
Springfield to Quantico Enhanced Public Transportation Feasibility Study

Elected Officials Briefing

June 16, 2021



Virginia Department of Rail and Public Transportation

Meeting Agenda

- Introductions / Welcome
- Public and Stakeholder Outreach Status
- Alternatives Definition
- Alternatives Evaluation Measures
- Next Steps

Study Background

- Virginia General Assembly approved a 2020 budget amendment directing DRPT to conduct a feasibility study :

"F. The Department of Rail and Public Transportation, in cooperation with Fairfax and Prince William counties, shall evaluate enhanced public transportation services from the Franconia-Springfield Metro Station to Fort Belvoir, Lorton, Potomac Mills, and Marine Corps Base Quantico in Prince William County, including the cost and feasibility of extending the Blue Line and other multimodal options such as bus rapid transit along Interstate 95 and U.S. Route 1. The Director of the Department of Rail and Public Transportation shall submit a report of its findings to the Chairs of the House Appropriations Committee and the Senate Finance and Appropriations Committee by December 1, 2021."

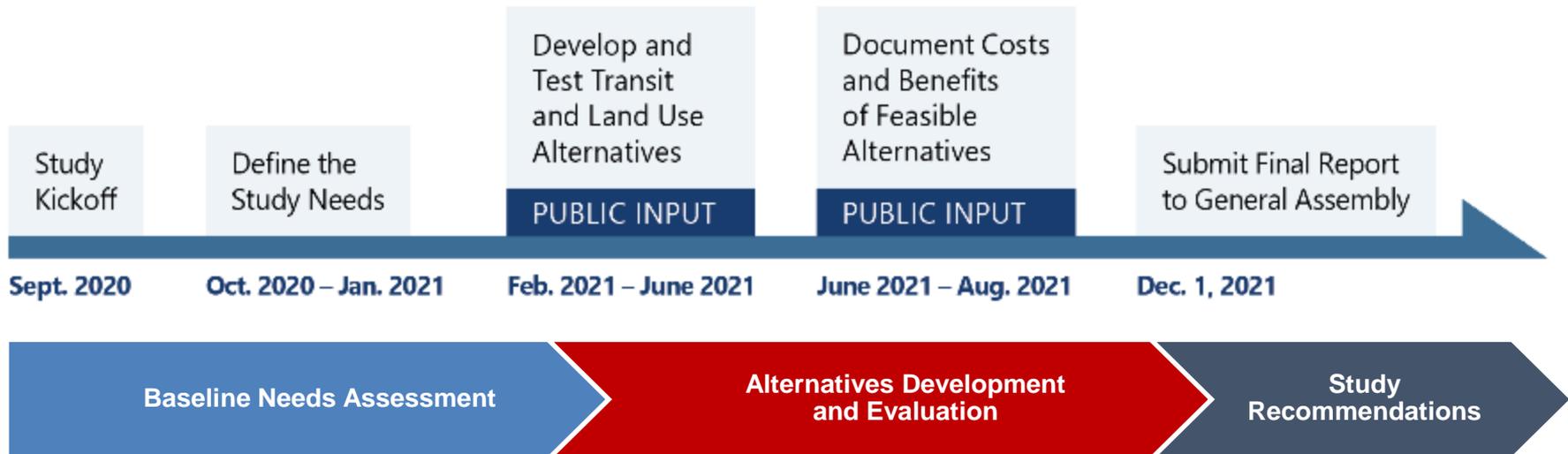
- Study must be completed by December 1, 2021
- A range of multimodal transit investments will be evaluated

Study Outcomes

Comprehensive, objective evaluation of a range of potential future enhanced transit alternatives that compares the cost, benefits, and impacts of each option to inform recommendations about future investment in the corridor.



Study Schedule

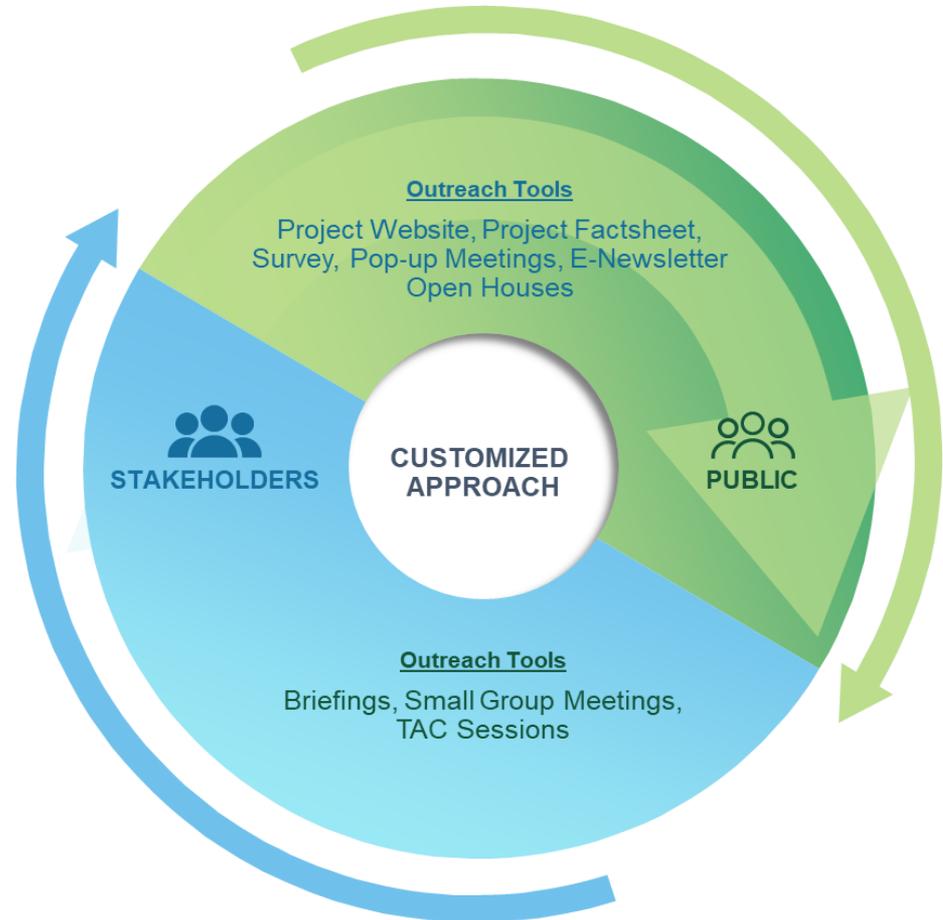


We are here.

Public and Stakeholder Outreach

Outreach Status

- Completed Activities
 - DRPT Website Launched
 - Project Factsheet
 - On-Line Survey (open April 12th – May 17th)
 - Virtual Public Meeting
 - Held May 4th
- Future Activities
 - July and September public meetings



<http://www.drpt.virginia.gov/transit/springfield-to-quantico/>

Virtual Public Meeting - Overview

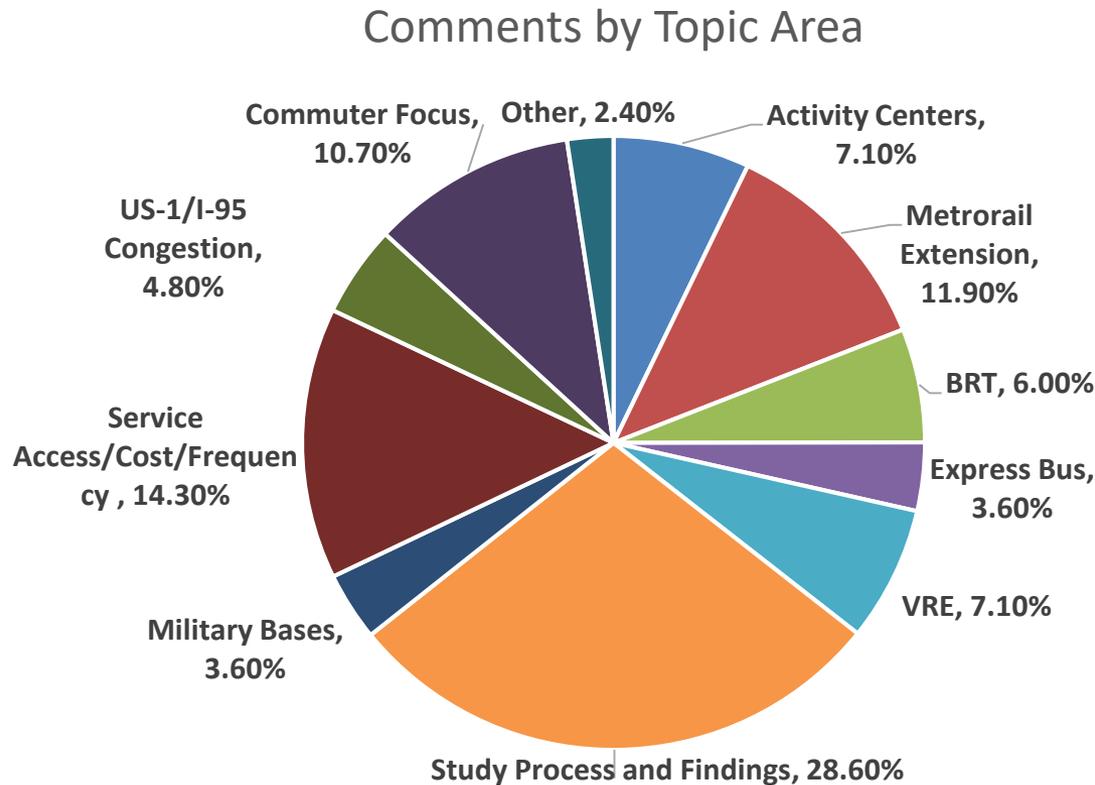
Virtual Public Meeting – May 4, 2021

- 112 registered participants (not including DRPT and consultant team)
- 79 people attended the meeting including six elected officials (or their representatives) and some public agency representatives
- Over 30 Northern Virginia zip codes were submitted by registrants covering both Prince William and Fairfax counties
- Registrants reported hearing about the meeting through a wide variety of channels including email, Facebook, Twitter, with some noting specifically communications from Prince William County and Senator Surovell
- Closed captioning services were provided based on the requests of four people
- Spanish and Vietnamese interpretation services were available but not used



Virtual Public Meeting – Common Themes

- Common themes:
 - 51 comments and questions received throughout the meeting through chat and during breakout room discussions



Virtual Public Meeting – Key Findings

- Study alternatives are serving the right areas, especially rail to Potomac Mills and a BRT extension to Dumfries, as well as connectivity from Fairfax to Fort Belvoir
- Access and frequency are important but also consider cost and equity
- Analysis of alternatives should be presented relative to costs and success at gathering ridership
- Weekend travel and connections to shopping destinations are important
- Consider the first mile and last mile to stations and military bases

