Welcome being recorded. Frederick Douglass Tunnel Program

PLEASE NOTE:

This meeting is

Quarterly Program Outreach Meeting

Monday, March 10, 2025 Virtual Meeting



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Virtual Meeting Safety Reminder

- Be aware of your surroundings
- Push your chair in if you get up
- Use covered containers for beverages



- Monitor distance Should be 18" to 24" from your eyes
- Monitor height –Top of the monitor should be eye-level and slightly tilted
- Arms Relax shoulders; forearms parallel to the floor; minimal bend at the wrist
- Chair Should have a backrest and armrests; adjust height
- Legs Thighs parallel to the floor
- Feet Parallel to the floor; use a footrest if necessary

Frederick Douglass Tunnel



Virtual Meeting Guidelines

- Please note: This presentation is being recorded and will be available in a few days on the Frederick Douglass Tunnel Program website
- The facilitator's role is to help the move through the presentation and lead the community and subject matter experts through the Q&A
- Attendees are encouraged to submit your questions during the presentation using the Q&A chat function
- We will respond to questions during a facilitated discussion at the end of the presentation
- If you are joining via phone call, please press *5 to raise your hand and we will unmute you (*6) to allow you to ask your question

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- If you have questions regarding topics not being covered in tonight's presentation, please contact us via email at <u>fdtunnel@amtrak.com</u> or call (443) 423-1115
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Agenda

- Community Engagement
- Program Overview / Recap
- Construction Updates
- Ongoing Construction
- Introduction to Tunneling
 - Inspections
 - Instrumentation & Monitoring
 - Utility Location
- Traffic Modifications
- Workforce Development Efforts
- Q & A / Next Steps











Community Engagement

The Program Engagement Team is committed to meeting with community members and other stakeholders to discuss the Program, answer questions, and learn from the community.

Digital, Traditional, and Media Engagement Tools

- Program website (as needed)
- Program social media (weekly)
- Quarterly Newsletters
- Informational fact sheets and FAQs
- Doorhangers and signage
- Direct mail, email, text messages (starting in 2025)
- Press Releases and Media Outreach
- Program email and phone number
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In-Person Engagement:

- Host *quarterly* in-person and virtual public meetings
- Attend community meetings by request
- Participate in community clean-ups, fairs, events, and community service activities
- Please provide event details to fdtunnel@amtrak.com



2024 Community Engagement By the Numbers

Meetings & Events

10 Program Hosted Meetings13 Elected Official Briefings22 Community & Stewardship Events

Meeting Notices

7,000+ Notices Mailed 2,500+ Notifications Emailed







Matthew Henson Community Meeting



Sowebo Fest – May 2024





Program Background and Overview





About Amtrak: America's Railroad



- 500+ destinations across 46 states and 3 Canadian provinces
- 22,000+ employees
- 33 million passengers per year

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8

B&P Tunnel Background

- The existing tunnel located between West Baltimore MARC Station and Baltimore Penn Station is over 150 Years old...that's nearly as old as Druid Hill Park!
- The B&P Tunnel carries 14 million MARC (Penn Line) & Amtrak passengers per year on the Northeast Corridor (NEC)

Top Issues:

- Aging structure
- Trains frequently delayed traveling through the tunnel with speeds limited to 30 mph maximum
- High maintenance (frequent outages)
- No redundancy & resiliency
- Biggest rail bottleneck between Washington, DC and New Jersey





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Frederick Douglass Tunnel Program Overview



- 10 miles of rail improvements along the NEC
- ~2 miles of new tunnel per bore in West Baltimore (two tunnel bores)
- New and improved railroad infrastructure
- New ADA-accessible West Baltimore MARC Station
- State-of-the-art modern fire/life safety systems
- 5 Bridge replacements in Baltimore City (2 roadway, 3 railroad bridges)
- 11 Baltimore City roadway modifications

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 Noise barriers in Midtown Edmondson and Greater Rosemont communities

