Northern Virginia Transportation Authority
The Authority for Transportation in Northern Virginia

TECHNICAL ADVISORY COMMITTEE
Wednesday, May 18, 2022, 7:00pm
3040 Williams Drive, Suite 200
Fairfax, Virginia 22031
(In-person meeting and livestreamed via YouTube)

AGENDA

I.	**Call to Order/Welcome**	Chair Boice

Action

II.	**Summary Notes of March 16th , 2022 Meeting** *Recommended action: Approve meeting notes*	Chair Boice
III.	**Summary Notes of April 20th, 2022 Meeting** *Recommended action: Approve meeting notes*	Chair Boice

Discussion/Information

IV.	**Status of TransAction Plan Update**	Mr. Keith Jasper, Principal, Transportation Planning and Programming
V.	**Status of FY2022-2027 Six Year Program Update**	Dr. Nampoothiri, Senior Transportation Planner
VI.	**NVTA Updates**	Ms. Monica Backmon, CEO

Adjournment

VII.	**Adjourn**	

Next Meeting
June 15th, 2022

TECHNICAL ADVISORY COMMITTEE
Wednesday, March 16th, 2022, 7:00 pm
Northern Virginia Transportation Authority
Live-streamed on YouTube

MEETING SUMMARY

I. Call to Order/Welcome

- Chairman Boice called the meeting to order at 7:03 pm at the NVTA Office.
- Attendees:
  - **TAC Members:** Randy Boice, Karen Campblin, Armand Ciccarelli, Amy Morris, Frank Spielberg, and Dr. Shanjiang Zhu.
  - **NVTA Staff:** Keith Jasper, Principal, Transportation Planning and Programming; Dr. Sree Nampoothiri, Senior Transportation Planner; and Mackenzie Love, Regional Transportation Planner.
  - **Consultants:** Tom Harrington (Cambridge Systematics Inc.)

II. Summary of November 22, 2021, Meeting

- The motion to accept the meeting summary was approved unanimously.

III. Approval of Meeting Schedule for Calendar Year 2022

- Mr. Jasper noted that NVTA Staff intend to seek endorsements for the FY2022-2027 Six Year Program (SYP) during the June 15th meeting.
- The motion to accept the draft meeting schedule was approved unanimously.

IV. Status of FY2022-2027 Six Year Program Update

- Dr. Nampoothiri provided an update on the process that had been undertaken as of March 16th, 2022, to evaluate the 26 projects that had been submitted for consideration in NVTA's FY2022-2027 Six Year Program (SYP.) This included calculation of the TransAction Performance Measures and weightings, which can be found in Attachment A.

  TransAction Ratings. These ratings represent the difference in each of the Performance Measures included in TransAction that NVTA's model anticipates would occur if the project were built. For each Performance Measure, the project that receives the best result is assigned a score of 100 and all other projects are assigned a score that is relatively proportionate. Once each project has been assigned a score for each Performance Measure, the weights previously approved by the Authority are applied to

those scores, which are summed to get an overall TransAction Rating for each project.

NVTA Staff have shared the preliminary TransAction Ratings for each project submitted by a jurisdiction, to ensure no errors were made in modeling any project.

Congestion Reduction Relative to Cost (CRRC). To calculate this, NVTA's model is used to assess potential congestion reduction in the region due to the project being built in 2030 and in 2045. This is reported in TransAction Performance Measures A1 and A2, and staff are able to use these results to extrapolate changes for each year between 2030 and 2045. The results for all years from the year of project completion are then summed for each project, and that is divided by the total cost of that project.

Long Term Benefit (LTB). Virginia Code states that over the long term, jurisdictions should receive a benefit from NVTA's investments that are approximately equal to the share of revenues that can be attributed to that jurisdiction, in the long term.

Mr. Jasper explained that the Code does not describe how to calculate this Long Term Benefit, so in 2014 NVTA worked with its committees to determine that "long term" would be considered to mean 10 years, and that LTB would be calculated on a rolling basis. They also worked to establish a methodology, which would use two factors to create a score. 50% of said score would be based on the amount of revenues allocated to projects by a jurisdiction, and the remaining 50% would be related to where the benefits of projects could be attributed. He went on to explain that because NVTA has recently allocated 10 years of funding, it is now time to begin calculating LTB. He cautioned that it is unlikely that all jurisdictions will be in perfect balance in regards to LTB at any point, and that corrections would take multiple SYP cycles. Despite this, LTB balance may inform project selection in a given SYP cycle, but would not be the primary factor in funding recommendations.

- Dr. Nampoothiri distributed copies of a table that detailed the factors that will be considered in evaluating projects for the FY2022-2027 SYP. It included columns for CRRC rating and rank, which will be used to order candidate projects in the table; TransAction rating and rank; and LTB scores. The remaining factors are qualitative and include:

- Amount and type of external funding already committed to the project
- Past performance of the applicant in using NVTA funds, and, if applicable, past performance of that particular project in using NVTA funds
- Project readiness.

- Dr. Nampoothiri also noted that public comment will also be considered. Mr. Jasper noted that NVTA is also interested in geographic and modal balance, but that assessment of these factors can only be done at the end of the process.
    - Mr. Spielberg asked if this approach favors adding highway capacity? Chairman Boice highlighted that in one year, Virginia Railway Express (VRE) and an Intelligent Transportation System (ITS) were actually the top two highest performing projects. Mr. Jasper added that the Consultant team working on TransAction does a good job addressing all modes.

  Dr. Nampoothiri shared upcoming opportunities for the public to provide input:
    - A Public Comment Period will begin on April 15th and end on May 22nd;
    - A Public Hearing will be held on May 12th, on the same evening as the Authority meeting; and
    - An Open House will be held as part of the Joint Transportation Agency meeting, that will take place on May 4th at the Virginia Department of Transportation offices.

- NVTA Staff hope to seek Authority adoption of the SYP 2022-20227 at its July meeting.

V. Status of TransAction Plan Update

- Dr. Nampoothiri informed the Committee that the model being developed for TransAction is now ready and has been used to create a baseline to which projects will be compared. The team is now working to finalize top-down project lists, based on gaps identified in the region. Once that list is finalized, NVTA Staff will share the full TransAction project list (including both top-down and those contributed by jurisdictions) with the Committee. After that, the model will be run to evaluate the projects. Next, work will begin on the TransAction scenario analysis process.

  Dr. Nampoothiri also provided an update on TransAction public engagement, indicating that NVTA Staff intend to ask the Authority to approve a date for a Public Hearing, likely in September, on the same evening they are asked to adopt

the SYP. This timing would align with hopeful adoption of TransAction by the end of this calendar year. Other recent engagement activities included the 4th iteration of the NVTA Perceptions survey; creation of "micro-moments" on NVTA's social media; and publishing a series of monthly blog posts about the TransAction process.

- Mr. Spielberg asked two questions about the TransAction Technical Memo, which had been shared with the Committee before the meeting:
  - How would free-flow be calculated for use in evaluation of Person Hours of Delay, or PHD, a TransAction Performance Measure? Mr. Harrington indicated that this would be calculated based on the speed limit of a road.
  - What are the origins of the Crash Mitigation Factors (CMFs) utilized in the TransAction Performance Measures around safety? Mr. Harrington explained that most of the CMFs are standard from SmartScale, which is the Commonwealth's competitive grant program for transportation projects. Chairman Boice added that the CMFs are based on the national Highway Safety Manual.

VI. NVTA Updates

- Mr. Jasper reminded the Committee that NVTA would be hosting the 7th Annual Northern Virginia Transportation Roundtable on Wednesday, March 30th, and invited them to register.
- Mr. Jasper informed the Committee that the Authority meeting scheduled for April 14th was being rescheduled, and that April 21st was the most likely option.

VII. Adjournment

- The meeting adjourned at 7:53 pm.

Attachment:

A. Weights for the Ten Performance Measures Recommended by the Authority

Weights for the Ten Performance Measures Recommended by the Authority

Approved by the Authority			
Goal		**Performance Measure**	**Weight**
Mobility	A1	Total Person-Hours of Delay in autos*	**10**
	A2	Total Person-Hours of Delay on Transit*	**10**
	B1	Duration of Severe Congestion*	**10**
	B2	Transit person-miles in dedicated/priority ROW*	**10**
Accessibility	C1	Access to jobs by car, transit, and bike*	**10**
	C2	Access to jobs by car, transit, and bike for EEA populations	**10**
	D1	Quality of access to transit and the walk/bike network	**15**
Resiliency	E1	Potential for safety and security improvements	**10**
	F1	Vehicle Emissions	**10**
	G1	Transportation System Redundancy*	**5**

* HB599 measures

TECHNICAL ADVISORY COMMITTEE
Wednesday, April 20th, 2022, 7:00 pm
Northern Virginia Transportation Authority
Live-streamed on YouTube

MEETING SUMMARY

I. Call to Order/Welcome

- Vice Chairman Ciccarelli called the meeting to order at 7:04 pm at the NVTA Office.
- Attendees:
  - **TAC Members:** Armand Ciccarelli, Amy Morris, Frank Spielberg, and Dr. Shanjiang Zhu.
  - **NVTA Staff:** Monica Backmon, Chief Executive Officer; Dr. Sree Nampoothiri, Senior Transportation Planner; and Mackenzie Love, Regional Transportation Planner.
  - **Consultants:** Tom Harrington, Cambridge Systematics Inc.
  - **Others:** via YouTube

II. Summary of March 16, 2022, Meeting

- The meeting summary for the March 16, 2022, was reviewed. Mr. Frank Spielberg requested that the summary be revised to reflect the correct time of adjournment as 7:53pm and that change was subsequently incorporated.
- Due to a lack of quorum, the Committee was unable to vote to adopt the summary. Meeting notes will be tabled until the next quorum met meeting.

III. Status of FY2022-2027 Six Year Program Update

- Dr. Nampoothiri provided an update on the efforts to evaluate the 26 projects that have been submitted for consideration in NVTA's FY2022-2027 Six Year Program (SYP) that represent a total request of $1.2 billion.
  i. Ms. Backmon added that the Authority was anticipated to take action to approve the amount of Regional Revenue funds available for FY26/27 Programming (PayGo) during their May 12th meeting.
- Evaluations included calculating TransAction Ratings, Congestion Reduction Relative to Cost (CRRC), and Long-Term Benefit (LTB) for each project. The preliminary results of these evaluations were shared with the Committee for the first time, as were project rankings based on that data.

i. Mr. Spielberg asked how CRRC would be used in making funding recommendations.
ii. Ms. Backmon said that CRRC would be prioritized, as statutorily required, but NVTA's enabling legislation also directs Staff to consider the other quantitative and qualitative elements. Staff endeavor to balance all of these, along with public comment as well as geographic and modal balance, in making their recommendations to the Authority.
iii. Dr. Nampoothiri added that public comment is also an important factor in making funding recommendations. He highlighted several upcoming opportunities for individuals to provide comment, including NVTA's SYP Open House, which will take place on May 4th, as part of the Annual NOVA Joint Transportation Meeting, and a Public Hearing that will take place on May 12th, immediately preceding an Authority meeting.

- There was also a discussion of how the LTB is calculated and applied.
  i. In 2014 NVTA convened a subcommittee of the Financial Working Group and the Council of Counsels to set up principles for evaluating LTB, which included three components:
     - "Long term" – this was determined to mean approximately 10 years. Since NVTA is currently in the process of programming revenues for FY 2026 and 2027, which will be ten years after the first funding program in 2016, now is an appropriate time to increase consideration of LTB.
     - Which projects to consider in evaluating LTB – the subcommittee advised considering completed projects only. However, this became a complex question because NVTA funds different phases of projects, meaning some projects may not be "complete" until long after NVTA contributions were fully utilized. Additionally, due to the amount of time capital projects can take, only about 25 of the 106 projects NVTA has funded are currently considered "complete". For those reasons, all NVTA funded projects will be considered in calculation of LTB.
     - LTB calls for jurisdictions to receive benefits approximately equal to the revenues they contribute. Three components are considered in determining the benefit a jurisdiction has received:
        a. The amount of funding that has been programmed in a jurisdiction.
        b. The amount of congestion reduction that occurred inside a jurisdiction.
        c. How much congestion reduction was experienced by residents of a jurisdiction, regardless of their destination.

ii. Currently only one jurisdiction, Arlington, is estimated to be receiving less benefits than their revenue share. Only one jurisdiction is estimated to be receiving more benefits than their revenue share, Prince William County.
iii. Based on this, NVTA Staff are not proposing any drastic or immediate changes. Dr. Nampoothiri reiterated Staff's position that any efforts to balance LTB would likely take multiple funding rounds and that the Authority's ongoing commitment to geographical and modal balance helps maintain LTB balance on a regular basis.

- Vice Chairman Ciccarelli asked if NVTA could encourage jurisdictions to apply for things, based on the results of the LTB calculations.
    i. Dr. Nampoothiri indicated that NVTA cannot influence jurisdictions in that way but have advised jurisdictional leadership that if they submit quality applications, they stand a chance to receive additional funding to fill the gap. However, it is important to avoid placing too much emphasis on the number of projects, as there are also other ways to achieve benefits.
- Mr. Spielberg asked if the Authority could make changes to staff recommendations for programming of funds.
    i. Ms. Backmon highlighted that Staff recommendations are made to all committees, with the final committee recommendation coming from the Planning and Programming Committee (PPC) to the Authority. The Authority then has the final decision on programming of funds. Moreover, staff recommend full funding such that any changes would necessitate a rebalancing of allocations.
- Dr. Zhu asked if NVTA funding will be conditional on securing funding for phases where a gap may remain.
    i. Ms. Backmon indicated that these types of decisions are made on a case-by-case basis, as some jurisdictions have different abilities to fill gaps. She also noted that NVTA prefers not to be the only funding source on a project.

