

MARKET ASSESSMENT AND

TECHNICAL CONSIDERATIONS FOR

VRE-MARC Run-Through Service in the National Capitol Region

Executive Summary

BACKGROUND

The *Market Assessment and Technical Considerations for VRE-MARC Run-Through Service* in the National Capital Region is a study by the Transportation Planning Board (TPB) at the Metropolitan Washington Council of Governments (COG) to explore the market potential for run-through service between the Maryland Area Regional Commuter (MARC) and Virginia Railway Express (VRE) commuter rail systems. While this study outlines some broad considerations that need to be addressed for run-through implementation, this study is not a large-scale, comprehensive engineering feasibility study.

The study was commissioned by the TPB through the Technical Assistance Program to support MARC and VRE's collaboration on run-through market potential. For decades, the National Capital Region has discussed the possibility of implementing Union Station run-through service. Union Station by design partially functions as a through-station, with trains able to access some platforms from both the south and north direction. While there are a range of reasons (e.g. institution, financial) for why run-through commuter rail service has yet to be implemented, a lack of capacity at stations and on the railroad(s) has long posed a barrier to implementation. Over the next few years several major infrastructure projects will commence that are intended to address these limitations.

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Project of:



National Capital Region
Transportation Planning Board

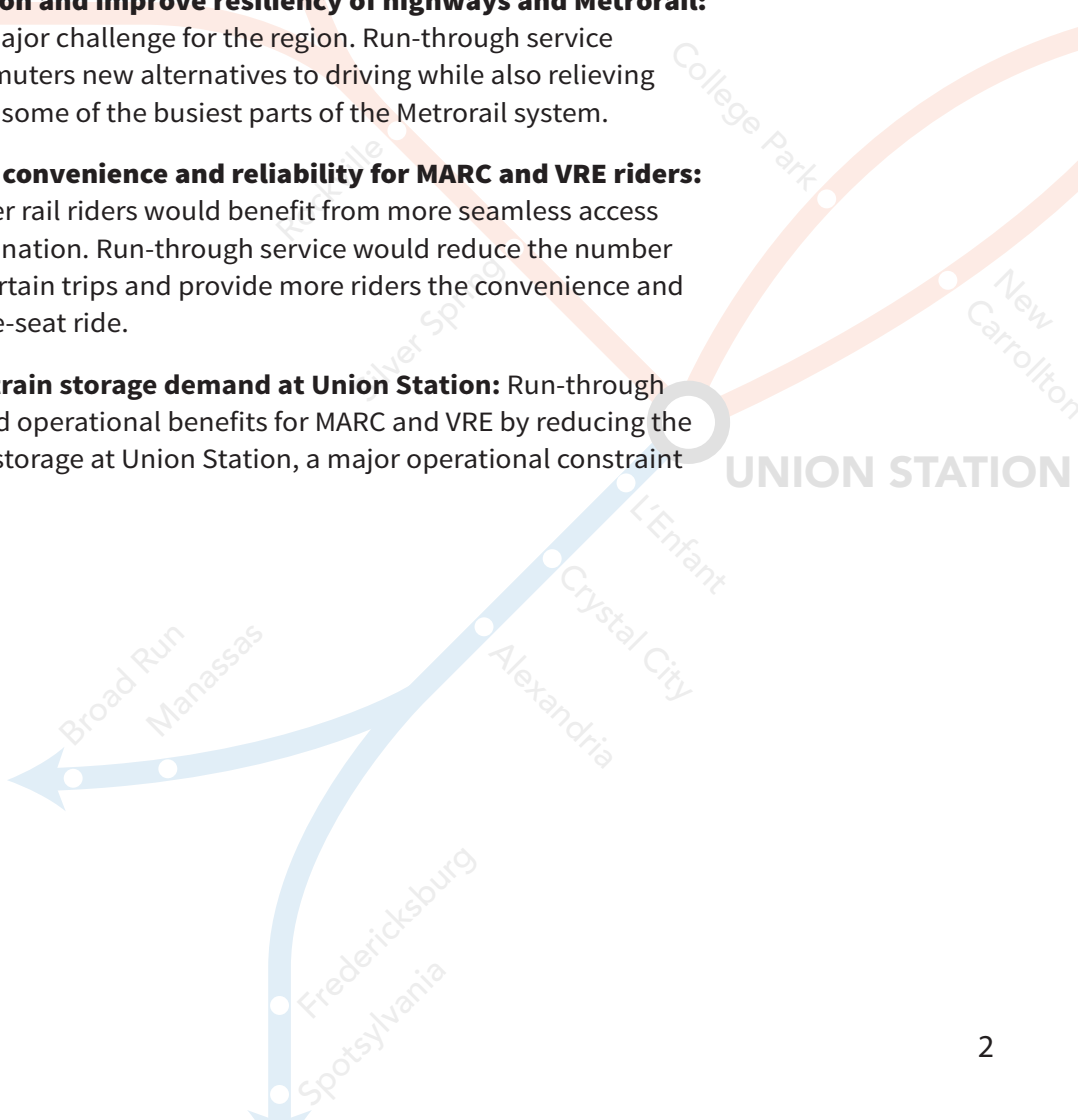
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WHY STUDY RUN-THROUGH SERVICE?

