

Market Assessment and Technical Feasibility for VRE-MARC Run Through Service in the National Capital Region

REGIONAL PUBLIC TRANSPORTATION SUBCOMMITTEE BRIEFING #1



Agenda

- Project Background
- Initial Findings
- Opportunities to Be Involved
- Next Steps

Project Background



Introduction

- Concept has decades-long history
- Networks inherently positioned for through service
- Potential opportunities and transportation benefits from through service
- Renewed regional interest in run through service



Peter Dovak at Transit Oriented.

Project Objectives

Understand the market potential for run through service by developing order of magnitude estimates, and inform next steps for future detailed analysis as appropriate.

Three key objectives:

1. Identify the potential market area for through service
2. Identify the potential ridership of through service
3. Acknowledge critical elements that are being addressed, or outstanding that will enable through service

Project Team

Project Lead Agency



Metropolitan Washington Council of Governments | National Capital Region Transportation Planning Board

Technical Advisory Committee

- VRE
- MDOT MTA
- MDOT
- VDRPT
- DDOT
- NVTC
- COG/TPB

Consultants



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Project Scope

- Task 1: TAC Coordination and Project Management
- Task 2: Review of Existing Plans and Research
- **Task 3.1: Identify Commuter Shed**
- Task 3.2: Identify Present and Future Volume of Commuter Travel
- Task 3.3: Highlight Operational and Infrastructure Constraints
- Task 4: Final Report



Initial Findings From Background Research

Work to date

- Review of existing literature and previous plans
- Engagement with project stakeholders

Scope of Literature Review

- MARC Cornerstone Plan (2019) and Growth and Investment Plan (2013)
- VRE Strategic Plan (2004), TDP (2019), 2040 System Plan (2014), Customer Opinion Survey (2018), Analysis of Economic Benefit (2015)
- TPB Visualize 2045 and State of Commute Survey
- NEC related studies (e.g. NEC Futures, Through Ticketing Study, Critical Infrastructure)
- Union Station Master Plan
- DC and VA State Rail Plans; DC Long Bridge EIS
- Historical studies related to commuter rail
- Peer studies from Boston, New York, and London

Stakeholder Engagement

- **Regional Agencies:** BMC, FAMPO, NVTA, NVTC
- **Jurisdictions along the Corridor:** City of Alexandria, Arlington County, City of Bowie, City of College Park, District of Columbia, Fairfax County, City of Frederick, Frederick County, City of Gaithersburg, City of Laurel, Montgomery County, City of Manassas, City of Manassas Park, Prince George's County, Prince William County, Town of Riverdale Park, City of Rockville
- **Rail Service:** Amtrak, CSX, MARC, Norfolk Southern, VRE
- **Transit agencies along the corridor:** WMATA, Prince George's The Bus, Frederick County Transit (TransIT), Arlington Transit (ART), Fairfax Connector, Loudoun County Transit, Potomac and Rappahannock Transportation Commission (PRTC), Alexandria DASH
- **Economic Development Organizations:** Union Station Redevelopment Corporation, Greater Washington Partnership, Washington Board of Trade
- **Federal Agencies:** General Services Administration, Federal Railroad Administration