IV. Status of TransAction Plan Update

- NVTA Staff informed the Committee that the model developed for TransAction is being used to analyze the potential impact of projects by comparing analysis of "build" and "no-build" scenarios for the horizon year of 2045.
    - Projects included in this analysis will consist of both those in the bottom-up (projects from local plans) and top-down (regional projects identified by the staff and consultant team) project lists. Currently this represents a combined total of approximately 430 projects, and there is a potential for that number to expand if additional gaps are identified.
- The scenario analysis process will begin after that evaluation is complete.

- The next TAC meeting will focus more on the TransAction update. This will include updates on technical work currently underway, as well as feedback received during an upcoming NVTA Stakeholder Group meeting on May 10th. Future meetings will receive additional feedback from an Authority Work Session on May 19th, and a public comment period, which is anticipated to begin in August 2022.

V. NVTA Updates

- Ms. Backmon provided the Committee with an update on happenings at the Virginia General Assembly, which is in Special Session. She brought the Committee's attention to a bill that proposes changes to the Freedom of Information Act (FOIA) requirements, which would allow certain committees, including TAC, to meet virtually.
- Finally, Ms. Backmon informed the Committee that she continues to seek appointments for the two vacant TAC positions by the Virginia Transportation Secretary.

VI. Adjournment

- The meeting adjourned at 7:48 pm.

TransAction Work Session

Project Update

May 18, 2022

presented to

Technical Advisory Committee

NVTA's TransAction

Transportation Action Plan for Northern Virginia

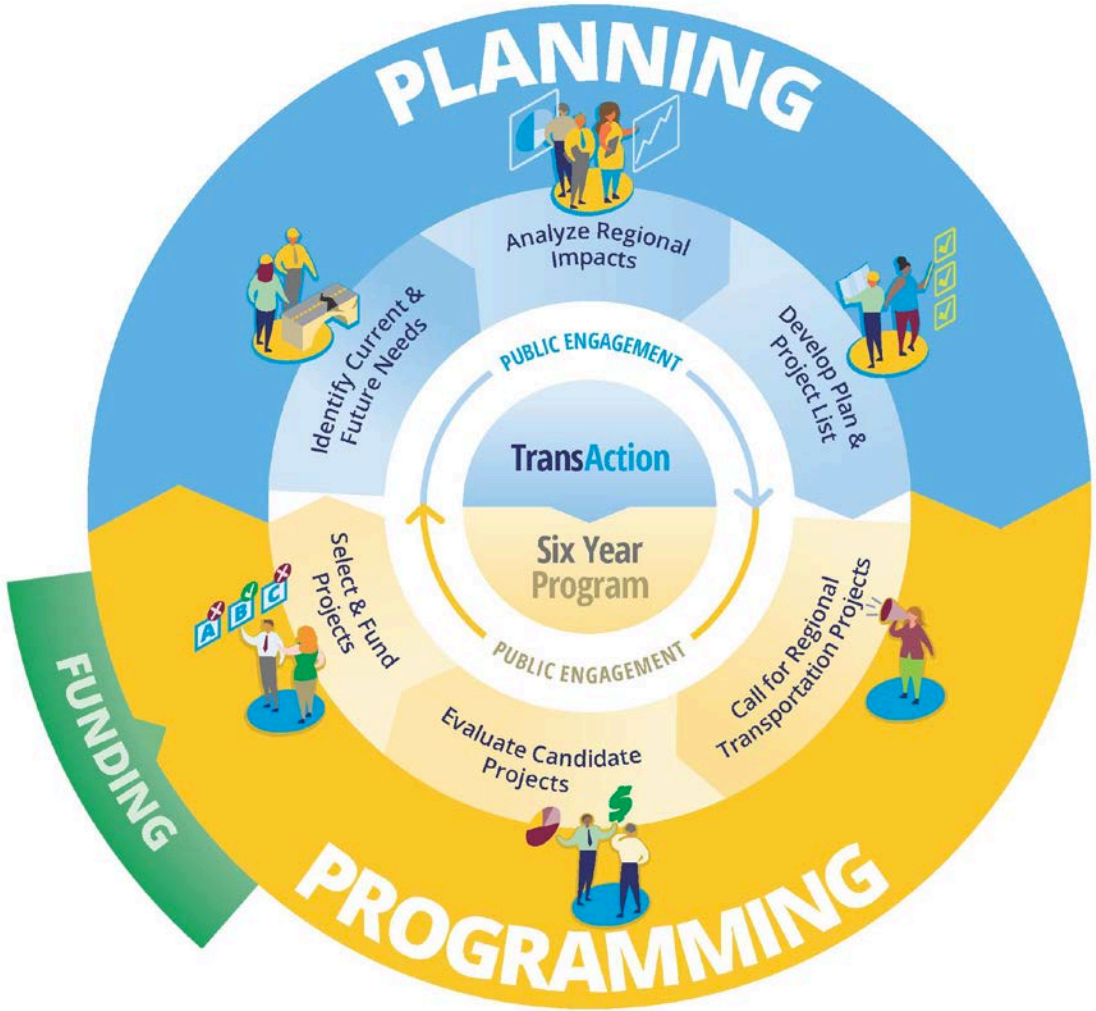
Agenda

1. Welcome & Introductions
2. Update on TransAction Progress
3. TransAction Projects
4. Initial Modeling Results
5. Scenario Analysis
6. Next Steps/Future Meetings

NVTA's Primary Responsibilities

TransAction

- Long-Range Transportation Plan for NoVA
- Updated every five years
- Current plan adopted in October 2017



Six Year Program (SYP)

- Allocates NVTA's Regional Revenues to regional transportation projects
- Updated every two years
- Most recent SYP adopted in July 2020

Update on TransAction Progress

NVTA's TransAction

Transportation Action Plan for Northern Virginia

TransAction Activities and Schedule

- Nov/Dec 2021: NVTA approved TransAction goals, objectives, performance measures, and weights
- Winter/Spring 2022:
  - Transportation Perception Survey
  - Application of the new TransAction model for the Six-Year Program
  - Web post series
  - TransAction project modeling and analysis
- May:
  - Stakeholder Meeting
  - NVTA Work Session
- Summer/Fall 2022: Public comment/hearing
- November 2022: NVTA adopts TransAction

TransAction Projects

NVTA's TransAction

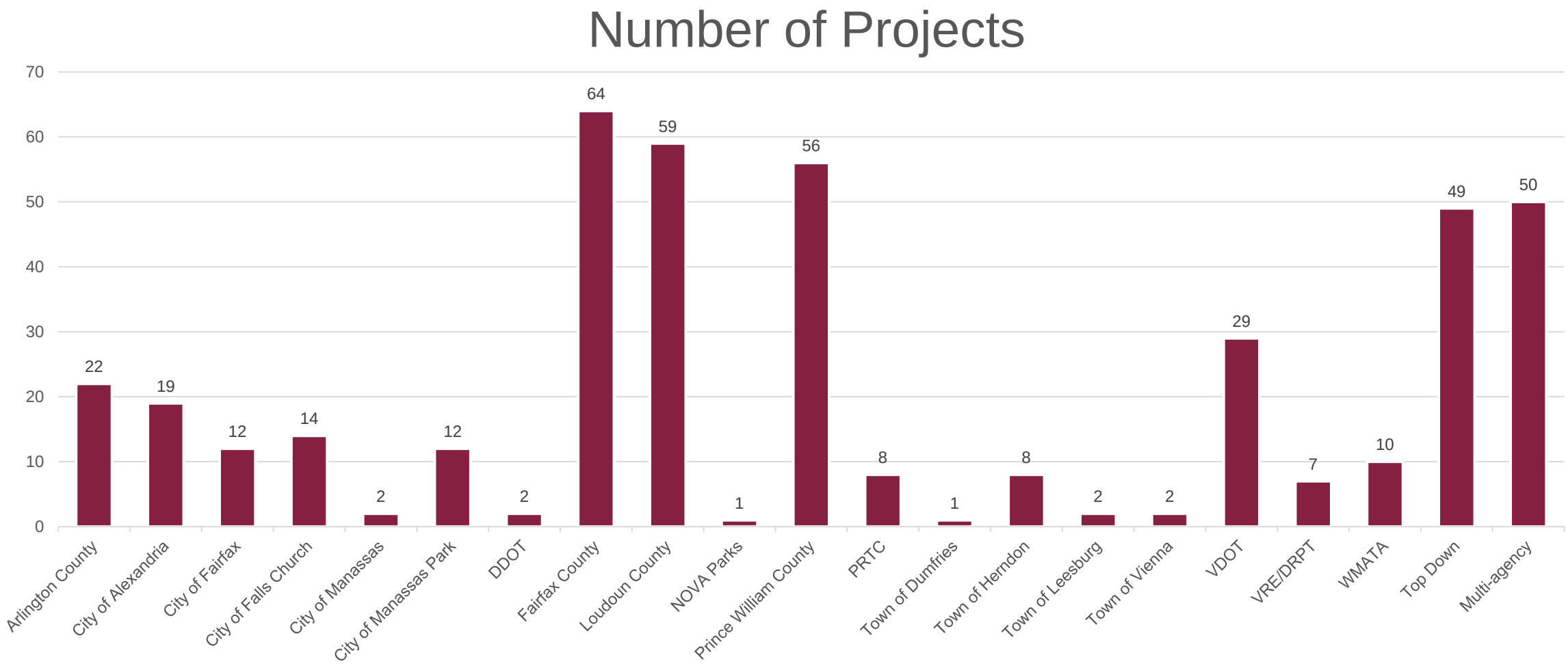
Transportation Action Plan for Northern Virginia

TransAction Project List

- 429 Total Projects
  - 380 Bottom-Up Projects
  - 49 Top-Down projects (includes top-down projects from current TransAction)
- 111 New projects
- Net increase of 77 projects
- Total estimated cost: >$71.1B

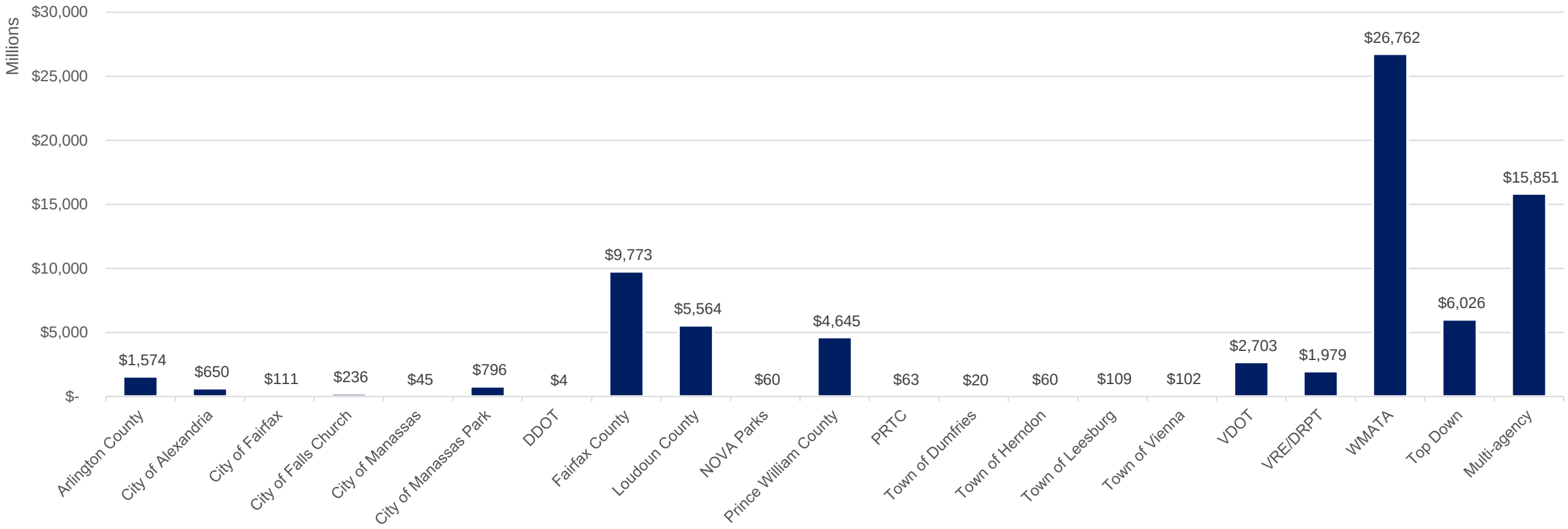
- 26 Projects that include elements outside of NoVA
  - Transit service to neighboring jurisdictions
  - Infrastructure improvements in other jurisdictions
- Extraterritorial cost: >$29.2 B

