

Preliminary Deployment Plan for a Regional Bus Rapid Transit System (PDP-BRT)

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TPB Technical Committee, November 1, 2024
Agenda Item 9

Topics



- **Introduction**
- **NVTA and BRT**
- **TransAction and BRT**
- **Regional Collaboration**
- **PDP-BRT**
- **Phase 1 Activities**
- **Next Steps**

Northern Virginia Transportation Authority

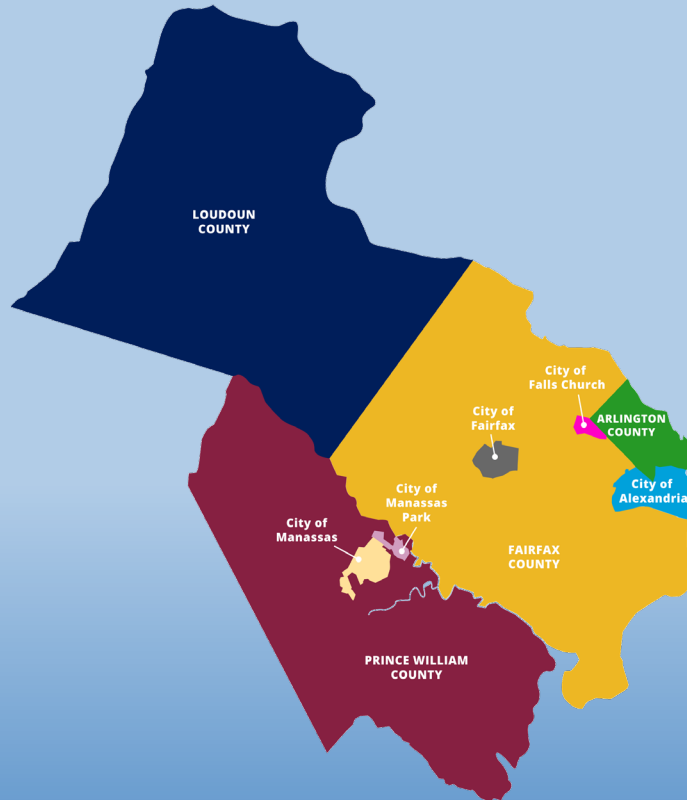


- Established by Virginia General Assembly in 2002; Revenues started in 2013.



Long-Range Plan

- Multimodal Long-Range Plan for NoVA
- Updated Every Five Years
- Most Recent Update December 2022
- Outgrowth: **Preliminary Deployment Plan for Regional BRT System** (\$850+ million already invested in 5 BRT lines)



NVTA's Six Year Program

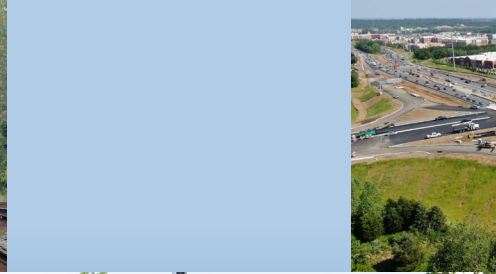
Funding Program

- Allocates NVTA's Regional Revenues to Regional, Multimodal, Transportation Projects
- Updated Every Two Years
- Most Recent SYP Adopted in July 2024
- \$3.8B on 139 regional projects**

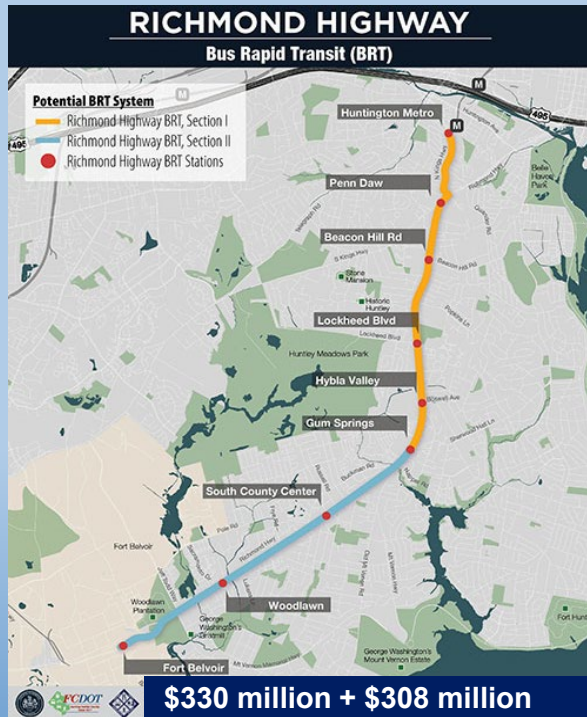
Local Funds

- \$1B+ in local projects, transit subsidies, etc.**

NVTA's Multimodal Investments



\$850+ million invested in 5 BRT lines



Metroway Extn: \$29 million Envision RT 7: \$838,000 Route 7 (FFX): \$101 million



Duke Street Transitway: \$87 million



West End Transitway: \$4.6 million

TransAction:

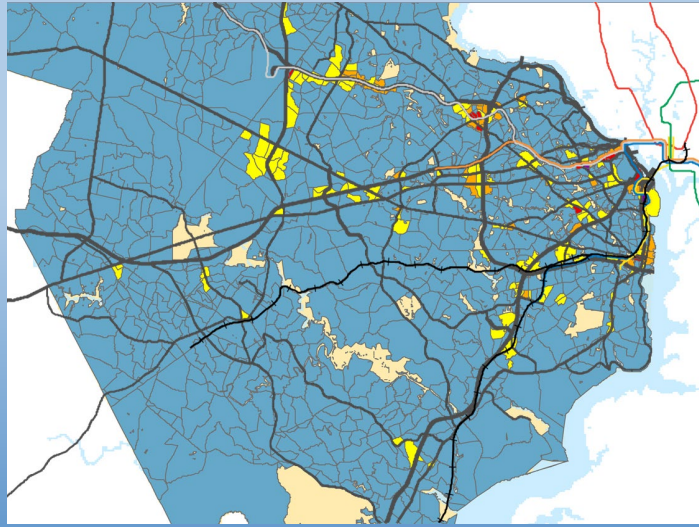
The Multimodal Long-range Transportation Plan for Northern Virginia



Vision: “Northern Virginia will plan for, and invest in, a safe, equitable, sustainable, and integrated multimodal transportation system that enhances quality of life, strengthens the economy, and builds resilience.”

Goals: Mobility, Accessibility, Resiliency

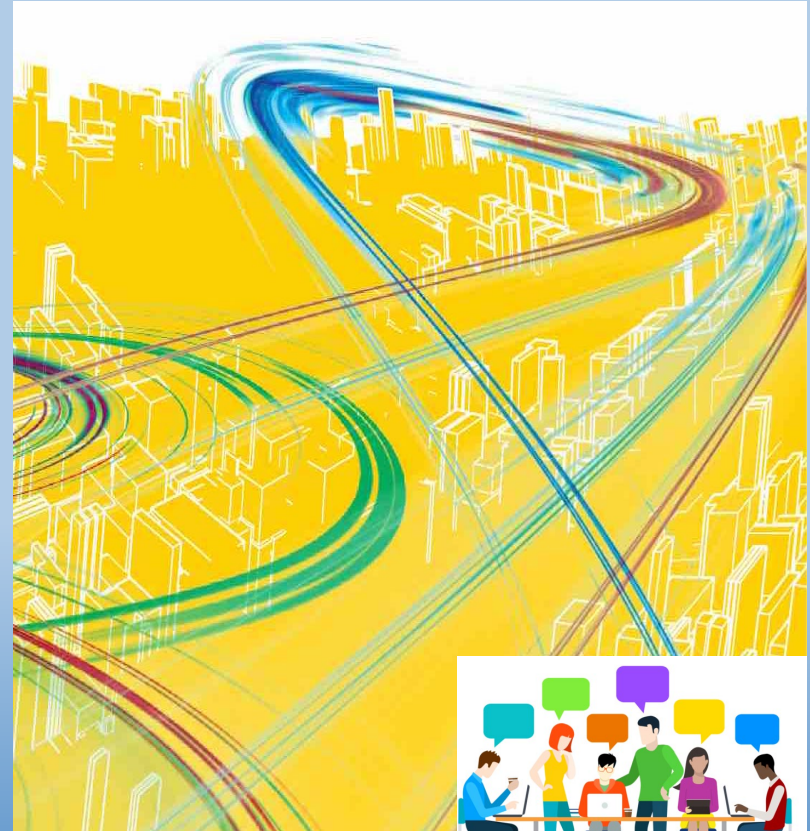
Core Values: Equity, Safety, Sustainability



NVTA's BRT Planning Working Group



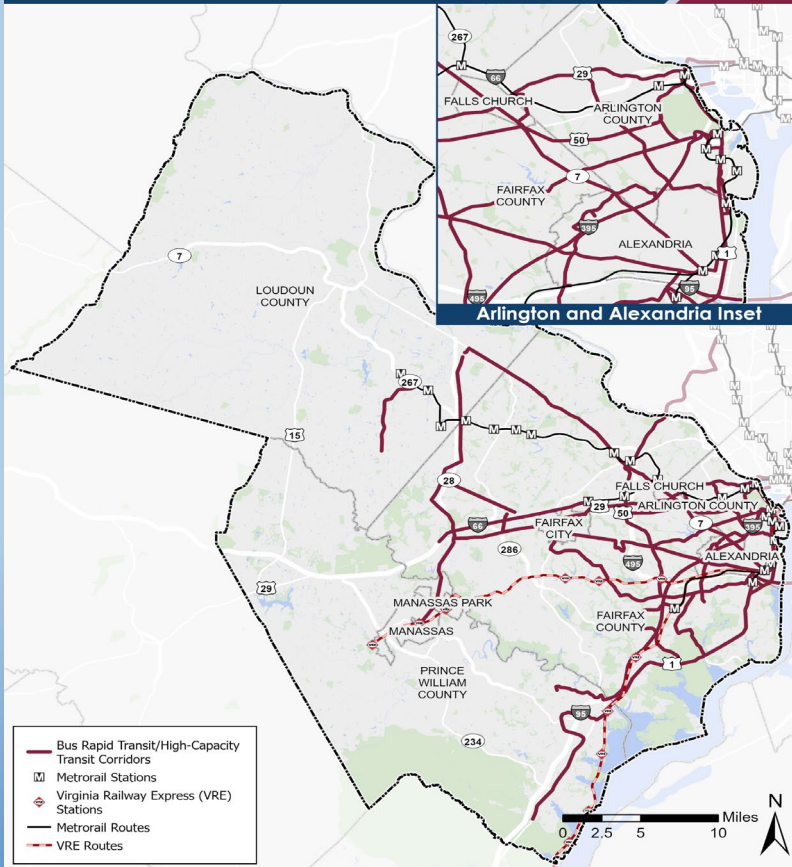
- **Established in March 2021**
- **A regional need that coincided with a gap**
 - Need: reduce/reverse dependency on driving alone and provide meaningful travel choices
 - Gap: taking a regional perspective to achieve synergies from advancing standalone BRT lines
- **TransAction provided the once-every-five-years opportunity to assess the need, fill the gap, and create a Regional BRT Vision**
- **Membership**
 - NoVA jurisdictions, Transit agencies, VRE, WMATA, VDOT, DRPT, NVTC, TPB
 - Montgomery County, Prince George's County, DDOT



