



HUDSON TUNNEL PROJECT

An aerial photograph of a North Bergen, NJ area, showing a mix of residential buildings, industrial structures, and green spaces. A large, light-colored building is prominent in the center. The image is overlaid with a semi-transparent blue box containing text.

NORTH BERGEN COMMUNITY MEETING

Lido Restaurant
2600 Tonnelle Avenue
North Bergen, NJ
January 30, 2018
6:00-8:00 PM

Agenda



- Project Overview
- Construction Activities in North Bergen
- Mitigation Measures to Reduce Impacts

Project Overview

Project Overview: Environmental Impact Statement (EIS)



- **National Environmental Policy Act (NEPA)** – Before providing funds or issuing a permit, Federal agencies must consider the environmental effects of projects. This is achieved by preparing an **Environmental Impact Statement (EIS)** for the Project.
- **Project Partners:**
 - **Federal Railroad Administration (FRA):** Federal lead agency for NEPA
 - **NJ TRANSIT:** Co-lead, local agency for NEPA
 - **Amtrak:** Project design & engineering
 - **Port Authority of NY & NJ:** Project coordination & development

Project Overview: Need for the Project



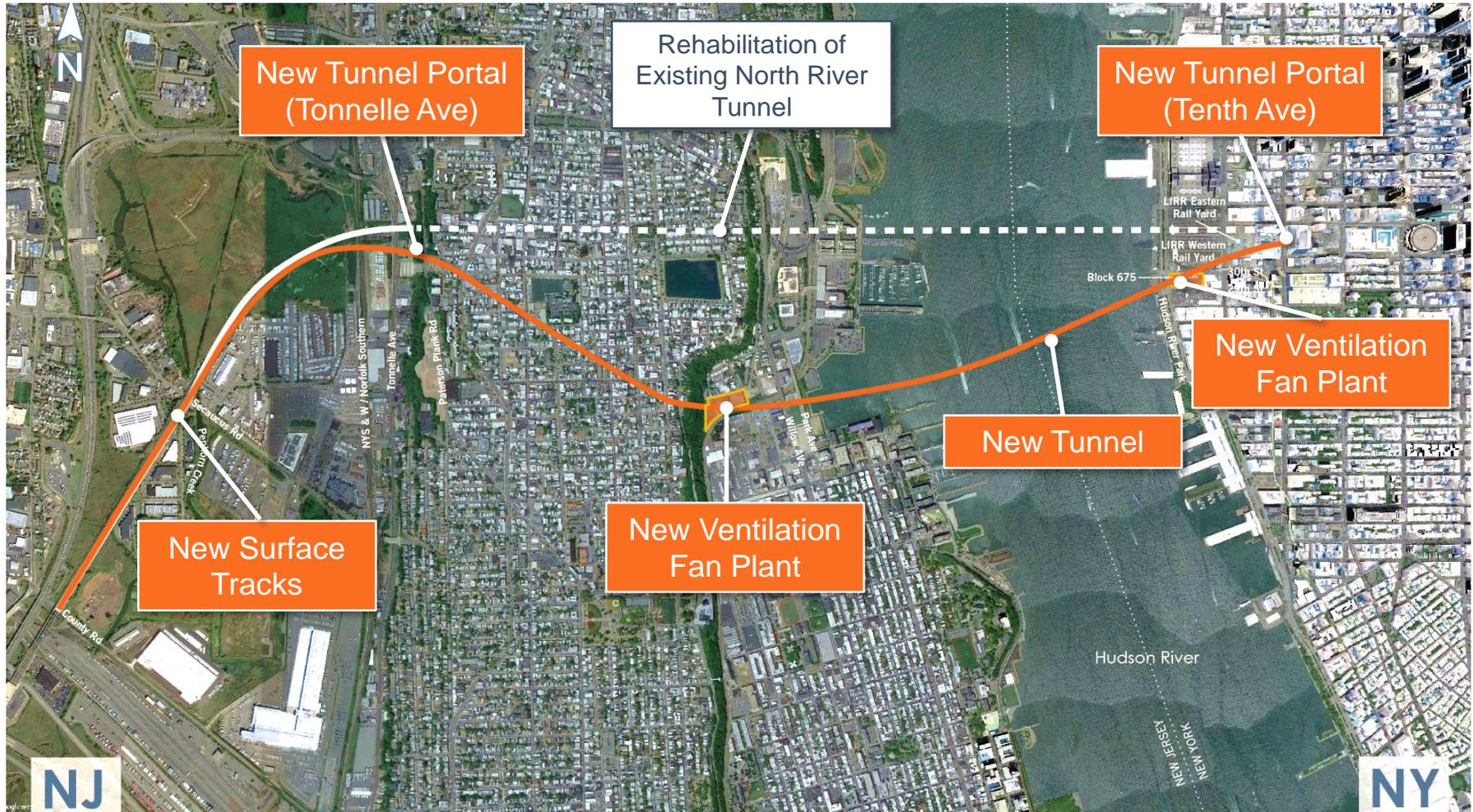
- Existing Amtrak / NJ TRANSIT rail tunnel beneath Hudson River must be closed for full reconstruction to repair damage from Superstorm Sandy
- Need for repair is urgent: storm damage continues to degrade tunnel
- Existing train service (450 trains per day) must be maintained
- New tunnel will provide train capacity during reconstruction of existing tunnel and ongoing stability and redundancy once both tunnels are operating



