

MARC Brunswick Line Expansion Study Technical Report

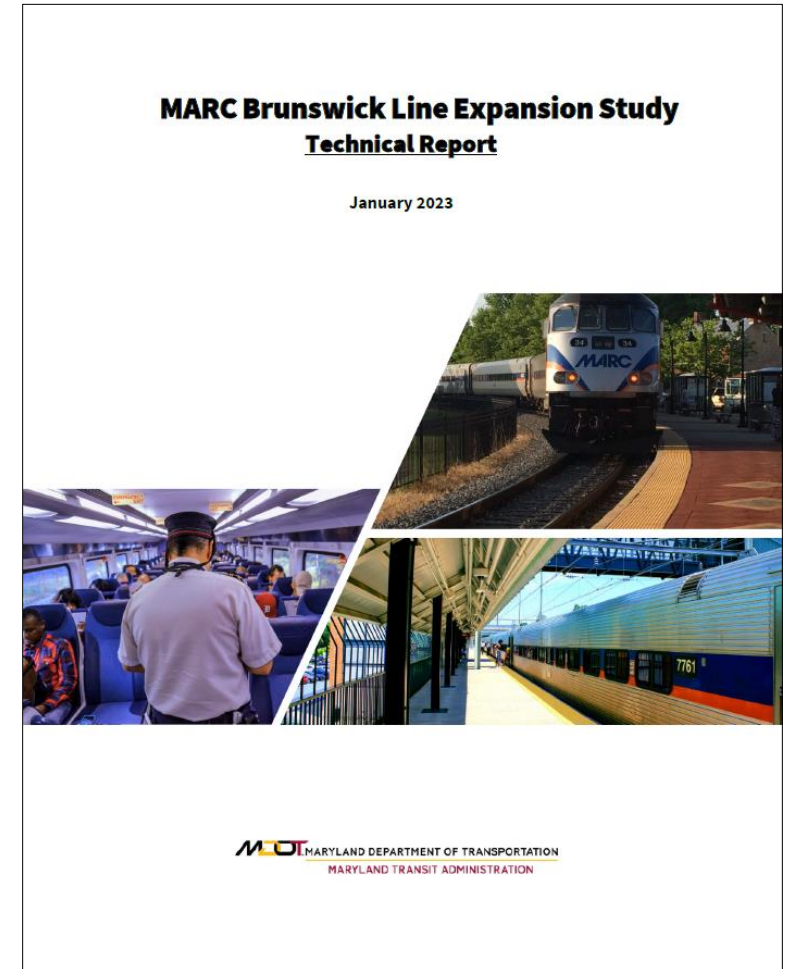
Public Meeting
March 8, 2023



MARYLAND TRANSIT
ADMINISTRATION

Presentation Overview

- Existing Conditions
- Potential Markets for Increased Ridership
- Purpose of the Brunswick Line Study Technical Report
- Corridor Constraints
- Potential Operating Scenarios and Projects
- Western Maryland Alternatives



MARC Commuter Rail Service

MARC Commuter Rail Lines:

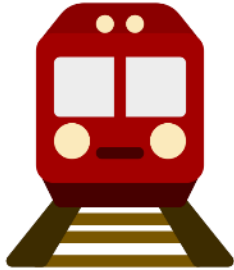
- Brunswick Line
- Camden Line
- Penn Line