Building a Regional BRT System



TransAction Regional BRT/HCT System



Think Big

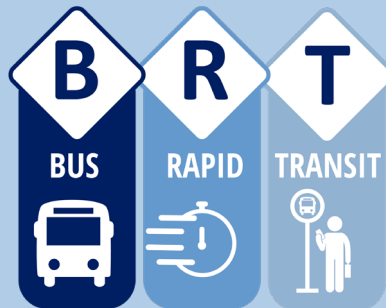
Start Small

Build Momentum

Building a high-quality regional BRT system is best done in a coordinated way that maximizes the return on investment.



PDP-BRT



- **Create a Regional BRT Vision for Northern Virginia**
 - Regional BRT network, appropriate BRT types, operational and governance characteristics, prioritization, future scenarios
- **Enhance NVTA's investment in BRT in the region**
- **Provide a “toolbox” for member jurisdictions and agencies to develop their own BRT lines that will be part of a regional network**
- **Prioritize corridors for NVTA investment in the future**
- **Leverage federal and other funds**

PDP-BRT Schedule



Phase 1:
Data Gathering

Nov 2023-Jun 2024

Phase 2:
Analysis

Jul 2024-Feb 2025

**Phase 3: Public
Engagement**

Mar 2025-Jul 2025

Phase 4:
Reporting

Aug 2025-Oct 2025

Phase 1



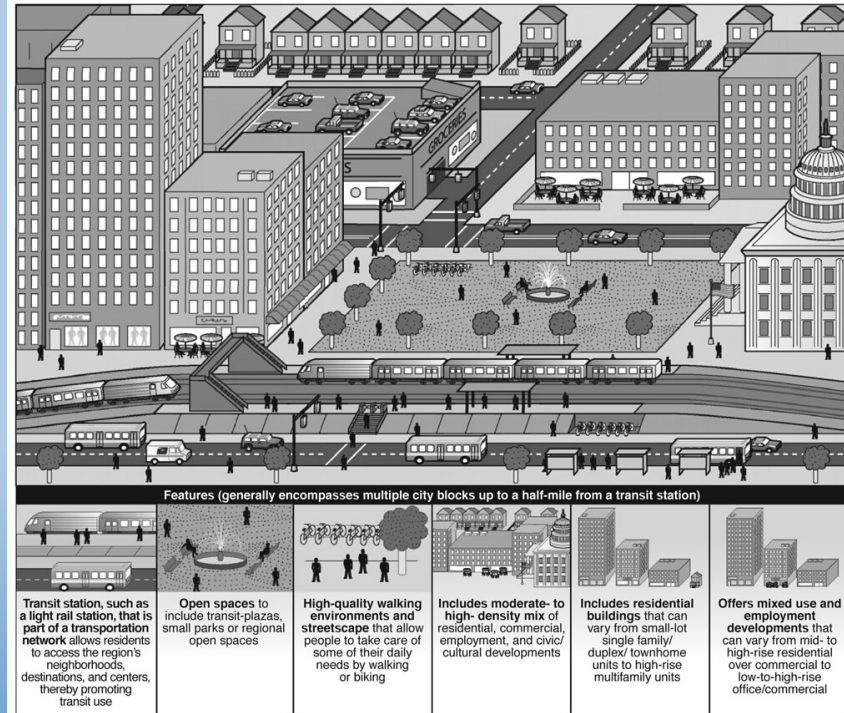
- **Peer Review and Literature Survey**
- **Perception Survey**
- **Focus Groups**
- **Online Survey**
- **Identification of Potential Corridors, BRT Types, and Evaluation Criteria**

Peer Review: Key Findings



- **Density:** > 11,000 people + jobs was achieved for key peers
- **Location:** Implement BRT where zoning, density, and land use mix are supportive of transit
- **Operation:** Utilize and enforce bus lanes and other transit priority strategies
- **Access:** Implement wider urban design improvements, including bike-pedestrian improvements
- **Engagement:** Engage the public early in the project and throughout its implementation

