NVTA'S BRT

Bus Rapid Transit *Action Plan*

CONNECTING FAST, FREQUENT, AND RELIABLE TRANSIT ACROSS NoVA AND BEYOND

NVTA

NORTHERN VIRGINIA TRANSPORTATION AUTHORITY

JULY 2025

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1.0 INTRODUCTION

1.1 Background

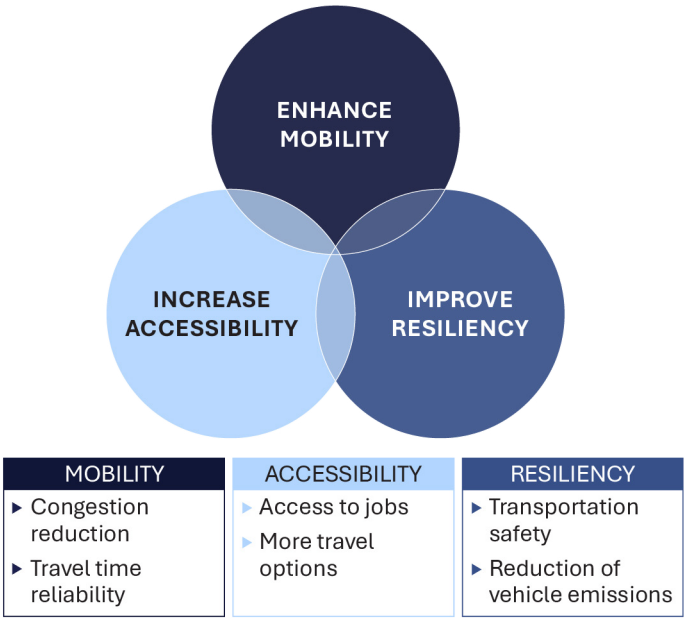
The Northern Virginia Transportation Authority (NVTA) is a regional organization responsible for preparing Northern Virginia's long-range transportation plan, TransAction. NVTA uses its revenues to fund multimodal projects that reduce congestion safely, sustainably, and equitably.

The latest update to TransAction was approved in December 2022 and identified a vision for a high-capacity Bus Rapid Transit (BRT) system stretching across Northern Virginia and beyond to meet the mobility needs of Northern Virginians, while reducing congestion and dependency on driving.

NVTA has already invested more than $880 million towards building five different BRT routes in the region, which are at different stages of implementation. These include Crystal City-Potomac Yard Transitway (Metroway), The One (Richmond Highway BRT), Duke Street Transitway, West End Transitway, and Route 7 BRT.

This BRT Action Plan (previously referred to as a Preliminary Deployment Plan for a regional BRT system) builds upon NVTA's BRT investments to date to create a regionally connected BRT system providing fast, frequent and reliable transit service. Developed with the help of a multi-agency BRT Planning Working Group established by NVTA in early 2021, the Action Plan evaluates the impact of, and opportunities and challenges with, 28 potential BRT routes serving multiple areas in Northern Virginia, as well as popular destinations in Maryland and Washington, DC.

NVTA recognizes that a high-quality regional BRT system is best achieved in a collaborative manner that maximizes the return on investments. This will require coordinated efforts from a range of entities in the region, including NVTA, each of the local member jurisdictions, the Virginia Department of Transportation (VDOT), the Virginia Department of Rail and Public Transportation (DRPT), the Potomac and Rappahannock Transportation Commission (PRTC), the Virginia Railway Express (VRE), the Washington Metropolitan Area Transit Authority (WMATA), the Metropolitan Washington Council of Governments/Transportation Planning Board (MWCOG/TPB), and the Northern Virginia Transportation Commission (NVTC). Coordination with neighboring jurisdictions and agencies in Washington, DC, and Maryland will also be necessary to integrate a Northern Virginia BRT system into the larger regional transit network. With so many collaborators, each entity will have important and unique roles to play in the process.



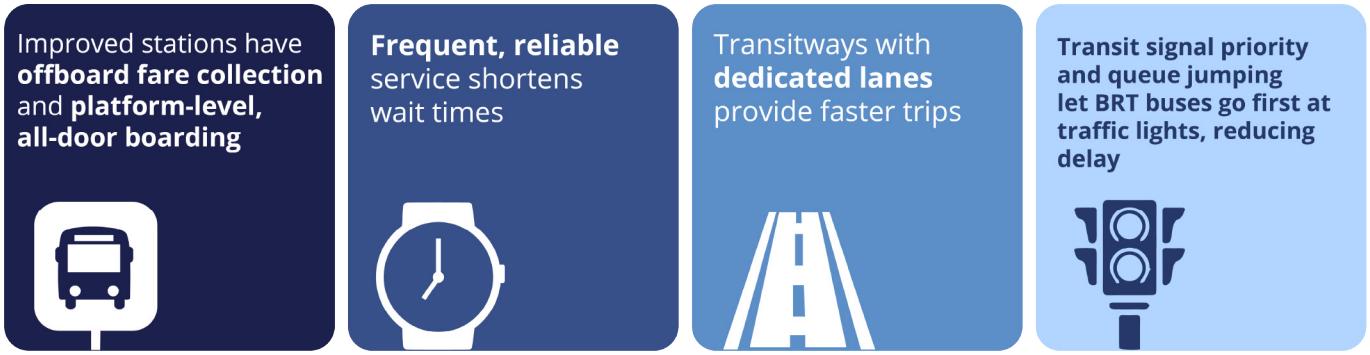
This Action Plan provides a strong blueprint for jurisdictions and agencies to develop BRT routes incrementally in addition to supplying the information necessary to demonstrate how they can successfully function as an integrated system once fully implemented.

1.2 What is BRT?

BRT is a high-quality bus-based transit system that delivers fast, frequent, and reliable transit service. The defining characteristics of a BRT system include high-frequency service, expansive service hours, limited-stop routes, bus priority features, and improved customer facilities. These features support high-ridership capacity and increased reliability over local bus service. A connected BRT system will provide Northern Virginia with:

- New travel options/alternatives to driving
- Reduced travel times
- Improved access to jobs and destinations
- Increased economic growth

How It Works



1.3 Purpose of the Action Plan

To achieve NVTA's regional transportation goals, this Action Plan for BRT will serve as an important step in the process of building out a regional BRT system. The Action Plan's primary goal is to facilitate the development of a consistent and comprehensive regional approach to BRT deployment over the next 10 years and to encourage a seamless connection between current and planned future BRT segments across the region.

The Action Plan will serve as a vital link between TransAction and NVTA's Six Year Program to spur BRT planning and implementation efforts by the jurisdictions and other entities in Northern Virginia and across the larger metro Washington, DC region. By evaluating potential BRT routes, both individually and as a system, the Action Plan will help to identify the most promising BRT options in the region. The Action Plan will lay the groundwork for NVTA's member jurisdictions and regional partners to further develop BRT plans and projects and pursue a range of federal, state, regional, and local funding sources.

2.0 LOCAL AND NATIONAL BRT EXAMPLES

2.1 Local BRT Projects

NVTA has invested about $880 million to fund various phases of five separate BRT routes through multiple funding programs using regional revenues. This section discusses those five BRT routes, of which Metroway is already operating and the remainder are in the project development stage.

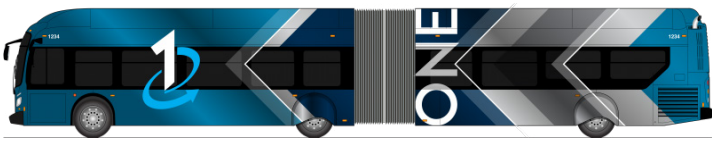
NVTA's Investments So Far

- Metroway: $36 Million
- The One (Richmond Highway): $638 Million
- Envision Route 7: $102 Million
- Duke Street Transitway: $87 Million
- West End Transitway: $20 Million

Metroway (Crystal City-Potomac Yard)

The 4.5-mile Metroway route in the Crystal City-Potomac Yard corridor is the first BRT route with dedicated lanes in Northern Virginia.[1] The project was part of a broader effort to improve public transportation options along the Route 1 corridor. Alexandria and Arlington played key roles in constructing the infrastructure, while WMATA manages operations. Metroway was implemented in two phases. The first phase, completed in 2014, involved early operations in Alexandria, with buses running partially in mixed traffic. The second phase, completed in 2015, involved Arlington's portion, which shifted more of the service into dedicated lanes for improved speed and reliability. NVTA is funding northern and southern extensions of Metroway. Metroway operates all day service (16 hours on weekdays, 14 hours on weekends) with service every 12 minutes during the peak hours and every 20 minutes outside of the peak. Based on the FY 2024 Metrobus Annual Line Performance Report, Metroway carried 379,000 passengers between July 2023 and June 2024.

The One (Richmond Highway BRT)



Fairfax County is developing a BRT service on Richmond Highway between Huntington Metrorail Station and Ft. Belvoir (branded as "The One"), that will include 7.4-miles of dedicated BRT lanes.[2] Richmond Highway is a dynamic corridor characterized by diverse land uses and significant transportation demands. The comprehensive approach to improvements in the Richmond Highway corridor is commonly referred to as Embark Richmond Highway and has three elements: road widening by VDOT (including bicycle/pedestrian improvements), land use changes, and planning and design of the BRT system. Richmond Highway BRT will be implemented by the Fairfax County Department of Transportation (FCDOT) with support from other county, state, and federal agencies. In addition to funding The One, NVTA is also funding the road-widening element.

1 https://metrowayva.com/
2 https://www.fairfaxcounty.gov/transportation/richmond-hwy-BRT

Envision Route 7

NVTC has been leading a multiphased transportation planning process for Envision Route 7, a BRT system designed to connect the Mark Center in Alexandria to Tysons via Bailey's Crossroads, Seven Corners and Falls Church along 14-miles of the Route 7 corridor.[3] There are a total of nine phases of the project; the first phase, mode feasibility, was initiated over 10 years ago, while Phase 4, mobility study, is ongoing. In 2021, Fairfax County DOT approved the Plan Amendment to incorporate the proposed BRT corridor, and stations were included in the Comprehensive Plan. Fairfax County commenced a subsequent effort of the Route 7 BRT project in Fall 2022, which is examining right-of-way impacts of the BRT along Route 7 from the West Falls Church Metrorail Station to the Spring Hill Metrorail Station, via International Drive.

Duke Street Transitway

The Duke Street corridor focuses on establishing BRT service along the 4.5-mile stretch of Duke Street between the Landmark Mall redevelopment and the King Street Metro Station.[4] Duke Street is a critical east-west route through Alexandria, serving local communities, retail centers, and major employment hubs. The project seeks to deliver reliable transit service, reduce travel times, and promote multimodal accessibility along Duke Street. In 2023, conceptual designs were refined, narrowing options based on technical analysis and community input. The new design scope of work was approved by the City of Alexandria in 2025.

West End Transitway

The West End Transitway seeks to improve north-south connectivity between the Van Dorn Metro Station, the Landmark Mall redevelopment (West End), and the Pentagon via high-frequency BRT service.[5] This 5.3-mile corridor, including 2.7-miles of dedicated bus lanes, will link Alexandria's rapidly growing neighborhoods and key employment centers, as well as to the Duke Street Transitway and Route 7 BRT.

2.2 Lessons from National Peer BRT Systems

A review of peer systems was conducted including 21 BRT corridors or networks from across North America (including local peers). Peers were selected to represent a wide range of both operating environments and service types; several key peers were identified that operated in environments similar to Northern Virginia, as noted in the next graphic. An extensive literature review was also conducted. Information from these reviews is used to support the findings summarized in this section.