Commuter Rail Service in the Brunswick Corridor



**Weekday
peak hour
service**



**18
Daily
trains**



**19
Stations**



**Avg. Weekday
boardings**
7,000 (Oct 2019)
2,300 (Nov 2022)



**CSX access
agreement**

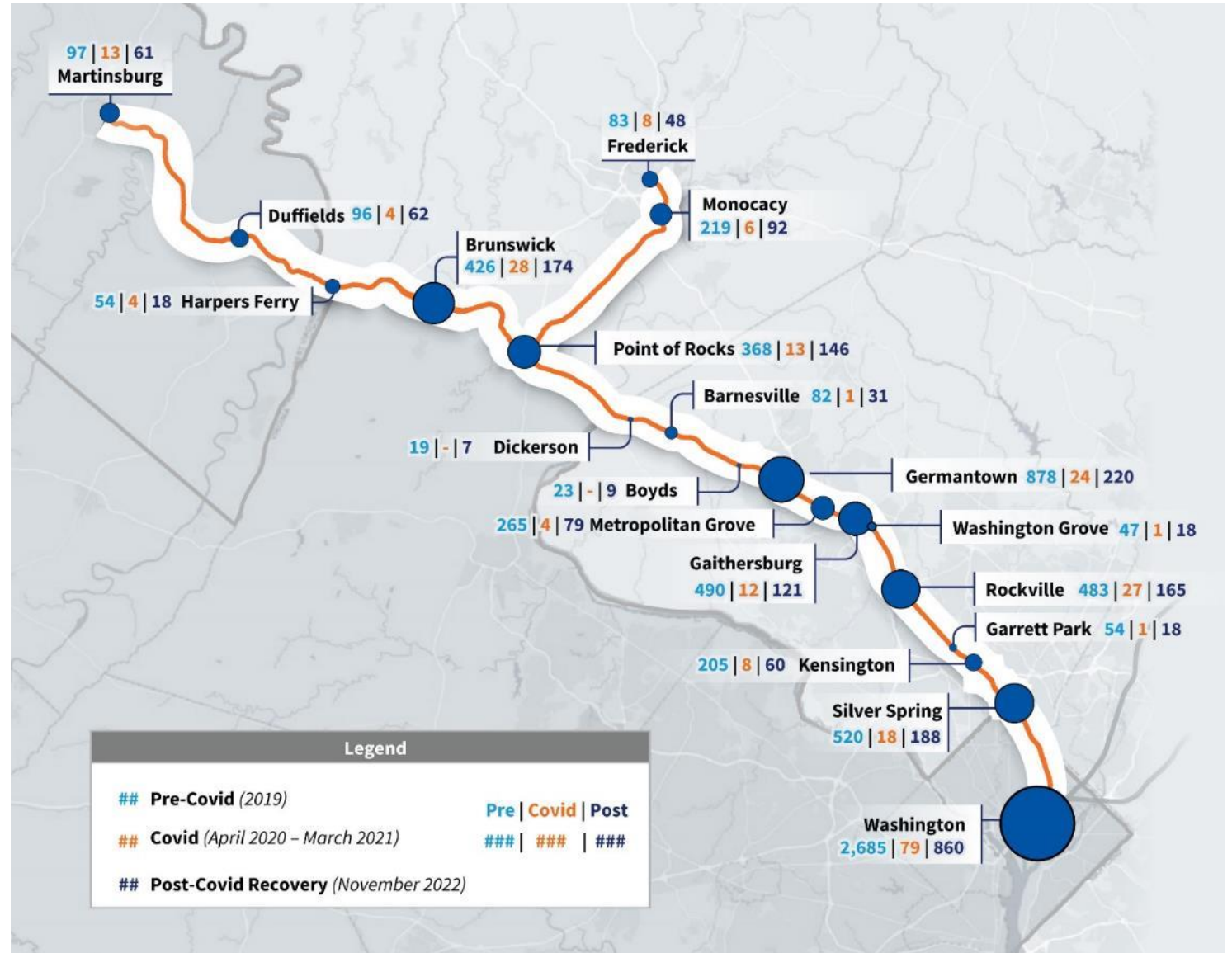
Origins and Destinations

Major Trips Origins:

- Brunswick
- Point of Rocks
- Germantown

Major Trip Destinations:

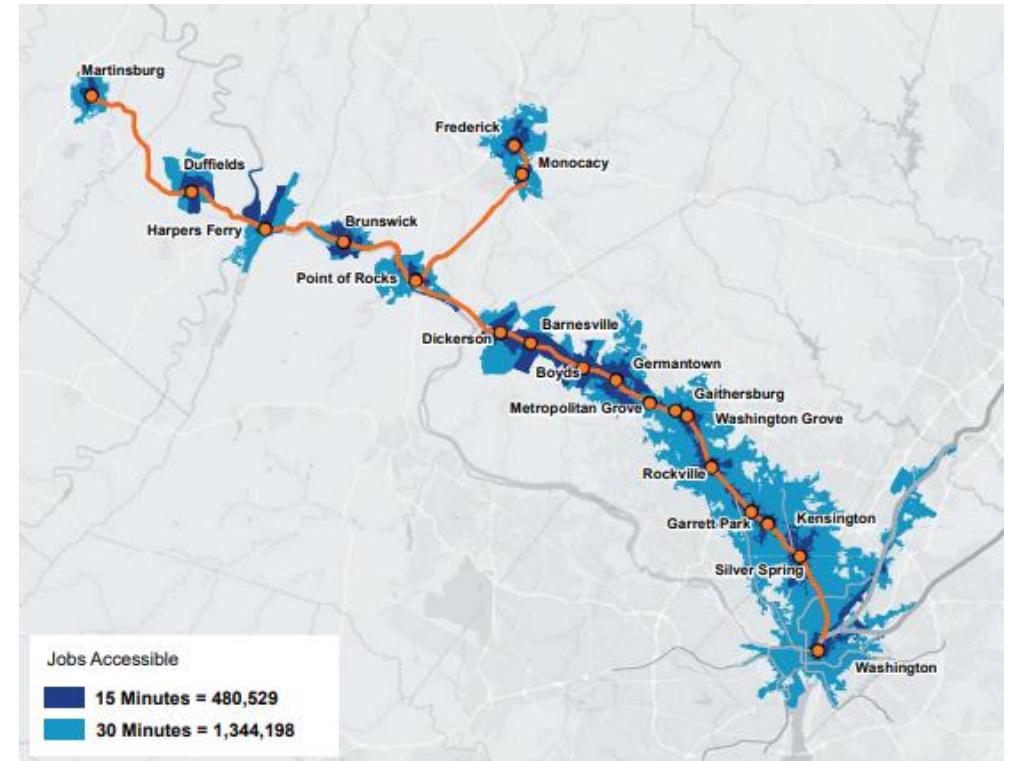
- D.C. (Union Station)
- Rockville
- Silver Spring



Corridor Trip Patterns

The primary **trip pattern is to jobs near D.C.** in the morning and returning in the evening.