TransAction Project Sponsors

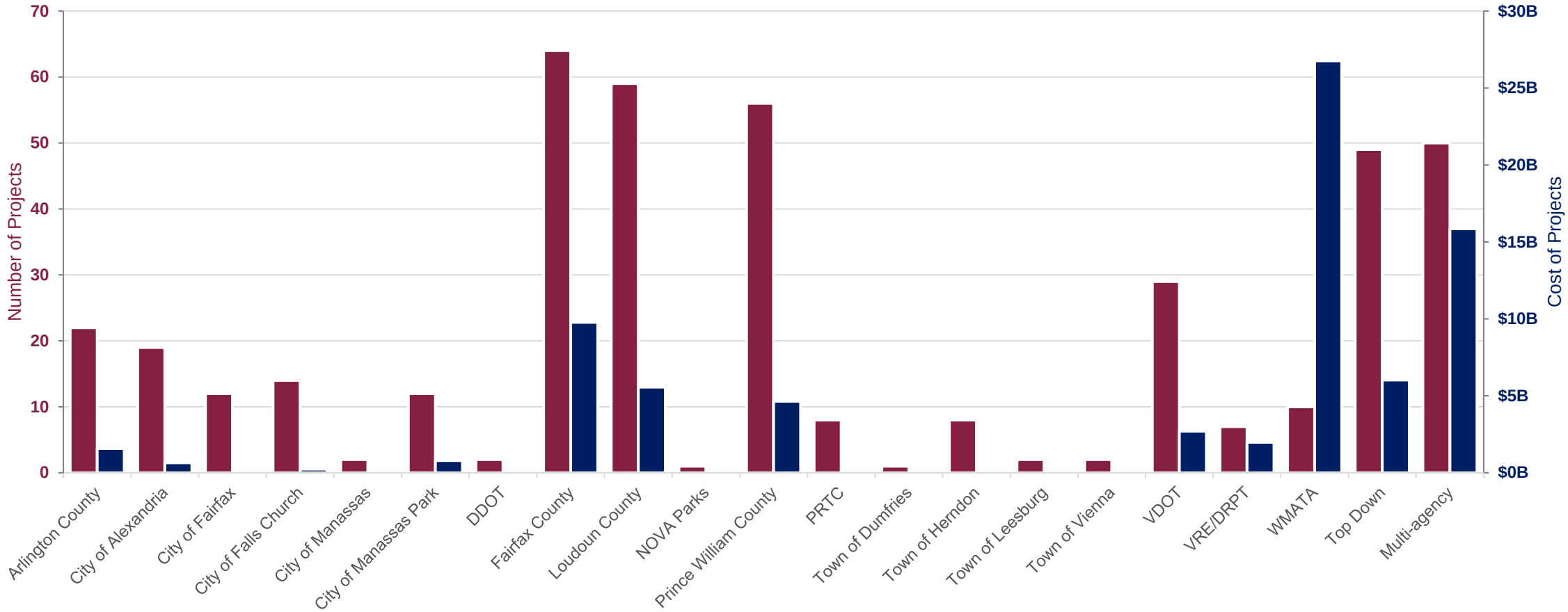


TransAction Project Sponsors

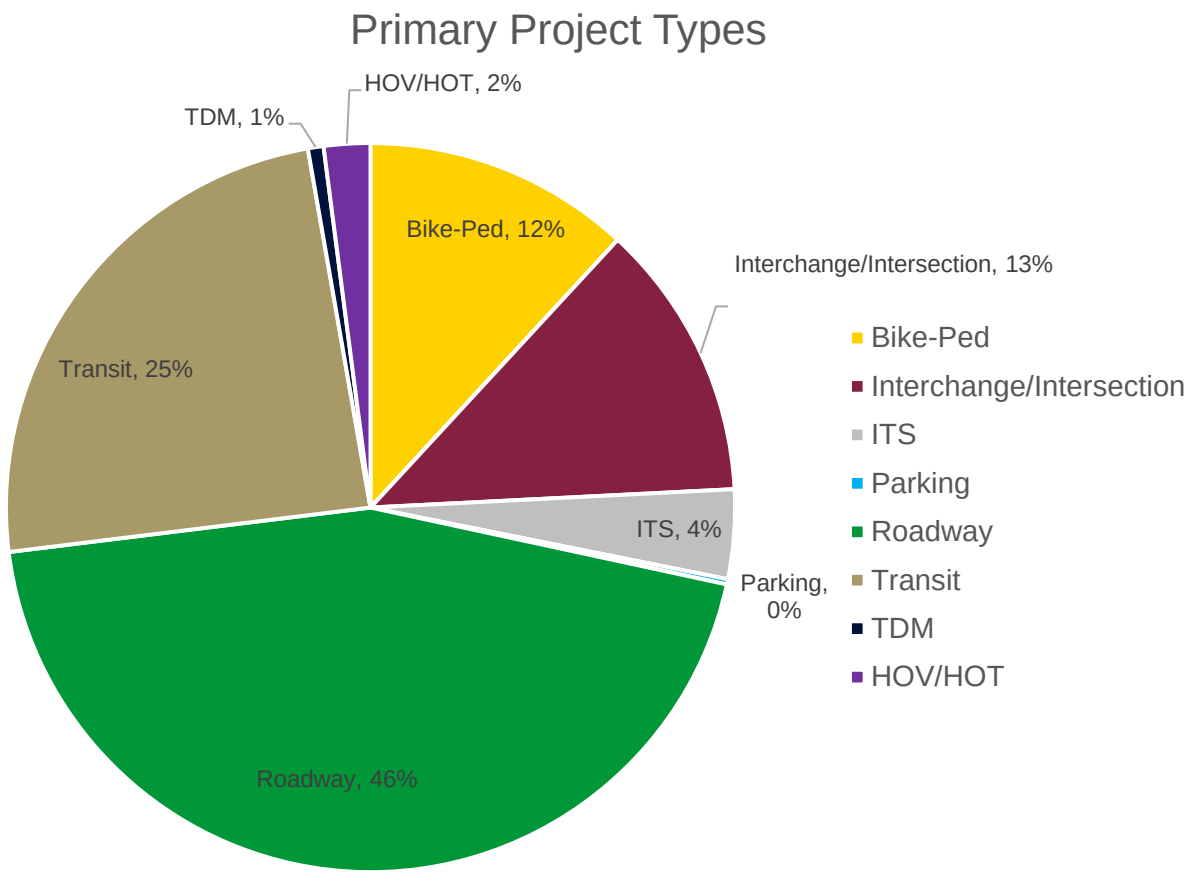
Estimated Planning-Level Project Costs



TransAction Project Sponsors

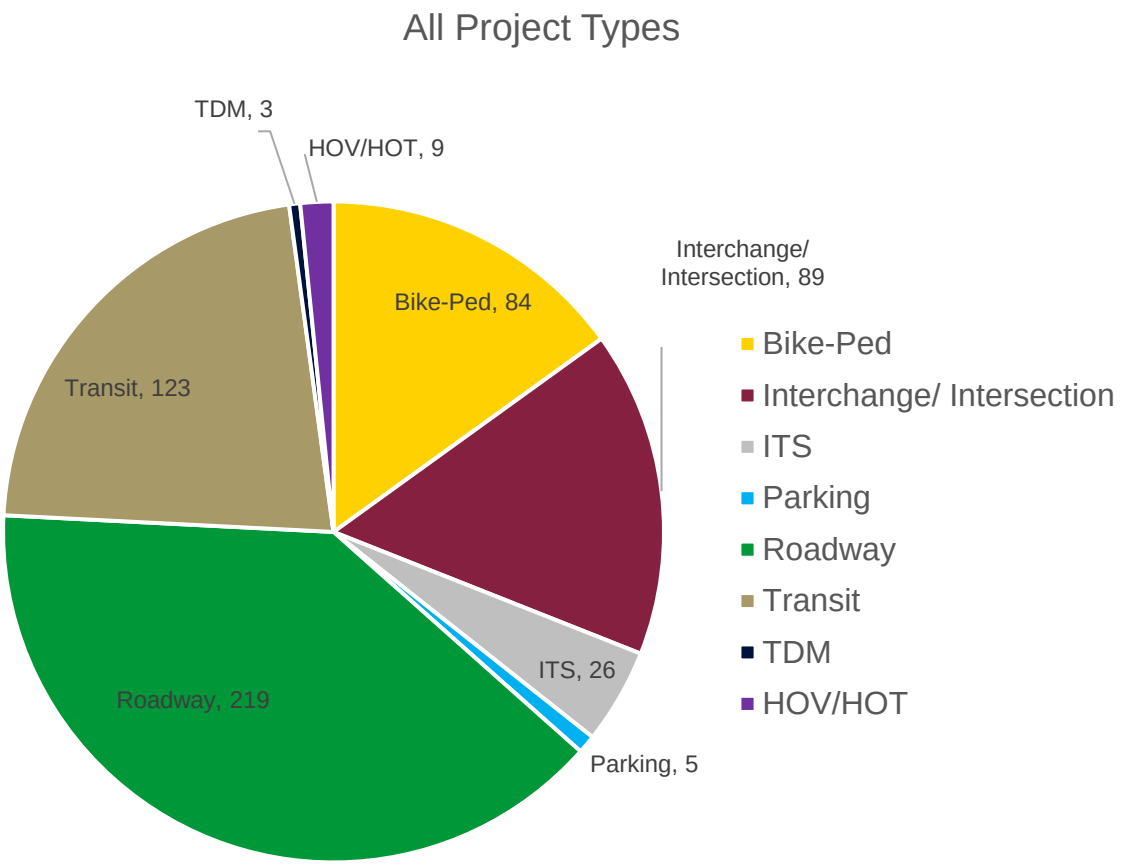


TransAction Projects by Type



Primary Project Types	Count
Bike-Ped	51
Interchange/Intersection	53
ITS	17
Parking	1
Roadway	192
Transit	104
TDM	3
HOV/HOT	8

TransAction Projects by Type

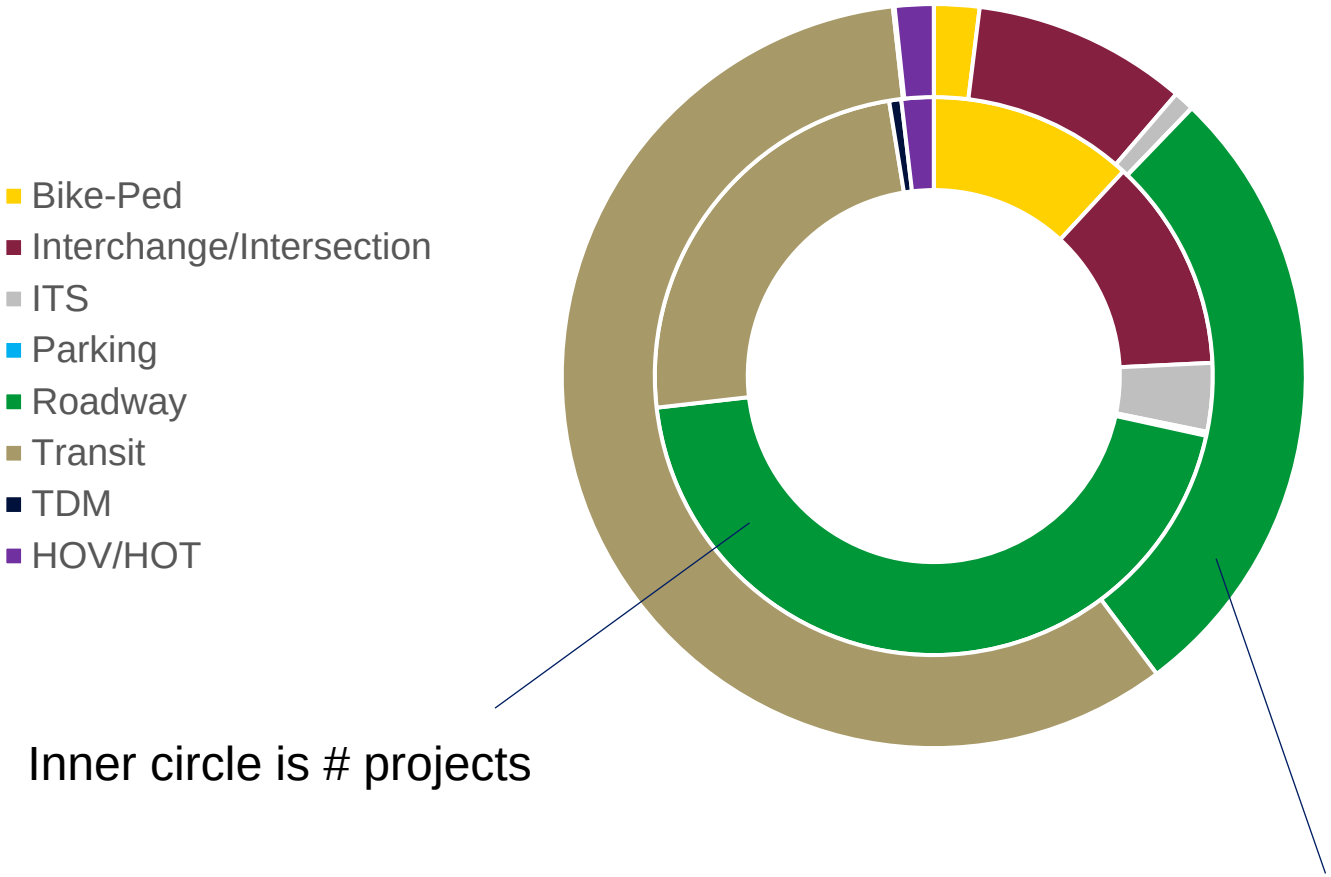


Project Mode Types	Count
Bike-Ped	84
Interchange/Intersection	89
ITS	26
Parking	5
Roadway	219
Transit	123
TDM	3
HOV/HOT	9

Projects can be listed in up to 3 mode categories. The total is therefore greater than 429.

