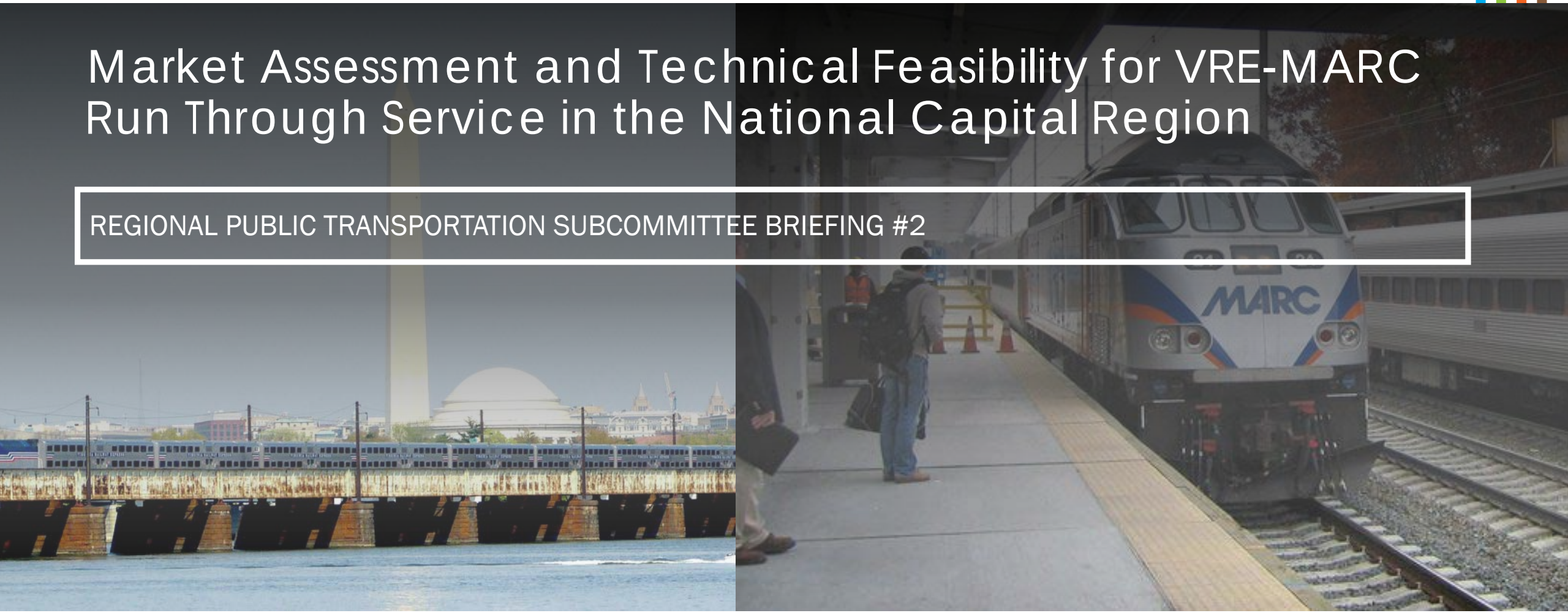
FOURSQUARE ITP
INTEGRATED TRANSPORTATION PLANNING

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

REGIONAL PUBLIC TRANSPORTATION SUBCOMMITTEE BRIEFING #2



March, 24, 2020

Agenda

- Project Background
- Travel Demand Analysis
- Key Run-Through Considerations
- Next Steps