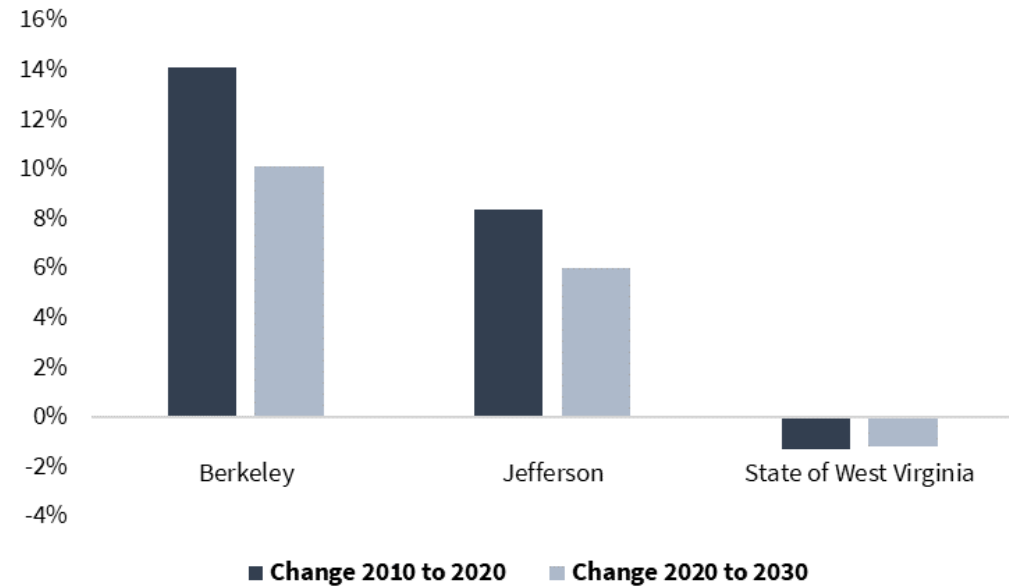
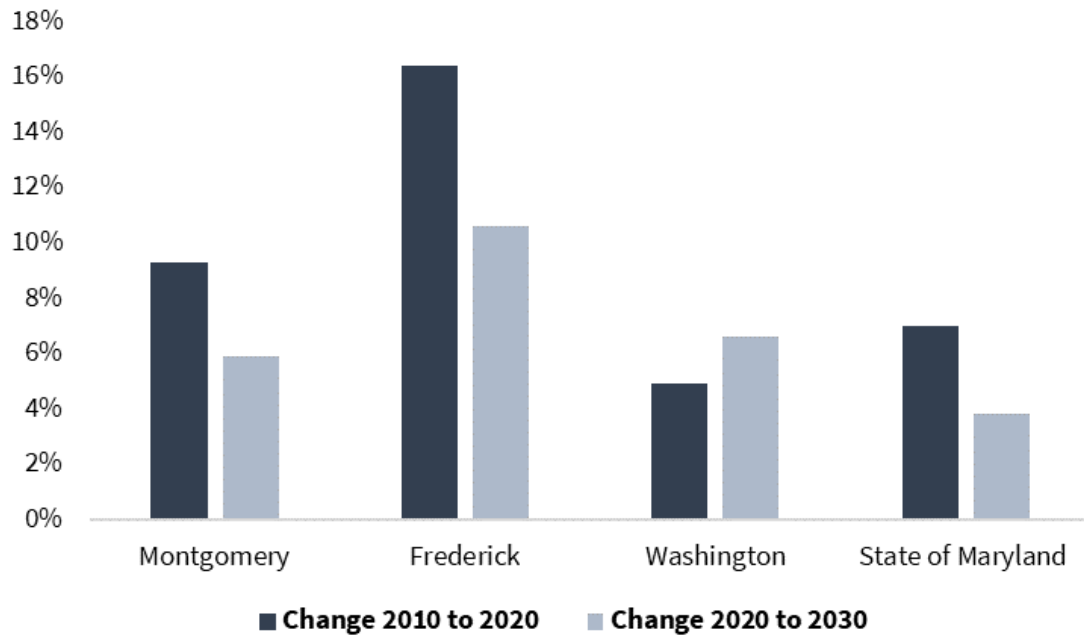
Origin Zone		To Silver Spring (Zone 2)		To Washington, DC (Zone 8)	
Zone #	Name	# Workers	% of Workers	# Workers	% of Workers
7	Cumberland	104	0.46%	118	0.52%
6	Hancock	53	1.17%	84	1.85%
5	Hagerstown	1,141	1.86%	1,896	3.09%
4	Brunswick	467	3.38%	714	5.17%
3	Frederick	3,579	3.66%	5,575	5.70%
1	Montgomery County	44,966	12.09%	102,888	27.67%



Home-to-Work trip analysis conducted using US Census' Longitudinal Employer-Household Dynamics (LEHD) program data

Corridor Population Growth

- Maryland and West Virginia counties served by the Brunswick line are **growing faster** than most counties in those states.
- Population growth increases the **demand for rail** services.



What Does this Mean for the Brunswick Line?

- **Potential Service Enhancements**
 - Additional rush hour service
 - Reverse peak direction trains during rush hours each weekday
 - Additional midday service
 - Weekday late night service
 - Weekend service
- **Operating speed improvements with infrastructure enhancements for trains serving Frederick**
- **Capacity Improvements (Kensington to Point of Rocks)**
- **Service to Western Maryland (Hancock and/or Cumberland)**

Constraints

Natural and Physical Constraints*

- Facilities
- Environmental Resources
- Track Elements
- Other
- Total of 258 potential constrains, with at least 16 likely significant constrains

Resource	Total	Significant Constraints
Facilities	177	8 Germantown station; Point of Rocks station; Public road (Blair Road and impacted homes); Purple Line; Metro Red Line adjacent to CSX; Metro Trail impact; four story residential bldg; High-rise office (National Weather Service)
Environmental Resources	24	5 Historic bridges; park impacts; historic Silver Spring RR Station; historic Kensington Station;
Track Elements	50	2 Lack of space between C&O Canal National Park and cliffs requiring new tunnels (2 locations)
Other	7	1 Narrow property acquisition to widen ROW that includes a park
Total	258	16

* Based on high level review of information pulled from public records . Constraints apply if the whole corridor were widened for a third track.