TransAction Project Costs

Project Costs by Project Type



Inner circle is # projects

Outer circle is total cost of projects

Average Cost	
Bike-Ped	$ 27.9M
Interchange/ Intersection	$125.1M
ITS	$ 37.3M
Parking	$ 10.0M
Roadway	$102.1M
Transit	$399.8M
TDM	$ 18.3M
HOV/HOT	$149.5M

NVTA's TransAction

Initial Modeling Results

NVTA's TransAction

Transportation Action Plan for Northern Virginia

New TransAction Modeling Process

- Two-part integrated model:
  - Macroscopic modeling using an enhanced version of the TPB regional model (in Cube)
  - Mesoscopic modeling leverage dynamic traffic assignment techniques in DTALite
- Off-model analysis:
  - Bicycle accessibility
  - Qualitative assessment of D1 and E1 measures

TransAction 2045 No-Build Network

- CLRP Transportation Network
  - Air Quality Conformity (AQC) Analysis of the 2020 Amendment to Visualize 2045 and FY 2021-2024 Transportation Improvement Program (TIP)
- For Northern Virginia,
  - Keeps projects fully-funded by NVTA and other agencies
  - Removes projects on the TA Build list
- Outside of Northern Virginia
  - Keeps CLRP network

TransAction 2045 Build Networks for Testing

For discussion today:

- Full-Build

Additional model runs being conducted:

- Highway Network
- Transit Network
- Other Project Groupings Needed to Identify Project Scores

Full-Build Network Results

Key Outputs:	Change
Auto Trips	-0.3%
Transit Trips	3.9%
PMT	3.2%
VMT	3.3%

Performance Measures		Change
A1/A2	Total Delay Reduction – Autos and Transit (Person-Hours of Delay)	-16%
B1	Congestion Duration (Mile-Hours of Severe Congestion) -- length weighted	-24%
C1	Accessibility (Average number of new jobs accessible)	11%
C2	EEA Accessibility (Average number of new jobs accessible)	16%
F1	Emissions Reduction (kg CO_2)	1.4%

Full-Build Network Results (-continued)

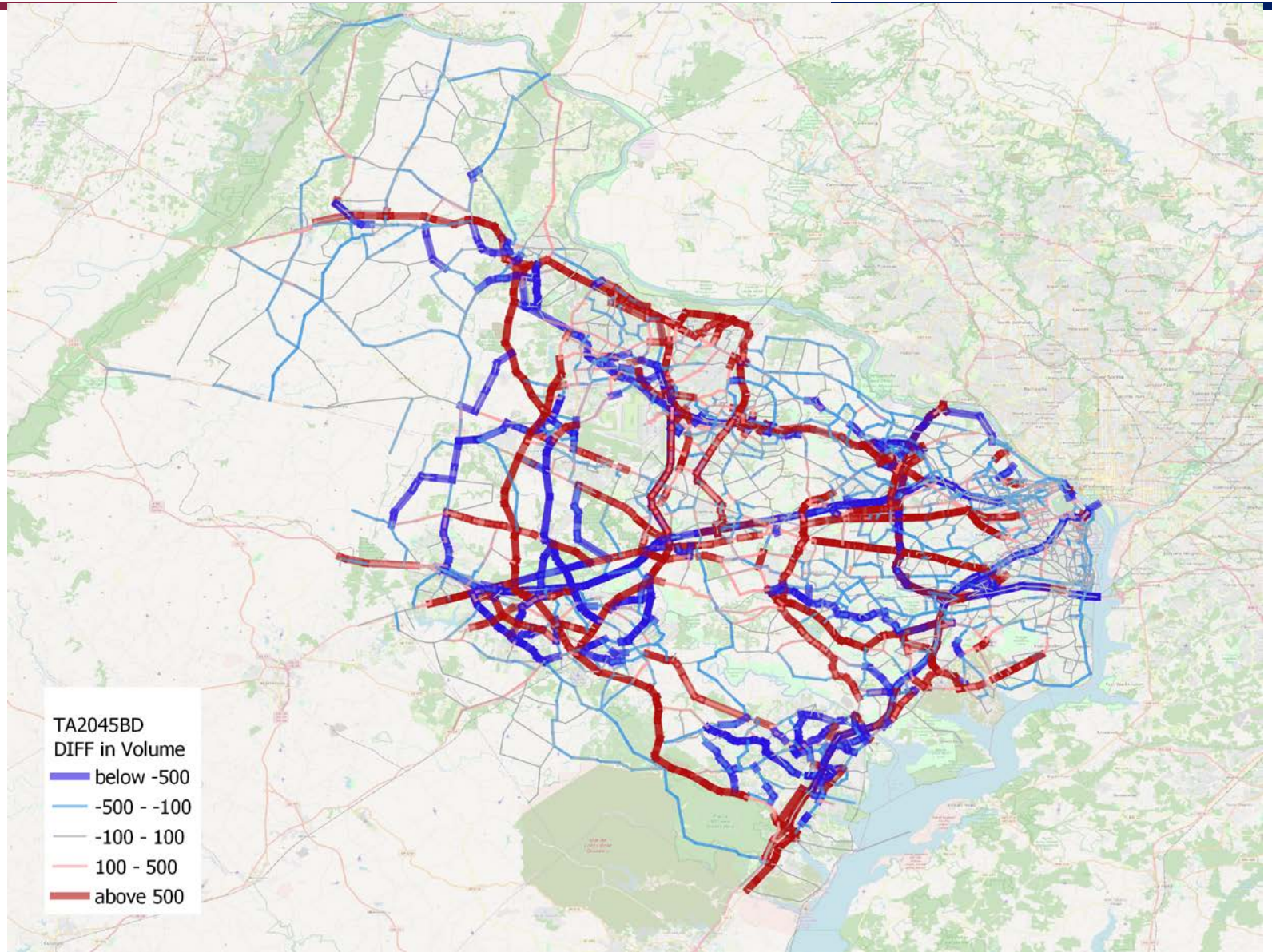
» Other measures to be added later

Performance Measures		Status
B2	Transit person-miles in dedicated/priority ROW	To be added
D1	Quality of access to transit and the walk/bike network	Individual project score only
E1	Potential for safety and security improvements	Individual project score only
G1	Transportation System Redundancy	To be added

Full-Build Network Results

Change in Volume

(morning peak)



Volume decrease

Volume increase

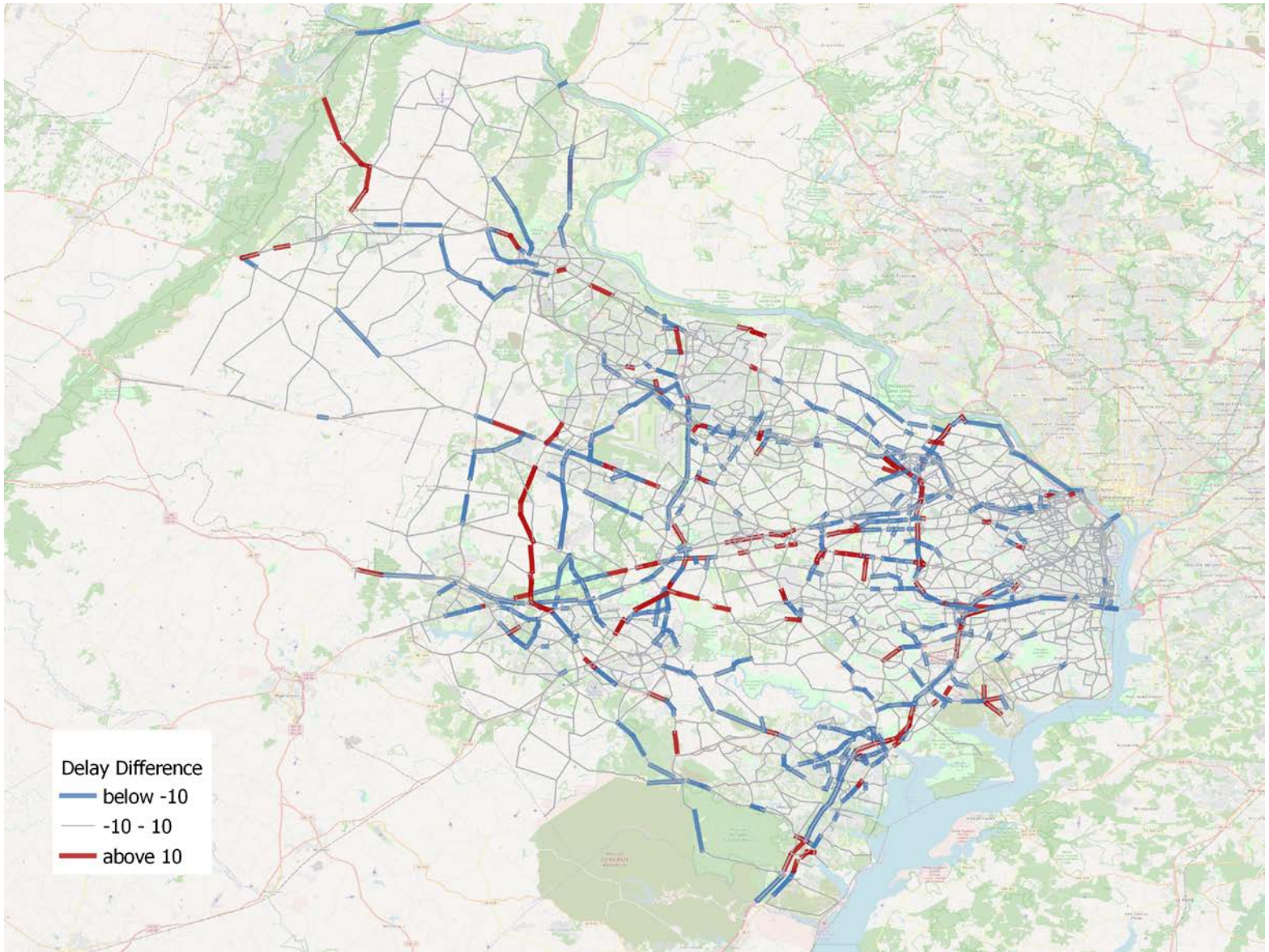
Full-Build Network Results

Change in Delay

(morning peak)