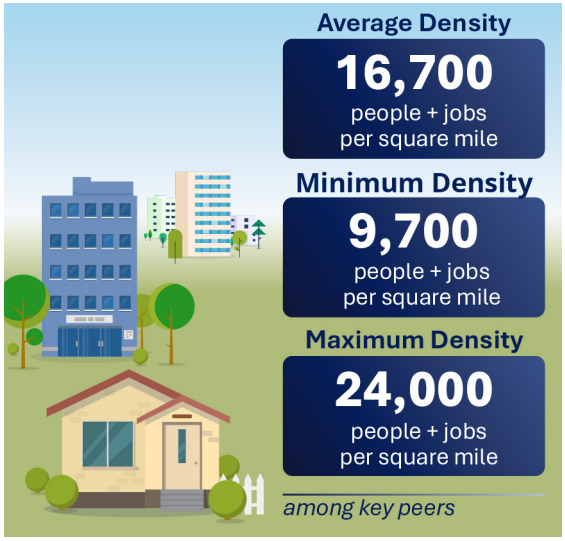
[3] https://novatransit.org/programs/route7/
[4] https://www.alexandriava.gov/DukeInMotion
[5] https://www.alexandriava.gov/transportation-planning/west-end-transitway

BRT-Supportive Land Use and Density: For most peers, the land use along BRT routes changes based on proximity to the corridor and stations. Corridor-adjacent and station area developments typically include mixed-uses, office and commercial spaces, multi-family residential complexes (e.g., garden apartments, condominiums, and townhouses), shopping districts, and industrial uses. The densest areas are at route termini and other important activity anchors along the corridor. Meanwhile, service areas further from stations are less dense with single-family residential neighborhoods. In Grand Rapids, Michigan and Aspen, Colorado, service areas also include rural land uses.

Key Relevant Peers

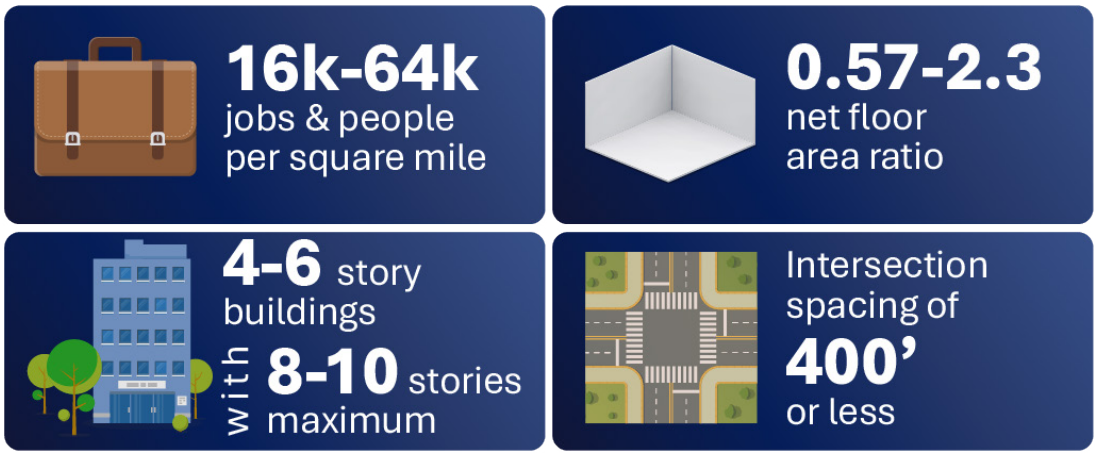
- **Pace Pulse—Chicago Region, IL:** A planned network of BRT, with two lines already in service, in a suburban environment similar to Northern Virginia. ***Activity Density: 10,300***
- **IndyGo Red, Blue, and Purple Lines—Indianapolis, IN:** The overlap between these routes and existing high-ridership, local routes make the system an ideal peer. ***Activity Density: 18,600***
- **The Rapid Silver and Laker Lines—Grand Rapids, MI:** The inter-jurisdictional alignment of these routes and larger variation in density along the alignments makes the system a valuable peer. ***Activity Density: 11,100***

Density Among Key Peers



Specific density metrics along BRT corridors also vary. Overall, the threshold for activity densities (population and employment) and land use mixes within ½ mile of stations from a set of 10 key recommended peers was identified as greater than 11,000 people and jobs per square mile. For example, the existing Metroway BRT route in Arlington and Alexandria has an average activity density of almost 24,000 people and jobs per square mile near its stations. Other possible benchmarks for density and land use are shown below.

Possible Benchmarks for Density and Land Use[6]



[6] DRPT Multimodal System Design Guidelines, 2020.

BRT Operations: Characteristics of BRT implementation vary widely across North America and can be deployed in a flexible manner to suit local needs and circumstances. Across the studied peers, BRT operations typically include measures to ensure a fast, frequent, and reliable service across much of the day. Combining high-frequency service (e.g., every 8–10 minutes during peak periods), extended service hours (e.g., 24-hour service), and bus priority features contributes to a successful BRT system. Additionally, bus priority features, such as dedicated lanes, traffic queue jump signals, and raised platform boarding, improve reliability of BRT service. Furthermore, to increase the speed and reliability of service, BRT stops are spaced further apart than stops on standard local bus routes. This is especially true if local service is meant to overlap the BRT route(s) and serve intermediate stops.

Maximizing Ridership: The majority of peers implement BRT where zoning, density, and land use mix are supportive of transit. They utilize and enforce bus lanes and other transit priority strategies, which make BRT a more reliable and efficient travel option, and therefore attract riders. Peer systems also rely on connections to high-demand activity centers to generate ridership. Common examples of key trip generators are shown below. Pedestrian-supportive urban, station, and vehicle design and a comprehensive public educational campaign also are key aspects of BRT implementation for most peers. These efforts make BRT a more convenient and attractive transit option and help to accommodate more riders.

Key Trip Generators for BRT

Key Takeaways

- BRT should be considered in areas with strong demand for transit, such as activity centers, Central Business Districts, universities, and shopping districts.
- To encourage multimodal transportation, BRT should operate on corridors that are bikeable and pedestrian friendly (e.g., surface streets and not on limited access roads or freeways).
- High-frequency service with extensive operating hours is a cornerstone of BRT.
- Transit priority strategies help to keep BRT efficient and reliable.

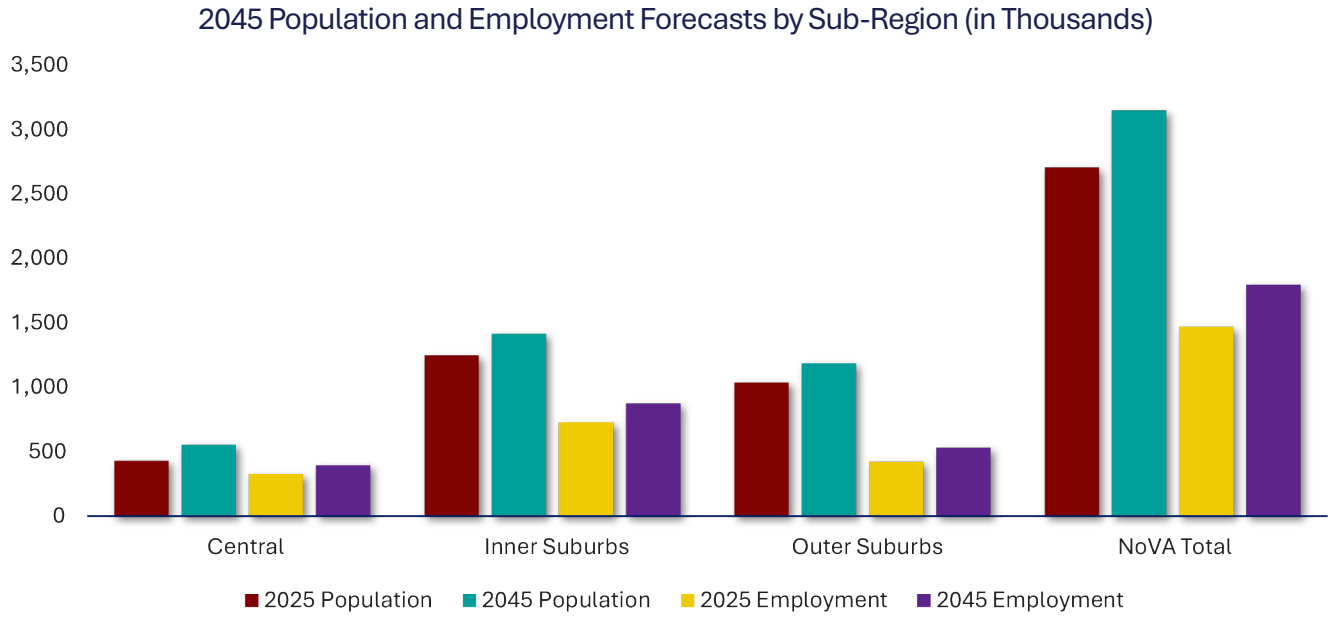
3.0 A GROWING REGION

Northern Virginia continues to be an attractive place to live, given the growing and diverse job market in the region. Growth in population and employment must be accompanied by improvements to the multimodal transportation system in order to provide mobility options and access to everything the region has to offer.

Why BRT Now?

Northern Virginia is a growing region that requires flexible mobility options to meet travel needs. TransAction called for a BRT system to connect the region, which is supported by public outreach findings. This Action Plan lays out a path forward to realize the vision of a BRT system throughout Northern Virginia.

The Washington metropolitan region develops long-range forecasts of population and employment growth through MWCOG in coordination with each of the region's jurisdictions. The most recent of these forecasts (called the Round 10.0 Cooperative Forecasts) estimate that the population of Northern Virginia is projected to grow by 16 percent in the next 20 years, from 2.71 million people in 2025 to 3.15 million people by 2045. Total employment in Northern Virginia is projected to grow by 22.1 percent, from 1.47 million jobs in 2025 to 1.79 million jobs by 2045. Not all areas of Northern Virginia are projected to grow in the same way. Population forecasts show that the central jurisdictions (Arlington County/City of Alexandria) are expected to have the highest percentage growth, while the inner suburbs (Fairfax County/City of Falls Church/City of Fairfax) are expected to have the highest increase in absolute terms. While the outer suburbs (Loudoun County/Prince William County/City of Manassas/City of Manassas Park) are expected to have the lowest percentage and absolute population growth, they are expected to have the highest percentage growth of employment at 25.9 percent.



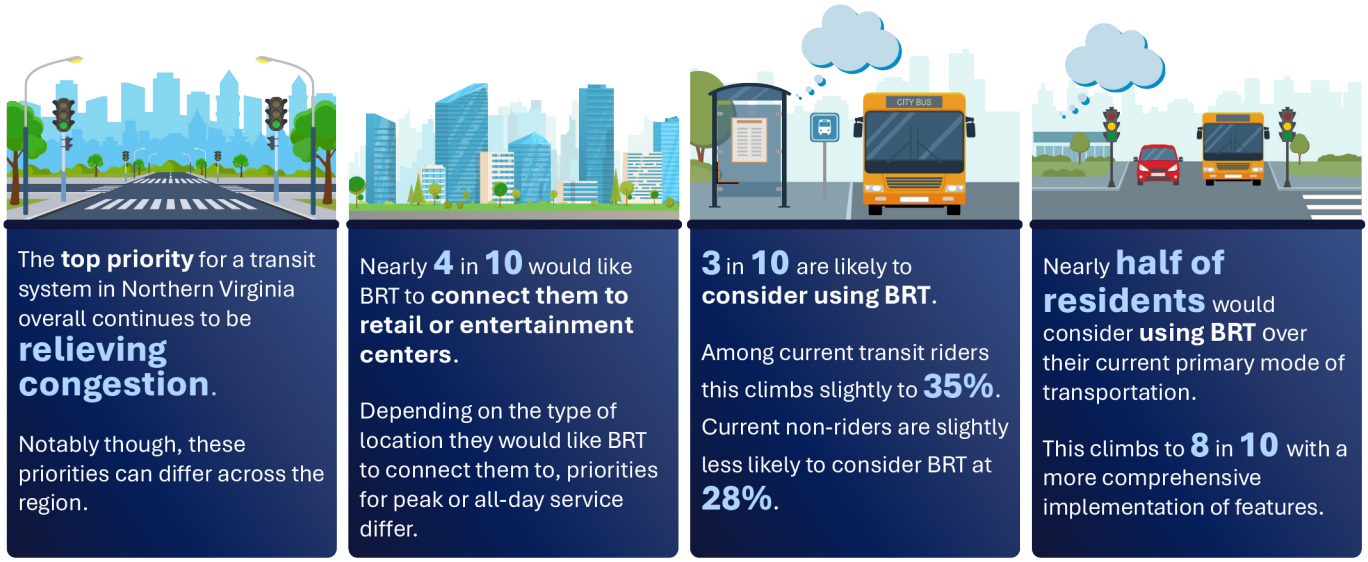
Source: MWCOG Round 10.0 Cooperative Forecasts.