Land Use Study

Potential Focus Area: Potomac Mills Multimodal District



Alternatives Definition

Transit Modes for Alternatives Testing

5 Options:



Metrorail – Blue Line Extension



Metrorail – Yellow Line Extension



Bus Rapid Transit

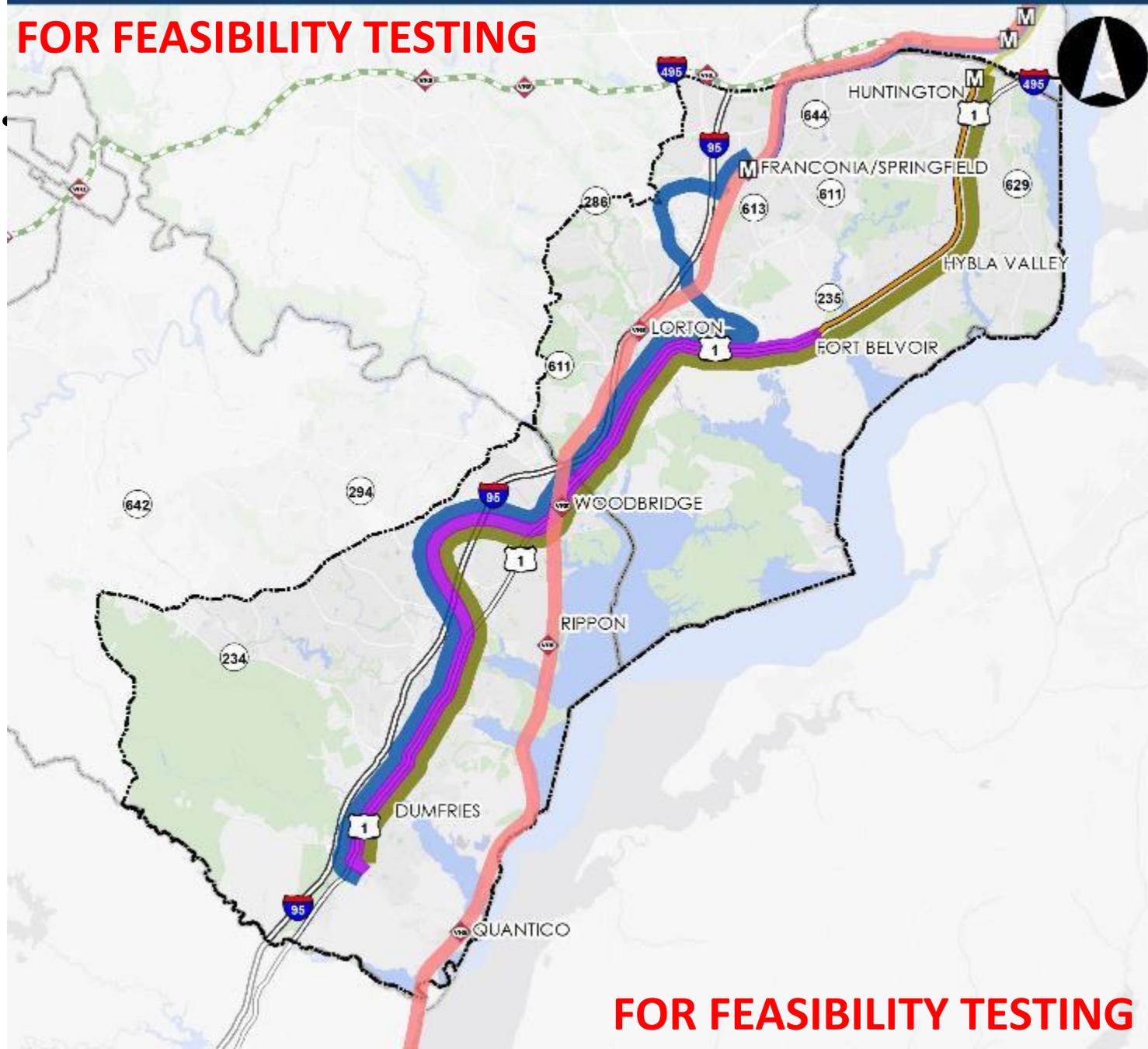


VRE Service Improvements

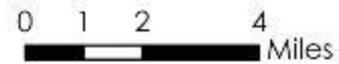


Express Bus Routes

FOR FEASIBILITY TESTING



- Metrorail Stations
- Virginia Railway Express (VRE) Stations
- County Boundary
- Richmond Highway BRT
- Metrorail Routes**
 - Blue
 - Yellow
- VRE Routes**
 - Manassas
- Alternatives**
 - Blue Line Metrorail
 - Yellow Line Metrorail
 - Bus Rapid Transit
 - Increased Frequency Along Existing VRE Alignment



FOR FEASIBILITY TESTING

Identification of Preliminary Station Locations

Station locations were identified for Blue, Yellow, BRT, and VRE alternatives using a combination of the following factors:

- Major activity centers that are on or within $\frac{1}{4}$ mile of the proposed alignment
- Transfer locations
 - Existing / planned premium transit stations – Metro, BRT, VRE, Amtrak
 - Existing Park and Ride locations
 - Existing local bus routes
- Transit centers/BRT stops identified in small area plans and in the regional model
- Summary of population, employment, and other demographic data within $\frac{1}{2}$ mile radius of activity centers
- Public and stakeholder input

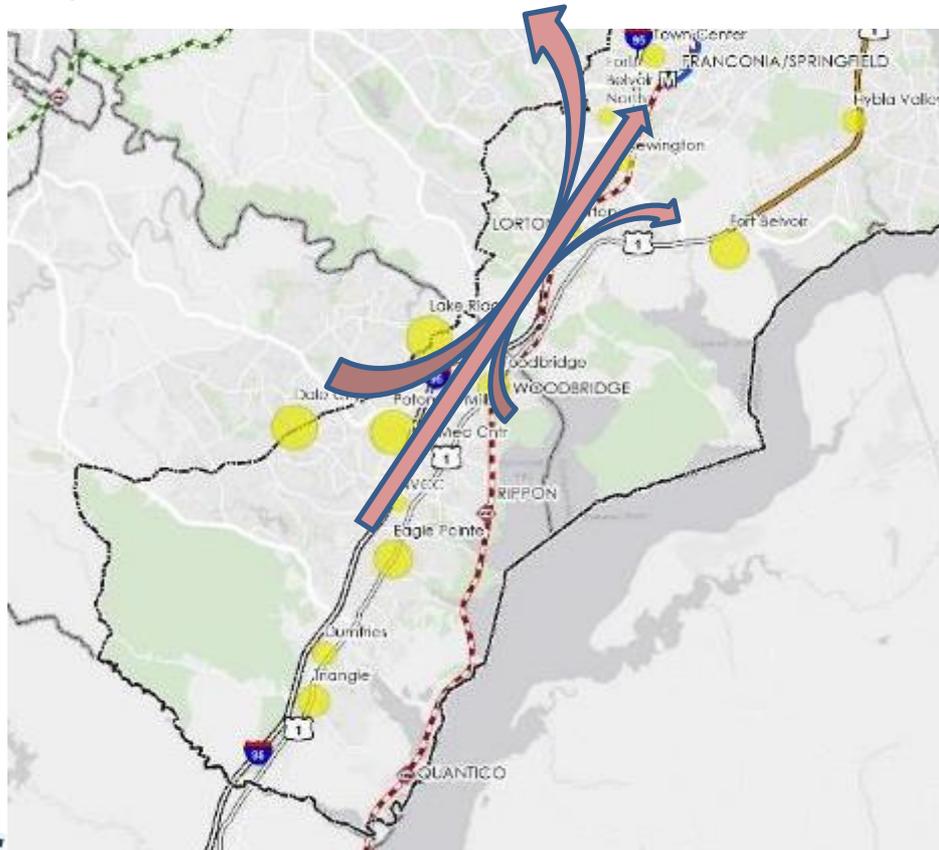
Express Bus Alternatives

Origins

Lake Ridge
Dale City/Potomac Mills, Quantico
Woodbridge
Woodbridge
Woodbridge/Dale City/Quantico

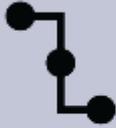
Destinations

Old Town Alex. via I-95
Tysons
Reston
Fairfax City
Ft. Belvoir South



Alternatives Evaluation

How will we evaluate feasibility?

Goals for Enhanced Transit		
Ridership Potential  Increase transit usage in the study corridor	Congestion Mitigation  Reduce the amount of traffic congestion in the study corridor	Equity  Provide a fair distribution of costs and benefits across different population groups
Regional Accessibility/Connectivity  Increase access to regional activity centers and meet identified service gaps	Cost-effectiveness  Ensure that resources are used efficiently	Development Potential  Create opportunities for development around stations or stops

Next Steps

- Next round of public meetings anticipated late July
- Future Elected Officials Briefings will seek input on the next phases of the study including:
 - Alternatives Evaluation Results & Land Use Assessment Findings
 - Draft Study Recommendations
- Draft report will be completed by September
- Final report submitted to General Assembly by December 1, 2021