Project Background

Introduction

- Concept has decades-long history
- 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 some of the critical elements for consideration when planning for run 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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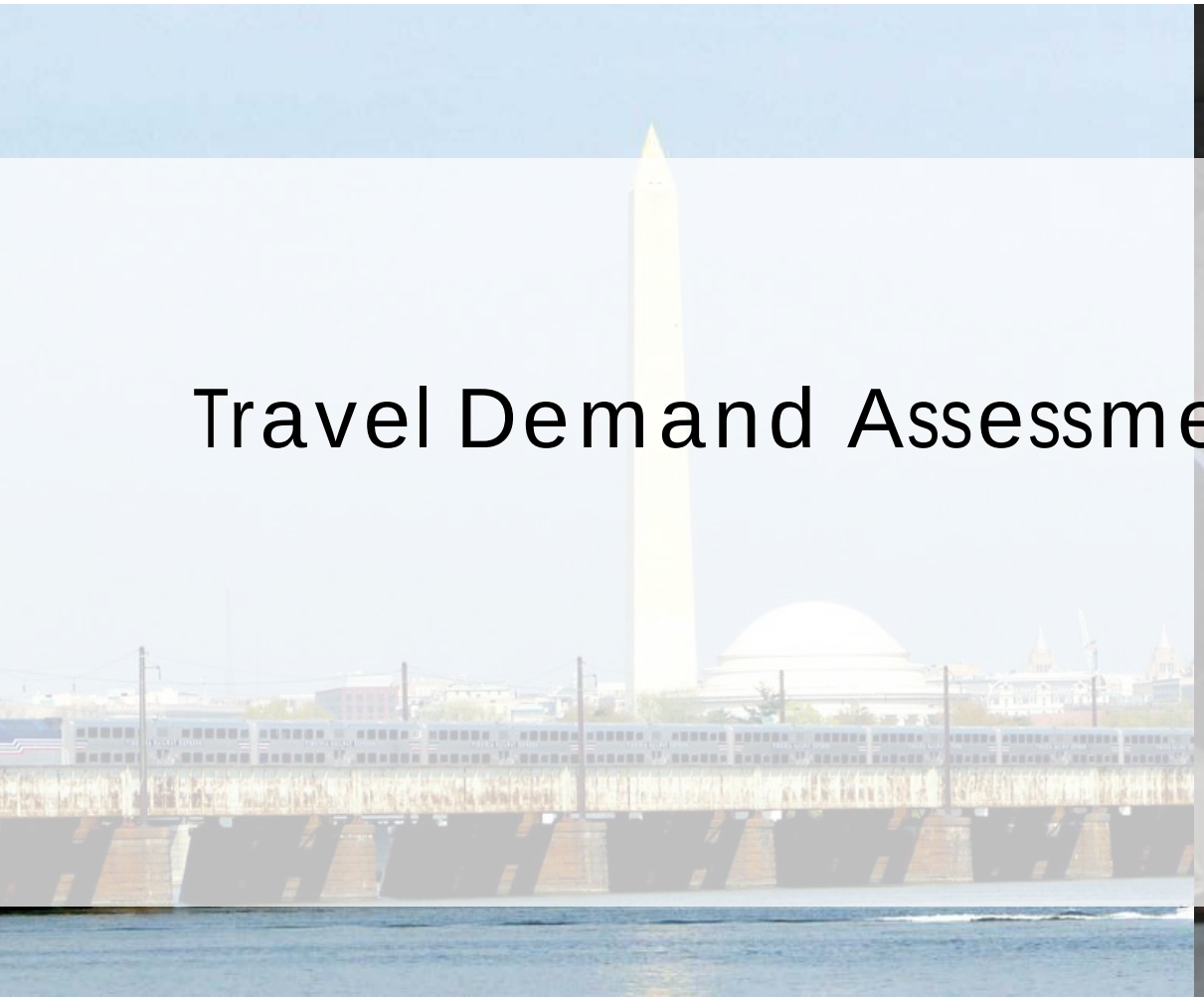
ECONOMICS | ENGINEERING | SERVICE PLANNING