Recent population and employment growth and future growth patterns impact where and how people and goods travel. Northern Virginia continues to grow and congestion remains a challenge. Increased levels of telework in the region, which is further explored in the scenario analysis, impacts both commuting and non-commuting travel patterns across the region. Additionally, the development of mixed-use activity centers around the region that are more transit-oriented presents the opportunity for BRT to connect people to work and non-work destinations.

4.0 BRT SYSTEM DEFINITION AND FEATURES

NVTA conducted a comprehensive public participation process to gain a better understanding of the public's transportation needs, particularly related to BRT. During the initial round of community engagement held between November 2023 and June 2024, activities included a perception survey with 600 respondents, four virtual focus groups, and an online survey with 1,239 respondents. The findings of these efforts, when considered together, highlighted that many Northern Virginia residents would consider BRT service as an alternative to driving alone or other travel options. However, the findings also indicate that many Northern Virginians do not know enough about what BRT is and the benefits it offers to riders. With increased familiarity, there is substantial support for and interest in BRT. The focus groups and online survey also indicated that potential riders might want to travel to a wide variety of potential destinations on BRT, depending on the time of day and day of the week. More key findings from the 2024 online engagement survey are illustrated below.

Key Findings from the 2024 Engagement Survey



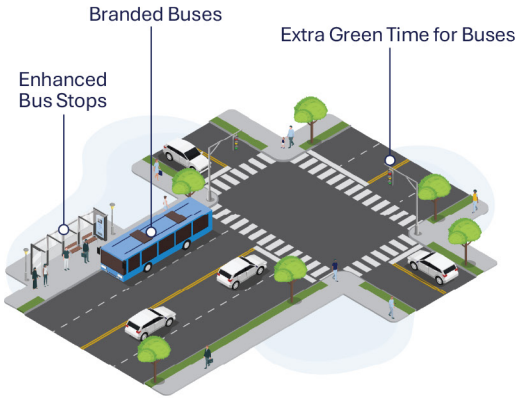
These findings have guided the development of a regional BRT system that provides service to a range of destinations across the region and provides appropriate features to make BRT a fast, frequent and reliable option.

4.1 BRT Types and Service Levels

BRT systems can be deployed in a number of different ways based on local context. BRT operations typically include measures that ensure fast, frequent, and reliable service throughout the day. Stations are typically spaced farther apart than regular local fixed-route bus stops. However, BRT service can operate at different intensities with varying amenities and priority treatments.

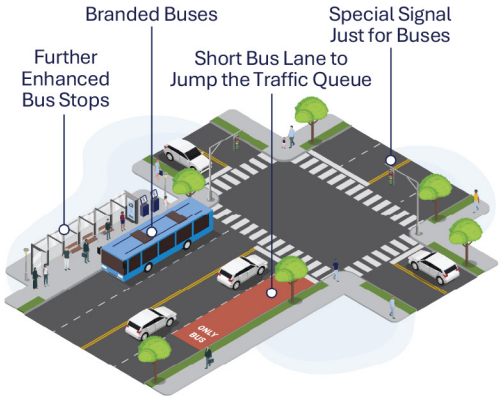
Five potential BRT types that would be suitable for operations in Northern Virginia have been identified: Basic, Improved, Advanced, Dedicated, and Express BRT. These BRT types were developed to provide a framework for conceptual planning as part of this process. The passenger amenities and bus priority treatments expand from Basic (least amenities) to Dedicated (most amenities), but with all routes having all-day, frequent service.

Key Attributes of the Five Types of BRT



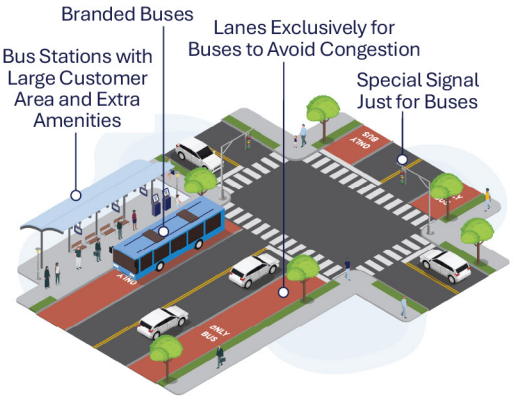
BASIC

Shares the road with regular traffic, with some intersection priority and enhanced passenger amenities at popular locations.



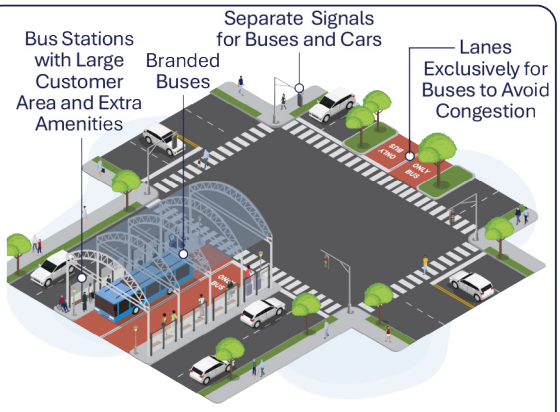
IMPROVED

Provides faster service with level boarding, off-board fare payment, priority at most intersections, and some dedicated lanes, along with significant passenger amenities.



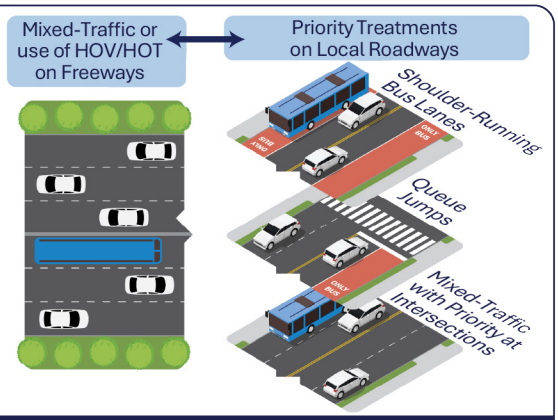
ADVANCED

Operates in dedicated lanes that are not fully separated from traffic, with high-quality stops and stations, advanced technology, and passenger amenities.



DEDICATED

Runs in fully dedicated, bus-only lanes separated from traffic, ensuring the highest level of service reliability, with premium stops, stations, and passenger amenities.



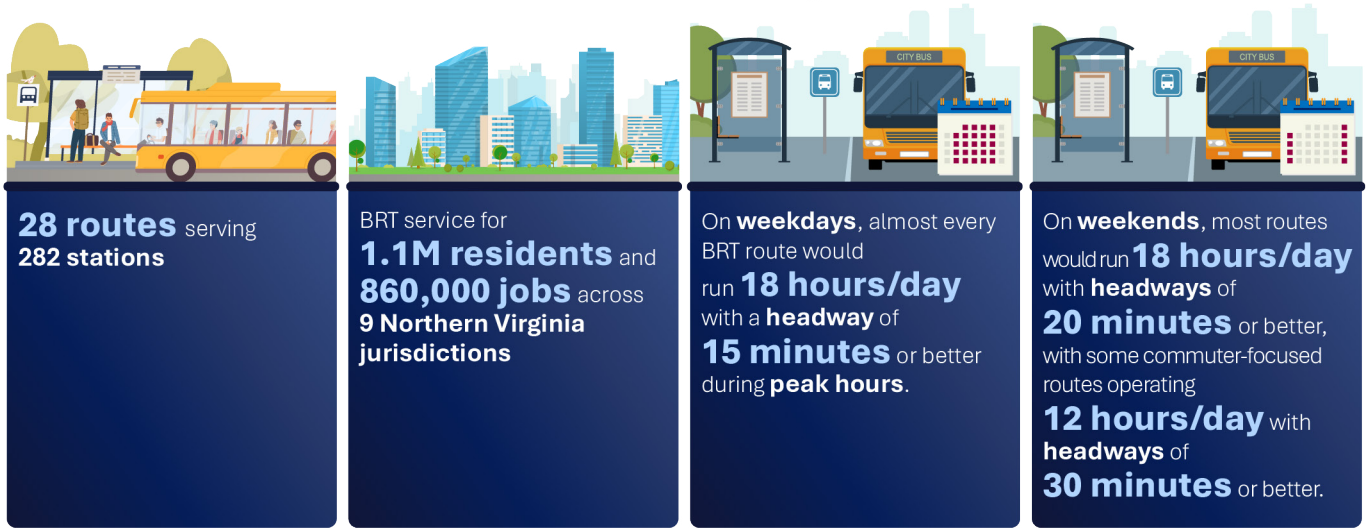
EXPRESS

Provides point-to-point express service that often uses limited access roadways.

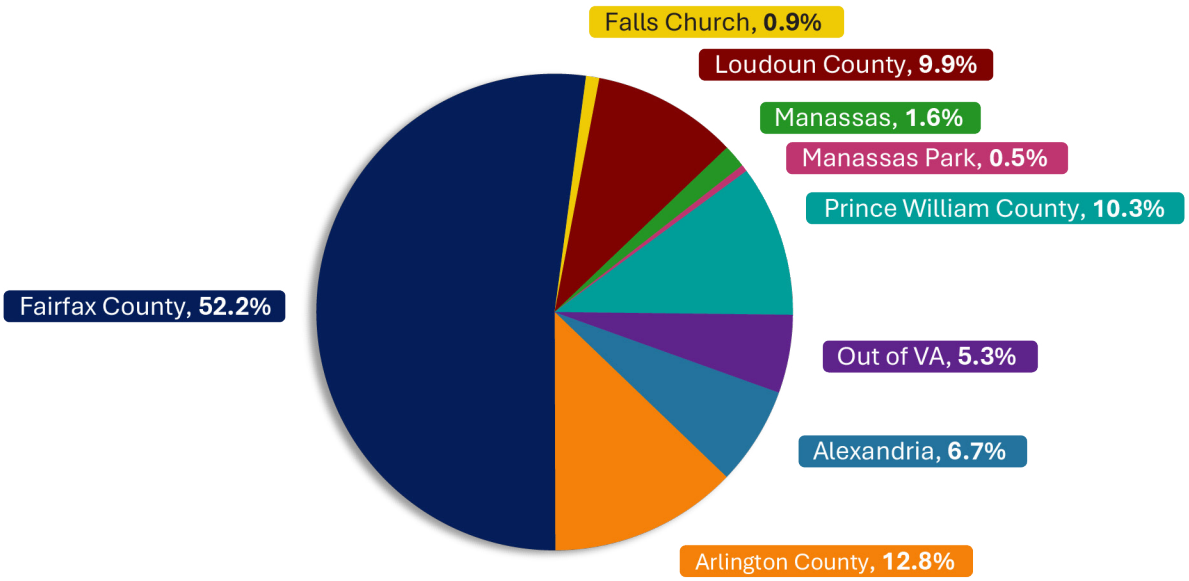
4.2 BRT System by Route and Type

The proposed BRT system includes 700 miles of bidirectional BRT corridors that connect Northern Virginia by supplementing existing rail networks and improving transit connections within and between jurisdictions. It also facilitates travel between key origin-destination pairs and local points of interest, such as airports, employment centers, and hospitals. The system design encourages transfers to Metrorail and VRE to extend the reach of high-capacity and commuter transit options throughout the region. The BRT system includes each of NVTA's member jurisdictions and provides connections into neighboring jurisdictions in Maryland and Washington, DC. This regional BRT system was developed in coordination with NVTA's BRT Planning Working Group and was designed to incorporate planning efforts that were already underway at the start of this study. The system will evolve as additional planning efforts continue to fine-tune routings, station locations, BRT Types, and other specifics of each route.

