line would not be subject to these construction noise levels. Section 12.9 of FEIS Chapter 12A, "Noise," describes the mitigation measures proposed to reduce noise effects from construction near the High Line, including use of acoustical noise tents and/or enclosures surrounding loud equipment; routing vehicles through construction sites to minimize the need for backup alarms; and site enclosures or temporary noise barriers.

28.4.14 HISTORIC RESOURCES (COMMENTS 155-167)

Comment 155: The ACHP provided a comment letter that recommended a few revisions for the Draft Programmatic Agreement and requested that these comments be considered along with other relevant revisions and edits submitted by other Consulting Parties participating in the Section 106 consultation process. *(ACHP-Dwin Vaughn)*

Response: FRA incorporated the revisions recommended by ACHP into the Programmatic Agreement, including addition of a new Whereas clause and revisions to Stipulations II, II.B, XVII.A, and XX. The Programmatic Agreement is included in Appendix 9 of the FEIS and correspondence from the ACHP is included in Appendix 9-2, which includes all Section 106 correspondence for the Project.

Comment 156: MAS recognizes the extensive coordination needed with the New Jersey Historic Preservation Officer, the New York State Historic Preservation Officer, and other agencies regarding mitigation for the Project's adverse effect on the North River Tunnel and the Hudson River Bulkhead. The FEIS should include all agency coordination correspondence regarding the monitoring of these resources during construction. MAS also recognizes the potential for archaeological resources within the Area of Potential Effects (APE) identified in the DEIS and requests that the Project Sponsor make all correspondence and archaeological monitoring information publicly available. *(MAS-Devaney)*

Response: Appendix 9-2 of the DEIS and FEIS includes all agency coordination correspondence regarding mitigation for the Project's adverse effects on historic resources, including any monitoring commitments.

Comment 157: MAS urges NJ TRANSIT to be a signatory in the Programmatic Agreement. *(MAS-Devaney)*

Response: NJ TRANSIT has signed the Section 106 Programmatic Agreement as a concurring party (see Appendix 9 of the FEIS for the fully executed Programmatic Agreement).

28.4.14.1 NEW JERSEY

Comment 158: Based on the lack of prudent or feasible archaeological survey methods for possible archaeological resources in the Meadowlands that may be affected by the Project, the NJHPO does not recommend to FRA a finding of adverse effect for pile-driven construction methods. *(NJDEP-Foster, NJHPO-Marcopul)*

Response: The DEIS described a potential unavoidable adverse impact to archaeological resources in the Meadowlands, if they are present there. Section 9.6.1.2.1 of Chapter 9, "Historic and Archaeological Resources," stated that pile driving and installation of sheeting would involve relatively minor disturbance in an area of moderate sensitivity for deeply buried prehistoric resources. Since these construction techniques do not provide an opportunity for viewing soils by an archaeologist and it is not feasible to investigate these deep areas before construction, these components of the Preferred Alternative may result in a

potential unavoidable adverse effect in an area of moderate archaeological sensitivity for prehistoric resources. Following consultation with the NJHPO, FRA and NJ TRANSIT revised Chapter 9 of the FEIS to indicate FRA's conclusion that due to lack of prudent or feasible archaeological survey methods, there would be no adverse effect to archaeological resources resulting from machine-driven (e.g., pile-driving or pile-drilling) construction methods.

Comment 159: On page 9-36, Section 9.8.1, "Historic Architectural Resources," of the DEIS there appear to be a few extra words in the third line, namely "the Hudson River, and New York" (when the text describes an adverse effect to "the North River Tunnel in New Jersey, the Hudson River, and New York." *(NJDEP-Foster, NJHPO-Marcopul)*

Response: The text in Chapter 9 of the FEIS has been revised accordingly.

Comment 160: On page 9-38, Section 9.8.2.1, the discussion of the historic sea wall describes consultation with the NJHPO and the NYSHPO. Since this resource is in New York, consultation should be limited to the NYSHPO and not the NJHPO. Please review the entire document to ensure that the state-appropriate SHPO is referenced for consultation. *(NJDEP-Foster, NJHPO-Marcopul)*

Response: The text on page 9-38 of the DEIS is describing a potential historic archaeological resource in New Jersey, which is a historic sea wall. The reference to the NYSHPO is incorrect and has been removed from the FEIS.

Comment 161: The NJHPO and FRA agreed that a Programmatic Agreement is the appropriate method for resolving the Project's effects on historic properties and the requirements of NEPA. *(NJHPO-Marcopul)*

Response: Comment noted. The fully executed Programmatic Agreement for the Hudson Tunnel Project is included in Appendix 9 of the FEIS.

Comment 162: In the Draft Programmatic Agreement provided in the DEIS, the current language in the section on Design Review (Section XI) exempts from the Section 106 process the review of architectural plans and specifications for the tunnel interior based on security concerns. The NJHPO understands the need for security. However, because the adverse effect to the North River Tunnel would result from proposed alterations to two of the tunnel's interior features, the bench walls and the ballasted track system, the NJHPO asks what information or material FRA proposes to submit to the NJHPO in lieu of Project plans to allow us the opportunity to ensure that the proposed work is in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. *(NJDEP-Marcopul)*

Response: FRA has provided information for NJHPO review regarding the interior alterations to the North River Tunnel. Appendix 9-2 of the FEIS provides copies of the Section 106 correspondence including the letter to NJHPO.

28.4.14.2 NEW YORK

Comment 163: The NYSHPO finds the DEIS acceptable for historic and cultural resources and concurs with the conclusions and recommendations regarding archaeological and architectural resources presented. The NYSHPO finds the text of the Programmatic Agreement to be acceptable and request that the signatory for our office be revised. *(NYSHPO-Brazee)*

Response: Comment noted. FRA has revised the signatory information in the Programmatic Agreement as requested by NYSHPO. Appendix 9 of the FEIS includes the fully executed Programmatic Agreement.

Comment 164: The New York City Landmarks Preservation Commission (NYCLPC) concurs with the text in the Draft Programmatic Agreement and DEIS pertaining to architectural and archaeological resources in New York City, but would like to be consulted about any archaeology and archaeological mitigation that occurs within New York City as a result of this project and recommends that the language in the Programmatic Agreement be revised to make NYCLPC's involvement clear. *(NYCMOEC-Semel)*

Response: Stipulation VI of the Programmatic Agreement has been revised to reflect how consultation with NYCLPC will take place with respect to archaeology and archaeological mitigation in New York City.

Comment 165: Commenters raised concerns about the Preferred Alternative's adverse effect to the historic New York Hudson River bulkhead and requested additional monitoring of the bulkhead beyond the Project's construction period:

HRPT believes that additional measures need to be implemented to avoid adverse impacts on the historic bulkhead, so the Historic Resources and Section 4(f) chapters should be enhanced. As part of its mitigation of adverse impacts on historic resources, the Project Sponsor has committed to monitor the condition of the bulkhead during construction. The Project Sponsor should work with HRPT to identify a rigorous post-construction monitoring and repairs program as well. It is in the mutual interest of the Project Sponsor and HRPT for the bulkhead to be in good condition including once the Project is operation, but HRPT believes the costs to the park of repairing the bulkhead if needed once the Project is constructed will be significantly greater given the limitations the Project will impose on such work and HRPT should not be responsible for such additional costs. The Project Sponsor should commit to repair or restore, in consultation with HRPT and the NYSHPO, the portions of the bulkhead and upland that are in or adjacent to the Project area. HRPT recognizes that the Project Sponsor will need to coordinate this work as needed with other signatories to any Programmatic Agreement that is concluded through the Section 106 or Section 4(f) processes outlined in the EIS. *(Friends of HRP-Fishman, HRPT-Doyle, HRPT-Wils)*

The DEIS does acknowledge that things can go wrong during construction of a project of this scale but should provide a more complete presentation of likely scenarios should such damage occur. For example, boring through the historic

bulkhead could leave long-term damage that does not manifest for some time. How long will the bulkhead be monitored after the Project is complete? CB4 believes the bulkhead should be monitored for a minimum of 10 years and the Project should pay for any damage to the bulkhead. *(CB4 Manhattan)*

The DEIS indicates that a monitoring plan will be prepared and implemented for the bulkhead during Project construction. The DEIS should include who will be conducting the monitoring, the geographic parameters, criteria of analysis, and what entity will be liable for the cost should the bulkhead need to be repaired or replaced. Monitoring must be extended beyond the period of construction to a period of 15 years after the date of Project completion because structural weakening of the bulkhead might not manifest itself until after the tunnels are operational. In terms of geographic parameters, the monitoring plan should be extended beyond the immediate boring area, to include three blocks north and three blocks south of the tunnels. If the bulkhead is compromised, the Project should be held exclusively liable for any and all costs associated with replacing it. (*Hoylman-Gottfried-Brewer-Johnson*)

There should be an independent organization that studies the impact on the bulkhead and identifies the cost if the bulkhead is affected by the Hudson Tunnel construction. *(Friends of HRP-Simone)*

Response: As discussed in the DEIS in Chapter 3, "Construction Methods and Activities," Section 3.3.6.3, the new Hudson River Tunnel would be constructed through the foundation of the New York Hudson River bulkhead. In this area, permeation (cement-based) grout would be installed from the land side of the bulkhead in both vertical and diagonal orientations, to fill any large voids in the bulkhead riprap prior to ground freezing. The cement grouting would lock the riprap in place, improving ground stability. It would also help to spread the load of the bulkhead that would rest on the tunnel's tubes after tunneling is complete.

As a result of further review and consultation during preparation of the FEIS and development of the Programmatic Agreement (PA), additional details on protection measures for the bulkhead are now included in those documents (see FEIS Chapter 9, "Historic and Archaeological Resources," Section 9.8.1, and the Programmatic Agreement that is included in Appendix 9 of the FEIS). As memorialized in Stipulation V.C of the Programmatic Agreement, to avoid damaging the structural integrity of the bulkhead structure and ensure the Project does not negatively impact the long-term integrity of the bulkhead, the following measures will be implemented:

- Amtrak, in coordination with the Project Sponsor, will enter into an agreement with HRPT separate from the Programmatic Agreement that defines the geographic area within Hudson River Park above or adjacent to the Hudson River Bulkhead that may be affected by the Preferred Alternative (the "Hudson River Bulkhead Impact Area") and sets forth the measures to be implemented by Amtrak for the long-term maintenance of the bulkhead and Hudson River Bulkhead Impact Area.

- Amtrak, in coordination with the Project Sponsor and FRA, will provide a Design Technical Memorandum to HRPT for review that describes the proposed bulkhead construction techniques and proposed measures to monitor and protect the bulkhead (inclusive of information that will be incorporated into construction contract bid documents).
- Amtrak, in coordination with the Project Sponsor and FRA and in consultation with NYSHPO and HRPT, will develop a Bulkhead Protection Plan that will set forth the specific requirements to protect the bulkhead and Hudson River Bulkhead Impact Area during the Project construction period, including:
    - How the Project Sponsor will ensure that the Project contractor includes professionals that have experience with complex bulkhead structures such as the Hudson River Bulkhead;
    - Information about a monitoring program to be implemented during Project-related demolition, excavation, and/or construction activities; the structural monitoring measures to be implemented; the thresholds at which specific actions will occur to protect the bulkhead during construction; and the actions that will occur if thresholds are exceeded;
    - Information regarding the design documents that will be provided by the Project Sponsor to HRPT pertaining to the tunnel excavation through the bulkhead and bulkhead protection, including schedule for submission of such documents;
    - Definition of a post-construction period during which monitoring will continue, and which may be extended if an issue arises; and
    - Details regarding when and how repairs will be made if damage occurs during the Project.
- The Project Sponsor, in coordination with Amtrak and FRA, will provide an initial draft of the Bulkhead Protection Plan to NYSHPO and HRPT for a 45-day review period. The Project Sponsor, in coordination with Amtrak and FRA, will consider written comments received within the 45-day review period when finalizing the Bulkhead Protection Plan. The Project Sponsor will submit the final Bulkhead Protection Plan to NYSHPO and HRPT for concurrence no later than 120 days prior to Project construction in the location of the Hudson River Bulkhead.
- The Project Sponsor, in coordination with FRA, will ensure that the provisions of the Bulkhead Protection Plan developed in consultation with and approved by NYSHPO and HRPT are implemented by the Project contractors.

Comment 166: As an additional mitigation measure for the Preferred Alternative's impacts to the New York Hudson River bulkhead, HRPT would be interested in exploring the possibility of interpreting the bulkhead within Hudson River Park, provided that the means of such interpretation is selected in tandem with HRPT. HRPT's staff can provide information on current educational and interpretive planning to the Project Sponsor if desired. *(HRPT-Doyle)*

Response: Interpretation of the bulkhead within Hudson River Park, with the type, design, and location of the interpretation to be designed in consultation with NYSHPO

and HRPT, is now included as a mitigation measure for the adverse effect on the Hudson River Bulkhead in both the FEIS (see Chapter 9, "Historic and Archaeological Resources," Section 9.8.1) and Stipulation V.B of the Programmatic Agreement (included in the FEIS in Appendix 9).

Comment 167: Commenters requested mitigation for potential adverse effects on the historic High Line structure:

It is critical that the construction work and associated vibration not damage the High Line structure or park or disrupt public visitation. The DEIS indicates that a Construction Protection Plan will be developed in association with NYSHPO that will include provisions for pre- and post-construction inspections, vibration monitoring, adherence to vibration limit thresholds, and measures to reduce vibration levels, among others. Close coordination with NYC Parks and Friends of the High Line will also be necessary to ensure appropriate measures and protocols are in place for protection of the High Line. *(NYCMOEC-Semel)*

The DEIS acknowledges that things can go wrong during construction of a project of this scale but should provide a more complete presentation of likely scenarios should such damage occur. Damage to or undermining of the High Line should be carefully monitored and should damage occur, the park should be rapidly restored. *(CB4 Manhattan)*

The FEIS must include the approved Construction Protection Plan, developed with NYSHPO, that details the methods for protecting the High Line from vibration and other potential impacts associated with the construction of the Twelfth Avenue ventilation shaft. *(MAS-Devaney)*

Response: As described in the DEIS in Chapter 9, "Historic and Archaeological Resources," Section 9.8.1, and the draft Programmatic Agreement as well as in the FEIS and executed Programmatic Agreement, the Project Sponsor will prepare a Construction Protection Plan (CPP) in consultation with FRA, NJHPO, and NYSHPO that will specify the measures to be implemented to avoid construction-related impacts to the High Line and three other historic resources located in proximity to proposed construction activities. The CPP is not included in the FEIS, but the commitment to prepare a CPP is included in Stipulation V.C of the Programmatic Agreement for the Project, which is included in the FEIS.

The CPP will include protocols to be followed in the event damage occurs to a historic property. In terms of the potential scenarios requested in the comment, the potential damage that might occur to nearby historic resources would be related to accidental impact from a crane or falling construction debris, or potential settlement or vibration from ground excavation nearby. This information has been added to the FEIS (see Section 9.6.3.1.3 in Chapter 9, "Historic and Archaeological Resources"). Please note that the Preferred Alternative would not involve tunnel construction directly beneath the High Line. Rather, the Preferred Alternative involves use of the Hudson Yards Right-of-Way Preservation Project, a separate project that will construct a concrete casing beneath the High Line. With the Preferred Alternative, new track and infrastructure would be installed in the concrete casing for use by the Hudson Tunnel Project. As described in the

EIS in Chapter 9, Section 9.8.1, the CPP will include provisions for pre-and post-construction inspections, vibration monitoring, adherence to vibration limit thresholds, measures to reduce vibration levels, and modification of construction methods if necessary. The CPP will also include a provision for the installation of protective construction barricades where appropriate.

28.4.15 VISUAL AND AESTHETIC RESOURCES (COMMENTS 168-173)

28.4.15.1 NEW JERSEY

Comment 168: Commenters expressed concerns about the appearance of the Hoboken staging area during construction. Commenters requested evergreen landscaping in front of the noise wall at the Hoboken staging area; they also requested that the noise wall be set back from West 18th Street to allow existing parking on the south side of the street to remain. Another commenter asked whether the site would be lit at night and expressed concern about light pollution. A commenter stated that NJ TRANSIT has not maintained the site well and therefore may not be trustworthy in maintaining the construction site. *(Eggenberger, Schlachter, Stack-Union City)*

Response: The EIS describes the potential for adverse visual effects while construction activities are under way on the Hoboken staging area in Chapter 10, "Visual and Aesthetic Resources," Section 10.6.2.3, and describes measures that the Project Sponsor will implement to minimize or avoid adverse impacts in Section 10.8. As discussed there, the noise wall along West 18th Street would also serve to block potentially unattractive views of the construction area from the surrounding neighborhood. As noted in Chapter 10, Section 10.8, the wall would be set back about 10 feet from West 18th Street to allow enough space for parking and landscaping. The Project Sponsor will work with the local community to maintain the wall in an attractive visual condition, and to landscape the area in front of the temporary noise wall during the construction period to soften views of the wall. The staging area will have lighting at night that will be designed so as to minimize light pollution affecting adjacent residential areas, with targeted and downward-directed, shielded lighting, and minimal site lighting after construction hours. At the Hoboken staging area, if a 25-foot-high noise barrier is used, lighting will be placed no higher than the temporary noise barrier.

Any issues related to current conditions on NJ TRANSIT properties should be immediately directed to NJ TRANSIT. Please note that the Project Sponsor will be responsible for construction of the Hudson Tunnel Project (see the discussion in Section 28.1.2 of this chapter for more information on the Project Sponsor).

Comment 169: Commenters raised concerns about the appearance of the proposed Hoboken fan plant:

Commenters asked for more information about the location, footprint, and height of the fan plant building and noted that they would prefer that the building be set back from West 18th Street with a location as close to the HBLR track as possible, and elongated along the track to keep as much of it in the back as possible.

Commenters asked whether landscaping, such as evergreen trees and grass, would be provided to buffer views of the fan plant and whether the noise wall would remain in place once the construction is complete. *(Schlachter)*

Commenters stated that the proposed fan plant, as a windowless 6-story building placed close to the street, would be out of character with the residential community, would have significant impacts on the views and home values of the neighborhood, and would cast shadows on the residences, particularly during the winter. A commenter noted that the Shades neighborhood is shaded by the cliffs of the Palisades and that is offset by the open south end, which provides crucial sunlight during the fall, winter, and spring months. *(Babcock, Eggenberger)*

Response: The proposed noise wall would not be permanently included on the site; the wall would be a temporary measure to shield the nearby residential neighborhood from disruptions related to construction activities on the site. It would be removed upon completion of Project construction.