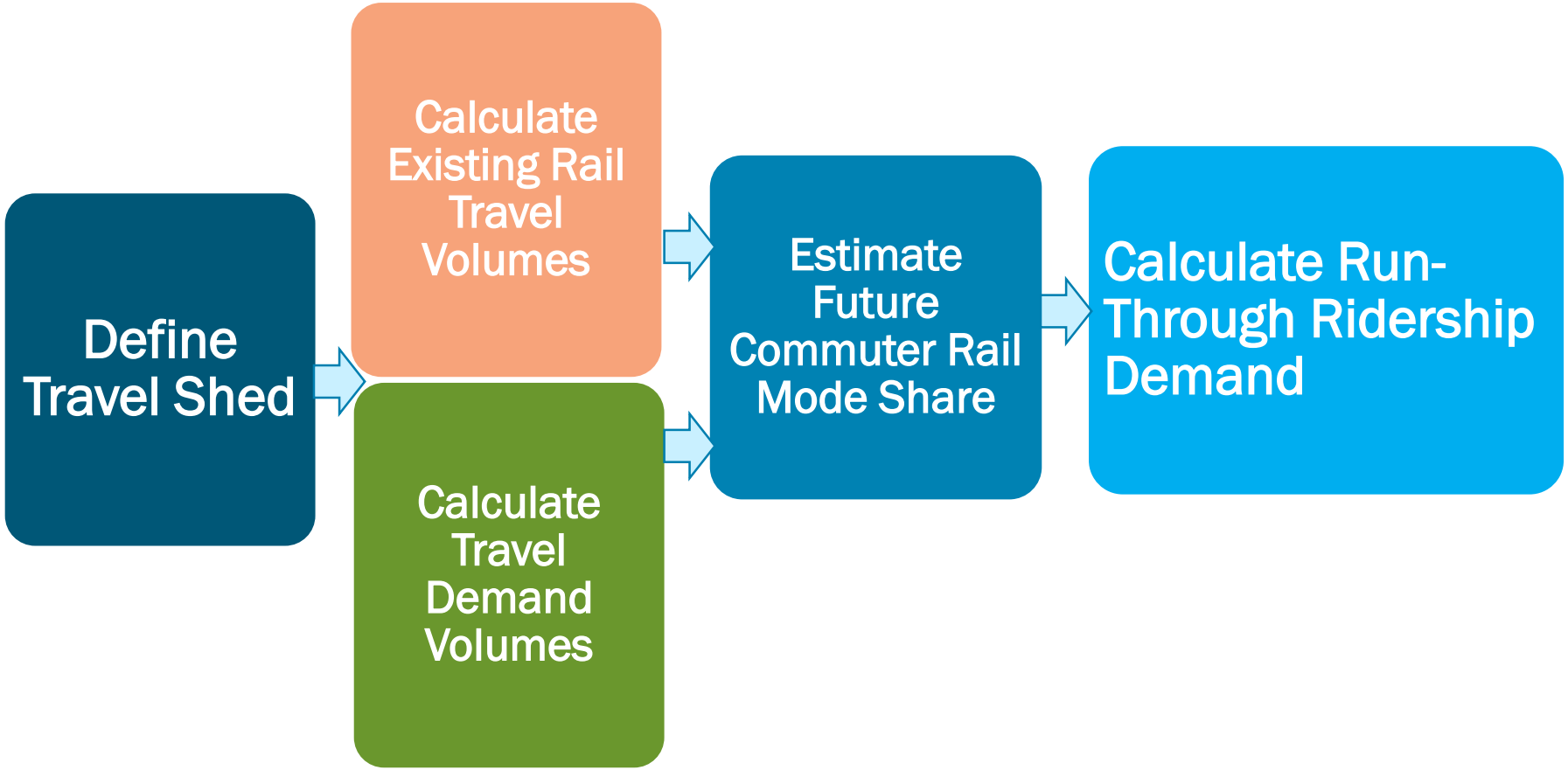
Project Scope

- 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

Travel Demand Assessment



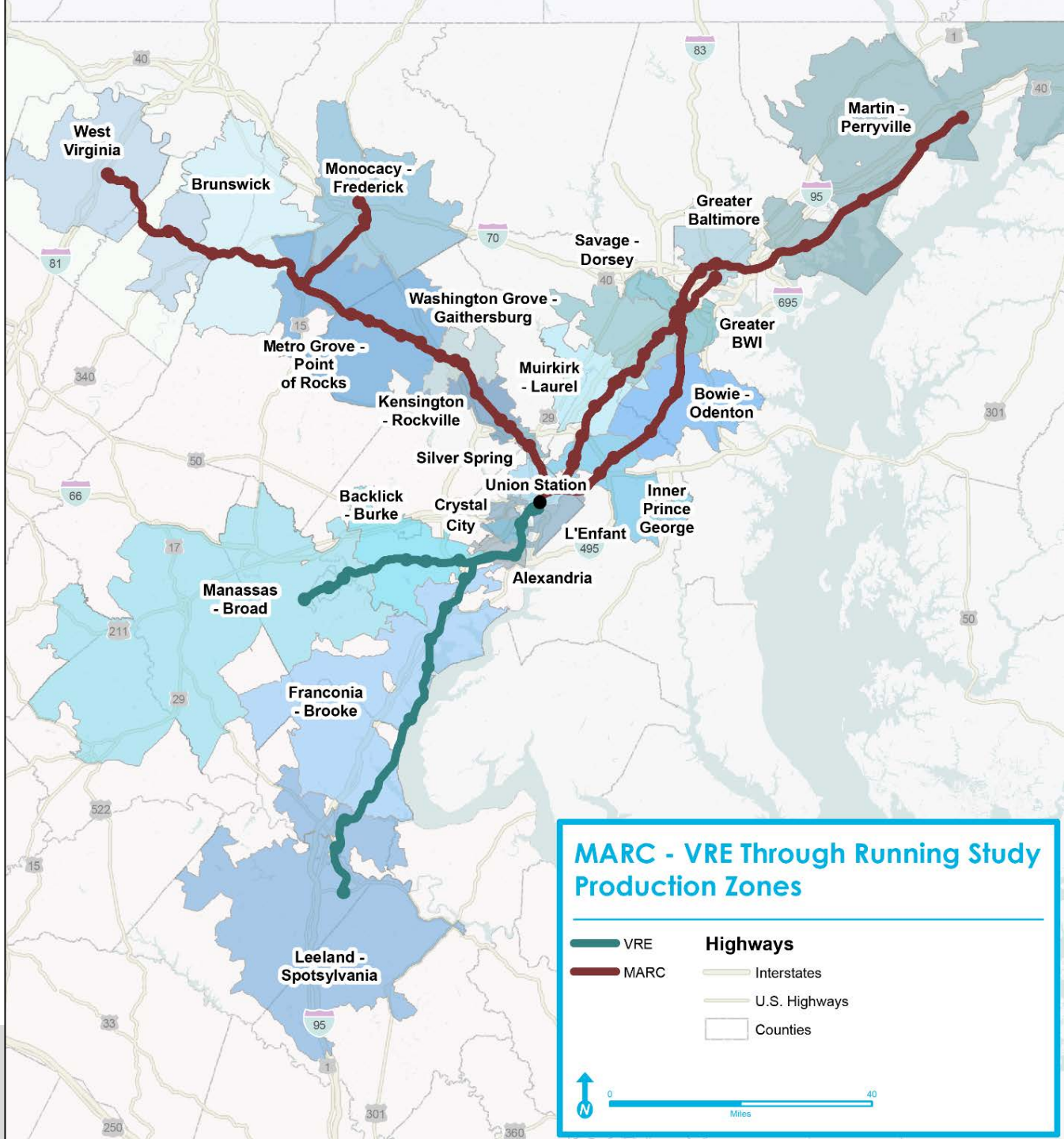
Methodology Overview



Data Used

- Maryland Regional Travel Demand Model
  - Includes Maryland + TPB's model area
- VRE and MARC Origin-Destination Surveys
  - Conducted extensive data cleaning to make the results comparable with model data.
- Census Transportation Planning Package
  - Base figure for travel volume calculations.

Define Travel Shed
Production Zones



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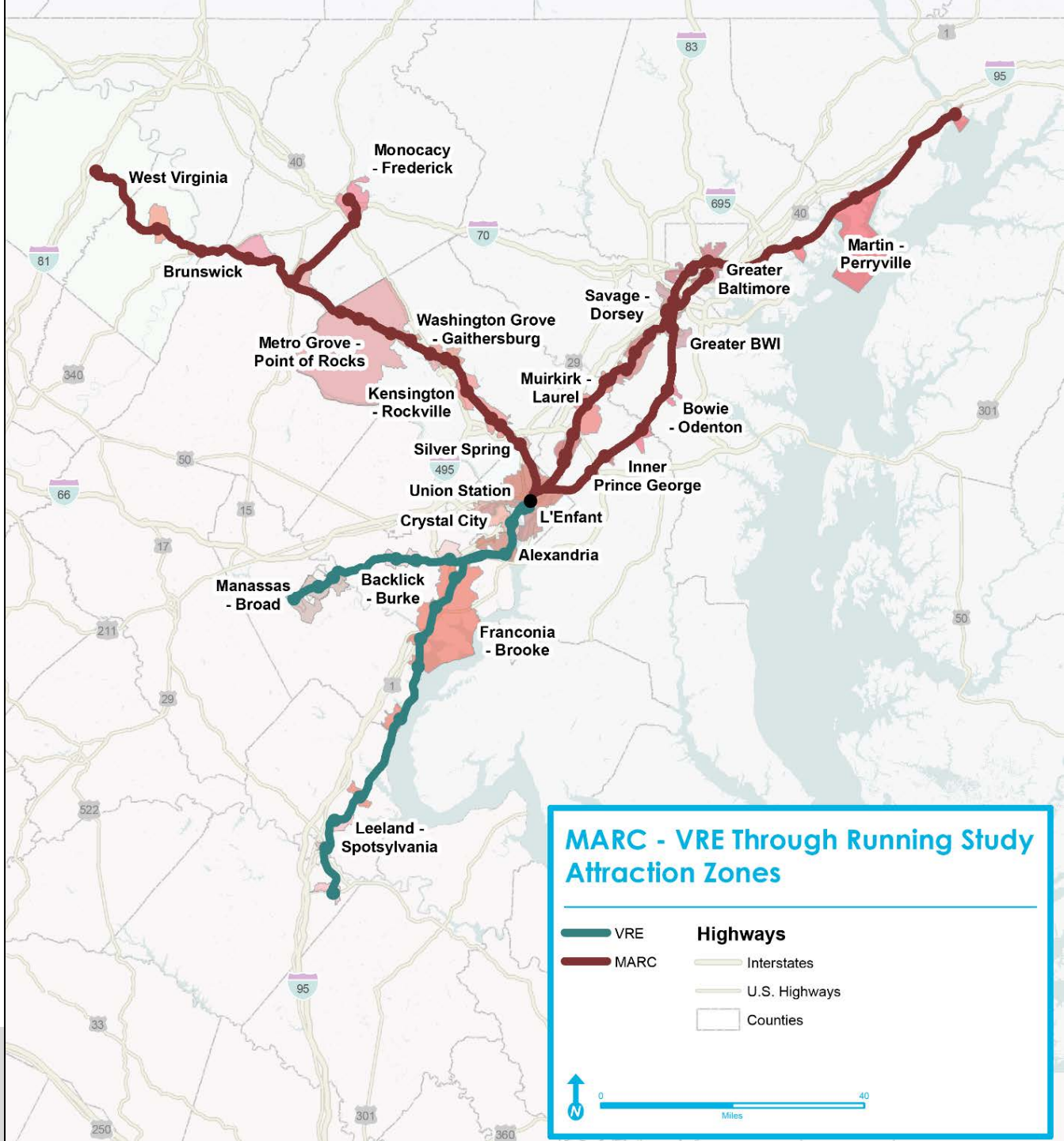
Define Travel Shed
Attraction Zones



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Travel Demand Results

- Observed Data: Existing Run-Through Equivalent Trips
  - Trips on MARC or VRE that cross between each railroads service area. Example: Penn Station to Union Station on MARC; Union Station to Pentagon City on Metrorail.
- Modeled: Run-Through Market
  - Total daily volume of trips between PA Zones within the MARC and VRE service areas.
- Modeled: Run-Through Rail Ridership
  - Estimated ridership on run-through service in 2030 and 2040.

