

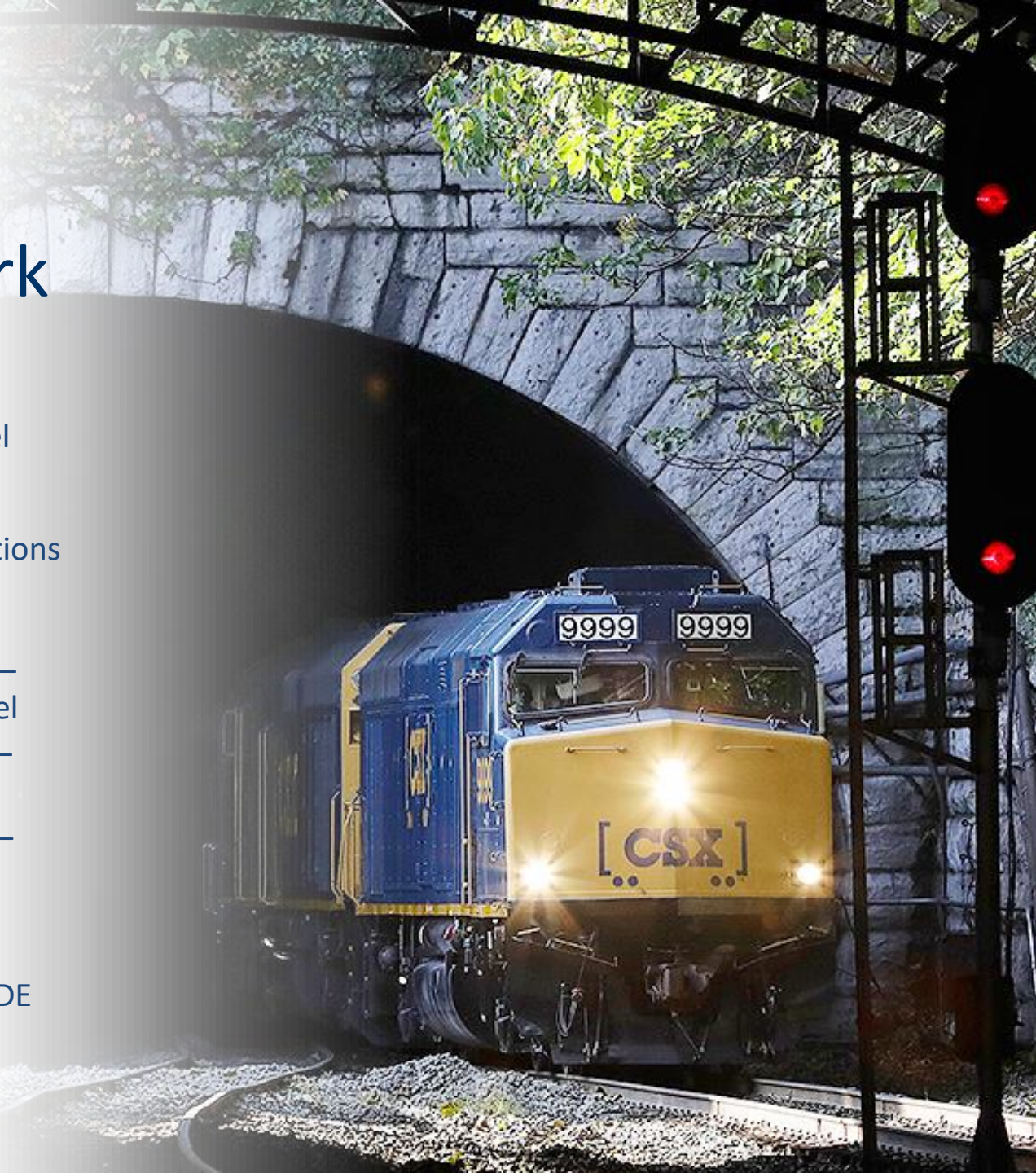
Presentation to the
National Capital Region Transportation Planning Board
January 6, 2022