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¹⁰ **fdtunnel.com**

Program Benefits



\$50 million for COMMUNITY INVESTMENTS



Local jobs centers to train the **WORKFORCE**

Increased ACCESS TO REGIONAL JOBS for Baltimore City residents



Approximately 20,000 JOBS GENERATED over the course of construction



Construction of a new **ADA-ACCESSIBLE** West Baltimore **MARC STATION**



IMPROVEMENTS to roadway and bridge INFRASTRUCTURE



ENVIRONMENTAL SUSTAINABILITY

addition of electrified trains and solar powered facilities and stations



ACCESS TO SALVAGE MATERIALS for residents of Midtown Edmondson and Edmondson Avenue Historic Districts



RELIABILITY, **REDUNDANCY** and **RESILIENCY** for MARC and Amtrak trains



Construction of a **NEW TUNNEL**, named in honor of Frederick Douglass



IMPROVED TRIP TIME. Travel from Baltimore to Washington in under 30 minutes



Complete MODERNIZATION of Amtrak's NORTHEAST CORRIDOR in West Baltimore

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Frederick Douglass Tunnel

2025 – 2028 Major Construction Activities

- Site preparation (multiple locations) Ongoing
- Utility relocation (multiple locations) Ongoing
- Utility Siphon (tunnel carrying utilities under existing Amtrak NEC) Spring 2025

Frederick Douglass Tunnel

- Roadway lowering Mulberry St Summer 2025
- Portal (entrances to tunnel) construction Winter 2025
- Railroad bridge construction Mulberry St Spring 2026
- Roadway bridge construction Lafayette Ave Fall 2026
- Roadway lowering Franklin St Winter 2026
- Tunnel construction Winter 2026
- Railroad bridge construction Franklin St Summer 2027
- Roadway bridge construction Edmondson Ave Fall 2027
- Railroad bridge construction Warwick Ave Summer 2028
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Current Activities





Program Construction Area Map



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Frederick Douglass Tunnel

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Current Program Construction Activity Areas



15

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Preconstruction Inspection

- A preconstruction inspection documents the existing interior and exterior conditions of homes/buildings adjacent to the Frederick Douglass tunnel alignment
- Property owners benefit from getting this inspection prior to the start of construction to document the condition of their property in the unlikely event of damage during construction
- Inspections will take approximately one hour and will include photos that document existing physical conditions and a written report of the findings of the inspector.
- Eligible property owners will receive a letter via UPS or FedEx with instructions on how to schedule an appointment





¹⁶ **fdtunnel.com**

Construction Monitoring (Movement)





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- Once eligibility for a preconstruction inspection has been determined and permission is granted by property owner, the contractor will install instruments to monitor for movement
- This work will be coordinated and permitted with Baltimore City agencies
- The contractor will provide security for monitoring devices
- The instruments may be placed:
 - In ground to measure potential movement and groundwater levels
 - On adjacent structures (with owner permission)
 - On ground (sidewalk) surface
 - On utilities



Construction Monitoring (Noise & Vibration)



Noise monitor



Vibration monitor

- The contractor will install instruments to monitor for noise and vibration in public right-of-way (not on homes)
- This work has been coordinated and permitted by Baltimore City agencies
- The contractor will measure current background noise and vibration prior to the start of construction to establish baseline readings



Geotechnical Instrumentation and Monitoring

Objectives

- Monitor Rail and Catenary lines
- Monitor Utilities
- Monitor Tunnel Deformation
- Monitor Private Properties

Instruments

- Piezometers
- Inclinometers
- Extensometers
- Tiltmeters
- Surface Monitoring Points
- Utility Monitoring Points
- Convergence Monitoring Points
- Crack Gauges
- Survey Prisms and AMTS
- ¹⁹ **fdtunnel.com**



Utility Siphon Shafts and Tunnel





Clearing the Work Zone

Blasting is needed to break up rock found along the program alignment.