Observed Data on Run-Through Equivalent Trips

- Largest volume of trips between the Penn & Camden Line to VRE Shared Line.
- Majority of trips produced in MARC service area and attracted to zones in VRE service area.

Line Pairs	2016-2018 Ridership
VRE Shared Line <–> Penn & Camden	10,800
Brunswick<–>VRE Shared Line	2,800
Manassas<–> Penn & Camden	200
Fredericksburg<–> Penn & Camden	100
Brunswick<–>Fredericksburg	-
Brunswick<–>Manassas	-
Total	**13,900**

Modeled Total Travel Volume

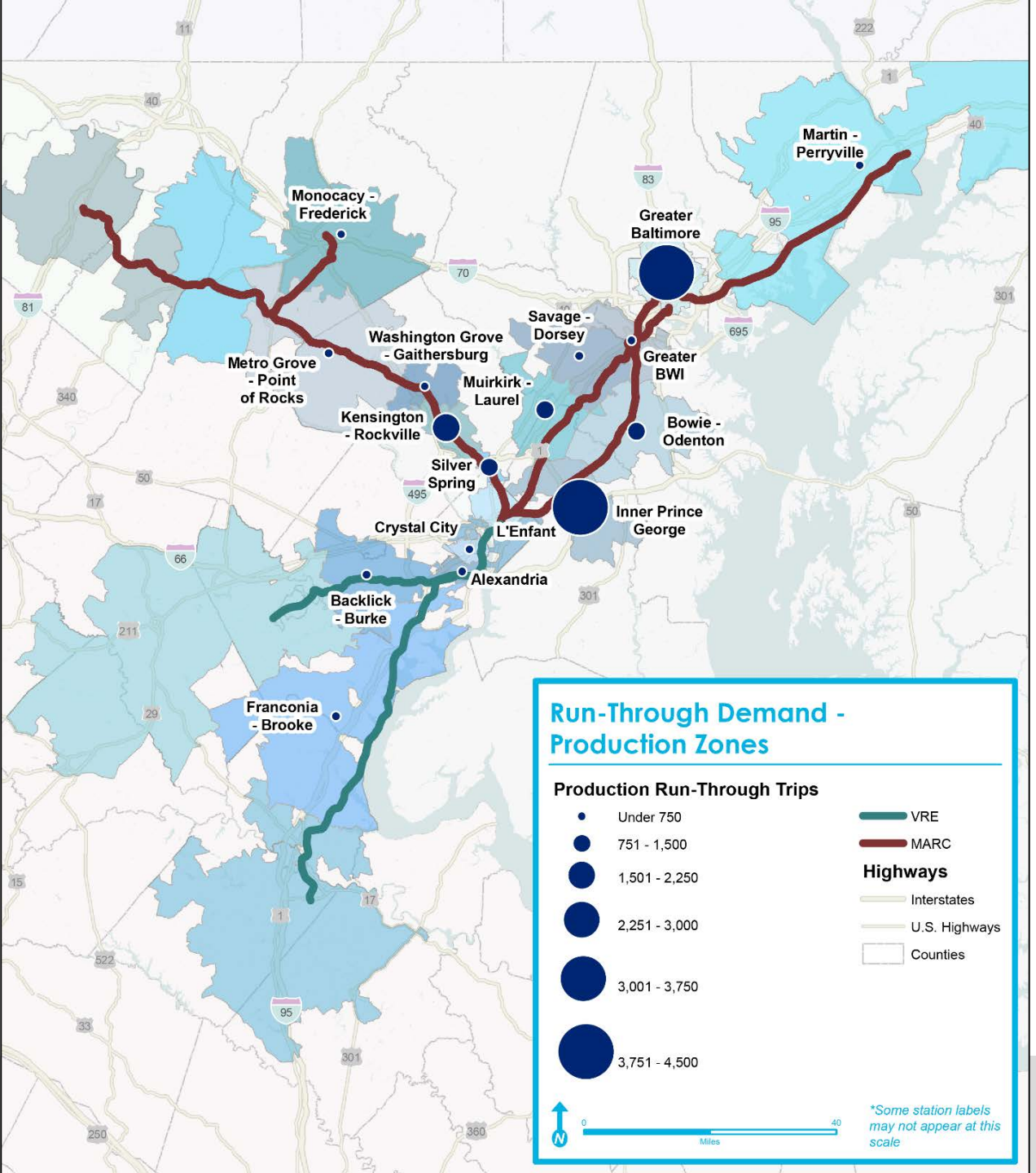
- Majority of travel volume between production zones along the Brunswick or Camden & Penn lines and production zones along the VRE Shared Line
- Penn & Camden to VRE Shared Line to see greatest absolute growth over the next 20 years.