Howard Street Tunnel Project



HST Project Scope of Work

- The Howard Street Tunnel (HST) Project consists of double-stack clearance improvements at 23 locations between Baltimore and Philadelphia
 - Tunnel modification – Howard Street Tunnel
 - Bridge modification – North Avenue
 - Bridge replacement – Guilford Avenue and Harford Road
 - Track lowering – 19 locations in MD (8), DE (2) and PA (9)



Project Funding

INFRA Grant	\$125.0 million
State of Maryland	\$202.5 million
CSX	\$113.0 million
PennDOT Grant*	\$22.5 million
FHWA Formula Funds**	\$3.0 million
TOTAL	\$466.0 million

- State of Maryland match will be spread over four years and includes Transportation Trust Fund, Maryland Transportation Authority, General Fund and General Obligation Bonds funding sources

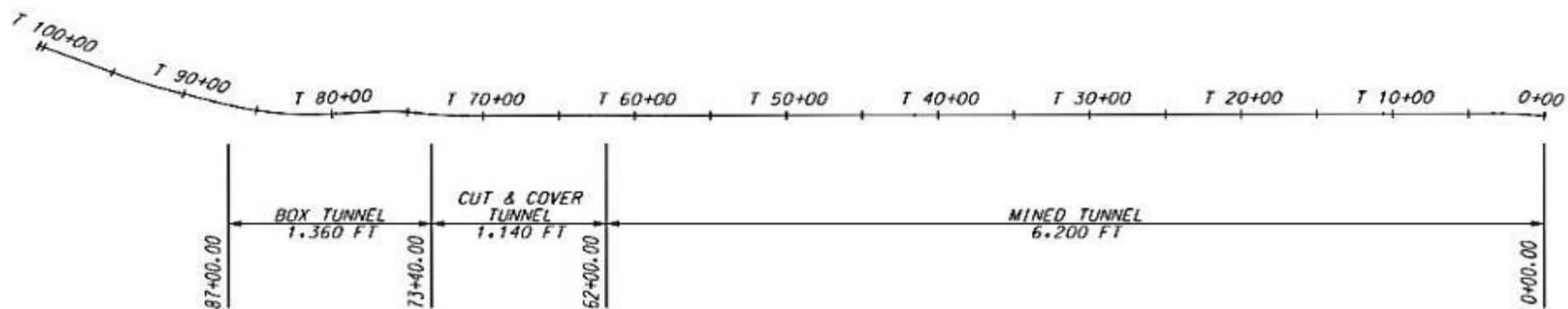
*PennDOT grant to cover bridge clearances in Pennsylvania

-CSX was awarded \$14.4m in December 2019 and expects to receive the remaining \$8.1m from PennDOT next year

** FHWA formula funding to be used on Harford Road bridge replacement

Howard Street Tunnel

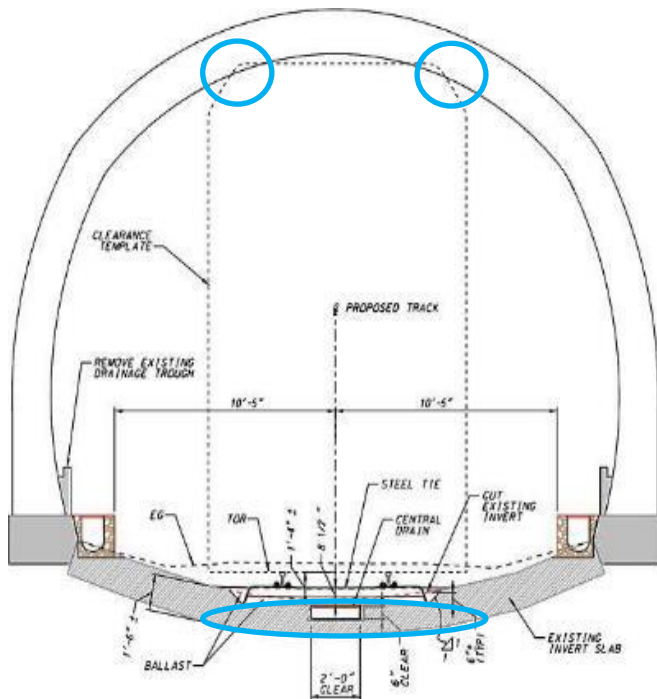
- Originally constructed between 1890 – 1895 – extended in the 1980's
- Three distinct tunnel sections
 - Mined section
 - Cut and cover section
 - Concrete box section
- Total length: 8,700'
- Runs generally under Howard Street from Camden Station to Mt. Royal Station
- Single Track tunnel – 19'6" Clearance



