MOVING GATEWAY FORWARD

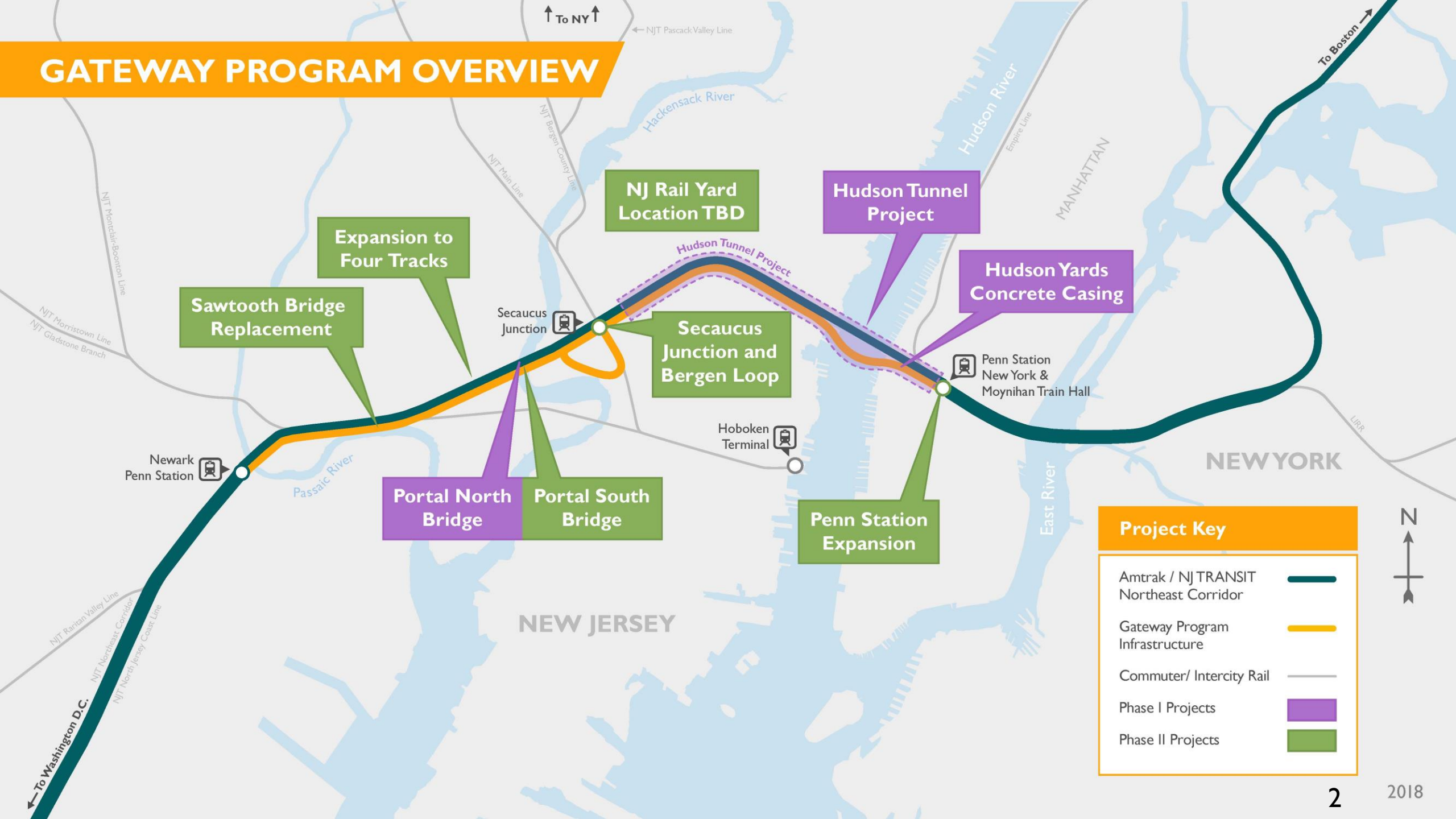
July 31, 2018

Hudson Tunnel Project Overview

John D. Porcari, Interim Executive Director

Gateway Program Development Corporation

GATEWAY PROGRAM OVERVIEW



2018

Our Primary Focus

Early Work at the Portal North Bridge Site
April 2018

- The Gateway Partners are focusing on the most critical, time-sensitive elements:
  - **Portal North Bridge Project**
    - *Replacement of the 107-year-old Portal Bridge*
  - **Hudson Tunnel Project**
    - *Two new Hudson River tubes*
    - *Hudson Yards Concrete Casing - Section 3*
    - *Rehabilitation of the two existing 107-year-old tubes*
- *These two projects eliminate the most significant single points-of-failure on the Northeast Corridor between NY and NJ*

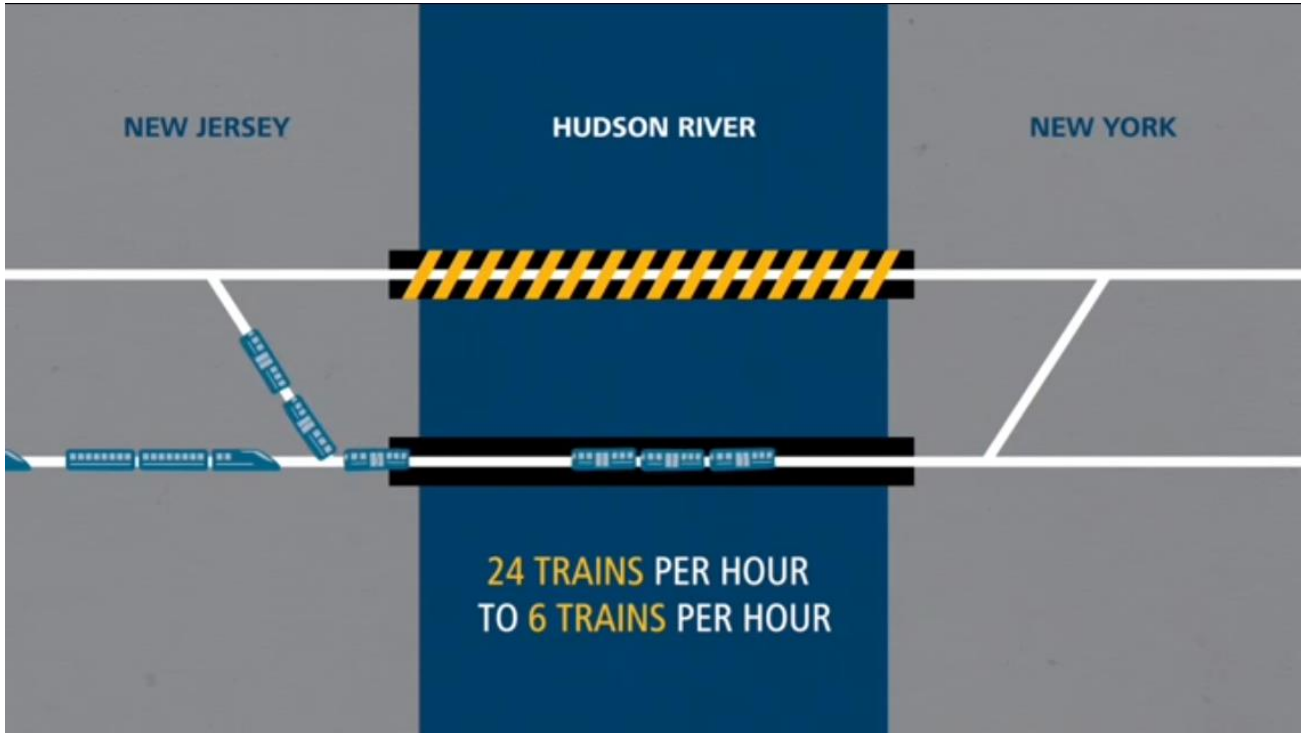
Hudson Tunnel Project

- New two-tube Hudson River Tunnel
- Hudson Yards Concrete Casing – Section 3
- Rehabilitation of 107-year-old North River Tunnel

- Existing 107-year old North River Tunnel was inundated with saltwater during Superstorm Sandy
- Resiliency, Reliability, & Redundancy
  - New tunnel allows for the rehabilitation of the North River Tunnel without disrupting existing levels of train service
  - New 21st century tunnel creates a more reliable ride for 200,000 people per day, and
  - New tunnel would provide redundant capability and increased operational flexibility for Amtrak and NJ TRANSIT
- Busiest section of the NEC is between Penn Station NY and Newark, NJ
  - 450 trains/day
  - 200,000 passenger trips/day

The Need to Maintain Existing Levels of Rail Service

- The need to maintain existing levels of rail service is critical as it supports intercity, regional, and local mobility and associated economic benefits regionally and nationally.



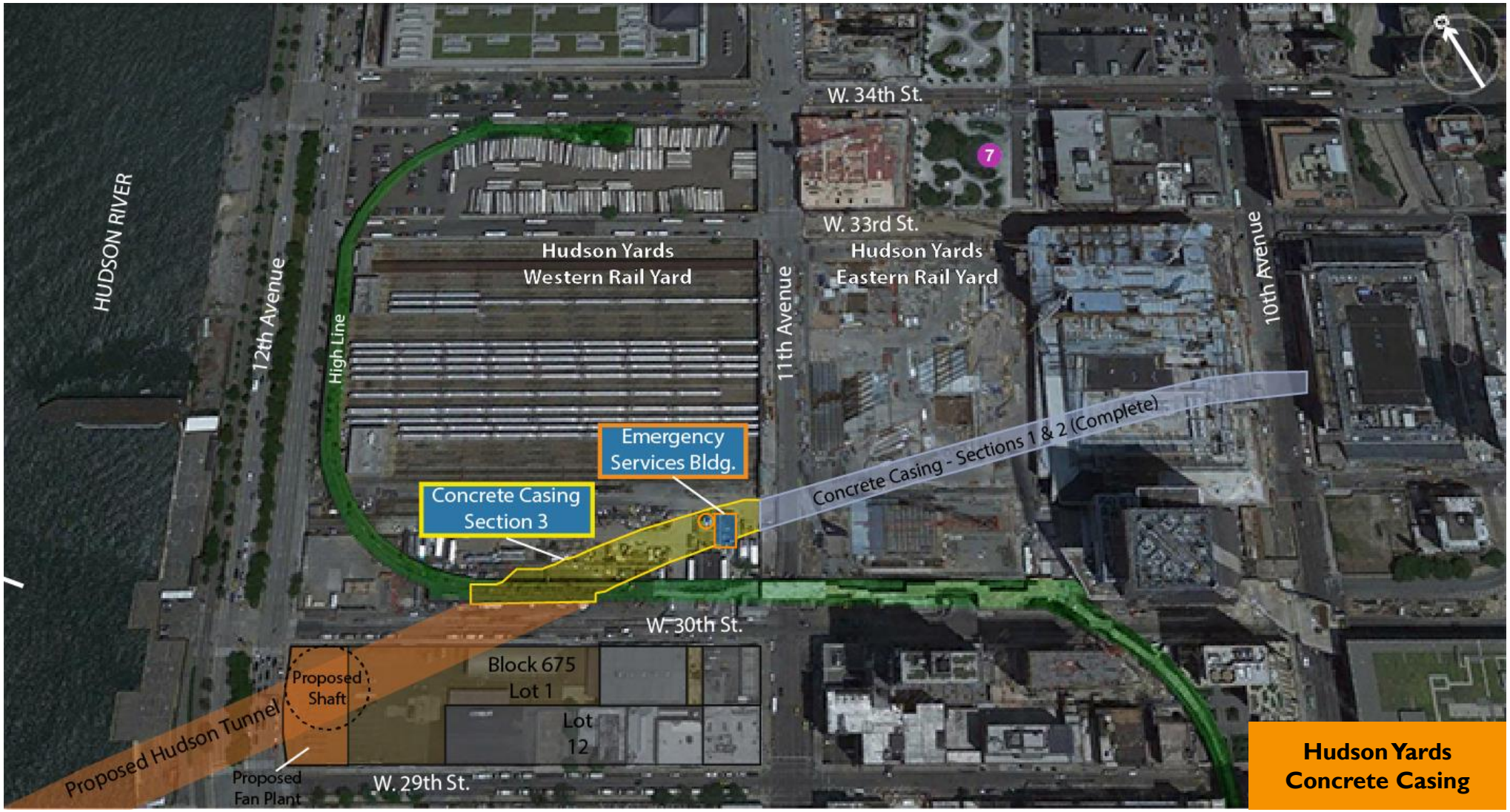
Deterioration in the Existing North River Tunnel Built in 1910