Constraints - Historic

Historic Resources

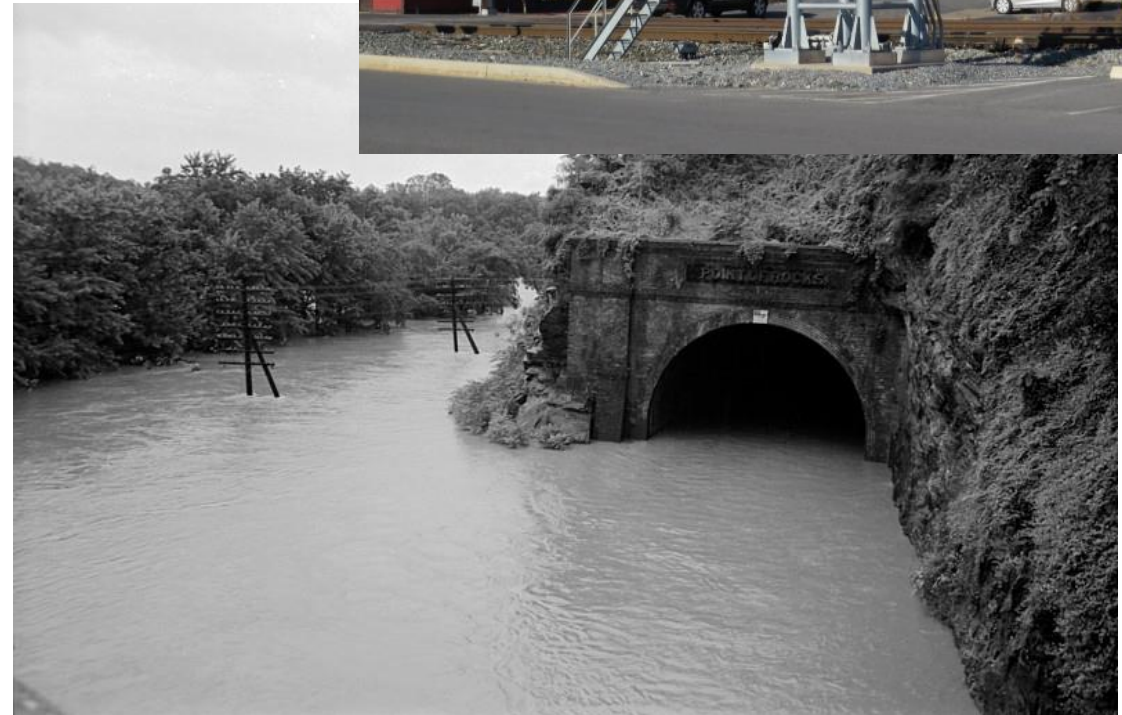
- MARC operates within the original B&O Railroad Old Main Line (1831) and Metropolitan Branch (1873).
- As such, some of the bridges and buildings along the corridor are or may be historic structures.
- State and Federal rules and laws may protect some of these historic resources.



Constraints - Flooding

Flooding

- The Brunswick Line is within the Potomac River floodplain for approximately 19 miles.
- Past flooding has impacted operations and put infrastructure at risk.
- The track itself sits below the level of major flooding events.