Howard Street Tunnel Clearance

Mined Section (STA. 0+00 to 52+50)

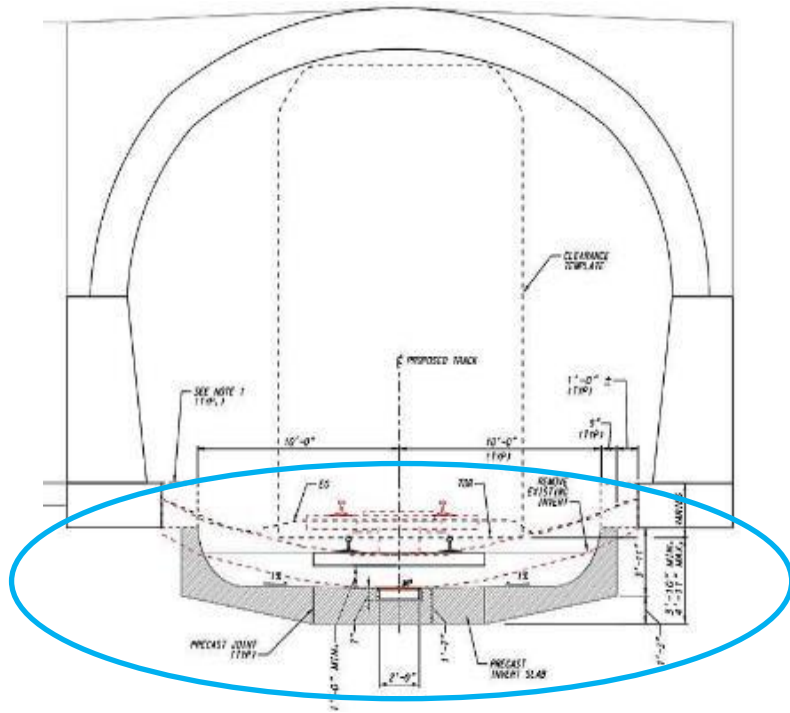
- Arch modification, invert modification, track lowering, steel ties



Howard Street Tunnel Clearance

Cut and Cover Section / Portion of Mined (STA. 52+50 to 73+30)