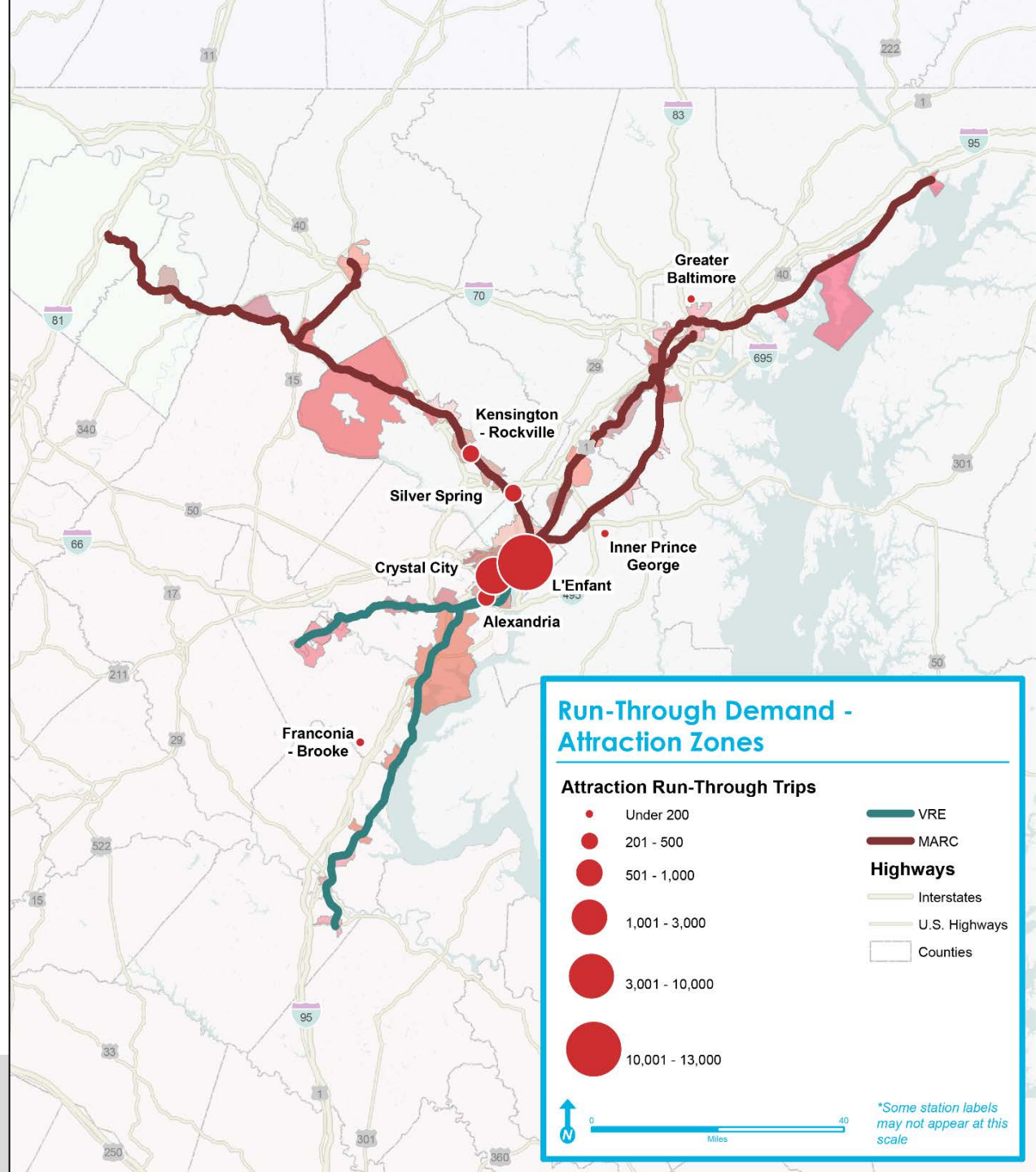
Line Pairs	2015	2030	2040
VRE Shared Line <–> Penn & Camden	208,900	241,500	260,300
Brunswick<–>VRE Shared Line	166,000	166,300	182,000
Brunswick<–>Manassas	9,800	10,200	10,700
Manassas<–> Penn & Camden	5,600	9,300	9,100
Brunswick<–>Fredericksburg	5,300	6,400	6,800
Fredericksburg<–>Penn & Camden	5,100	6,400	6,600
Total	**400,700**	**440,100**	**475,500**