Figure 1: Representation of a Transit-Oriented Development and Key Components



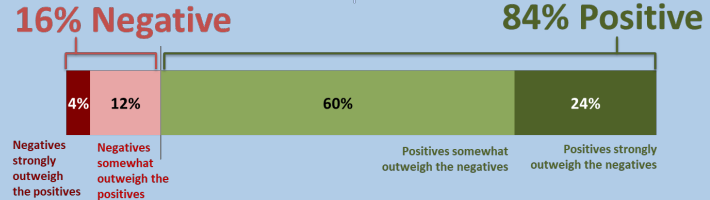
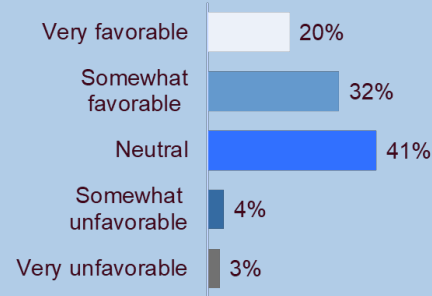
Perception Survey: Key Findings

(December 2023)

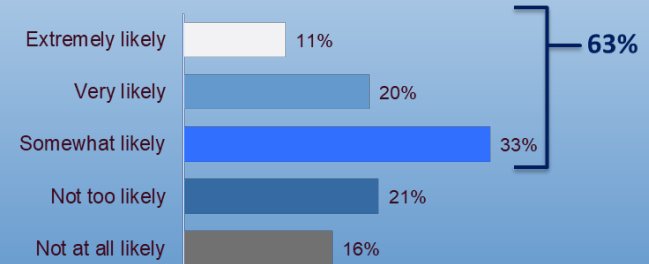


- Familiarity of BRT is limited (69% not at all or not too familiar)
- Neutral or positive views toward BRT (93%)
- Much more likely to see positive benefits of BRT than negatives (84% positive)
- More likely to use BRT for personal purposes (63%). 54% are likely to use BRT for commuting purposes.
- Convenience, Saving time, and Reliability are the top influential benefits of using BRT.

How favorable are you towards Bus Rapid Transit (BRT) operating in Northern Virginia?



For Recreational/Personal Travel Purposes



Focus Groups: Key Findings

(4 meetings on March 5-6, 2024)



Reducing congestion in Northern Virginia needs to be at the forefront of BRT development.



Creating lines and networks that connect areas in Northern Virginia rather than feeding directly into DC should be a priority



People are not familiar with the terms “Bus Rapid Transit” or “BRT”



There is an appetite for a more efficient system like BRT, even among Non-Riders

Online Survey: Key Findings

(May-June, 2024)



The top priority for a transit system in Northern Virginia overall continues to be relieving congestion. Notably though, these priorities can differ across the region.



Nearly four in ten would like BRT to connect them to retail or entertainment centers. Depending on the type of location they would like BRT to connect them to, priorities for peak or all-day service differ.



Three in ten are likely to consider using BRT. Among current transit riders this climbs slightly to 35%. Current non-riders are slightly less likely to consider BRT at 28%.