As described in the EIS in Chapter 10, "Visual and Aesthetic Resources," Sections 10.7.2.3 and 10.8, the design for the fan plant is at a conceptual level. The EIS describes the general size and massing of the fan plant and its potential effects on visual character on the site. In addition, Figure 10-15 in Chapter 10 of the FEIS provides a conceptual illustration of the new fan plant. As discussed in the EIS in Section 10.8 of Chapter 10, the shape, size, and design treatment of the fan plant in Hoboken will be designed to be compatible with the character of the surrounding area. Such elements as the façade of the structure within the site, planting, pavement, and fencing will be designed in a manner that is sensitive to the neighboring residential community. The Project Sponsor for the Hudson Tunnel Project, in cooperation with the other Project Partners, will coordinate with the local community and seek input in determining the appropriate design for the visible portions of the fan plant.

The intent for the design as it is developed further is that it comply with the area, height, and yard requirements of the current City of Hoboken I-1 industrial zoning district within which the building lies. FRA and NJ TRANSIT expect that the impact would be neutral in consideration of the current condition of the lot, which is vacant and contains remnants of the previous structures that were demolished. As such, it would not have a noticeable impact on the views and home values in the Shades neighborhood.

In terms of shadows, the shadows that would be cast by the new fan plant would depend on the final height, location, and massing of the building on the site. Shadows are cast westward during the morning and begin to shift northward in the late morning into the midday. The longest shadows are cast in the winter and the shortest shadows in the summer. In the preliminary design for the Hoboken fan plant, which is illustrated in the FEIS in Figure 10-15 in Chapter 10, the fan plant would be oriented diagonally on the property to reduce the massing close to West 18th Street. In addition, the massing of the new fan plant would limit the width of taller sections of the building. Both of these design features would limit the amount of shadow cast onto the residences across West 18th Street.

28.4.15.2 NEW YORK

Comment 170: Commenters raised concerns about the location and massing of the proposed Twelfth Avenue fan plant:

The design of the Twelfth Avenue fan plant should allow for a southern view from the High Line. The DEIS does not say if views of the fan plant from the High Line would be "neutral" or "adverse." If the facility blocks views of the Statue of Liberty, significant buildings, and/or other important parts of the Hudson River, then the impact would be adverse. If the vent plant is built on a slant, the views from the High Line might be preserved. This is an important issue with the local community and should be more fully discussed in the EIS. The EIS should discuss the possible impacts on the view for each of the potential fan facility designs. *(CB4 Manhattan-Mackintosh, CB4 Manhattan)*

All massing and location alternatives for the Twelfth Avenue fan plant should be analyzed for visual and aesthetic resources impacts. *(NYCMOEC-Semel)*

Response: The description of the Twelfth Avenue fan plant in the EIS in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.2.7.2, considers the potential massing for the fan plant to allow an understanding of potential impacts. In Chapter 10, "Visual and Aesthetic Resources," Section 10.7.4.1, the DEIS describes two potential scenarios for the Twelfth Avenue fan plant to illustrate the types of impacts that may occur. As noted in the DEIS, the design for the fan plant is currently conceptual, and the shape and specific location of the building have not yet been determined. In response to this comment, additional discussion on the effect of the fan plant on views from the High Line has been added to the FEIS in Chapter 10, "Visual and Aesthetic Resources," Section 10.7.4.1.1. This discussion states that the fan plant configuration at the corner of Twelfth Avenue and West 30th Street would generally be more visually prominent due to its location along a major arterial roadway and across the street from two public parks. A fan plant at this location could interfere with vistas of Hudson River Park and the Hudson River beyond for viewers on the High Line. (However, the Statue of Liberty is not visible from the High Line at West 30th Street.) The fan plant configuration on West 29th Street east of Twelfth Avenue would preserve these views and would generally be less visually prominent due to its location away from Twelfth Avenue. Overall, the visual prominence of the fan plant would be dependent on the design of any subsequent private development project undertaken on the fan plant site. See also the response to **Comment 68**.

Comment 171: A commenter stated that the Twelfth Avenue fan plant would make the site area it occupies unavailable to the developer of Lot 1, creating a hardship. However, this hardship should not be used as an excuse to increase the height of the buildings on Block 675 to permit blocking of southward views from the High Line to the Hudson River. Building heights should not exceed those in the New York City Framework. *(CB4 Manhattan)*

Response: As described in response to **Comment 122**, the Twelfth Avenue fan plant would occupy only a portion of Lot 1 and can be developed in coordination with a private development on the lot. The Project Sponsor, in cooperation with the Project Partners, will develop the fan plant to be consistent with the Block 675 Planning Framework, which recognizes the need for a new rail tunnel fan plant on the site (see the response to **Comment 124** for more information on the Planning Framework). FRA, NJ TRANSIT, and the Project Partners do not have a role in determining the height of any private developments proposed on Block 675 (two of which have now received necessary approvals and are under construction).

Comment 172: The DEIS states that the Twelfth Avenue fan plant would not be out of context with the bulk or height of the surrounding buildings but only references the very high Hudson Yards buildings to the north. The EIS should include the building heights to the east and south, which are not as high as those in Hudson Yards. *(CB4 Manhattan-Mackintosh, CB4 Manhattan)*

Response: While Chapter 10, "Visual and Aesthetic Resources," Section 10.7.4, of the DEIS does describe the planned and recently completed Hudson Yards buildings to the north of the Project site, it also describes the tall buildings that are currently under construction on the eastern end of the block where the fan plant would be located (Block 675), which would be much taller than the proposed fan plant. In response to this comment, more details regarding other building heights in the surrounding area have been added to the FEIS in Chapter 10, "Visual and Aesthetic Resources," Sections 10.3.3.1.1 and 10.7.4.

Comment 173: In addition to the generic statement that Twelfth Avenue fan plant will be designed to be compatible with adjacent uses and urban design guidelines, a summary of key considerations should be provided, including considerations articulated by NYCDCP in the Block 675 Framework. *(NYCMOEC-Semel)*

Response: The EIS describes the potential bulk, massing, and appearance of the Twelfth Avenue fan plant in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.2.7.2; Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.7.4.1; and Chapter 10, "Visual and Aesthetic Resources," Section 10.7.4.1. In addition, Figure 2-10 in Chapter 2 of the DEIS (Figure 2-11 in the FEIS) illustrates potential massing scenarios for the Twelfth Avenue fan plant. As noted in those locations in the DEIS and FEIS, the Twelfth Avenue fan plant will be designed to be compatible with the character of the surrounding area, with consultation with NYCDCP. This includes maximizing active street frontages to the extent practicable while balancing the emergency and fire and life safety functions of the building.

As the Project moves forward, the Project Sponsor, in cooperation with the other Project Partners, will finalize the design for the Twelfth Avenue fan plant, including its location, dimensions, and massing, based on constructability and operational considerations, cost, and compatibility and suitability with the urban design of its setting and adjacent developments, including consideration of the factors identified in NYCDCP's Block 675 Planning Framework. The Project Sponsor, in

cooperation with the other Project Partners, will coordinate with NYCDCP about the visible elements of the fan plant as the Project design advances.

28.4.16 NATURAL RESOURCES (COMMENTS 174-183)

Comment 174: NMFS has completed consultation under Section 7 of the Endangered Species Act (ESA) in response to a letter from FRA received on June 16, 2017 regarding the Hudson Tunnel Project. NMFS concurs with FRA's conclusion that the proposed action is not likely to adversely affect the ESA-listed species and/or designated critical habitat under NMFS's jurisdiction. Therefore, no further consultation pursuant to Section 7 of the ESA is required. Re-initiation of consultation is required: (a) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; or (c) if a new species is listed or critical habitat designated that may be affected by the identified action. *(NMFS-Damon-Randall)*

Response: Following completion of the DEIS and the initial consultation referenced in the comment, Amtrak and the other Project Partners refined the cofferdam design, schedule, methodology, and affected area for in-water work within the Hudson River. These changes are described in the FEIS in the Foreword, Section F.2.2.3, and Chapter 3, "Construction Methods and Activities," Section 3.3.5. Additionally, the NMFS issued the Final Rule for the designation of Critical Habitat for the endangered New York Bight, Chesapeake Bay, Carolina and South Atlantic Distinct Population Segments of Atlantic sturgeon (*Oxyrinchus oxyrinchus*) and the threatened Gulf of Maine Distinct Population Segment of Atlantic sturgeon (82 FR 39160, August 17, 2017). Therefore, FRA re-initiated consultation with NMFS in accordance with Section 7. In response to that re-initiation, NMFS concurred with FRA's determination that the Preferred Alternative may affect but is not likely to adversely affect ESA species and designated critical habitat. The consultation correspondence is provided in Appendix 11-2 of the FEIS.

Comment 175: NMFS has reviewed Public Notice number NAN-2016-01166-WCA dated July 7, 2017, related to the application by Amtrak and NJ TRANSIT for a permit for the Hudson Tunnel Project. FRA initiated consultation with NMFS pursuant to the requirements of the Magnuson Stevens Fisheries Management and Conservation Act and in a letter to FRA dated June 12, 2017, NMFS provided the following conservation recommendations, which they requested that the USACE include as special conditions in any permit issued for this Project:

- No in-water work from November 15 to April 15 to minimize impacts to overwintering striped bass.
- Avoid removing or installing sheet piles from March 1 to June 20 to minimize impacts to migrating anadromous species including alewife, blueback herring, and striped bass.

- Provide compensatory mitigation for unavoidable impacts to tidal wetlands. A compensatory mitigation plan should be required that documents avoidance and minimization of the loss of tidal wetlands and provides sufficient acreage to offset the habitat losses.

In addition, subsequent to that comment letter to FRA, discussions occurred between FRA and resource agencies regarding mitigation for jet-grouting and sediment stabilization of approximately 1.51 acres of benthic habitat. Because the ecological effects of the use of soilcrete are difficult to anticipate and it is unclear if any effects that do occur would be temporary or permanent, NMFS agreed that monitoring of the site to evaluate the recovery of the impacted benthic habitat would be acceptable in lieu of traditional compensatory mitigation for this activity. The proposed monitoring of the entire impacted area would occur for five years post-construction and would include the submittal of annual monitoring reports. The specifics of the monitoring plan will be developed by the applicant in coordination with USACE, NMFS, and NYSDEC. NMFS therefore adds an additional conservation recommendation to the above list:

- Develop a five-year monitoring plan to evaluate benthic community recovery of the river bottom impacted by the use of soilcrete and deep soil mixing. The monitoring plan should be developed with input from USACE, NMFS, and NYSDEC and will include the submittal of annual reports.

NMFS will continue to work with FRA, NJ TRANSIT, and the USACE as the plans for this Project progress. As additional information on the Project schedule and construction details are developed, NMFS will evaluate whether or not the full, recommended seasonal restrictions are warranted, based on available data on the timing of migration of anadromous fishes in the Project area, or if there are other options to minimize adverse effects to migrating anadromous fishes. *(NMFS-Chiarella)*

Response: Chapter 11, "Natural Resources," Section 11.9, of the DEIS lists measures that the Project Sponsor will implement to avoid, minimize and mitigate impacts to natural resources, including striped bass and migrating anadromous species. Following completion of the DEIS and the initial consultation referenced in the comment, Amtrak and the other Project Partners refined the cofferdam design, schedule, methodology, and affected area for in-water work within the Hudson River. These changes are described in the FEIS in the Foreword, Section F.2.2.3; and Chapter 3, "Construction Methods and Activities," Section 3.3.5. As a result of these changes, the Preferred Alternative now includes proposed installation and removal of cofferdams in the Hudson River only between July 1 and January 20, which maintains a no-work window during the most sensitive period for migrating fish, which is the spring. FRA and NJ TRANSIT conducted an analysis of potential effects to Essential Fish Habitat (EFH) and EFH species and concluded that the modified Project would not adversely affect EFH or EFH species. FRA provided this revised information to NMFS prior to completion of the FEIS.

Chapter 11, "Natural Resources," Section 11.9 of the FEIS also describes the proposed mitigation measures to avoid, minimize and mitigate impacts to anadromous species. These measures include: limiting sheet pile and king pile installation and removal to occur between July 1 and January 20 to protect anadromous fish during the migratory period; installation and removal of the sheet pile and king piles with a vibratory hammer; use of turbidity curtains during cofferdam removal; and the implementation of a 5-year monitoring program following completion of construction in consultation with the USACE, NMFS and the New York State Department of Environmental Conservation (NYSDEC) to assess recovery of the portion of the Hudson River bottom modified by soilcrete. The FEIS also states that in addition to the monitoring, the NYSDEC is requesting additional mitigation for the modification to 3.0 acres of bottom habitat within the Hudson River and that consultation with NYSDEC is ongoing. These commitments will be incorporated into the ROD, and may also be incorporated into the Department of the Army permits for the Project as permit requirements by the USACE.

Comment 176: A commenter requested more information in advance of the FEIS of the mitigation plans for the tunnel and noted that The Kane Mitigation Bank in the Meadowlands District was created specifically to handle mass transit projects and mitigation from mass transit projects. *(NY/NJ Baykeeper-Mans)*

Response: As presented in Chapter 11, "Natural Resources," Section 11.9, of the EIS, mitigation for direct and indirect wetland impacts will be included as permit conditions from the USACE, NJDEP and/or NYSDEC. These will include the purchase of mitigation credits from an approved mitigation bank within the same watershed unit as the Project site. These mitigation measures will also be identified as commitments of the Project Sponsor in the ROD. To determine the required mitigation measures, the Project Sponsor, in cooperation with the other Project Partners, will consult with the USACE and NJDEP during the permitting process to identify the required mitigation.

Comment 177: A commenter stated: In consideration of the importance of maintaining at all costs the continued viability of the NEC link, I have this day received assurance from Sammy, the seniormost starfish elder authorized to speak for attribution on behalf of all species of fishes, crabs, and the sole remaining colony of oysters native to these interstate waters, assuring me in writing of his intention to relocate at his own expense, any and all living creatures now residing within the area subject to the environmental impact review shortly to be undertaken. (*Torun*)

Response: Chapter 11, "Natural Resources," of the EIS evaluates the potential for the Preferred Alternative to affect aquatic biota, and identifies measures to avoid, minimize, or mitigate adverse impacts to natural resources (see Section 11.9.3 for mitigation measures related to potential impacts to the Hudson River). These mitigation measures will be included in the ROD as commitments to be undertaken by the Project Sponsor.

28.4.16.1 NEW JERSEY

Comment 178: A commenter stated that because of the uncertainty of environmental restoration efforts, the Project Sponsor should first seek to minimize (in scope, intensity, and duration) the extent of impacts before seeking mitigation for unavoidable impacts. The commenter stated that best management practices for environmental safety and monitoring should be implemented to avoid environmental impacts. The commenter noted support for efforts to time construction in such a way as to minimize effects on anadromous fish species and during the bird breeding season, and also suggested that the duration of construction should be minimized. (*EDF-Tripp)*

Response: Avoidance and then minimization of impacts to wetlands is a requirement of Section 404 of the Clean Water Act, the USACE implementing regulations in 33 CFR Parts 320 to 331, and the Section 404(b)(1) Guidelines. The Project Partners have included design and construction sequencing elements in the Project design, and FRA and NJ TRANSIT have identified measures to avoid, minimize, or mitigate adverse impacts to natural resources (see Section 11.9 in Chapter 11, "Natural Resources," of the DEIS and FEIS). Furthermore, Amtrak and NJ TRANSIT, who are the applicants for permits for the Project, must demonstrate avoidance and minimization as part of the permitting process.

Comment 179: In light of the Project's serious impacts to tidal wetlands (loss of approximately eight acres), the mitigation measures developed in consultation with NJDEP and USACE should be made publicly available through the Project website. *(MAS-Devaney)*

Response: Since the issuance of the DEIS, the Project Partners have continued to refine design of the surface alignment through the Meadowlands to reduce the impacts to these tidal wetlands, and as a result, permanent wetland impacts in New Jersey have been reduced from a total of 8 acres to approximately 4.4 acres (see FEIS Chapter 11, "Natural Resources," Section 11.7.2.2). The FEIS identifies the mitigation measures developed by FRA and NJ TRANSIT in consultation with the USACE and NJDEP for impacts to tidal wetlands resulting from the Project in Chapter 11, Section 11.9.

Comment 180: Construction projects in New Jersey that disturb 1 acre or more of land are required to obtain coverage under the Stormwater construction general permit (5G3) from the NJDEP Bureau of Nonpoint Pollution Control. Applicants must first obtain certification of their soil erosion and sediment control plan from the local soil conservation district office. Additional authorizations or permits may also be required for construction dewatering. *(NJDEP-Foster)*

Response: Comment noted. Chapter 11, "Natural Resources," Section 11.6.2.2, of the EIS identifies the need to obtain coverage under NJPDES General Permit NM0088323 for Construction Activity Stormwater (General permit 5G3), and the need to have the site-specific soil erosion and sediment control plan certified by the Hudson-Essex-Passaic Soil Conservation District. Section 11.6.2.3 of the EIS

identifies the need to obtain a dewatering permit from NJDEP should construction dewatering exceed 100,000 gallons per day.

Comment 181: The Project will require fill and disturbance below the mean high water line (MHWL) of the Hackensack River and also impacts to Penhorn Creek tributaries. Any work or fill located that will be below the current MHWL of any natural stream OR cross any mapped historic tidelands claim will require a tidelands instrument. This can include a license, which is a rental agreement, or a grant, which is a sale. If the work is proposed to be conducted before a grant is finalized, then a license will be required to remain in effect until the grant is delivered. In addition, while NJ TRANSIT acquired a grant for the previous ARC Project, the new proposed alignment is slightly different than the previous grant and requires approval from the Tidelands Resource Council via a new grant application. A separate consultation regarding Tidelands is recommended. *(NJDEP-Foster)*

Response: The Project would not result in the placement of fill below the MHWL of the Hackensack River. The western limit of the Project is a point just east of County Road in Secaucus, approximately 1.5 miles east of the Hackensack River. As presented in Chapter 11, "Natural Resources," Section 11.6.2, of the EIS, the Project would result in the placement of fill below the MHWL of Penhorn Creek and its tributaries. The FEIS identifies the tidelands instruments required for the Project in Chapter 21, "Coastal Zone Management," Section 21.3.1, in the discussion of Rule 7:7-9.48 Lands and Waters Subject to Public Trust Rights.