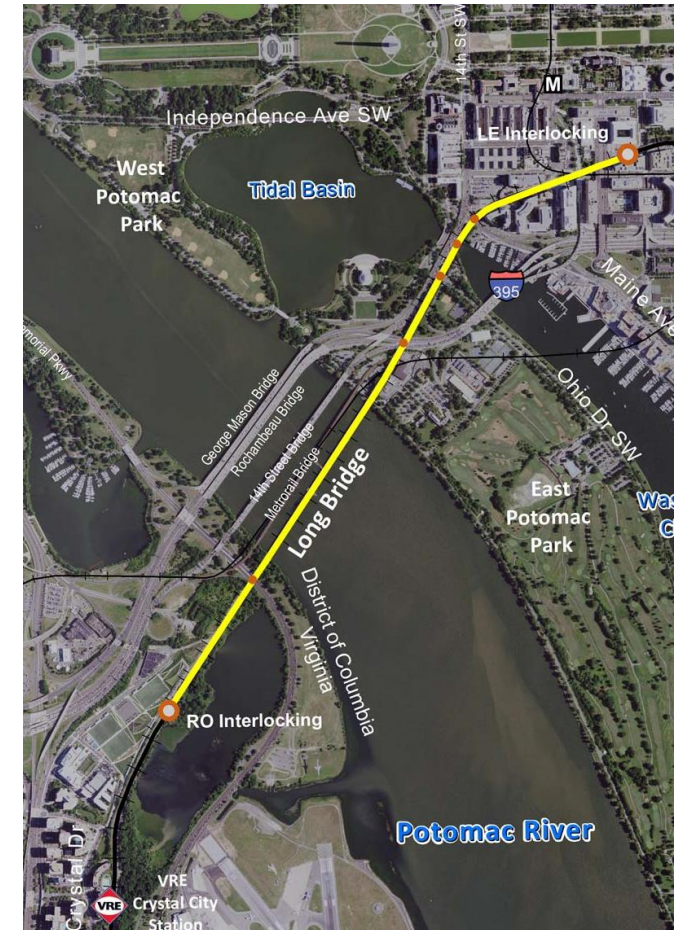
*to date, reached out to the above stakeholders; input provided by those highlighted in blue

Benefits of Run Through Service

- Previous studies found upwards of 100,000 people a day travel between areas accessible by MARC and areas accessible by VRE.
 - Analyses have primarily highlighted the benefits of connecting Maryland residents to Northern Virginia jobs.
- Reduce transfers within the Metrorail System
 - Alleviate Red Line Metro station congestion at Union Station
- Alleviate midday storage capacity constraints at Union Station
- Serve underway and planned development around stations (including Amazon's HQ2)
- Enhance commuter rail options for reverse commute and midday/off-peak travel
- Enhance transit resiliency in the region

Complementary Plans, Priorities, and Initiatives

- Run through service aligns with regional plans, priorities, and initiatives
 - TPB's Visualize 2045 and Regional Transportation Priorities Plan (RTPP)
 - MARC Cornerstone Plan
 - Investments by DRPT/VRE in fourth track from L'Enfant to Alexandria and third track from Alexandria to Fredericksburg as part of DC2RVA and VRE system expansion
 - Union Station Redevelopment
 - Long Bridge Preferred Design Option that establishes dedicated passenger rail bridge across Potomac
 - Planned and underway Northeast Corridor improvements to enhance reliability, safety, and capacity
 - Jurisdictional plans for focusing growth around high-capacity transit
 - Connects with regional transit and roadway projects.



Long Bridge EIS

Key Lessons from Background Research

- MARC O-D and VRE Master Agreement Survey key inputs to understand commuter rail catchment area
 - Team will need to address different levels of geographic detail and questions between two surveys
- Previous efforts utilized O-D data and model data to determine size of market
 - Travel demand models in the past have under-estimated commuter rail mode split
- Peer studies conducted ridership assessments as part of much more robust EIS process
 - Basic assumptions, notably non-dynamic land-use, consistent with our approach
 - These other studies took into account factors like transit system resiliency, localized congestion improvement
 - Implementation scenario will have major impact on ridership demand

Key Lessons from Background Research

- Past studies have noted that through service primarily benefit Maryland residents accessing Northern Virginia jobs
- Key challenges identified in past documents include capacity constraints, system incompatibilities, agreements and governance, etc. A number of these challenges are being addressed through investments that are planned or underway.