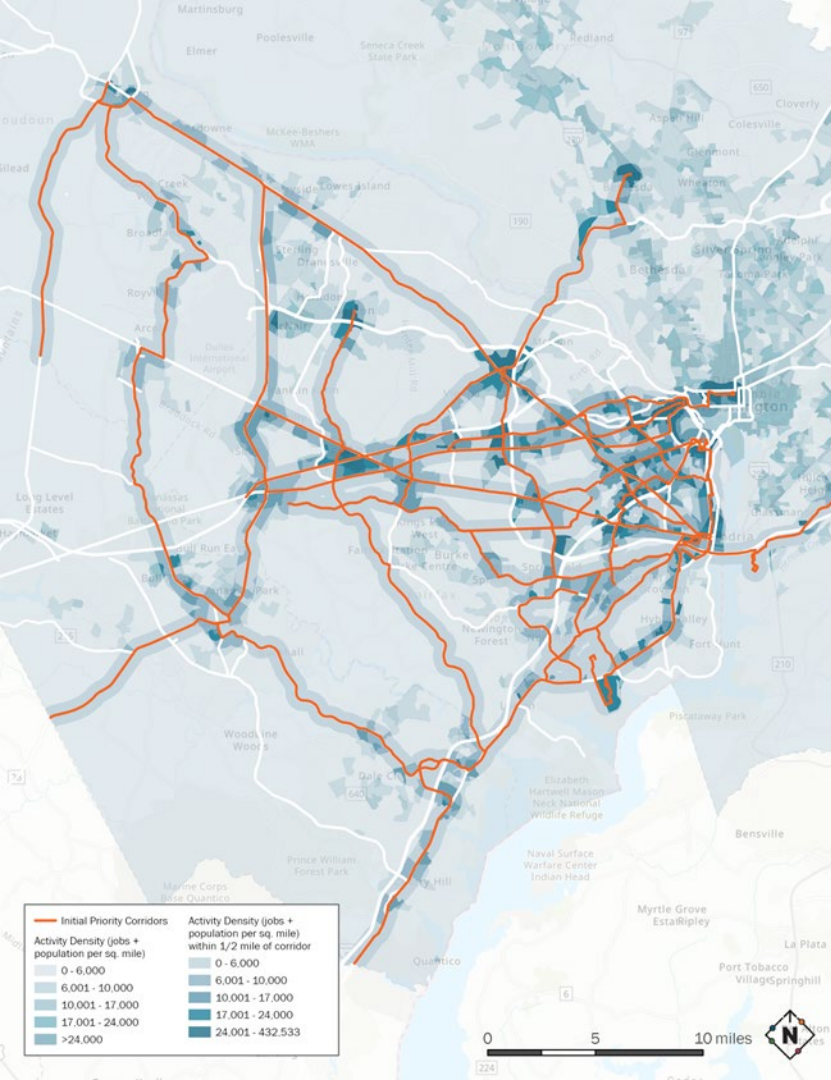


Nearly half of residents would consider using BRT over their current primary mode of transportation. This climbs to eight in ten with a more comprehensive implementation of features.



Potential Corridors

- Includes connections to Bethesda, Georgetown, Suitland Metro station.
- Many of the corridors in Arlington County and Alexandria have the minimum density to be considered BRT supportive.
- Outside of Arlington and Alexandria there are fewer contiguous stretches of BRT supportive density, but very high density in clusters.
- Corridors with supportive density include Route 1, I-66, portions of Route 50, US 29, Route 28, Route 7, Chain Bridge Road.
- Corridors with supportive density connect some of the region's densest activity centers.



BRT Types: Overview



- BRT can operate on a spectrum from lower to more intensive application
- For concept development, we've identified six BRT types
- Appropriate BRT type for a segment is dependent on factors such as:
 - Land use
 - Population and employment densities
 - Congestion
 - Active transportation infrastructure