Discussion & Meeting Wrap-Up

Springfield to Quantico Enhanced Public Transportation Feasibility Study

Elected Officials Briefing

June 16, 2021

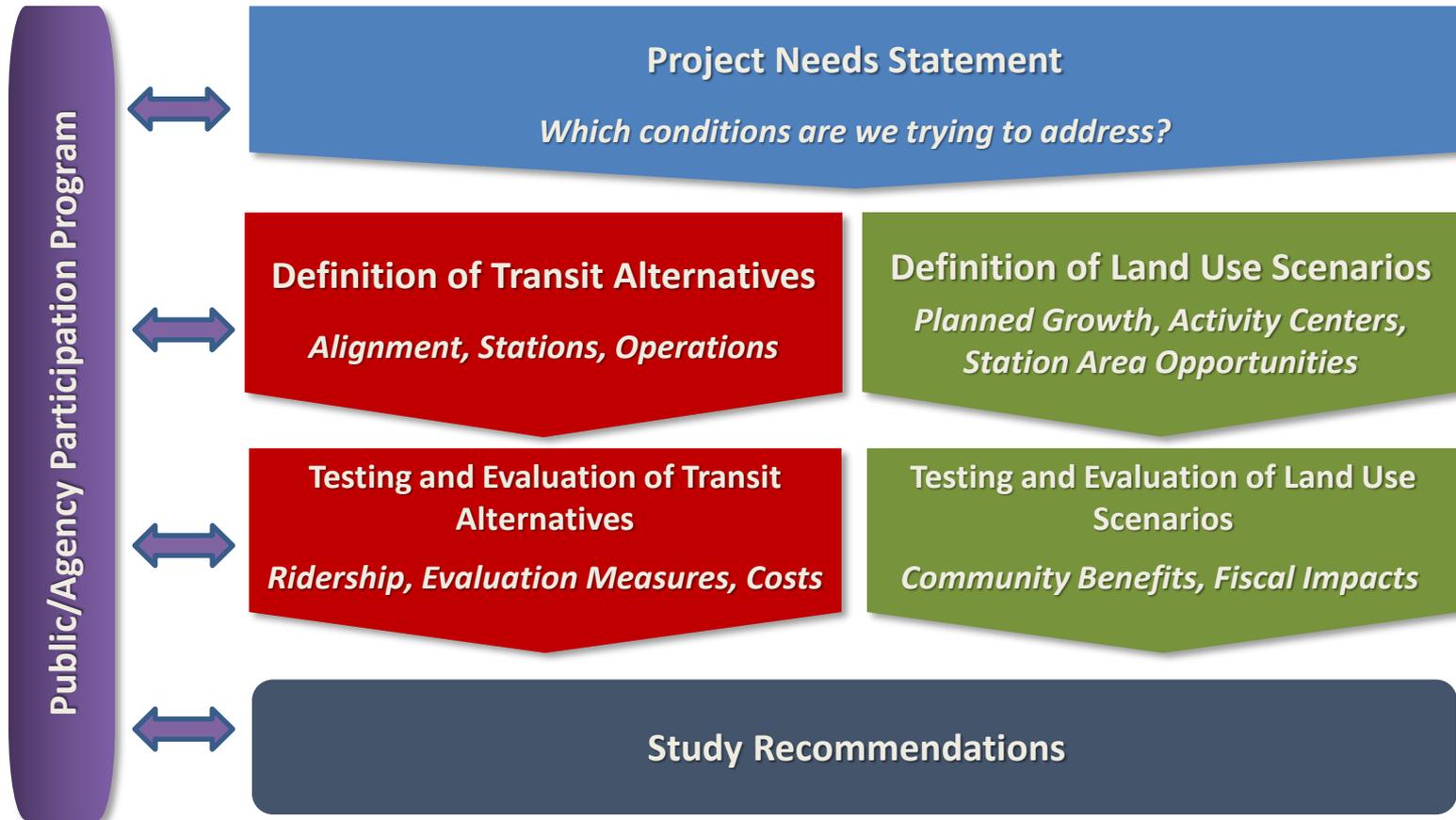
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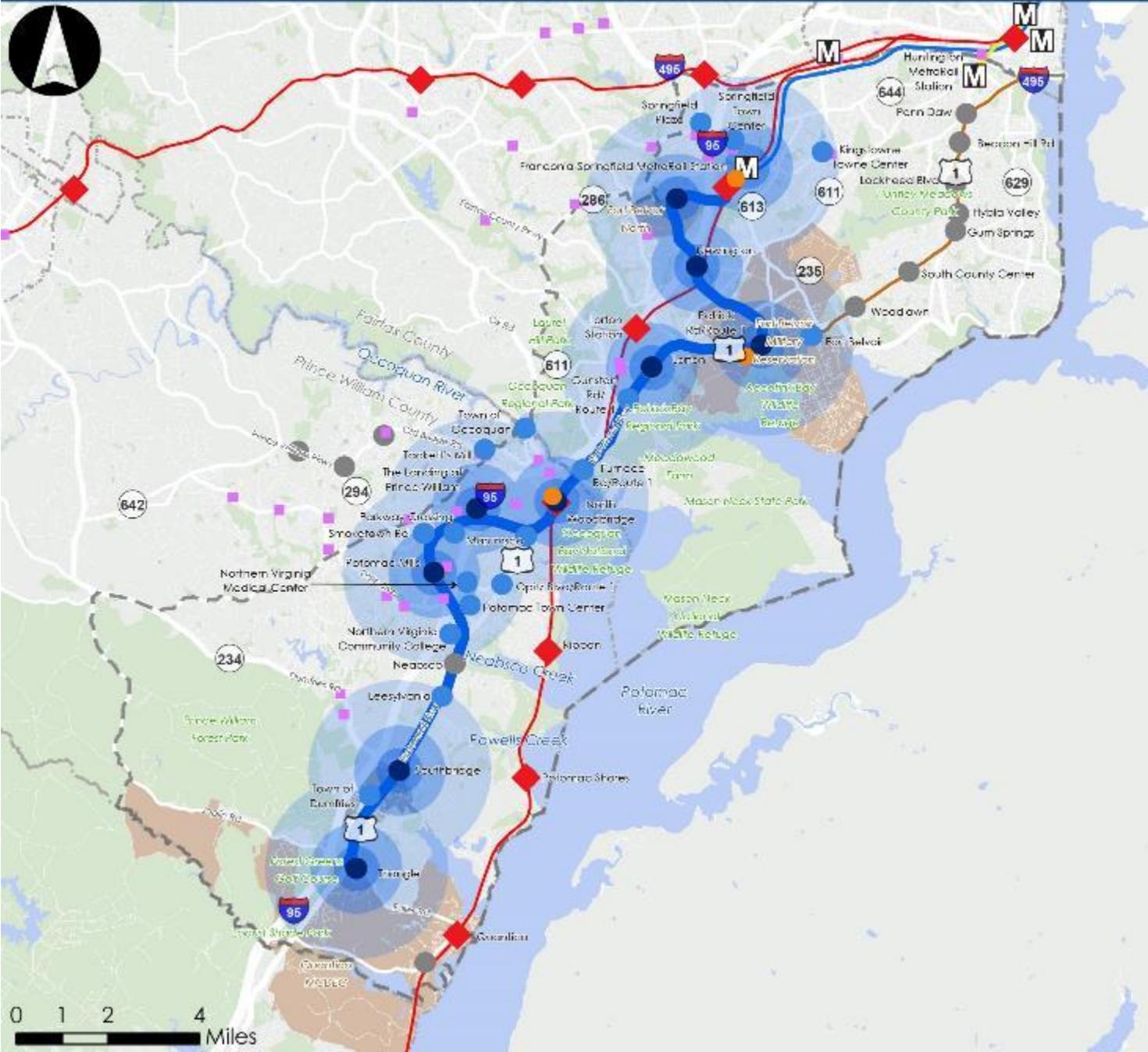
Virginia Department of Rail and Public Transportation

Additional Slides

Study Technical Approach

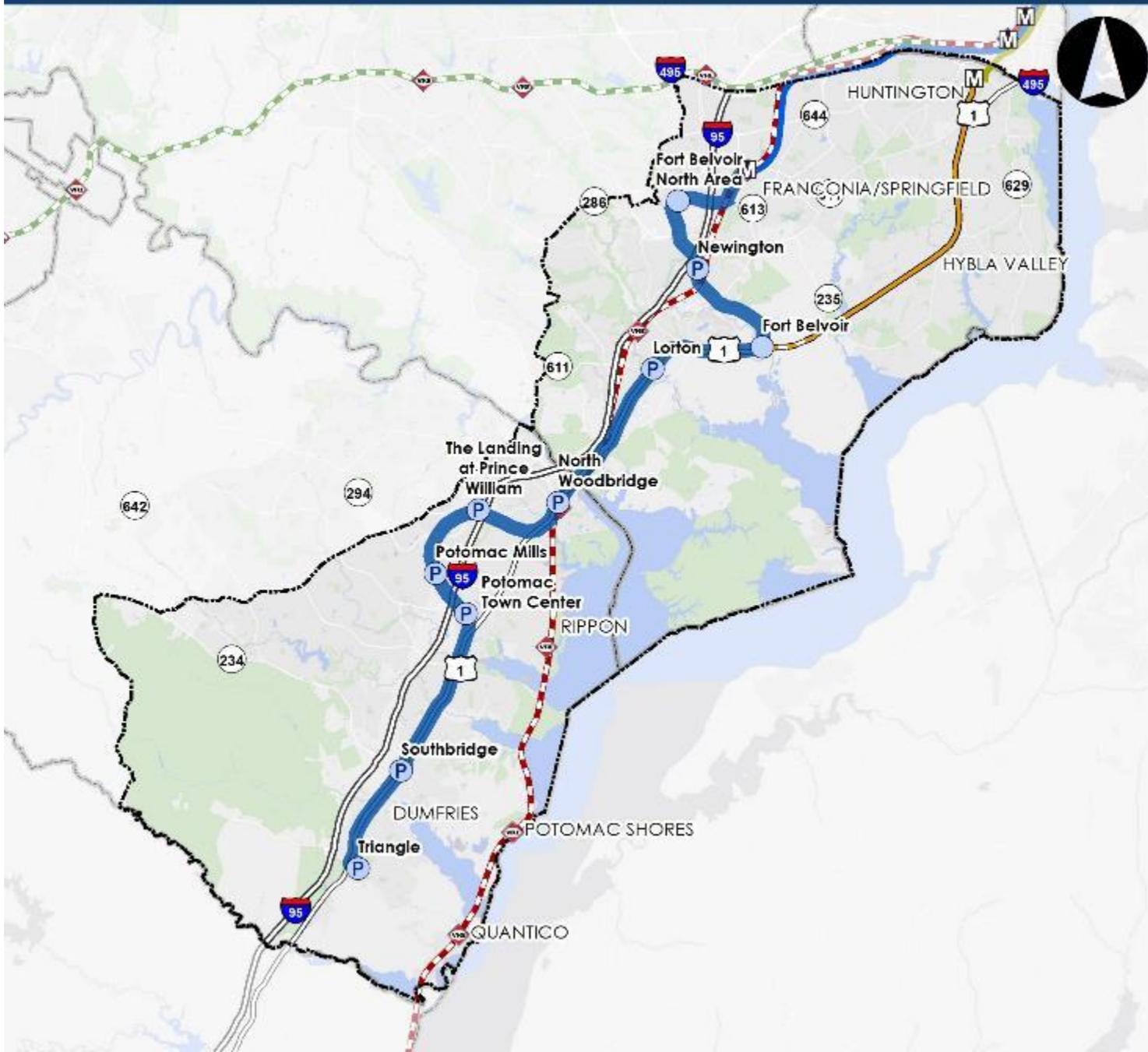


Potential Blue Line Alternative



- M** Metrorail Stations
- ◆** Virginia Railway Express (VRE) Stations
- VRE & Amtrak Routes
- Richmond BRT
- Metrorail Routes**
- Blue
- Yellow
- []** Study Area
- [- - -]** Counties
- Existing Park and Ride Location
- Transfer Point
- Potential Metrorail Station
- Activity Center within 2-mile radius buffer of potential Metrorail Station
- Activity Center outside 2-mile radius buffer of potential Metrorail Station
- Blue Line Extension Alignment
- 0.5-mile radius buffer of potential Metrorail Station
- 1-mile radius buffer of potential Metrorail Station
- 2-mile radius buffer of potential Metrorail Station