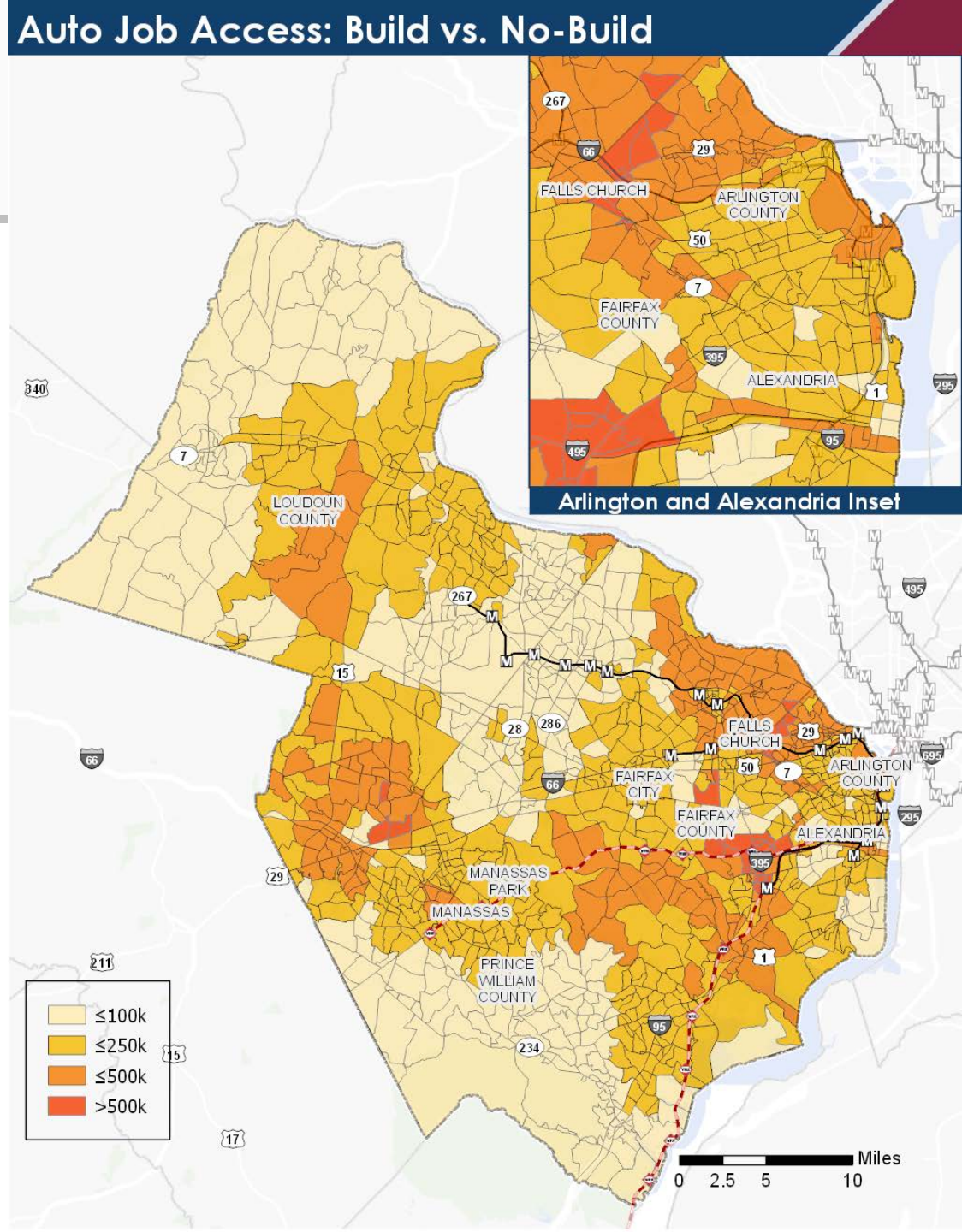
Delay decrease

Delay increase



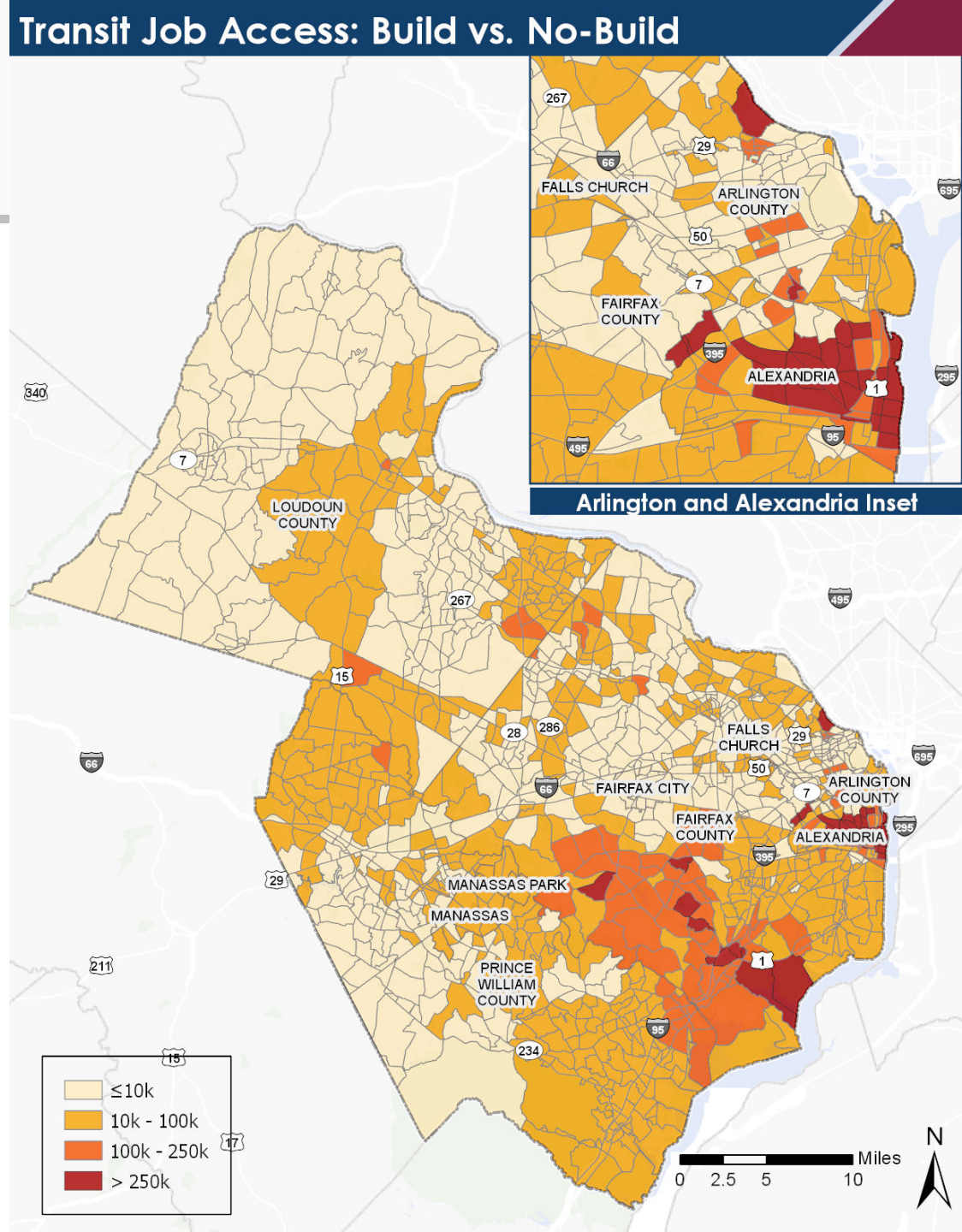
Accessibility: Auto

- Locations where the number of jobs accessible by auto within 45 minutes increases
  - On average, increases in the region by 179,000 jobs (13%)
  - In EEAs, increases by over 56,000 jobs (13%)
- Auto access considers all roads available to SOVs, including paid HOT/toll facilities



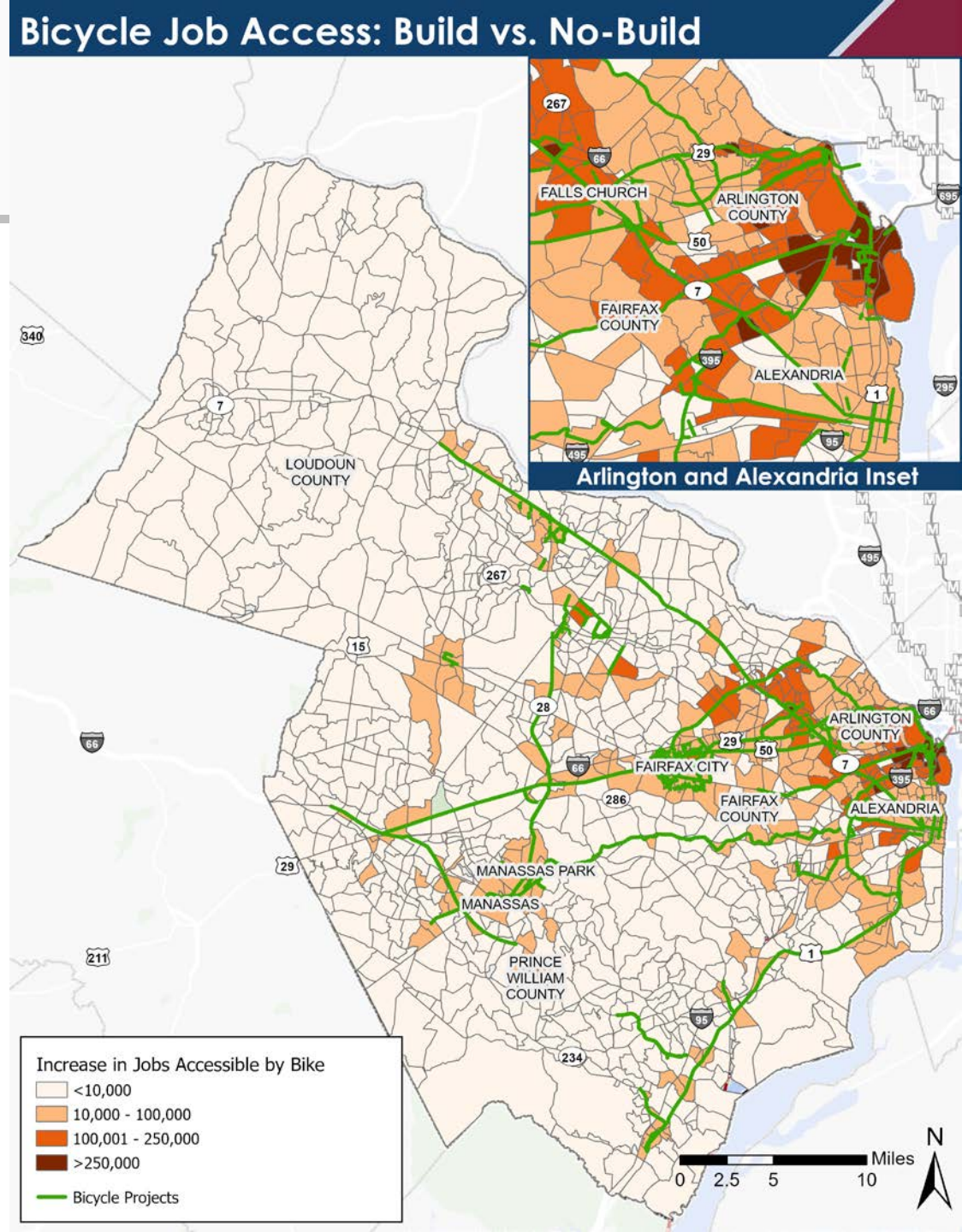
Accessibility: Transit

- Locations where the number of jobs accessible by transit within 60 minutes increases
  - On average, increases in the region by 44,000 jobs (6%)
  - In EEAs, increases by over 17,000 jobs (7%)
- Includes all modes of transit, and allows for drive-access to stations



Accessibility: Bike

- Locations where the number of jobs accessible by bike on the low-stress bike network within 30 minutes increases
  - On average, increases in the region by 37,400 jobs (81%)
  - In EEAs, increases by over 44,500 jobs (112%)
- Low-stress bike facilities include dedicate bike lanes, grade separated paths & trails



Scenario Analysis

NVTA's TransAction

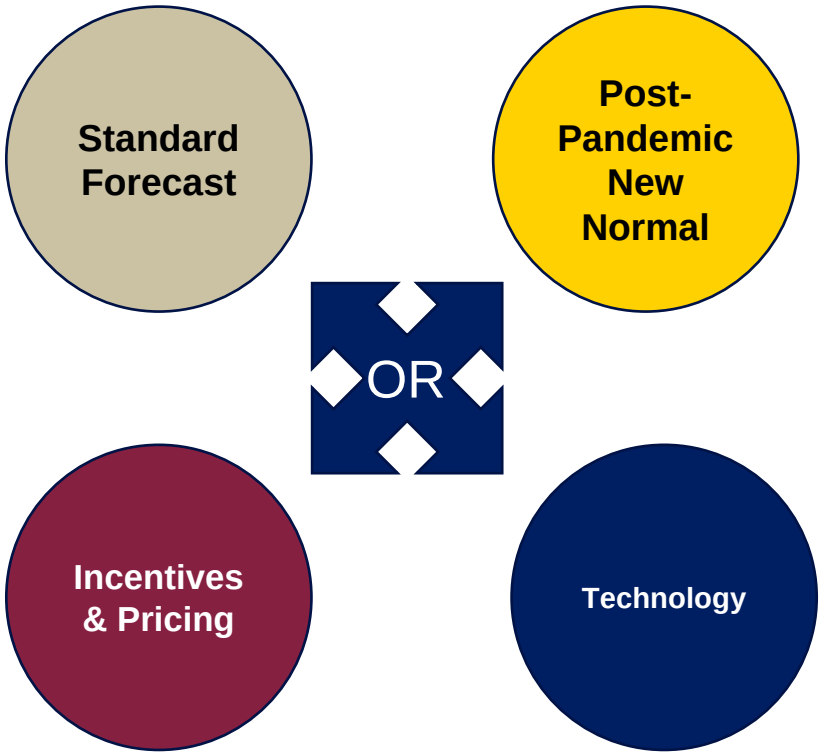
Transportation Action Plan for Northern Virginia

Dealing with Uncertainty

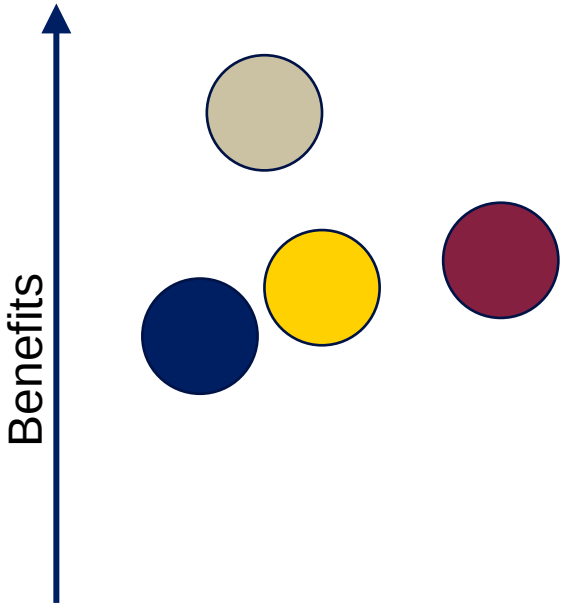
- The TransAction process includes analysis to better understand uncertainty:
  - Plausible futures, but not necessarily preferred or predicted
  - Assumptions-based using proxy metrics than can be modeled
  - May identify potential investment obsolescence
- Three specific alternative futures (scenarios):
  - Pandemic-created ‘New Normal’
  - Transportation Technology
  - Transportation Policy/Mechanisms

Scenario Analysis

What could happen to transportation in Northern Virginia by 2045?



What are the potential benefits of the TransAction projects?



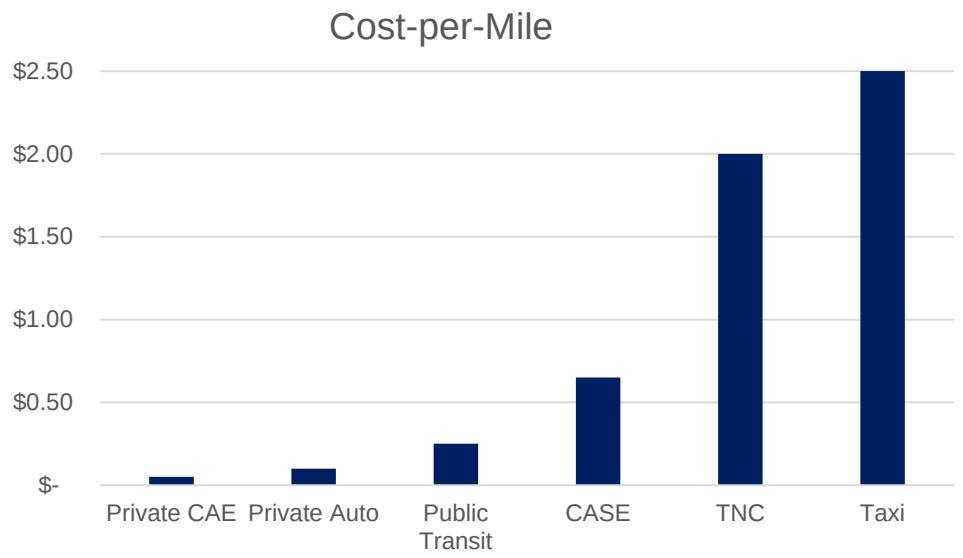
1 Post-Pandemic New Normal Scenario

- What if trends observed during the pandemic continue into the long-term future?