photos courtesy of Amtrak



Project Overview: Proposed Hudson Tunnel Project



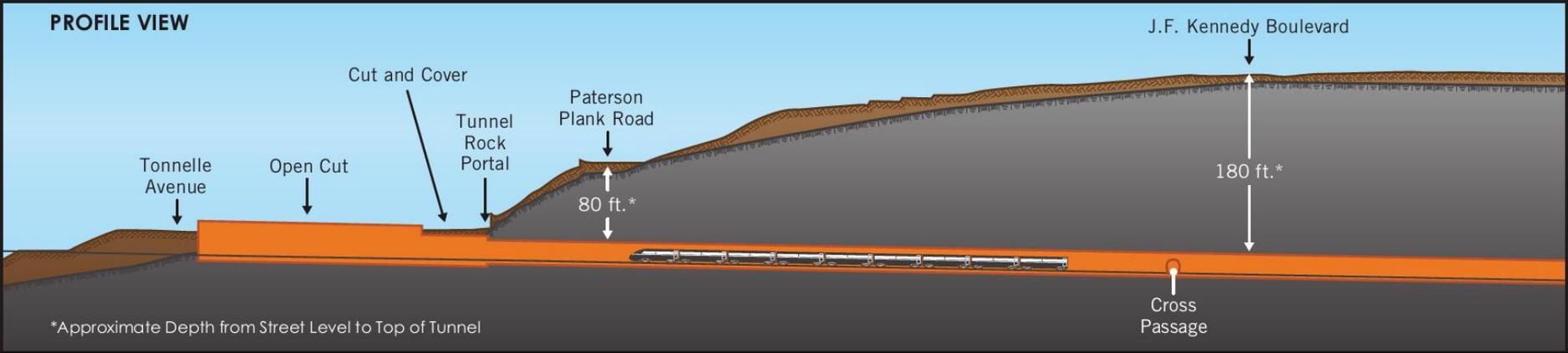
Project Overview: New Hudson River Tunnel in the Palisades



Project Overview: New Hudson River Tunnel in the Palisades



Project Overview: New Hudson River Tunnel in the Palisades

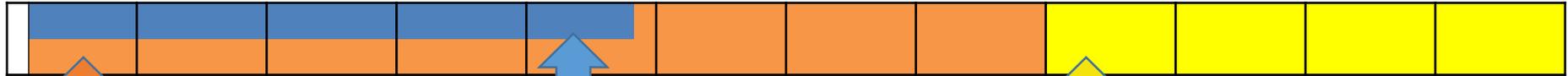


Construction Activities in North Bergen

Construction Activities: Construction at North Bergen



2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
------	------	------	------	------	------	------	------	------	------	------	------



New tunnel construction

March 2019 – December 2026

- Approach to Palisades and New Tunnel Portal
- Tunnel Excavation (Two Tubes)
- Tunnel Internal Concrete and Cross Passages
- Tunnel Tracks and Systems

Most construction: 7 AM – 11 PM,
Monday - Friday

Tunnel excavation construction:
24 hours a day (weekdays)
for two years

Surface tracks construction

March 2019 – November 2023

- Rail Underpass beneath Tonnelle Ave
- Rail Embankment and Viaduct
- Rail Bridge over Secaucus Rd
- Rail Bridge over Freight Tracks