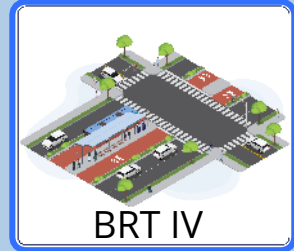
BRT I



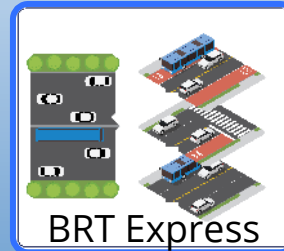
BRT II



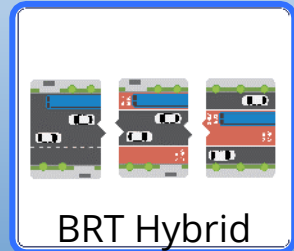
BRT III



BRT IV



BRT Express

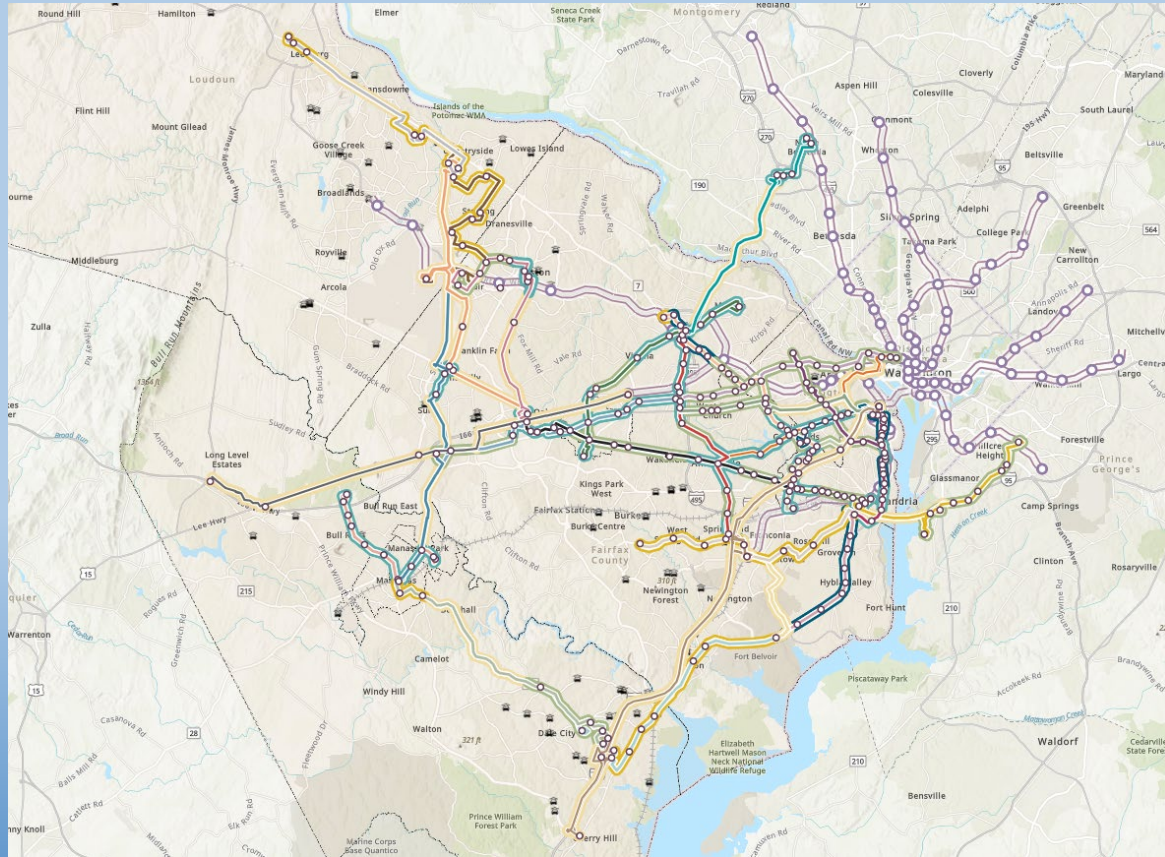


BRT Hybrid

Corridors and BRT Types for Evaluation



<https://fitp.maps.arcgis.com/apps/instant/basic/index.html?appid=a460c0a60797484a8d04172398800bf8>



Evaluation Criteria



- **Ridership:** BRT Ridership, % ridership during peak, impact on other transit, mode shift
- **Transportation:** Congestion, VMT, emission, accessibility, connectivity, safety
- **Readiness:** current and future density, active transportation availability, policies
- **Cost:** capital cost, annual operating cost
- **Revenue:** fare revenue, funding opportunities
- **Cost effectiveness:** cost per rider, cost per PHD removed, cost per emission reduction
- **Operating characteristics:** Revenue miles & hours, vehicles needed, staffing
- **Supporting needs:** Facility requirements, EV charging needs, Technology needs

Next Steps: Phase 2

(Fall & Winter)



- **Ridership Analysis**
- **Operational Analysis**
- **Financial Analysis**
- **Governance Analysis**
- **Sensitivity (Scenario) Analysis**
- **Ranking of Corridors**

Thank You!



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*Scan the QR
code to
connect with
us*



Reference Slides



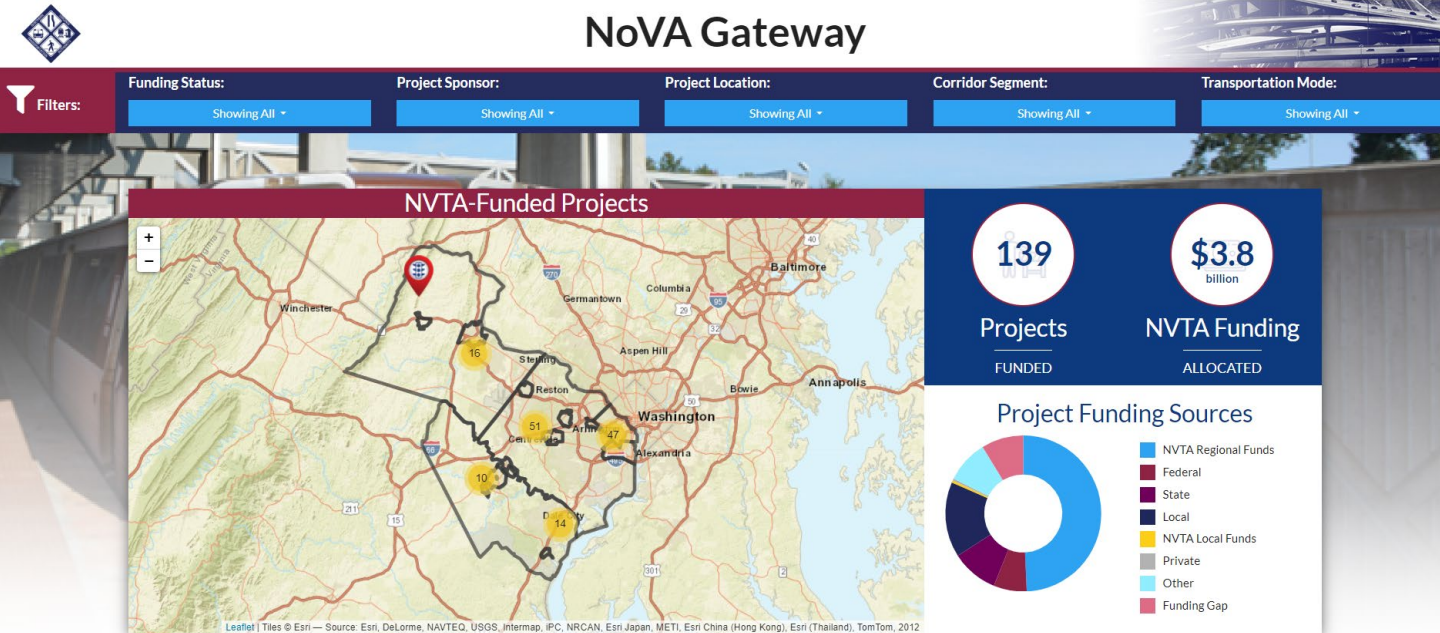
Project Dashboard



NoVaGateway.org

Features

- Filter by:
 - Funding Status
 - Project Sponsor
 - Project Location
 - Corridor Segment
 - Transportation Mode
- Project Descriptions
- Tabulation of All NVTA Regionally-Funded Projects with Real-Time Status Updates