Modeled Run-Through Ridership Estimates

- Penn & Camden and Brunswick to VRE Shared Line accounts for the greatest potential run-through ridership.
- Top Production Area: Prince George's County, Montgomery County, and Central Baltimore.
- Top Attraction Areas: L'Enfant, Crystal City

Line Pairs	Base	2030	2040
VRE Shared Line <–> Penn & Camden	9,900	11,600	12,400
Brunswick<–>VRE Shared Line	4,300	4,300	4,700
Brunswick<–>Manassas	100	100	200
Brunswick<–>Fredericksburg	100	100	100
Manassas<–> Penn & Camden	0	100	100
Fredericksburg<–>Penn & Camden	0	0	0
Total	**14,400**	**16,200**	**17,500**


Martin - Perryville
Monocacy - Frederick
Greater Baltimore
Savage - Dorsey
Washington Grove - Gaithersburg
Greater BWI
Metro Grove - Point of Rocks
Muirkirk - Laurel
Kensington - Rockville
Bowie - Odenton
Silver Spring
Inner Prince George
Crystal City
L'Enfant
Alexandria
Backlick - Burke
Franconia - Brooke
Run-Through Demand - Production Zones
Production Run-Through Trips
Under 750
751 - 1,500
1,501 - 2,250
2,251 - 3,000
3,001 - 3,750
3,751 - 4,500
VRE
MARC
Highways
Interstates
U.S. Highways
Counties
*Some station labels may not appear at this scale


Greater Baltimore
Kensington - Rockville
Silver Spring
Inner Prince George
Crystal City
L'Enfant
Alexandria
Franconia - Brooke
Run-Through Demand - Attraction Zones
Attraction Run-Through Trips
Under 200
201 - 500
501 - 1,000
1,001 - 3,000
3,001 - 10,000
10,001 - 13,000
VRE
MARC
Highways
Interstates
U.S. Highways
Counties
*Some station labels may not appear at this scale

Attraction Zones	Run-Through Rail Ridership		Overall Travel Demand		Production Zones	Run-Through Rail Ridership		Overall Travel Demand	
L'Enfant	13,000	81%	313,600	73%	Inner Prince George's County	4,200	26%	129,800	28%
Crystal City	1,500	9%	45,000	10%	Baltimore	3,900	11%	10,300	15%
Alexandria	500	3%	17,600	4%	Kensington-Rockville	1,600	8%	62,300	12%
Kensington-Rockville	300	2%	12,100	3%	Silver Spring	1,300	8%	48,800	9%
Silver Spring	300	2%	10,600	2%	Muirkirk-Laurel	1,300	6%	38,300	6%
Baltimore	200	1%	6,800	2%	Bowie-Odenton	900	4%	26,400	6%
Inner Prince George's County	200	1%	9,900	1%	Washington Grove-Gaithersburg	600	3%	22,600	4%
Franconia-Brooke	100	0%	8,000	2%	Savage-Dorsey	500	3%	15,700	4%
Backlick-Burke	0	0%	2,900	1%	Martin-Perryville	500	3%	18,600	3%
Muirkirk-Laurel	0	0%	5,900	1%	L'Enfant	400	2%	13,100	2%
Washington Grove-Gaithersburg	0	0%	2,100	0%	Monocacy-Frederick	300	22%	12,300	2%
Metro Grove-Point of Rocks	0	0%	2,100	0%	Metro Grove-Point of Rocks	200	1%	9,900	2%
Savage-Dorsey	0	0%	1,200	0%	Backlick-Burke	200	1%	8,400	2%
Monocacy-Frederick	0	0%	1,000	0%	Alexandria	200	1%	7,600	1%
Manassas-Broad	0	0%	1,000	0%	Crystal City	200	1%	5,400	1%
Greater BWI	0	0%	200	0%	Greater BWI	100	0%	2,600	1%
Bowie-Odenton	0	0%	100	0%	Franconia-Brooke	100	0%	4,800	1%
Brunswick	0	0%	0	0%	Manassas-Broad	0	0%	2,700	1%
Leeland-Spotsylvania	0	0%	0	0%	Brunswick	0	0%	600	0%
Martin-Perryville	0	0%	0	0%	West Virginia	0	0%	0	0%
West Virginia	0	0%	0	0%	Leeland-Spotsylvania	0	0%	0	0%
Total	16,100		440,100		Total	16,500		440,200	