- The rock will be broken into manageably-sized pieces so it can be removed.
- Controlled drill and shoot is a technique used worldwide to safely and effectively excavate rock for shafts and tunnels, especially in urban environments.
- Other alternatives to blasting were evaluated for the utility siphon tunnel but determined to be less effective.

We will blast:

- Shafts two vertical shafts down to approximately 70-80 feet below existing grade.
- Utility siphon tunnel will carry the relocated City of Baltimore water, sewer, storm, and CTV utilities under the current and future Amtrak railroad right-of-way
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Rock Excavation Planning & Mitigations

- Assess excavation needs and prepare a blasting plan with blasting consultant
- Identify key vibration mitigation measures to be used
- Select mitigation methods to limit vibration impacts to adjacent structures
 - Controlled blasting
 - Use of blast mats
 - Use of shaft covers
 - Use of blast relief holes





Shaft covers

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- Controlled blasting work windows
 - Limited to daylight hours unless approved by the City
 - Off hour work may be required when working close to or under operating railroad tracks for safety reasons
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Condition Surveys – Controlled Blasting Zone of Influence

Limit of Conditions Surveys

Defined by Baltimore City Green Book

Surveys will be offered to all properties within a 150-foot radius of proposed drill and shoot rock excavation locations



Process to Prepare for the Utility Siphon

- Support of Excavation Installation team will use a liner plate and rib beams to support the excavation in soil
- Excavation uses heavy equipment to dig through soil from the surface down to the depth where rock is encountered
- This work is expected to begin Spring 2025







Advance Notifications

In addition to the notifications that the FDT team sends regarding construction work, additional notifications will be provided to affected neighbors as the Program begins drill and shoot rock excavation work. You can expect:

- Advanced notifications for property owners immediately adjacent to the work
- On site 5-Minute, 1-Minute, "Fire In The Hole" Notifications
 - ✓ Clearing and Guarding
 - ✓ Air Horn
 - ✓ Provided for every blast
 - ✓ Verbal on-site "All Clear"





Protecting neighbors during blasting work

- A Federally licensed contractor, will be responsible for transporting and handling all explosives from their facilities to/from the jobsite.
- All explosive materials removed from truck will be inventoried to keep an accurate accounting of all materials used.
- Each round will be loaded and tied-in per the blasting plan, and initiated by the Blaster in Charge
- The blasting contractor will remain on site until after the blast and the round is cleared.
- Once drill and shoot work is complete, any explosives remaining on-site will be returned and recorded on the inventory log before being removed from the site.
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No explosives will be stored on site outside of work hours



Protecting neighbors during blasting work

- The contractor will construct noise barrier walls that abut the area where the utility siphon is being installed
- A professional engineer designed the walls to withstand 80 mph wind loads
- The contractor will mount the walls on concrete jersey barriers or posts for rigidity



Example of construction area noise walls



Tunnel – Kiewit Shea Tunnel Contractors

Over 3 decades of building in the Baltimore community

- Ellicott City North Tunnel (Current)
- Baltimore Phoenix Shot Tower Tunnel
- Fort McHenry Tunnel
- Calvert & St. Paul Bridges over MTA
- Multiple MTA improvement projects
- I83/JFX Expressway
- WMATA Yellow Line Tunnel and Bridge Repairs & Multiple other WMATA, DC & DMV Area Projects



Frederick Douglass Tunnel



Tunneling Expertise

- Kiewit Shea Tunnel Constructors KSTC
 - Kiewit Founded 1884
 - JF Shea Founded 1881
- State of the art tunneling machines and operations
- Combining resources to deliver the Frederick Douglass Tunnel
- Team of managers and supervisors who lead the tunneling industry
 - More than 800 years of professional tunnel experience provided to FDT
- KSTC recent successful projects in the United States
 - Washington D.C., New York, Chicago, Los Angeles





Parts of a Tunnel Boring Machine (TBM)



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TBM Tunneling and the Community

Using a Tunnel Boring Machine (TBM) for tunneling generally has a low impact on the surrounding communities. It is often preferred over open cut or cut-and-cover operations which have higher levels of disturbance to surrounding communities.