- Key Assumptions:
  - Reduction of work-related trips (HBW, NHW) by 21%
  - Reduction of shopping trips by 5.6%
  - Increase in delivery trips (1 delivery for every 3 shopping trips removed)
  - Increase in non-motorized trips by 5%
  - No Land Use changes assumed

2 Technology Scenario

- Focus on implementation of Connected/ Automated/ Shared/ Electric vehicles (CASEs)
  - Market Penetration:
    - Private Vehicles: 20%
    - TNCs: 100% fully automated within Northern Virginia, DC, Montgomery & Prince George's
    - Large Trucks: 33%
    - Transit Buses: not automated
    - Shuttle buses: 100% automated
  - All automated vehicles are assumed to also be Connected and Electric
  - Lower operating costs



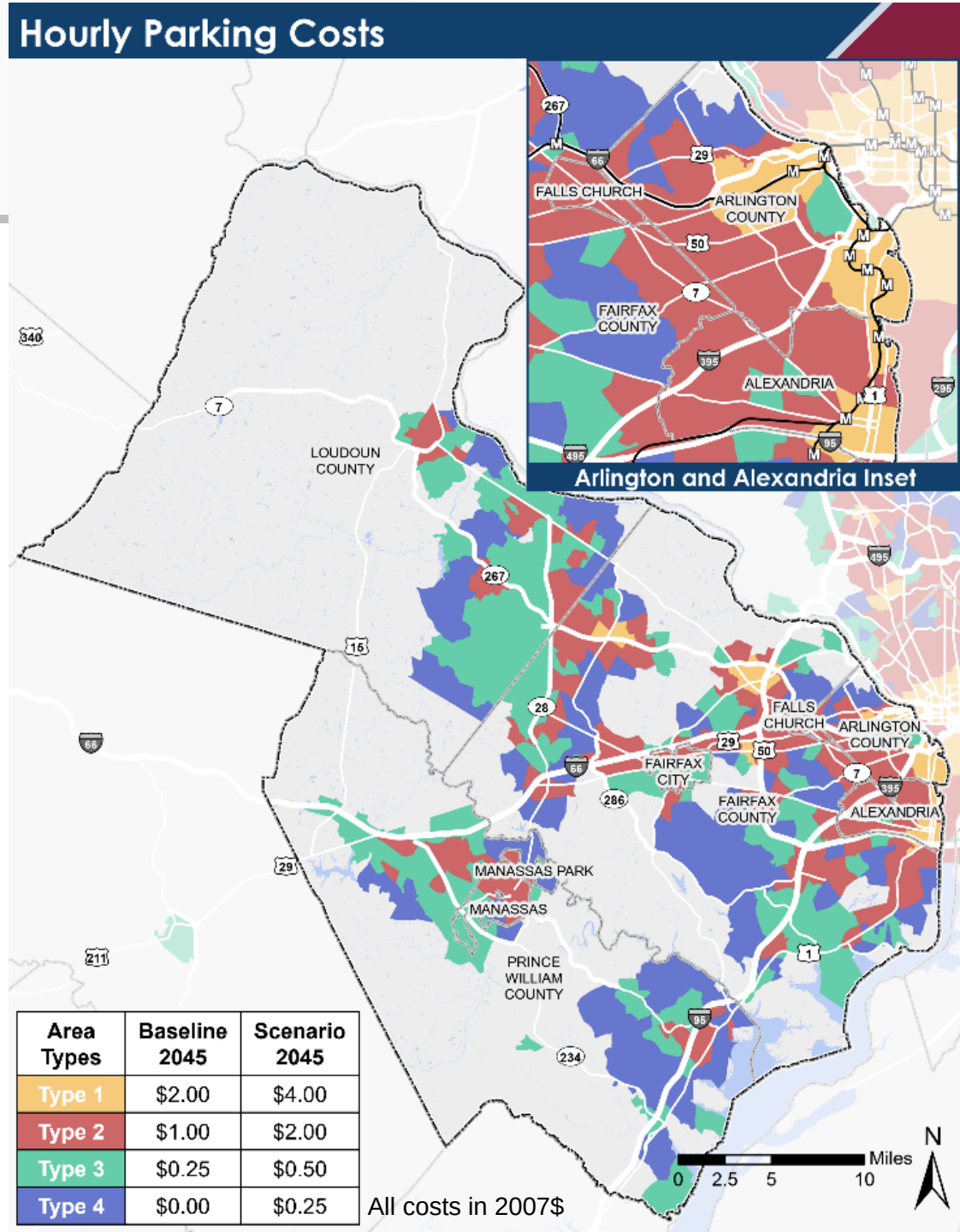
NVTA's TransAction

2 Technology Scenario (cont.)

- Focus on implementation of Connected/ Automated/ Shared/ Electric vehicles (CASEs)
  - Changes to trip making:
    - CAE owners make more trips
    - CAE owners make longer trips
  - Zero-Occupancy Vehicle (ZOV) trips:
    - Remote parking of private vehicles
    - CASE relocation between passengers
  - Capacity Increase:
    - Freeways: 15%
    - Major Arterials: 5%
  - Automated Shuttles available at all rail stations (FM/LM)
  - No Land Use changes assumes

3 Incentives/Pricing Scenario

- Implementing transportation pricing and incentive mechanisms to manage travel demand
- Key Assumptions:
  - VMT Pricing on all roads: 25¢ peak, 12¢ off-peak
    - Discounts for lower-income households
  - Increase in parking costs across the region
  - Free transit
  - Shift in travel times from peak hours

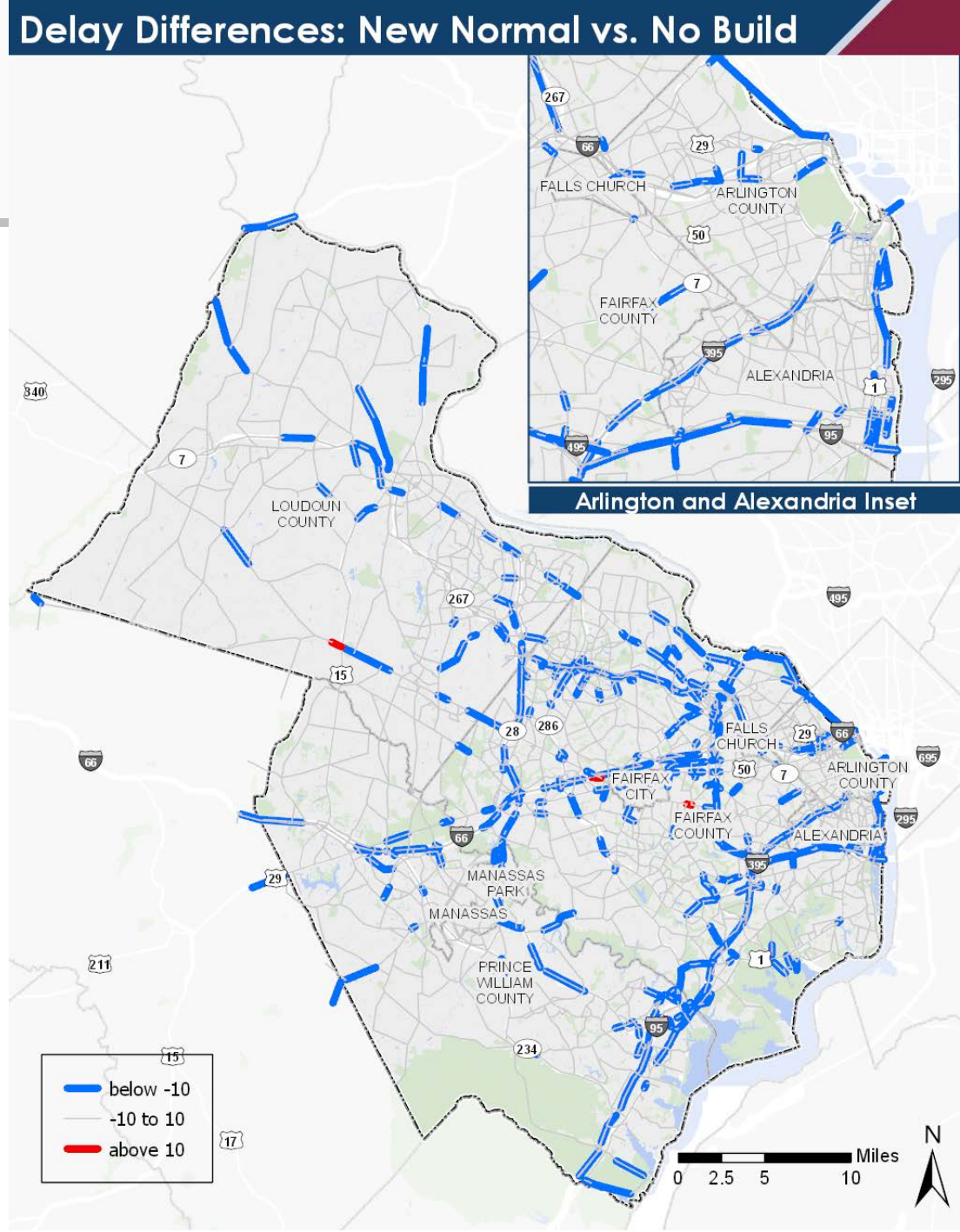


Area Types	Baseline 2045	Scenario 2045
Type 1	$2.00	$4.00
Type 2	$1.00	$2.00
Type 3	$0.25	$0.50
Type 4	$0.00	$0.25

All costs in 2007$

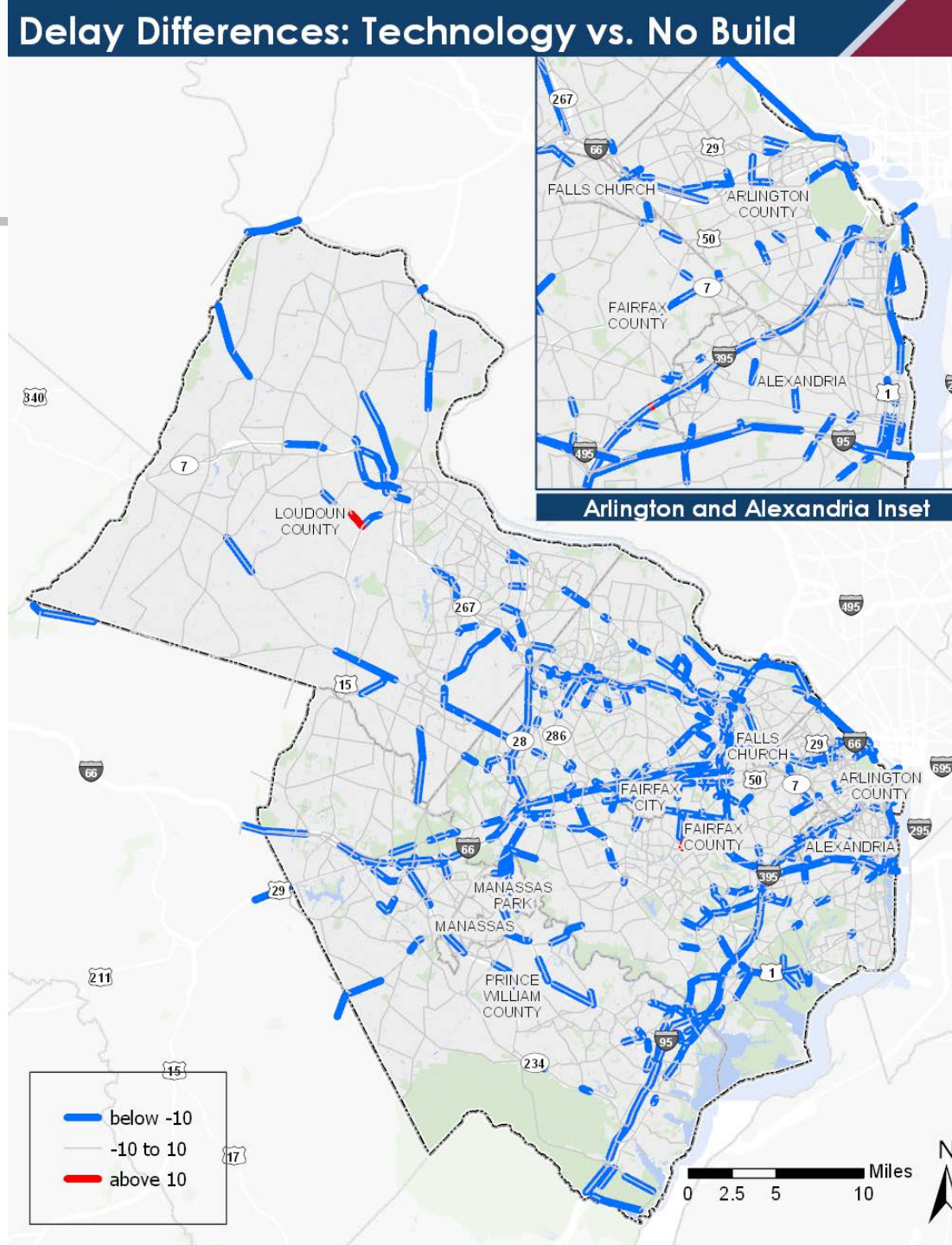
1 Post-Pandemic New Normal: Results

Measure	Change
Motorized Person Trips	-4.5%
Transit Trips	-11%
VMT	-4%
Person-Hours of Delay	-14%



