



# MARC

## Cornerstone Plan 2019

City of Frederick TSAC Meeting  
Friday July 25, 2020





# Purpose of the Plan

- **Align MARC Train goals with the goals of the Maryland Transportation Plan (MTP)**
- **Establish strategic priorities that support the four MDOT MTA Cornerstones**
- **Identify attainable initiatives that contribute to the long-term sustainability of MARC Train service.**



# Maryland Transportation Plan Priorities

- Ensure a safe, secure and resilient transportation system
- Facilitate Economic Opportunity and reduce congestion in Maryland through strategic system expansion
- Maintain high standard and modernize Maryland's multimodal transportation system
- Improve the quality and efficiency of the transportation system to enhance customer experience
- Ensure environmental protection and sensitivity
- Promote fiscal responsibility
- Provide better transportation choices and connections





# MDOT MTA Cornerstones





# MARC Train Service Area





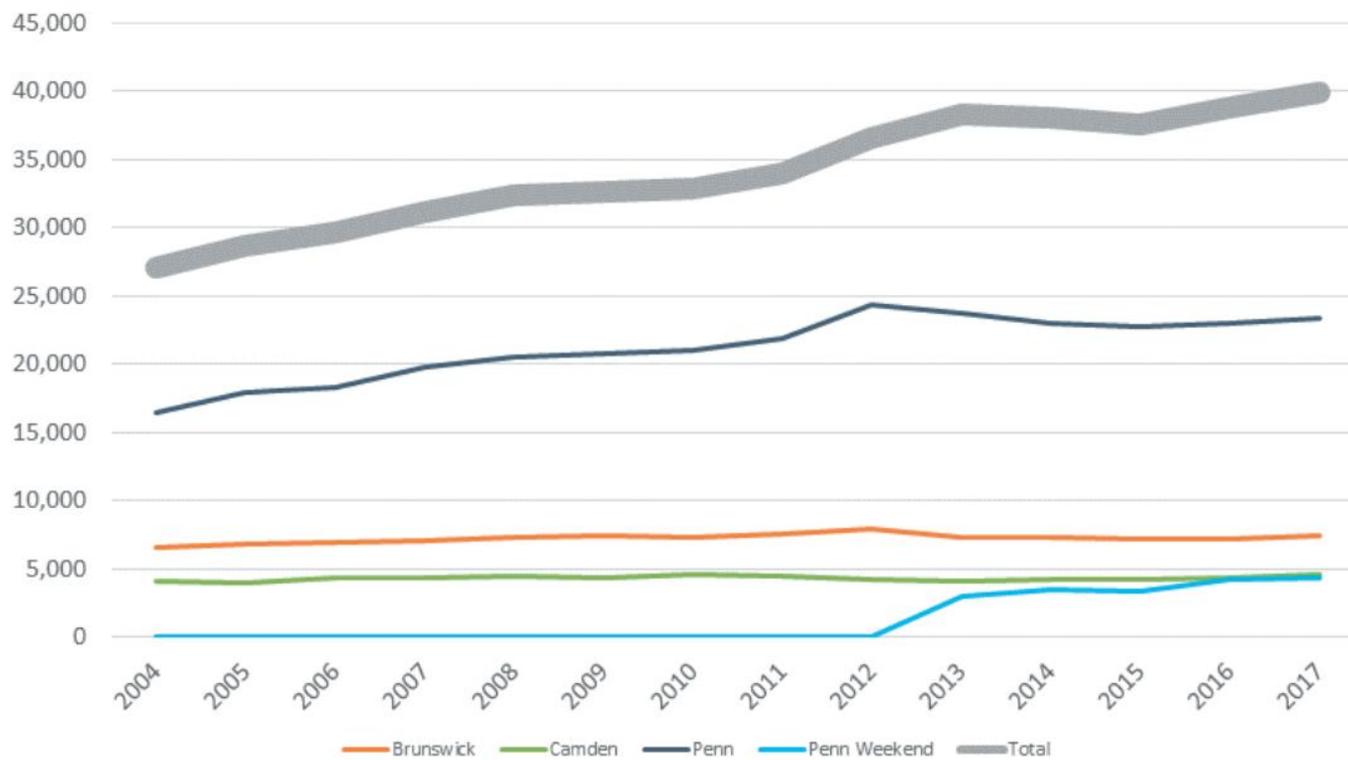
# MARC Train Service Profile

	BRUNSWICK LINE	CAMDEN LINE	PENN LINE
<b>Host Railroad</b>	 CSX Transportation	 CSX Transportation	 AMTRAK
<b>Primary Function</b>	Freight	Freight	Passenger
<b>AM Peak Service</b>	■	■	■
<b>PM Peak Service</b>	■	■	■
<b>Reverse Commute Service</b>	■	■	■
<b>Midday Service</b>	■	■	■
<b>Weekend Service</b>	■	■	■
<b>Hours of Operation (Approximate)</b>	4:30am - 9:30am 3:30pm - 9:00pm	5:00am - 9:30am 3:30pm - 9:00pm	4:00am - 12:00am
<b>Northern Terminus</b>	Martinsburg, WV/Fredrick	Baltimore-Camden	Baltimore-Penn/ Perryville
<b>Average Peak Frequency</b>	20 min (Germantown)	30 min (Baltimore-Camden)	15 min (Baltimore-Penn)
<b>Route Length</b>	74 mi.	39 mi.	77 mi.
<b>Trains Per Weekday</b>	18	21	57