TBM Tunneling and the Community

The most critical portions of TBM Tunneling operations include:

- 1. TBM delivery, installation and assembly
- 2. Slurry plant operations
- 3. Conveyor system operations
- 4. Muck removal
- 5. Segment delivery
- 6. TBM removal





Frederick Douglass Tunnel Specifications

- 2 2 mile long (10,300 ft) TBM Bored Tunnels, 28'- 4" diameter
- Concrete Tunnel Liner (26') diameter
- 11 cross passages between tunnels





Lafayette Avenue Bridge

FUTURE South Portal Area Flanigan Property

> FUTURE South Ventilation Facility

Open Cut Section

South Portal Work

- Support of Excavation/Excavation
- TBM Launch Area
- South Approach Concrete U-Structure
- South Ventilation Building



South Portal Site – General Overview



SITE A

- Tunnel Boring Machine(TBM) launch
- Construction of TBM launch trench and ventilation facility
 SITE B
- Temporary shaft for tunneling
- Staging area for Concrete Tunnel Liner (receiving truck loads)
- Muck bins (loading trucks to haul offsite)

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Temporary Shaft (Flanigan Site)

Purpose

- Primary Tunnel Excavation Location
- Muck (excavated material) removal
- Segments transportation
- Utilities water, discharge, air, electricity, slurry pipes, etc.
- Crew transportation / Site Access
- Optimum Location







North Portal

Planned activities

- Support of Excavation/Excavation
- Ground Improvement Grouting
- N Portal Concrete Block Structure
- TBM receiving area
- TBM disassembly and transporting off-site

Timeline (Preliminary, subject to change)

- Fall 2025: Site setup & equipment mobilization
- TBM #1 Disassembly: Mid 2029
- TBM #2 Disassembly: Winter 2029
- Fall 2032: Site restoration





³⁸ fdtunnel.com

Preparing for Tunneling

As we prepare for the construction of the new Frederick Douglass Tunnel (two bores), early work must be done to prepare for the tunneling activity. This work includes:

- The construction of the new Southern Approach
- Utility relocations and roadway reconstruction
- Construction of the new south approach "U" structure
- Using drill and blast excavation methods to construct a utility siphon tunnel that will carry utilities under the existing railroad tracks

Frederick Douglass Tunnel

• The installation of several utilities using trenchless methods (jack and bore)



Using an Open Face TBM

Basic Function

- Excavate and support ground
- Removed excavated material

Rationale

- Suitable for deep tunnel construction in urban environments
- Capable of tunneling without causing disturbance to surface structures
- Continuous operation with a higher advance rate reducing cost and construction time
- Used in stable geological conditions like rock
- Greater worker safety by providing a better underground working environment
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Tunneling Techniques



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41





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1 – Fabricate and Deliver Segments

- Fabricate segments per design
- Transport segments to the project site
- Receive loads of precast tunnel segments
- Unload segments on-site



Fabricate at Factory



Transport to site



Unload On-Site





2 – Install and Assemble TBM

- Receive trucks containing TBM materials
- Unload and stage TBM on site
- Assemble the TBM







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3 – Slurry Plant Operations (on Flanigan site)

- Build the slurry plants
- Install piping to TBMs
- Dispose of muck







4 – Conveyor Belt Operations (on Flanigan site)

- Build the conveyor belts
- Maintain belts throughout tunneling
- Eliminate fugitive noise and dust to protect communities





4 - Conveyor Belt Ops (on Flanigan site)



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5 – Remove Muck (on Flanigan site)

 Remove the excavated material from site using dump trucks and/or rail cars on approved haul routes



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6 – Remove TBM

- Complete mining
- Disassemble TBM segments
- Haul TBM off-site



Ohio River Tunnel, Louisville Kentucky Dia - 20 ft, Length – 4 mi, ≈220 ft below ground