Most construction: 7 AM – 11 PM
Monday - Friday

Embankment and viaduct construction
close to existing tracks: nighttime

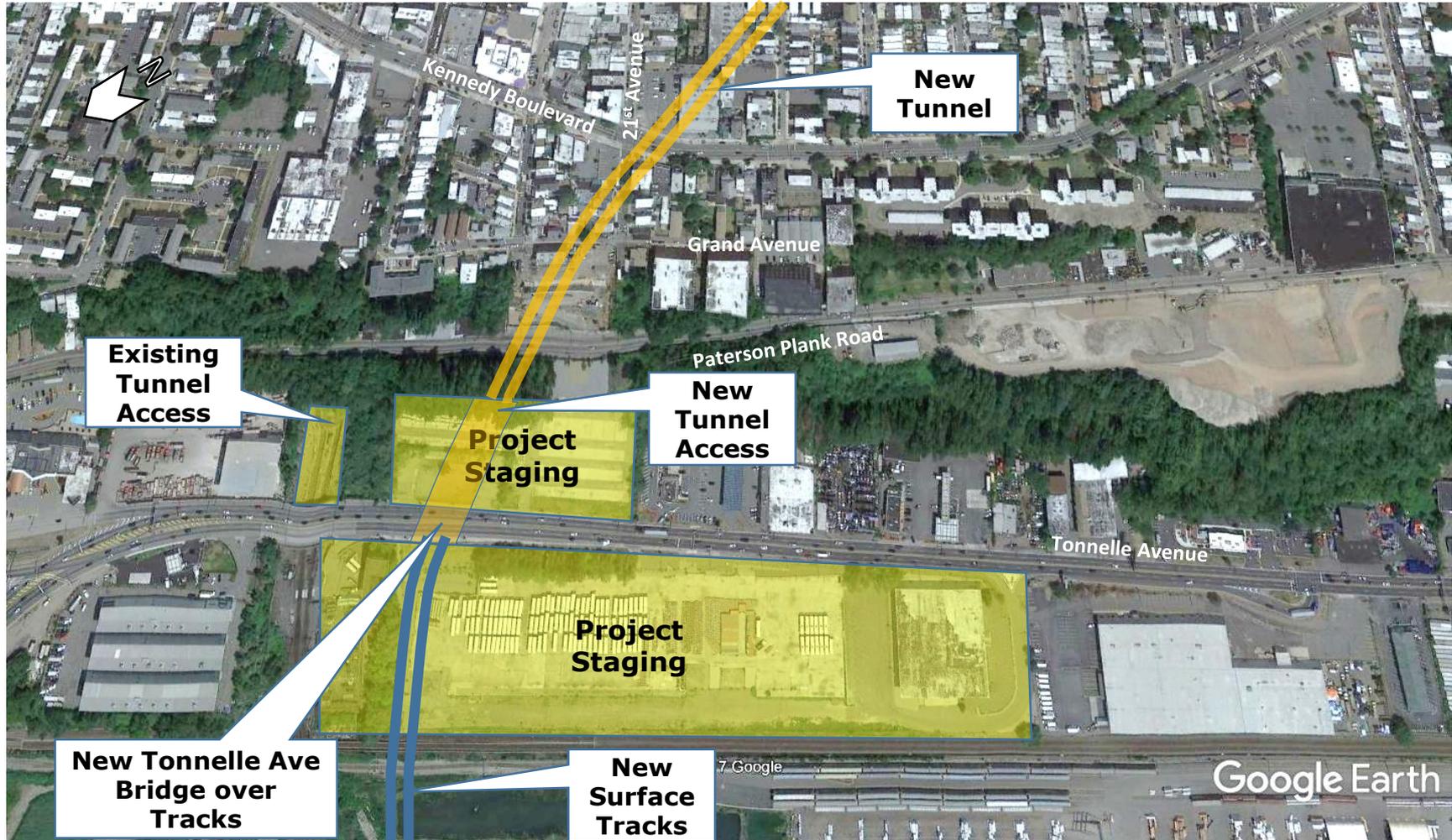
Existing tunnel rehabilitation