Corrosion Accelerated by Superstorm Sandy in 2012

Hudson Tunnel Project - Progress Report Submitted to FTA
Summary – Progress Report Available on GatewayProgram.org

- National Environmental Policy Act (NEPA)
  - Completion of Environmental Impact Statement analysis in **less than 22 months** is a national model for streamlined environmental review
  - Final draft submitted to FRA/USDOT in February 2018
  - Awaiting Record of Decision
- Technical Activities Over the Past Six Months
  - Design and funding for the Hudson Yards Concrete Casing – Section 3
  - 30% design documents submitted to FRA for review
  - RFP for Financial Advisor
- Financial Plan
  - The Project Partners reaffirmed their existing funding commitments documented in the December 2017 submittal
- Grant Applicant & NEPA Project Sponsor
  - The Port Authority has agreed to perform these roles on behalf of the Project Partners for this Project
  - GDC to be strengthened through bi-state legislation to accept Grant Applicant and NEPA Project Sponsor role

Hudson Yards Concrete Casing Overview



Hudson Yards Concrete Casing – Sections 1 & 2

- To preserve a right-of-way under the Eastern portion of the Hudson Yards Development Project
- Construction completed by Amtrak
- Concrete Casing successfully preserves right-of-way under newly opened buildings & 11th Avenue

Hudson Yards Concrete Casing – Section 3
LIRR Emergency Services Building Utility Relocation – Early Construction Activity

- Hudson Yards Concrete Casing – Section 3
  - Essential Right-of-Way Preservation under Hudson Yards Development Project
- Relocate LIRR utilities within the Long Island Rail Road (LIRR) Emergency Services Building (ESB), and the ESB itself, out of the construction area
  - Scope: Utility Relocation
  - Cost: $25 M
    - Port Authority: $12.5M
    - Amtrak: $12.5M
- Contract Award and Construction Start for LIRR ESB –Fall 2018

MOVING GATEWAY FORWARD

July 31, 2018

Hudson Tunnel Project Design Overview

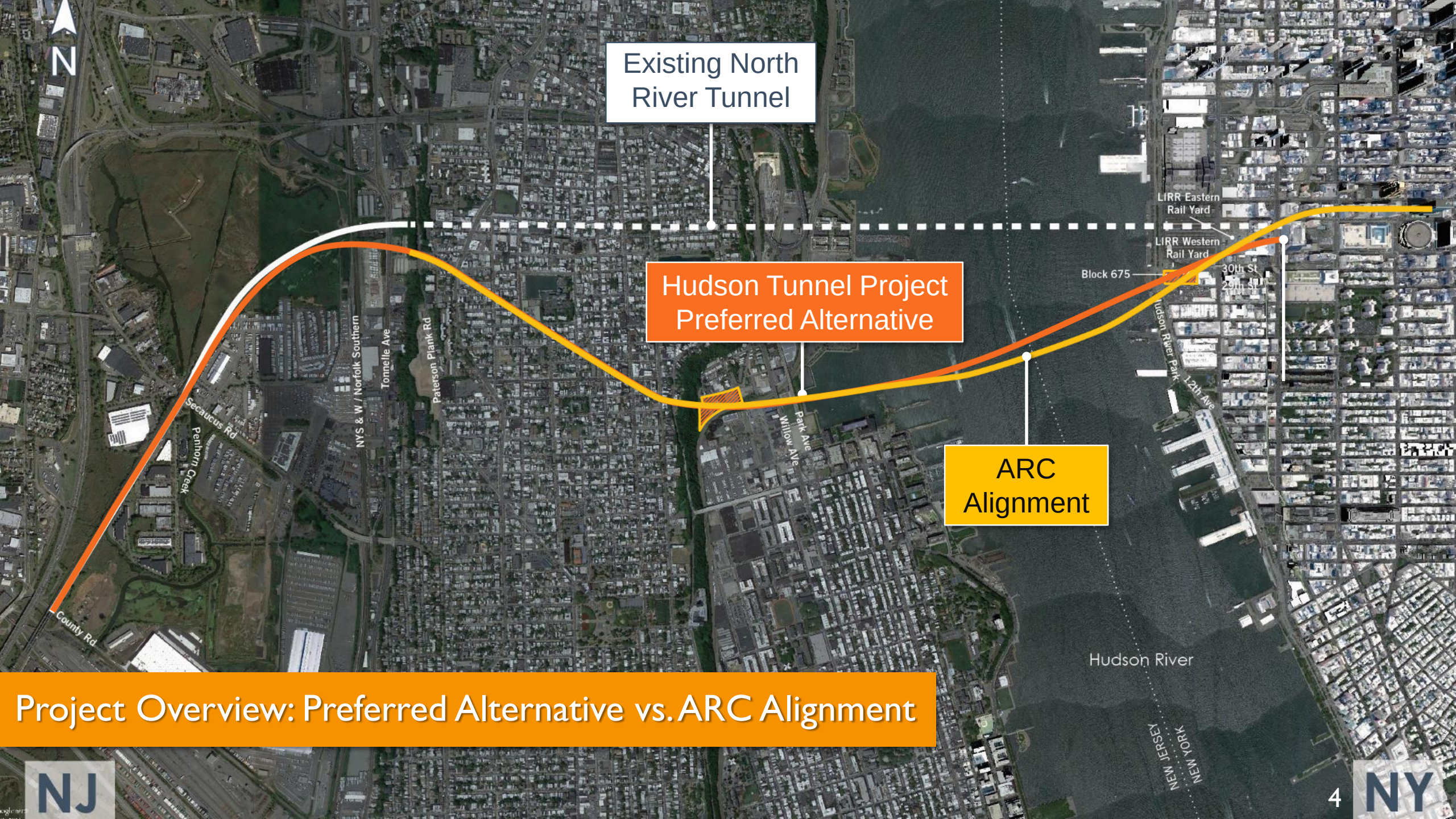
Phil Rice, Gateway Trans-Hudson Partnership

Project Purpose

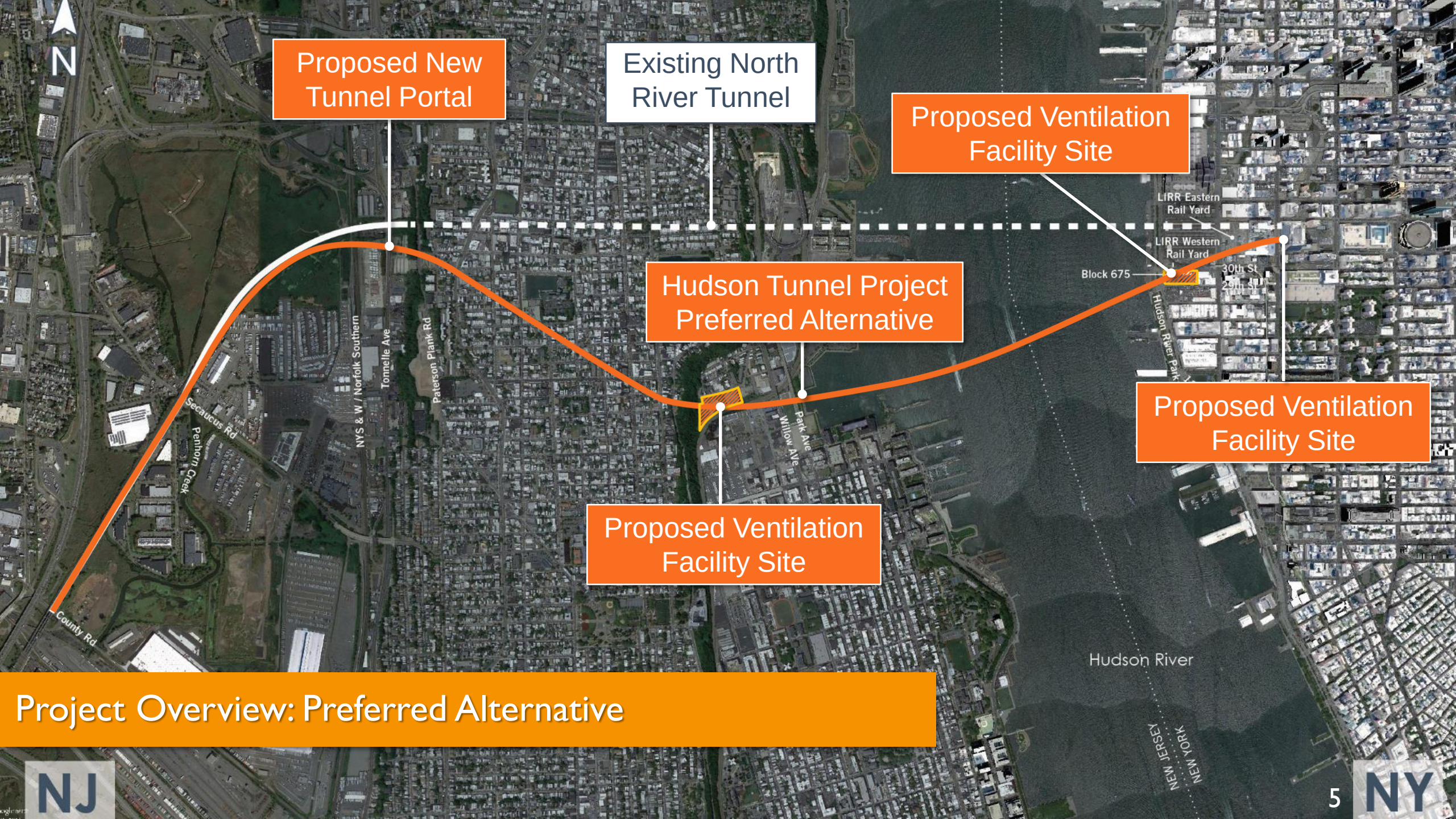
- Preserve current functionality of existing Amtrak and NJ Transit rail services by repairing the North River Tunnel
- Strengthen Northeast Corridor (NEC) resiliency to support reliable service by providing redundant capability
- Achieve improvements while maintaining uninterrupted service

Superstorm Sandy Impacts

- Superstorm Sandy forced ~4-day closure of the NEC:
  - Inundated substations
  - Inundated East River and Hudson River Tunnel systems
- Ongoing damage to internal components requires complete renewal of inundated tunnels
- Tunnel reconstruction requires closure of each tube for outages of ~2 years
- Rebuilding of the existing Hudson River Tunnel cannot begin until the new Hudson Tunnel is built and commissioned