Overlapping the VRE and MARC service areas has the potential to improve travel options and opportunities for residents, expand the employee pool available to employers, and achieve a better jobs-housing balance across the region. It can also enhance existing rail operations by improving reliability, convenience, and user experience for existing riders, along with reducing the need for midday storage at Union Station. From discussions with regional stakeholders, a few themes emerged around why there is continued interest in run-through service:

- **Improve Jobs-Housing Balance:** One of the key potential benefits of run-through service is that it will improve accessibility by strengthening linkages between major employment centers and housing across the region. Run-through service can also increase the pool of talent within a reasonable commute to employers, and similarly, make more jobs accessible to more regional residents.
- **Reduce congestion and improve resiliency of highways and Metrorail:** Congestion is a major challenge for the region. Run-through service can provide commuters new alternatives to driving while also relieving congestion along some of the busiest parts of the Metrorail system.
- **Improve service convenience and reliability for MARC and VRE riders:** Existing commuter rail riders would benefit from more seamless access to their final destination. Run-through service would reduce the number of transfers for certain trips and provide more riders the convenience and reliability of a one-seat ride.
- **Reduce midday train storage demand at Union Station:** Run-through service could yield operational benefits for MARC and VRE by reducing the need for midday storage at Union Station, a major operational constraint today.



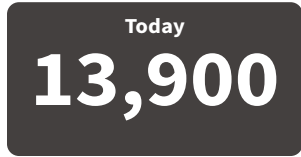
TRAVEL DEMAND FINDINGS

The study seeks to understand the amount of potential demand for run-through service. A modelling method was developed to estimate run-through travel demand based on existing commuter rail travel patterns, Census Transportation Planning Package (CTPP) trip volumes, and the Maryland Statewide Transportation Model (MSTM). The study conceptualized travel demand by trip production and attraction. Trip production is the home end of one’s trip, typically where one starts and ends their day. Trip attraction is the non-home end of a trip such as work, school, or shopping. The combined production zones for MARC and VRE are home to 4.9 million residents and attraction zones have 1.4 million jobs.

The analysis found that by 2030, there would be demand for 16,200 weekday trips on run-through service between the MARC and VRE service areas. This demand is concentrated on two corridors:

- Between Baltimore and Alexandria via either the MARC Penn or Camden Line, and VRE’s Shared Line (11,600 weekday trips by 2030).
- Between Frederick and Alexandria via the MARC Brunswick Line and VRE’s Shared Line (4,300 weekday trips by 2030).