■ provided    ■ limited    ■ unavailable

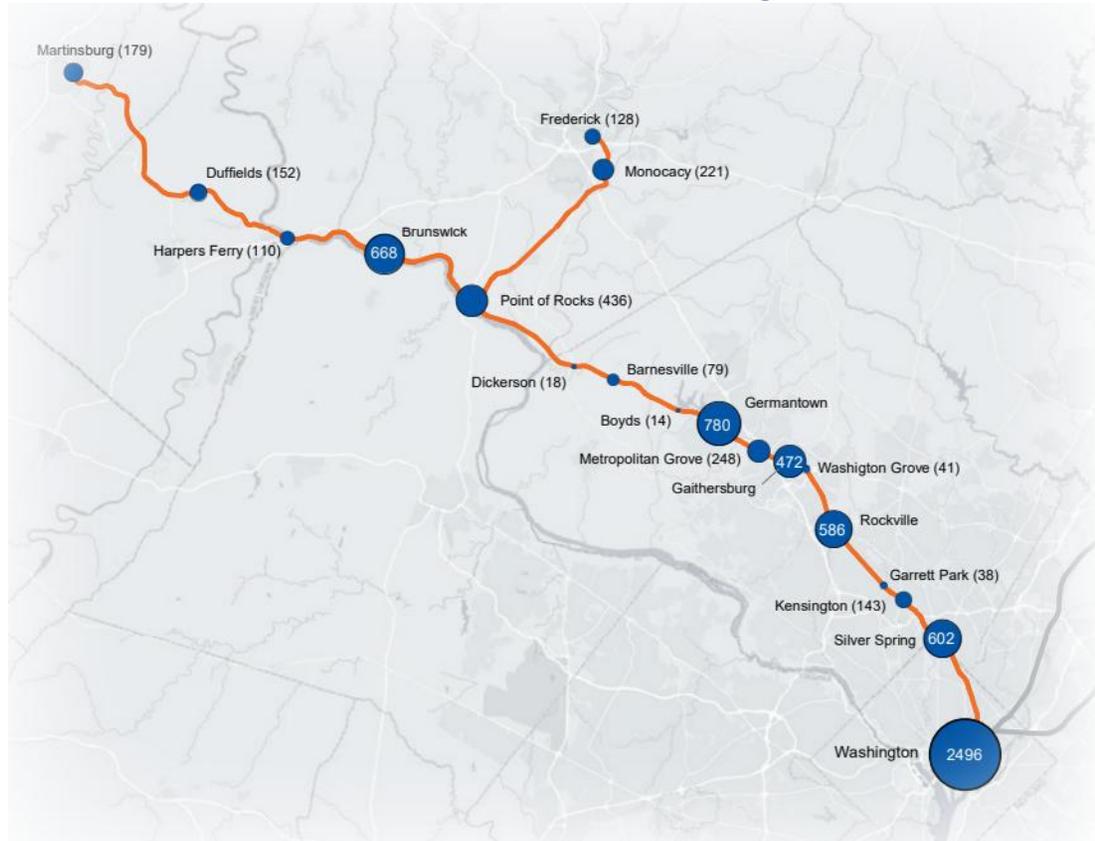


# MARC Train Average Daily Ridership (2002 – 2017)





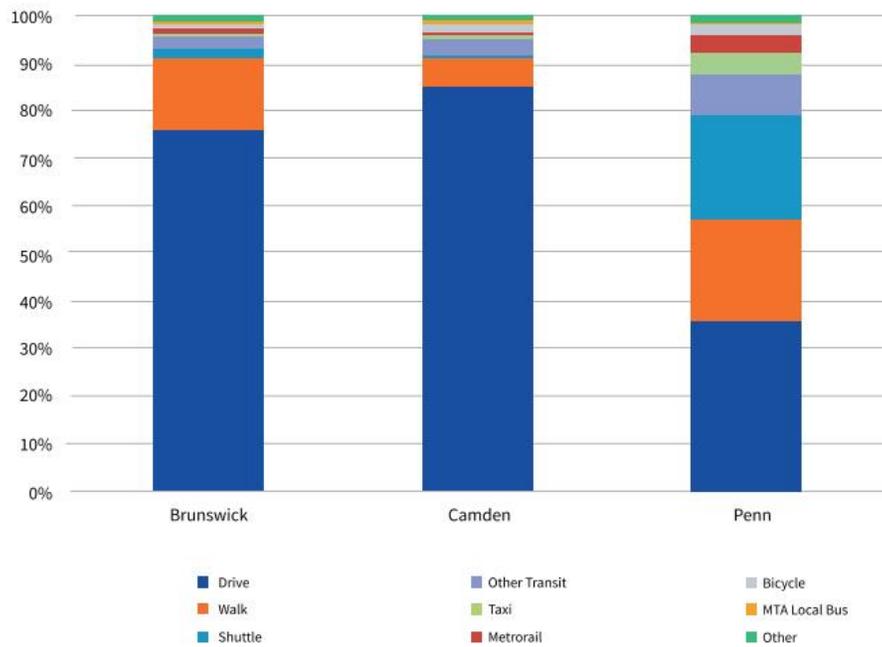
# Brunswick Line Station Boardings (2002 – 2017)





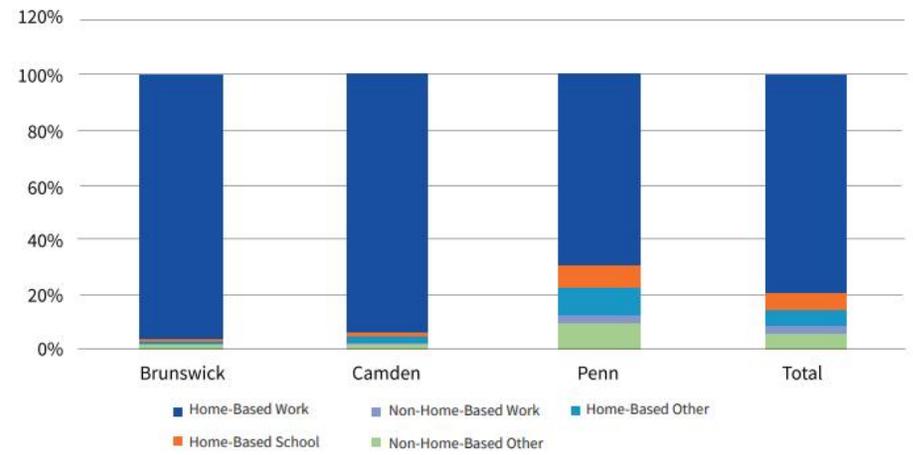
# MARC Train Rider Profile

### MARC Station Access from Home



2016 MARC Origin Destination Survey

### Trip Purpose



2016 MARC Origin Destination Survey



# Development of the Cornerstone Plan



The MARC Cornerstone Plan was developed concurrently with other MDOT MTA modal cornerstone plans including:

- Metro
- Light Rail
- Bus
- Mobility



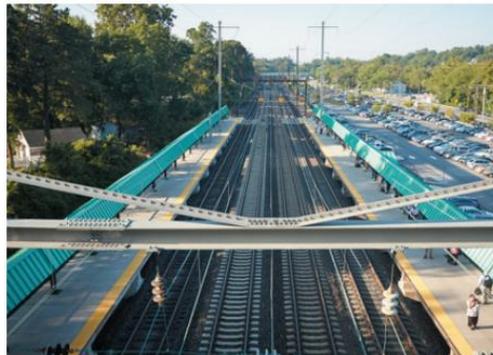
# The Iterative Planning Process





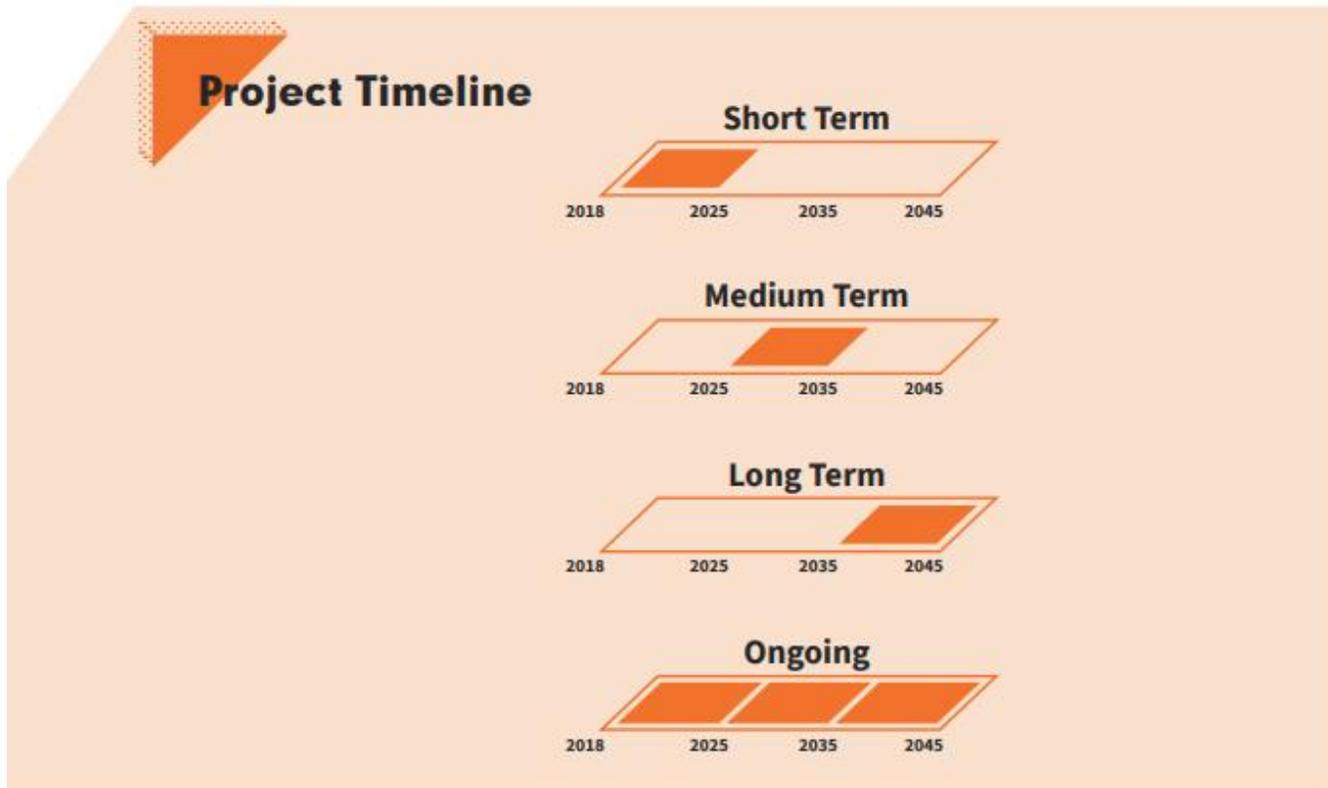
# Strategic Priorities

- **Safety and Security**
- **Operational Performance**
- **Asset Management**
- **Improved Customer Experience**
- **Practical Design**