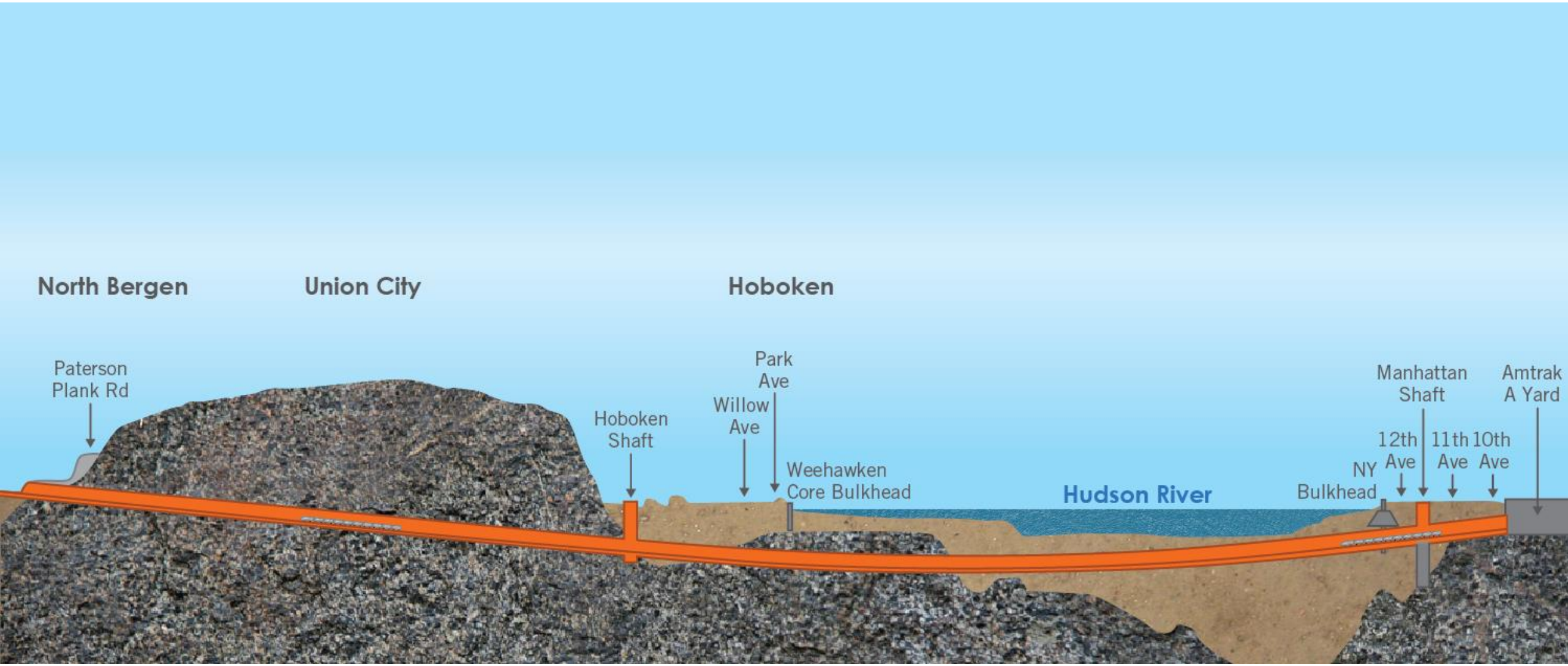


Project Overview: Preferred Alternative vs. ARC Alignment

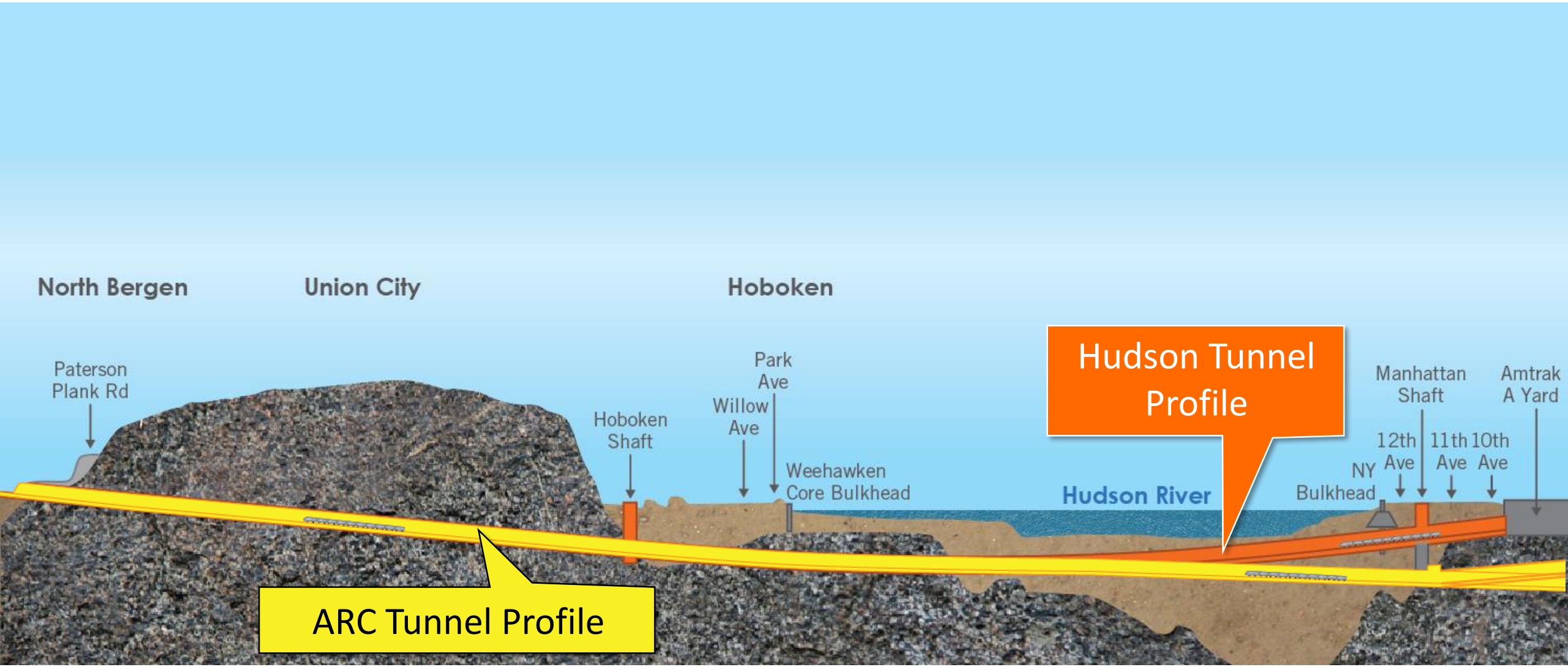


Project Overview: Preferred Alternative

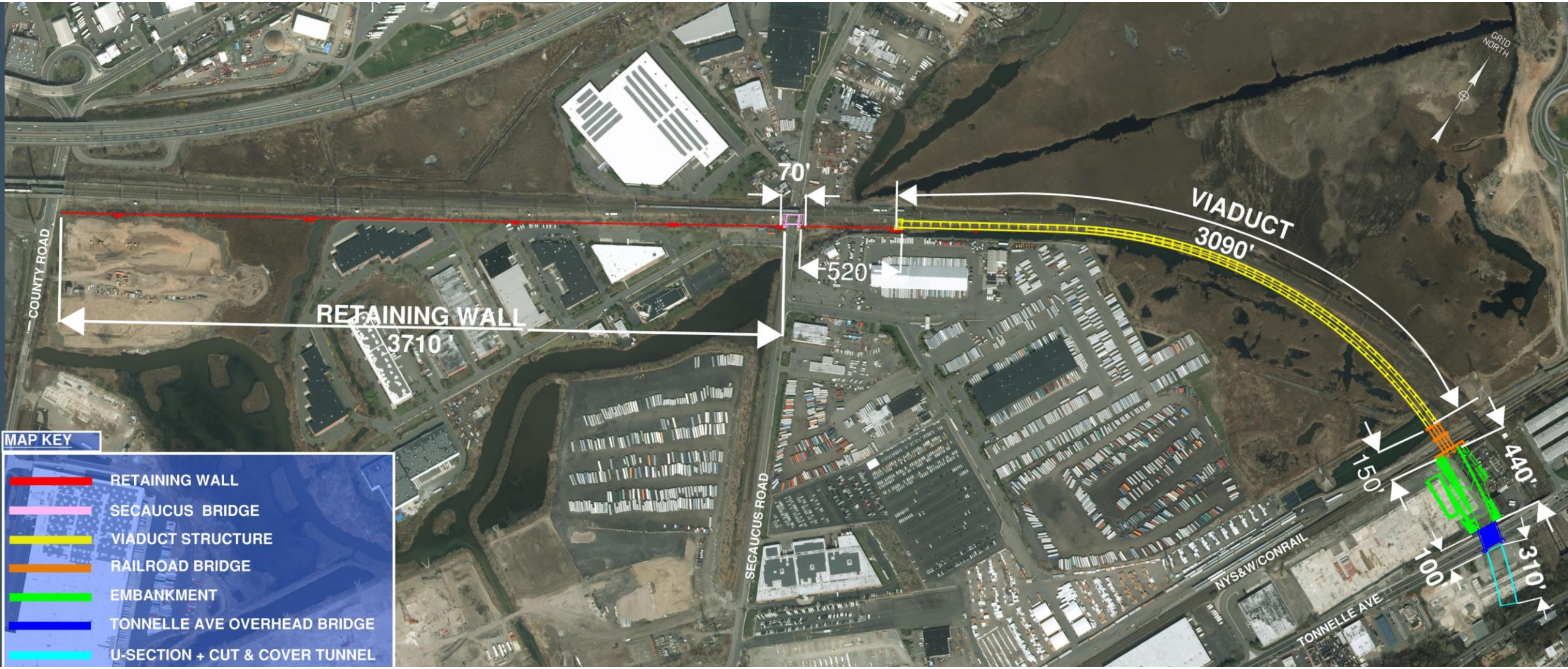
Tunnel Profile



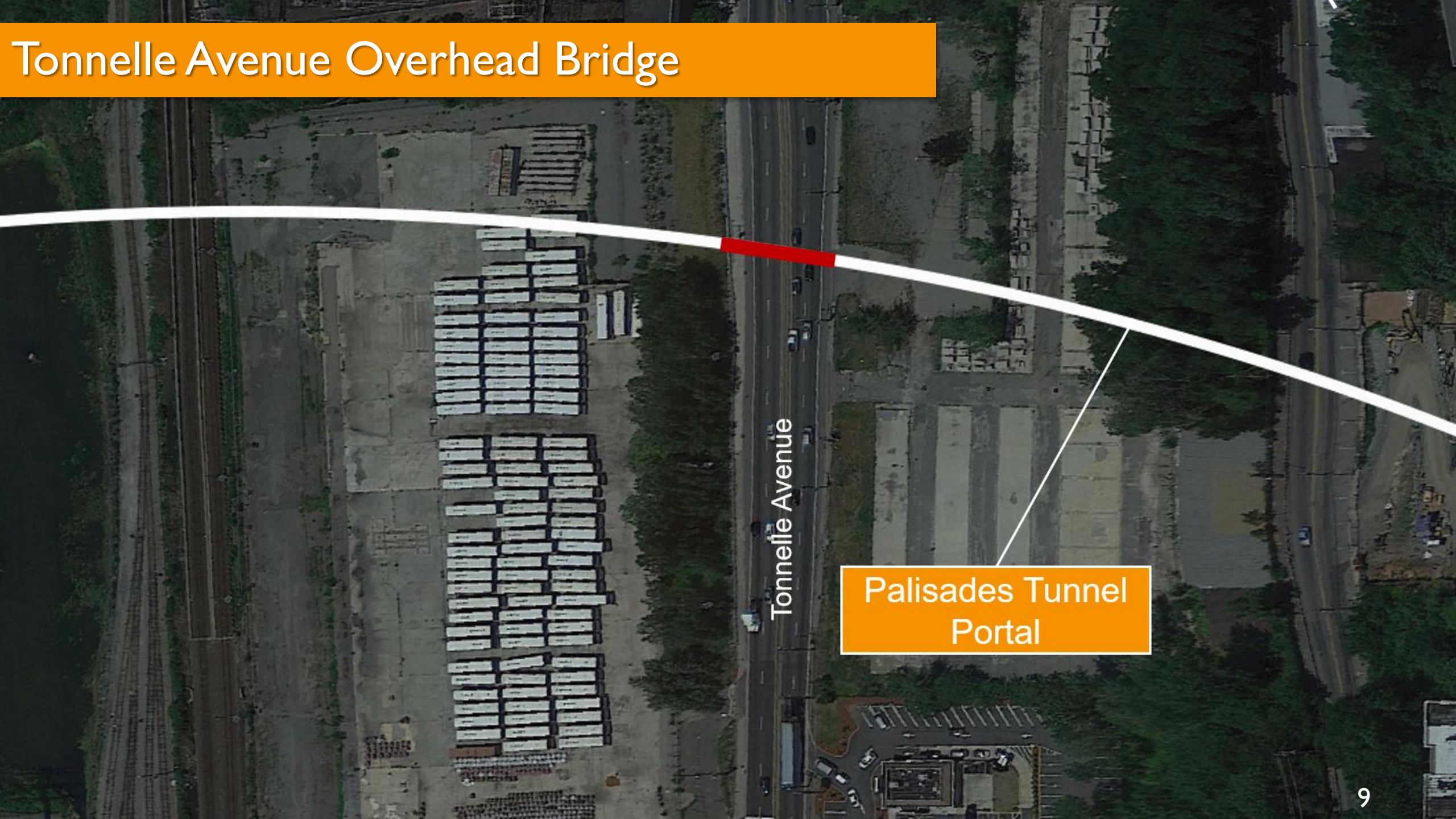
Hudson Tunnel Profile Compared to ARC Project