Trip production occurred across the VRE and MARC service areas, with the largest concentration of demand for run-through trips produced around stations in Montgomery County, Prince George’s County, and Baltimore City. Trip attraction was largely concentrated around the areas primarily served by L’Enfant and Crystal City stations, with more modest demand around Alexandria, Silver Spring, and Rockville. Generally, the outer edges of the MARC and VRE network saw the lowest demand for run-through service.



Number of existing MARC and VRE riders with trip origins or destinations within the other railroad’s service area.

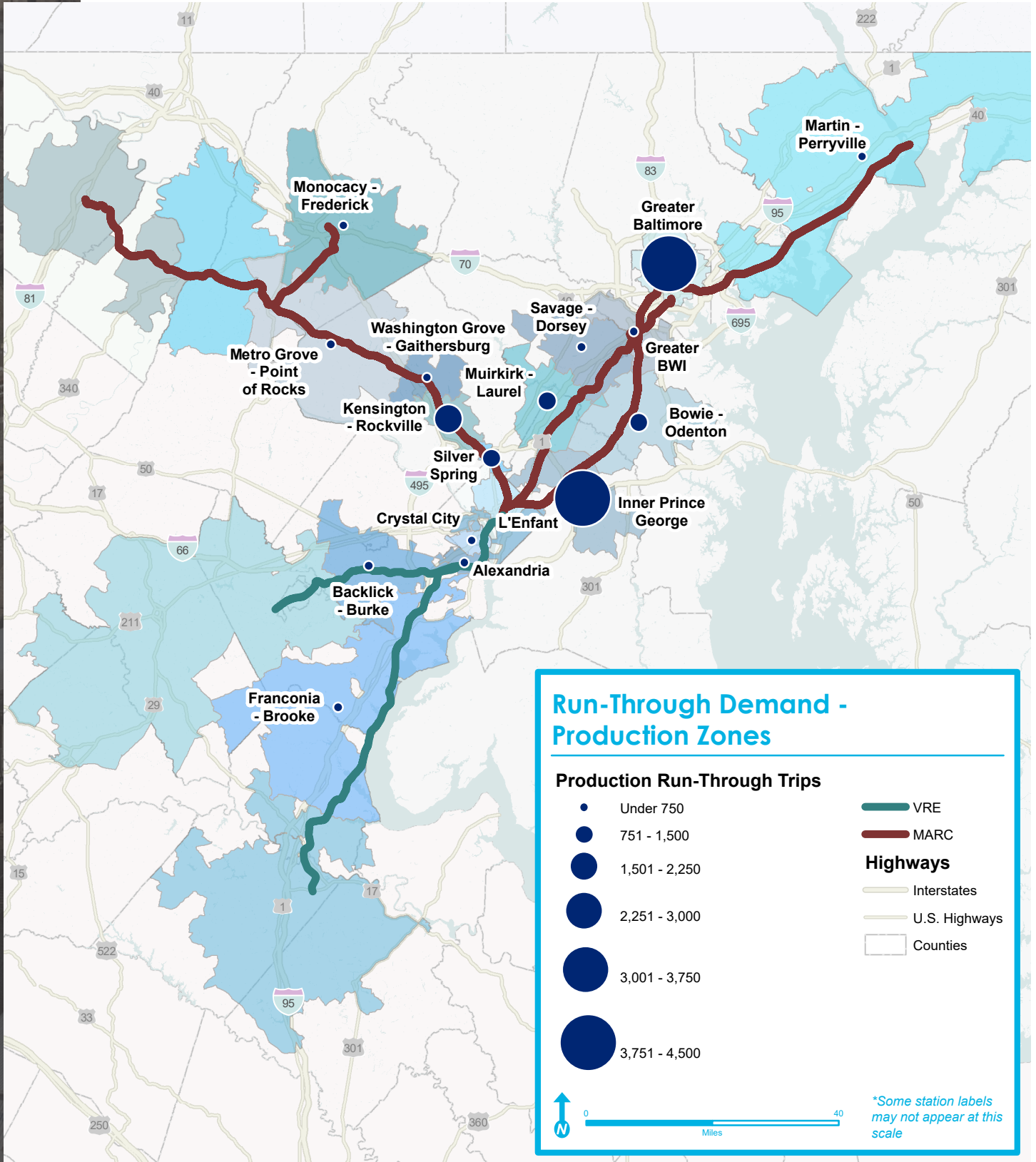


Projected number of weekday trips between the VRE and MARC service areas or vice versa across all modes.