POTENTIAL BLUE LINE ALTERNATIVE



Metrorail Stations

Virginia Railway Express (VRE) Stations

County Boundary

Metrorail Routes

Blue
 Yellow

VRE Routes

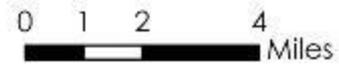
Fredericksburg
 Manassas

Richmond Highway BRT
 Richmond Highway BRT Extension

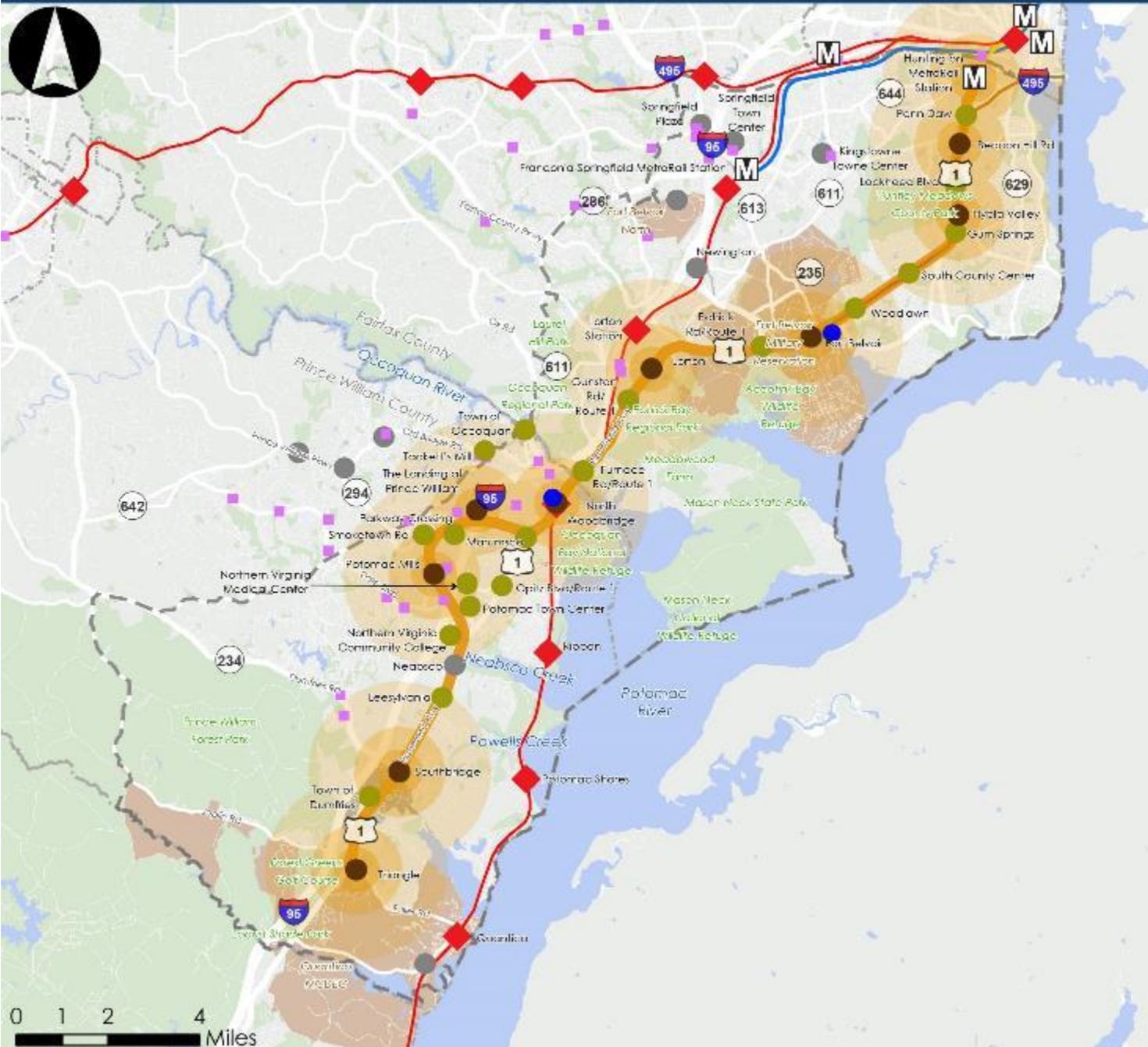
Potential Blue Line Alignment

Potential Blue Line Stations

With Parking
 Without Parking

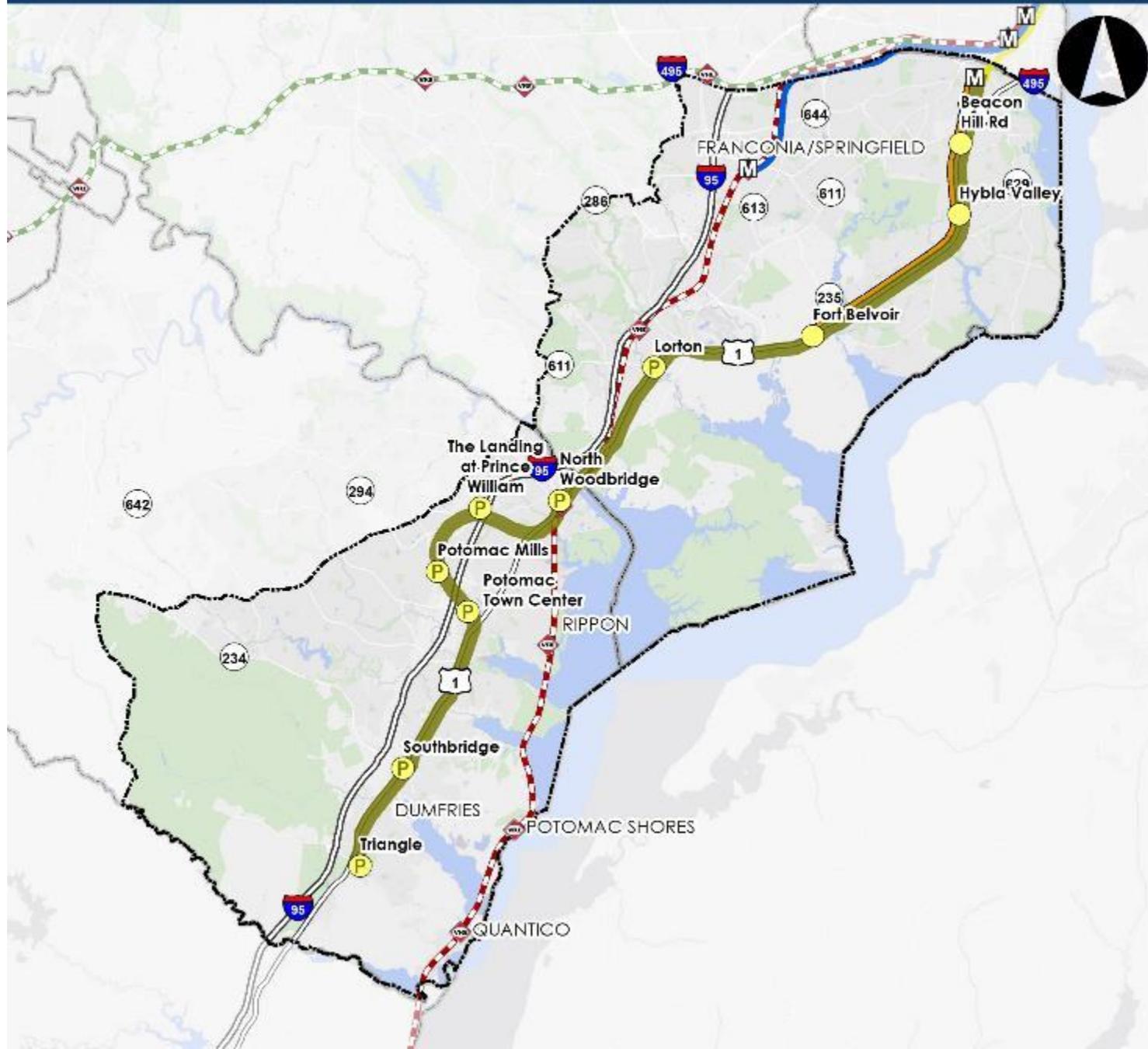


Potential Yellow Line Alternative



- M** MetroRail Stations
- ◆** Virginia Railway Express (VRE) Stations
- VRE & Amtrak Routes
- Richmond BRT
- MetroRail Routes**
- Blue
- Yellow
- []** Study Area
- []** Counties
- Existing Park and Ride Location
- Transfer Point
- Potential MetroRail Station
- Activity Center within 2-mile radius buffer of potential MetroRail Station
- Activity Center outside 2-mile radius buffer of potential MetroRail Station
- Yellow Line Extension Alignment
- 0.5-mile radius buffer of potential MetroRail Station
- 1-mile radius buffer of potential MetroRail Station
- 2-mile radius buffer of potential MetroRail Station