# Cornerstone Plan Timeline





# Investment Areas

Investment Areas	Timeframe	Initiative
<b>Vehicles</b>	Short Term	GP39H-2 Locomotive Mid-Life Overhaul
		MP36PH-3C Mid-Life Overhaul
		MARC III Railcar Overhaul
	Medium Term	MARC IV Railcar Overhaul
		Railcar Fleet Replacement
	Long Term	Locomotive Fleet Replacement
Ongoing	Non-Revenue Vehicles	
<b>Stations</b>	Short Term	Camden Station Replacement
		BWI Station Improvements
		New Carrollton Second Platform
	Medium Term	Penn Station Transit Oriented Development
		West Baltimore Station
	Long Term	Improve Station Access
		Brunswick Line Station Renovations
		Camden Line Station Renovations
		Penn Line Station Renovations
		Eliminate At-Grade Pedestrian Crossings
		Laurel Transit Oriented Development
		Dorsey Transit Oriented Development
		Monocacy Transit Oriented Development
		Germantown Transit Oriented Development
<b>Guideways</b>	Medium Term	Penn-Camden Connector
	Ongoing	Passenger Rail Investment and Improvement Act (PRIIA) - Penn Line
CSX Joint Benefits - Brunswick and Camden Lines		
Frederick Branch		

Investment Areas	Timeframe	Initiative
<b>Facilities</b>	Short Term	Riverside Heavy Maintenance Building
		Martin's Yard Expansion
	Medium Term	Replacement Penn Line Storage Yard
	Long Term	Brunswick Yard Maintenance Facility
<b>Systems</b>	Short Term	Positive Train Control (PTC)
		Real-Time MARC Tracking
	Medium Term	Train Approaching Warning System
	Long Term	Closed Circuit Television (CCTV)
<b>Service</b>	Ongoing	Run-Through Service to L'Enfant Plaza and N. Virginia
		Brunswick Line
		Camden Line
		Penn Line