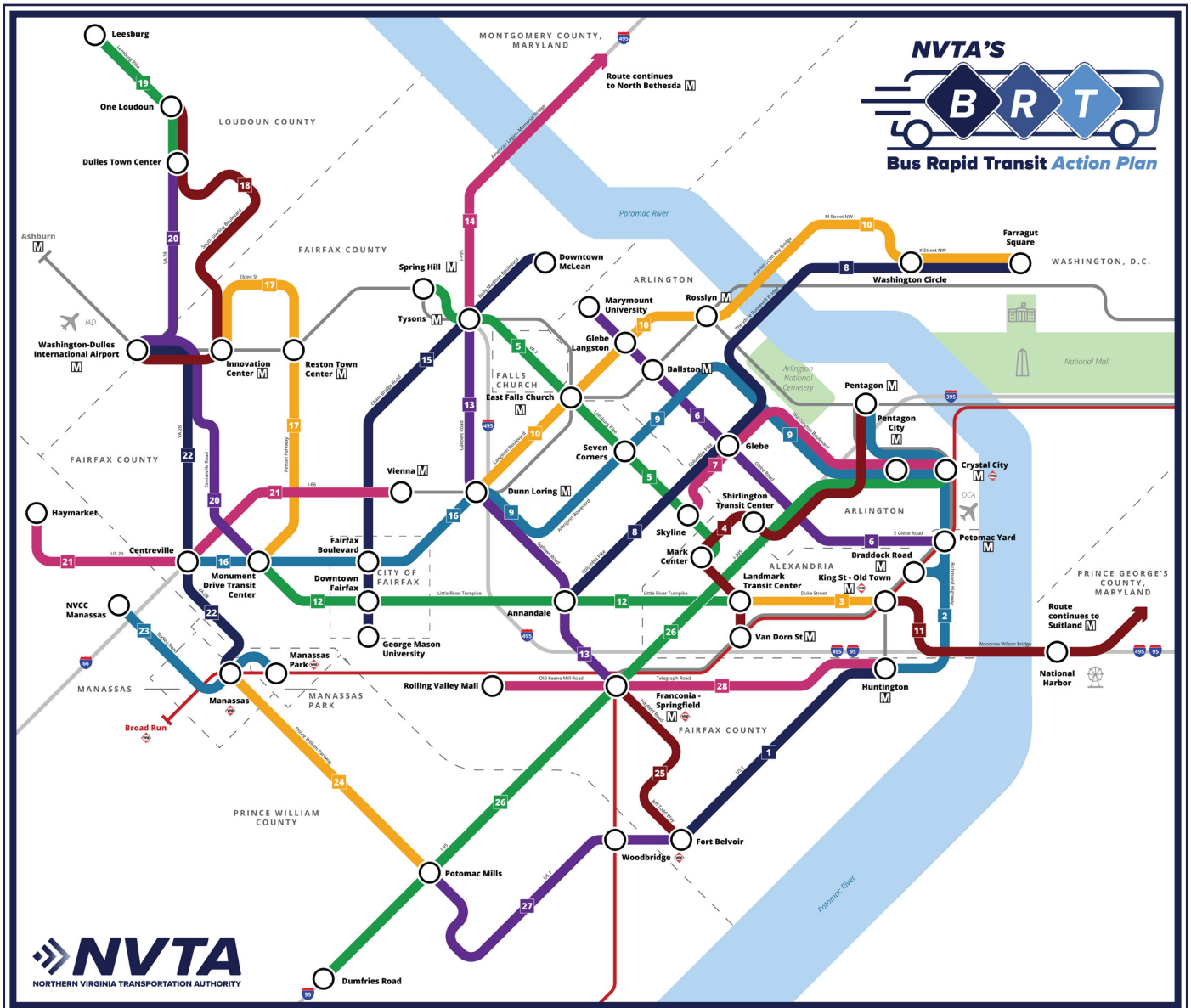
This vision of a connected, BRT network across Northern Virginia includes:



Regional BRT System Service Provided by Jurisdiction



BRT System by Route



One System - 28 Routes

1 ★ Richmond Highway	11 Beltway South	21 I-66 Express
2 ★ Metroway	12 Little River Turnpike	22 VA 28 South
3 ★ Duke Street Transitway	13 Gallows Road	23 Manassas Connector
4 ★ West End Transitway	14 Beltway North	24 Prince William Parkway
5 ★ Route 7	15 Chain Bridge Road	25 Fort Belvoir Express
6 Glebe Road	16 Fairfax Boulevard	26 I-95 Express
7 Columbia Pike to Crystal City	17 West Ox Road	27 US 1 South
8 Columbia Pike to D.C.	18 Sterling Connector	28 Old Keene Mill Road
9 Arlington Boulevard	19 Loudoun Connector	
10 Langston Boulevard	20 VA 28 North	

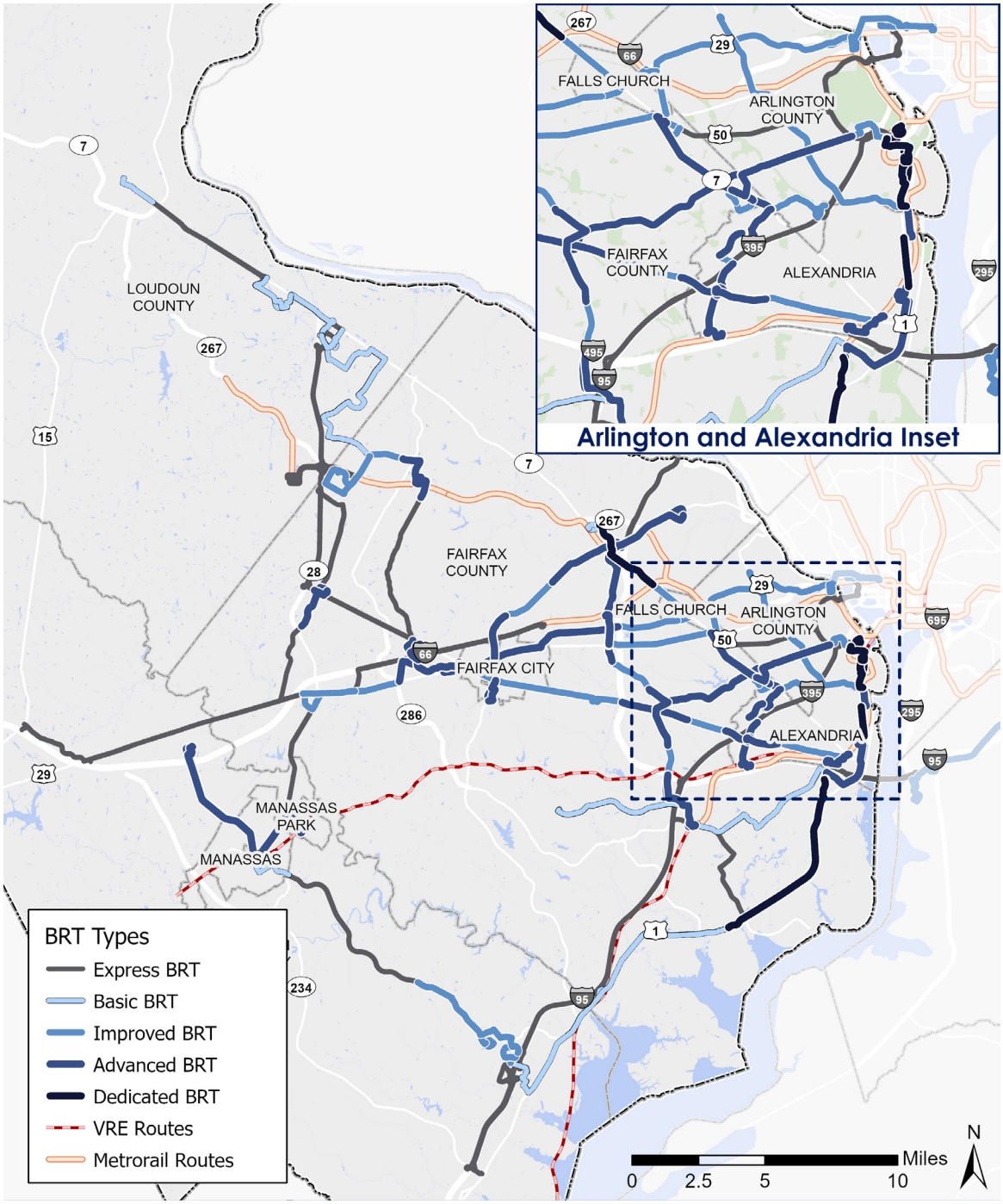
★ BRT projects that have received NVTA funding

Route numbers are for identification purposes only and do not indicate ranking or priority.

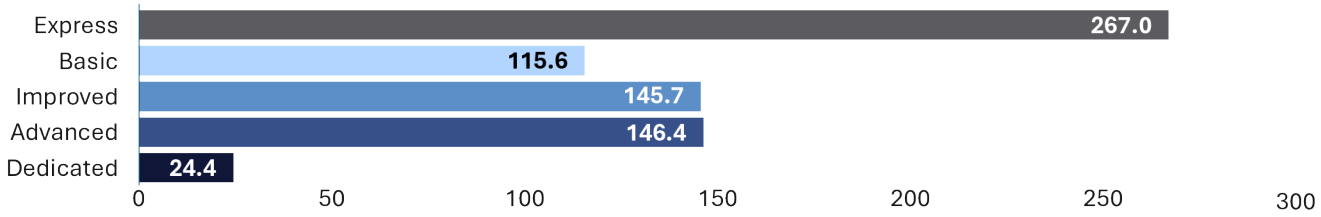
- BRT Station — *Not all stations are shown*
- Metrorail
- Metrorail Connection at Station
- Virginia Railway Express (VRE)
- VRE Connection at Station
- Jurisdictional Boundary

This diagrammatic map is not to geographical scale.

BRT System by BRT Type



Bidirectional Miles of BRT by Type



5.0 EVALUATION OF BRT SYSTEM

5.1 Evaluation Methodology

One of the main purposes of the Action Plan is to evaluate the potential benefits, costs, and impacts of implementing a regional BRT system in Northern Virginia and to identify the relative strengths of each proposed BRT route to inform decisions about implementation, phasing, and funding. This evaluation was conducted using the set of performance measures shown in the table below. These measures represent a comprehensive high-level overview of the potential benefits, tradeoffs, opportunities, and challenges associated with implementing BRT across Northern Virginia. These measures were developed to align with criteria for potential funding sources—including NVTA's TransAction measures, the Federal Transit Administration's (FTA) Capital Investment Grant (CIG) criteria, and Virginia's SMART SCALE criteria—and incorporate input from the general public and from NVTA's partner jurisdictions via the BRT Planning Working Group.