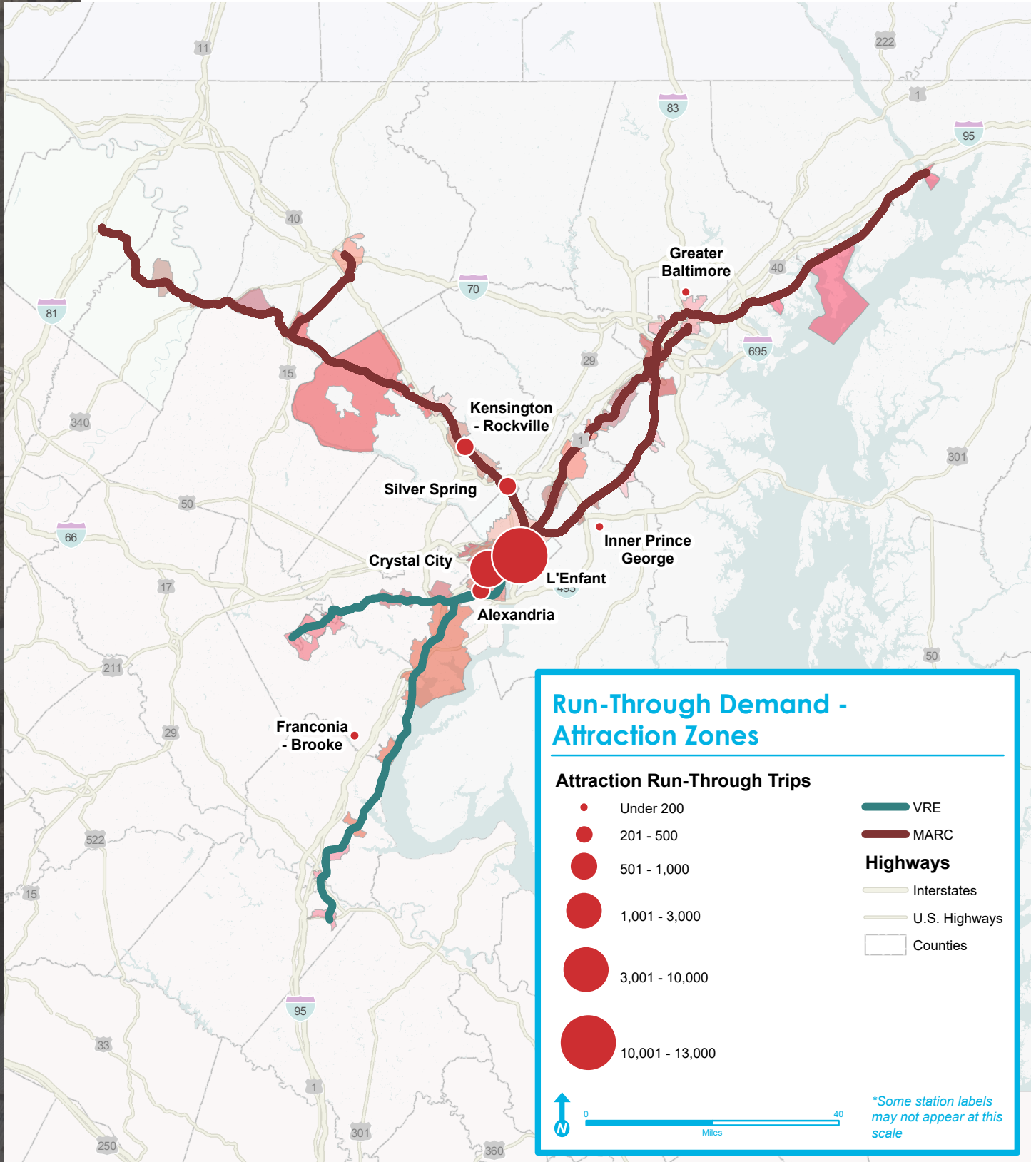
Forecasted demand for run-through service between MARC and VRE or vice versa by 2030.