Upcoming Work

DEFINING TRAVEL-SHED FOR THROUGH SERVICE

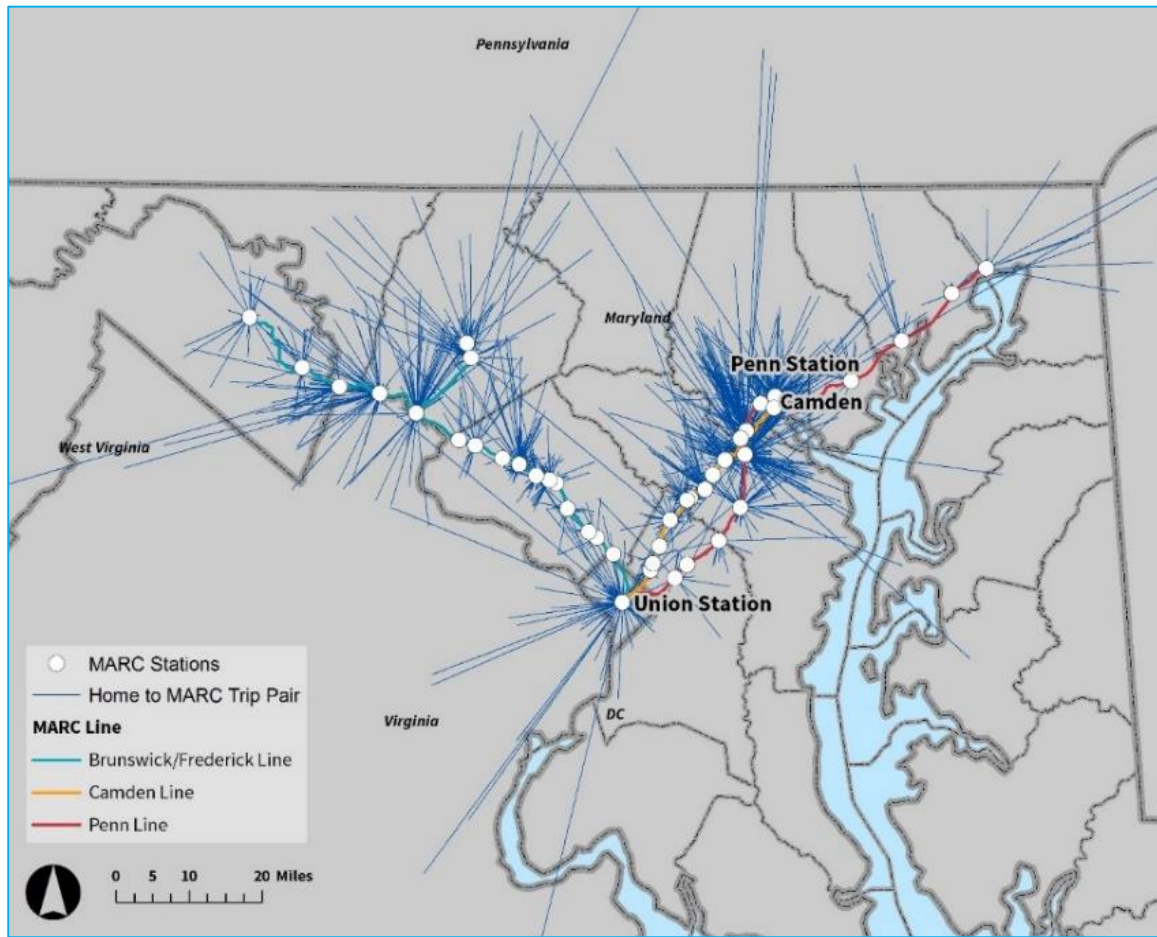
Task 3.1: Identify Travel Shed

■ Trip-Generator Travel Shed

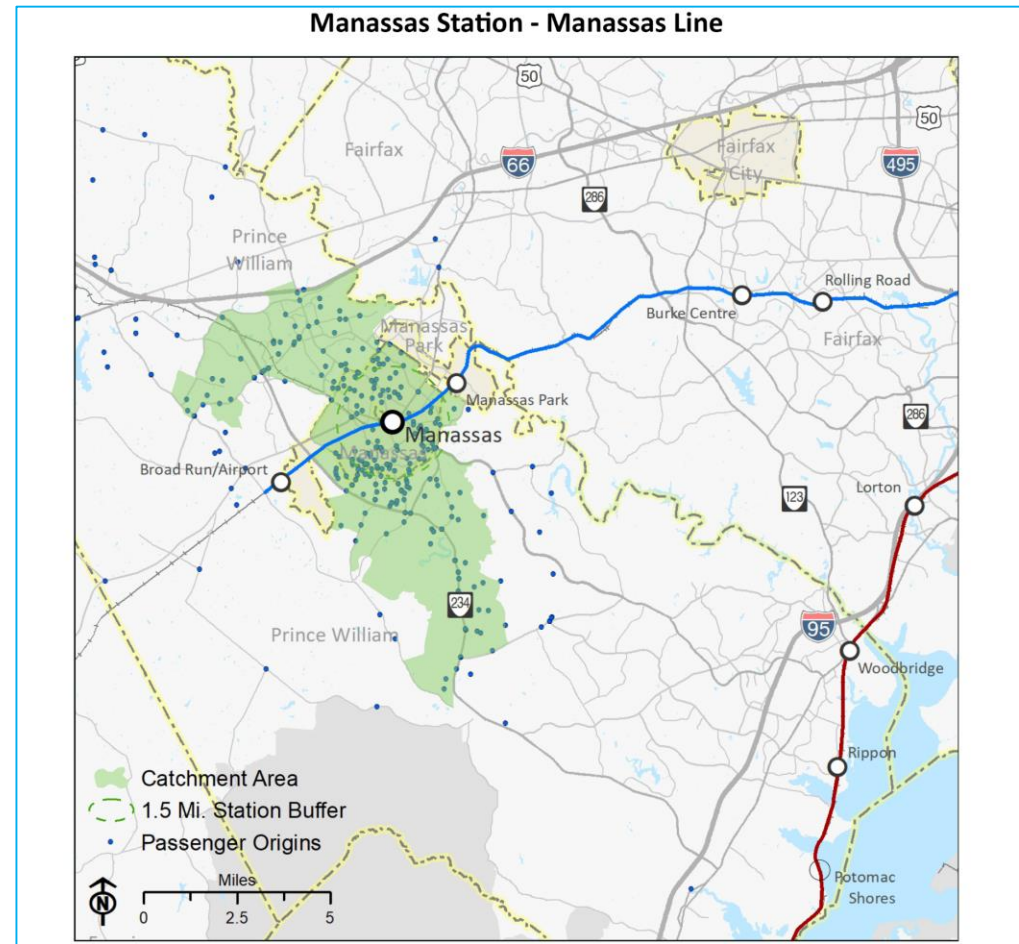
- Primarily defined as where riders live
- Make assumption about the area served by each station (e.g. catchment area)
 - Based on existing data such as O-D surveys
 - Propose to define a standard catchment area for different station typologies
- Calculate number of households and commuters within each station shed
- Can map out transit propensity across shed

■ Trip Attractor Travel Shed

- Primarily defined as workplaces or regional destinations
- Make assumption about how far riders are willing to travel from their end station to their final destination
 - Likely shorter distance than trip-generator commuter shed
 - Reliant on transit access and quality of pedestrian network
- Calculate metrics such as employment within each shed