RIDERSHIP	
S R	BRT Ridership
S R	Service Efficiency
S R	Mode Shift
S R	Mode Shift in Equity Emphasis Areas (EEAs)[7]

TRANSPORTATION IMPACTS	
S R	Congestion Reduction
S R	Vehicle Miles Traveled (VMT) Reduction
S R	Vehicle Emission Reductions
S R	Transit Accessibility Improvement
S R	Transit Accessibility Improvement in EEAs
S R	Safety
R	Connections to other High-Capacity Transit
R	Run Time Improvement

LAND USE	
S R	Future Land Use Density
S R	Socioeconomic Characteristics

READINESS	
R	Existing Land Use Density
R	Walking Infrastructure Availability
R	Biking Infrastructure Availability
R	Bikeshare Stations
R	Transit-Supportive Policies

COSTS	
S R	Capital Cost Estimate
S R	Annual Operating Cost Estimate

REVENUE	
S R	Fare Recovery Ratio
R	Potential Funding Opportunities

COST EFFECTIVENESS	
S R	Capital Cost per Rider
S R	Congestion Reduction Relative to Cost (CRRC)
S R	Green House Gas (GHG) Reduction Cost

FEASIBILITY	
R	Ease of Implementation

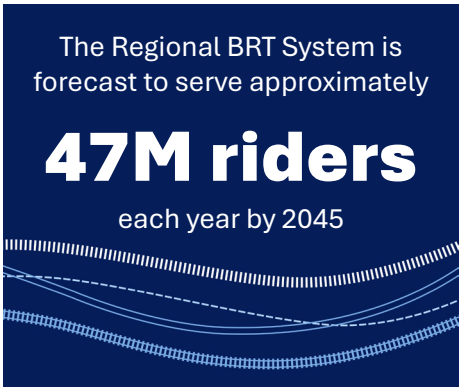
S *System* R *Route*

[7] Equity Emphasis Areas are areas with higher than average concentrations of low income households and people of color.

Given that building a regional BRT system could take a long time, the majority of these measures were analyzed for the future year of 2045. These measures were evaluated using the latest version of the NVTA travel demand model, which incorporates the MWCOG Round 10.0 Cooperative Land Use Forecasts and assumptions about changes to the underlying transportation network based on the regional Constrained Long Range Plan (CLRP) in addition to projects that have already been fully funded by NVTA. A few measures, such as project readiness and demographics are best evaluated for existing conditions instead.

The BRT system shown on page 12 was evaluated as a comprehensive regional system, in addition to evaluating each of the 28 routes individually to understand the benefits of the overall system and the relative merits of each route. It should be noted that the numbers used in this Action Plan to reference the BRT routes do not indicate priorities or rankings.

5.2 Key Findings: BRT System Evaluation

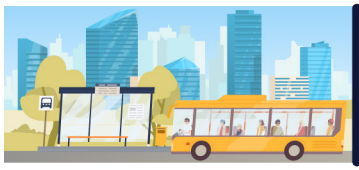


The initial analysis considered the BRT system as a whole and evaluated the ridership, costs, benefits, and impacts of implementing the 28 BRT routes together by 2045. This regional BRT system is forecast to have more than 143,000 boardings on an average weekday in 2045—or more than 47 million riders annually. For reference, in FY2024 (the twelve month period ending on June 30, 2024), bus ridership in Northern Virginia was approximately 33.6 million, and rail ridership was 60.2 million. This would be more riders the bus systems in either the Pittsburgh or Phoenix regions, which each carried approximately 39 million passengers in 2023. By design, not all of these BRT riders would be new transit passengers; some would be shifting their travel from existing services—primarily from local bus services. However, the regional BRT system would shift 27,000 trips from driving to transit daily. This shift in travel mode would be accompanied by decreases in vehicle miles traveled (nearly 138,000 VMT avoided), congestion (nearly 12,000 person-hours of delay avoided), and emissions (nearly 23 tons of CO_2) every day.

Key Benefits of the Regional BRT System:

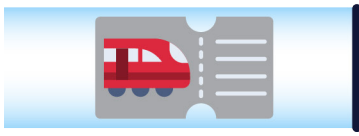
Increase in New Transit Trips
Shift almost **27,000 trips** from driving to transit every day – more than **35%** of those **new transit trips** will be made from an **Equity Emphasis Area**

Congestion & Emissions Reduction
The shift from driving to transit results in **12,000 person-hours of delay removed daily** and **23 tons** of **CO_2 emissions avoided daily**



Increase in Transit Accessibility to Jobs
On average, Northern Virginians will be able to access more than **17,000 additional jobs within 60 minutes by transit** – and residents of **Equity Emphasis Areas** will see even bigger improvements

Crash Avoidance Savings
Northern Virginia could save almost **$10M* annually** in damages/injuries from **crashes avoided**
*savings in 2024 dollars



Fare Revenues
Fare Revenues are expected to cover **15%** of the **BRT systems operating costs** – although this varies from 1% to 42% by route

Implementing a complete, regional BRT system at this visionary scale will require significant investment to build new infrastructure, acquire new vehicles, and operate the service. Construction of the complete system is estimated to cost approximately $4.2 billion (in 2024 dollars), which includes:

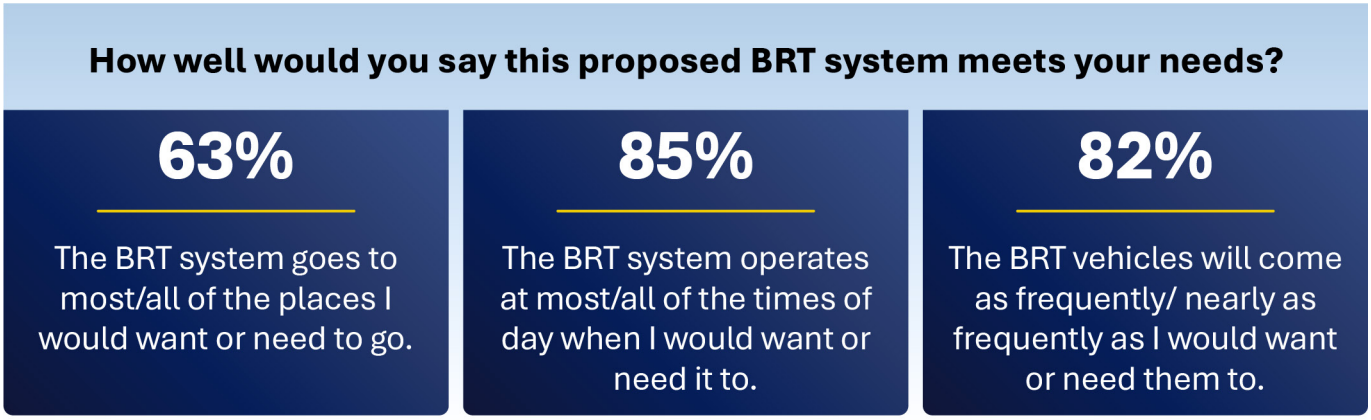
- More than 170 miles of dedicated bus lanes
- Upgrades/new constructions of more than 270 stops
- 550 vehicles
- Two new park-and-ride lots
- Signal and design improvements to hundreds of intersections to allow buses to travel faster and more reliably

The implementation of this BRT system would also necessitate construction of additional bus storage and maintenance facilities across the region; depending on the specific facilities needed, this could add an additional $725 million to the total cost. More details about facility needs can be found on page 25.

The high-quality service proposed for this regional BRT system—including frequent service that operates all day, seven days per week—would require approximately $192 million per year to operate (in 2024 dollars). This planning-level estimate does not include potential savings from reducing service levels for the local bus service currently operating on these corridors; the impact on the region's total operating costs for transit are likely to be lower than this total.

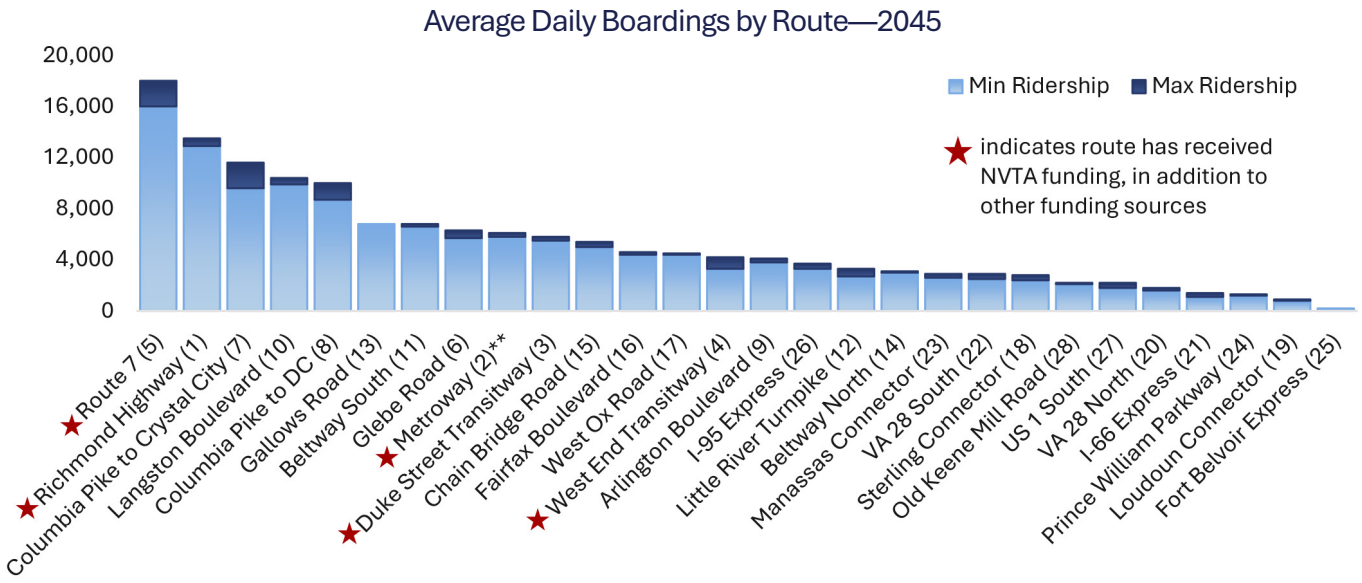
In addition to this technical evaluation, a third survey was conducted as part of the public comment period on the Draft version of this Action Plan during the Spring of 2025. Response to the BRT System was very positive, and of the more than 1,500 comments received, more than 30% were positive/supportive while only 5% were negative. As shown below, most of the respondents felt that the proposed BRT system would meet their needs. Because of this, 72% of respondents indicated that they would be very/extremely likely to use the BRT System if it was available. While we know that the public is likely to overstate their likelihood of changing their behavior in this kind of survey, this still represents a significant interest in the BRT System by riders and non-riders.

Findings from Spring 2025 Survey



5.3 Key Findings: Individual Route Evaluation

Each BRT route was evaluated across the full list of performance measures shown on page 14. Average weekday ridership in 2045 on the BRT routes varied significantly, as shown in the graph below. Generally, higher ridership routes tend to be in areas with higher planned density. These ridership estimates show a range based on whether the route is implemented alone or as part of a complete regional BRT system. Based on that implementation, ridership on each route would be expected to be somewhere between the top and bottom of the dark blue bar. Some BRT routes are expected to see higher ridership when implemented in conjunction with the other routes in the system, as the network effects of transfer opportunities make those routes more attractive to riders.



***The evaluation of Metroway considered the impacts of incremental improvements (extension and increased service levels) over the existing Metroway service.*

As noted, a portion of these riders are likely to be passengers who would otherwise be using other types of transit, especially in corridors where there is significant local bus service, like Route 7 and Richmond Highway. Encouraging travelers to change their trips from driving to transit—or mode shift—tends to be successful on routes with higher ridership, but also on some routes where the BRT represents the debut of high-quality, high-capacity transit in the community. While routes such as the Manassas Connector and VA Route 28 South may not have the highest ridership, a high percentage of that ridership is comprised of trips that would have otherwise been taken as drive alone trips. Similarly, the BRT routes that provide the biggest improvements to job accessibility by transit are those that tend to be where high-quality transit would not exist without it, such as the Prince William Parkway and Manassas Connector routes.

For some other key measures, performance tends to be highest in areas with the most opportunity for improvement. For example, the routes that reduce congestion the most tend to be in the inner jurisdictions where congestion is worst, including Langston Boulevard the Route 29 East and Duke Street Transitway. Cost efficiency also tends to be higher in areas with denser land use and shorter distances between destinations. Some of the longer routes in the outer jurisdictions can be more expensive to operate simply due to the distances covered.