Peer BRT Systems/Corridors Evaluated



- **Local / Regional**

- Metroway – Alexandria/Arlington, VA
- The One – Fairfax County, VA
- Alexandria Transitways – Alexandria, VA
- Envision Route 7 – Alexandria/Arlington, VA
- The Flash – Montgomery County, MD
- The Pulse – Richmond, VA

- **National**

- IndyGo – Indianapolis, IN
- Silver Line and Laker Line – Grand Rapids, MI
- ART – Albuquerque, NM
- VIVA – York, Ontario
- Pace Pulse – Chicagoland, IL
- MAX – Kansas City, MO
- CapMetro Rapid- Austin, TX



Literature Review Sources



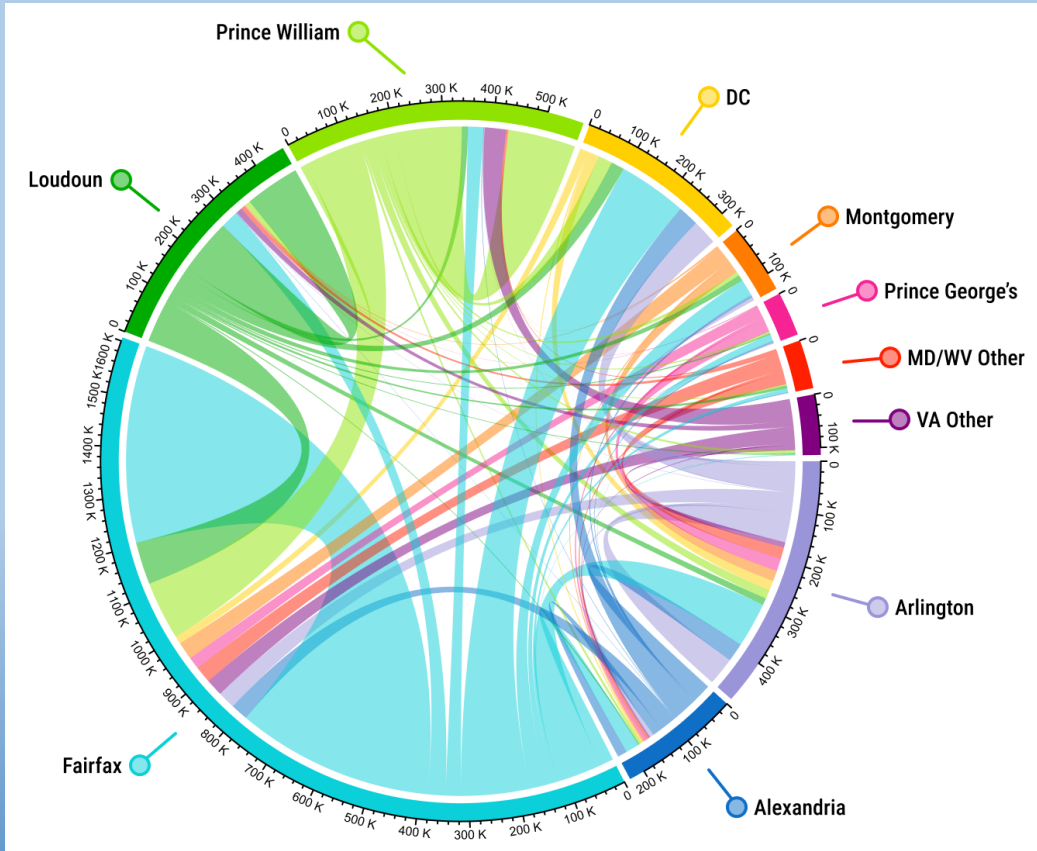
- **APTA Bus Transit Service Standards – Bus Rapid Transit Service Design and Operations, 2020**
- **TCRP Synthesis 164 – Bus Rapid Transit Current State of Practice**
- **TCRP Report 118 – Bus Rapid Transit Practitioner’s Guide, 2007**
- **Florida DOT – National Synthesis of Transit and Complete Streets Practices, 2018**
- **Local and Regional Plans, Policies, and Reports**
 - National Capital Region Transportation Planning Board – Bus Lane Enforcement Study, 2017
 - Virginia DRPT – Multimodal System Design Guidelines, 2020





Origins and Destinations

- Majority of trips are starting and ending in NoVA



Online Survey: Key Findings

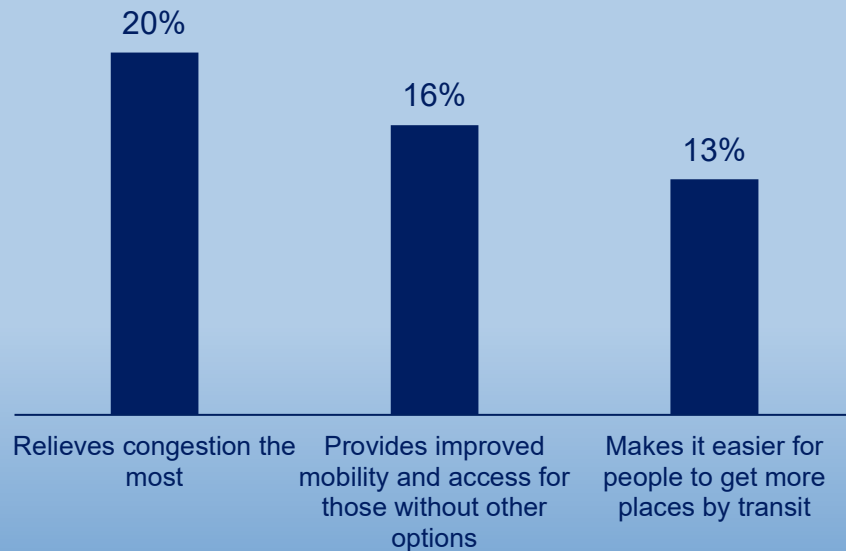
(May-June, 2024)