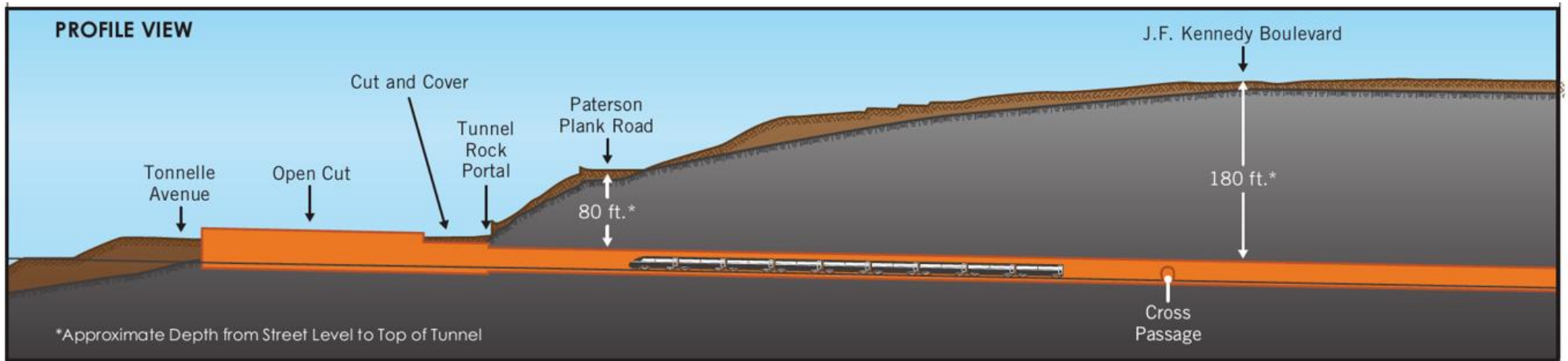
New Jersey Surface Alignment



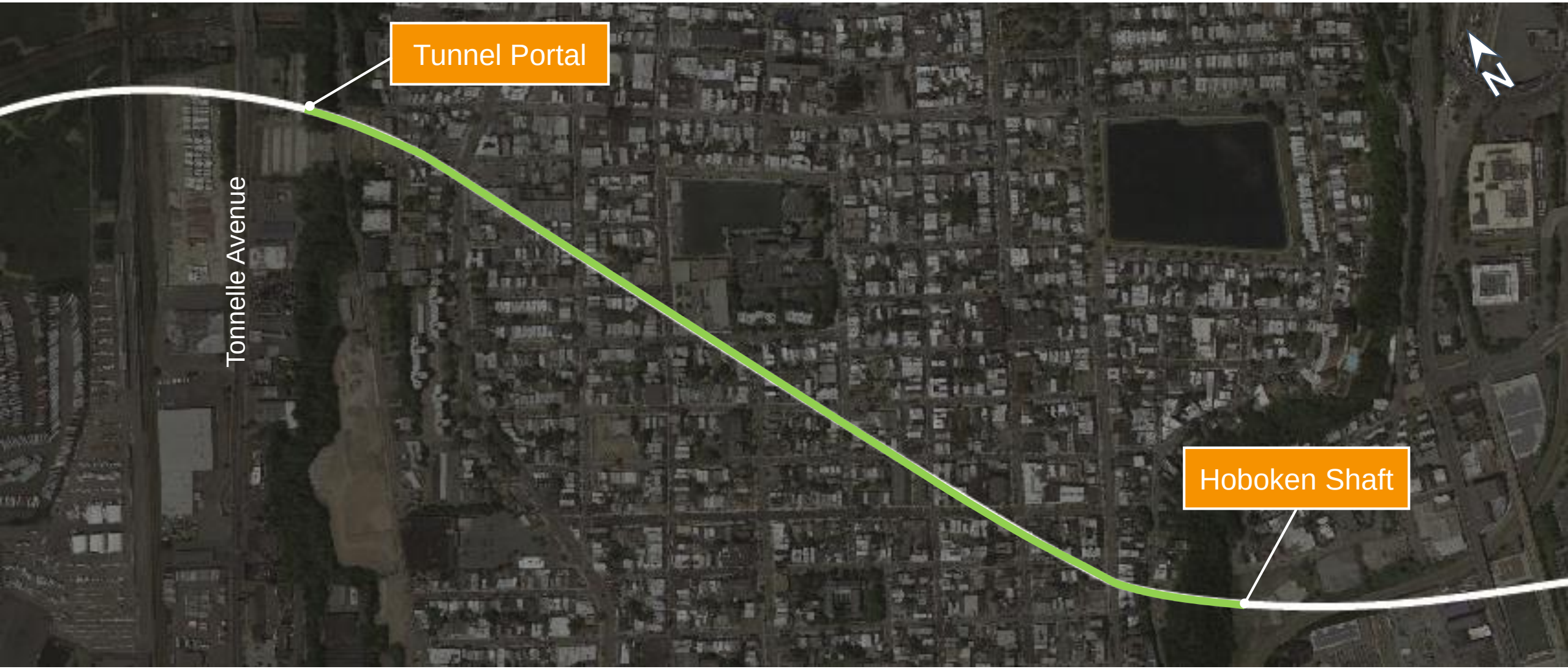
Tonnelle Avenue Overhead Bridge



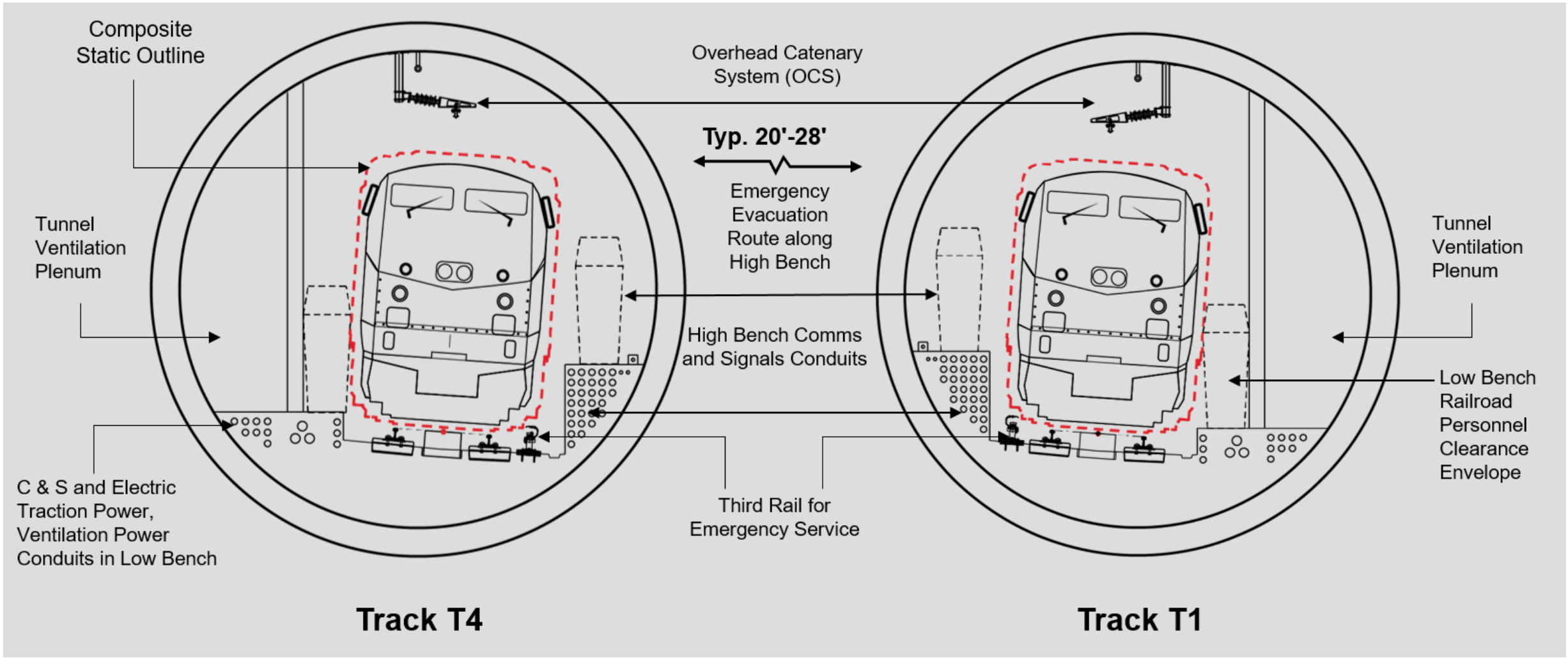
Tunneling Through the Palisades



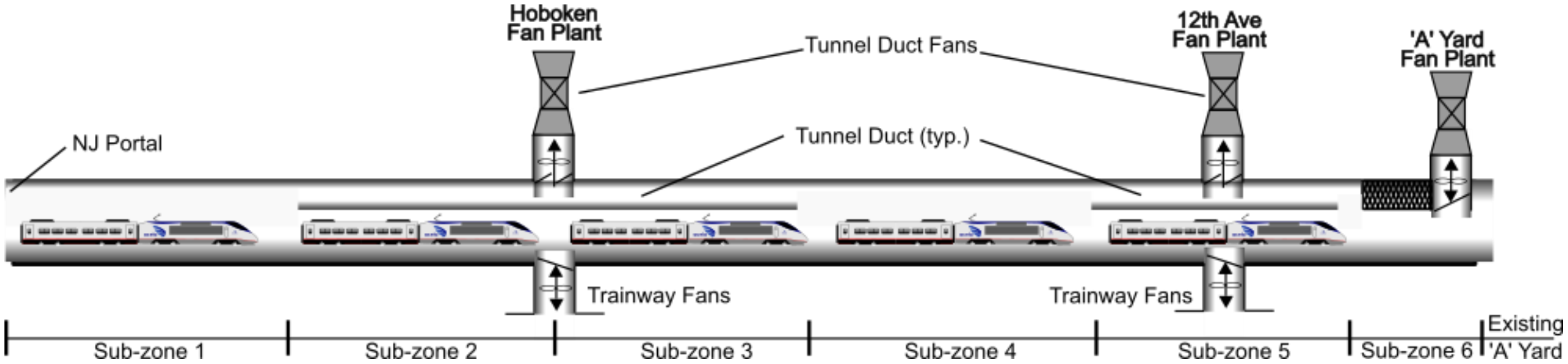
Palisades Tunnel



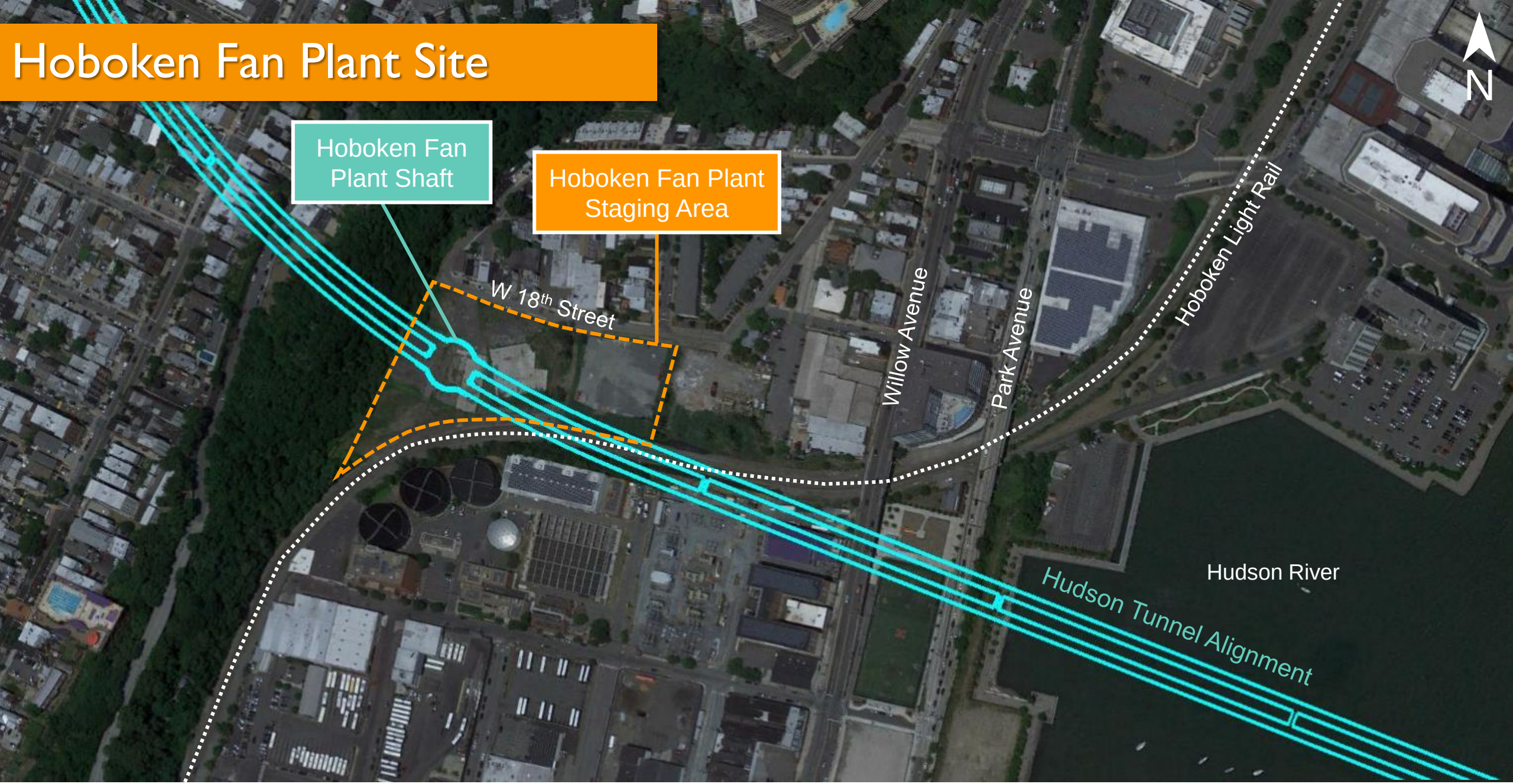
Typical Bored Tunnel Cross Section



Ventilation Plan

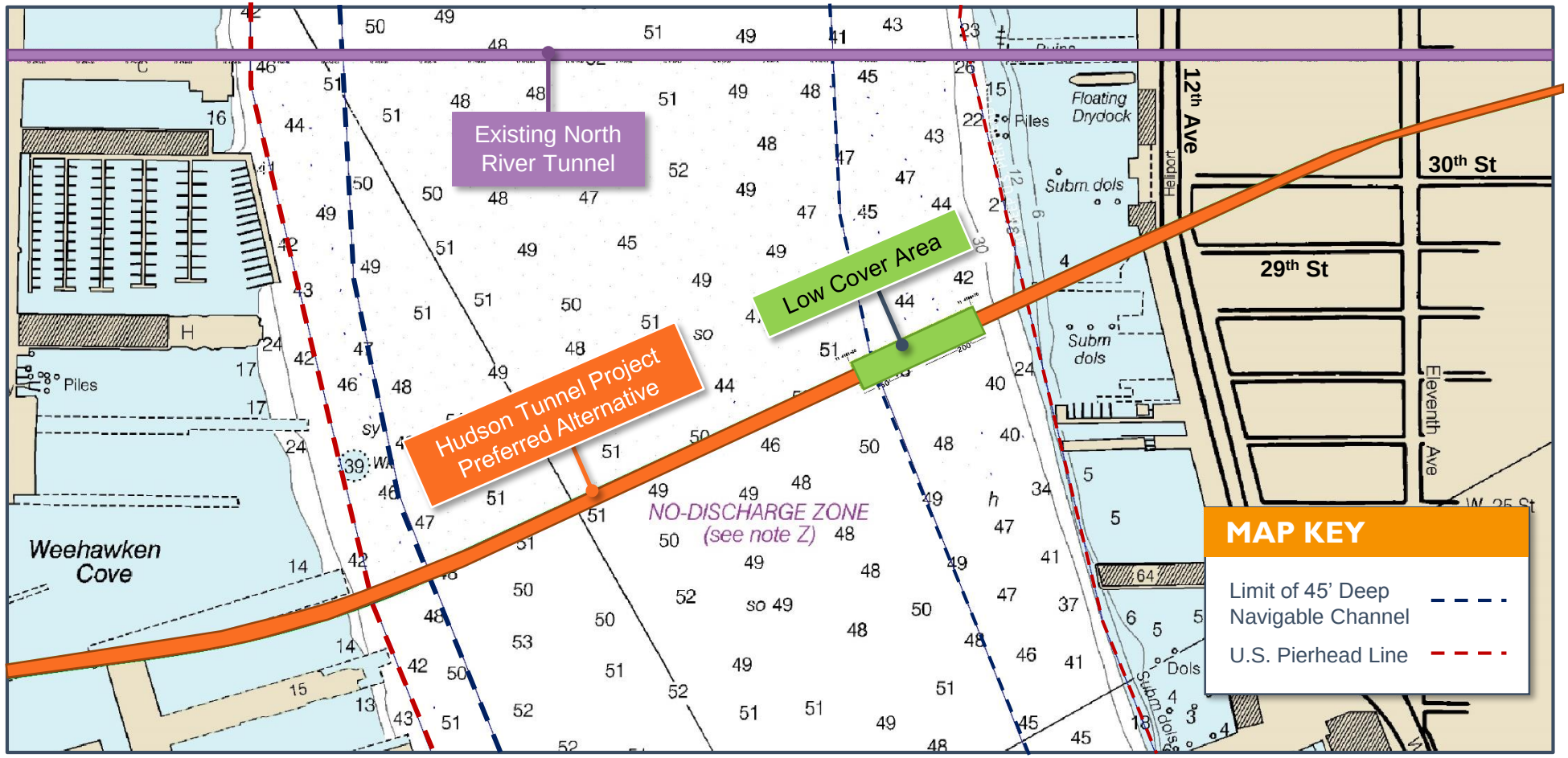


Hoboken Fan Plant Site

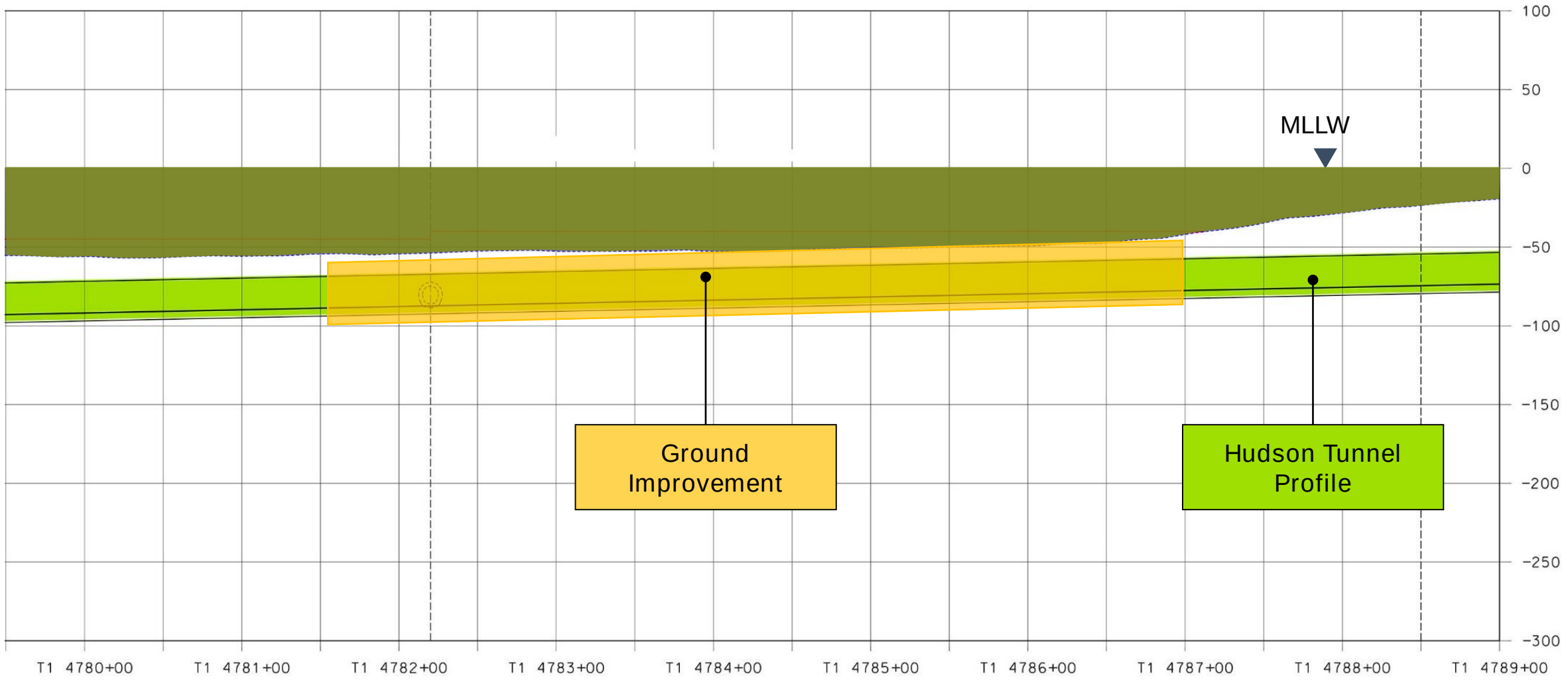


Hudson River Tunnel

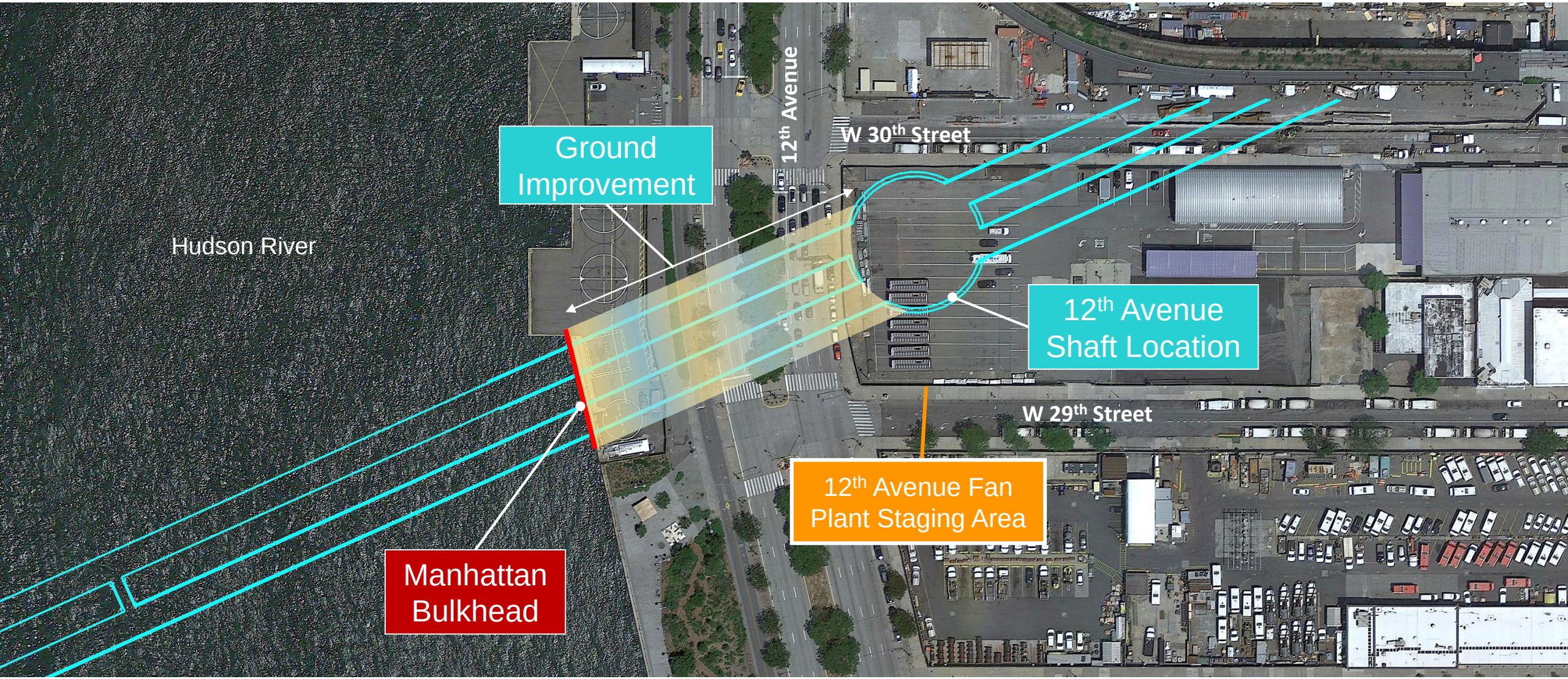
Hudson River Tunnel



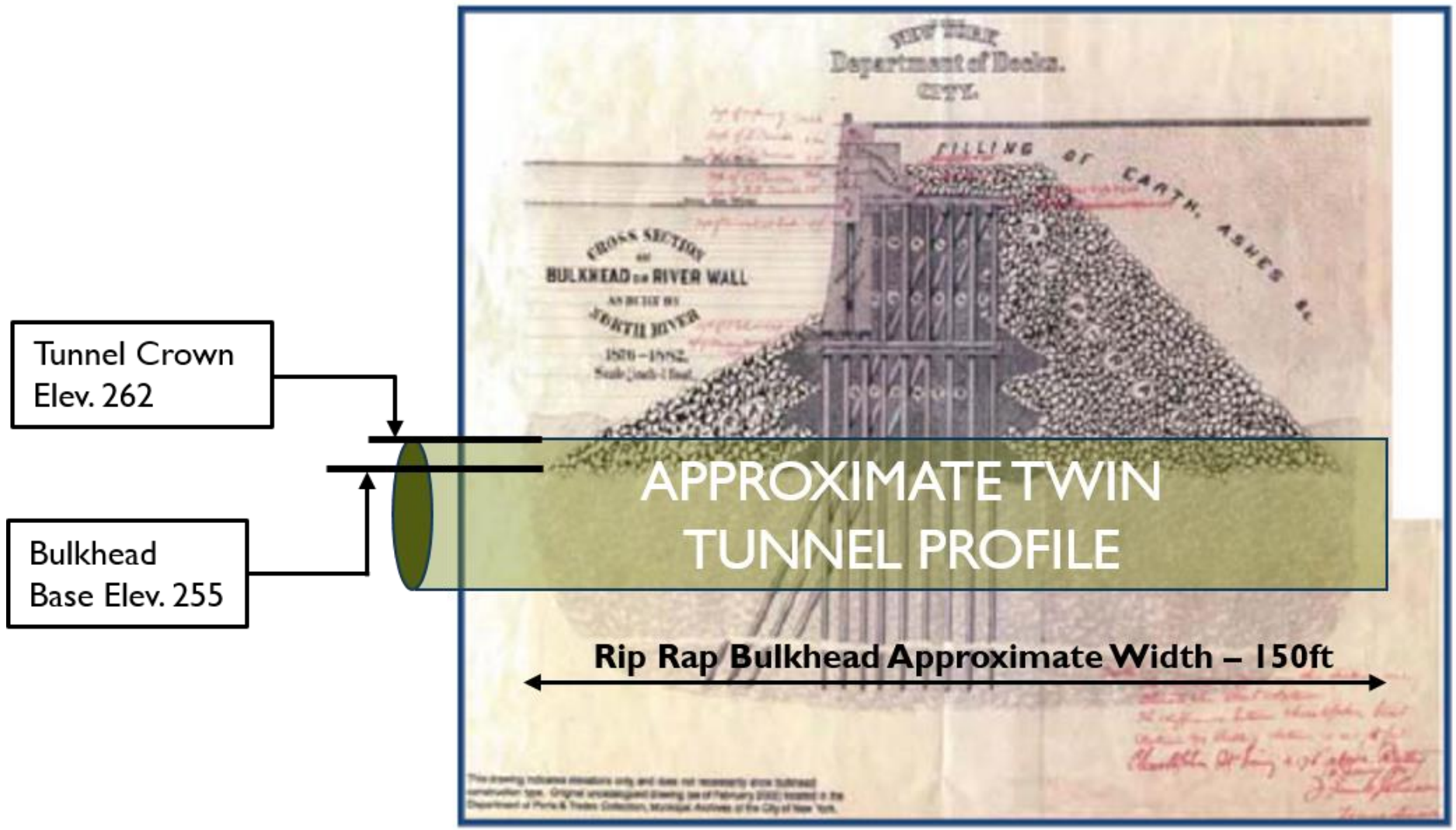
Profile View: Low Cover Area



Tunneling from Manhattan Bulkhead to 12th Avenue Shaft

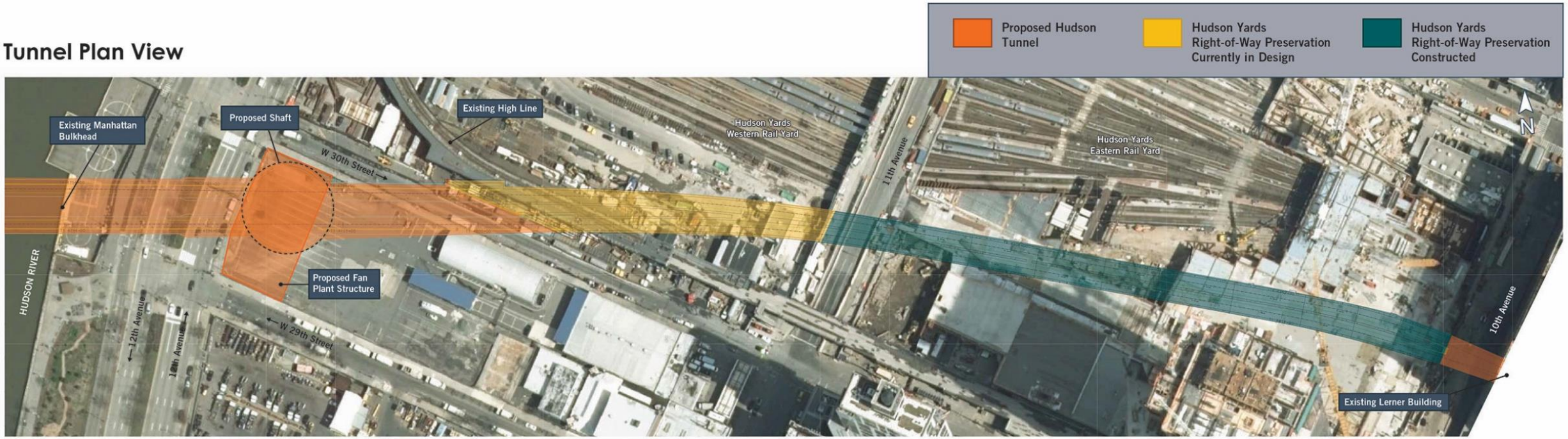