The table below shows how each of the BRT routes performed in each evaluation category. Each route was rated as a high, medium, or low based on how its performance compares to the other 27 routes evaluated. For all categories, High Performance is always better than Low Performance. Detailed results are available in the route profiles located in the appendix.

Route	Ridership	Transportation Impacts	Land Use	Readiness	Costs	Revenue	Cost Effectiveness	Feasibility
1. Richmond Highway	▲	–	▲	–	▽	▲	–	▲
2. Metroway**	▲	–	▲	▲	▲	▲	▲	▽
3. Duke Street Transitway	–	▲	▲	▲	▲	▲	▲	▲
4. West End Transitway	–	–	▲	–	▲	▲	▽	–
5. Route 7	▲	▲	–	▲	▽	▲	▲	▽
6. Glebe Road	▲	▽	–	▲	▲	▲	▽	▲
7. Columbia Pike to Crystal City	–	▲	▲	▲	–	▲	▲	–
8. Columbia Pike to DC	▲	–	▲	▲	▽	▲	▽	▽
9. Arlington Boulevard	–	▲	–	▲	–	▲	▲	–
10. Langston Boulevard	▲	▲	–	▲	▽	▲	▲	–
11. Beltway South	▽	▲	▲	–	▲	▲	▲	–
12. Little River Turnpike	–	▽	–	–	–	–	▽	–
13. Gallows Road	▲	▲	–	–	▽	▲	–	▲
14. Beltway North	▽	▽	▲	–	▲	–	▽	–
15. Chain Bridge Road	–	▽	▽	–	–	–	▽	–
16. Fairfax Boulevard	–	▽	▽	–	▽	–	▽	▲
17. West Ox Road	▲	–	▲	▲	–	▲	–	▲
18. Sterling Connector	–	▽	▽	▽	▽	–	▽	–
19. Loudoun Connector	▽	▽	▽	▽	▲	▽	–	▲
20. VA 28 North	▽	▽	▽	▽	▽	▽	▽	▽
21. I-66 Express	▽	–	▽	▽	–	–	–	▲
22. VA 28 South	–	–	▽	▽	▽	–	▽	▽
23. Manassas Connector	–	▲	▽	▽	–	–	▲	▽
24. Prince William Parkway	▽	–	▽	▽	▲	▽	▽	▲
25. Fort Belvoir Express	▽	▽	▽	▽	▲	▽	▽	▲
26. I-95 Express	▽	–	▲	–	▽	–	▽	–
27. US 1 South	▽	–	▽	▽	▽	–	▽	–
28. Old Keene Mill Road	▽	–	▽	▽	▲	▽	–	▲

▲ High Performance – Medium Performance ▼ Low Performance

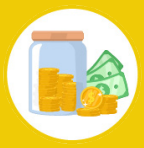
** *The evaluation of Metroway considered the impacts of incremental improvements (extension and increased service levels) over the existing Metroway service.*

6.0 MANAGING UNCERTAINTY

The analyses discussed so far are based on forecasts which assume that travel behaviors in the future are similar to travel behaviors prior to 2020. This includes growth assumptions for the region along with some changes to the transportation network but does not fully consider the many ways life and travel could change between now and 2045. What if the future is significantly different in some important ways? To test the regional BRT system's robustness and adaptability to an uncertain future, sensitivity tests looked at three alternative scenarios, each analyzing the BRT system's performance under different potential futures.

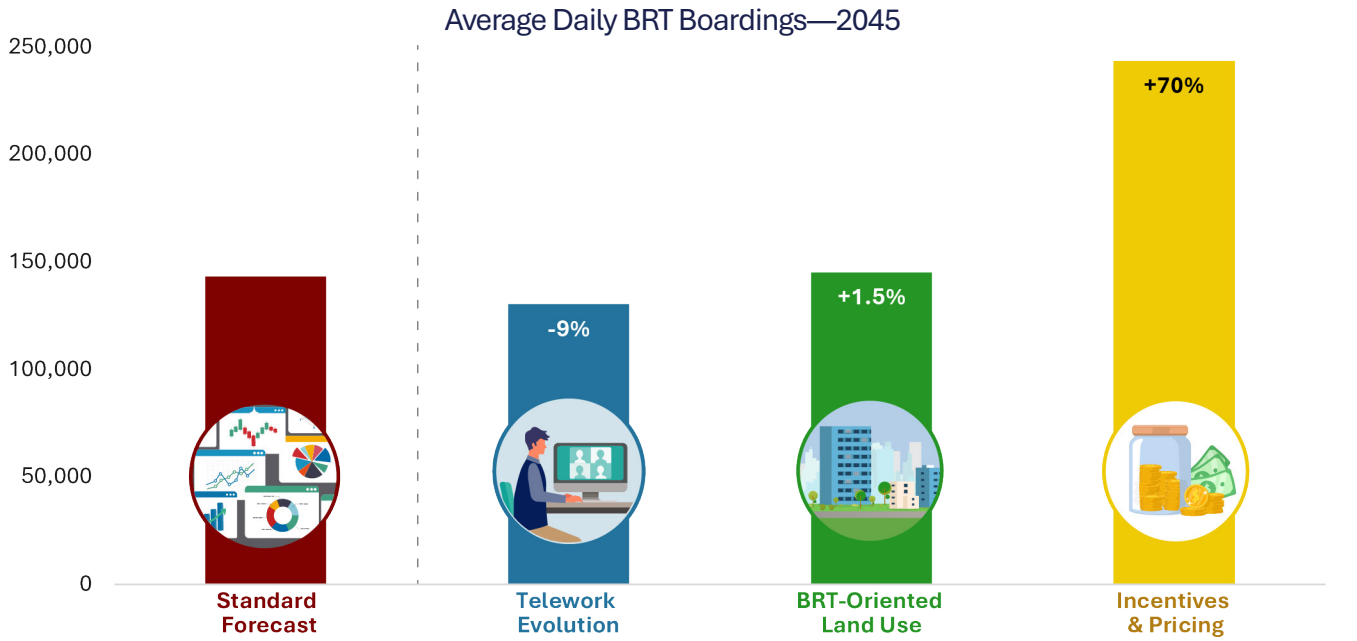
NVTA developed three scenarios, in addition to the standard travel forecasts, to answer some of the "what if" questions and understand the potential for the regional BRT system in Northern Virginia if major changes in land use, travel behavior, and/or policy across multiple levels of government were to occur. Each scenario is a plausible future, but not necessarily preferred or the most likely outcomes; they are also not the only potential futures. The three scenarios tested are shown in the figure below.

The scenarios and the resulting analysis are described in more detail on the table on the next page. These three scenarios are based on assumptions about ways that the future could be different from today, some of which the region has more control over than others. For example, the long-term evolution of telework levels in the region may be determined by a combination of available technology, the individual preferences of millions of workers, and employer policies that will continue to evolve through 2045 (including, but not limited to the federal government as an important employer in the region). On the other hand, the types of policies and strategies included in the Incentives & Pricing scenario can only be implemented through proactive action by governments at the local, regional, state, and federal levels.

Scenario	Description	2045 Assumptions	BRT System Impacts
 **Telework Evolution**	Illustrates a future in which long-term travel behaviors evolve to reduce travel for several purposes, including shopping, commuting, and other work-based trips. Those trips are replaced by technology-enabled solutions such as telework, virtual meetings, and deliveries. NVTA has minimal influence over this scenario.	• Increase in telework for workers that are able to telework, especially office workers. • Reduction of other work-related trips. • Reduction of shopping trips. • Increase in delivery trips.	• Lower BRT ridership: 130,000 daily riders is 9 percent lower than the 'standard' forecast. • Less congestion, lower VMT and emissions on the roads for BRT to mitigate.
 **BRT-Oriented Land Use**	Focuses on concentrating growth and development along BRT corridors. Individual jurisdictions with authority over land use planning have the most influence over this scenario.	• Within jurisdictions, align future growth to 2045 with BRT stations. • Does not remove growth from areas near Metrorail or VRE stations. • Focus on tested routes that do not currently meet recommended density thresholds.	• Additional 31,000 jobs and 46,000 residents will be within ½ mile of BRT—moving ~15 percent of growth between 2030 and 2045. • Moderate ridership increase of 1.5 percent on BRT system. • Biggest impacts to routes in areas that do not currently meet recommended density thresholds.
 **Incentives & Pricing**	Centers on policy strategies to change travel behavior to mitigate congestion and its negative impacts. The scenario incorporates a number of monetary inducements designed to encourage a reduction/reversal on driving alone.	• VMT pricing on all roads with discounts for lower-income households. • Increase in parking costs across the region. • Free transit (no fares). • Incentives to shift travel times out of peak periods.	• More than 200,000 trips shifted from driving to transit on an average day. • Average daily BRT boardings of more than 243,00070 percent higher than without incentives/pricing. • Combined, incentives/pricing and BRT remove almost 110,000 person-hours of delay and 880 tons of CO_2 emissions.

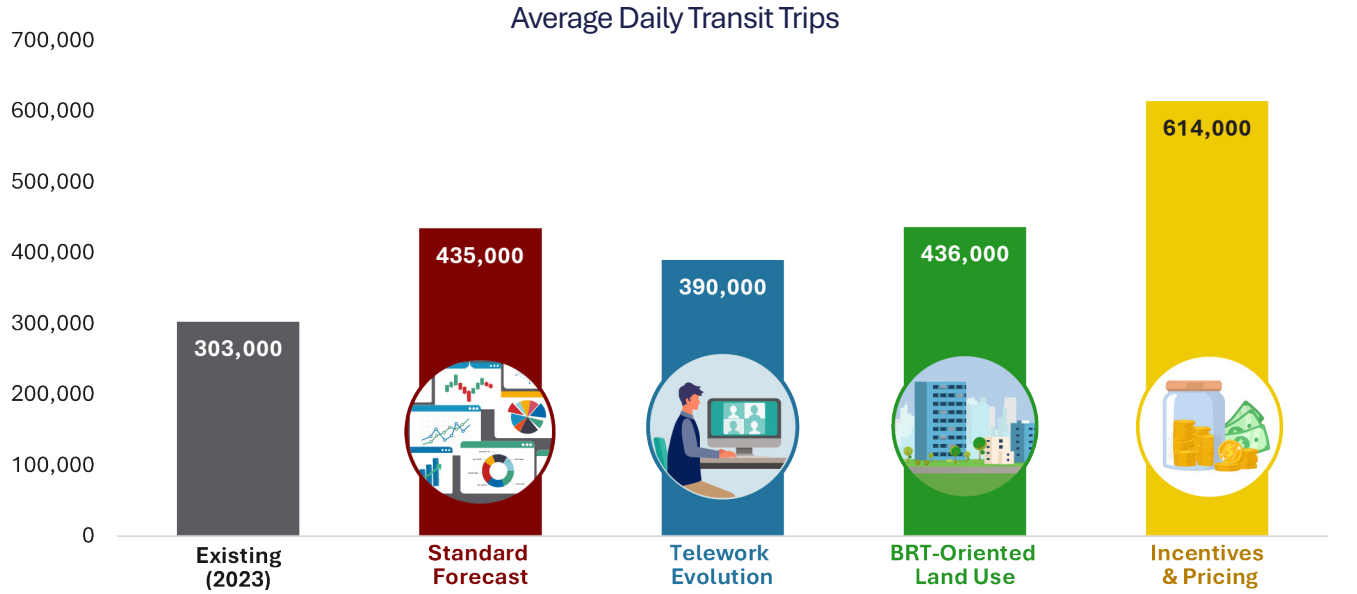
Each of these scenarios was analyzed using the NVTA model to understand how the regional BRT system performance in 2045 might change if these futures came to pass. The chart below shows the projected average daily BRT boardings[8] in 2045 when the three scenarios were tested. While the Telework Evolution scenario shows reduced BRT ridership of 9 percent compared to the standard forecast due to the reduction in commuting and increase in deliveries, BRT-Oriented Land Use sees a slight increase of 1.5 percent based on increasing the number of residents and jobs within walking distance of BRT stops. The Incentives & Pricing scenario shows the highest increase in 2045 average daily BRT boardings due to the scenario's policies making transit and BRT a more attractive option than driving.