28.4.16.2 HUDSON RIVER

Comment 182: Commenters asked for more information on the proposed monitoring program for the ground improvement area in the Hudson River:

According to the DEIS, the ground stabilization activities at the bottom of the Hudson River would affect a 1.5-acre area of soilcrete at the bottom of the Hudson River that may serve as prey habitat for EFH species. The DEIS analysis concludes that over time, sediments will be deposited over the soilcrete and could provide soft bottom nursery habitat for these species. Based on this information, the FEIS should include additional information, specifically case studies, in which soilcrete was used in a similar fashion, and through which soft bottom nursery habitat was successfully reestablished for these species. In addition, the FEIS should include specific details about how information and updates will be provided to the public about the area's recovery as a fish foraging habitat during the five year monitoring period. *(MAS-Devaney)*

The DEIS promises monitoring of the Hudson River's recovery after the construction is completed but there is no discussion of remedial actions that will be taken should that recovery not be sufficient or fast enough. There is also no discussion of the parameters that would be used to make these determinations. This discussion should be included in the FEIS. *(CB4 Manhattan-Mackintosh, CB4 Manhattan)*

Response: As noted in the DEIS and FEIS in Chapter 11, "Natural Resources," Section 11.7.3, in the area of the riverbed where grout would be injected or mixed to form

a hard soilcrete (described as 1.5 acres in the DEIS; subsequently revised to 3.0 acres in the FEIS, as described in the Foreword of the FEIS, Section F.2.2.3), this area would no longer provide habitat for infaunal macroinvertebrates, or those that live within the sediment, resulting in a loss of forage for fish. When construction is complete, about 2.3 acres of the soilcrete would be approximately level with the surrounding riverbed, and over time, sediments would be deposited over the soilcrete in this lower profile area at sedimentation rates typical of the lower Hudson River, possibly providing some soft bottom habitat for benthic invertebrates. Therefore, within this 2.3-acre portion of the in-river ground improvement area, the Preferred Alternative would not result in adverse impacts to aquatic biota. The remaining 0.7 acres of soilcrete area would be between 1 and 2 feet above the existing mudline (i.e., river bottom). This area may have a lower potential to accumulate sediment that would provide soft-bottom habitat for benthic invertebrates and would not, therefore, provide forage habitat to soft-bottom feeding fish species such as windowpane, skates, and summer and winter flounder. As compensation for the change in the nature and elevation of bottom habitat within the 0.7 acres, the Project Sponsor will monitor this area, in coordination with the USACE, NMFS, and NYSDEC, for five years to assess its recovery as fish foraging habitat. The Project Sponsor will also monitor the recovery of the remaining 2.3 acres of soilcrete for five years post-construction. The loss of soft-bottom habitat within the 0.7-acre elevated portion of the soilcrete represents a small loss of this type of habitat within the harbor estuary in the context of the thousands of acres of such habitat available, and would not adversely affect populations of benthic invertebrates.

FRA and NJ TRANSIT identified the proposed monitoring program for the 3.0-acre ground improvement area in the Hudson River as mitigation for the Preferred Alternative in consultation with NMFS, the USACE, and NYSDEC. The purpose of this monitoring program will be to evaluate the recovery of the benthic habitat in and near this ground improvement area, specifically because the ecological effects of the use of soilcrete are difficult to anticipate and it is unclear if any effects that do occur would be temporary or permanent. No case studies are available about the use of soilcrete in a similar fashion; this is why the monitoring program is proposed. As described in the FEIS in Chapter 11, “Natural Resources,” Section 11.9.2, the proposed monitoring of the entire impacted area will occur for five years post-construction and include the submittal of regular monitoring reports. The specifics of the monitoring plan to be conducted by the Project Sponsor will be developed in coordination with the USACE, NMFS, and NYSDEC.

The need for remediation actions, if any, will be determined by NMFS, NYSDEC, and the USACE on the basis of the regular monitoring results submitted by the Project Sponsor. The Project Sponsor will consult with these same agencies to develop the parameters to be monitored and the other aspects of the monitoring program during permitting and in advance of construction activities, and will work with these agencies to negotiate any remediation activities if needed. Monitoring reports will be made available on the Project website.

Comment 183: While construction in open-water areas would not occur within the boundaries of the Hudson River Park Estuarine Sanctuary, HRPT believes that the Project should include some mitigation measures that would enhance the Hudson River Park's Estuarine Sanctuary given its close proximity to the in-water construction zone and the fact that the DEIS already identifies a need for natural resources mitigation. For example, if supported by NYSDEC and various Federal resource agencies, one possible mitigation site would be habitat enhancement on the south side of Pier 76, where a soft edge is already part of the Park plans, but other mitigation opportunities also exist. HRPT requests the Project work with the NYSDEC to consider a habitat enhancement project within the Estuarine Sanctuary area. *(HRPT-Wils)*

Response: Chapter 11, "Natural Resources," Section 11.9, of the FEIS describes that NYSDEC is requesting additional mitigation for the modification to 3.0 acres of bottom habitat within the Hudson River. NYSDEC recommendations include contribution to the Estuarium at Pier 26 within Hudson River Park or purchase of credits from the Saw Mill Creek Wetland Mitigation Bank on Staten Island. Consultation with NYSDEC is ongoing. Final details on the selected mitigation program will be determined in consultation with the USACE, NMFS, and NYSDEC during the permitting process.

28.4.17 NOISE (COMMENTS 184-192)

28.4.17.1 NEW JERSEY

Comment 184: Commenters expressed concerns about noise levels in the nearby residential neighborhoods of Hoboken and Union City that would result from construction activities at the Hoboken staging area:

Commenters noted that according to the DEIS, construction activities at the Hoboken staging area would produce construction noise levels above impact criteria at nearby residences for a period of five months. In addition, commenters stated that any construction near the Shades neighborhood is amplified when the sound bounces off the cliff and reverberates through the neighborhood. *(J. Bolcar, S. Bolcar, Lui, MAS-Devaney, Schlachter)*

A commenter said that he disagreed with the DEIS conclusion that while construction noise may be audible and intrusive to residents near the Hoboken staging area residents, especially during nighttime hours, it would not constitute an adverse impact because the consultants conducted field observations that led them to assume that affected buildings' façade construction techniques, including insulated glass windows and window air conditioning units, would provide ample noise attenuation. He said that the EIS should include a quantitative analysis of the potential noise impacts on these residences. *(MAS-Devaney)*

A commenter noted that construction at the staging area in combination with trucking activities through Weehawken would increase local noise levels substantially. (*Stack-Union City)*

Commenters said that the high construction noise levels should be addressed and questioned whether the use of a 25-foot-high noise wall would provide adequate shielding. They asked whether the Project will pay for such mitigation as sound- and vibration-proof windows. *(Eggenberger, Schlachter)*

Response: FRA and NJ TRANSIT conducted a detailed, quantified evaluation of the noise levels that would occur during construction at and near the Hoboken staging area and on the truck routes leading to and from the staging area for the DEIS. To evaluate construction noise, FRA and NJ TRANSIT followed the methodologies presented in FTA's guidance manual, *Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06, May 2006, which provides methodologies for use in analyzing the impacts of transit projects; FRA has adopted this guidance for assessment of noise and vibration for non-high-speed rail projects. DEIS Chapter 12, "Noise and Vibration," presents the results of the evaluation. Section 12.3.1 of DEIS Chapter 12 describes existing noise levels, based on noise measurements conducted in 2016 in Weehawken in the vicinity of the construction sites and truck routes. DEIS Section 12.6.2.1.3 presents the predicted worst-case noise levels at nearby residences and parks that would occur during construction, based on an evaluation of anticipated construction equipment that would be operating on the Hoboken staging area during peak construction periods. Section 12.9 describes the measures FRA and NJ TRANSIT proposed in the DEIS to mitigate construction noise.

As discussed in the DEIS in Chapter 12, "Noise and Vibration," Section 12.6.2.1.3, the DEIS analysis concludes that noise levels at the Hoboken staging area would exceed FTA impact thresholds at the closest residential buildings across West 18th Street (in the Shades neighborhood) for approximately five months when piles are being installed within the shaft. FRA and NJ TRANSIT did not consider this exceedance of impact thresholds to constitute an adverse impact, because of its relatively short duration. In addition, in the DEIS FRA and NJ TRANSIT reported that noise levels would exceed the FTA construction noise impact threshold along the Project truck routes during the period of heaviest trucking, which had an estimated duration of approximately four years. The DEIS analysis in Section 12.6.2.1.3 noted that residences closest to the Hoboken staging area would experience noise levels exceeding the FTA impact criteria for up to approximately five months.

The DEIS provided an estimate of the likely attenuation that residential buildings in the Shades may achieve because of their building façade construction type, to document that interior noise levels would be lower than exterior levels. This was not used as the rationale for concluding that no adverse impact would occur for these residences and in no case was analysis avoided or truncated at a receptor because of its estimated level of façade attenuation. FRA and NJ TRANSIT developed mitigation measures based on modeled sound levels at the exterior of receptors.

As described in response to **Comment 71**, after completion of the DEIS, based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North

Bergen and the Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts on local residents near the Hoboken staging area. The revised construction methodology involves removing spoils from excavation of the river tunnel segment primarily at the Tonnelle Avenue staging area rather than at the Hoboken staging area. The FEIS has been revised to incorporate these modifications to the construction methodology, and the FEIS also includes revised environmental impact analyses reflecting these modifications.

FRA and NJ TRANSIT conducted a revised noise analysis for the FEIS incorporating the modifications to the construction approach. This includes a reduction in the number of construction-related trucks traveling to and from the Hoboken shaft site during worst-case construction conditions. It also includes modifications to the construction activities that would occur on the Hoboken staging area. In addition, to respond to the comment noted above about noise reverberating off the Palisades cliff, FRA and NJ TRANSIT revised the noise analysis for the FEIS to include the potential influence of reflected noise off the Palisades cliff. FRA and NJ TRANSIT conducted the revised noise analysis in accordance with updated FTA noise methodologies presented in *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018.

Revised information on noise is presented in the FEIS in Chapter 12A, "Noise"—see Section 12A.6.2.3 for the evaluation of construction impacts and Section 12A.9 for the discussion of mitigation measures that the Project Sponsor will implement. With these modifications, the noise effects of the Project's construction on neighborhoods near the Hoboken staging area would be reduced and noise levels would no longer exceed FTA construction noise impact thresholds at any residences near the construction staging area, including residences in the Shades and on the Palisades above the site, as a result of activities on the staging area. Noise resulting from increased traffic on the Project's truck routes would still exceed the FTA's construction noise impact thresholds at residences along the truck routes over the seven years of construction during periods of peak trucking activity, but would be substantially lower than was predicted in the DEIS. Moreover, this estimate of the duration of the adverse impact from truck-related noise is conservative, and the actual duration would likely be shorter, since intensive trucking activity would not be required for all stages of construction.

At three parks near the construction site, 1600 Park, Harborside/Hoboken Cove Park, and the Hudson River Waterfront Walkway, installation of piles for underpinning the Willow Avenue bridge above the new tunnel alignment would result in noise levels that exceed FTA construction noise impact thresholds for up to approximately two months on weekdays. Given that these parks are generally used for active recreation, which is typically not noise-sensitive, and the relatively short duration of the construction activity, this noise increase would not be an adverse impact. The Project Sponsor will coordinate with the City of Hoboken and

the Township of Weehawken, which have jurisdiction for these parks, regarding pile installation for the underpinning of the Willow Avenue viaduct, to avoid disruption to special events in the parks and to provide advance notification, so that the city and township can provide public notification of this activity and its expected duration.

Section 12A.9 of the FEIS presents a detailed discussion of the mitigation measures that the Project Sponsor will implement to address construction noise at the Hoboken staging area. These measures include the following:

- A noise barrier along the entire northern edge of the Hoboken staging area property along West 18th Street and wrapping at least 100 feet on the western side of the property and extending to the truck haul route on the eastern side of the staging area, to buffer the nearby residential neighborhood from construction activities (see FEIS Chapter 12A, "Noise," Section 12A.9). The noise levels presented in the FEIS are the noise levels that would result with a 25-foot-high noise wall in place. The Project Sponsor will determine the height of the noise wall at the Hoboken staging area in consultation with representatives of the local community. The Project Sponsor will use a noise barrier and sufficient noise control measures (e.g., the noise barrier, quieter equipment selections, equipment layout configuration, etc.) to ensure that noise levels are consistent with the predictions if the noise wall is lower than 25 feet high, other noise-reducing measures will also be employed so that the same exterior noise levels can be achieved at the nearest residences on West 18th Street and adverse noise impacts do not occur. These additional noise reducing measures might include, for example, the use of quieter equipment, use of noise dampening measures in spoils trucks, placement of the noisiest equipment on the site farther from West 18th Street, and use of shields or covers for noise-generating equipment and activities.
- Sound-reducing windows together with air conditioning units to allow for the maintenance of a closed-window condition, to reduce interior noise levels, for residences close to the Hoboken construction staging area and the associated construction truck routes (see Chapter 12A, Section 12A.9). The Project Sponsor will pay for these windows.
- No construction-related truck traffic between 10 PM and 7 AM.
- Implementation of comprehensive, active and responsive local community outreach program during construction that will include a staffed local neighborhood outreach office near the Hoboken staging area; a dedicated Project liaison who will coordinate with the community about construction activities, address concerns, and work with the community to accommodate special events where possible; a 24-hour hotline for emergencies and construction complaints; and regular meetings and notifications about construction status and upcoming activities.
- Noise reduction measures for construction equipment and a construction noise monitoring program to ensure noise thresholds are not exceeded.
- Installation of piles in the Hoboken shaft using drilled piles rather than driven piles to reduce resulting noise levels.

- Underpinning of Willow Avenue viaduct using drilled piles rather than driven piles to reduce resulting noise levels. The Project Sponsor will coordinate with the City of Hoboken and Township of Weehawken regarding pile installation for the underpinning of the Willow Avenue viaduct, to coordinate construction activities to avoid disruption to special events in the nearby parks, and to provide advance notification so that the city and township can notify the public of this activity and its expected duration.

Comment 185: Commenters expressed concerns about the noise levels during operation of the proposed Hoboken fan plant and requested specific information (in decibels) on the anticipated noise levels. Commenters also asked whether trains in the tunnel would be audible in Weehawken. *(Babcock, Czornomor, Schlachter)*

Response: The noise analysis presented in the DEIS and FEIS includes a quantified analysis of noise from the proposed fan plant in Hoboken. As discussed in the DEIS in Chapter 12, "Noise and Vibration," Section 12.7.2 and in the FEIS in Chapter 12A, "Noise," Section 12A.7.2, under normal (non-emergency) conditions, the ventilation facility would provide fresh air to the tunnel below through a passive system, in which fans would not run, and ventilation would occur naturally through train movement in the tunnel. During certain conditions when high temperatures are present in the tunnel (such as during summer months when train traffic is congested), one low-pressure fan would operate at maximum load, to clear hot air from the tunnel. Additional high-pressure fans would operate during emergency conditions, such as a fire in the tunnel, so that smoke could be exhausted at high velocity. The fan plant would have sound attenuators to reduce fan noise and meet applicable noise requirements. FRA and NJ TRANSIT evaluated the noise that would result during normal operations with one fan operating at maximum load. In that condition, noise levels from the fan plant would not exceed the FTA impact threshold for operational noise impacts at residences near the fan plant.

Trains operating in the new tunnel would not be audible at the surface in Weehawken.

Comment 186: Noise from train whistles for trains entering the North Bergen tunnel portal is already unbearable, and adding a second tunnel will only make it worse. What plans are being made to cut down or redirect both the current noise and the additional noise with a second tunnel? What are the laws/statutes regarding noise after 10 PM? Why do the train operators incessantly blow their whistles? What position are the trains in when they decide to sound the whistles? *(Caruso)*

Response: When the DEIS was prepared, Amtrak required that eastbound trains approaching the North River Tunnel sound their horns at a point approximately 1,320 feet before (west of) the tunnel portal. This was a safety requirement to protect railroad workers who might be using a pedestrian crossing close to Tonnelle Avenue, an area where Amtrak maintenance employees sometimes stage and mobilize maintenance activities.

After the DEIS was published and independently of the Hudson Tunnel Project, Amtrak shifted the location where eastbound trains must sound their horns to a point closer to Tonnelle Avenue. Westbound trains must sound their horns at a point within the North River Tunnel.

At this time, there are no plans, either as part of the Hudson Tunnel Project or separate from the Hudson Tunnel Project, to modify the rule for trains entering the existing tunnel. With the Project, there would be no requirement for trains approaching the new Hudson River Tunnel to sound their horns, since there would be no worker crossing at the new tracks.

In response to this comment, FRA and NJ TRANSIT revised the noise analysis for the FEIS to account for the noise effects from train horns at the existing tunnel portal. The revised analysis is presented in the FEIS in Chapter 12A, "Noise," Section 12A.7.2. With the Preferred Alternative, the same number of trains would operate on the NEC between New Jersey and New York as in the No Action Alternative.[14] However, with two additional tracks between the surface alignment at approximately Frank R. Lautenberg Secaucus Junction Station and PSNY, Amtrak and NJ TRANSIT would have increased flexibility in how trains operate between New Jersey and New York, and some trains would shift from the North River Tunnel to the new Hudson River Tunnel. Trains using the new tunnel would not sound their horns as they approach the tunnel. Consequently, the Preferred Alternative has the potential to result in a decrease in horn noise along the surface alignment. To be conservative, the noise analysis assumes for each receptor that all trains enter and exit the tunnel closest to the receptor, and therefore the analysis does not show the reduction in train horn noise at the North River Tunnel portal that would occur if some trains instead enter the new Hudson River Tunnel.

28.4.17.2 NEW YORK

Comment 187: The proposed developments at 601 West 29th Street (Lots 12, 29, 36) and 606 West 30th Street (Lot 39) should be analyzed as receptors. *(NYCMOEC-Semel)*

Response: These properties, the new residential buildings proposed at the eastern end of Block 675 (the block between West 29th and West 30th Streets and Eleventh and Twelfth Avenues) are analyzed in the DEIS and FEIS noise analyses. They are represented in the analysis as Receptor 8a.