- **Overall, top priorities are:**
 - Relieving congestion (20%)
 - Providing improved mobility to those without other travel options (16%)
 - Making it easier to get to more places on transit (13%)
- **The top priority differs by jurisdiction**
 - **Arlington County, Loudoun County, and City of Alexandria**
 - Make it easier to get to more places on transit
 - **Fairfax County, City of Fairfax**
 - Providing improved mobility to those without other travel options
 - **Prince William County**
 - Relieves congestion the most

Which of these is most important?

A BRT system that...
(Top 3)



Online Survey: Key Findings

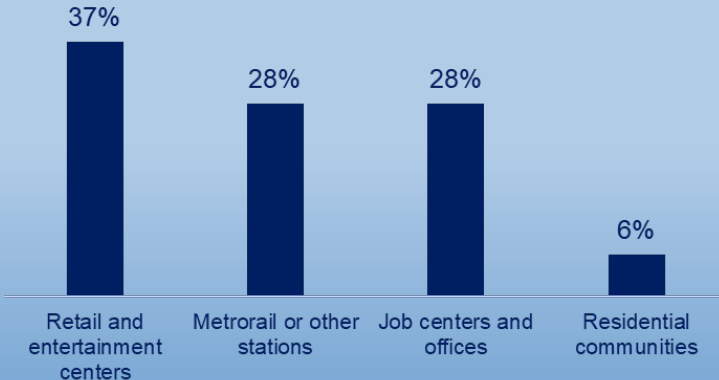
(May-June, 2024)



- Nearly four in ten would like BRT to connect them to retail and entertainment centers.

- Depending on the type of location they would like BRT to connect them to, priorities for peak or all-day service differ.

What type of places would you want BRT to take you to?



Retail or entertainment centers

Throughout the entire day on weekdays

Metro or other stations

During peak periods

Job centers and offices

During peak periods

Residential communities

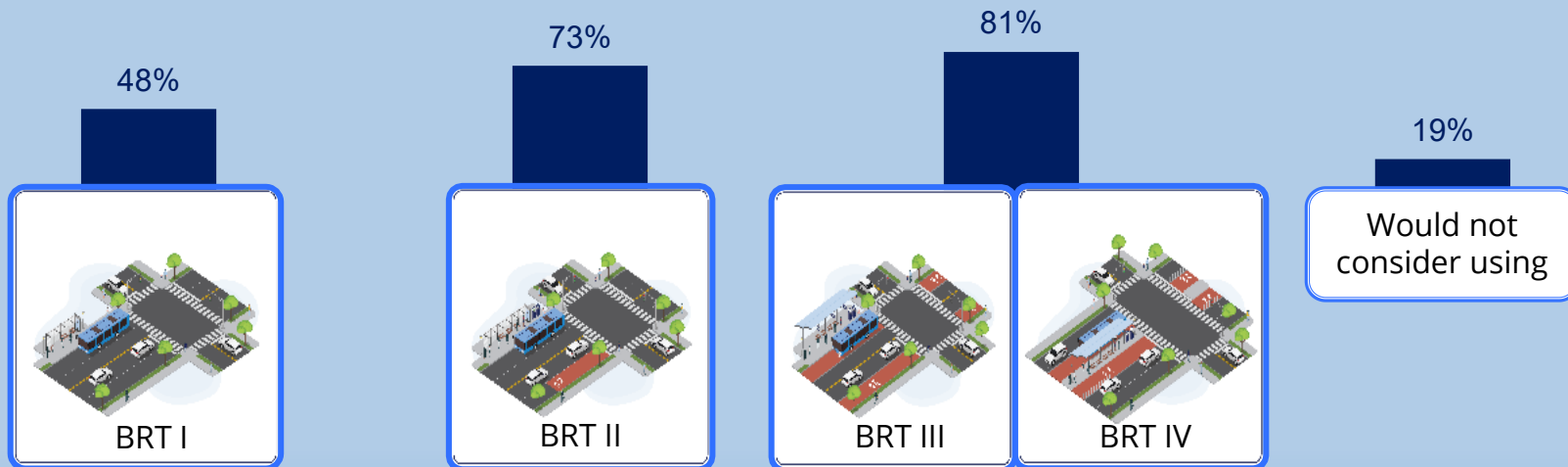
Throughout the entire day on weekdays

Online Survey: Key Findings

(May-June, 2024)



% Willing to Consider Each BRT Type over their Current Primary Mode of Transportation



As the types and features of BRT grow more comprehensive, **more people are willing to consider it** as a mode of travel.

Fairfax County experiences the **highest proportion** that would consider taking BRT III or IV:
89%