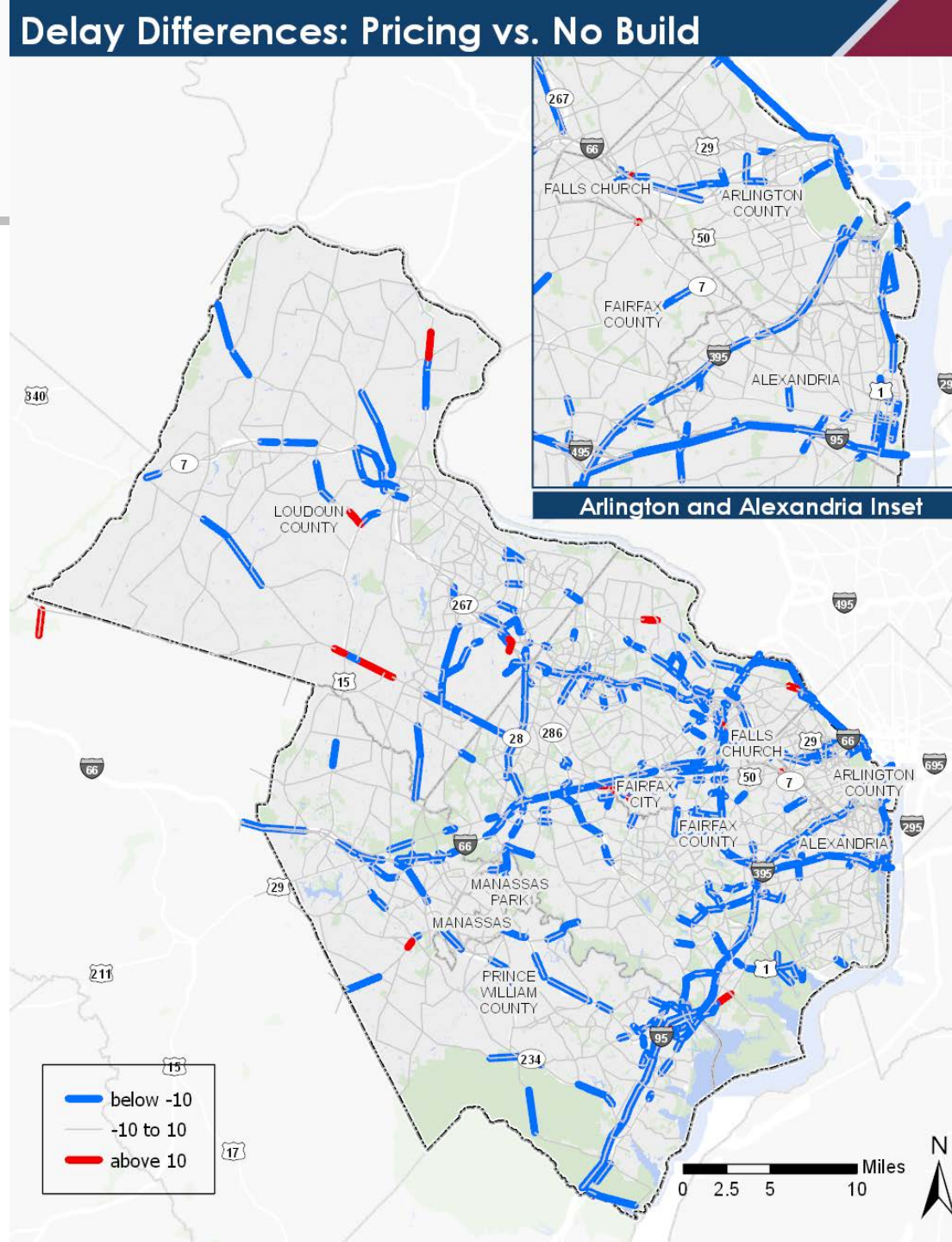
2 Technology Scenario: Results

Measure	Change
Motorized Person Trips	-3%
Transit Trips	-13%
VMT	-1.4%
Person-Hours of Delay	-25%



3 Incentives/Pricing: Results

Measure	Change
Motorized Person Trips	-4.5%
Transit Trips	+12%
VMT	-9%
Person-Hours of Delay	-20%



Initial Scenario Results

What could happen to transportation in Northern Virginia by 2045?

Change in No-Build Results Under Each Scenario

Measure	New Normal	Technology	Incentives/ Pricing
Motorized Person Trips	-4.5%	-3%	-4.5%
Transit Trips	-11%	-13%	+12%
VMT	-4%	-1.4%	-9%
Person-Hours of Delay	-14%	-25%	-20%
Duration of Severe Congestion	-21%	-37%	-25%
Job Accessibility	+8.3%	+6.1%	+6.5%
Emissions	-3.5%	-28%	-7.9%

Next Steps

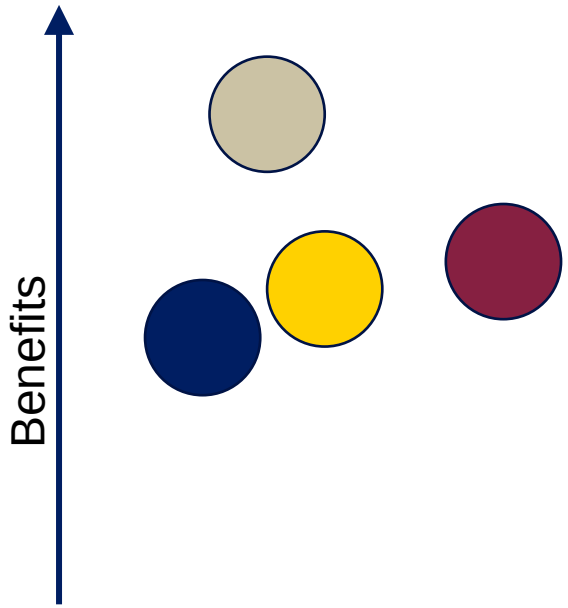
NVTA's TransAction

Transportation Action Plan for Northern Virginia

Additional Analysis

- Finalize TransAction system analysis for all 10 performance measures
  - Summaries at the corridor level
- Individual TransAction ratings for each project
- Impact of TransAction projects on Scenario Analysis

What are the potential benefits of the TransAction projects?

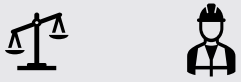


Additional Slides

NVTA's TransAction

Transportation Action Plan for Northern Virginia

Approved Goals, Objectives and Performance Measures

Goal	Objective	Performance Measure	Weight	Alignment with Core Values
Mobility: Enhance quality of life of Northern Virginians by improving performance of the multimodal transportation system	A. Reduce congestion and delay*	A1. Total Person-Hours of Delay in autos	10	
		A2. Total Person-Hours of Delay on Transit	10	
	B. Improve travel time reliability*	B1. Duration of Severe Congestion	10	
		B2. Transit person-miles in dedicated/priority ROW	10	
Accessibility: Strengthen the region's economy by increasing access to jobs, employees, markets, and destinations for all communities	C. Improve access to jobs*	C1. Access to jobs by car, transit, and bike	10	
		C2. Access to jobs by car, transit, and bike for EEA populations	10	
	D. Reduce dependence on driving alone by improving conditions for people accessing transit and using other modes	D1. Quality of access to transit and the walk/bike network	15	
Resiliency: Improve the transportation system's ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions.	E. Improve safety and security of the multimodal transportation system	E1. Potential for safety and security improvements	10	
	F. Reduce transportation related emissions	F1. Vehicle Emissions	10	
	G. Maintain operations of the regional transportation system during extreme conditions*	G1. Transportation System Redundancy	5	

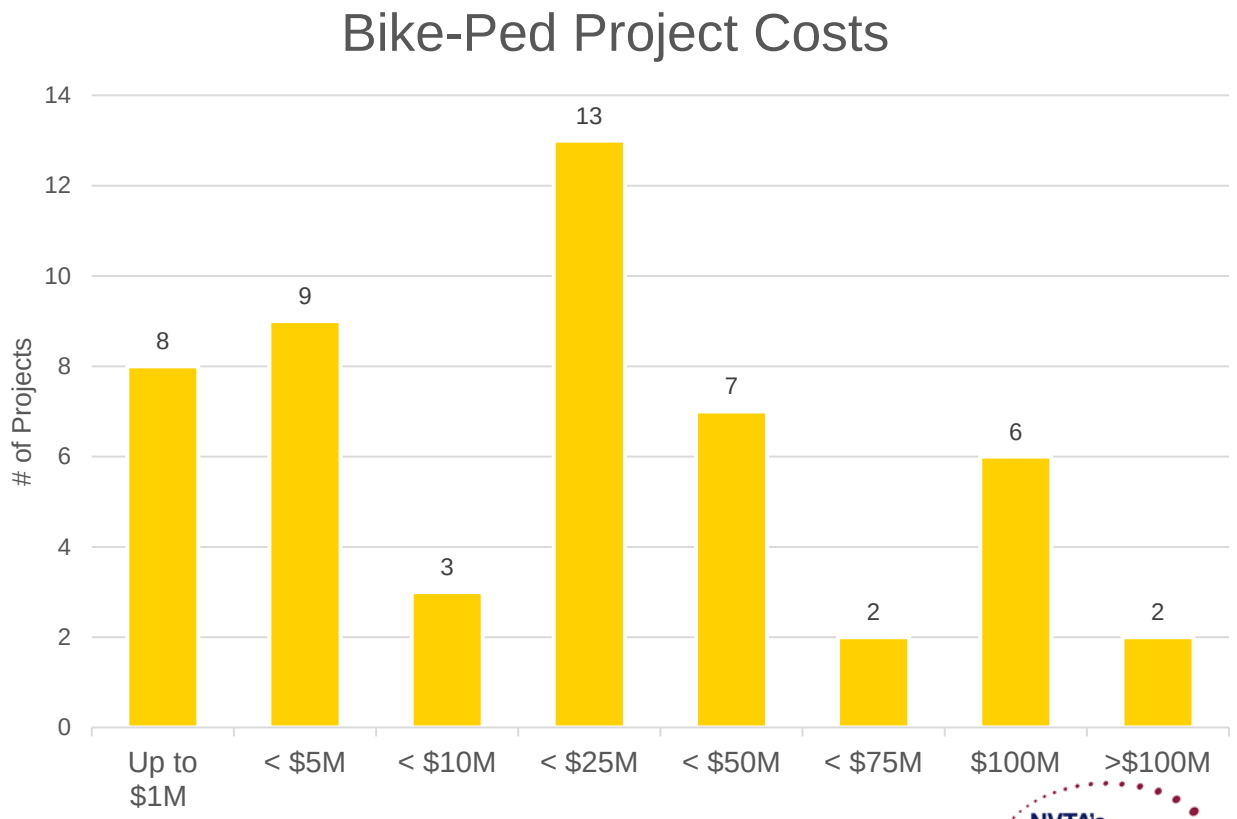
Transit may include HOV.

* Measure included in HB 599 rating process.

TransAction Projects: Bike-Ped

- 84 projects include Bike-Ped elements:
  - Multi-Use Trails
  - Bike Lanes
  - Sidewalks and paths
  - Bikeshare infrastructure
  - Multimodal improvements
  - Access to Transit stations and stops
  - Mobility Hubs
  - Intersection improvements (e.g. crossings, signalization, ADA ramps)
- More than 220 miles of trails, paths and bike lanes added