Comment 188: The noise analysis in the DEIS shows exceedances of New York City CEQR noise impact guidelines at 606 West 30th Street and other locations in the study area. A comparison of existing conditions (Table 12-12) with worst-case construction noise levels (Table 12-18) shows increases from existing noise levels that are at

[14] As described in the EIS in Chapter 2, "Alternatives and Description of the Preferred Alternative," Section 2.5.7.2 and Chapter 4, "Analysis Framework," Section 4.2.1, while the Project addresses maintenance and resilience of the NEC Hudson River crossing, it would not increase rail capacity, which would remain constrained at PSNY and elsewhere on the NEC. Ultimately, an increase in service between Newark Penn Station and PSNY cannot be realized until other substantial infrastructure capacity improvements are built.

levels large enough to be significant adverse impacts and should have been identified as such in the DEIS. *(Akerman-260 Twelfth Avenue)*

Response: Chapter 12, "Noise and Vibration," Section 12.6.3 of the DEIS presents the anticipated noise levels during construction in New York and identifies noise levels that would exceed CEQR impact thresholds at 606 West 30th Street and other locations nearby. Table 12-18 in the DEIS, which is referenced in the comment, specifically identifies the locations where construction noise levels would exceed the FTA construction noise impact thresholds. The text in that section of the chapter explains that although the construction noise levels would exceed FTA impact criteria at these locations, FRA and NJ TRANSIT did not consider these to be adverse construction noise impacts because of the relatively short duration of the noise exceedance (12 months). The chapter also explains that these noise levels would not constitute significant adverse noise impacts according to *CEQR Technical Manual* noise impact criteria because of their duration of less than two years. Additionally, these residential buildings are (or will be) constructed with contemporary façade construction techniques, including insulated glass windows, which would provide approximately 30 dBA window/wall attenuation, resulting in substantially lower noise levels inside the residential units. Please note that FRA and NJ TRANSIT have revised the noise analysis for the FEIS, now provided in Chapter 12A, as discussed in response to **Comment 189**.

Comment 189: Commenters expressed concern about noise impacts during construction in New York on nearby park users, residents, and workers and said that it is important that noise levels from construction be carefully monitored. A commenter said that the DEIS does not provide sufficient details about how construction noise affecting two new residential buildings planned at the east end of Block 675 in Manhattan will be mitigated. *(CB4 Manhattan-Mackintosh, CB4 Manhattan, MAS-Devaney)*

The DEIS provides scant, almost anecdotal discussion of mitigation for the noise impacts during construction that would affect, among others, future occupants of planned developments on the eastern portion of Block 675 for a prolonged period of time. While there is a description of construction means and methods to mitigate noise impacts, there is little or no technical analysis of the efficacy of those measures, and the DEIS does not include any means of enforcement. The FEIS should provide a means for monitoring and enforcing mitigation measures should they be shown to be effective. *(Akerman-260 Twelfth Avenue)*

Response: FRA and NJ TRANSIT conducted a detailed, quantified evaluation of the noise levels that would occur during construction at and near the Twelfth Avenue staging area in New York for the DEIS. To evaluate construction noise, FRA and NJ TRANSIT followed the methodologies presented in FTA's guidance manual, *Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06, May 2006, which provides methodologies for use in analyzing the impacts of transit projects; FRA has adopted this guidance for assessment of noise and vibration for non-high-speed rail projects. DEIS Chapter 12, "Noise and Vibration," presents the results of the evaluation. Section 12.3.3 of DEIS Chapter 12 describes existing

noise levels, based on noise measurements conducted in 2016 in the vicinity of the Twelfth Avenue staging area. DEIS Section 12.6.3 presents the predicted worst-case noise levels at nearby residences and parks that would occur during construction, based on an evaluation of anticipated construction equipment that would be operating on the Twelfth Avenue staging area during peak construction periods. Section 12.9 describes the measures FRA and NJ TRANSIT proposed in the DEIS to mitigate construction noise. For the FEIS, FRA and NJ TRANSIT revised this analysis to incorporate modifications to the construction methodology and more refined information on the construction equipment that would be used at the staging area, and to follow FTA's updated guidance manual, *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018. FEIS Chapter 12A, "Noise," presents the results of that analysis—see Section 12A.6.3.

Section 12A.6.3 of FEIS Chapter 12A presents the quantified noise levels predicted for worst-case construction conditions at the two new residential buildings under construction at the east end of Block 675, the existing residential building at 312 Eleventh Avenue, and at the High Line and Hudson River Park. As discussed in the FEIS, construction activities at the Twelfth Avenue staging area would result in noise levels that exceed the FTA construction noise impact threshold for approximately 2.5 years in New York at the new residential buildings at 606 West 30th Street and 601 West 29th Street. If the potential EMS facility (or one-story garage) on West 29th Street (Block 675 Lot 12) is delayed and its construction occurs later, the total duration when noise levels would exceed impact thresholds would increase from 2.5 years to approximately 3.5 years. These noise levels would constitute adverse noise impacts at these buildings according to FTA residential noise impact criteria and significant adverse impacts according to *CEQR Technical Manual* noise impact criteria. However, because these buildings would be constructed with contemporary standard façade construction techniques resulting in at least 30 dBA façade attenuation, interior noise levels during construction of the Project would be in the low to mid 40s dBA during nighttime hours, which would be considered acceptable for residential use according to *CEQR Technical Manual* noise exposure guidelines. Consequently, no mitigation measures would be warranted.

Pile installation at the Twelfth Avenue shaft site and as part of the relocation of the sewer line under West 30th Street, as well as the overlap of multiple construction activities at the Twelfth Avenue staging area, would result in noise levels that exceed the CEQR impact threshold within 400 feet of the construction zone for approximately four years in New York at the High Line, which would constitute a significant adverse impact according to *CEQR Technical Manual* noise impact criteria. This noise level would not exceed the FTA construction noise impact threshold. The predicted noise impact would not extend throughout the full length of the High Line, most of which would be substantially farther from the construction zone. If cut-and-cover excavation with pile driving occurs in West 30th Street, the pile driving would result in noise levels that exceed the FTA noise impact threshold within 200 feet of the construction zone for approximately seven months at the High Line. This noise level would not constitute an adverse impact

on the High Line according to the FTA impact threshold, because of the relatively short duration of the activity (i.e., less than 12 months).

Noise levels at Hudson River Park would not exceed FTA impact thresholds.

Section 12A.9 of FEIS Chapter 12A details the mitigation measures that the Project Sponsor will implement to avoid, minimize and mitigate adverse noise impacts associated with construction activities for the Project. These include general construction practices that will be implemented at all construction sites (Section 12A.9.1) as well as specific measures that will be implemented in New York (Section 12A.9.5). The quantified analysis of construction noise included use of the 15-foot-high construction barrier that is listed in Section 12A.9.5 and therefore the modeled results reflect the effectiveness of that measure. The mitigation measures are those that have been deemed feasible for the Project and effective according to applicable guidance from NYCDEP and FTA. The noise mitigation measures identified in the FEIS will be commitments included in the ROD for the Project. Commitment to the mitigation measures will be included in construction contract specifications and implemented by the Project Sponsor.

Comment 190: Commenters stated that while the DEIS states that blasting may be conducted in New York between 7 AM and 10 PM, blasting should not be permitted before or after New York City's standard construction period of Monday-Friday, 7 AM-6 PM. Others commented that blasting should not be permitted before 9 AM or after 5 PM. Commenters also asked, if the Project requests a permit to blast beyond the designated cutoff point, how will the community be notified and with how much advance notice? (*CB4 Manhattan-Mackintosh, CB4 Manhattan, Hoylman-Gottfried-Brewer-Johnson*)

Response: The noise analysis presented in the FEIS in Chapter 12A, "Noise," discusses the limitations for blasting in Section 12A.9. As discussed there, blasting would be conducted in Manhattan only between 9 AM and 7 PM, except under special circumstances, and only with permission from FDNY. Limited rock excavation is required for the Preferred Alternative in New York. Recent nearby rock excavation such as was performed for the Hudson Yards Right-of-Way Preservation Project was done with hydraulic splitters in lieu of blasting, and Project contract documents will allow use of such splitters. In addition, because blasting is typically covered by blast mats, which muffle noise from the blast, and because blasting is a very short-term event that happens typically only once or twice per day in a given location, it does not have a substantial effect on overall noise levels. All blasting activity is under the supervision of FDNY. All efforts would be made to assure blasting occurs within the allotted window. A blasting schedule would be provided to neighboring building owners and occupants. Should a blast beyond the cutoff point occur it would fall under the rules of FDNY and community notification will be made prior to the blast as soon as practicable. The Project Sponsor would coordinate the method and timing of community notification with the FDNY, and this would most likely include posting to the Project website and potential direct mailings or notices in the construction area.

Comment 191: The DEIS reveals that the tunnel boring machines used to dig the tunnel under the Hudson River would be removed through the proposed shaft on Block 675, but there is no discussion or analysis of noise or vibration that would result from the removal of those very large pieces of equipment. Similarly missing from the DEIS is any meaningful analysis of the impacts of the proposed freeze plants and slurry plant construction described in the DEIS on pages 3-23 and 3-26. *(Akerman-260 Twelfth Avenue)*

Response: Information on removal of the TBMs from the Twelfth Avenue shaft has been added to Chapter 3, "Construction Methods and Activities," Section 3.3.7.3. As discussed there, the removal of TBM components would occur over approximately one month for each TBM. These large pieces of equipment would be transported from the staging area by truck, most likely during off-peak and overnight hours, given their large size. The minimal levels of noise or vibration associated with this type of activity are not analyzed because of the very short duration of this activity, and because the equipment used for the removal of the tunnel boring machines would already be operating on site (i.e., cranes and trucks), and this equipment is already accounted for in the analysis of noise occurring at the construction staging site. The quantified noise analysis included in the DEIS and FEIS is based on the specific equipment likely to be operating on the Project site and includes an estimate of the noise produced by the proposed freeze/slurry plants. Information on the specific assumptions used for the noise analysis is now provided in the FEIS in Appendix 12-1.

Comment 192: The DEIS should more fully acknowledge the impact on adjacent properties due to ongoing noise from the new Twelfth Avenue vent facility. *(CB4 Manhattan-Mackintosh)*

Response: The noise analysis presented in the DEIS in Chapter 12, "Noise and Vibration," Section 12.7.3 and in the FEIS in Chapter 12A, "Noise," Section 12A.7.3 includes a quantitative analysis of noise from the proposed Twelfth Avenue fan plant. As discussed in the DEIS and in the FEIS, under normal (non-emergency) conditions, the ventilation facility would provide fresh air to the tunnel below through a passive system, in which fans would not run, and ventilation would occur naturally through train movement in the tunnel. During certain conditions when high temperatures are present in the tunnel (such as during summer months when train traffic is congested), one fan would operate at maximum load, to clear hot air from the tunnel. Additional fans would operate during emergency conditions, such as a fire in the tunnel, so that smoke could be exhausted at high velocity. The fan plant would have sound attenuators to reduce fan noise and meet applicable noise requirements. Based on the quantitative analysis FRA and NJ TRANSIT conducted for the Twelfth Avenue fan plant, noise levels from the Twelfth Avenue fan plant would not exceed the FTA impact threshold for operational noise impacts at receptors near the fan plant. The incremental change in noise level between the existing condition and this maximum operating

scenario would be less than 1 dBA,[15] which would be imperceptible. Consequently, the Twelfth Avenue fan plant would not have the potential to result in any significant adverse noise impacts.

28.4.18 VIBRATION (COMMENTS 193-195)

Comment 193: Residents of Weehawken and Hoboken neighborhoods near the proposed construction, including the Hoboken staging area and the new tunnel alignment, expressed concerns about the potential vibration impacts from the Project's construction. Residents said that buildings in the Shades neighborhood near the Hoboken staging area is old, with many buildings more than 100 years old, and that many buildings incurred structural damage as a result of flooding during Hurricane Sandy. Some residents commented that the cumulative vibration of the tunnel boring work and the heavy truck traffic at the Hoboken staging site must be considered when analyzing whether vibration will affect local buildings. *(Argueta, Digan, Elliott, Fisher-Hoboken, J. Newman, Schlachter, Tom, Vavrecan)*

Residents of the Hudson Tea Buildings that border Weehawken Cove (1500 Washington Street and 1500 Hudson Street in Hoboken) requested that structural monitoring of the buildings be implemented during the construction of the tunnel and for a period of time after the tunnel becomes operational. These buildings were originally constructed over 110 years ago. The foundation is likely supported by wood or concrete pilings, and the ground below the buildings is landfill. In the late 1990s a conversion of the original building into two separate residential buildings was performed by removing a section of the building. There is most likely no way to fully understand the effects of vibration on these buildings; the foundation (and presumably pilings) of the original building may act differently now that the buildings have been separated. TBM activity—and potentially rail activity once the tunnel is in service—could cause changes to the building foundations. There are precautions, such as jet grouting and ground freezing described in the DEIS in Chapter 3, that can be implemented to stabilize the geology through which the TBM is boring. Without sufficient monitoring of structures near the TBM's path, the requirement for these ground stabilization techniques will not be recognized and therefore not be utilized. *(Fisher-Hoboken, Sternlieb)*

Response: The DEIS and FEIS include an evaluation of the potential for vibration impacts on buildings near the Preferred Alternative's construction sites and tunnel alignment. This evaluation is provided in the DEIS in Chapter 12, "Noise and Vibration," Section 12.6.2.2.3 and in the FEIS in Chapter 12B, "Vibration," Section 12B.6.2.3. FRA and NJ TRANSIT revised the vibration analysis for the FEIS to incorporate

[15] "A"-weighted sound level, or dBA, is the most often used descriptor of noise levels where community noise is the issue. This decibel measurement is weighted to account for those frequencies most audible to the human ear in order to create a uniform noise measurement that simulates people's perception of loudness and annoyance.

changes to the proposed construction methodology (discussed in response to **Comment 71**).

To evaluate vibration during construction for the DEIS, FRA and NJ TRANSIT followed the methodologies presented in FTA's guidance manual, *Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06, May 2006, which provides methodologies for use in analyzing the impacts of transit projects. The FEIS analysis follows the methodologies presented in FTA's revised guidance manual, *Transit Noise and Vibration Impact Assessment Manual*, FTA Report No. 0123, September 2018. FRA has adopted this guidance for assessment of noise and vibration for non-high-speed rail projects. Following this methodology, FRA and NJ TRANSIT predicted the potential vibration levels at the closest residences to the staging area. The analysis considered ground-borne vibration, which may include discernable movement of building floors, rattling of windows, and shaking of items on shelves or hanging on walls; and ground-borne noise, which is a low-frequency rumble noise that can result from the movement of building surfaces and objects within a building.

The analysis concludes during the construction activity with the greatest potential to result in vibration, at the nearest residence to the Hoboken staging area vibration levels would be barely perceptible and would not exceed the threshold for human annoyance from vibration or have the potential to result in damage to the buildings. At other receptors farther from the work area than these residences, vibration levels would be lower and would also not constitute adverse impacts.

As discussed in Section 12B.6.2.4, operation of the tunnel boring machine may be perceptible and annoying to humans in buildings directly over the tunnel alignment but would not result in vibration levels high enough to result in building damage. Since the tunnel boring machine would progress at an average pace of approximately 35 feet per day through soil beneath Weehawken and Hoboken, the perceptible vibration would not last for more than at most two days at any one receptor.

As discussed in Chapter 12B, "Vibration," Section 12B.6.2, construction-related vehicles including worker vehicles and/or materials and equipment deliveries generally do not have the potential to result in vibration levels that could result in building damage and/or human annoyance and consequently do not typically result in adverse construction vibration impacts. Therefore, there would not be cumulative effects of construction-related vehicles and other construction equipment.

The suggested ground improvements near the Hudson Tea Buildings will not be undertaken, as the closest tunnel sections (located beneath Weehawken Cove) would be located within rock, and it is neither possible nor necessary to jet grout within rock. Ground freezing of the rock is similarly unnecessary.

To address concerns related to vibration, the Project Sponsor will implement a vibration monitoring program during construction. This is described in the FEIS in Chapter 12B, "Vibration," Section 12B.9. As discussed there, the Project Sponsor will implement the vibration monitoring program within the area of potential

influence of the construction to monitor impacts of construction vibration and ground movement, to protect nearby structures from accidental damage during construction.

To account for the variable ground conditions and different construction activities that would occur, the vibration monitoring program will be implemented within an approximately 200-foot distance from the Project construction. In addition, although the three Hudson Tea Buildings on Hudson Street in Hoboken are at a greater distance (approximately 260 feet at the closest point), given their size and historic nature, the Project Sponsor will monitor these buildings as part of the vibration monitoring plan.

Prior to construction activities, the Project contractor will perform pre-construction condition surveys to document existing conditions of each property within the influence of the construction. A copy of property pre-construction condition surveys will be available to the property owners. Also prior to construction activities, the Project Sponsor will develop and implement a vibration monitoring program within the area of potential influence of the construction to monitor impacts of construction vibration and ground movement.

Upon completion of construction activities within an area, the Project Sponsor will perform post-condition surveys and compare them with the pre-construction survey information to determine if damage has occurred, in concurrence of the property owner. Where construction operations cause damage to adjacent properties, the Project Sponsor will promptly repair or replace damaged items to the condition that existed before the damage, to the satisfaction of each adjacent property owner, at no cost the property owner.

For information on potential vibration from trains operating in the completed tunnel, see the response to **Comment 194**.

Comment 194: A commenter asked about vibration levels from train operations in the tunnel beneath Hoboken and Weehawken. In addition, residents of the Hudson Tea Buildings expressed concerns about the potential for damage to their buildings from train operations. *(Schlachter)*

Response: The vibration analysis presented in Chapter 12 of the DEIS and Chapter 12B of the FEIS also included a quantified analysis of the effects of train operations in the new tunnel in DEIS Section 12.7.2 and FEIS Section 12B.7.2. That analysis concluded that at the closest residences to the new tunnel, vibration levels would be below the FTA impact thresholds. At other locations and other sensitive receptors that are farther from the tunnel, vibration and ground-borne noise levels would be lower and consequently would also not exceed the vibration impact threshold. Post-construction, the rail tracks in the new tunnel will be anchored to resilient pads, a practice that substantially reduces rail-induced vibrations.

Comment 195: A local business commented that they own and operate several recording studios in close proximity to the Hoboken staging area. The commenter said that no amount of acoustical construction or studio design can eliminate the power of sub-

base and base waves that travel through the earth, and that this project has a very high potential of putting them out of business. *(SST-Hanti)*

Response: In response to this comment, FRA and NJ TRANSIT conducted a quantified analysis of the vibration levels that might occur at the recording studio, which they believe is located at 1806 Park Avenue in Weehawken (the commenter did not provide the address of the recording studios). This analysis is included in Chapter 12B, "Vibration," of the FEIS. The FTA impact thresholds specific to recording studios have been added to the chapter in Section 12B.2.2 (see Table 12B.2.2). The evaluation of construction vibration provided in the FEIS in Section 12B.6.2 demonstrates that vibration levels would be below these impact thresholds at the recording studio. A new analysis of the potential for vibration impacts at the recording studio from train operations in the new tunnel vibration analysis is also provided in the FEIS in Chapter 12B, Section 12B.7.2. That analysis demonstrates that no impact would occur to the recording studio from train operations.

