Agenda

• Near Term Activity
• Hudson Tunnel Project
• Revisions to the Project to Address Community Concerns
• Description of Construction Activities in Hoboken/Weehawken
• Proposed Mitigation Measures to Reduce Impacts
Next Steps: Geotechnical Borings (January-February 2018)

• To provide detailed information on specific soil conditions along the tunnel alignment on NJ TRANSIT site

• Approximately 10 people working 8 AM–4 PM, Monday-Friday, for 3 to 4 weeks

• Approximately 4 employee vehicles on site; vehicle rinsing stations will be used before leaving site

• Air quality monitoring before and during borings
Next Steps:
Geotechnical Borings
(January-February 2018)
Next Steps: Preliminary Environmental Remediation (Fall 2018)

• Site has Polychlorinated Biphenyl (PCB) contamination from fill brought to the site by former owners.
• NJ TRANSIT will excavate and remove contaminated soil in a safe manner.
• Soil to be transported in trucks that will be tarped to contain it.
• Portions of the site will be capped with clean fill following remediation.
• Work will occur from 7 AM – 4 PM for about six weeks.
• Up to 4 to 5 trucks per day (not every day) and 4 to 8 vacuum trucks per week for dewatering.
• Additional remediation will occur during Project construction.
Hudson Tunnel 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
Introduction: Proposed Hudson Tunnel Project

Preferred Alternative

Rehabilitation of Existing North River Tunnel

New Tunnel Portal (Tonnelle Ave)

New Tunnel Portal (Tenth Ave)

New Tunnel

New Ventilation Fan Plant

New Surface Tracks

New Ventilation Fan Plant
Revisions to the Project to Address Community Concerns
Revisions to Address Community Concerns: Major Issues Raised

- Impacts of construction activity at Hoboken/Weehawken:
  - Truck volumes (DEIS described 16 trucks per hour for up to 7 years)
  - Noise
  - Dust and air pollution
  - Hazardous materials
Revisions to Address Community Concerns: Revised Staging Plan Adopted

- Weehawken residents and elected officials requested that tunnel construction activity be shifted to Tonnelle Avenue site in North Bergen

- **Revised staging plan adopted**
  - Substantially reduces amount and duration of construction activity - most activity related to tunnel excavation will no longer occur at Hoboken/Weehawken
  - Reduces peak truck volumes through Weehawken by half
    - **Previous plan:** estimated 16 trucks per hour
    - **Revised plan:** cap of 8 trucks per hour maximum for peak activities
    - Many stages of construction would have lower truck volumes
Revisions to Address Community Concerns: Revised Staging Plan

- New Site for River Tunnel Staging and Spoils Removal
- Previous Site for River Tunnel Staging and Spoils Removal
- Reduced Trucking and Construction Activity

Hudson River
Revisions to Address Community Concerns: New Haul Route Being Evaluated

Potential Haul Routes for Trucks

Staging Area

New Haul Route Under Consideration
Description of Construction Activities in Hoboken/Weehawken
Construction Activities: Construction at Hoboken/Weehawken

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Ventilation shaft construction</td>
<td>March 2019</td>
<td>December 2020</td>
</tr>
<tr>
<td>2020</td>
<td>Tunnel excavation support</td>
<td>January 2021</td>
<td>August 2023</td>
</tr>
<tr>
<td>2021</td>
<td>Ventilation building construction</td>
<td>September 2023</td>
<td>August 2026</td>
</tr>
</tbody>
</table>

- Three phases of activity:
  - Ventilation shaft construction – 100 feet deep from surface to tunnel depth
  - Tunnel excavation support – support for the staging that will occur at Tonnelle Avenue
  - Ventilation building construction
Construction Activities: Hoboken/Weehawken Site Layout

- 25-Foot-High Noise Wall
- Truck Access Along HBLR
- Storage and Worker Facilities
- Equipment and Storage
- Shaft
- HBLR
- West 18th Street
- Parking and Staging
- Tire washing and mud mats
Construction Activities: Ventilation Shaft
Slurry Wall Construction: 5 Months

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>Excavate Trench and Fill with Slurry</td>
</tr>
<tr>
<td>2020</td>
<td>Insert Steel Reinforcing Cage and Place Concrete</td>
</tr>
</tbody>
</table>

Excavate Trench and Fill with Slurry
Insert Steel Reinforcing Cage and Place Concrete
Construction Activities: Ventilation Shaft
Shaft Excavation:
12 Months
Construction Activities: Tunnel Support
Access Point to Tunnel:
32 Months

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
</tr>
</thead>
</table>

- **Tunnel Boring Machine in Tunnel at Bottom of Shaft**
- **Supplies Delivered into Tunnel at Shaft**

[Images of tunnel boring machine and supplies delivery]
Construction Activities: Ventilation Building
Building Construction: 36 Months

1. Below-Grade Structure and Final Shaft Lining: 10 Months

2. Above-Grade Structure: 11 Months

3. Building Fit-Out: 15 Months
Construction Activities: Activity at Hoboken/Weehawken Site

• No trucking to and from the Hoboken/Weehawken site after 10 PM.
• Construction on weekdays, 7 AM to 11 PM.
• Overnight activity at site may be required on occasion to support tunnel activity.
Proposed 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: 25-Foot-High Noise Wall during Construction
Mitigation Measures to Reduce Impacts: Sound-Reducing Windows

• Sound-reducing windows for residences across from site and along truck routes
• Sound-reducing windows lower audible noise noticeably – by up to half (depending on building construction)
• Improve heat and air conditioning efficiency
• Permanent improvement for residences
Mitigation Measures to Reduce Impacts: Other Mitigation

Noise reduction measures including use of pile drilling instead of pile driving where possible.

Hazardous materials remediation with Health and Safety Plan and air monitoring.

Multi-approach dust control plan.

Vibration monitoring program.

Downward-directed, shielded site lighting no higher than noise wall.
Summary

• Adopted revised staging plan that substantially reduces construction activity at Hoboken/Weehawken site
• Cut peak Project trucking in Hoboken/Weehawken in half – commitment to cap of 8 trucks per hour into and out of the site; truck volumes during many activities would be lower
• Additional haul route along HBLR being evaluated
• Commitment to numerous mitigation measures to reduce construction impact
Thank you.

Questions?