# Vehicles: Locomotives

### GP39H-2 Locomotive Mid-Life Overhaul



\$ 17 Million



### MP36PH-3C Locomotive Mid-life Overhaul



\$ 65 Million



### Locomotive Fleet Replacement



\$ 580 Million





# Vehicles: Rail Cars

## MARC III Railcar Overhaul



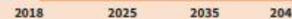
\$ 53 Million



## MARC IV Railcar Overhaul



\$ 60 Million



## Railcar Fleet Replacement



\$ 920 Million





# Stations: Renovations

## Brunswick Line Station Renovations



\$ 22 Million



## Camden Line Station Renovations



\$ 80 Million



## Penn Line Station Renovations



\$ 90 Million





# Stations: Enhancements

## New Carrollton Second Platform



Cost Neutral



## Improve Station Access



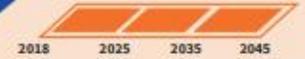
\$104 Million



## Eliminate At-Grade Pedestrian Crossings



\$ 370 Million





# Transit-Oriented Development

## Penn Station Transit Oriented Development



Rendering by Gensler

Cost Neutral

2018 2025 2035

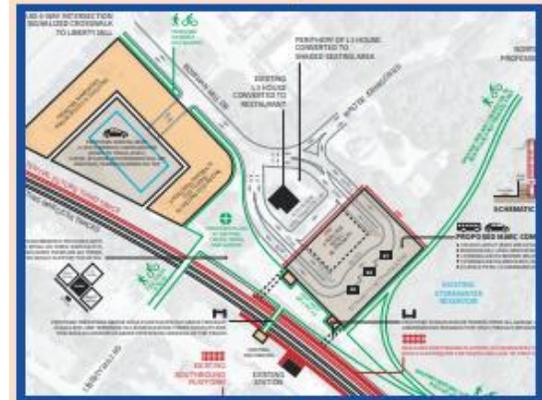
## Dorsey Transit Oriented Development



Cost Neutral

2018 2025 2035 2045

## Germantown Transit Oriented Development



Cost Neutral

2018 2025 2035 2045



# Guideways

## Passenger Rail Investment and Improvement Act (PRIIA) – Penn



Photo by Myra Stawly

\$ 600 Million



## CSX Joint Benefits – Brunswick and Camden Lines

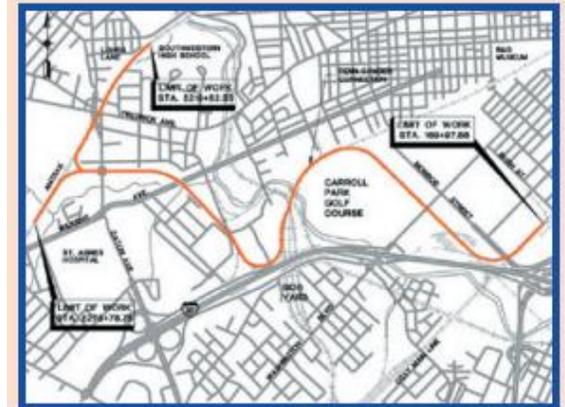


Photo by Baltimore Sun

\$ 135 Million



## Penn-Camden Connector



\$ 40 Million





# Facilities: Storage & Maintenance

STORAGE & MAINTENANCE FACILITY	OVERNIGHT CAPACITY	MAINTENANCE (FULL/PARTIAL)	LOCATION
PENN STATION		PARTIAL	BALTIMORE, MD
MARTIN'S YARD		PARTIAL	RIVER RIVER, MD
RIVERSIDE YARD		FULL	BALTIMORE, MD
BRUNSWICK YARD		PARTIAL	BRUNSWICK, MD
FREDERICK YARD		PARTIAL	FREDERICK, MD
MARTINSBURG YARD		PARTIAL	WASHINGTON, D.C.

OCCUPIED - PENN LINE

OCCUPIED - CAMDEN LINE

OCCUPIED - BRUNSWICK LINE

UNOCCUPIED

The Availability and Size of Storage and Maintenance Facilities Affect MARC Train's Ability to:

- Manage crowded trains
- Inspect and maintain vehicles
- Make critical repairs
- Minimize the cancellation of trains due to mechanical failures
- Provide additional service as needed (Assuming the equipment is available)