28.4.19 AIR QUALITY (COMMENTS 196-204)

Comment 196: While the Project has been determined to be exempt from the transportation conformity requirements under the Clean Air Act, it would still have the potential for construction and construction traffic air quality impacts, particularly at the Tonnelle Avenue site in North Bergen, New Jersey, which is an environmental justice area. Although the DEIS lists measures to avoid, minimize, or mitigate impacts during construction, there is nothing in the DEIS that indicates how these measures will be implemented and more importantly, how they will be tested to ensure that the public is protected from adverse air quality impacts. The FEIS should include specific information on how mitigation will be implemented and how air quality testing will be done throughout the entire construction process and the results of which made publicly available through the Project website. *(MAS-Devaney)*

Response: As noted in the comment, the two regional Metropolitan Planning Organizations (MPOs) with jurisdiction over the Project area, NJTPA and the New York Metropolitan Transportation Council (NYMTC), have determined that according to the transportation conformity regulations (40 CFR § 93.126), the Preferred Alternative is an exempt project and therefore does not require transportation conformity analysis. The Project's exemption from the transportation conformity requirements under the Clean Air Act means that no analysis of operational air quality impacts (i.e., air quality impacts once the construction is complete) is needed. This is because the Project would not involve "substantial functional, location, or capacity changes" (40 CFR § 93.126)—the Project would not result in any new or additional sources of air emissions or in an increase in peak-period train service. Nonetheless, FRA and NJ TRANSIT did conduct an analysis of operational air quality impacts, which is presented in Chapter 13, "Air Quality," of the DEIS and FEIS, Section 13.7.

Chapter 13, "Air Quality," of the DEIS and FEIS also presents the quantified analysis that FRA and NJ TRANSIT conducted of the Project's air quality impacts

during construction. Detailed analyses were conducted for each of the construction sites, including the Tonnelle Avenue staging area and Hoboken staging area in New Jersey (Section 13.6.2), and the Twelfth Avenue staging area in New York (Section 13.6.4). A quantified analysis was also conducted for potential air quality impacts from truck routes in New Jersey and New York in those same sections of the chapter.

Chapter 13 of the DEIS and FEIS presents measures that the Project Sponsor will implement to avoid, minimize, or mitigate impacts in Section 13.9. The lead Federal agency will be responsible for ensuring that the Project Sponsor implements these measures, which will be identified in the ROD. The requirement to implement these measures will be included in construction contracts. These measures will include: dust control measures; specifying the use of ultra-low-sulfur diesel fuel for all diesel engines throughout the Project sites; idling restrictions for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or are otherwise required for the proper operation of the engine; best available tailpipe reduction technologies for reducing diesel PM emissions for non-road diesel engines with a power rating of 50 horsepower (hp) or greater and controlled truck fleets (i.e., truck fleets under long-term contract with the Project), including but not limited to concrete mixing and pumping trucks; utilization of newer equipment, corresponding to at least EPA's Tier 3 emissions standards for all diesel-powered non-road construction equipment with a power rating of 50 hp or greater, and shall meet at least the Tier 2 emissions standards for all diesel-powered engines rated less than 50 hp (as Tier 3 emissions standard do not apply to these engines); diesel equipment reduction policies specifying that electrically powered equipment will be used rather than diesel-powered and gasoline-powered versions of that equipment, to the extent practicable. Project construction contracts developed by the Project Sponsor will specify the construction air quality mitigation measures to be implemented or included in the construction of the Project, which will be developed as part of the contract procurement documents during final design.

Comment 197: EPA is concerned that the DEIS is not explicit about the methodology and assumptions used in the general conformity applicability analysis. In order to evaluate whether the Project's general conformity finding is appropriate, the following should be specified: the type, age and size of construction equipment and engines, the assumed activity (operating hours or miles traveled), and emission and load factors used. (*USEPA-Mitchell*)

Response: Detailed equipment tables including engine size, quantity, type, usage factors, as well as the anticipated construction activity were used in the construction air quality analyses, and have been provided separately to EPA by FRA.

Comment 198: The DEIS does not adequately analyze operational impacts to air quality. The DEIS makes the conclusory statement that the vent shaft/fan plants "would generally operate passively, and in any case would not emit pollutants." That simple conclusory statement, which neither contains nor refers to any analysis of

potential impacts, falls far short of the kind of scientific rigor and full disclosure required by NEPA and CEQR. This should be corrected in the FEIS. Future residents and occupants of the new residential buildings on Block 675 in New York could be at risk and a rigorous hard look at the potential for their health to be impacted is required by NEPA. *(Akerman-260 Twelfth Avenue)*

Response: The DEIS and FEIS present the analysis of air quality, including the potential emissions from the proposed fan plants, in Chapter 13, "Air Quality," Section 13.7. As discussed in the DEIS and FEIS, neither the new rail tunnel nor the rehabilitated existing tunnel would result in any significant new or additional sources of air emissions relative to those associated with the No Action Alternative:

- There would be no change in peak hour rail service and therefore no change in commuter patterns as a result of the Preferred Alternative.
- Passenger trains operating through the new tunnel would be electric, and therefore diesel emissions would not be a concern at the tunnel portals or fan plants.
- During normal operations, the tunnel ventilation system would operate passively at most times, with normal train movement pushing and pulling fresh air into the tunnel. In this mode, the fans in the fan plants would not operate.
- During congested (perturbed) conditions when trains are stopped or moving slowly for extended periods, particularly during the summer, one low-pressure fan would operate to exhaust hot air from the tunnel. Since the trains in the tunnel would be electric, not diesel, the hot air exhausted from the tunnel vents would not be a source of air pollutants.
- In addition to the normal operations discussed above, the Project's ventilation system would also be used to control and exhaust hot air and smoke during emergency conditions, such as a fire on a train in the tunnel. Multiple high-pressure ventilation fans operating in exhaust mode would purge smoke from the tunnel system, and would be operating at a high velocity, pushing the exhaust and smoke up and away from the fan plant(s) where it would then mix with the ambient air to dissipate. Release of smoke from the ventilation facilities in an emergency condition is a speculative event that cannot be reasonably analyzed, because there are too many unknown variables that would need to be assumed. For any given fire, the characteristics of the smoke and associated pollutants would be a function of the type of fire and what was burning. In any case, smoke would be exhausted from the louvers at the ventilation facility through high-pressure ducts at high volumes and therefore would rapidly disperse from the fan plants.

Based on this information, FRA and NJ TRANSIT concluded that operation of the Preferred Alternative under normal conditions, including when hot air is exhausted from the tunnel ventilation fan plants, would not result in air pollutant concentrations exceeding the applicable standards and thresholds and therefore, would not have the potential to result in adverse air quality impacts. In addition,

operation of the Preferred Alternative in emergency conditions would not have the potential to result in adverse air quality impacts.

28.4.19.1 NEW JERSEY

Comment 199: Commenters expressed concerns about the potential air quality impacts from construction activities at the Hoboken staging area:

The fact that EPA waived any type of study for air quality for such a large and disruptive project disregards the safety and health of those living and working in proximity to the Hoboken staging site. No such waiver should have been given and an air quality study must be conducted for this construction work in a residential neighborhood. This neighborhood is already affected by exhaust from Lincoln Tunnel traffic. The construction traffic and the construction on the Hoboken staging area may increase air pollution, including particulate matter, and adversely affect the health of those nearby. *(A. Bolcar, J. Bolcar, S. Bolcar, M. Carson, R. Carson, Cheng, Coblentz, Davidson, Dembroe, Dykhouse, Elliott, Farrell, C. Greenstrom, R. Greenstrom, Griggs, Janowitz, Kemper, S. Laufer, X. Li, Lyons, Melnik, Navarra, Olivieri, Penna, Romero, R. Rovito, Stack-Union City, Telker, von der Lieth, Wagh)*

Response: It is not correct that EPA waived all air quality analysis requirements for the Project. The two regional MPOs with jurisdiction over the Project area, NJTPA and NYMTC, have determined that according to the transportation conformity regulations (40 CFR § 93.126), the Preferred Alternative is an exempt project and therefore does not require transportation conformity analysis. The Project's exemption from the transportation conformity requirements under the Clean Air Act means that no analysis of operational air quality impacts (i.e., air quality impacts once the construction is complete) is required. This is because the Project would not involve "substantial functional, location, or capacity changes" (40 CFR § 93.126)—the Project would not result in any new or additional sources of air emissions or in an increase in peak-period train service. Nonetheless, FRA and NJ TRANSIT did conduct an analysis of operational air quality impacts, which is presented in Chapter 13, "Air Quality," of the EIS, Section 13.7.

Chapter 13, "Air Quality," of the EIS also presents the quantified analysis that FRA and NJ TRANSIT conducted for the Project's air quality impacts during construction. Detailed analyses were conducted for the impacts of construction at the Hoboken staging area, including the truck routes leading to and from the site (Section 13.6.2). The analysis includes both Project-generated emission sources as well as existing traffic and stationary emission sources that were included as part of the monitored background concentrations. The analysis demonstrates that during construction, levels of air pollutants would be below the National Ambient Air Quality Standards and that no impact would occur. Chapter 13 of the EIS also presents measures that the Project Sponsor will implement to avoid, minimize, or mitigate impacts in Section 13.9. The lead Federal agency will be responsible for ensuring that the Project Sponsor implements these measures, which will be identified in the ROD. The requirement to implement these measures will be included in construction contracts. These measures will include: comprehensive

dust control measures, including perimeter air monitoring to identify any exceedances of dust thresholds so that construction methods can be adjusted, use of ultra-low sulfur diesel fuel, idling restrictions, best available tailpipe reduction technologies, utilization of newer equipment, and diesel equipment reduction.

Please also note that the EIS includes an analysis of the Project's effects on public health in Chapter 19, "Public Health and Electromagnetic Fields."

Comment 200: A commenter expressed concern about the additional traffic congestion from trucks and workers going to the Tonnelle Avenue staging site and the resulting air quality effects. An air study should be done. (*Correia*)

Response: FRA and NJ TRANSIT conducted a quantified analysis of the air quality effects of construction at the Tonnelle Avenue staging area, including trucks and workers traveling to and from the staging area. This analysis is presented in Chapter 13, "Air Quality," of the EIS (Section 13.6.2). The analysis demonstrates that during construction, levels of air pollutants would be below the National Ambient Air Quality Standards and that no impact would occur. Chapter 13 of the EIS also presents measures that the Project Sponsor will implement to avoid, minimize, or mitigate impacts in Section 13.9. The lead Federal agency will be responsible for ensuring that the Project Sponsor implements these measures, which will be identified in the ROD. The requirement to implement these measures will be included in construction contracts. These measures will include: dust control measures; specifying the use of ultra-low-sulfur diesel fuel; idling restrictions; best available tailpipe reduction technologies for reducing diesel PM emissions; utilization of newer equipment; and diesel equipment reduction policies. All of these measures will reduce air emissions from construction equipment and vehicles.

Comment 201: The NJDEP Bureau of Evaluation and Planning requests the backup information (methodology, assumptions, equipment (nonroad and on-road), emission factors, load factors, and sample calculation) to support the air emissions in Table 13-13, Emissions from Construction Activities. *(NJDEP-Foster)*

Response: Comment noted. FRA and NJ TRANSIT have provided this information separately to NJDEP for review.

Comment 202: Commenters expressed concern about emissions from the proposed Hoboken fan plant and potential adverse effects on residents, schools, and playgrounds nearby:

Commenters noted that the neighborhood is already subject to air pollution from Lincoln Tunnel traffic and from the wastewater treatment plant in northern Hoboken adjacent to the Hoboken fan plant site. They asked about the emissions from the new fan plant, including any dust that would be released. One commenter asked whether radon may be released from the fan plant. Another said that adding an additional source of air movement in the vicinity of the wastewater treatment plant increases the likelihood of fumes from the treatment

plant reaching the Shades neighborhood. *(Babcock, Boll, Czornomor, Eggenberger, Schlachter, Sivo)*

A commenter stated that the DEIS does not discuss the air quality impact on the charter school at 15th and Garden Streets in Hoboken. In New York City, several air quality monitoring sites are being established in various schools (see Table 13-5) that are farther from the tunnel than this charter school is. The DEIS does not address or even acknowledge the presence of a school so close to this proposed construction and vent tower. It is important that a study of the air quality and the projections of any short-term or long-term issues are shared with the community. *(Elysian-Laub)*

A commenter said that during a smoke emergency in the tunnel, smoke could be blown over the Shades neighborhood and trapped there due to the curve in the line of the Palisades cliffs. *(O'Kane)*

Response: FRA and NJ TRANSIT conducted an analysis of operational air quality impacts, which is presented in Chapter 13, "Air Quality," of the EIS, Section 13.7. As described there, the new Hudson River Tunnel would have a ventilation system designed to bring fresh air into the tunnel passively, through normal train movement, and to remove hot air from the tunnel during congested (perturbed) conditions when trains are stopped or moving slowly for extended periods, particularly during the summer, or during emergency conditions, to exhaust smoke and heat from the tunnel. Based on the analysis presented in Chapter 13, FRA and NJ TRANSIT concluded that operation of the Preferred Alternative under normal conditions, including when hot air is exhausted from the tunnel ventilation fan plants, would not result in air pollutant concentrations exceeding the applicable standards and thresholds and therefore, would not have the potential to result in adverse air quality impacts. In addition, operation of the Preferred Alternative in emergency conditions would not have the potential to result in adverse air quality impacts. For more information about air emissions from the fan plants, see the response to **Comment 198**.

As discussed in in Chapter 3, "Construction Methods and Activities," Section 3.3.2.1, the new Hudson River Tunnel would be supported with concrete liners, either precast segments that are installed immediately behind the tunnel boring machine during construction of the tunnel. The concrete liner would minimize potential emissions of radon into the tunnel interior. Consequently, the ventilation system design for the Project would not be a significant source of radon emissions.

As discussed in response to **Comment 199**, the analysis presented in Chapter 13, "Air Quality," of the EIS evaluates the potential air quality effects during construction on the nearest residences and concludes that no adverse effect would occur. Therefore, no adverse effect would occur to locations farther from the Hoboken staging area, including the charter school at 15th and Garden Streets in Hoboken. In addition, as discussed above in this response, no adverse air quality effects would occur from operation of the new fan plant. The air quality monitoring stations in New York City, described in Chapter 13, "Air Quality," Table 13-5, are existing air quality monitoring stations established and maintained by

NYSDEC that are located nearest the Project site in New York. These monitoring sites were not specifically established for the Hudson Tunnel Project, but are used by NYSDEC to collect background air quality information. Data from the New York air monitoring stations provided in Table 13-5 was used for the analysis of background conditions in the New York study area. For the analysis of air quality in New Jersey, data from background monitoring stations in New Jersey was used. Those monitoring stations are presented in Table 13-4 in Chapter 13 of the EIS.

28.4.19.2 NEW YORK

Comment 203: Commenters raised concerns about the air quality effects of the proposed construction activities in New York and the mitigation measures to be implemented:

The proposed developments at 601 West 29th Street (Lots 12, 29, 36) and 606 West 30th Street (Lot 39) should be analyzed as receptors. *(NYCMOEC-Semel)*

Table 13-9 of the DEIS indicates CEQR exceedances on Block 675. The location of the impacts should be specified; i.e., please identify the lots on the block where these impacts occur. *(NYCMOEC-Semel)*

Chapter 13 of the DEIS reveals that air quality impacts from emissions of particulate matter ($PM_{2.5}$) at the construction staging area on Block 675 would exceed New York City *de minimis* criteria—an exceedance that is a significant adverse impact. Similar exceedances are disclosed in the DEIS from combined on-road construction and on-site sources. The proposed means of mitigating or avoiding these impacts are bereft of technical analyses of their efficacy, and the DEIS does not provide for a means of monitoring and enforcing the mitigation. *(Akerman-260 Twelfth Avenue)*

Low-emissions vehicles and equipment should be used, including both on land and off-shore for the work in the Hudson River. In addition, construction trucks must not be allowed to idle for more than three minutes, per New York City law. (*CB4 Manhattan, Hoylman-Gottfried-Brewer-Johnson*)

Response: As noted in the comment, FRA and NJ TRANSIT conducted a quantified analysis of the Project's air quality impacts during construction in New York. That analysis is presented in the EIS in Chapter 13, "Air Quality," Section 13.6.4. The new developments at 601 West 29th Street and 606 West 30th Street were included as receptors in the construction air quality analysis.

The analysis demonstrates that the New York construction would not result in any exceedances of the National Ambient Air Quality Standards in New York (see Table 13-11 in Section 13.6.4). However, the levels of $PM_{2.5}$ would exceed the CEQR *de minimis* criteria. Exceedances of the $PM_{2.5}$ *de minimis* criteria are considered significant adverse impacts for projects subject to the CEQR impact criteria. FRA and NJ TRANSIT conducted the air quality analysis in the EIS in accordance with both Federal and CEQR criteria. The CEQR criteria were used to evaluate the potential for predicted impacts at locations in New York City, so that this analysis could meet the requirements of New York City agencies that

may need to take actions related to the Preferred Alternative. The exceedances of the CEQR $PM_{2.5}$ *de minimis* criterion would extend across the entirety of Block 675. Please note that FRA and NJ TRANSIT revised the air quality analyses for the FEIS to reflect modified construction staging and methodology incorporated into the Preferred Alternative following the DEIS. With the revised analysis, no exceedance of the CEQR *de minimis* criterion would occur from on-road sources. As discussed in Chapter 13, "Air Quality," Section 13.6.4, although there is the potential for significant adverse air quality impacts in accordance with the New York City impact criteria, construction sources would move throughout the staging area over the construction period, which would minimize the impact at any particular location. Consequently, the location of the maximum pollutant concentrations resulting from construction would vary based on the location of the construction sources.