January 2027 – December 2030

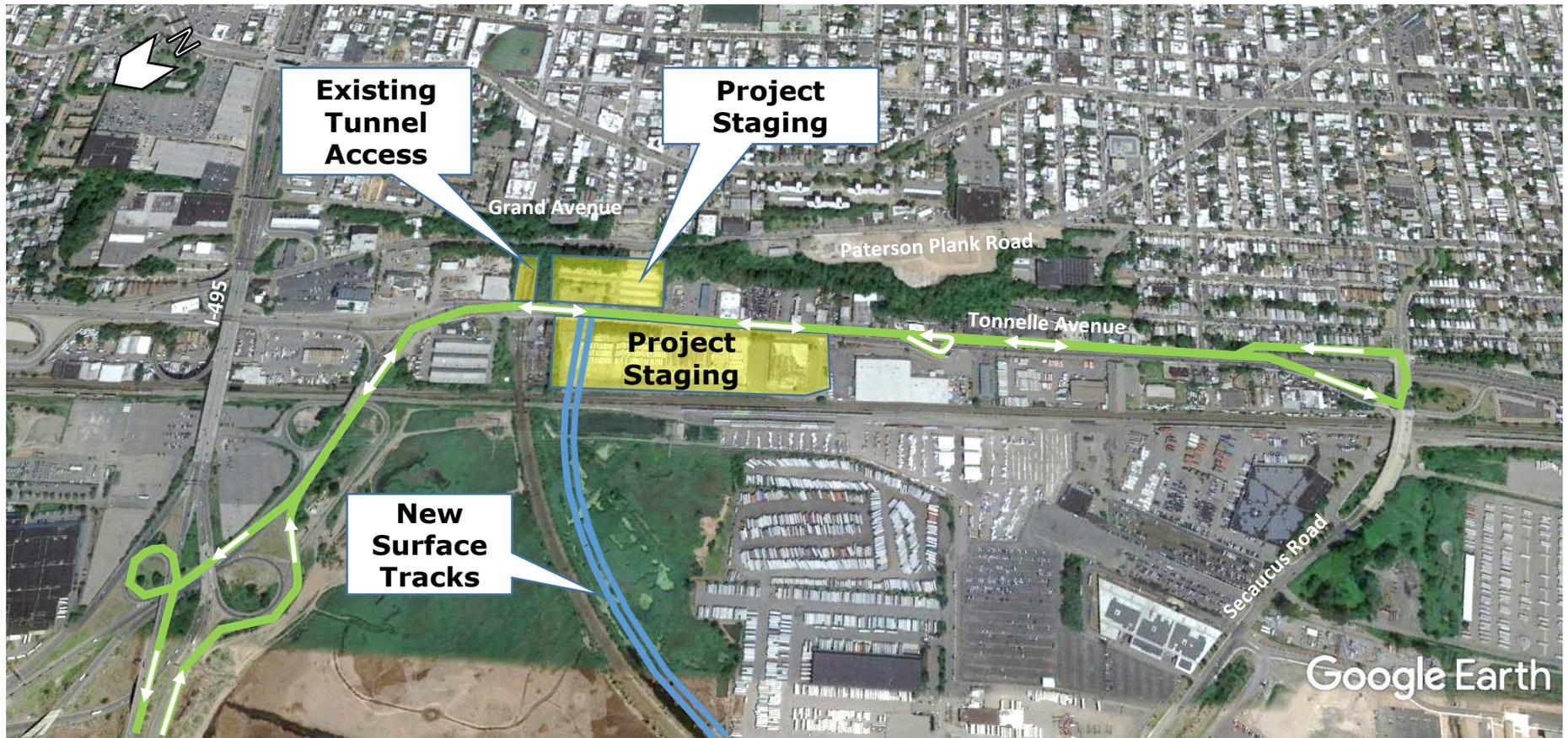
- Demolition of Existing Structures and Systems within Tunnel's Two Tubes
- Installation of New Structures and Systems