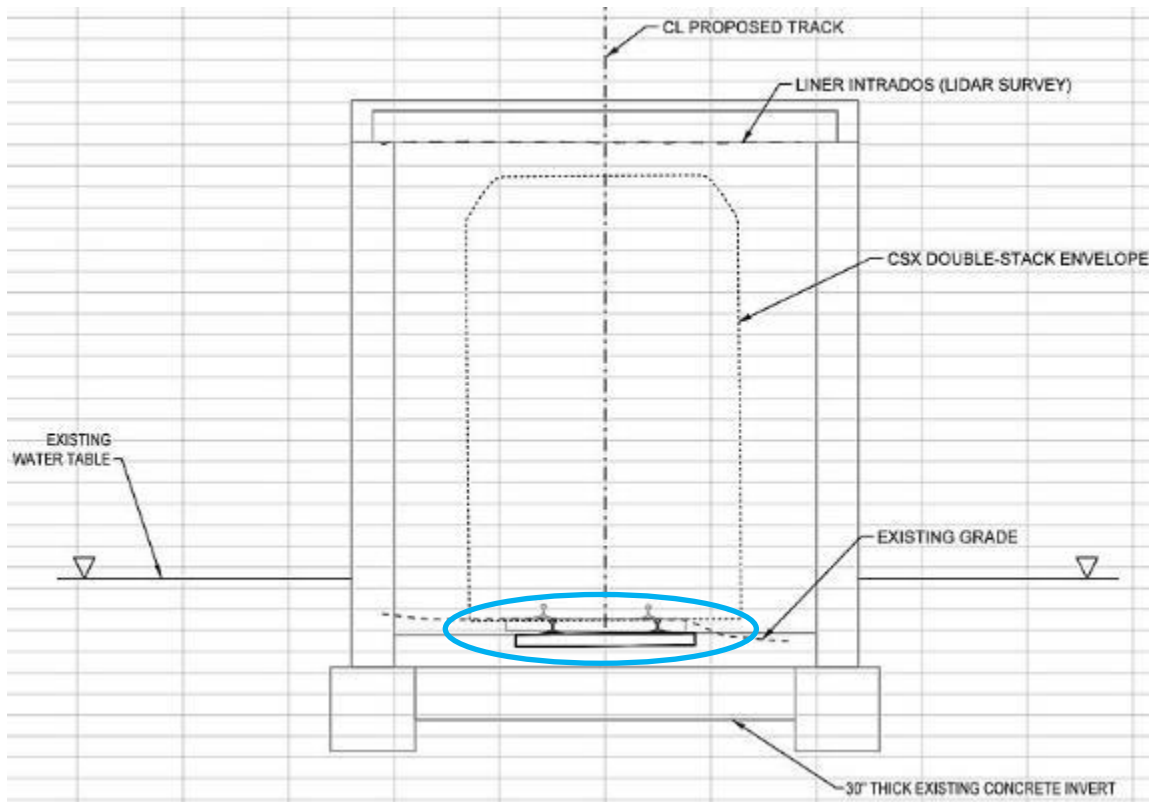
- Track undercutting



Howard Street Tunnel Clearance

Concrete Box Section (STA. 73+30 to 87+00)

- Track undercutting



North Avenue Bridge Modification

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Planned Action

- Replace a portion of the North Avenue arch bridge with a single-span, shallow girder bridge
- Track lowering not an option due to complex infrastructure in the area

Benefit/Community Impact

- No change in roadway profile
- Phase maintenance of traffic on North Avenue
- No impact to Amtrak B&P Tunnel



Track Lowering Locations

Work at the remaining project locations consists of track lowering

■ **Maryland**

- Mt Royal Avenue
- MTA Bridge
- Sisson Street
- Huntington Avenue
- Charles Street
- St. Paul/Calvert Street
- Barclay Street
- Greenmount Avenue

■ **Delaware**

- Lancaster Avenue
- 4th Street

■ **Pennsylvania**

- Chichester Avenue
- Crum Lynne Road
- Clifton Avenue
- Boone Tunnel
- 68th Street
- 65th Street
- Cemetery Avenue
- 61st Street
- Woodland Avenue



Track Lowering During Construction

Leveraging Port Investments

- CSX entered into a new long-term Terminal Access Agreement with Ports America Chesapeake (PAC) to continue to offer on-dock rail at Seagirt Marine Terminal.
- On-dock rail service complements PAC's \$160 million investment to improve capacity at Seagirt
 - Second 50-foot berth
 - Four new Cranes
 - Yard equipment upgrades
- CSX is entering into a trackage rights agreement with the Canton Railroad to allow Canton to connect Seagirt Marine Terminal with Trade Point Atlantic.

Baltimore welcomes new service

News 07 Sep 2021 by WCN Editorial

Port ready to receive its first call from Maersk's new TP20 Transpacific East Coast Service.