Chapter 13, "Air Quality," of the EIS describes the measures that the Project Sponsor will implement to reduce air quality emissions associated with construction of the Preferred Alternative. The lead Federal agency will be responsible for ensuring that the Project Sponsor implements these measures, which will be identified in the ROD. These measures will include: dust control measures; a continuous perimeter air monitoring program at construction staging sites; specifying the use of ultra-low-sulfur diesel fuel for all diesel engines throughout the Project sites; idling restrictions that limit on-site vehicle idle time to three minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or are otherwise required for the proper operation of the engine; best available tailpipe reduction technologies for reducing diesel PM emissions for non-road diesel engines with a power rating of 50 hp or greater and controlled truck fleets (i.e., truck fleets under long-term contract with the Project), including but not limited to concrete mixing and pumping trucks; utilization of newer equipment, corresponding to at least EPA's Tier 3 emissions standards for all diesel-powered non-road construction equipment with a power rating of 50 hp or greater, and shall meet at least the Tier 2 emissions standards for all diesel-powered engines rated less than 50 hp (as Tier 3 emissions standard do not apply to these engines); diesel equipment reduction policies specifying that electrically powered equipment will be used rather than diesel-powered and gasoline-powered versions of that equipment, to the extent practicable. Project construction contracts developed by the Project Sponsor will specify the construction air quality mitigation measures to be implemented or included in the construction of the Project, which will be developed as part of the contract procurement documents during final design. These requirements will also apply to barge-based non-road equipment conducting the in-river construction work. Barges with emission sources moored near the construction site would be required to comply with the same standards as land-based equipment.

While the Project Sponsor will commit to these air pollutant emission mitigation measures described in the FEIS, the specific methods and equipment to be used during construction to implement the construction air quality mitigation measures will be developed as part of the contract procurement documents during final

design, so that the Project Sponsor can use the most current and effective equipment and technology solutions to achieve the required emissions reductions without imposing restrictions on how the reductions are achieved.

Comment 204: A commenter stated that the DEIS does not address managing hot gases from the Twelfth Avenue fan plant, including any adverse impact on air quality in the surrounding area, such as on pedestrians or occupants of nearby buildings. *(CB4 Manhattan)*

Response: FRA and NJ TRANSIT conducted an analysis of operational air quality impacts, which is presented in Chapter 13, "Air Quality," of the EIS, Section 13.7. As described there, the new Hudson River Tunnel would have a ventilation system designed to bring fresh air into the tunnel passively, through normal train movement. One fan would operate at maximum load to remove hot air from the tunnel during congested (perturbed) conditions when trains are stopped or moving slowly for extended periods, particularly during the summer; additional fans would operate during emergency conditions, such as a fire in the tunnel, to exhaust smoke and heat at high velocity from the tunnel. Based on the analysis presented in Chapter 13, FRA and NJ TRANSIT concluded that operation of the Preferred Alternative under normal conditions, including when hot air is exhausted from the tunnel ventilation fan plants, would not result in air pollutant concentrations exceeding the applicable standards and thresholds and therefore, would not have the potential to result in adverse air quality impacts. In addition, operation of the Preferred Alternative in emergency conditions would not have the potential to result in adverse air quality impacts. For more information about air emissions from the fan plants, see the response to **Comment 198**.

28.4.20 GREENHOUSE GAS EMISSIONS AND RESILIENCE (COMMENTS 205-214)

Comment 205: As climate change accelerates over the next 15 years, the likelihood of more storms at or near the level of Superstorm Sandy increases, meaning that the same tunnel that was inundated by Sandy could be inundated again. Therefore, any future plan must consider the likelihood of a complete failure of the North River Tunnel in the next 15 years, which makes the need for the Project more urgent. *(EDF-Tripp, Jain)*

Response: The Hudson Tunnel Project is being advanced as a preservation project in recognition of the critically vulnerable condition of the existing North River Tunnel due to its age and damage from Superstorm Sandy. Resilience in the face of current and future severe storm conditions is a prime objective of the Project, as discussed in detail in the EIS in Chapter 14, "Greenhouse Gas Emissions and Resilience." Please note that Amtrak and MTA are taking measures to protect existing critical infrastructure, including the North River Tunnel, as separate initiatives from the Hudson Tunnel Project. As described in Chapter 14, Section 14.3.3.5, MTA is currently planning a flood protection project, the West Side Yard Perimeter Protection Project, around the Long Island Rail Road (LIRR) West Side Yard. The LIRR wall will surround the West Side Yard (along Twelfth and Tenth

Avenues, West 33rd Street and approximately West 31st Streets) and be designed to a Design Flood Elevation (DFE) of 4 feet above the Federal Emergency Management Agency (FEMA) Base Flood Elevation (BFE). The BFE is the currently projected 1-percent probability storm elevations. This DFE means that the new flood protection project will withstand floods that are four feet higher than the currently projected 1-percent probability storm elevations. That project will protect not only the West Side Yard, but also the other existing railroad infrastructure connected to the yard, including the portal and ventilation shaft for the North River Tunnel (where floodwaters entered the tunnel during Superstorm Sandy); the smaller rail storage yards east of Tenth Avenue; and the tracks and platforms at PSNY. In addition, although the Weehawken ventilation shaft leading to the North River Tunnel was not flooded during Superstorm Sandy; the shaft is in the current 0.2-percent probability flood area, and may be in the potential future 1-percent probability flood area by the 2020s or 2030s. To protect the North River Tunnel's Weehawken ventilation shaft and therefore the tunnel itself against future flooding during a severe storm, Amtrak is planning to implement a standalone project or to install deployable flood barriers at the ventilation shaft. Amtrak will complete the Weehawken shaft floodproofing project no later than the completion of the North River Tunnel rehabilitation. Amtrak's standalone Weehawken shaft floodproofing project will be designed to a DFE of 5 feet above BFE.

As described in the EIS in Chapter 14, "Greenhouse Gas Emissions and Resilience," Section 14.3.6.1.1, the Preferred Alternative includes floodgates on each side of the new river tunnel, to protect both the tunnel and landside areas (e.g., PSNY) from future flooding such as occurred during Superstorm Sandy. Such floodgates could be deployed in advance of anticipated flooding so they would completely seal off the tunnel, preventing water from passing through. In New Jersey, a floodgate would be located in the tunnel at the ventilation shaft in Hoboken. In New York, a floodgate would be at the new tunnel's eastern portal at Tenth Avenue. Figure 2-5 and Figure 2-6 in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," show the location of the floodgates.

Given the critical importance of the new tunnel and the vulnerability exhibited by the North River Tunnel during Superstorm Sandy, all Project features for the Preferred Alternative will be designed using a DFE that is 5 feet higher than FEMA's BFE. Project elements would either be higher than the DFE or designed to be watertight and/or resistant to flooding. Moreover, to address the potential that in the longer term, flood elevations are still higher, when Project elements can be designed without substantial financial implications to a more conservative standard than the DFE, they will be.

Comment 206: New York City supports the decision to define the DFE to a level that incorporates sea level rise. However, the City requests clarification as to how a DFE of 5 feet over the BFE was established:

- On page 14-17, it is cited that the Project is protected by 1 foot of freeboard. The City suggests that as a critical transportation facility, that the freeboard

level is 2 feet, which would align with ASCE 24 standards for facilities defined as critical.

- Also on page 14-17, the sea level rise adjustment is tied to the high end scenario in 2070. How was this level chosen given the 50 year design life for components and the 100 year design life for structures cited on page 14-10? The 2070 sea level rise adjustment makes sense for components estimated to have a 50 year design life, but is insufficient for structures with a 100 year design life. This is particularly true because the tunnel's actual useful life will far exceed the design life.

  (NYCMOEC-Semel)

Response: The ASCE 24 standards applied by New York City for its Building Code do not account for sea level-rise and therefore they add an additional 1 foot of freeboard (in addition to 1 foot that is normally included to cover rounding and uncertainty). The DFE for the Hudson Tunnel Project goes well beyond that. One foot of sea level-rise could occur by the 2030s and would be very likely to occur by the 2050s. Therefore, the Project has adopted the 'High' sea level-rise scenario as a benchmark, and identified that a future 1-percent probability flood, including sea level-rise, would be unlikely to exceed this level over a 50-year period. Furthermore, the design includes protection to a higher level where practicable and is designed to allow for the addition of higher protection in the future should higher sea level-rise projections materialize—this approach follows the same risk assessment and "adaptive measures" design approach described in New York City's March 2017 *Climate Change Adaptation* guidance in which the City encourages projects to exceed what is required under the building code requirements cited in the comment. With the flexibility to add a high level of flood protection in the future included in the design, the Project has accounted for the possibility of sea level rise exceeding the 2070 predictions, and includes the means to address this issue if higher sea-level rise occurs, which addresses the 100+ year design and useful life of this infrastructure improvement.

Comment 207: The lead agencies should plan for sea level rise, as future projections show parts of northern New Jersey (e.g., Secaucus) under water with one foot sea level rise as soon as mid-century. *(RPA-Wright)*

Response: Resilience in the face of current and future severe storm conditions, accounting for sea level-rise, has been planned for and is discussed in detail in the DEIS and FEIS in Chapter 14, "Greenhouse Gas Emissions and Resilience," Section 14.3.

Comment 208: Clarification is needed on how precipitation projections will be used. On pages 14-20 and 14-21, the DEIS states that "specific information for drainage design purposes is not currently available." However, on page 14-21, it also states "The projected increase in short-term precipitation intensity, presented in Table 14-3 above, would be accounted for where relevant and practicable for drainage and runoff design purposes." Please clarify where and how precipitation projections will be used. *(NYCMOEC-Semel)*

Response: The EIS text explains that while specific information on drainage design is not currently available given the conceptual level of design, the design will account for projected increases in precipitation (see Chapter 14, "Greenhouse Gas Emissions and Resilience," Section 14.3.6.1.3).

Comment 209: The DEIS states that the DFE is 5 feet higher than the BFE but then says that the Preferred Alternative's surface alignment would be on a berm that is a minimum of 10 feet above the BFE. Is 5 feet the minimum, while 10 feet is as it is currently designed? Please clarify. *(NYCMOEC-Semel)*

Response: The DFE is a design elevation intended to account for potential flood levels. As discussed in the EIS in Chapter 14, Section 14.3.6, Project elements would either be higher than the DFE or designed to be watertight and/or resistant to flooding. The description of the Preferred Alternative in the Meadowlands, where the surface alignment would be on a berm that is at least 10 feet above the BFE, is not discussing a design guideline; it is discussing the actual design for the Preferred Alternative. Since this berm would be above the DFE, it would be consistent with the DFE. The text of the FEIS has been revised to clarify the purpose of the DFE.

Comment 210: The DEIS states that the design standard for the Preferred Alternative is to meet the DFE, and when Project elements can be designed without substantial financial implications to a more conservative standard, they will be; otherwise, they will be designed so that additional protection can be included at a later date if storm levels in the future make that appropriate. What is the threshold for substantial financial implications, and when appropriate what more conservative standard will be applied? The City supports this application of adaptive design, and looks forward to seeing how this design approach is interpreted for different structures and components at the Project. *(NYCMOEC-Semel)*

Response: The threshold for substantial financial implications would be based on an engineering-economic evaluation of the costs and benefits of protecting each asset, which would be undertaken during final design. If additional flood protection is added at a later date, the need to analyze the environmental consequences of the construction and implementation of those measures would be considered at that time.

Comment 211: The City strongly recommends that all entrances and openings are protected asset by asset to the level of the DFE put forth in the DEIS and that MTA's proposed West Side Perimeter Protection project be relied upon only as a redundant level of protection. This is for three reasons. First, the MTA's protection measure is only planned, and may be delayed or canceled, leaving the tunnel at risk. Second, the MTA system includes deployable measures, maintained and operated by another agency than that responsible for the development or maintenance of the Hudson Tunnel. Third, the MTA DFE protecting these assets is 1 foot lower than the DFE, putting the facility at risk from flooding. *(NYCMOEC-Semel)*

Response: Comment noted. As described in the DEIS in Chapter 14, "Greenhouse Gas Emissions and Resilience," the Preferred Alternative would incorporate asset-specific protection from flooding for the Project in New York. This includes a flood gate at the Project's Tenth Avenue portal, among other elements of the Preferred Alternative, as described in more detail in the response to **Comment 205**, and in the DEIS and FEIS in Section 14.3.6.1.1 of Chapter 14.

Comment 212: Provisions should be made for renewable energy, both in terms of sustainability and resiliency. Decentralization that would come from renewable energy sources would increase resiliency of the Project in case of a big grid crash like happened during Hurricane Sandy, and using renewable sources would create greater resiliency. *(Sierra Club-Case)*

Response: Comment noted. As described in the EIS in Chapter 14, "Greenhouse Gas Emissions and Resilience" (see Section 14.2.5.2), design of the Hudson Tunnel Project will follow Project-specific design criteria developed for the Project based on best practices related to sustainability as applicable for this Project. In addition, as described in the EIS in Chapter 17, "Utilities and Energy," Section 17.4, NJ TRANSIT is currently planning an infrastructure resiliency project known as the NJ TRANSITGRID Project). This project will create a microgrid (i.e., a local energy grid that can be disconnected from the traditional grid and operate autonomously) to provide highly reliable power to support a core segment of NJ TRANSIT's critical transportation services and infrastructure needs. This project is planned on a site in Kearny, New Jersey, and will be able to provide traction power to enable NJ TRANSIT and Amtrak trains to operate during widespread power failures.

28.4.20.1 NEW JERSEY

Comment 213: The Hoboken staging area is in a flood zone that was flooded during Hurricane Sandy. In Hurricane Sandy, the entire area was submerged by at least 5 feet of water. There appeared to be little to no consideration of the potential for flooding impacts to the site. Will the Project make the neighborhood even more prone to flooding by reducing the area of permeable soil that can absorb rainwater, lowering the grade, and removing any existing natural flood barriers? Will this increase our flood insurance rates? Construction should not be undertaken in a flood zone. *(Argueta, Boll, Cheng, Dexter, Fox, X. Li, Lui, Schlachter, Vavrecan, von der Lieth)*

Response: Potential flooding impacts at the Hoboken staging area are discussed in the EIS in Chapter 14, "Greenhouse Gas Emissions and Resilience," Sections 14.3.5 and 14.3.6. Locating the ventilation shaft and staging area at this site is necessary in order to provide ventilation for the tunnel. The ventilation structure design would account for potential future severe flood conditions. For the construction period, a storm risk management plan will be developed and implemented for each construction site, including the Hoboken staging site.

As discussed in the DEIS and FEIS in Chapter 11, "Natural Resources," Section 11.7.2.1, because the source of floodwaters is tidal, there would be no increase

in flooding due to displacement of floodplain storage or conveyance as a result of permanent structures or fill proposed for the Preferred Alternative. Accordingly, the Preferred Alternative would have no adverse floodplain impacts on adjacent uses.

Permeable surface area and grade would not be substantially changed at this location—the fan plant would be built in an area that had buildings on it previously and where impermeable concrete foundations remain in place; the rest of the site, which is currently undeveloped, would be used for staging and future plans for use of that area after construction have not yet been determined. A tunnel built deep underground would not substantially impact absorption of rain or flood waters, and would not increase flood risk or affect insurance rates. The Preferred Alternative is explicitly designed to increase resilience of critical transportation in the face of potential severe storm conditions and in light of the recent experience with Superstorm Sandy.

Comment 214: I am concerned that this project will negatively affect the flood protection project that is planned to protect the Shades neighborhood from future floods like we had during Hurricane Sandy. *(Schlachter)*

Response: Regarding the Rebuild By Design Project being planned by the U.S. Department of Housing and Urban Development (HUD) and NJDEP, FRA and NJ TRANSIT and the other Project Partners are coordinating with HUD and NJDEP regarding that project to ensure that the flood protection proposed in that project will not be negatively affected. This is discussed in the DEIS and FEIS in Chapter 20, "Indirect and Cumulative Effects," Section 20.6.3.

28.4.21 GEOLOGY AND SOILS (COMMENTS 215-221)

28.4.21.1 NEW JERSEY

Comment 215: The New Jersey Geological and Water Survey notes that the geology chapter of the DEIS does not provide a list of references used; citations are provided only for USGS publications whereas other references list an author and a date but not the full reference. *(NJDEP-Foster)*

Response: Chapter 15, "Geology and Soils," of the FEIS has been revised to add or modify notes to provide full citations.

Comment 216: The geology chapter of the DEIS describes that bedrock faults and seismic activity were investigated by the ARC Project and are not anticipated to be a significant hazard. However, the current project and the ARC Project relied on a 1996 geologic map at a 1:100,000 scale and did not contact the New Jersey Geological and Water Survey for more up-to-date geologic information at a better scale. This information indicates three faults projecting into Weehawken Cove. The proposed tunnel will intersect the area where these faults project just east of the cove's western shore. Since faults' Triassic-Jurassic rocks tend to be more open, they can transmit large volumes of groundwater, which can be a geologic hazard. *(NJDEP-Foster)*

Response: The Project Partners are aware of the faults mentioned in the Weehawken Cove area. The tunnel excavation will use a sealed, pressurized-face TBM specially designed for counteracting simultaneously both water and soil inflows along the tunnel alignment through Hoboken, Weehawken Cove, and the entire Hudson River. In addition, the Project would include a cross passage in rock in this area that would be constructed after the two tubes of the new tunnel are excavated. In this area, prior TBM performance would inform the Project Sponsor and Project contractor any potential inflow areas. In addition, the contract documents will require the Project contractor to first probe through the entire cross passage length using horizontal drilling to further evaluate potential inflow areas. As part of Project design, the Project Sponsor, in cooperation with the other Project Partners, will review updated geologic information as it becomes available. In addition to existing documentation available from the New Jersey Geological and Water Survey, this includes the results of an extensive geotechnical boring program that was undertaken along the entire Project alignment in support of the Project design. The discussion about Project impacts related to geology has been updated in the FEIS in Chapter 15, "Geology and Soils," in Sections 15.3.1 and 15.6.2.

Comment 217: The geology chapter of the DEIS states that the tunnel may encounter serpentinite. The tunnel will encounter serpentinite and the Project team should have a plan in place on how they will test for airborne asbestos fibers and how they will handle and dispose of cuttings and any asbestos-contaminated water. The Stockton-serpentinite contact is projected to be at the end of the pier on the south side of Weehawken Cove. A boring drilled about 2,000 feet north of the tunnel alignment in the middle of the river encountered serpentinite. *(NJDEP-Foster)*

Response: The Project Partners are aware that serpentinite may be present in the rock in the location mentioned. This information was available during the final design and procurement stage for the ARC Project's Hudson River contract. On that contract, the contractor was required to conduct further investigation to assemble both an appropriate tunnel Spoils Handling Program and a worker Health and Safety Program that included implementation of a continuous testing program during excavation that would identify potential undesirable materials (asbestiform minerals, groundwater contamination, soil contamination, and gases), as well as measures to protect worker safety such as the use of protective gear. A similar program will be required for the Hudson Tunnel Project. As described in the DEIS and FEIS Chapter 15, "Geology and Soils," Section 15.8, if serpentinite or other rock that could contain potentially hazardous asbestiform minerals is encountered,[16] the Project Sponsor will implement measures to protect workers, as well as to minimize any environmental hazard associated with excavated material removal and processing. The Project Sponsor will implement a work safety program consistent with OSHA regulations and other applicable standards and best practices during construction to protect workers from inhalation hazards

[16] Asbestiform describes a mineral, like asbestos, that has a fibrous form.