Construction: 7:30 AM – 3:30 AM
Monday - Saturday

Construction Activities: Tonnelle Avenue Staging Area



Construction Activities: Tonnelle Avenue Truck Routing



Construction Activities: Truck Volumes on Tonnelle Avenue

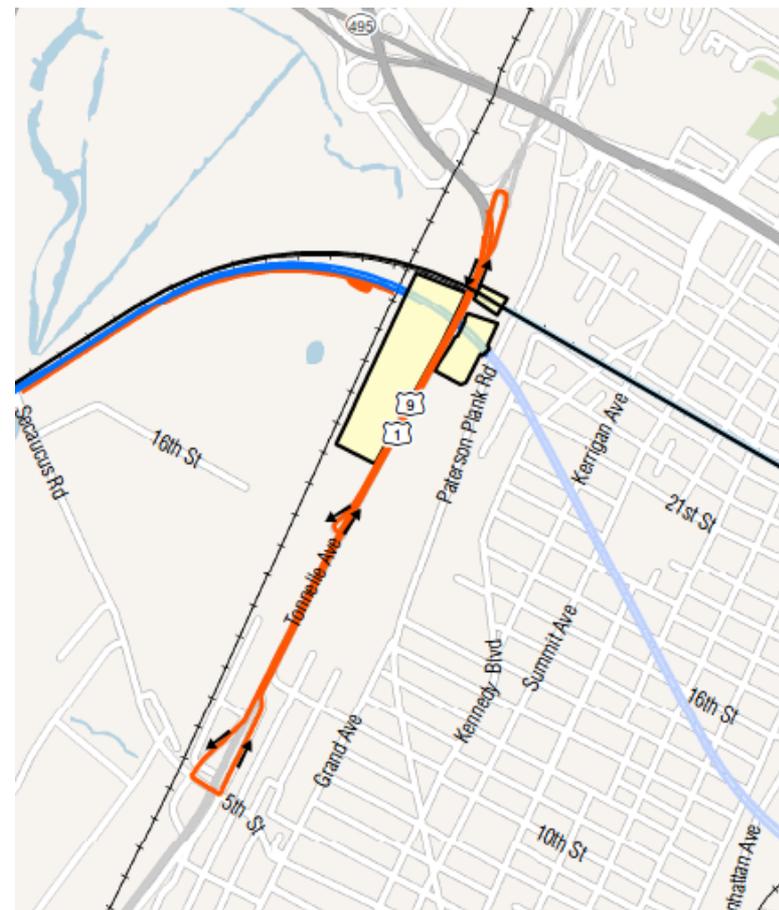


New tunnel construction (2019-2026):

- Peak of 26 trucks per hour during new tunnel excavation (up to two years)
- Fewer trucks during other activities
- Trucking Monday-Friday, 7 AM – 11 PM

Existing tunnel rehabilitation (2027-2030):

- Peak of 14-17 trucks per hour (approximately two years)
- Fewer trucks during the other two years
- Trucking Monday-Saturday, 7 AM – 3:30 AM



Construction Activities: New Tunnel Tunnel Excavation – Tunnel Boring



- Two Tunnel Boring Machines 28 feet in diameter and assembled at the staging and launch site
- Tunneling advances an average of 35 feet per day
- Excavated materials (“spoils”) removed from tunnel by conveyor behind machine to staging area



Construction Activities: New Tunnel Tunnel Excavation – Tunnel Boring



Tunnel will be lined with concrete rings

Voids behind rings will be filled with cement grout



Construction Activities: New Tunnel Cross Passages and Internal Concrete



Cross passages between tunnel tubes will be excavated through controlled drilling and blasting (2 weeks per cross passage)



Reinforcing steel and concrete will be placed in bottom of tunnel to form trackbed and benchwalls

Construction Activities: Surface Tracks Tracks through Meadowlands to Tonnelle Avenue