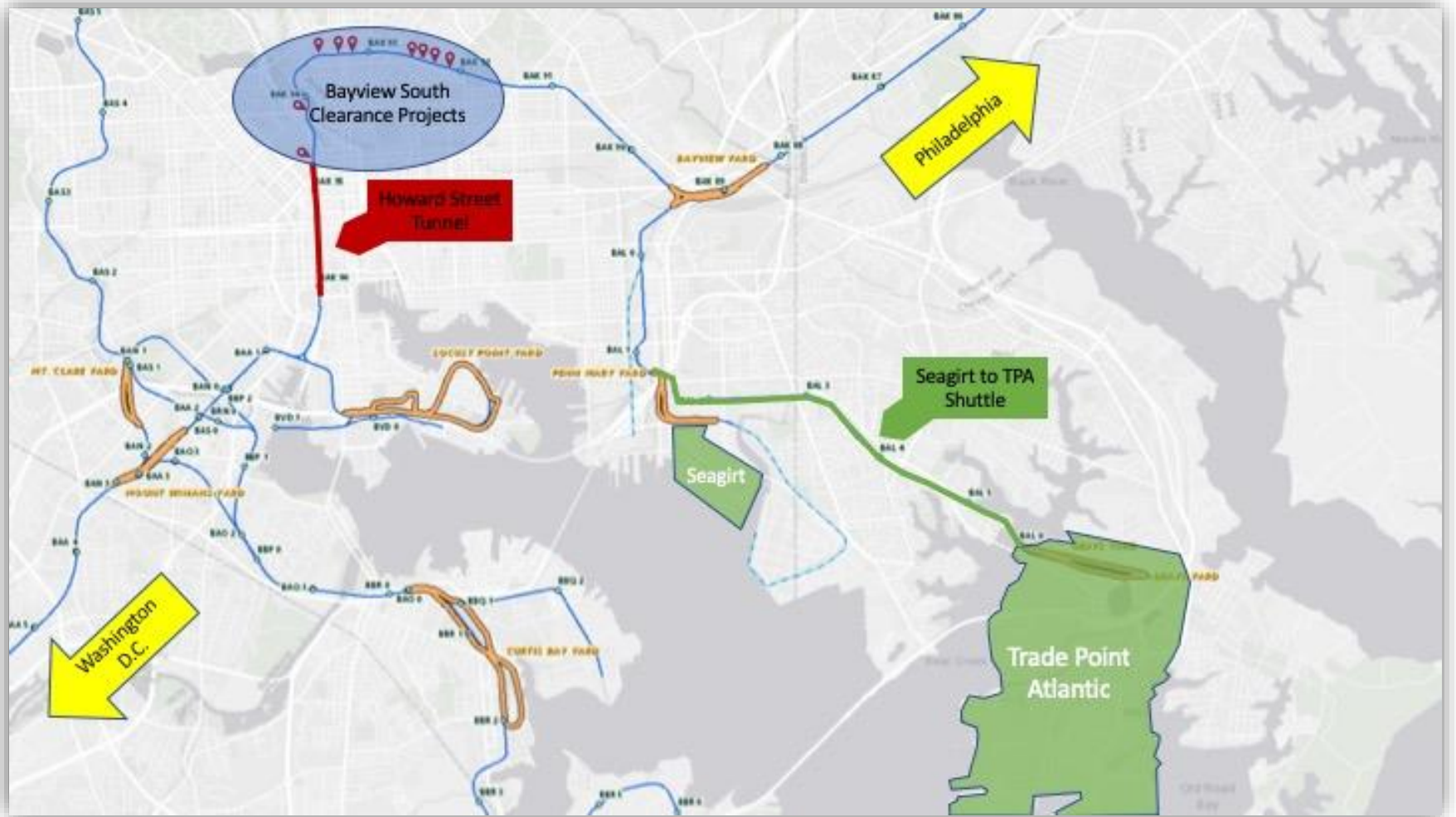
The Port of Baltimore is preparing to handle the first vessel on the new TP20 service Maersk announced in June. This is a weekly service exclusively operated by Maersk, using up to 13 vessels of around 4,500 TEU. The port rotation is Vung Tau, Ningbo, Shanghai, then transiting through the Panama Canal to call at Virginia and Baltimore.

The Port expects the Maersk Xiamen will arrive this week. "The arrival of the first ship in the new Maersk Line service is a milestone for the Port of Baltimore, and another example of our growing international reputation for stellar service and outstanding access to markets across America," said Maryland Department of Transportation Secretary Greg Slater. "The Port is continuing to show the power of its workforce and its infrastructure to fuel Maryland's economy."