Constraints - ROW

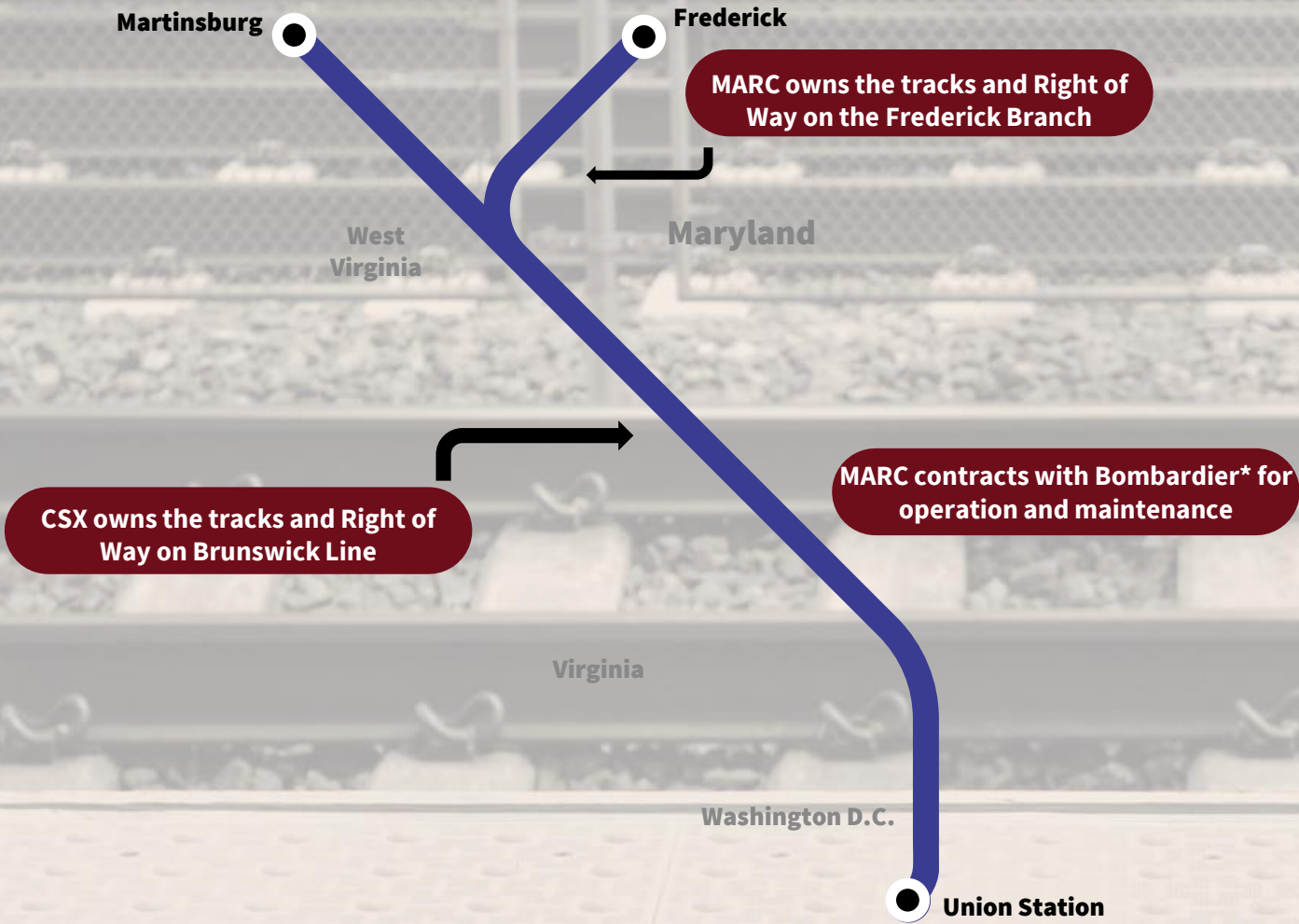
Available Rights of Way

Space for additional track is limited due to Metrorail Red Line, Purple Line and adjacent developed uses.



Image source: Wikimedia Commons free media depository (www.commonswikimedia.org)

Constraints - Ownership and Operations



Structure

- The Brunswick Line operates by agreement on tracks owned by CSX.
- CSX controls scheduling, track conditions, and maintenance.
- Service changes must be coordinated with and approved by CSX.

*now wholly owned by Alstom

Operating Scenarios

- Weekend and new peak hour service are expected to have the highest ridership impact.
- Service beyond typical commute times expands the markets served and regional benefits.

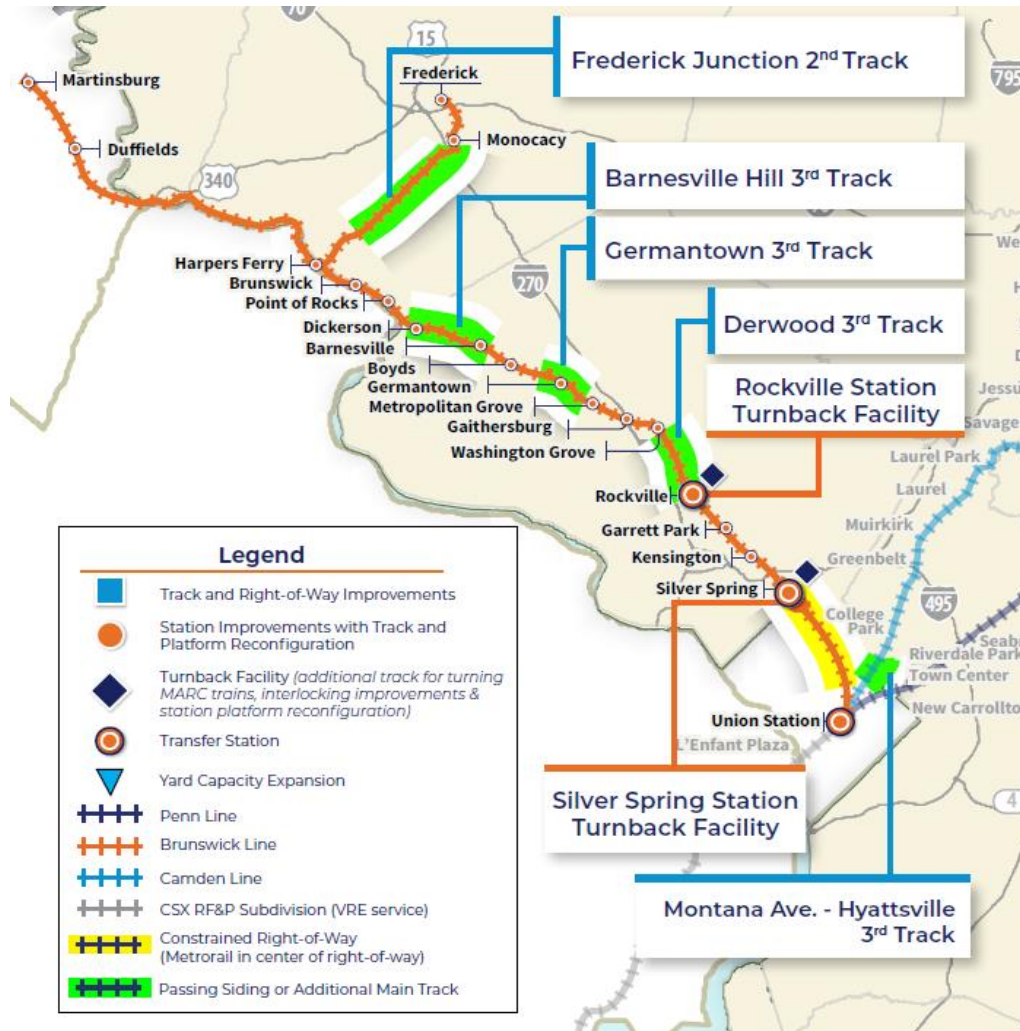
		AM PM Peak Service Enhancements Rush Hours		Service Enhancements Weekend (AM Midday PM)			Service Enhancements Midday		
Daily Trains	Trains per Period	1 to DC (AM) 1 from DC (PM)	2 to DC (AM) 2 from DC (PM)	3 to DC (AM) 3 from DC (PM)	5 to DC (AM) 5 from DC (PM)	8 to DC (AM) 8 from DC (PM)	1 to DC 2 from DC	3 to DC 3 from DC	5 to DC 5 from DC
	Total Daily Trains	+2	+4	+6	+10	+16	+3	+6	+10
Ridership Potential for Additional Trips		High		High			Medium		
Headway		20-25 min.	15-20 min.	TBD	TBD	TBD	60 min.	60 min.	60 min.