Line Pairs	2015	2030	2040
VRE Shared Line ↔ Penn & Camden	9,900	11,600	12,400
Brunswick ↔ VRE Shared Line	4,300	4,300	4,700
Brunswick ↔ Fredericksburg	100	100	100
Brunswick ↔ Manassas	100	100	200
Manassas ↔ Penn & Camden	0	100	100
Fredericksburg ↔ Penn & Camden	0	0	0
Total	14,400	16,200	17,500



2030 Run-Through Demand Production Zones - Weekday Trips

*Note: Study defined the VRE and MARC service area as 22 attraction and production zones around one or more station. Zones are shaded to help differentiate boundaries between zones



2030 Run-Through Demand Attraction Zones - Weekday Trips

*Note: Study defined the VRE and MARC service area as 22 attraction and production zones around one or more station. Zones are shaded to help differentiate boundaries between zones

IMPACTS ON EXISTING RIDERS

A key benefit of run-through service may be simplifying the commutes of riders who today contend with the time, inconvenience, and reliability-impact of having to transfer to another mode. Today approximately 13,900 weekday trips on MARC and VRE trips occur within the run-through market area. Most of these trips are completed by combining commuter rail with Metrorail and other local transit services. Run-through service would eliminate the number of transfers for many of these riders. For example, MARC riders to L’Enfant Plaza would no longer have to board the Red Line Metrorail at Union Station and transfer at Gallery Place to the Green or Yellow lines. Eliminating the number of transfers on Metrorail can help reduce the level of crowding on Metro trains and platforms. Moreover, by creating an additional transit link across the Potomac, run-through service increases resiliency in the regional transportation network.

IMPLEMENTATION CONSIDERATIONS

There are several elements that must be addressed before run-through service can be implemented, including operational, mechanical, capacity, and institutional considerations. Implementation is further complicated by timing; over the next ten years several major infrastructure projects within VRE’s and MARC’s service areas will constrain capacity and operational flexibility for the railroads. Once complete, these improvements will increase operating capacity, and improve operating reliability and efficiency along the corridor – all factors that will benefit run-through service in the long-run.



Long Bridge between D.C. and Virginia. (DDOT, 2020)

NEXT STEPS

This study represents a fresh look at the potential for run-through service against the backdrop of several initiatives that could support the implementation of such a service. Virginia is working on a landmark agreement to acquire and improve a part of the CSXT right-of-way, including the Long Bridge, that would increase capacity for passenger and freight trains; the Long Bridge EIS has identified a locally preferred alternative; and, planning coordination is underway between the Maryland Transit Administration (MDOT MTA) and VRE.

This study can support future planning efforts by providing a regional perspective on travel dynamics and where the greatest demand existing for run-through operations. In the short-term, there are several ways the region can progress the planning for run-through service:

- Review of the technical study outlined in this report to inform decision-makers at MDOT MTA and Virginia Department of Rail and Public Transportation (VDRPT)/Northern Virginia Transportation Commission (NVTC)
- The evaluation of existing resources, and future needs by both railroad agencies as it relates to the ability to implement Run-through service
- Increase coordination with regional agency stakeholders to evaluate the viability of run-through service and develop a potential strategy that facilitates future implementation of run-through service.

Transportation

Virginia’s \$3.7 billion rail plan called a ‘game changer.’ Here’s what we know about it.

Transportation

MARC trains could be carrying passengers into Virginia in a few years

Recent political developments in Maryland and Virginia are possibly paving the way towards run-through service in the region (Washington Post, 1/11/2020 and 1/27/2020)