(see Chapter 16, "Contaminated Materials," Section 16.8). These construction worker safety commitments will be carried out by the Project Sponsor and will be included in the description of Project commitments in the ROD for the Project.

Comment 218: The Stockton formation is an arkosic sandstone and is a major groundwater-producing formation, so the Project team should expect to encounter significant quantities of groundwater below the Palisades basalt. *(NJDEP-Foster)*

Response: The Project Partners are aware that the Stockton Formation has potential water-yielding characteristics. This potential is addressed by the current anticipated construction methods (such as rock mass grouting, shaft cutoff walls) and construction equipment (such as a pressurized-face Tunnel Boring Machine). Please see response to **Comment 217**.

Comment 219: There are published earthquake hazard and soil liquefaction reports for the Hudson County area on the New Jersey Geological and Water Survey website. *(NJDEP-Foster)*

Response: Comment noted. Project seismic evaluation, liquefaction potential and subsequent final design will be based on site characterization data and analysis, using the site-specific profiles and soil/rock properties.

Comment 220: Excavating the cliff of the Palisades in Weehawken/Hoboken risks a cliff collapse. Cliff collapses, rockslides and mudslides have happened after heavy rains, often caused by intermittent streams or water sources in the cliff that back up and weaken the cliff wall. Boring into the cliff could affect the cliff in another area by opening up new channels for water to seep in. Seepage from boring into the cliff could also affect the structural stability of nearby houses. Residents who live on and near the cliffs need to be protected from mudslides and rock falls. *(Elliott)*

Response: As discussed in the DEIS and FEIS in Chapter 2, "Project Alternatives and Description of the Preferred Alternative," Section 2.5.2, and illustrated in that chapter in Figure 2-5, the new Hudson River Tunnel would begin at the base (toe) of the cliff in North Bergen, New Jersey and then descend beneath the Palisades so that when it reaches the Hoboken/Weehawken border, the new tunnel would be approximately 80 feet below ground level. Therefore, the Project does not include excavation into any exposed cliff face of the Palisades Escarpment in the Weehawken/Hoboken area, and there would be no construction at the exposed cliff face. The Hoboken shaft would be located several hundred feet east of the cliff toe. The new tunnel's two tubes would be lined with bolted precast concrete segment rings immediately following excavation; the lining material would be waterproof, and therefore no change in groundwater seepage patterns would result from introduction of the tunnel into the rock mass. Nonetheless, to protect against instability of the cliff face, Amtrak has undertaken mapping of the cliff face during preliminary engineering for the new Hudson River Tunnel. Prior to construction, the Project's final design will include further evaluation of unstable loosened areas and implementation of a vibration monitoring program to address ground movement during construction. This is discussed in the EIS in Chapter 15, "Geology and Soils," Section 15.6.2. In addition, the Project Sponsor will

implement best management practices (BMPs) related to landslide prevention to minimize the potential for landslides, including regular inspections, maintenance of infrastructure, roadways and vegetation, and other BMPs developed specifically for the area.

The construction staging area in North Bergen and the new tunnel portal would be located near the site of a previous landslide, and nearby areas may be potentially unstable and may also require slope stabilization systems. Stabilization measures, such as rock bolting and installation of surface protection, will be implemented to address the source of the landslide material located on a steep slope above the staging area and the portal itself. In addition, geotechnical investigations will be undertaken during further design stages to confirm the need and location for any additional stabilization measures.

28.4.21.2 HUDSON RIVER

Comment 221: In 1999-2000, Columbia University mapped the Hudson River estuary from the Verrazano Bridge to the Troy Dam using side-looking sonar, sub-bottom profiling, and multibeam echo-sounding methods, along with extensive sampling of the sediment on the river bed. The research demonstrated that the construction of Battery Park City altered the tidal flows in the river and resulted in a shift in the river's natural channel. As a result, substantial sediment was removed from the river bottom and some pipelines crossing the river became exposed. The estuary mapping prepared in 1999-2000 shows that the depth to the bottom of the Hudson River is more than 50 feet at locations where the existing tunnel and proposed tunnel have their thinnest sediment overburden. These depths are significantly greater than those shown in the DEIS. Therefore, the proposed plan to harden the soil above the new tunnel does not account adequately for the present thinness of the river sediment. There is also a need to address a similar thinness of material above the existing North River Tunnel. *(Ryan)*

Response: Understanding the existing geological characteristics of the proposed tunnel alignment is an important factor in developing the design for the new Hudson River Tunnel. As part of the preliminary engineering for the new tunnel, Amtrak conducted a geotechnical boring program along the entire tunnel alignment in 2017, including the full width of the Hudson River. In addition, Amtrak undertook marine geophysical surveys in 2016 and 2017 covering the full width of the river and extending approximately 2,000 feet from south to north. That work included swath bathymetric surveys providing high-resolution multibeam data to develop contours of water depths and the general shape of the river bottom, allowing determination of the depth of cover over the proposed tunnel alignment and the location and estimated sizes of any obstructions on the river bottom. It also included digital side-scan sonar surveys to provide more detailed information on the character of the river bed, supplementing the multibeam bathymetry data in identifying the characteristics of the river bed including any features that could affect tunnel design and construction, such as debris, old piling, scars due to utility installations or anchorages, and areas of scour from past storm surges. Finally, it also included magnetic surveys to identify significant magnetic anomalies caused by any metal objects on or beneath the river bed that could affect the tunnel

design. Amtrak undertook additional similar investigations as part of an additional geotechnical program in 2020.

Amtrak is using this recent, detailed information on the condition of the river bottom, including the depth of cover above the proposed tunnel alignment, during development of the preliminary design for the new tunnel and the existing tunnel rehabilitation.

28.4.22 CONTAMINATED MATERIALS (COMMENTS 222-224)

28.4.22.1 NEW JERSEY

Comment 222: Commenters from Weehawken expressed concerns about tunnel spoils during construction and the potential for adverse effects on the nearby residential neighborhood from spoils excavation on the Hoboken staging area and spoils transport through the neighborhood. They commented that the site has contamination from industrial uses, and that the construction activities would result in airborne pollutants that could cause long-term health issues. One commenter asked whether hazardous soils on the site could be loaded onto trucks within a containment system to eliminate dust. Commenters also said that hauling contaminated debris by trucks on local streets would pose an increased risk of leakages and spills, which would result in health risks to residents. Some commenters said that although there will be monitoring of the construction site, if contamination is released, the public will already be breathing it when the monitoring results trigger remedial action. One commenter also asked what precautions would be used to protect workers on the site from exposure to contaminated materials.

Some commenters asserted that the Project is not conducting the required sampling and analysis of samples at the Hoboken staging area. They said that any construction site with contaminated materials must be remediated, with the contaminated soils removed, before development or construction occurs, and all best practices should be followed at the Hoboken site, including testing.

(*Babcock, J. Bolcar, S. Bolcar, Cheng, Coblentz, Dembroe, Dexter, Eggenberger, Farrell, C. Glackin, D. Glackin, Griffin, Haan, Hite, Janowitz, S. Laufer, Leong, X. Li, Lui, Lyons, Penna, J. Rausch, D. Reeves, L. Reeves, R. Rovito, Schellinck, Schlachter, Stack-Union City, Telker, Turner-Weehawken, J. Vaskis, N. Vaskis, Vavrecan, Vetter, von der Lieth, Weehawken Safety-Welz*)

Response: The DEIS and FEIS include an evaluation of potential impacts from contaminated materials during construction of the Preferred Alternative in Chapter 16, “Contaminated Materials.” In response to the comments received on the DEIS, FRA and NJ TRANSIT revised this chapter for the FEIS to more clearly explain the potential issues on the Hoboken staging area and the measures that the Project Sponsor will undertake to protect the public and construction workers. As described in the FEIS in Section 16.3.1.3 of Chapter 16, the presence of contamination on the Hoboken staging area from past uses and filling with imported soils is well known and understood. As discussed there, the Hoboken staging area is a site with documented contamination from past industrial uses,

including high levels of polychlorinated biphenyls (PCBs), polyaromatic hydrocarbons (PAHs), semi-volatile organic compounds (SVOCs), petroleum, and metals on the site in the soils and groundwater. These are typical contamination for sites in northern New Jersey where fill material has been dumped. A number of environmental investigations have been conducted for this property, beginning in the 1980s. Most recently, NJ TRANSIT conducted a remedial investigation (RI) for the Hoboken staging area that involved extensive sampling of soil and groundwater on the site. These investigations were all undertaken in accordance with Federal and state regulations and with oversight and review by NJDEP. NJ TRANSIT as the current owner of the site conducted interim remediation on the Hoboken staging area in 2019. NJ TRANSIT excavated and removed contaminated soil in areas with high PCB levels, and replaced that soil with clean fill. The site was capped with soil (of a quality acceptable to NJDEP).

Section 16.8 of FEIS Chapter 16 discusses the measures that the Project Sponsor will implement during construction of the Preferred Alternative at the Hoboken staging area to protect the public and construction workers from potential exposure to contaminated materials. This will include implementation of plans that require appropriate handling of soils and groundwater with testing for contamination and the use of best management practices during excavation and transporting activities to minimize the potential for impacts related to contaminated materials and airborne dust.

Contaminated Materials

The Project Sponsor will develop a Project-wide Soils and Materials Management Plan (SMMP) to manage contaminated materials encountered during construction. The SMMP will provide procedures for materials handling during construction activities including BMPs to be implemented during construction, such as procedures for stockpiled or containerized material and testing procedures for sampling material prior to off-site disposal or on-site reuse. The SMMP will set out how regulatory compliance (Federal, state, and local) would be achieved with respect to the management of excavated materials and hazardous waste, petroleum-contaminated materials, and other materials during construction, including naturally occurring asbestos, and provide protocols for the protection of workers, contingencies for community air monitoring, and other procedures that should be implemented to protect public health and the environment. In addition, the Project Sponsor will develop a site-specific Soil Reuse and Alternative Fill Management Plan for management of contaminated soil. Materials handling on construction sites in New Jersey will be conducted under oversight of a Licensed Site Remediation Professional (LSRP) pursuant to the NJDEP guidance.

Consistent with this plan, the Project Sponsor will test soil excavated from the Hoboken staging area for the new ventilation shaft and fan plant for contamination and then load it into dump trucks or containers for transport on designated truck routes. During construction, whenever contaminated soils or groundwater or hazardous vapors or new areas of concern are encountered (e.g., discovery of

unknown storage tanks), appropriate site remediation techniques or other measures to prevent exposure will be implemented, based on the procedures set forth in the SMMP and, if necessary, other materials management and safety plans. Trucks will be tarped to contain the soils being transported.

The Project Sponsor will conduct the transportation and disposal of contaminated material and soil in accordance with Federal, state, and local regulations—e.g., regarding proper containers, signage, placards, manifests (waste tracking system), and use of appropriately permitted transportation companies/vehicles and disposal facilities. Note that with limited exceptions (19th Street and the short segments of the Willow and Park Avenue service roads alongside the viaducts over the Hudson-Bergen Light Rail tracks), trucks would not be on local streets; rather, they would move via the main arterial roadways of JFK Boulevard East, and Route 495. As noted in response to **Comment 92**, Chapter 5A, "Traffic and Pedestrians," of the FEIS has been revised to include an accident and safety analysis for locations near the Hoboken staging area (in Sections 5A.4.1.2.4 and 5A.6.2.2.2.4), that is based on the three recent years of accident data available from NJDOT for the study area roadways that would serve as truck routes; that analysis did not reveal any high accident locations in the study area.

If any dewatering is required on the site, groundwater would be managed in accordance with the SSMP; water would be tested for contamination and then treated as necessary and permitted prior to discharge to the municipal sewer system.

In addition, the Project Sponsor will develop a Project-specific Health and Safety Plan (HASP) prior to earth-disturbing activities to protect workers and the public from potential exposure to contaminated materials. The HASP will be developed during final design in accordance with the requirements of the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) requirements, to protect construction workers and the public from potential exposure. The HASP will set out procedures for handling of contaminated materials and procedures to minimize dust generation, such as the use of water spray, dust retardants, and/or truck wheel wash, during soil disturbance and excavation activities.

In addition to these dust containment controls, the construction contract will require ambient air monitoring around the Hoboken staging area to prevent exposure of workers, the public, and the environment to respirable particulates and other contaminants of concern. The principal contaminants of concern in historical fill—metals and PAHs—are adsorbed onto soil particles, and thus real-time dust monitoring would address potential exposure to these contaminants. Air monitoring will be conducted to alert when dust levels (and potential vapors) have exceeded the pre-determined action levels, which will be based on applicable law and guidance. If triggered, work practices and localized engineering controls will be evaluated and corrected (as needed). If exceeded for specified periods of time, additional measures would be implemented, such as limiting the extent of areas of exposed soil, increasing the application of dust control measures, or ceasing work until levels have fallen below the action levels.

Following construction, all disturbed areas will be restored using engineering controls that would prevent direct human exposure. Construction staging areas will be restored to preconstruction conditions or capped.

Dust Control

To minimize fugitive dust emissions from construction activities, the Project Sponsor will require a fugitive dust control plan including a robust watering program as part of contract specifications. For example, all trucks hauling loose material will be equipped with tight-fitting tailgates and their loads securely covered prior to leaving the construction site, and dust suppression techniques (e.g., spraying with water, surfactants) will be used to minimize dust for all excavation and transfer of soils to ensure that materials are dampened as necessary to avoid the suspension of dust into the air. Loose materials will also be dampened or covered.

In addition, the SMMP will minimize and control the potential for airborne soil particles from stockpiled materials. The SMMP will establish temporary stockpile locations, construction and management requirements. Stockpiles will be covered with a heavy duty plastic at the end of the work day and will be bermed to contain water that drains from the soil which will be collected and containerized for disposal as needed.

The Project Sponsor will institute proactive controls to reduce the potential for dust generation during site activities, including maintaining slow travel speeds, stabilization and monitoring of truck entry and exit ways, and the application of a water spray or dust suppressant to control dust generation. Trucks and equipment will be decontaminated at a wash station prior to leaving the site to reduce the potential for trucks to deposit material within public roadways. Water generated by equipment and truck decontamination activities will be collected and containerized onsite for offsite disposal.

Comment 223: One commenter asked what chemicals will be used for construction? What safety measures will be in place to ensure that chemicals are being used in accordance with applicable safety regulations? Will there be randomized inspections of subcontractors to ensure all safety precautions are being followed? How often? Are any of the chemicals to be used hazardous when breathed, such as acetone? Will the Project make the Material Safety Data Sheets for each and every chemical used available for public inspection online? Winds often blow from south to north and into the Shades, and could blow hazardous chemicals toward the neighborhood. *(Eggenberger)*

Response: The determination of the specific chemicals to be used during construction has not been made at this time; these details will be determined during final design. The handling of any chemicals used during Project construction will be governed by all applicable Federal, state, and local regulations as well as OSHA requirements to ensure the safety of construction workers and members of the public. The local municipalities will always have the ability to inspect a construction site to determine the level of compliance with established safety regulations and Project construction commitments. Any chemicals used or stored

at construction staging areas would be required to have the corresponding Material Safety Data Sheets available for public inspection at the construction office on site.

28.4.22.2 NEW YORK

Comment 224: Uncovering hazardous materials is inevitable in this project and the DEIS promises procedures to manage those materials. While the DEIS was attentive to this issue, there should be additional discussion of the transparent management of hazardous material and its disposal. A mechanism of public information about this issue needs to be established. *(CB4 Manhattan)*

Response: As described in the FEIS in Chapter 16, "Contaminated Materials," Section 16.8, the Project Sponsor will develop a Project-wide SMMP to manage contaminated materials encountered during construction. The SMMP will provide procedures for materials handling during construction activities including BMPs to be implemented during construction, such as procedures for stockpiled or containerized material and testing procedures for sampling material prior to off-site disposal or on-site reuse. The SMMP will set out how regulatory compliance (Federal, state, and local), would be achieved with respect to the management of excavated materials and hazardous waste, petroleum-contaminated materials, and other materials during construction, including naturally occurring asbestos, and provide protocols for the protection of workers, contingencies for community air monitoring, and other procedures that should be implemented to protect public health and the environment. The Project Sponsor will conduct the transportation and disposal of contaminated material in accordance with Federal, state, and local regulations—e.g., regarding proper containers, signage, placards, manifests (waste tracking system), and use of appropriately permitted disposal facilities. Any sediment or mixture of sediment and grout removed from the river would be treated as contaminated and this material would be characterized for potential reuse offsite or disposal at a suitably permitted facility, after dewatering. All waste would be transported via licensed transporters for disposal at an appropriately licensed facility. Each container or load would be accompanied by an applicable non-hazardous or hazardous waste manifest.

In addition, as discussed in Chapter 6A, "Land Use, Zoning, and Public Policy," Section 6A.8.1, during construction the Project Sponsor will implement a comprehensive, active and responsive local community outreach program that will include a staffed local neighborhood outreach office near the construction staging area; a dedicated Project liaison who will coordinate with the community about construction activities, address concerns, and work with the community to accommodate special events where possible; a 24-hour hotline for emergencies and construction complaints; and regular meetings and notifications about construction status and upcoming activities.

28.4.23 UTILITIES AND ENERGY (COMMENT 225)

Comment 225: As indicated in the DEIS, Con Edison's West 28th Street Facility (from West 28th to West 29th Streets and Eleventh to Twelfth Avenues) is a critical facility for the

maintenance and repair of Con Edison's electric and gas distribution infrastructure and for the provision of reliable service in Manhattan. Con Edison plans to improve its West 28th Street Facility, including adding substation equipment to meet the growing electric demand of the region. This facility is immediately south of the Project's Twelfth Avenue staging area and future fan plant site. Accordingly, the Hudson Tunnel Project should be constructed in a manner that ensures sufficient ingress, egress, and traffic flow for Con Edison's vehicles to continue operating efficiently and without any disruption of operations. The EIS should fully address the impacts the Project may have on Con Edison's 24/7 operational needs. In addition, we request that the Project team work with us to immediately avoid and mitigate potential impacts and coordinate in the design of the Maintenance and Protection of Traffic plan for the surrounding streets, particularly West 29th Street and Twelfth Avenue, to ensure continued unimpeded operation of our critical facility at all times. *(Con Edison-Gmach)*

Response: The DEIS notes that Con Edison's West 28th Street Facility is a critical part of the company's electric and gas distribution infrastructure. This is described in Chapter 17, "Utilities and Energy," Section 17.3.4. The FEIS has been revised to specifically address the concerns raised in this comment by Con Edison (see Section 17.6.4 in Chapter 17 of the FEIS).