Pile driving for new viaduct and bridges
in the Meadowlands



Rail underpass at Tonnelle Avenue

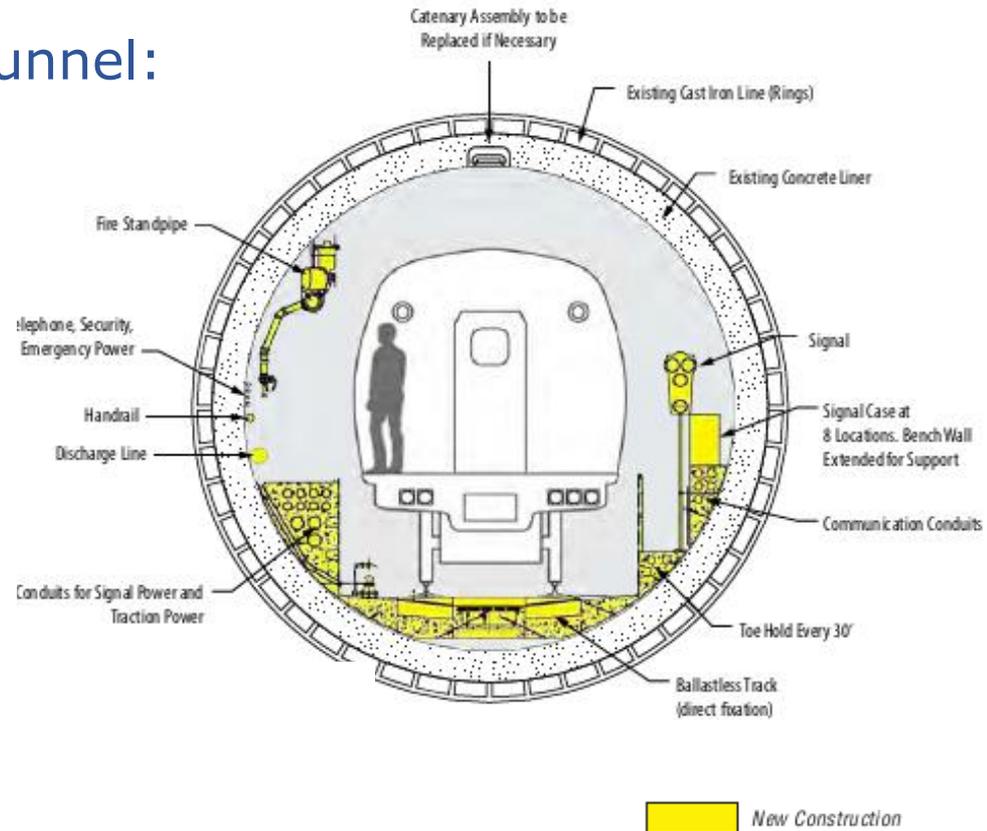
Construction Activities: Existing Tunnel Rehabilitation Demolish and Reconstruct Tunnel Interior



For each tube of the existing tunnel:

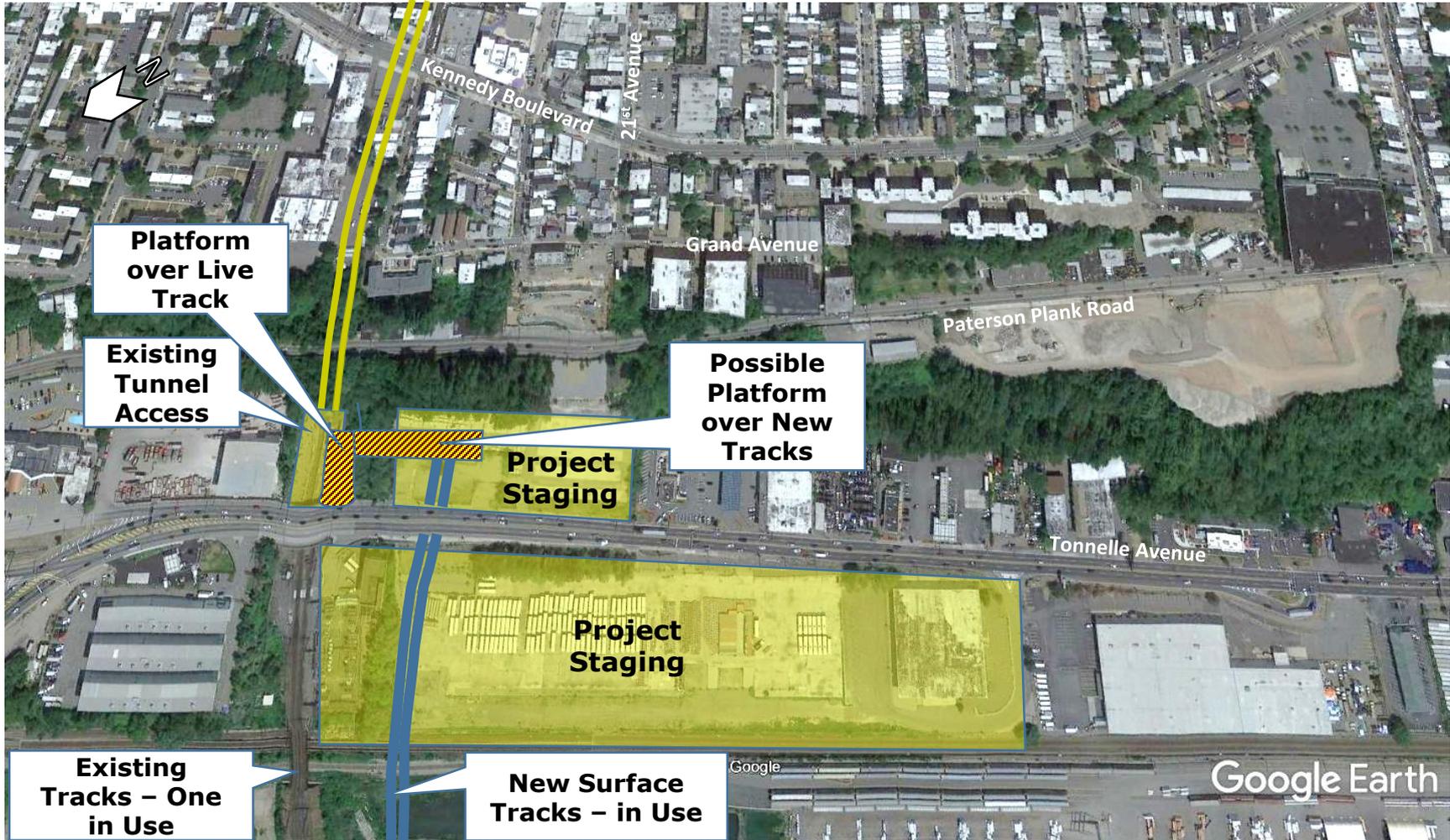
1. Decommission tracks and set up work zone (3 months)
2. Demolish and remove existing bench wall system (6 months)
3. Install new bench wall system (10 months)*
4. Demolish and remove existing tracks; install new tracks and catenary system (6 months)