		Service Enhancements Weekday Late Night (After 8 PM)		AM PM Peak Service Enhancements Reverse Direction			
Daily Trains	Trains per Period	1 from DC (PM)	2 from DC (PM)	1 from DC (AM) 1 to DC (PM)	2 from DC (AM) 2 to DC (PM)	3 from DC (AM) 4 to DC (PM)	3 from DC (AM) 5 to DC (PM)
	Total Daily Trains	+1	+2	+2	+4	+7	+8
Ridership Potential for Additional Trips		Low		Low			
Headway		N/A	N/A	20-25 min.	20-25 min.	20-25 min.	20-25 min.

Low = less than 5% increase Medium = 5 to 10% increase High = greater than 10% increase

Corridor Potential Projects

Projects as described are high level, have not undergone engineering review, and are subject to CSX review and approval. These projects were identified to avoid the most constrained areas while supporting service goals.



Potential Capital Investment*	Description	Expected Costs
Barnesville Hill Third Track	4.5 miles of track between Barnesville and Boyds	\$
Frederick Junction Second Track	8.1 miles of mainline track on the Frederick Spur and 2.2 miles between Point of Rocks and Frederick to increase maximum operating speed	\$\$
Derwood Third Track	2.3 miles of additional track between Rockville and Washington Grove	\$
Silver Spring/Rockville Turnback Facility	New Station track, interlocking and platform at Silver Spring or Rockville to terminate additional train frequencies.	\$\$\$
Capital Subdivision Siding	2.8 miles of siding track on the capital subdivision	\$\$
Germantown Third Track	1.9 miles of additional mainline track between Washington Grove and Germantown	\$