POTENTIAL YELLOW LINE ALTERNATIVE



M Metrorail Stations

Virginia Railway Express (VRE) Stations

County Boundary

Richmond Highway BRT

Metrorail Routes

Blue
Yellow

VRE Routes

Fredericksburg
Manassas

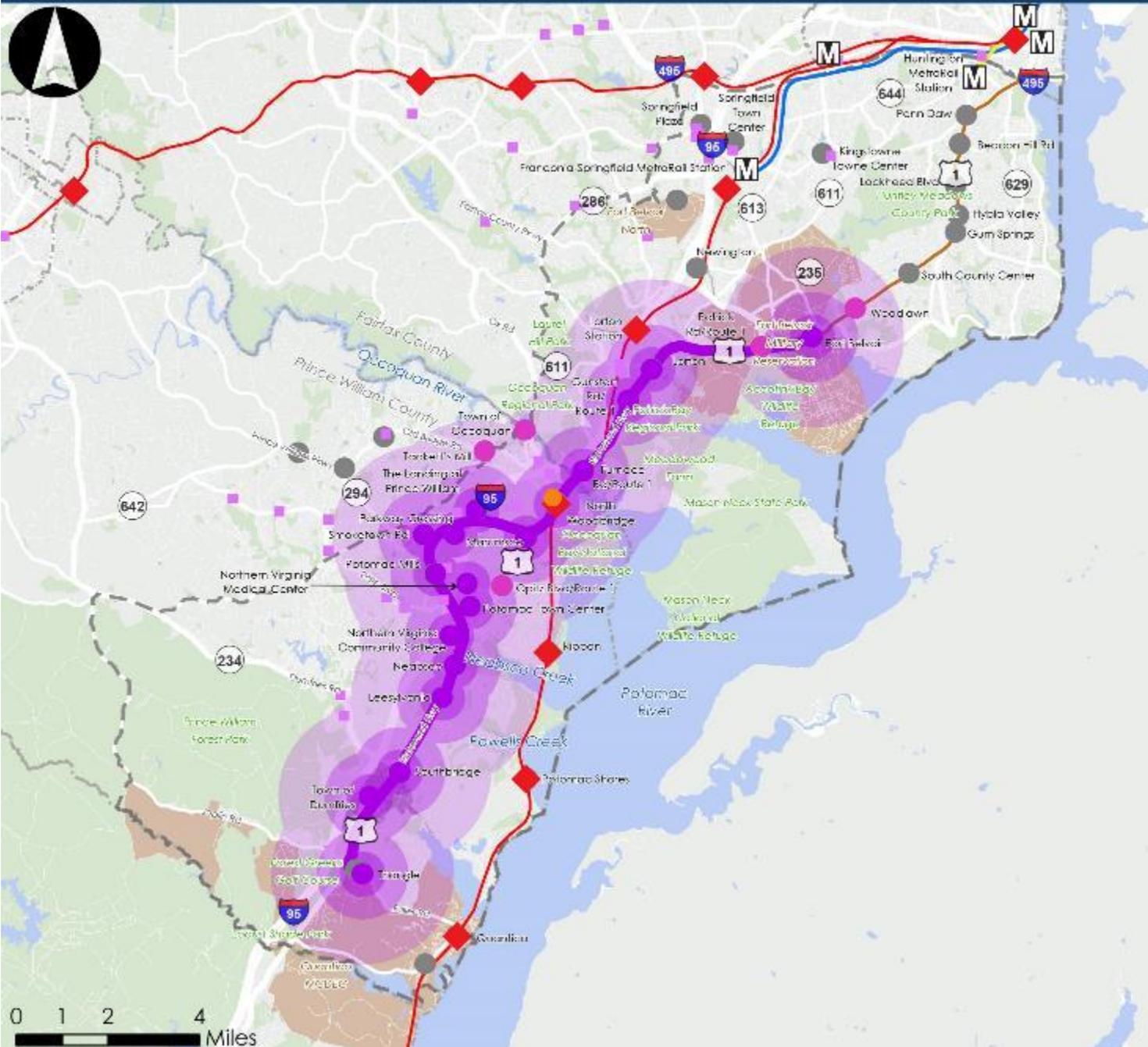
Potential Yellow Line Alignment

Potential Yellow Line Stations

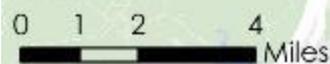
With Parking
Without Parking



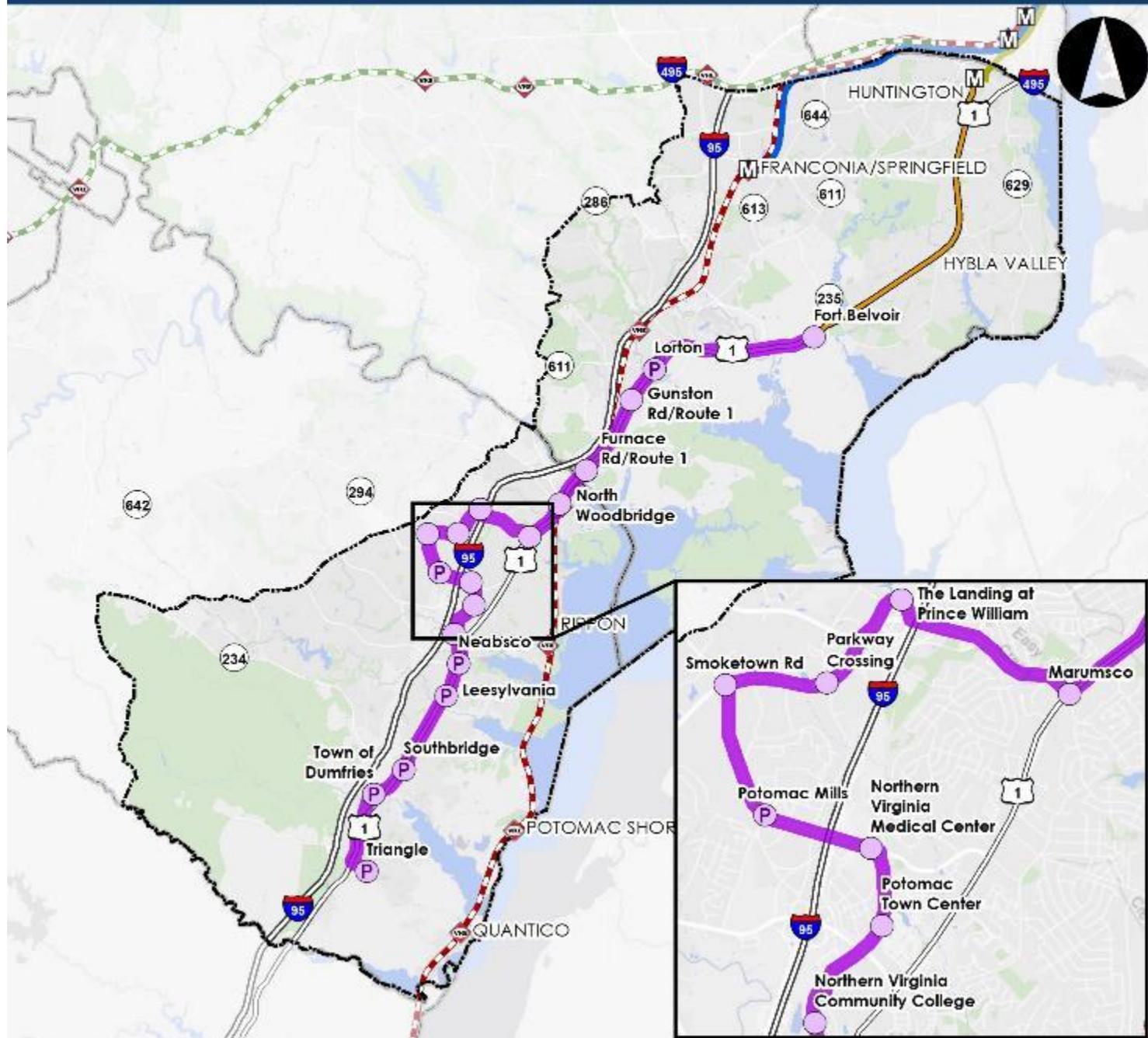
Potential BRT Alternative



- M** Metrorail Stations
- ◆** Virginia Railway Express (VRE) Stations
- VRE & Amtrak Routes
- Richmond BRT
- Metrorail Routes**
- Blue
- Yellow
- []** Study Area
- []** Counties
- Existing Park and Ride Location
- Transfer Point
- Potential BRT Station
- Activity Center within 2-mile radius buffer of potential BRT Station
- Activity Center outside 2-mile radius buffer of potential BRT Station
- Potential BRT Alignment
- 0.5-mile radius buffer of potential BRT Station
- 1-mile radius buffer of potential BRT Station
- 2-mile radius buffer of potential BRT Station