As described in the DEIS in Section 5A.8 of Chapter 5A, "Traffic and Pedestrians," and in the revised text in Chapter 17 of the FEIS, during final design the Project Sponsor will develop MPT plans for all construction locations in consultation with the appropriate local transportation agencies. MPT plans will ensure the maintenance of travel lanes and provide detours for through traffic away from construction activities and equipment to the extent practicable. The Project Sponsor will prepare all MPT plans for work in New York in accordance with Federal Manual of Uniform Traffic Control Devices with NYSDOT supplement, in coordination with NYCDOT (for work that could affect local streets) and NYSDOT (for work that could affect Twelfth Avenue, which is New York State Route 9A). The Project Sponsor would implement the MPT plans during construction to minimize disruptions to traffic flow on streets in New York. In addition, the Project Sponsor will work with Con Edison to ensure that access to the driveway entrance on Twelfth Avenue for the Con Edison site will be maintained. No street, travel lane, or sidewalk closures on West 29th Street are proposed for construction of the Preferred Alternative.

28.4.24 SAFETY AND SECURITY (COMMENTS 226-227)

Comment 226: A commenter expressed concern about security of the Hoboken staging area and a fear that the construction site would attract criminal and homeless persons. He was concerned that this would in turn result in increased levels of vandalism, mischief, and crime in the Shades neighborhood. He asked what concrete steps have been proposed to deal with the increased crime and non-resident traffic, whether there would be security guards, cameras, and lights, and whether the Project would indemnify residents for security systems and insurance premiums. *(Eggenberger)*

Response: The EIS includes an evaluation of safety and security, including at the proposed construction sites, in Chapter 18, "Safety and Security" (see Section 18.6 for a discussion of construction-related issues). As described there, the Project Sponsor will ensure that all construction sites are secured through both passive and active security measures. At a minimum, construction sites will be secured through the use of fencing or other passive security measures (e.g., lighting). In addition, active security measures (e.g., cameras, intrusion detection), security personnel, monitoring of various activities, and adherence to strict protocols for entrance of construction workers to construction sites, and the inspection of materials would also be employed at the construction sites.

Comment 227: I am concerned about security for the tunnel. *(La Brie)*

Response: The EIS includes an evaluation of safety and security in Chapter 18, "Safety and Security." The analysis in Chapter 18 considers safety and security during construction (see the response to **Comment 226**) and safety and security for the new Hudson River Tunnel and rehabilitated North River Tunnel once the Project is complete. This includes safety- and security-related issues related to keeping rail passengers, railroad employees, and equipment safe and secure from natural events (e.g., severe storms, flooding, earthquakes), or emergencies caused by human error, mechanical failure, fire, or intentional or unintentional human intervention. See Section 18.7 of Chapter 18 for the evaluation of safety and security for the completed Project.

28.4.25 INDIRECT AND CUMULATIVE EFFECTS (COMMENTS 228-229)

Comment 228: The DEIS discloses only a portion of the cumulative impacts of four-tracking the existing rail line that will occur in reasonably foreseeable subsequent phases of the Preferred Alternative. The Preferred Alternative is of limited utility without the Portal Bridge Capacity Enhancement Project, which has not advanced because of limited funding. The cumulative impacts of the Portal Bridge project, the Secaucus Loop, and four-tracking west of the Portal Bridge are not discussed in the Hudson Tunnel DEIS, which is a classic example of segmentation in violation of NEPA. *(IRUM-Haikalis)*

Response: The Hudson Tunnel Project has been advanced as a preservation project in recognition of the critically vulnerable condition of the existing North River Tunnel due to its age and damage from Superstorm Sandy. The Hudson Tunnel Project has its own independent utility separate from the other Gateway Program projects. As stated in the EIS in Chapter 1, "Purpose and Need," Section 1.3, the purpose of the Hudson Tunnel Project is to preserve the current functionality of Amtrak's NEC service and NJ TRANSIT's commuter rail service between New Jersey and PSNY by repairing the deteriorating North River Tunnel; and to strengthen the NEC's resiliency to support reliable service by providing redundant capability under the Hudson River for Amtrak and NJ TRANSIT NEC trains between New Jersey and the existing PSNY. These improvements must be achieved while maintaining uninterrupted commuter and intercity rail service and

by optimizing the use of existing infrastructure. The Hudson Tunnel Project does not depend on the Portal Bridge Project, Secaucus Loop, or four-tracking west of the Portal Bridge as any required element and will still achieve its primary purpose without those separate projects. Additional analysis about the Hudson Tunnel Project's relationship to future long-term proposed capacity enhancement initiatives for the NEC between Newark, New Jersey and PSNY is now included in the EIS in Chapter 20, "Indirect and Cumulative Effects," Section 20.8.

Comment 229: Chapter 20 of the DEIS ignores the Hoboken Alternative's beneficial cumulative effects of linking Hoboken with PSNY and then linking PSNY with Grand Central. The DEIS also did not address IRUM's recommendation that during non-peak hours the Hoboken Alternative could be used to release track space through the existing PSNY tunnels to accommodate high-performance container freight trains and appropriately dimensioned conventional freight cars that met reliability requirements. *(IRUM-Haikalis)*

Response: Consistent with the requirements of NEPA, Chapter 20 of the DEIS, "Indirect and Cumulative Effects," addresses the indirect and cumulative effects of the No Action Alternative and of the Preferred Alternative. It does not address the cumulative impacts of alternatives that were eliminated during the alternatives evaluation, such as the alternative cited in the comment.

28.4.26 PUBLIC HEALTH (COMMENT 230)

Comment 230: The Project construction will cause health and quality of life issues for my family where we live in Weehawken atop the Palisades. The health effects are unclear as there has been no environmental study. *(Curry)*

Response: The EIS includes an evaluation of the Project's potential effects on public health in Chapter 19, "Public Health and Electromagnetic Fields." As described in Section 19.2.1.2 of that chapter, the public health analysis considers the potential for health effects related to air quality, contaminated materials, and noise. The analysis is based on the detailed evaluations of those topics provided in other chapters of the DEIS/FEIS, including DEIS Chapter 12, "Noise and Vibration" (which has been divided into two chapters for the FEIS, Chapter 12A, "Noise," and Chapter 12B, "Vibration"), Chapter 13, "Air Quality," and Chapter 16, "Contaminated Materials." As described in the DEIS, the Preferred Alternative would include measures to address potential adverse impacts during construction related to air quality, contaminated materials, and noise, and with these measures in place, FRA and NJ TRANSIT do not anticipate adverse effects on public health.

28.4.27 ENVIRONMENTAL JUSTICE (COMMENTS 231-233)

Comment 231: A commenter expressed concern about the disproportionate long-term adverse effects of the Project construction and operational activities on environmental justice communities. Given that significant and disruptive construction activities will occur at the Tonnelle Avenue site in North Bergen, New Jersey over an 11-year period, the lack of mitigation of traffic, air quality, and noise impacts is a concern. Based on the traffic analysis, adverse impacts at 23 intersections near

Tonnelle Avenue will remain unmitigated under the proposed plan. FRA and NJ TRANSIT should find ways to effectively mitigate construction traffic, air quality, and noise impacts near Tonnelle Avenue. Given these long-term adverse impacts, the FEIS should include a Maintenance and Projection of Traffic Plan developed in consultation with the local municipality and area residents. While the DEIS lists measures to avoid, minimize, or mitigate air quality impacts during construction, the DEIS does not indicate how these measures will be implemented and more importantly, how they will be tested to ensure that the public is protected. *(MAS-Devaney)*

Response: Chapter 22, "Environmental Justice," Section 22.5.1, of the EIS describes the adverse traffic, air quality, and noise impacts to environmental justice populations in the vicinity of the Tonnelle Avenue construction staging area and acknowledges that these effects would have a disproportionately high and adverse effect on environmental justice populations because the majority of the study area in New Jersey is an environmental justice community. Contrary to the commenter's assertion, these impacts will not remain unmitigated; Section 22.5.1 of Chapter 22 lists the numerous mitigation measures that the Project Sponsor will implement to address the adverse effects to environmental justice populations in New Jersey. Regarding the commenter's assertion that the DEIS does not indicate how these measures will be implemented and tested, it will be the lead Federal agency's responsibility to ensure that the Project Sponsor implements these measures, which will be identified in the ROD. The Project Sponsor will include these measures in contract documents and specifications as requirements during construction. Please also see the response to **Comment 196** regarding air quality mitigation.

As described in response to **Comment 71**, based on comments received on the DEIS, design refinement, and further coordination with representatives and residents of the Townships of Weehawken and North Bergen and the Cities of Hoboken and Union City, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts on local residents near the Hoboken staging area, which, like the Tonnelle Avenue area, was an environmental justice community at the time of DEIS issuance.[17] The revised construction methodology involves removing spoils from excavation of the river tunnel segment primarily at the Tonnelle Avenue staging area rather than at the Hoboken staging area. The revised construction approach would substantially reduce the level of construction activity at the Hoboken staging area, to address concerns raised by the residents and elected officials of Weehawken. At the same time, the revised construction approach would not substantially increase impacts to other communities. While

[17] Since publication of the DEIS, Block Group 4 of Census Tract 182 no longer meets the thresholds for minority or low-income populations based on updated census data. This block group is the area of Weehawken referred to as "the Shades," which would be adjacent to the proposed Hoboken staging area and fan plant site for the Preferred Alternative. To be conservative, FRA and NJ TRANSIT have continued to treat this block group as an environmental justice community for this FEIS.

the revised approach would shift some construction activity to the Tonnelle Avenue staging area, it would not alter the overall character of activities at Tonnelle Avenue that FRA and NJ TRANSIT analyzed in the DEIS. In either the DEIS approach or the modified approach, a total of 11 years of construction activities would occur at the Tonnelle Avenue staging area. In either the DEIS plan or the modified plan, noise levels exceeding FTA's criteria for construction noise impacts would occur as a result of these construction activities, including truck movements, at residences above the Tonnelle Avenue staging area and associated truck route. Both the DEIS plan and the modified plan would result in traffic impacts at intersections along Tonnelle Avenue resulting from trucking activities, with the same intersections adversely affected

As described in the FEIS in Chapter 5A, "Traffic and Pedestrians," Section 5A.8, for all construction locations, the Project Sponsor will develop MPT plans during final design in consultation with the appropriate local transportation agencies. The Project Sponsor would implement these MPT plans during construction to maintain travel lanes, and detour through traffic away from construction activities and equipment to the extent practicable.

Comment 232: It appears that there has been a lack of effective community outreach regarding impacts to environmental justice communities. According to the DEIS Chapter 25 "Agency Coordination," the November 10, 2016 public information open house meeting was attended by 61 individuals. The DEIS does not provide any details or records of the targeted outreach efforts mentioned on page 25-13. As such, given the extent of the adverse impacts, the DEIS is inadequate in providing evidence of effective and rigorous outreach with the affected environmental justice communities. In the very least, FRA and NJ TRANSIT should provide minutes of the meetings with stakeholders, elected officials, and property owners, and establish a protocol for meeting with the affected communities throughout the construction process. *(MAS-Devaney)*

Response: Chapter 25 of the FEIS, "Process, Agency Coordination, and Public Involvement," Section 25.4, provides a description of the numerous outreach meetings conducted with elected officials and community members from affected communities in New Jersey, including North Bergen, Weehawken, Union City and Hoboken. As discussed in that section, Project outreach efforts included:

- A Project website (www.hudsontunnelproject.com) with a library of Project documents for public review, additional information on the Project, and a means for providing comments and requesting further information.
- Fact sheets published at major Project milestones that were made available on the Project website and sent to the Project mailing list. These included Fact Sheet 1 (spring 2016), which provided a Project overview; Fact Sheet 2 (fall 2016) summarizing the scoping process and comments received, Fact Sheet 3 (fall 2016) presenting the Preferred Alternative, and Fact Sheet 4 (summer 2017) providing a Project update, information on construction methodologies, and information about the public comment period and public hearings. These were published in English and in Spanish (due to the

presence of large Spanish-speaking communities in the vicinity of the Project area).

- Public meetings during the public scoping period, after announcement of the Preferred Alternative, and during the DEIS comment period. FRA and NJ TRANSIT used the Project website, meeting flyers, and email notices to the Project mailing list to publicize all public meetings, public hearings, and open houses. The flyers were in English and Spanish (due to the presence of large Spanish-speaking communities in the vicinity of the Project area), and were mailed or emailed to the Project mailing list. FRA and NJ TRANSIT also distributed flyers to libraries and community centers. Flyers and meeting notices were sent out at least two weeks in advance of meetings. In addition, meetings were advertised in area newspapers (in English, with Spanish ads in corresponding local area papers) and on the Project website.
- Targeted community meetings to provide additional outreach to specifically affected groups, including owners of property near the Project site and residents of neighborhoods close to the construction sites, including environmental justice communities in New Jersey.
- Coordination with local communities in New Jersey where construction activities would occur. Representatives of local communities in New Jersey requested that FRA and NJ TRANSIT coordinate directly with local government agencies and elected officials to reduce the impacts of the Project on their communities. They also requested that the local community be involved in developing mitigation for the Project's impacts. As a result, FRA and NJ TRANSIT met with representatives of the local communities and other stakeholders during development of the DEIS, during the public comment period for the DEIS, and after the comment period during development of the FEIS to clarify their concerns, review the impacts of the Preferred Alternative on those communities, and develop measures to reduce and avoid those impacts.

Those meetings are listed in Table 25-4 in Section 25.4 of FEIS Chapter 25. After completion of the DEIS, to address concerns raised by local communities, FRA and NJ TRANSIT, working with the other Project Partners, evaluated alternative methods for constructing the Preferred Alternative and have incorporated modifications to the construction methods into the Project that will reduce the construction impacts to local residents associated with the Project. During ongoing coordination, elected officials and members of the public proposed ideas for mitigation of Project impacts on their communities, and FRA and NJ TRANSIT considered these ideas when developing mitigation proposed in the DEIS and the FEIS and incorporated many of them into the Project commitments that will be documented in the ROD.

Please also note that the comment is incorrect about the total number of attendees at the November 2016 public open houses. As discussed Chapter 25, Section 25.4 of the DEIS and FEIS, a total of 170 individuals attended the two open houses held in New Jersey in November 2016. In addition, 127 individuals attended the two DEIS public hearings held in New Jersey in August 2017.

With regard to continuing outreach with affected communities during construction, the Project Sponsor will develop and implement a comprehensive, active and responsive local community outreach program during construction at each Project construction site, that will include a staffed local neighborhood outreach office close to each of the Project construction sites (in North Bergen and Weehawken in New Jersey and near the Twelfth Avenue staging site in New York); a dedicated Project liaison who will coordinate with the community about construction activities, address concerns, and work with the community to accommodate special events where possible; a 24-hour hotline for emergencies and construction complaints; and regular meetings and notifications about construction status and upcoming activities.

Comment 233: The Preferred Alternative disproportionately advantages economically advantaged communities while unfairly denying the sizeable minority and low-income populations of Jersey City and Hoboken the Project's improved access to Manhattan. These serious concerns are not addressed in the DEIS in Chapter 7 or Chapter 22. Instead, the DEIS identifies the temporary and permanent negative impacts of the Preferred Alternative on these populations, which are to be endured without countervailing benefits. *(IRUM-Haikalis)*

Response: As described in Chapter 22, "Environmental Justice," Federal agencies are required to identify disproportionately high and adverse effects of their actions on minority and low-income populations and, where such effects are identified, to identify mitigation for those effects and conduct outreach to the affected populations to seek their input on the impacts and mitigation. The chapter fulfills all of these requirements: it identifies environmental justice populations in the Project study area and the disproportionately high and adverse effects of the Preferred Alternative on those populations, and then describes the mitigation measures that would help reduce those effects.

28.4.28 DRAFT SECTION 4(f) EVALUATION (COMMENTS 234-235)

Comment 234: The USDOI concurs that there is no prudent and feasible alternative to the proposed use of 4(f) lands, which consist of the New York Hudson River Bulkhead. The partial demolition of this resource would be an adverse effect, which constitutes a 4(f) use. No other 4(f) uses have been defined for this project, although adverse effects have been defined for several properties exempt from 4(f) uses. These include: North River Tunnel (New York and New Jersey) and the Pennsylvania Railroad New York to Philadelphia Historic District (New Jersey). Additionally, several areas in New York may contain archaeological resources that may be eligible listing in the National Register of Historic Places, but to which FRA currently does not have access. FRA has developed a draft Programmatic Agreement in consultation with the NJHPO, NYSHPO, ACHP, FTA, NJ TRANSIT, and Amtrak to provide a plan for identifying potential archeological resources that may be impacted by the Project, and for mitigating adverse effects to known historic properties. The measures to minimize harm under Section 4(f) must be explicitly consistent with the Programmatic Agreement. We note that a draft of the Programmatic Agreement has been included in the documentation of compliance

for the Project and is currently under public review. It reflects appropriate procedures for mitigating the adverse effects to cultural resources. *(USDOI-Raddant)*

Response: Comment noted. The measures to minimize harm in accordance with Section 4(f), presented in Chapter 24 of the FEIS are consistent with the Programmatic Agreement, which is included in Appendix 9 of the FEIS.

Please note that following publication of the DEIS and Draft Section 4(f) Evaluation, based on continuing analyses of proposed construction activities in Hudson River Park and consultation with the official with jurisdiction for that park, HRPT, FRA has concluded that the proposed construction activities in Hudson River Park would result in a use of that Section 4(f) property. On April 23, 2021, FRA provided a draft Final Section 4(f) Evaluation to DOI for review and comment, because of the additional information regarding impacts to Hudson River Park and FRA's determination that construction activities in Hudson River Park constitute a Section 4(f) use. In a letter dated May 10, 2021, DOI concurred with the conclusions of the Final Section 4(f) Evaluation.

Comment 235: HRPT believes that additional measures need to be implemented to avoid significant adverse impacts on the historic bulkhead and this should be reflected in the Section 4(f) evaluation. *(HRPT-Doyle, HRPT-Wils)*

Response: See the response to **Comment 165**. This information is also incorporated in the Final Section 4(f) Evaluation included in the FEIS.

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