[8] A 'boarding' is defined as every time a person boards a BRT vehicle, or an unlinked trip. A transit trip that includes transfers will include multiple boardings.



Note: Percentages show % increase over Standard Forecasts

It should be noted that these scenarios would have an impact on all transit in the region, not only BRT. Overall, the total number of transit trips, or the number of end-to-end trips taken using transit regardless of transfers, forecasted for the region mirrors the trends for BRT ridership, with the Telework Evolution scenario showing a 29 percent increase in transit trips compared to existing transit use but 10 percent lower than the standard forecast for 2045. The BRT-Oriented Land Use scenario shows a slight increase of 0.3 percent compared to the standard forecast, which is still a 44 percent increase compared to existing transit use. The Incentives & Pricing scenario again drives the largest increase in transit usage, with a 41 percent increase compared to the standard forecast and a 103 percent increase compared to existing transit use.



Additional impacts observed based on the scenario assumptions are highlighted in the summary table on page 20. All three scenarios improved conditions for some of the key performance metrics compared to the standard forecasts for 2045. The scenarios all reduce congestion and improve accessibility to jobs, although they achieve these improvements in different ways. The underlying assumptions in the Incentives & Pricing scenario were found to have the biggest potential impact on mode shift to transit (impacting all transit in the region, not just BRT), and therefore has the biggest reduction in congestion, VMT, and vehicle emission reductions.

The scenario analysis illustrates the continued demand for BRT service across Northern Virginia, although some individual routes may be more resilient to changing conditions than others. Conditions and travel trends in Northern Virginia should be monitored over time to consider where and when investments in BRT will be most beneficial and cost effective. Ultimately, the BRT system envisioned in this Action Plan will still be able to provide benefits to the region regardless of how the future evolves. In all scenarios, the proposed BRT system provides tangible benefits to the region, helping to decrease congestion, improving accessibility, and reducing emissions while reducing our reliance on driving alone.

7.0 IMPLEMENTING A REGIONAL BRT SYSTEM

The implementation of a high-quality, regional BRT system is best done in a coordinated way that maximizes the return on investments and provides a cohesive experience for customers across routes, operators, and modes. Beyond planning the routes themselves, several issues must be considered and incorporated into the overall system development and will need to be addressed collaboratively by a range of stakeholders in Northern Virginia. Issues of governance, funding, facilities, local service planning, and technology are all inherently interrelated. For example, decisions about funding sources will often impact the chosen form of governance for a transit agency, and vice versa. This section provides a high-level overview of these issues individually, but decisions on these subjects cannot be made independently.

7.1 Project Development Process and Governance

Public transportation governance refers to the processes, structures, and practices through which decisions are made and implemented regarding public transit systems. It involves the coordination and management of various organizations, including government bodies, transit agencies, and sometimes private operators across a variety of important functions, including:

- **Decision-making and Policy-making:** Decision-making and policy for most BRT services is overseen by a body associated with the agency operating the BRT service. These bodies may consist of appointees or elected officials from key stakeholders in the service area such as transit agencies, regional agencies, local governments, and/or state representatives. This governance structure ensures that decision-making allows for a balance between local needs and overarching regional objectives.
- **Funding Sources:** Funding for BRT systems usually comes from a mix of federal, state, regional, and local sources (as discussed in Section 7.2).
- **Project Development:** The development of BRT projects is typically managed by transit operating agencies, in partnership with local government entities, consulting firms, and private construction firms.
- **Asset Ownership:** In many BRT systems, the operating agency owns the operational assets while local or state entities own the infrastructure which allows transit agencies to focus on the operational side of the system, while local governments manage infrastructure maintenance and improvements.

The transit governance models can vary widely depending on multiple factors such as efficiency, accountability, and funding. The typical models include integrated regional authorities, local government service providers, Public-Private Partnerships, and intergovernmental agreements. Ultimately, the form of transit governance is especially important for this regional BRT system which will require decision-making and operational coordination across multiple jurisdictions to meet the needs of the community.

Bus service in Northern Virginia is provided and overseen by several regional and local bus systems that collectively operate fixed routes, commuter buses, on-demand and accessible transit. Except for WMATA and PRTC, all transit agencies in the NVTA area are associated with a single local county or city government. PRTC provides OmniRide transit services for Prince William County and the Cities of Manassas and Manassas Park, as well as some service areas outside of Northern Virginia. Governance and funding of these local bus systems is accomplished through the local government structure and budgets. Although not an operator, NVTC also plays a critical role in the funding, oversight, and planning of transit service in Northern Virginia. NVTC manages state and regional funding for six bus systems, Metrorail, and VRE; the latter of which, it co-owns with PRTC. Additionally, NVTC and PRTC work across jurisdictional boundaries to coordinate transit service in Northern Virginia. At the state level, both DRPT and VDOT play key roles in transit governance in Northern Virginia. Both have roles in transit oversight and funding (see Section 7.2 for more details), while VDOT also owns many of the assets that transit operators need to operate, including roadways and traffic signals.

Transportation Entities in the Region

County/City Transit Agencies

- Arlington Transit (ART), Arlington County
- CUE, City of Fairfax
- DASH—Alexandria Transit Company, City of Alexandria
- Fairfax Connector, Fairfax County
- Loudoun County Transit, Loudoun County

Statewide Agencies

- DRPT
- VDOT

Regional Transit Agencies

- WMATA
- OmniRide
- VRE

Regional Organizations

- NVTC
- PRTC
- MWCOG/TPB

7.2 Funding

Implementing a BRT system for Northern Virginia will require a significant capital investment to construct stations, build bus lanes, and support technologies, as well as to purchase buses and build facilities to store and maintain bus fleets. Once constructed, operating the service and maintaining the vehicles and facilities will incur ongoing costs that must be planned for. Different elements of these costs could be funded through various federal, state, regional, and/or local funding sources. Generally, BRT capital and operating costs are funded by a mix of sources to ensure resilience to changes in policies and economic conditions.

Federal funding could come from formula (statutory-based) and discretionary (competitive) programs. The Federal Highway Administration (FHWA) and FTA administer federal formula funding programs which follow statutory standards to determine funding recipients and amounts. The FHWA, FTA, and the US Department of Transportation (USDOT) administer competitive discretionary federal funding programs following criteria-based rubrics to award funding to proposed projects. Eligibility and competitiveness for these programs depends on the funding program and the nature of the project, which may be subject to changes in federal policy.

Potential Federal Funding Sources for BRT

Federal Formula Funding Programs

- FTA Section 5339 Grants for Buses and Bus Facilities
- FTA Section 5307 Urbanized Area Formula Program Funding
- FTA Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities
- FHWA Congestion Mitigation and Air Quality Improvement Program (CMAQ) Funding
- FHWA Surface Transportation Block Grants
- FHWA Transportation Alternative Program (TAP) Funds

Discretionary Federal Funding Programs

- FTA Section 5309 Capital Improvement Grants
- USDOT Better Utilizing Investments to Leverage Development (BUILD) Grants
- FHWA Carbon Reduction Program (CRP) Funding
- FTA Section 5339 Discretionary Grant Programs

The Commonwealth of Virginia provides capital funding for transportation capital projects, including BRT, through the SMART SCALE and MERIT programs. While SMART SCALE evaluates potential transportation projects across all modes, MERIT funds are exclusively allocated to transit projects.

The largest source of regional funding for transportation projects in Northern Virginia is NVTA, which funds transportation capital improvements through a competitive evaluation conducted for its Six Year Program. To date, NVTA has already provided significant funds to support planning and construction of five BRT corridors. Certain BRT projects may also be eligible for funding from toll revenues administered by NVTC if those projects meet certain criteria and benefit the toll facility users of the I-395 or I-66 toll road corridors. Additionally, local funds might be available from city or county tax revenues or other local sources.

There are two major initiatives currently underway in Northern Virginia that will shape the future of transit governance in the region. The DMVMoves initiative is being led by the Metropolitan Washington Council of Governments (MWCOG) and WMATA to develop a unified vision and sustainable funding model for public transit across the metropolitan Washington, DC region. Senate Joint Resolution 28 (SJ28), passed by the General Assembly in March 2024, established the Northern Virginia Growing Needs of Public Transit Joint Subcommittee to study long-term, sustainable, dedicated operations and capital funding in Northern Virginia. Both of these initiatives will provide direction and options for sustainable funding for public transportation in the future.

7.3 BRT Operating Considerations

Local Bus Service Impacts

The regional BRT system will necessitate coordination with the design and operations of local bus service. Considering the unique features of BRT and the needs of each individual corridor, the introduction of BRT service will require reconsideration of local bus service along a few different lines:

- **Relationship with Parallel Local Services:** Where BRT is implemented in corridors with existing, well-utilized local transit service. In these cases, transit agencies must decide on the respective roles of BRT and local service and how to modify parallel local services, if at all. The options include the removal of the parallel service; reduction in the parallel service; and, no changes to parallel service. In deciding among these options, there are several factors to be considered such as ridership and potential for new ridership in the corridor, station/stop spacing, physical attributes of the route, and transfer convenience/demand. These factors must all be balanced with the available funding, and the decision to remove or reduce local service should be made with support from the public in order to ensure the success of the system.
- **Connections with Local Services:** Local arterial bus services and feeder bus services operate in conjunction with BRT services to extend the benefits of BRT and to integrate BRT into the overall transit network. To take maximum advantage of BRT, these routes may need to be modified to reflect the presence of BRT. These modifications could include route diversions, route extensions, the elimination of route sections, and timing changes. How the BRT services and local transit services connect will depend on the overall objectives and design of the BRT system and the preferred service design structure. Other influencing factors may include passenger demand and station location.

The evaluation conducted as part of this study did not make these type of decisions about changing local bus service, as they require detailed analysis at the local level. The outcome of these decisions could impact estimates of costs, ridership, and other evaluation measures.

Facilities

The introduction of additional BRT service will necessitate the purchase of additional vehicles in order to operate the proposed levels of service. All vehicles will require adequate storage and maintenance facilities that include vehicle storage, employee parking and break spaces, office space, and both indoor and outdoor maintenance facilities. NVTC's 2024 Northern Virginia Regional Bus Transit Analysis identified more than a dozen existing bus operations and maintenance (O&M) facilities in Northern Virginia owned and/or used by the various bus operators in the region, with the capacity to store over 1,100 buses.[9] As noted, the regional BRT system would require as many as 550 vehicles to operate, including approximately 150 articulated buses. As discussed in the previous section, the introduction of BRT service could result in reductions in local service in some corridors, which would result in a reduction in the number of vehicles required to operate local service. Therefore, new facility space is unlikely needed to accommodate the entire 550 vehicle fleet. However, significant investments in new bus O&M facilities would be necessary.

To make a decision about where to locate these facilities, and whether to construct a single large facility or multiple smaller facilities, multiple factors need to be considered. For example, a single facility to house 550 BRT vehicles would require almost 500,000 square feet of building space and more than 57 acres of property. Finding sites of this size can be difficult and/or prohibitively expensive in some portions of the region. Locating this type of facility in the outer suburbs where space may be more readily available could put the vehicles further from where the service is being operated, increasing the amount of non-revenue driving between the facility and the starting point of a route also known as "deadhead." This type of "deadhead" can increase operating costs for the service, as fuel, labor, and vehicle wear-and-tear accrue. These considerations must be balanced with considerations about the phasing of BRT implementation across the region, and the reality of which agencies will be operating the service.

[9] https://novatransit.org/uploads/studiesarchive/2024NVTC_RegBusTrtAnlys_FinalReport.pdf

Technology

BRT service is often differentiated from traditional bus service by the technologies it uses to augment service and operations. These features comprise of a variety of technologies, treatments, and strategies that result in improvements to the operations of transit systems and the customer experience. Technology can be leveraged by BRT systems in a number of ways as shown in the table below. Many of these technologies should be coordinated and implemented at a regional level in order to ensure compatibility across BRT routes, regardless of operator or jurisdictional boundaries.