POTENTIAL BRT ALTERNATIVE



Metrorail Stations

Virginia Railway Express (VRE) Stations

County Boundary

Richmond Highway BRT

Metrorail Routes

Blue
 Yellow

VRE Routes

Fredericksburg
 Manassas

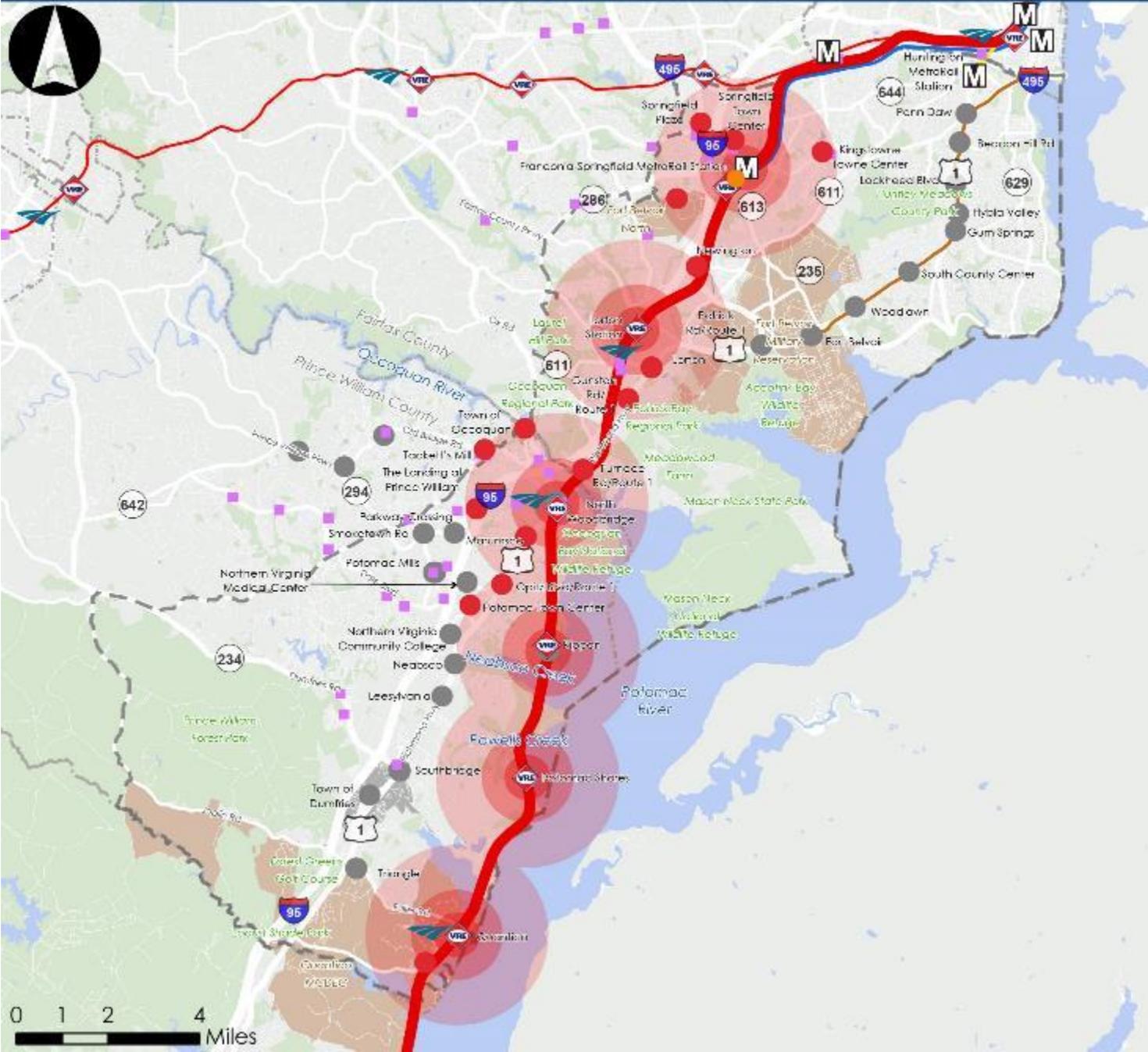
Potential BRT Alignment

Potential BRT Stations

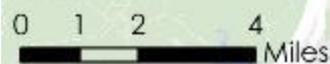
With Parking
 Without Parking



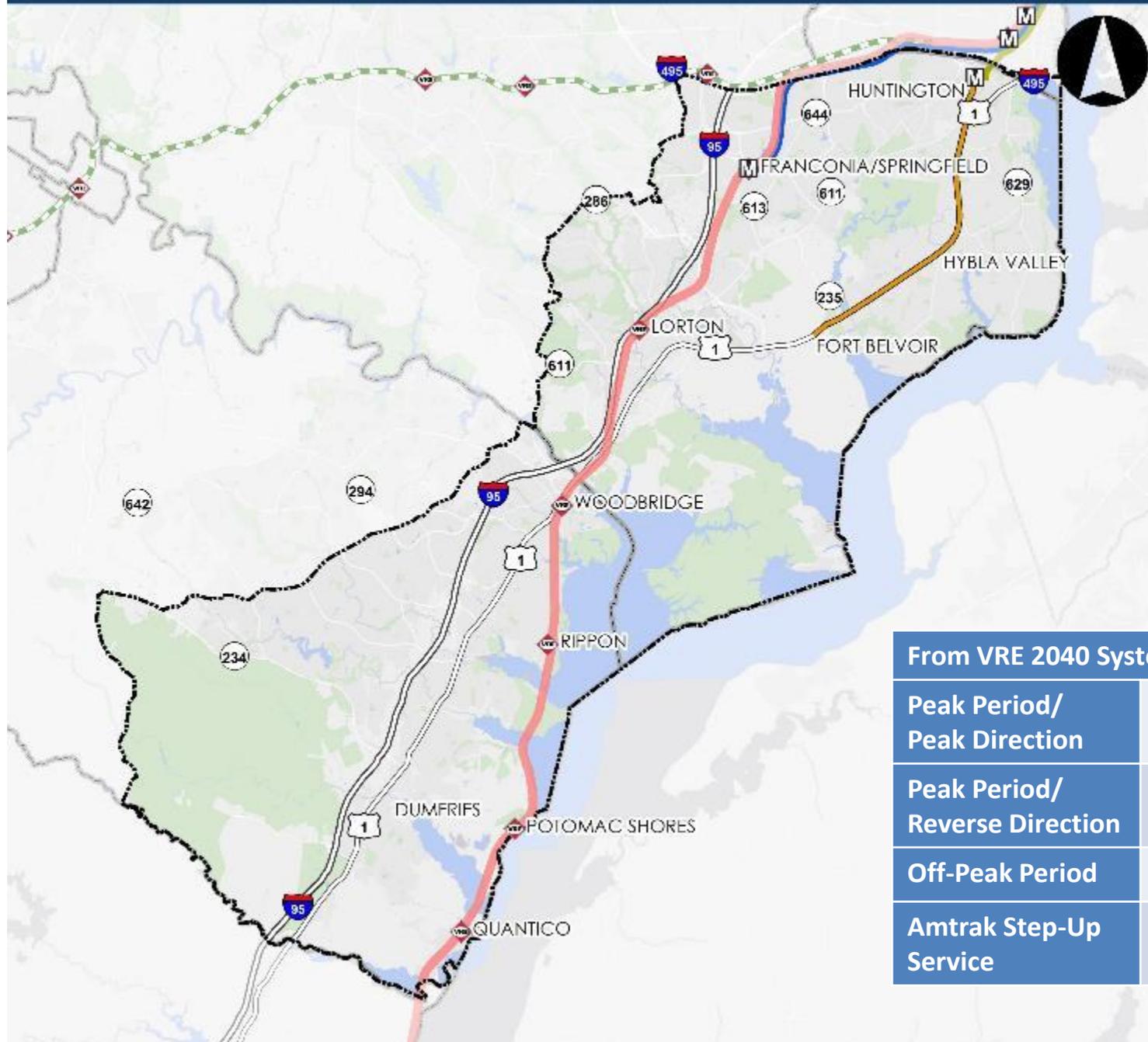
Potential VRE Alternative



- M** Metrorail Stations
- VRE** Virginia Railway Express (VRE) Stations
- Amtrak Stations
- VRE & Amtrak Routes
- Richmond BRT
- Metrorail Routes**
- Blue
- Yellow
- Study Area
- Counties
- Existing Park and Ride Location
- Transfer Point
- Activity Center within 2-mile radius buffer of potential VRE Station
- Activity Center outside 2-mile radius buffer of potential VRE Station
- Potential VRE Alignment
- 0.5-mile radius buffer of potential VRE Station
- 1-mile radius buffer of potential VRE Station
- 2-mile radius buffer of potential VRE Station

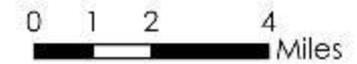


POTENTIAL VRE ALTERNATIVE

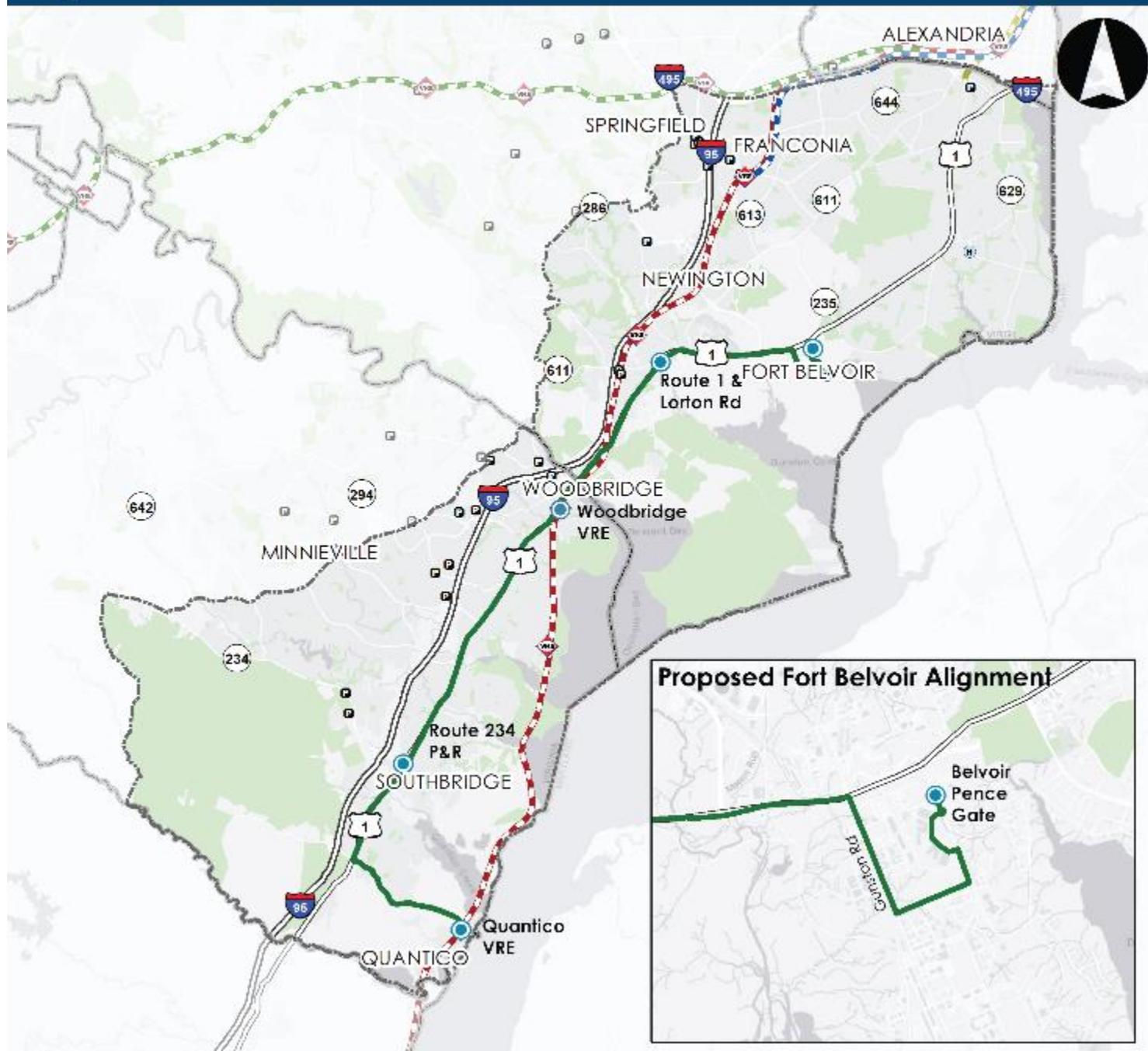


- Metro Station
- Virginia Railway Express (VRE) Stations
- County Boundary
- Richmond Highway BRT
- Metro Rail Routes**
 - Blue
 - Yellow
- VRE Routes**
 - Manassas
 - Increased Frequency along Existing VRE Alignment

From VRE 2040 System Plan	
Peak Period/ Peak Direction	15 mins
Peak Period/ Reverse Direction	30 mins
Off-Peak Period	60 mins
Amtrak Step-Up Service	60 mins peak period/ direction only