Total time = 23 months per tube



* Step 3 overlaps with Steps 2 and 4

Construction Activities: Existing Tunnel Rehabilitation Tonelle Avenue Staging Area



Mitigation Measures to Reduce Impacts

Mitigation Measures to Reduce Impacts: Active and Responsive Community Engagement



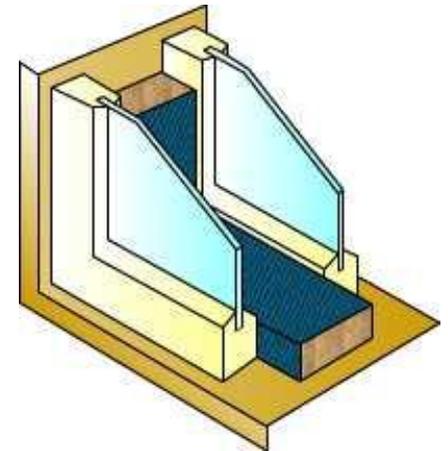
- 24-hour hotline for emergencies, construction complaints
- Neighborhood Project outreach office
- Project liaison always available to address concerns and work with community to accommodate special events where possible
- Regular meetings and coordination to identify concerns and provide information about upcoming construction
- Email/text notification for construction activities and meetings



Mitigation Measures to Reduce Impacts: Sound-Reducing Windows



- Sound-reducing windows and alternative ventilation (air conditioning) for residences above site and along truck route
 - Grand Ave, Paterson Plank Rd
 - Tonnelle Ave, 10th St – Secaucus Rd
- Sound-reducing windows lower audible noise noticeably – by up to half (depending on building construction)
- Permanent improvement for residences



Mitigation Measures to Reduce Impacts: Vibration Monitoring Program



- Vibration may be perceptible above TBM but not at a level to cause building damage
- Pre-construction surveys of buildings
- Installation of vibration sensors in buildings
- Vibration monitoring during construction
- Post-construction inspection for damage



Mitigation Measures to Reduce Impacts: Other Mitigation Measures



Enclosed conveyor for spoils removal, mufflers and baffles on equipment



Multi-approach dust control plan



Downward-directed, shielded site lighting



Maintenance and protection of traffic plan



Thank you.

Questions?