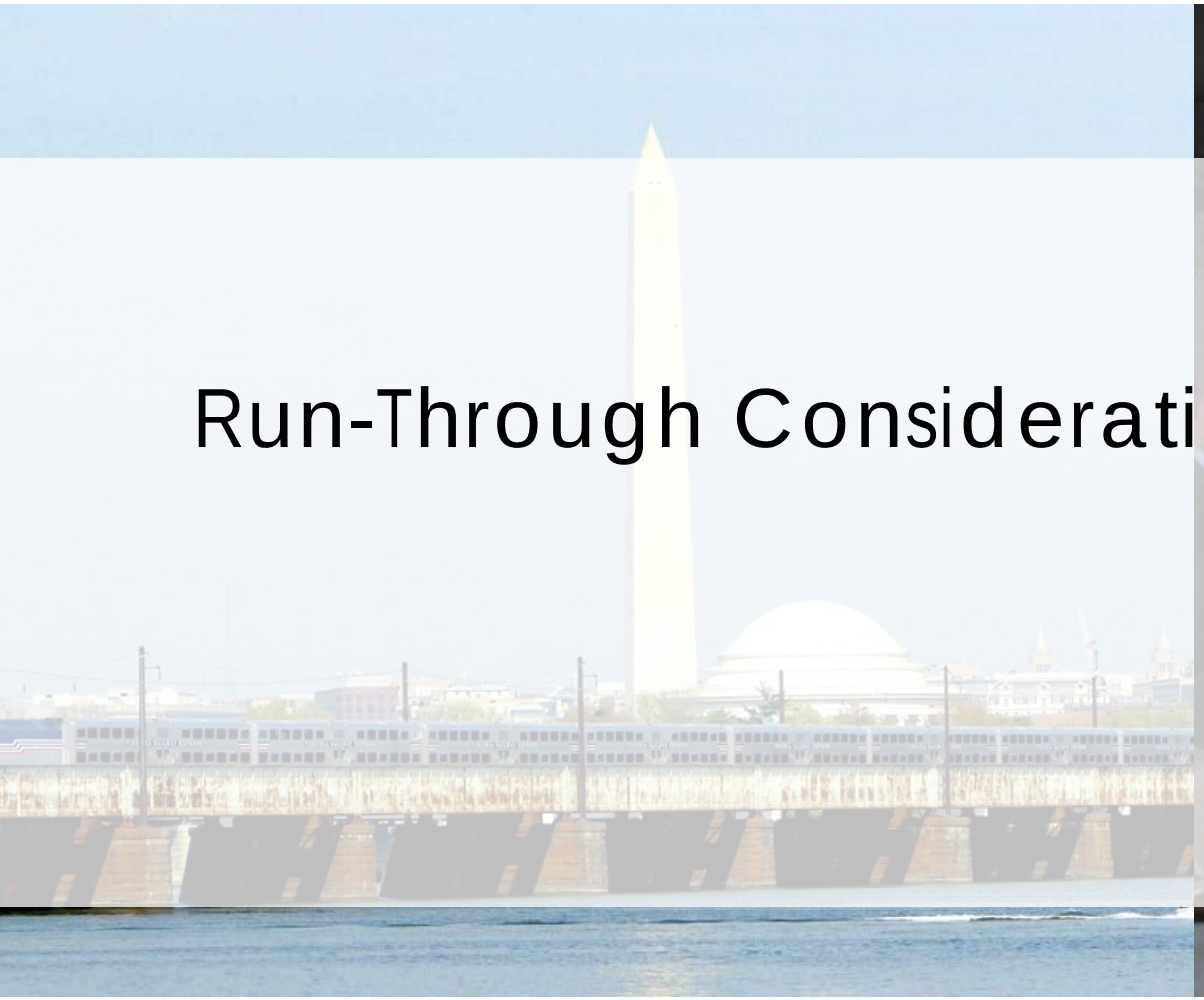
Conclusions: There is a Market for Run-Through Service

- Greatest demand for run-through service is between Baltimore and Alexandria.
- Run-Through trip production primarily generated in Maryland.
- The top trip attractor is L'Enfant.
  - These trips are largely already occurring on MARC and transferring to Metrorail
  - Run-through service would reduce congestion on the Red Line Metrorail.
- Alexandria and Crystal City are more moderate attractors of run-through trips.

Caveats

- Analysis does not account for induced demand from reduced travel times and transfers.
- Assumes static land use.
- Based on mode share of existing service. Does not accurately reflect mode share if level of service greatly deviates from existing frequency and span.

Run-Through Considerations



Variables Impacting Run-Through Service

- Timing
  - Long Bridge, Atlantic Gateway, and Union Station
- Service Model
  - Level of service.
  - Extent of run-through service within each agency's service areas.

Long Bridge EIS

Run-Through Considerations

- Operations
  - Ex: Train & Engine Service Employees, Dispatching, Equipment and Management
- Mechanical
  - Ex: Equipment maintenance, servicing, and supplies.
- Capacity and Capital
  - Ex: Rolling stock, stations, storage/layover, and warehouses.
- Institutional
  - Ex: Union agreements, host railroad contracts, cost sharing.

Next Steps

Next Steps

- Submit draft report to TAC by end of March for comment
- Finalize report in April
- Present findings to TPB Board and Technical Committee

THANK YOU

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