Express Bus Alternative: Fort Belvoir Service



Study Area

Route

Quantico/Dale
 City/Woodbridge - Ft. Belvoir

Proposed Stops

County Boundary

Metro Stations

Virginia Railway Express (VRE) Stations

Park and Rides

Metro Routes

Blue

Yellow

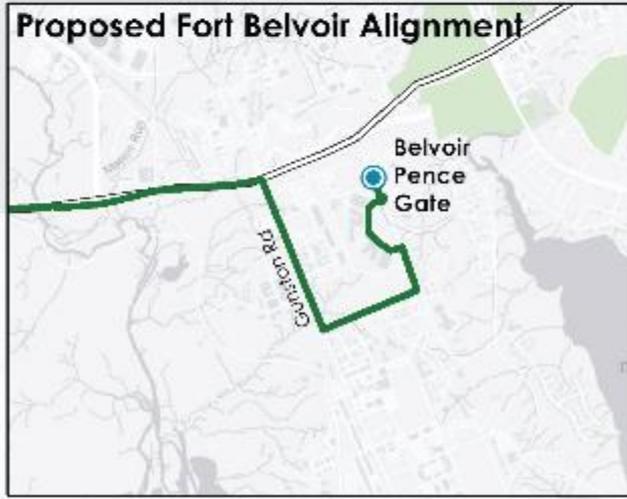
VRE Routes

Fredericksburg

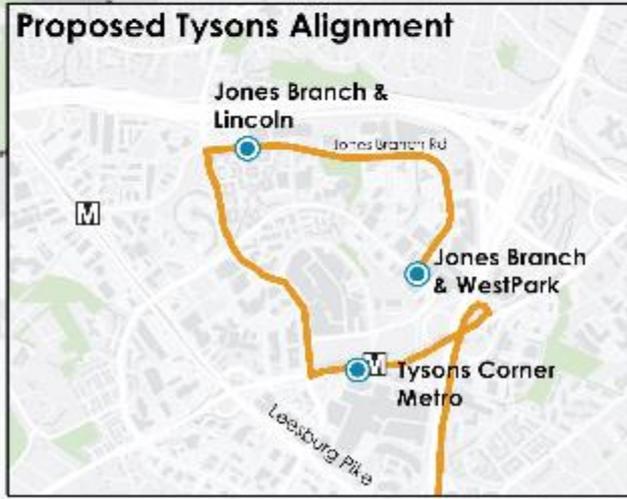
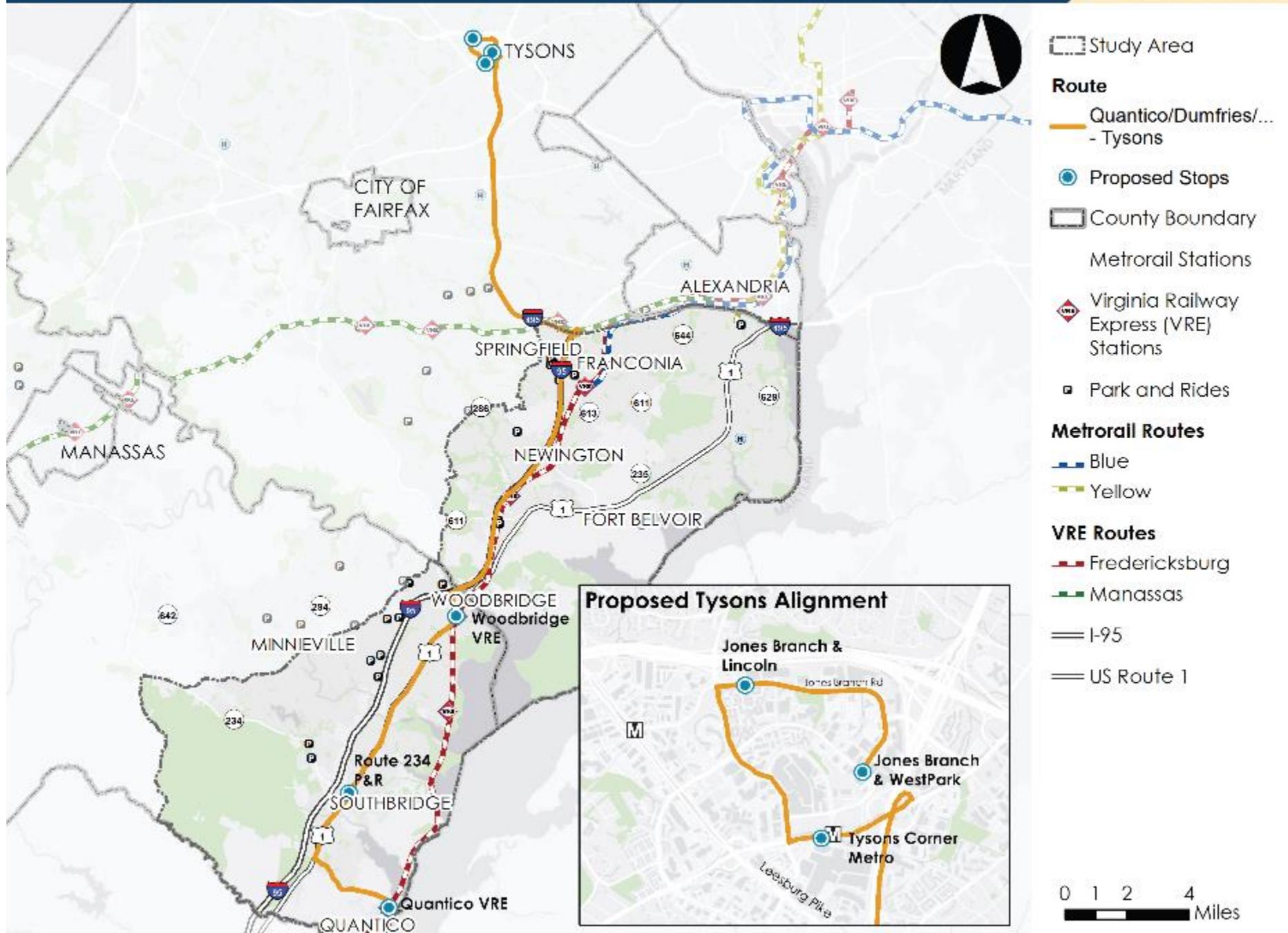
Manassas