Tunneling Through Manhattan Bulkhead

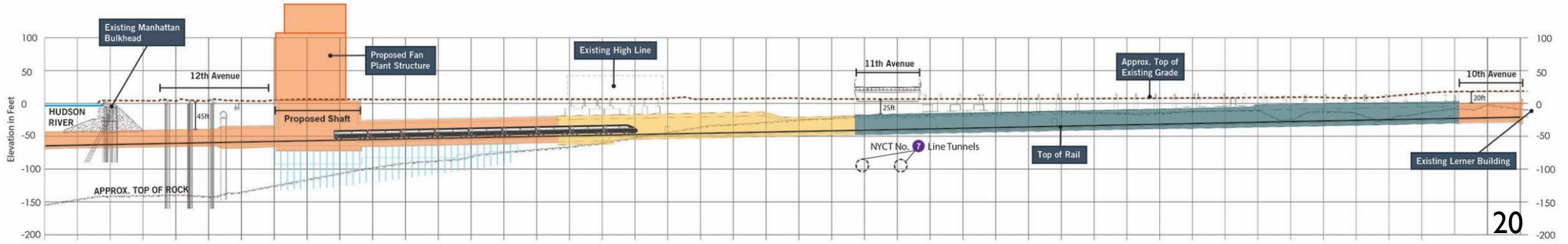


Tunnel Plan and Profile: Manhattan

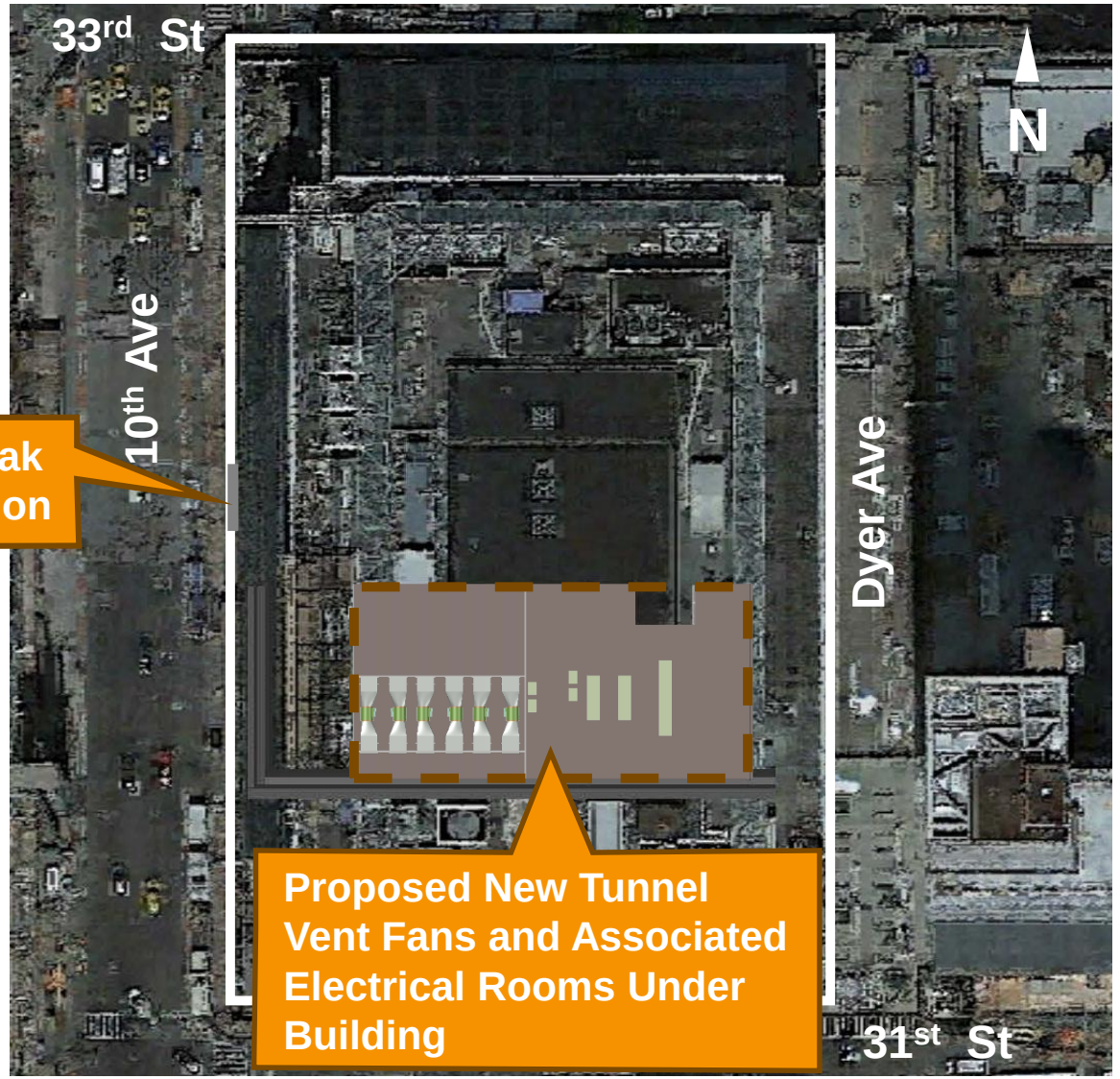
Tunnel Plan View



Tunnel Profile View

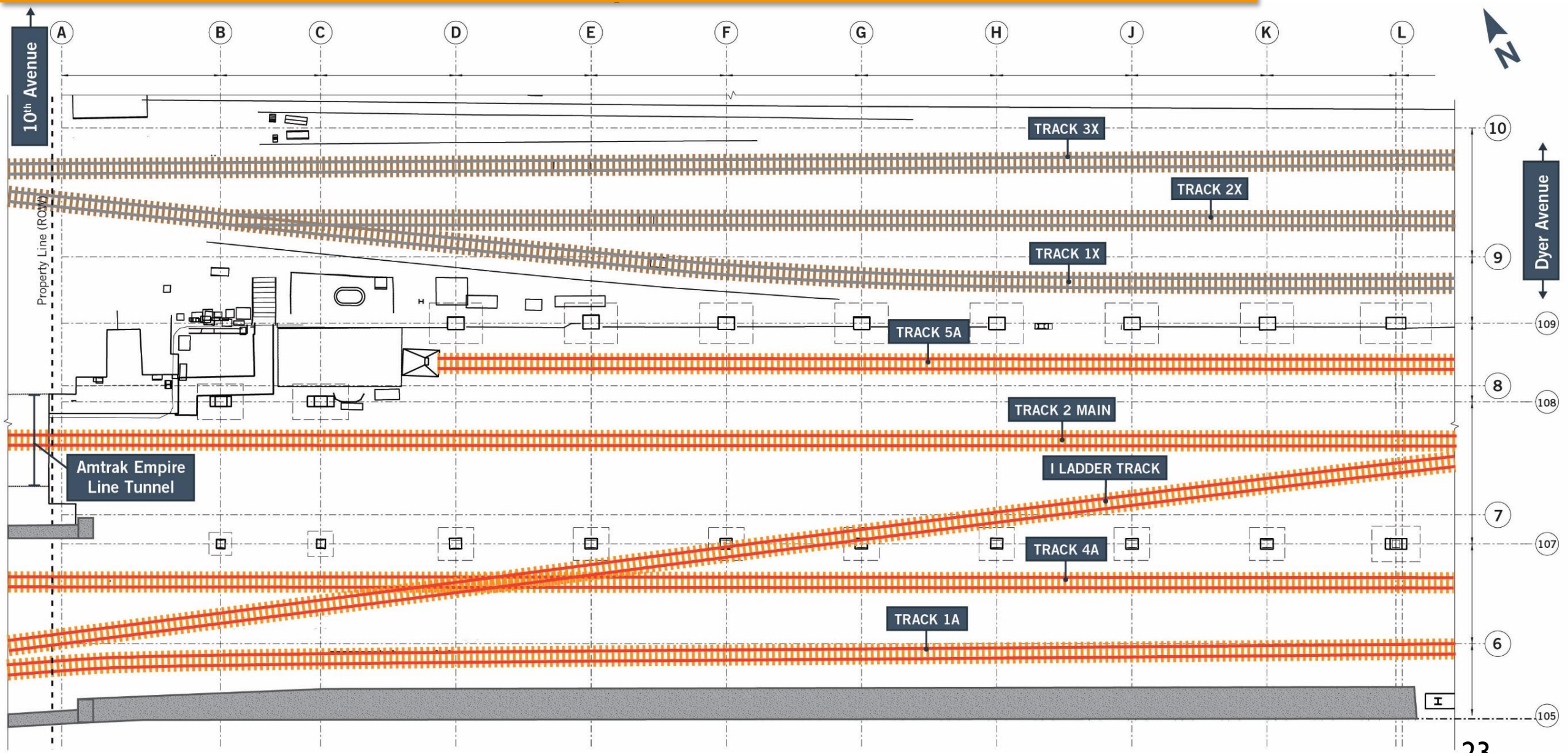


450 West 33rd Street Building: Plan View

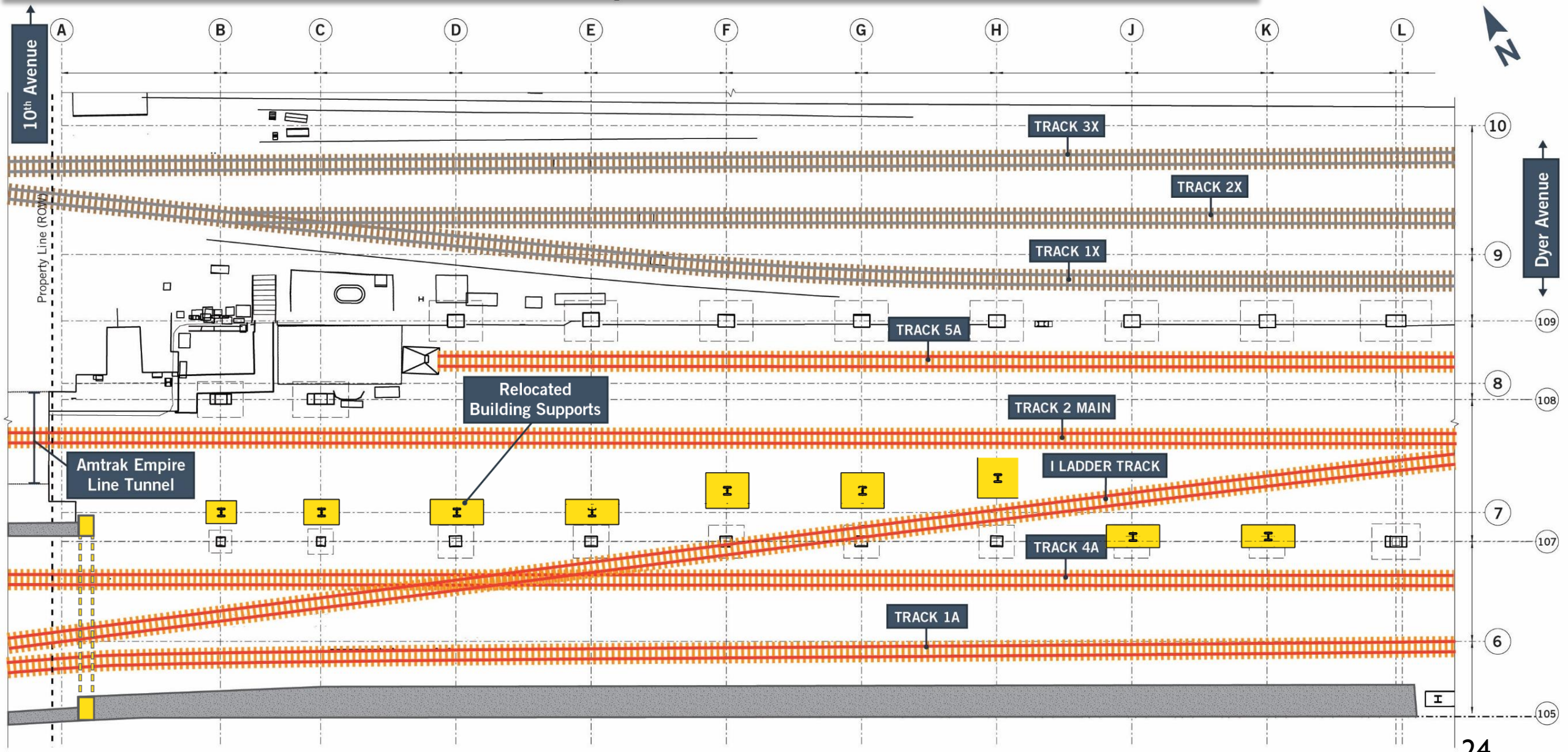


A-Yard Under 450 W. 33rd Street Building

A-Yard Connection (West of Penn Station NY)
Proposed Track Level Plan

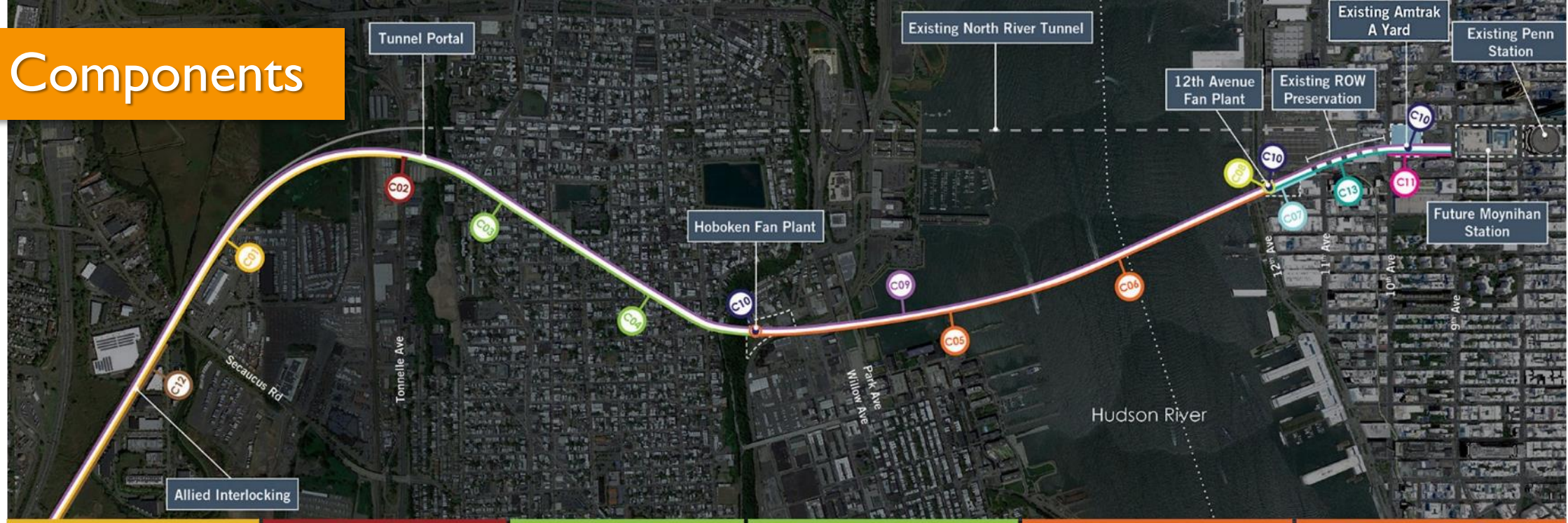


A-Yard Connection (West of Penn Station NY)
Proposed Track Level Plan - New Column Supports



Contract Components

Subject to Change



C01: NJ Surface Alignment

- Modification of East Abutment of County Road Bridge
- New Structure for Secaucus Road Bridge
- Retaining Walls and Concrete Viaduct Structures