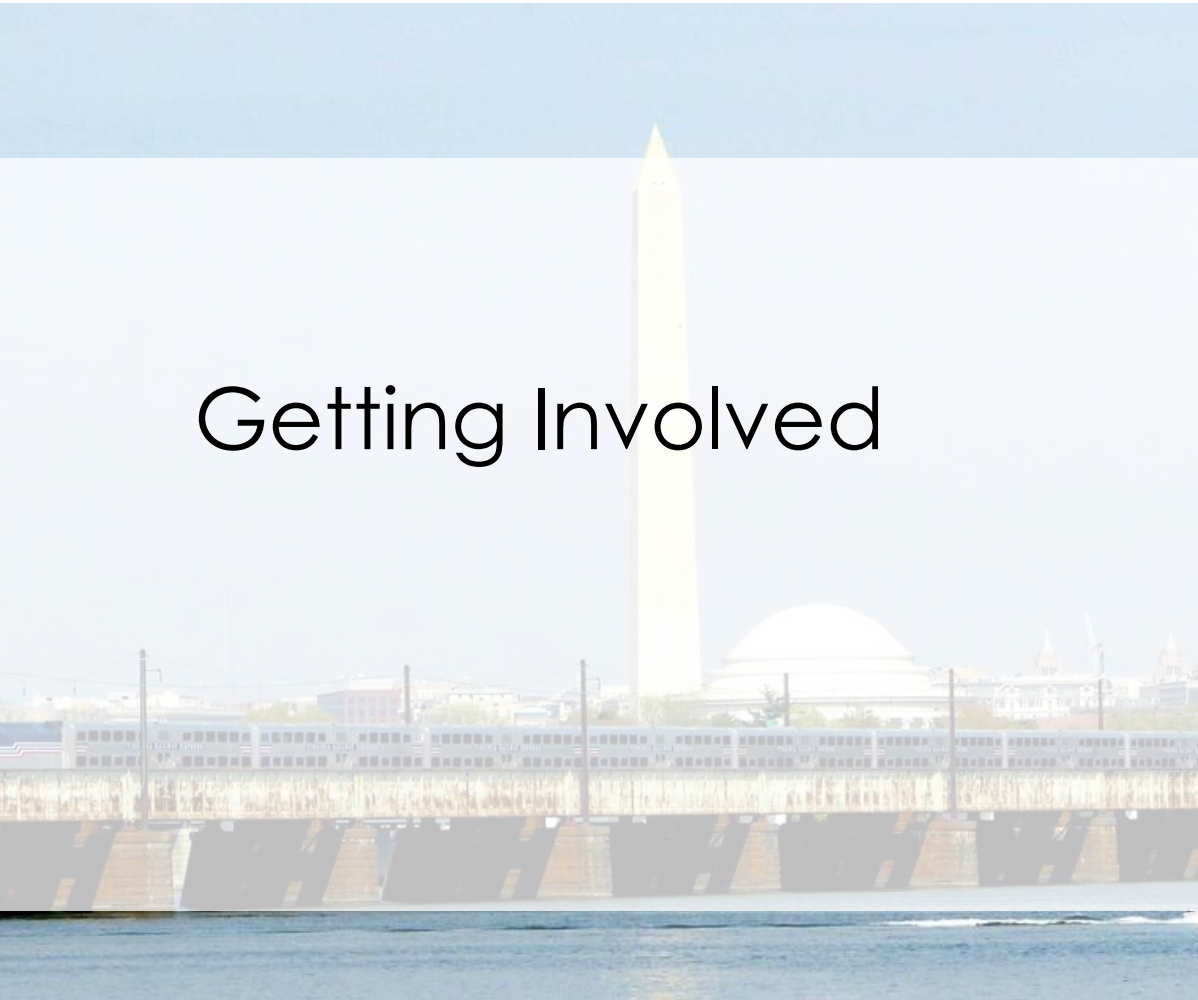


Home-to-Station Travel Patterns, MARC



VRE Catchment Areas (2019 TDP)

Getting Involved



How to Provide Feedback

- We'd love to hear from you!
 - Future RPTS meetings – we will come back to present interim results and the final study.
 - Reach out and talk with us. See contact info at end of presentation.



THANK YOU



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Additional Slides (for reference only)



Peer Examples of Proposed Run Through Service

- Philadelphia Center City Connector Tunnel
- London's Crossrail
- North-South Rail Link
- Metro-North Penn Station Access



Analysis Inputs

- MARC O-D Study
 - VRE Master Agreement Survey
 - COG Travel Demand Model
 - WMATA TRACE Model
 - Qualitative inputs from interviews
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- Challenge: Determining extent of travel catchment area. How far from stations do we define as the primary catchment area for analysis?