Technology Needs

System Operator

- Automatic vehicle location technology
- Transit signal priority
- Automatic passenger counters
- Computer-aided dispatch
- Lane control technology
- Fleet management system
- Automated bus lane enforcement technology

Vehicle

- Collision avoidance systems
- Lane Guidance
- Precision docking

Stations

- Emergency call phones
- Public address (PA) systems
- Real-time arrival signage
- Lighting
- Climate control

Customer

- Fare collection technologies
- Passenger Wi-Fi
- On-board charging outlets
- Security Systems such as CCTVs and alarms
- Commercial passenger information and advertising
- Customer-facing mobile application

Transit technology for system operators tends to be focused on helping to deliver high-quality transit service that is fast and reliable, and to improve the customer experience. For example, Automatic Vehicle Location (AVL) Technology is required in order to provide accurate, real-time arrival information. Transit signal priority helps BRT vehicles avoid traffic congestion at intersections, and should be coordinated across jurisdictions so that BRT vehicles that may operate across jurisdictional boundaries can take advantage of these benefits. Coordination of customer facing technologies such as fare payment, trip planning, and passenger information systems is essential at a regional scale to provide a seamless customer experience. Setting standards for technology at stations can help standardize passenger expectations associated with the BRT brand, thereby improving customer's comfort with using BRT routes across Northern Virginia.

8.0 CONCLUSIONS AND RECOMMENDATIONS

This Action Plan supports the advancement of a regional BRT system that, when fully deployed, will provide a new high quality travel option to reduce congestion and reliance on driving alone in Northern Virginia. The Action Plan developed a more detailed picture of what a regional BRT system could look like, evaluated the performance of BRT routes individually and as a system, and explored deployment and operational challenges/opportunities for the system. The Action Plan ensures a consistent and holistic approach to development and incremental deployment of the regional BRT system over the next two decades. Ultimately, Northern Virginians will benefit from having new transportation options, reducing congestion while improving their quality of life, and reducing dependency on driving thereby achieving the Authority's vision and goals.

The planning process to develop the Action Plan has shown the following:

- Building a full regional BRT system would provide significant regional benefits, including shifting trips from driving to transit, reducing traffic congestion, improving access to jobs and other activities, reducing fatalities and injuries from automobile crashes, and reducing CO_2 emissions.
- The regional BRT system identified in this Action Plan would provide new high-quality transit option to many communities that lack that service today, improving access to jobs and other activities for low-income residents, people of color, and households without access to a car.
- There is broad support from the public for a more efficient transit system, and particularly for the features of BRT that make travel faster and more reliable.
- Many of the corridors in Northern Virginia have the land use density and travel demand to warrant increased investment in rapid transit. On other corridors, increasing land use density could also improve ridership forecasts.
- Developing a regional system rather than separate individual BRT routes allows for greater connections to activity centers, and an improved customer experience. However, not all of the BRT routes can be implemented simultaneously, and some may not be ready for implementation by 2045.
- There is a need for ongoing outreach and education on BRT and the NVTA Action Plan, as public engagement showed increased support for BRT when more information was provided.

8.1 How the BRT Action Plan will be Used

The Action Plan bridges the gap between TransAction and NVTA's Six Year Program, by facilitating the development of funding requests by transit, highway, and other relevant agencies for components of the regional BRT system and highlighting those BRT corridors that might be the most successful in applying for funding from NVTA and other sources.

The Action Plan will not necessitate a redesign of current BRT initiatives, nor is it intended to duplicate regular local service enhancements initiated by local transit agencies. Instead, NVTA is providing a regional overlay for an integrated regional BRT system that can incrementally advance a regional vision in collaboration with NVTA's local partners.

NVTA's biennial Call for Regional Transportation Projects (CfRTP) for its FY2026–2031 Six Year Program opened in early May 2025. In this Six Year Program cycle, and in subsequent funding cycles, the Action Plan can be referenced by eligible applicants to submit BRT-related funding requests.

8.2 Recommendations

Significant progress has been made towards developing a regional BRT system, starting with the five corridors that NVTA has already funded, and which are in various stages of development and operations. Continuing this progress will require more detailed planning and implementation – both for each individual BRT route and for the regional BRT system as a whole. It will also require continued collaboration between NVTA and the numerous jurisdictions and agencies that have played such a foundational role to date in the development of this Action Plan.

The following recommendations summarize the focus areas for more detailed planning and related activities. Some of these recommendations apply to NVTA and others to NVTA's jurisdictional partners. Selected NVTA recommendations are beyond the capacity and/or capabilities of NVTA staff and will require additional external support.

Recommendations for NVTA

1. Identifying Funding Sources

Securing funding for both the construction and operations of the regional BRT system is an essential step toward making the system a reality. A wide range of funding sources are available, and the mix of sources used to fund any particular BRT route may vary between federal, state, regional, and local sources. As directed by NVTA's enabling legislation and the guidance provided by the Authority, NVTA will continue to advocate for, support, and work with jurisdictions and agencies to secure federal and state funding such as Capital Investment Grants (CIG), Better Utilizing Investments to Leverage Development (BUILD) grants, Congestion Mitigation and Air Quality Improvement Program (CMAQ), SMART SCALE, etc. Identifying potential funding sources early in the planning process is important, as different funding sources may carry different types of requirements. For example, federal funding through the CIG program has a stringent set of ridership forecasting requirements; each route will need to consider the tools and approaches necessary to meet these requirements, which may include development of forecasting tools using FTA's Simplified Trips-on-Project Software (STOPS). A regional framework for development of such tool(s) needs to be established to capture the full benefit of the regional BRT vision. An approved Action Plan will better position the region in its pursuit of external funding, including from federal and state sources.

Currently, there are two key public transportation funding initiatives that may impact funding options for BRT in Northern Virginia. The first is SJ28, a Virginia state bill passed in the 2024 General Assembly Session, which established a joint subcommittee to study long-term, sustainable, dedicated funding for Northern Virginia's public transportation. Additionally, DMVMoves, a joint initiative of MWCOG and WMATA, is seeking to create a unified vision and sustainable funding model for the Washington Metropolitan region's transit network and is scheduled to publish final recommendations by the end of 2025.

It is recommended that NVTA continues to participate in both the SJ28 and DMVMoves initiatives and incorporate key findings into consideration of funding for BRT.

2. Additional Evaluation

This Action Plan sets out a vision for a regional BRT system that serves as a starting point for refining each of the BRT routes. More detailed planning, including more targeted engagement with the community, will be necessary to ensure that each BRT route includes the optimal routing, station locations, termini, and operational plan to meet the needs of the community it will serve. This process is already underway for the BRT routes that have been previously funded by NVTA and will need to be undertaken for each corridor as it moves toward implementation. As the region evolves, additional routes may be suggested to further enhance the vision of regional BRT. While detailed development of specific BRT routes will be led at the local level, it is recommended that NVTA conduct evaluations of alternative routes, alignments, station locations, and termini as requested by jurisdictions, agencies, and others.

Beyond route-specific planning efforts, NVTA will continue to actively participate in existing regional working groups, as a key partner and stakeholder, and lead additional efforts necessary to fill gaps and areas that will directly impact NVTA's long range planning and funding, including the BRT-supportive technology applications that are essential to provide seamless operations and positive customer experience. The region will also need to consider and make decisions about how this multi-jurisdictional BRT system should be operated and governed as it gets built out. It is recommended that NVTA, in collaboration with jurisdictions and agencies across Planning District 8 and in alignment with ongoing efforts, give consideration to various topics such as who will operate each route, and how infrastructure will be used.

3. Knowledge Transfer

It is recommended that NVTA, in collaboration with regional partners, while minimizing duplication, document best practices and lessons learned from a wide range of sources to help ensure that Northern Virginia's regional BRT system is implemented efficiently, effectively, and to the benefit of citizens and stakeholders. Valuable knowledge can be gleaned from agencies that are currently operating, constructing, or planning BRT systems, both in the Washington Metropolitan region and across the country. Continued communication with peer agencies can take many forms, including building off of the existing NVTA BRT Planning Working Group. NVTA will continue to participate in existing efforts across the Washington, DC metropolitan region, as a key partner and stakeholder, and lead additional efforts for knowledge transfer from/to outside the DC region, including peer exchanges.

4. Development of Guidelines and Best Practices

Development of the BRT Action Plan highlights the fact that the design of each BRT route will be unique to meet the needs and constraints of each specific corridor and community. The development of best practices and guidelines for a range of topics that will need to be considered in the design of every BRT route will improve the efficiency of the design process and ensure a more consistent customer experience. These guidelines could cover a range of topics, including but not limited to bus priority treatments, stations, mobility hubs, use of technology, wayfinding, and electrification. For example, common branding themes and other resources will allow streamlined transfers that get riders to their destinations efficiently. NVTA will continue to participate in existing efforts across the Washington, DC metropolitan region, as a key partner and stakeholder, and lead additional efforts to fill gaps and areas that may impact NVTA's long range planning and funding.

5. Ongoing Outreach

Building and implementing a regional BRT system will require ongoing and consistent outreach with diverse audiences across Northern Virginia. Public engagement is essential as planning continues for each individual BRT route but should also be considered as part of developing branding and marketing materials that speak to public audiences. This Action Plan highlights the importance of ongoing education about what BRT is and its benefits to encourage behavioral changes in choice of travel modes, and the region's efforts to expand high-quality, efficient, affordable transit solutions across Northern Virginia. In collaboration with jurisdictions and agencies, minimizing duplication, NVTA will educate key stakeholders and partners across Planning District 8, to build community champions and the knowledge necessary to advance BRT; in addition to the optimization of bus service more broadly.

Recommendations for Jurisdictions and Agencies

1. Planning and Coordination

Since NVTA does not implement or operate the initiatives that it plans and funds, there is an ongoing role that jurisdictions and agencies must continue to play to advance the Action Plan. Although development and implementation of the BRT system are expected to occur incrementally over several decades, there are some steps that local jurisdictions can take in the near future. First, it is recommended that local jurisdictions consider the BRT routes as they update their respective Comprehensive Plans, Transit Plans, and other relevant plans, by incorporating BRT-related facilities as appropriate. Second, since NVTA can only fund projects included in TransAction, the long-range transportation plan for Northern Virginia, it is recommended that jurisdictions and agencies confirm that BRT routes and related facilities are correctly identified in the TransAction project list. If they are not correctly identified, jurisdictions and agencies should ensure they are included in the next TransAction update.

When submitting future BRT-related funding requests to NVTA through its biennial Six Year Program, it is recommended that jurisdictions and agencies ensure that they demonstrate how such requests are consistent with the Action Plan, including for implementation and operation, in many cases across jurisdictional boundaries.

2. Project Development

In keeping with established practice, it is recommended that jurisdictions and agencies continue to take the lead in the local development of BRT routes and BRT-related facilities. Such an approach enables NVTA to fulfill a regional planning role, while local jurisdictions will always be best placed to address the local perspective. Since trip-making patterns in Northern Virginia are not generally constrained by jurisdictional boundaries, it is further recommended that BRT development be advanced on a multi-jurisdictional basis where necessary.

As part of the evaluations conducted under this Action Plan, NVTA has assumed that existing local bus services remain unchanged, except in a few specific instances involving express BRT. In practice, the future implementation of BRT routes may necessitate a broad review, and possible restructuring, of existing local bus services. It is recommended that local jurisdictions and agencies take the lead, at the appropriate time, in determining the need for, and implementation of, any identified service restructuring.

3. Coordination with NVTA

It is recommended that local jurisdictions and agencies continue to coordinate with NVTA on the development and implementation of a regional BRT system through participation and engagement in the BRT Planning Working Group.

NVTA'S

BRT

Bus Rapid Transit *Action Plan*

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