The new service will use 4,500 TEU vessels - smaller than the ship pictured here.

Baltimore City Clearance Locations



Economic Impact

- CSX and MPA completed two economic impact studies; one for the INFRA Grant Application (WSP) and one focused on Baltimore economic impact (Sage Policy Group).
- Approximately 7,290 jobs in Maryland could be generated in the long term by the new waterborne container activity associated with improvements to the Howard Street Tunnel
 - 2,950 direct jobs
 - 3,400 induced jobs
 - 940 indirect jobs
- The new container activity will be a major source of personal and business revenues in Maryland annually
 - \$613 million annually – personal income and local consumption
 - \$443 million annually – business revenues
 - \$65 million annually – state and local tax revenue
- In addition to the above, 6,550 construction jobs will be generated over the construction period

Key Developments

- In 2019, CSX completed a \$22.5 million project to lower a 42-inch stormwater line below the Howard Street Tunnel at Camden Street.
- The HST Project was evaluated by the Federal Railroad Administration (FRA) in accordance with the National Environmental Policy Act (NEPA)
 - Federal INFRA grant triggered the NEPA review
- On June 17, 2021, the FRA approved the project's Environmental Assessment (EA) for NEPA
 - The EA documented the potential for only minor temporary and permanent impacts as a result of the undertaking
- FRA and the Maryland Port Administration (MPA) are finalizing a cooperative agreement for \$125 million INFRA funding.
- MPA and CSX are finalizing a grant agreement for the State's \$212 million and CSX's \$113 million funding commitments.



Questions THANK YOU

Brian W. Hammock
Resident Vice President
CSX Transportation
Brian_Hammock@csx.com
410-598-6700

Bradley M. Smith
General Manager, Strategic Initiatives
Maryland Port Administration
bsmith9@marylandports.com
410-386-4830

Brandon Knapp
Dir. Construction – Public Projects
CSX Transportation
Brandon_Knapp@csx.com
904-652-5690

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Transforming Rail in Virginia Long Bridge Expansion



CSX – Capital Region Partnership

- National Gateway & Virginia Avenue Tunnel Project
 - Moves an average of 1 million truck miles off local highways through DC Region
- Freight Rail is safest, most environmentally friendly mode of ground transportation
 - CSX moves 1 ton of freight 532 mi on gallon of fuel
 - 75% lower GHG emissions compared to trucks
 - On average each railcar removes 4 trucks off highways
- Partnerships with MPOs and freight planning groups help CSX provide these services
 - Government legislation and regulations can tip scales to other modes



Transforming Rail in Virginia

In March 2021, Sec. Buttigieg, Gov. Northam joined CSX, Amtrak and VRE to announce the Transforming Rail in Virginia (TRV) initiative, a \$3.7 billion investment to expand and improve passenger, commuter, and freight rail in Virginia and create a vital connection in America's national rail network between the Northeast and Southeast corridors.

- ✓ VA acquires 386 miles of ROW, 223 miles of track from CSX
- ✓ Agreements to construct \$1.9B two-track, passenger-dedicated Long Bridge, \$1B for additional capacity projects in the corridor.
- ✓ Pathway to separation of freight and passenger rail in Virginia and DC

Includes significant financial commitments from Amtrak, VRE, state, local/regional and federal governments. Received bipartisan support in Washington and Richmond and from regional business community.



Transforming Rail in VA - Need

Capacity Needed in VA Interstate Corridors

- Across VA and Capital Region drivers experience 320M hrs of congestion delay each year, resulting in \$6.5B in a congestion cost *(2019 Urban Mobility Report)*
- Vehicle Miles Traveled between Fredericksburg and Fairfax will reach 100 billion by 2040, a 15% increase
- Port of Virginia expanding capacity by 40% to meet 3x increase in U.S. containerized cargo by 2040, est. 45% will be rail moves (up from 37%)
- VDOT Study concluded a lane each direction on I-95 would cost \$12.5B, take 10 years to construct and leave corridor as congested as today