# Facilities: Storage & Maintenance

### Martin's Yard Expansion



\$ 17 Million



### Replacement Penn Line Storage Yard



\$ 40 Million



### Riverside Yard Acquisition and Heavy Maintenance Building



\$ 80 Million



### Brunswick Yard Maintenance Facility



\$ 40 Million





# Systems

## Positive Train Control



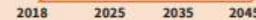
\$ 34 Million



## Real-Time MARC Tracking

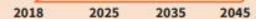


\$ 5 Million



## Closed Circuit Television (CCTV)

\$ 10 Million



## Train Approaching Warning System



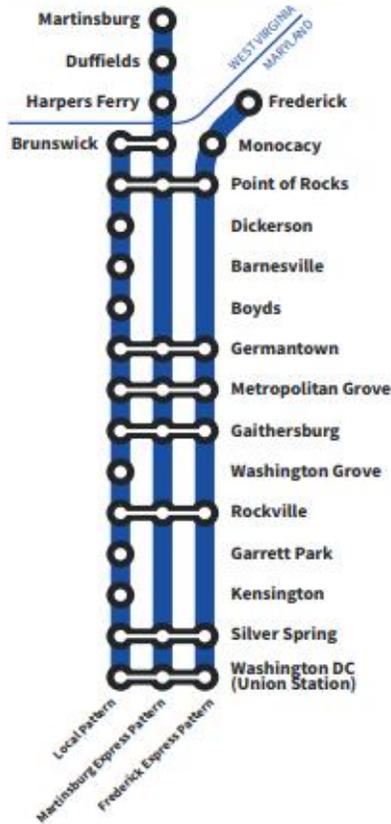
\$ 10 Million





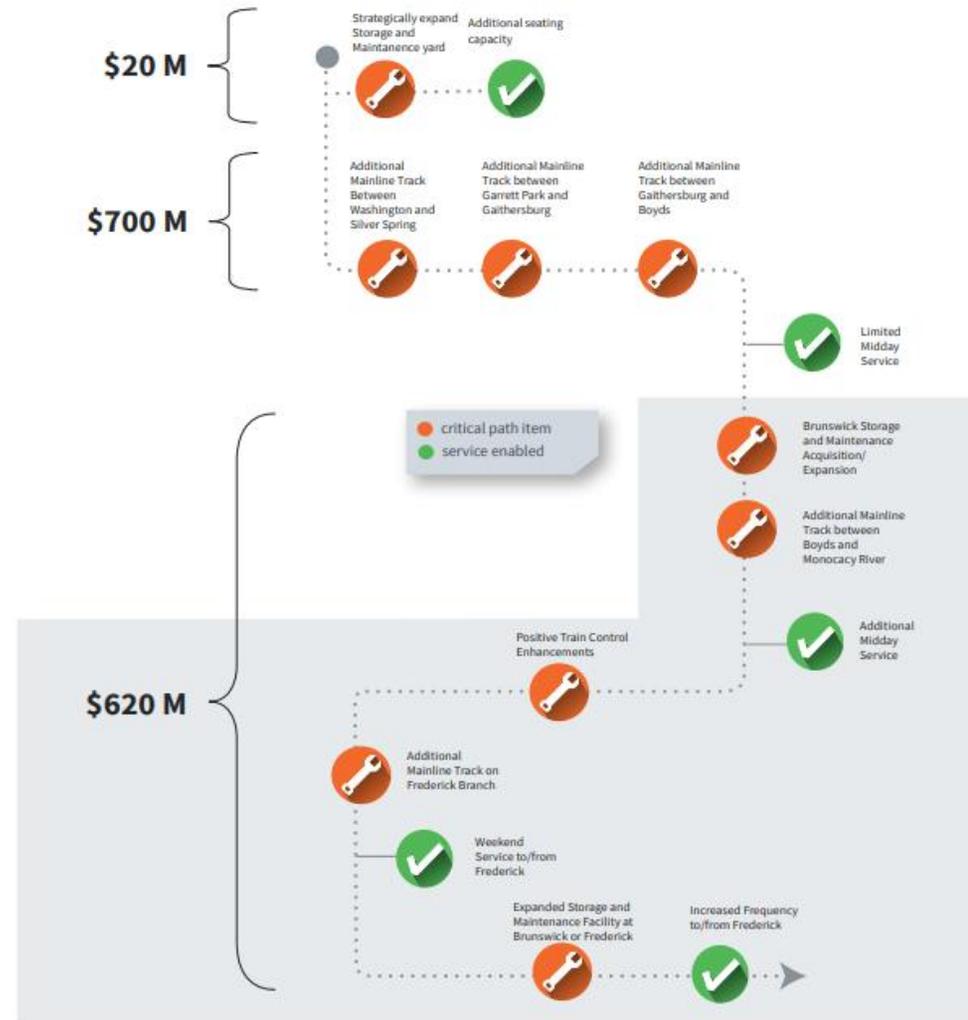
# Service: Brunswick Line

## POTENTIAL FUTURE BRUNSWICK LINE SERVICE



## BRUNSWICK LINE

This illustrates the various types of capital investments necessary for increased service on the Brunswick Line. These improvements would require partnerships with multiple stakeholders including CSX.





# Service: Run-through to L'Enfant Plaza and Northern Virginia



## VIRGINIA RUN-THROUGH

This illustrates the various types of capital investments necessary for run-through service to Northern Virginia. These improvements would require partnerships with multiple stakeholders including District Department of Transportation, Virginia Railway Express, Amtrak, and CSX.



Longer trains may be required to meet additional demand generated by the new service. This increases the dependency on a replacement storage and maintenance facility with adequate storage capacity for longer train sets (see page 50).





**Thank You!**  
**Questions?**