- Drainage Structures (Box Culverts/Pipe Extensions)
- Through Girder Railroad Bridge over Conrail and NYS&W
- Foundations and Platforms for Signals and Communications Bungalows, Foundations for Catenary Poles
- Ductbank and Manholes for Railroad Systems Contract C09
- Grading Of The Subgrade under Tonnelle Avenue Overhead Bridge

C02: Tonnelle Avenue Overhead Bridge

- Retaining Wall Along South-side of Sub 42
- Repair of Wing Walls and Abutments as Required
- Installation of Roadway Deck
- Traffic Signal on Tonnelle Avenue North of Construction
- Utility Work to Facilitate Bridge Construction and Provide Power Source for TBM
- Maintenance and Protection of Traffic to Permit Lane Closures

C03: Palisades Tunnels

- Palisades Portal Open Cut Excavation
- Hoboken Shaft Excavation
- TBM Tunneling and Tunnel Lining
- TBM Electrical Power Substation Procurement & Setup
- Cross Passage Excavation and Lining

C04: Palisades Tunnels Internal Concrete

- Tunnel Internal Concrete
- MEP in Tunnels (Invert Drainage, Conducts in Benches)
- Ventilation Duct Wall (Precast Wall) in TBM Tunnels
- Tonnelle Avenue to Tunnel Portal Retaining Structure & Building
- Tunnel Portal Building MEP & Finishes
- Trackwork from Tonnelle Avenue to Hoboken Shaft

C05: Hudson River Tunnels

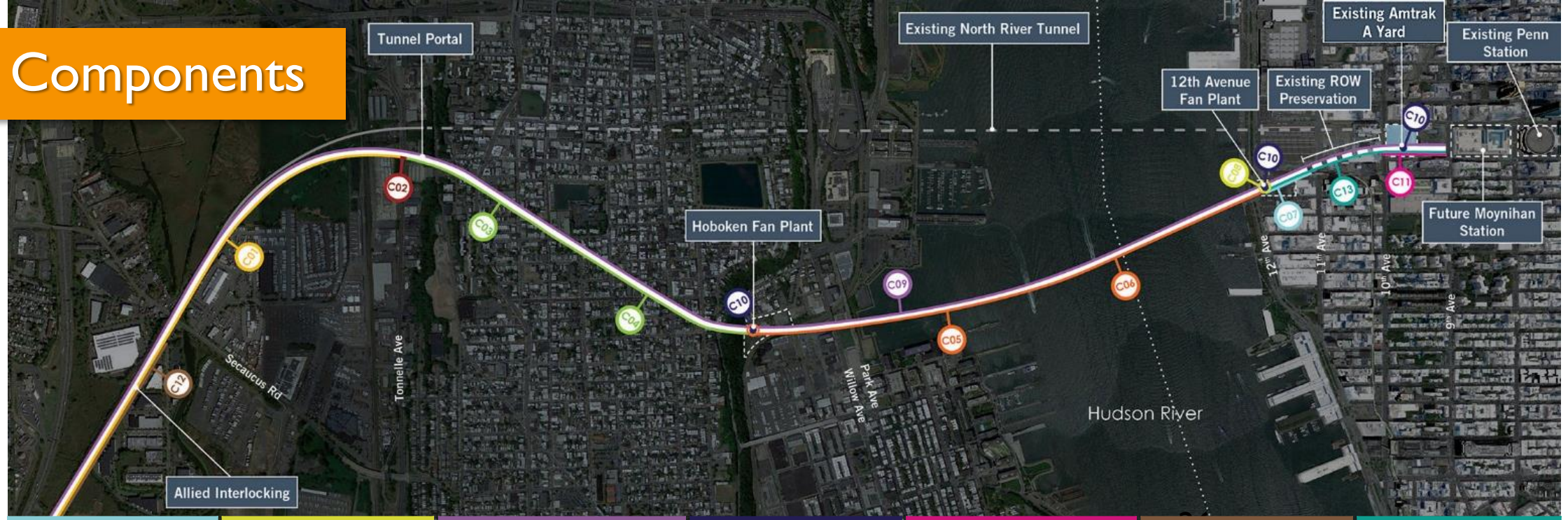
- Hoboken Shaft Excavation
- Ground Improvement Including Low Cover Area in Hudson River
- TBM Tunneling and Tunnel Lining
- Cross Passage Excavation and Lining
- Underpinning of Willow Avenue Bridge