Innovative Rail Solution

- Paradigm Shift
- Virginia will own right-of-way, rail infrastructure and new capacity
- Partnership with freight and passenger operators lead toward separation
- Virginia Passenger Rail Authority created

Transforming Rail in VA - Projects

Ba

TRV Infrastructure Improvements

- A new, passenger-dedicated, two-track Long Bridge in Washington, DC
- CSX retains existing two-track Long Bridge for freight-dedicated traffic
- 14 miles of 3rd and 4th mainline track in Arlington, Alexandria and Fairfax County
- 6 sidings between NVA and Richmond and a new bypass that will allow passenger trains to cross the corridor without interfering with freight traffic.
- Funded and will be built out in the next 10 years.

Phased Construction & Service

- VPRA will lead Long Bridge and new bypass construction; CSX leads rest
- As improvements are completed, the additional capacity will allow more passenger rail service to come online.
- Future phases will allow for further separation of passenger and freight rail services improving reliability and capacity for both.

CSX/VPRA Agreement – ROW and Track Acquisition, Phase 1 & 2 Improvements

PHASE 1 & 2 IMPROVEMENTS AND HIGHLIGHTS

RAIL CORRIDOR IMPROVEMENTS

Construct 37 Miles of New Track

1 PHASE 1

(Complete 2026) 23 miles of new track

2 PHASE 2

(Complete 2030) 14 miles of new track

RAILROAD RIGHT-OF-WAY (ROW) AND TRACK ACQUISITION

Purchase of 384 Miles of Railroad ROW and 223 Miles of Track

SEGMENT 1

Half of CSXT ROW between Washington, DC and Petersburg, VA (145 miles), and 44 miles of track

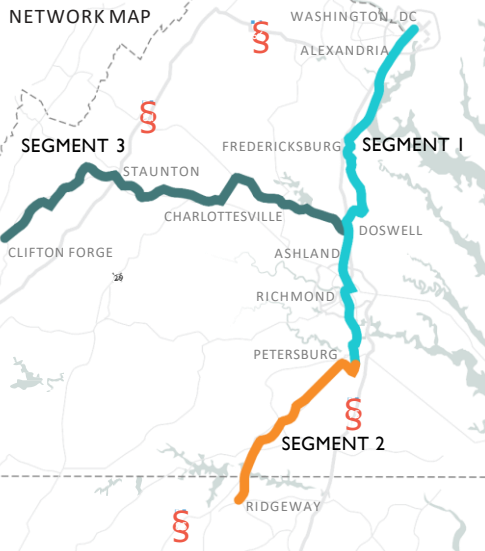
SEGMENT 2

All of CSXT ROW (abandoned rail line between Petersburg, VA and Ridgeway, NC (75 miles)

SEGMENT 3

Nearly all of CSXT ROW between Doswell, VA and Clifton Forge, VA (164 miles), and 179 miles of track

NETWORK MAP



LEGEND

1 PHASE 1

2 PHASE 2

STATIONS

RF&P RAILROAD TRACKS

Existing

Projects



Long Bridge Bottleneck

Long Bridge

- Operates at 98% capacity during peak hours with almost 80 CSX, Amtrak and VRE daily trains
- Annually up to 1.3M Amtrak and 4.5M VRE passengers travel on Long Bridge
- Every passenger train in VA and CSX intermodal train from Port of VA crosses the Long Bridge
- Three tracks approach on each side, but the two-track Long Bridge bottleneck prevents passenger expansion and limits freight growth

Operational Constraints

- CSX, VRE and Amtrak operate at different speeds and stopping frequencies. The train volumes and capacity constraints limit freight windows and create cascading impacts if out of sequence.