\$ = \$50M to \$100M

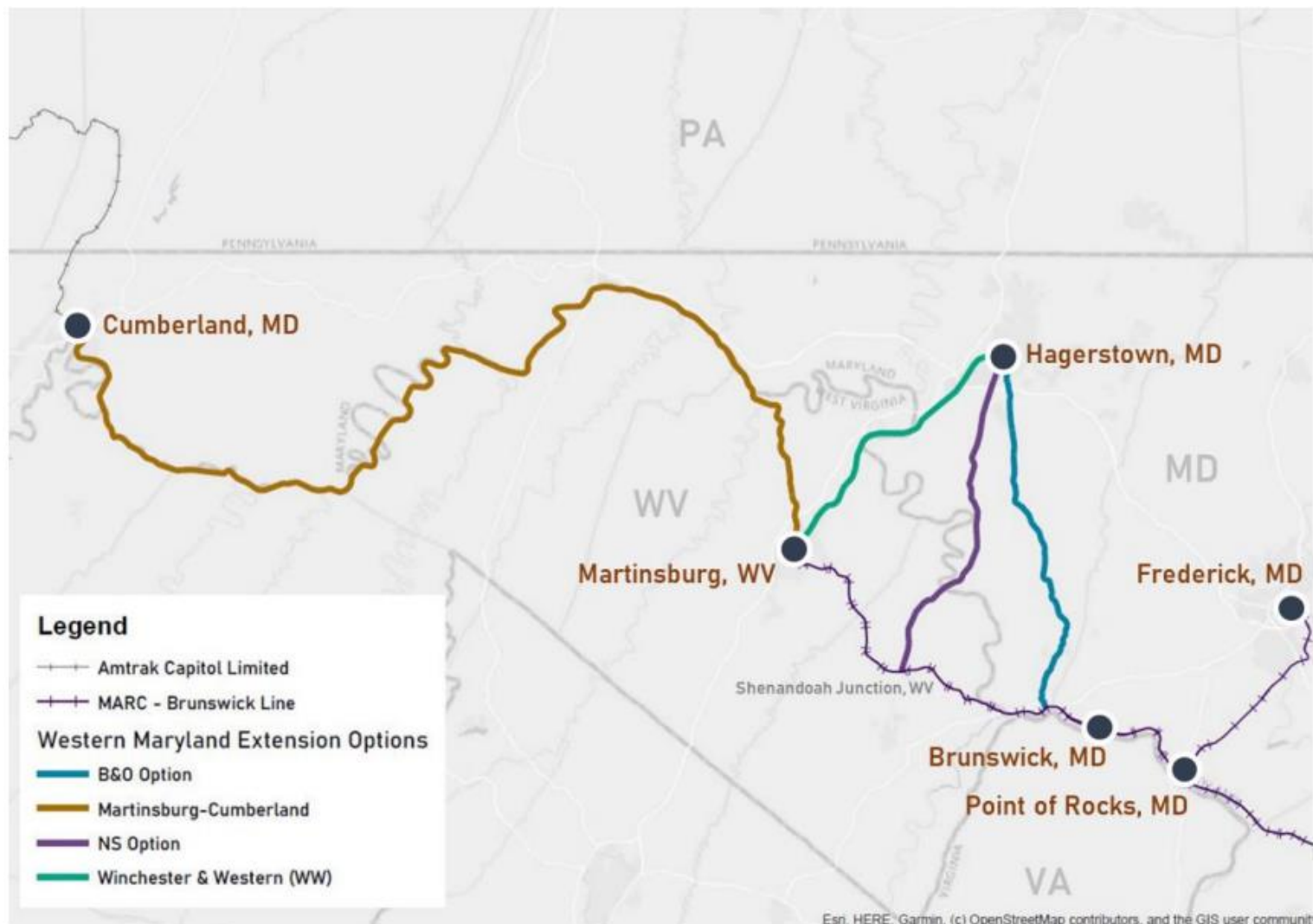
\$\$ = \$100M to 300M

\$\$\$ = \$300M to \$500M

Western Maryland Alternatives

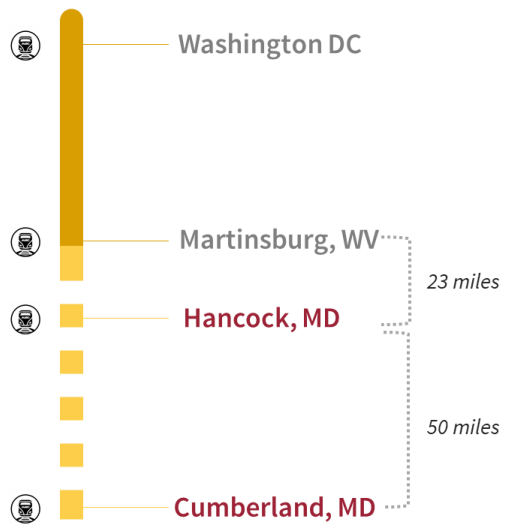
Options:

- 1- CSX to Cumberland
- 2 - W&W to Hagerstown
- 3 - NS to Hagerstown
- 4 - B&O to Hagerstown