C06: Hudson River Tunnels Internal Concrete

- Tunnel Internal Concrete
- MEP in Tunnels (Invert Drainage, Conducts in Benches)
- Ventilation Duct Wall (Precast Wall) in TBM Tunnels
- Hoboken Fan Plant Construction (Below Grade & Above Grade)
- Hoboken Fan Plant Building with MEP & Finishes
- Trackwork from Hoboken Shaft to 12th Avenue Shaft

Contract Components

Subject to Change



C07: Manhattan Tunnels	C08: 12th Avenue Fan Plant & Manhattan Internal Concrete	C09: Railroad Systems (Full Alignment) & NJ Surface Trackwork	C10: Fan Plant MEP (Ventilation Systems) & Electrical Substation Installation	C11: 10th Avenue Cut and Cover Tunnel, Connection to A-Yard, A-Yard Fan Plant	C12: NEC Force Account Interface Support	C13: A-Yard Force Account Interface Support
• 12th Avenue Shaft SOE, Ground Improvement & Excavation • SEM Tunnels Under 12th Avenue; Ground Improvement, Excavation, Support of Utilities & Backfill • SEM Tunnels Under 30th Street; Ground Improvement, Utility Relocation, Excavation & Concrete Lining • Manhattan Bulkhead Mitigations	• 12th Avenue Fan Plant Construction including Plenum Excavation and Structure, Ventilation Shaft Internal Concrete • Tunnel Internal Concrete from 12th Avenue to 10th Avenue • Fan Plant Building MEP & Finishes • Trackwork from 12th Avenue to 10th Avenue	• Traction Power Substation Equipment And Distribution • Ancillary Devices (Switch Heaters, Remote Terminal Units, Sectionalizing Switches, Etc.) • Tunnel Lighting, OCS, and Emergency Communications • Catenary Poles and Appurtenances • SCADA Control Systems for Fan Plants • Security Provisions, Signals and Communications Equipment • Trackwork Allied to Tunnel Portal (Except for Special Trackwork)	• Provision, Installation and Testing of all Fan Plant Equipment • Permanent Power Substations • Emergency Power Generators • Fire Protection and Detection Equipment • Sump Pumps and Fire Pumps	• 10th Avenue Cut and Cover SOE, Excavation and Concrete • Brookfield Building Underpinning • A-Yard Fan Plant Construction • Trackwork Connection to A-Yard from 10th Avenue	• Flagging Adjacent to NEC • New Signals & Communications Connections • New Special Trackwork at Allied Interlocking • Modification of Existing Catenary Support Structures • Cut-Over & Connection of New Catenary System	• Flagging Protection for Underpinning & Fan Plant Construction • New Signals & Communications Connections • Removal & Reinstallation of Empire Line Track • Modification of Existing Catenary Support Structures • Cut-Over & Connection of New Catenary System • Modification of I-Ladder

MOVING GATEWAY FORWARD

July 31, 2018

Hudson Tunnel Project Commercial Overview

Francis Sacr, Interim Finance Director

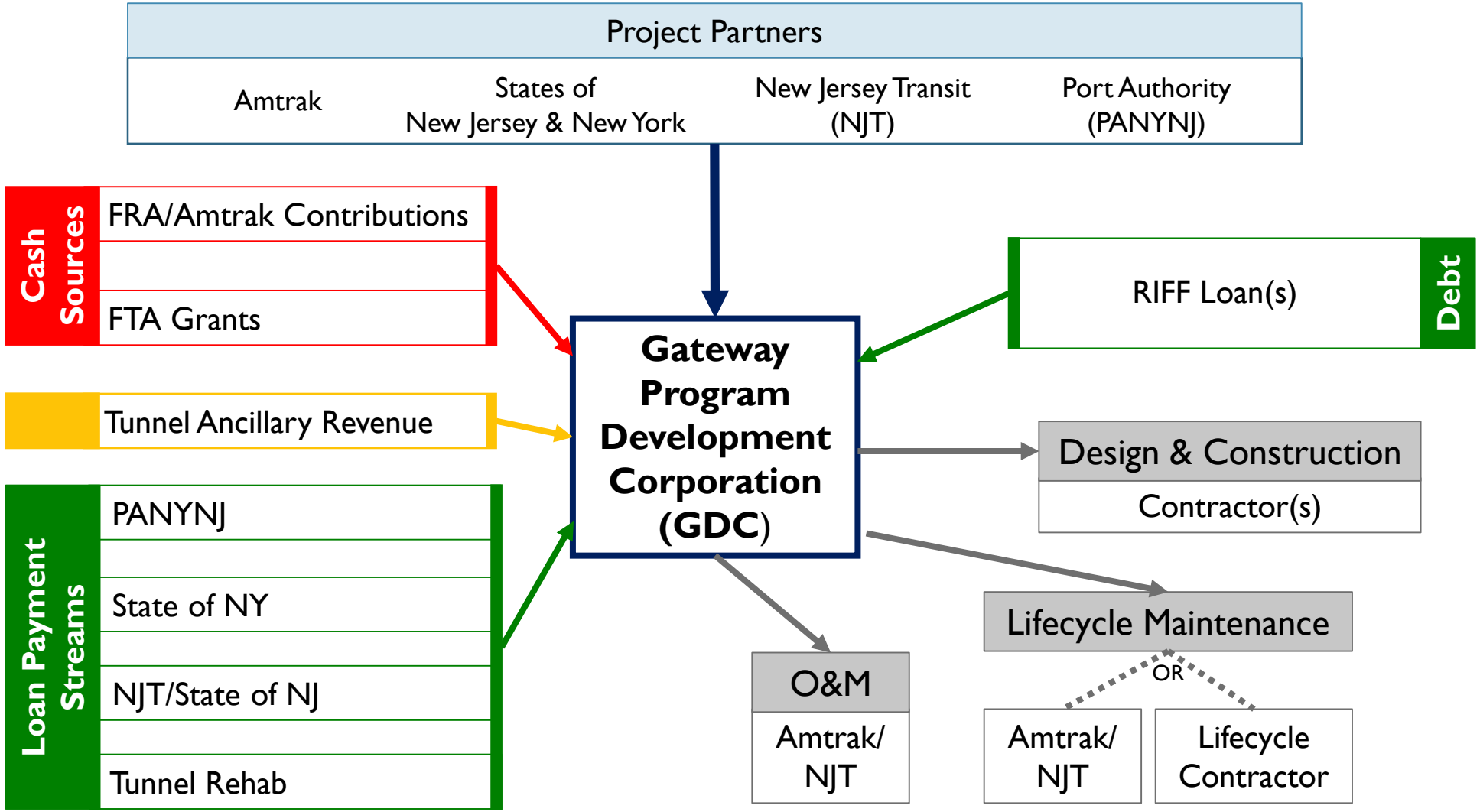
Gateway Program Development Corporation

Hudson Tunnel Project Financial Plan

- Hudson River Tunnel and Hudson Yards Concrete Casing
  - Most time sensitive elements
  - Construction cost: $11.1 billion
  - Local Commitments Made:
    - $1.9 billion – NJ TRANSIT
    - $1.9 billion – Port Authority of NY & NJ
    - $1.75 billion – State of NY
- Rehabilitation of North River Tunnel
  - Construction cost: $1.6 billion

Based on 10% design and as per the Project Partners' Financial Plan submittal in December 2017

Potential Commercial Building Blocks



RFI PURPOSE

- To receive additional feedback based on advanced preliminary engineering since GDC's August 2017 RFI
- To solicit additional feedback from the market on certain important topics for progressing risk allocation, contract packaging activities, and ultimately procurement methodology

RFI RESPONSES – Due August 21, 2018

- Any firm who responds to this RFI is not precluded from participating in future procurements for the Gateway Program
- Respondents may indicate in their response if they wish to have a 1-on-1 meeting.

Request for Information – Question Background

To Help Inform Firms as They Prepare Responses

EARLY WORKS

» Feedback is welcome on where scarce resources can be most beneficially deployed for early work

CIVIL WORKS LIFECYCLE MAINTENANCE

» GDC wants to ensure the cost of these civil works over their useful life achieves best value for money

» Alignment of interest between those building Gateway, and those conducting lifecycle maintenance, is crucial

ANCILLARY REVENUE

» GDC is open to ancillary revenue opportunities that do not interfere with the primary purpose – rail transport

» GDC seeks market feedback on what concession model it should use to maximize ancillary revenue

» Also, how best to ensure tunnel design does not preclude such revenue opportunities

Request for Information – Question Background

To Help Inform Firms as They Prepare Responses

PROCUREMENT

- GDC intends to use procurement method(s) that deliver best value for money
- Priorities include (in no particular order):
  - Optimal allocation of risk
  - Reduction in cost
  - Expedited completion
  - Cost and schedule certainty
  - Encouraging innovation in design and construction methods
  - Creditworthy bids

GEOTECHNICAL INFORMATION

- Geotechnical risk allocation is one of the key issues being considered by GDC and its partners
- We are seeking to allocate geotechnical risk in a manner that achieves the best value for money

CONTRACTING

- In determining procurement, GDC will pursue a contract packaging strategy that achieves the best balance of:
  - Maximizing competition; and
  - Minimizing interface risk

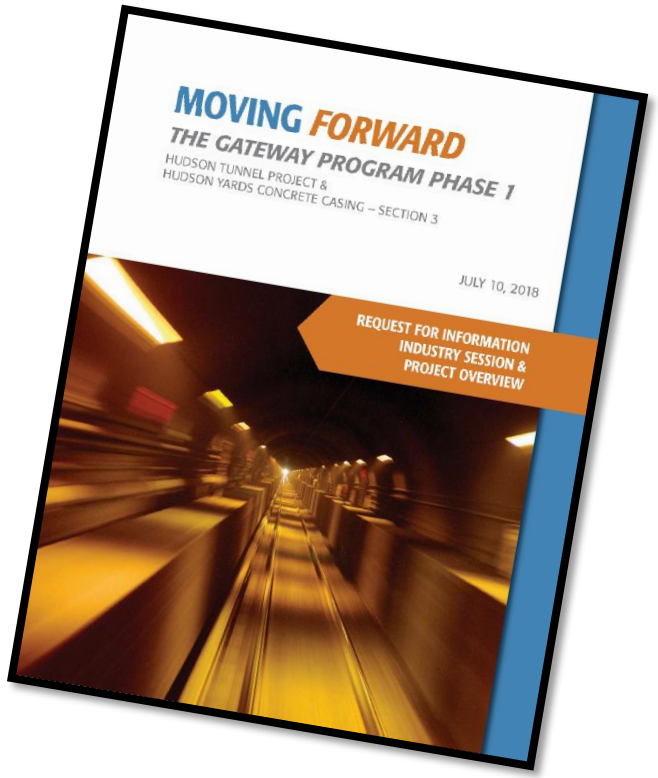
Industry Sounding – Timeline

RFI Available
GatewayProgram.org/WorkWithUs

RFI Responses Due: August 21, 2018

One-on-One Meetings
On-Going: Fall 2018

If your firm would like a **one-on-one meeting** with Project Partner Staff, please **make it clear in your RFI response**



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