I-95

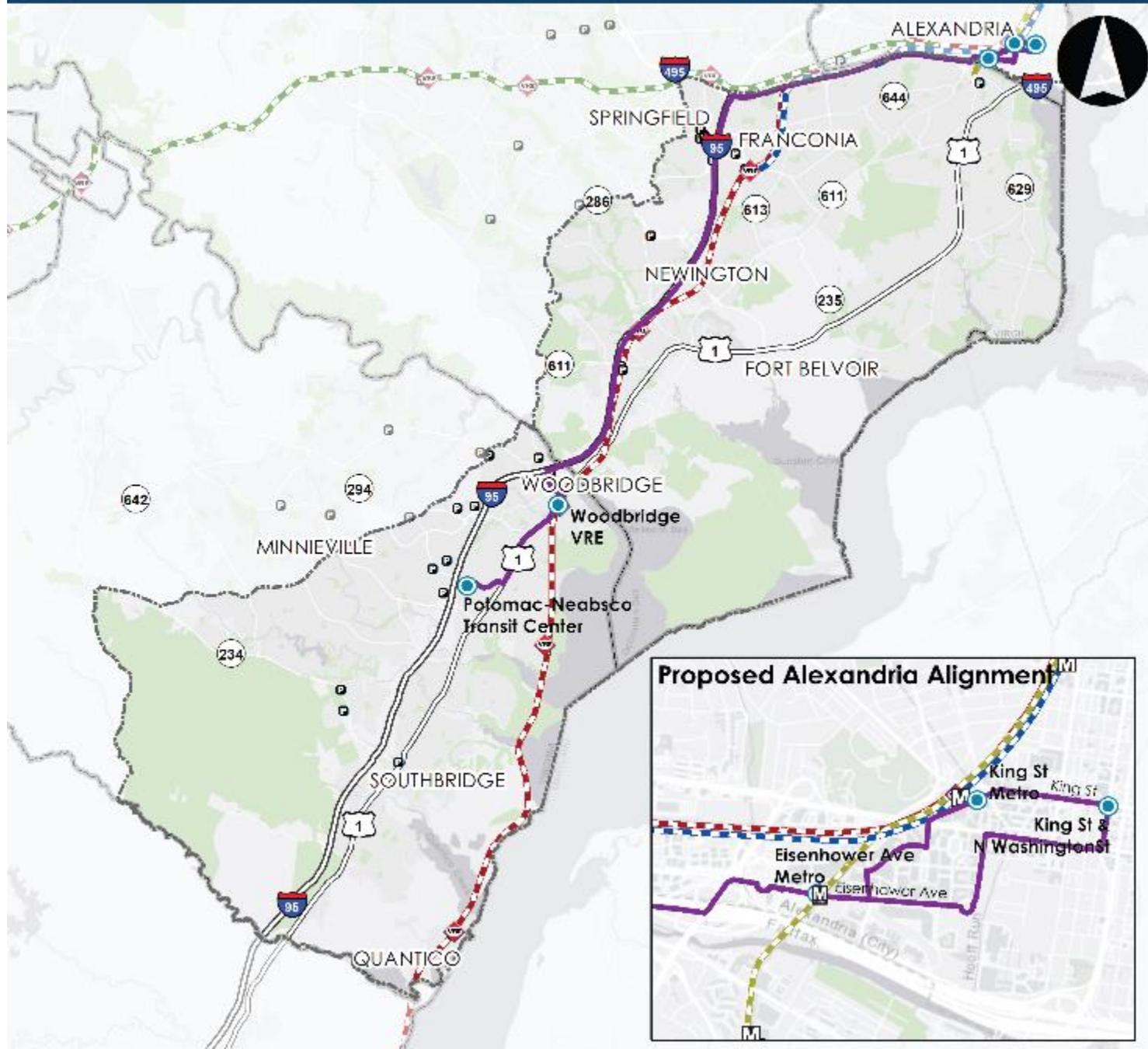
US Route 1



Express Bus Alternative: Extended Tysons Service



Express Bus Alternative: Woodbridge-Alexandria



Study Area

Route

Woodbridge - Alexandria

Proposed Stops

County Boundary

Metrorail Stations

Virginia Railway Express (VRE) Stations

Park and Rides

Metrorail Routes

Blue

Yellow

VRE Routes

Fredericksburg

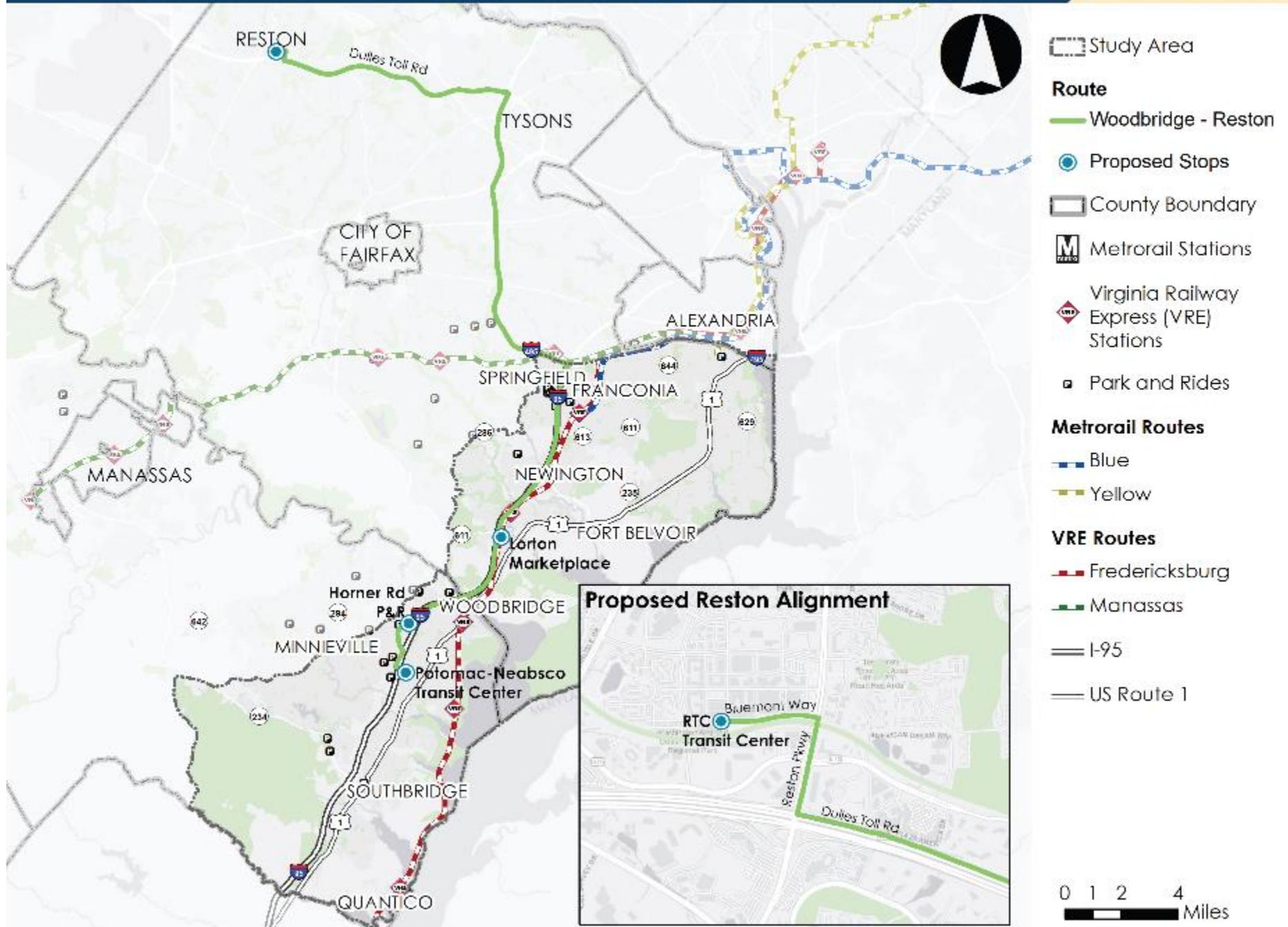
Manassas

I-95

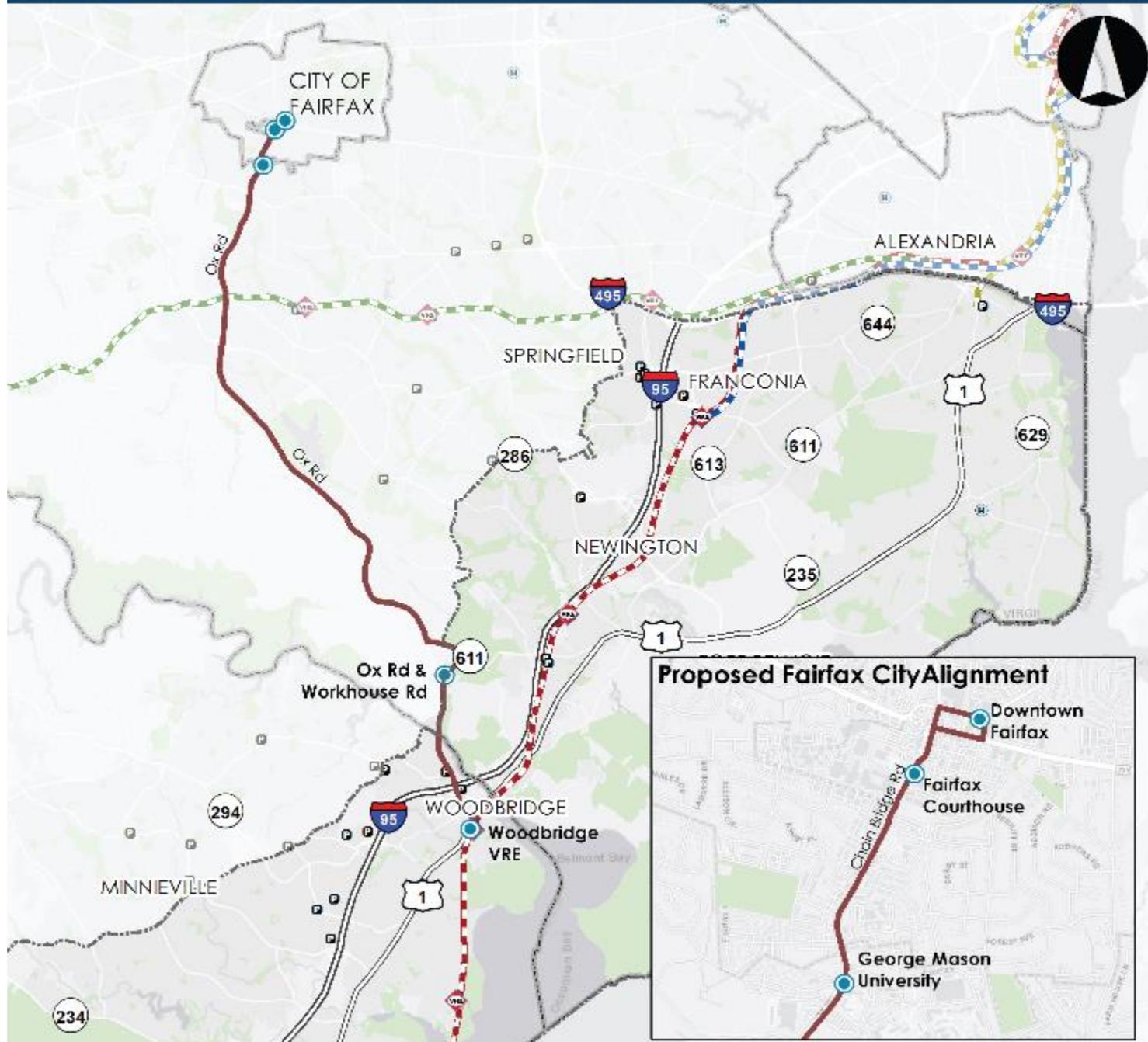
US Route 1



Express Bus Alternative: Woodbridge-Reston



Express Bus Alternative: Woodbridge-Fairfax City



- Study Area
- Route**
 - Woodbridge - Fairfax City
- Proposed Stops
- County Boundary
- Metrorail Stations
- Virginia Railway Express (VRE) Stations
- Park and Rides
- Metrorail Routes**
 - Blue
 - Yellow
- VRE Routes**
 - Fredericksburg
 - Manassas
- I-95
- US Route 1



Draft Evaluation Framework

Ridership Potential



Increase transit usage in the study corridor

- Total daily transit trips
- Ridership on the alternative (boardings)
- Person-Miles Traveled (PMT) on transit in the study corridor
- Transit person-throughput at key cutlines

Congestion Mitigation



Reduce the amount of traffic congestion in the study corridor

- Vehicle Miles Traveled (VMT) in congestion by severity in the Study corridor
 - Severe congestion
 - Heavy Congestion
 - Moderate Congestion
 - Uncongested

Draft Evaluation Framework

Regional Accessibility/ Connectivity



Increase access to regional activity centers and meet identified service gaps

- Population and Jobs within ½ mile of transit
- Access to Jobs: number of jobs accessible within 60 mins by transit
- Number of residents able to access key employment centers by transit within 60 mins
 - As identified by legislation: MCB-Quantico, Ft. Belvoir, Lorton, Potomac Mills

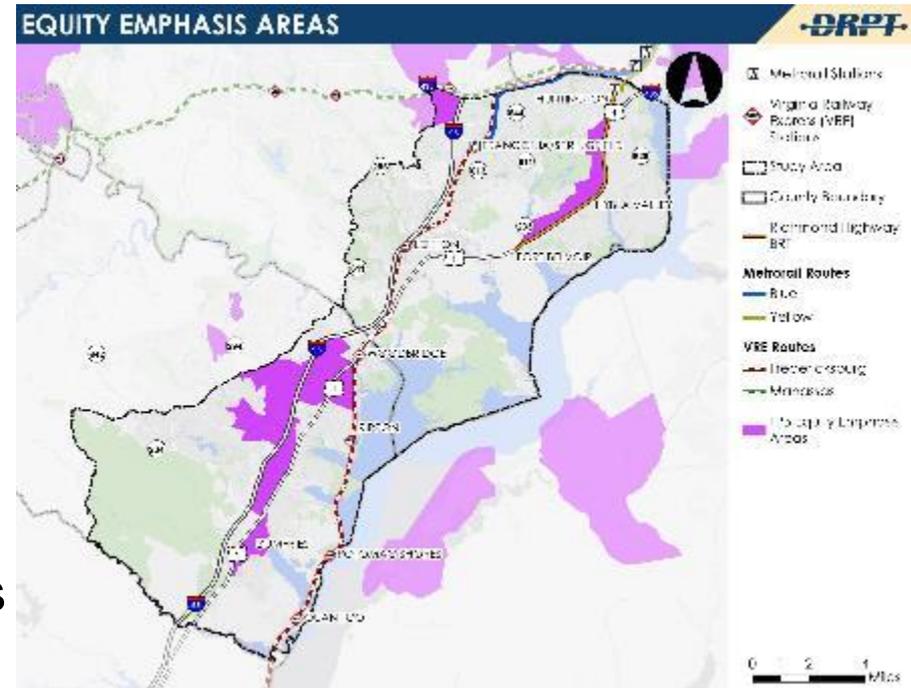
Draft Evaluation Framework

Equity



Provide a fair distribution of costs and benefits across different population groups

- Access to Jobs in Equity Emphasis Areas (EEAs): number of jobs accessible within 60 mins by transit
- Total daily transit trips to/from EEAs
- EEA population within ½ mile of transit
- Affordability of transit fares



Equity Emphasis Areas are defined by COG/TPB as Census tracts with higher-than-average concentrations of low-income, minority populations, or both. EEAs will be used to analyze impacts on Title VI/Environmental Justice (EJ) protected populations.

Draft Evaluation Framework

Cost-effectiveness



Ensure that resources are used efficiently

- Total Cost: Capital and Operating costs
- Total Cost per Boarding
- Total Cost per Person-Mile Traveled (PMT) on transit
- Total Cost per Boarding by residents of Equity Emphasis Areas

Cost Calculations will include high level estimates of:

Capital Costs:

- Runway
- Rolling Stock
- Stations
- Parking Facilities
- No Yard or Garages
- No Land Acquisition

Operating Costs:

- Hourly operating costs for the Alternative
- Any supporting changes to local bus network
- Farebox Recovery
- Metrorail operating costs will be estimated using Subsidy Allocation formula

How will we evaluate feasibility?

Development Potential



Create opportunities for development around stations or stops

- Potential development around selected station areas
- Note – to be used in the land use scenario testing phase (not for initial alternatives using COG cooperative forecasts)