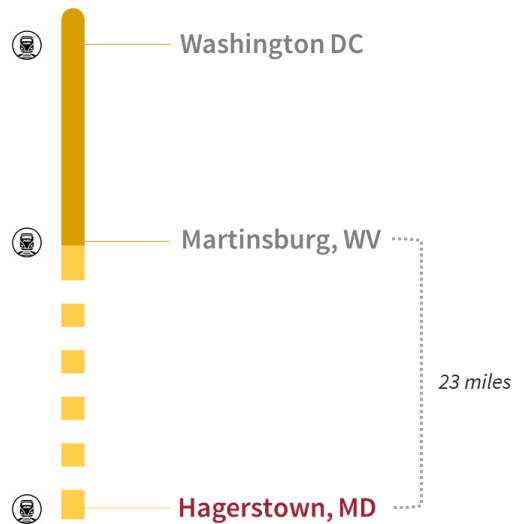
Western Maryland Potential Alignments

1



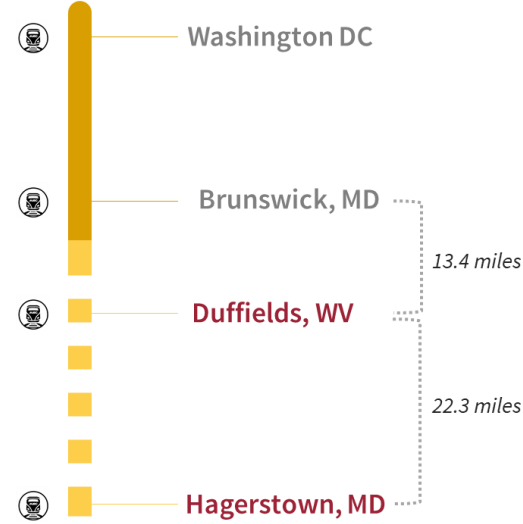
Line: CSX Transportation

2



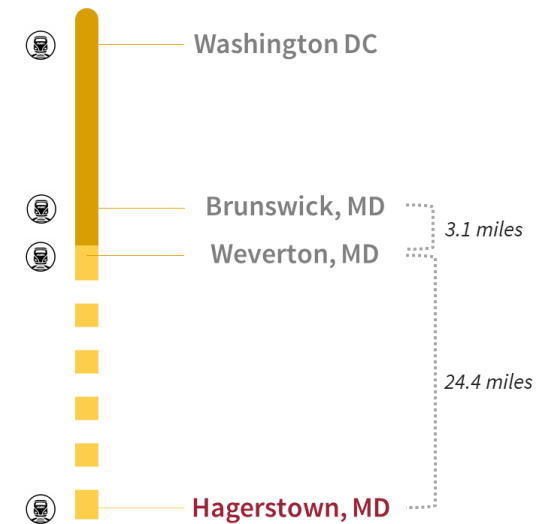
Line: Winchester & Western Railroad

3



Line: CSX and Norfolk Southern Railway

4



Line: CSX and Former B&O Right of Way



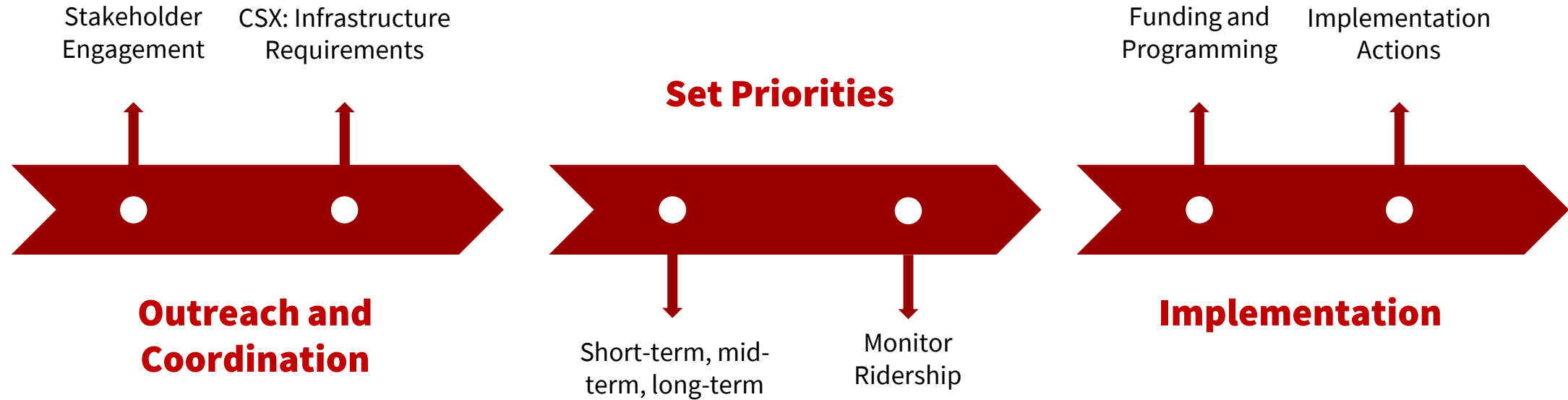
Most Challenging

Western Maryland Alternatives

Alternative	Constraints and Requirements Identified*
<p>1a and 1b - Martinsburg, WV to Hancock and Cumberland – CSX Corridor</p>	<ol style="list-style-type: none"> 1. Operating agreements with CSX and West Virginia 2. Except for overnight train storage, Hancock station, and ROW infrastructure, limited construction required 3. Hancock, WV to Union Station travel time - 2 hours and 37 minutes with 12 stops 4. Cumberland, MD to Union Station travel time - 3 hours and 44 minutes with 13 stops
<p>2 - Martinsburg, WV to Hagerstown – Winchester & Western Short Line</p>	<ol style="list-style-type: none"> 1. Operating agreements with Winchester & Western Railroad, Norfolk Southern, West Virginia 2. Station Right of Way in Hagerstown 3. Construction of rail connections between host railroads 4. Tracks upgrades, Positive Train Control (PTC), grade crossing, layover facility 5. Hagerstown to Union Station, via Martinsburg, WV, travel time - 2 hours and 50 minutes with 13 stops.
<p>3 - Duffields to Hagerstown – Norfolk Southern Mainline</p>	<ol style="list-style-type: none"> 1. Operating agreement with Norfolk Southern for 23 miles of the corridor 2. Congested freight route 3. Separate bridges and tracks 4. Operating agreement with West Virginia, station Right of Way in Hagerstown 5. Construction of new rail connection tracks, PTC, signals, layover facility 6. Hagerstown to Union Station, via Duffields, WV travel time - 2 hours and 43 minutes with 12 stops.
<p>4 - Weverton to Hagerstown – former B&O right-of-way</p>	<ol style="list-style-type: none"> 1. Challenging Right of Way acquisition 2. National Park Service property 3. 18.2 acres of Maryland Correctional Institution 4. Construction of 19 miles of tracks 5. Upgrade of existing tracks, construction of bridges, PTC, signals, layover facility 6. Hagerstown to Union Station, through Brunswick, travel time - 2 hours and 30 minutes with 11 stops.

*Each alternative also assumes that expanded storage and operations at Brunswick yard would be required.

Next Steps



- **Draft Technical Report released to the public in January 2023**
 - **Feedback being accepted for 90 days**

Feedback Opportunities

- MDOT MTA looking for feedback on:
 - Concerns and preferences related to different service scenarios.
 - Opportunities to strengthen demand through access improvements, etc.
 - MARC service options for Western Maryland.
- Please take the survey and leave comments via the project web page!

mta.maryland.gov/marc-brunswick-study

Discussion