White River Tunnel, Indianapolis Indiana Dia - 18 ft, Length – 6 mi, ≈ 200 ft below ground

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Tunneling Schedule



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49

Upcoming Traffic Modifications





Early Construction Activities

- Status: Active Construction
- Work Duration: Approximately 2 years
- Ongoing Work Activities
 - Utility relocation (water, sewer, electric duct)
 - Roadway reconstruction & realignment of W. Lanvale St
 - Sidewalk, curb & gutter reconstruction
 - Final signing & pavement marking installation
 - Inverted siphon construction
- Traffic Modifications:
 - Street closures on N. Pulaski & N. Payson St
- Parking Restrictions:
 - Yes. On-street parking will be restricted.
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Early Bridge Construction Work

- Status: Mobilization Spring 2025
- Work Duration: Spring 2025 Winter 2026
- Expected Work Activities:
 - Roadway lowering
 - Utility reconstruction
 - W. Mulberry St abutment construction
 - New W. Mulberry St bridge construction
- Traffic Modifications:
 - W. Mulberry Street closure
- Parking Restrictions:
 - None
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Upcoming Road Closures

Impacted Roadways: Partial or Full Closures

- Pulaski St: Current Summer 2026
- Lanvale St: Spring 2025 Summer 2026
- Brice St: Spring 2025 Summer 2026
- Payson St: Spring 2025 Summer 2026

Local traffic will be permitted access to properties although on street parking may be impacted.



W. Mulberry Street Detour

Early 2025 – Late 2026

W. Mulberry St Work

- Details of the upcoming work are being finalized
- The Program team is working with BCDOT and MTA to develop Maintenance of Traffic Plans to help minimize disruptions while providing safe and efficient traffic flow
- Buses, pedestrians, and transit riders will retain access to West Baltimore MARC Station





Workforce Development Efforts

Employment opportunities will ramp up later this year as construction advances.

Amtrak is working closely to ensure that workforce development efforts provide significant and diverse range of strategies and initiatives designed to enhance the skills, knowledge, and competencies of individuals seeking employment or career growth.

The goal is for these initiatives to provide significant benefits and support for Baltimore residents. Key partners include:

- Mayor's Office of Employment Development (MOED)
- Maryland Philanthropy Network's (MPN)
 / Baltimore Workforce Funder Collaborative
- Baltimore-DC Building and Construction Trades Council
- Clark Stacy Witbeck (CSW)
- Kiewit Shea Tunnel Construction (KSTC)
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Workforce Development Key Elements



Training and apprenticeship programs to prepare individuals for union-paid jobs.



Job readiness and professional development.



Employment opportunities and local hiring preferences for Baltimore contractors



Direct community investments for ongoing and future workforce development initiatives in the community.



Key takeaways from this meeting

- The Program team will come to meet with communities at their request to share updates and answer questions
- Construction is underway to prepare for the future southern approach to the tunnel
- Utility relocation work is occurring to make space for the tunneling to begin in 2026
- Contractors will use tunnel boring machines (TBMs) to construct the two new tunnels that will become the Frederick Douglass Tunnel
- Traffic detours are beginning this Spring to prepare for the reconstruction of the Mulberry and Franklin Street bridges
- The Program is implementing several measures to help protect the community during construction
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Sign up for construction notifications

Slick Text

 Tool being used to send text messages to community members who opt IN to receive construction notifications.

Text colored KEYWORDS below to (833) 917-3749





FDTNorth

FDTSouth



FDTConstruct





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Sign up for Program and construction notices

Constant Contact

 Tool being used to send bi-weekly emails to individuals who opt IN to receive construction notifications or Program information.













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Questions & Comments





Breakout Rooms – Discussions w/ Negotiators

- To support questions you may have regarding your property, we have asked members of the real estate negotiating team to join us at this meeting.
- If you would like to discuss an offer that you may have received, please use the Q&A button to place your name and property address in the dialogue box.
 Please also provide the name of your assigned negotiator if you know it.