Long Bridge Project

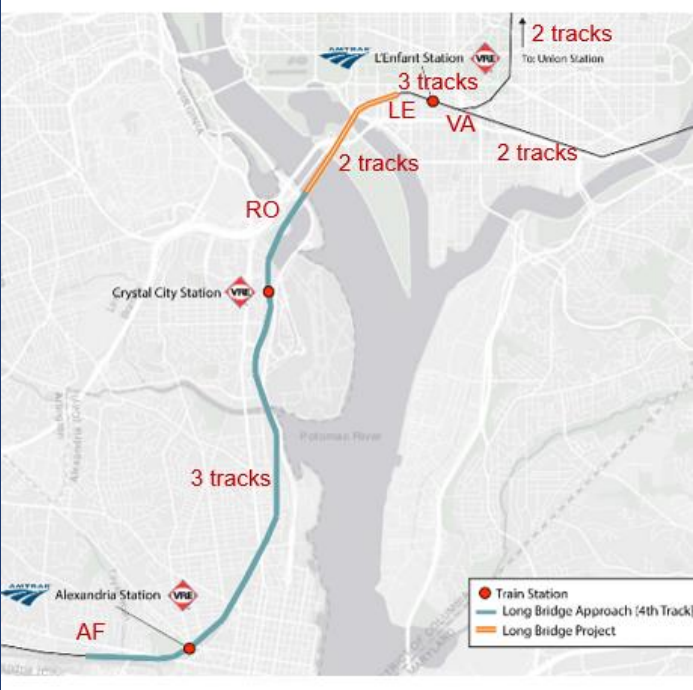
Long Bridge Project

- Construct a new, two-track railroad bridge next to the existing Long Bridge, creating a four-track corridor, and approximately 1.4 miles of improvements including six rail bridges and related railroad infrastructure located between Arlington and Washington, DC.
- New bike-pedestrian bridge also will be constructed to span the Potomac River and George Washington Memorial Parkway, connecting Long Bridge Park directly to East and West Potomac Parks.

Benefits

- The new Long Bridge capacity will accommodate annual benefits of 18,000 new freight and passenger train crossings, or up to 1 million trucks and 5 million cars diverted from highways, fewer roadway accidents, less congestion and lower emissions. *(VPRA Recommended Fiscal Year 2022 Budget Document)*
- The expanded Long Bridge facilitates separate passenger and freight operations through DC and into new 4th track in Arlington/Alexandria.

Long Bridge Area Overview



← L'Enfant 4th Track
(LE to VA) (2028)
(3 to 4 tracks)

Long Bridge (RO to LE) (2030)
(2 to 4 tracks) →

← Alexandria 4th Track
(AF to RO) (2026)
(3 to 4 tracks)



Long Bridge



Focus Areas – RO Interlocking to LE Interlocking

1. RO interlocking to Mt. Vernon Trail
2. Potomac River Crossings
3. WMATA Tunnel Portal & I-395 Crossings
4. I-395 to Ohio Drive SW
5. Washington Channel to Maine Avenue
6. Maryland Avenue Overbuild to LE

Virginia and Capital Region Benefits

Moving People

- Doubles state-supported Amtrak service between Washington, DC and Richmond, VA, providing nearly-hourly service in this corridor
- Increases Virginia Railway Express (VRE) Fredericksburg Line service by 75% including the addition of late night and weekend service
- Capacity for partners to consider future MARC/VRE run-through service
- Improves frequency, convenience and reliability of multi-modal transportation option



Virginia and Capital Region Benefits

Moving the Economy

- GMU study estimates TRV will grow Virginia's economy by \$2 billion annually and improve the mobility of passenger and freight rail.
- Increased fluidity and efficiency allows CSX to better serve the Port of Virginia and Richmond Marine Terminal and other existing and new customers in VA and across network.
- Separated operations unlock existing CSX track capacity to provide more scheduled, truck-like service to customers and divert more freight off the highways, improving road congestion, safety and emissions.



Key Developments

Recent Updates

- In September, Gov. Northam was joined by CSX and Amtrak officials to launch the extension of Amtrak service from Downtown Richmond to the Northeast Corridor, the first TRV milestone.
- Long Bridge and Arlington 4th Track projects advanced to Development Phase of FTA Core Capacity Program.
- Committee of 100 awarded TRV program with 2021 Vision Award.
- CSX led AF to RO 4th Track in Arlington has completed early works package and received NTP to final design.