- 51 projects are primarily Bike-Ped



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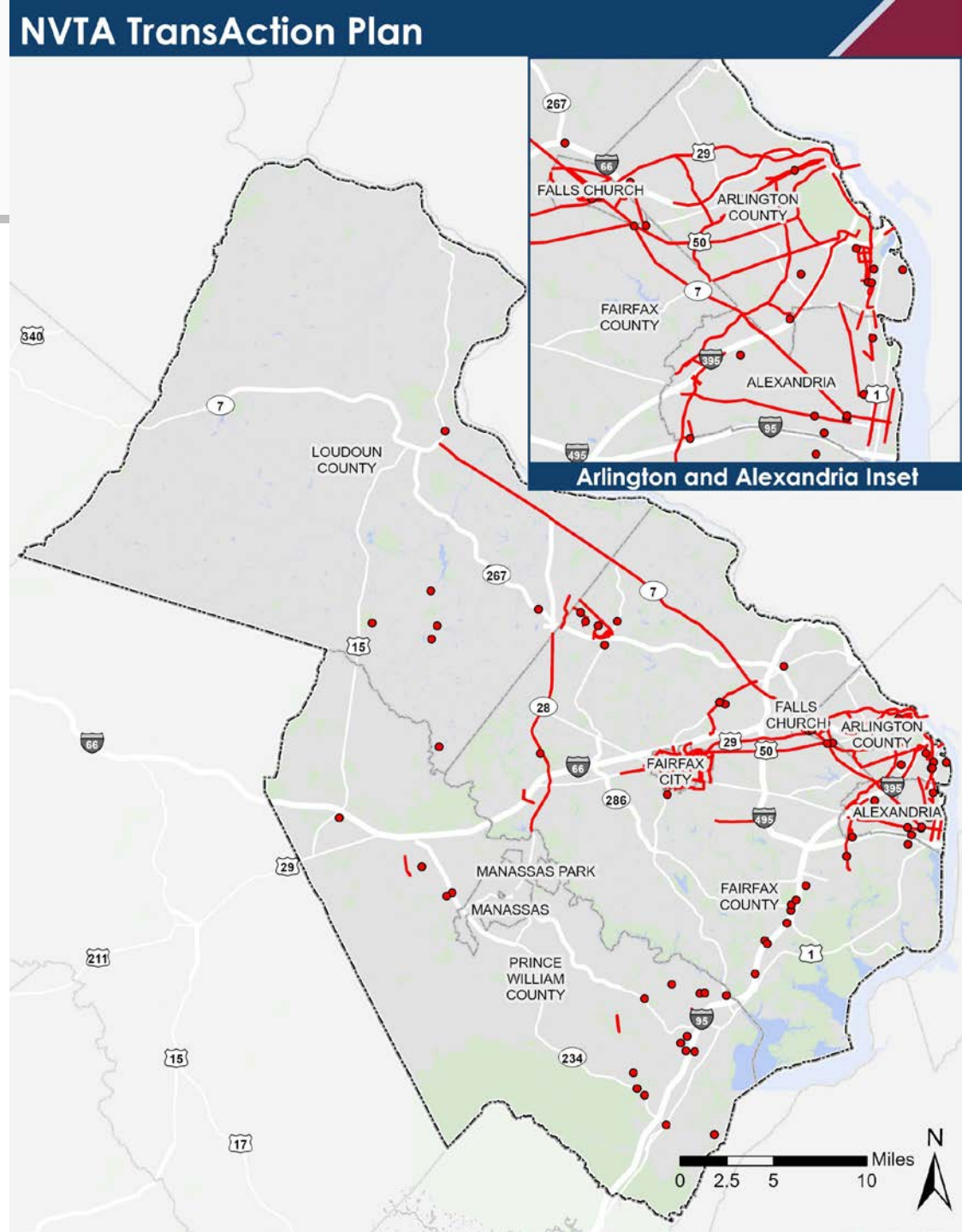
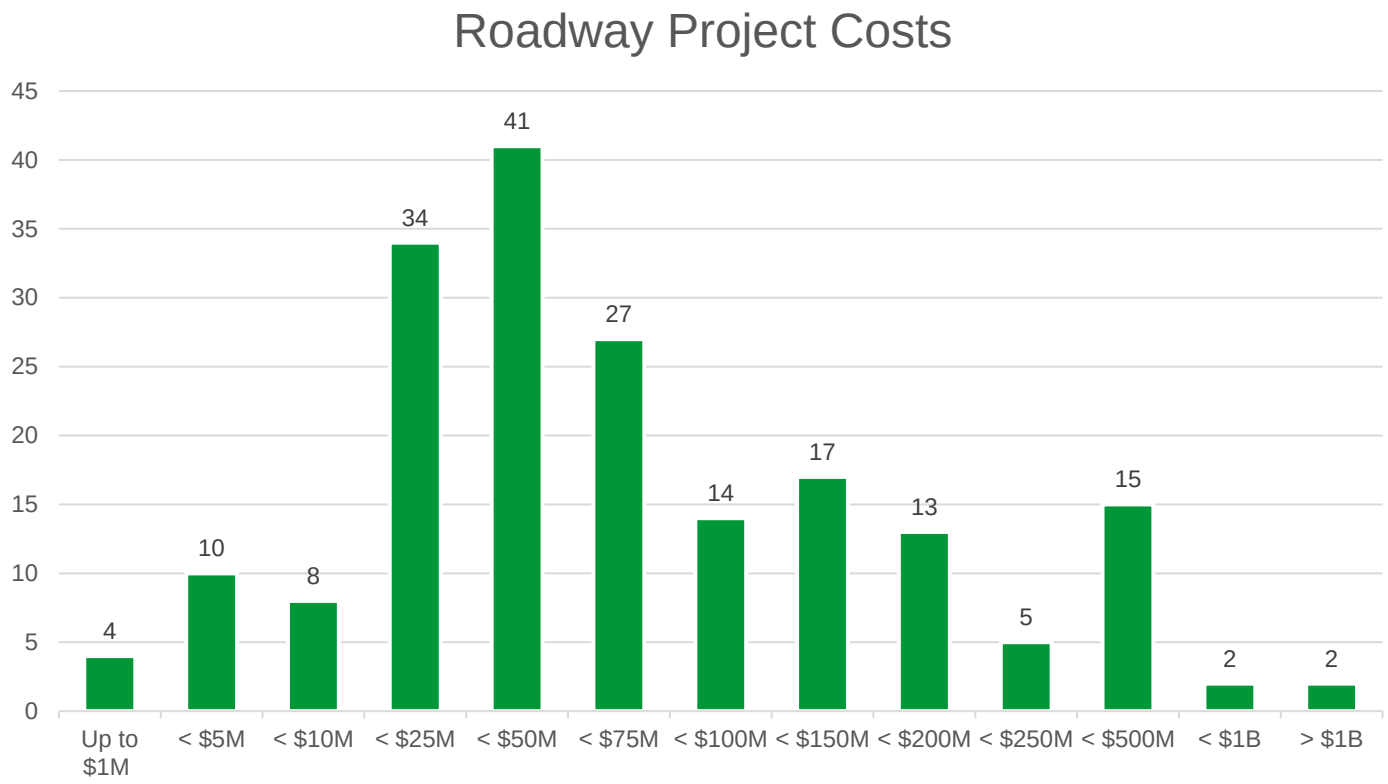


TransAction Projects: Roadway

- 219 projects include Roadway elements:
  - Widenings
  - Extensions/new roadways
    - New Bridges
    - Street Grid Additions
  - Multimodal improvements
  - HOV/HOT Lanes
  - Ramp/interchange improvements
  - Intersection improvements
  - Spot safety improvements
  - Transit access and priority

- 192 projects are primarily Roadway



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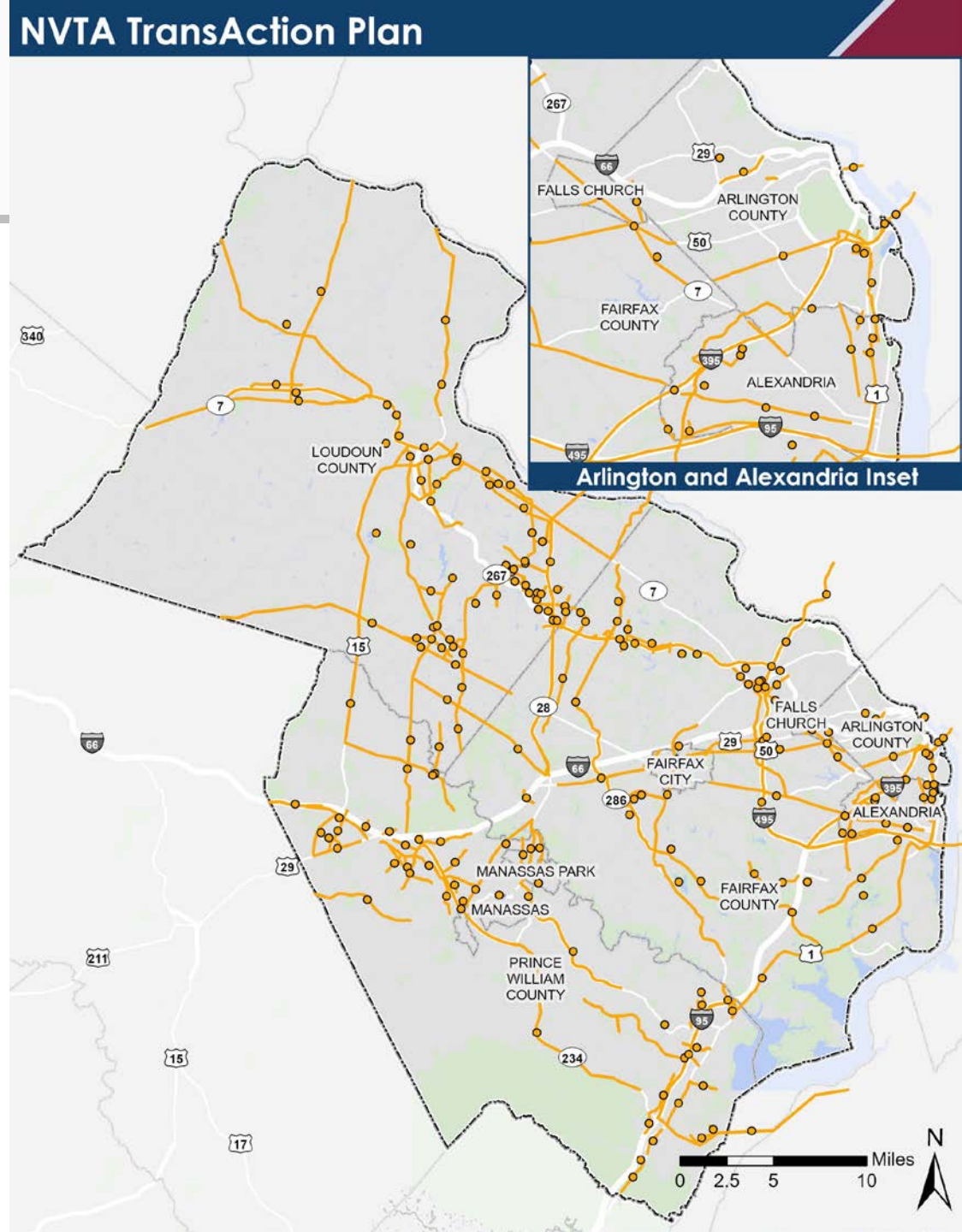

TransAction Projects: Transit

- 123 projects include Transit elements:
  - New/extended services across all modes
  - More frequent transit service
  - Transit priority
  - Facilities
  - Station access, circulation, capacity, & amenities
  - Metrorail station second entrances & internal circulation
  - Multimodal roadway improvements
  - Real -Time Information
  - Off-Board Fare Payment
  - Mobility Hubs
  - Park-and Rides
  - Ferry service capacity improvements
  - Microtransit
  - Metrorail Core Capacity program (including 8-car trains and BOS realignment)
  - VRE service & infrastructure program including (but not limited to) Transforming Rail in Virginia improvements

- 104 projects are primarily Transit

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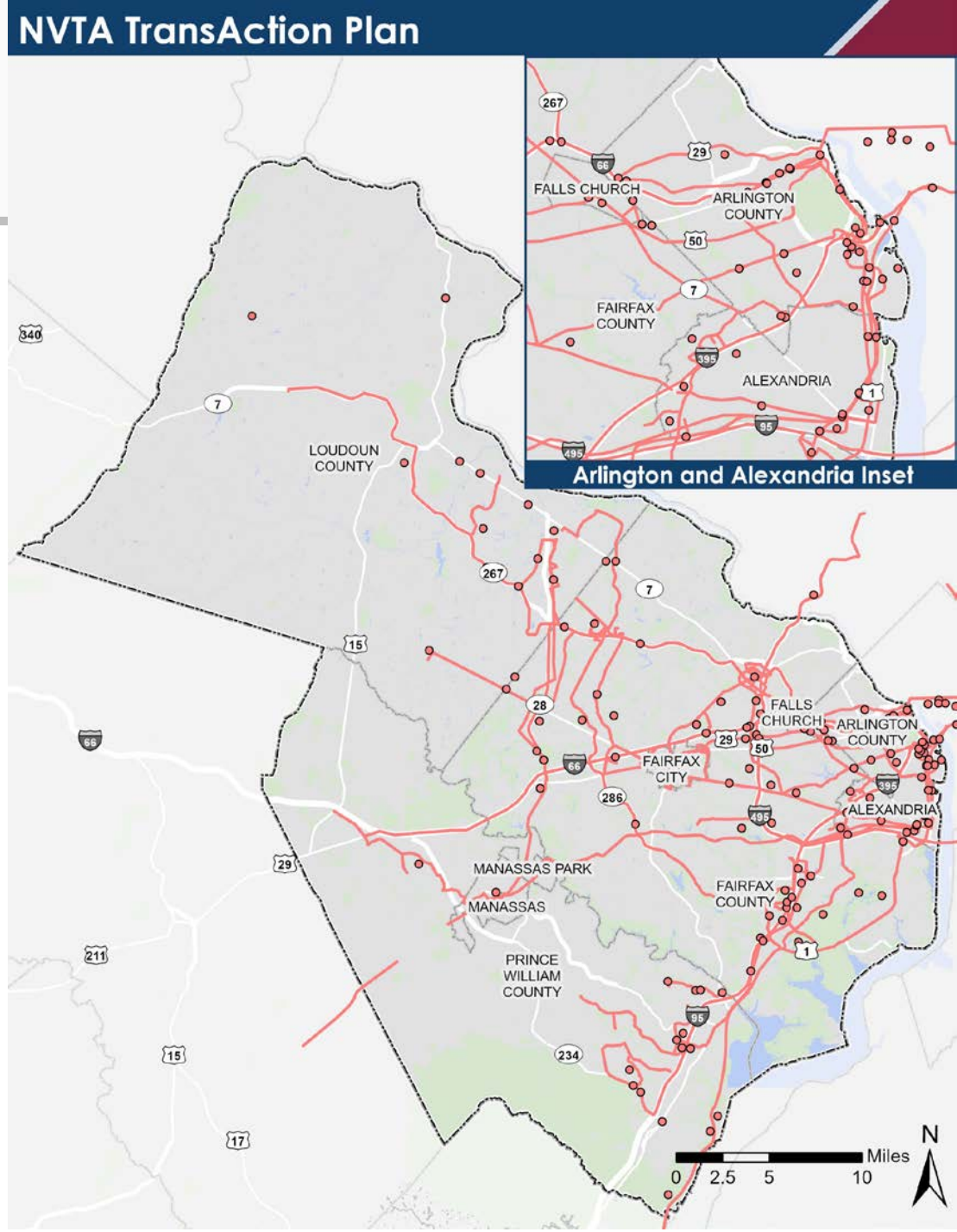
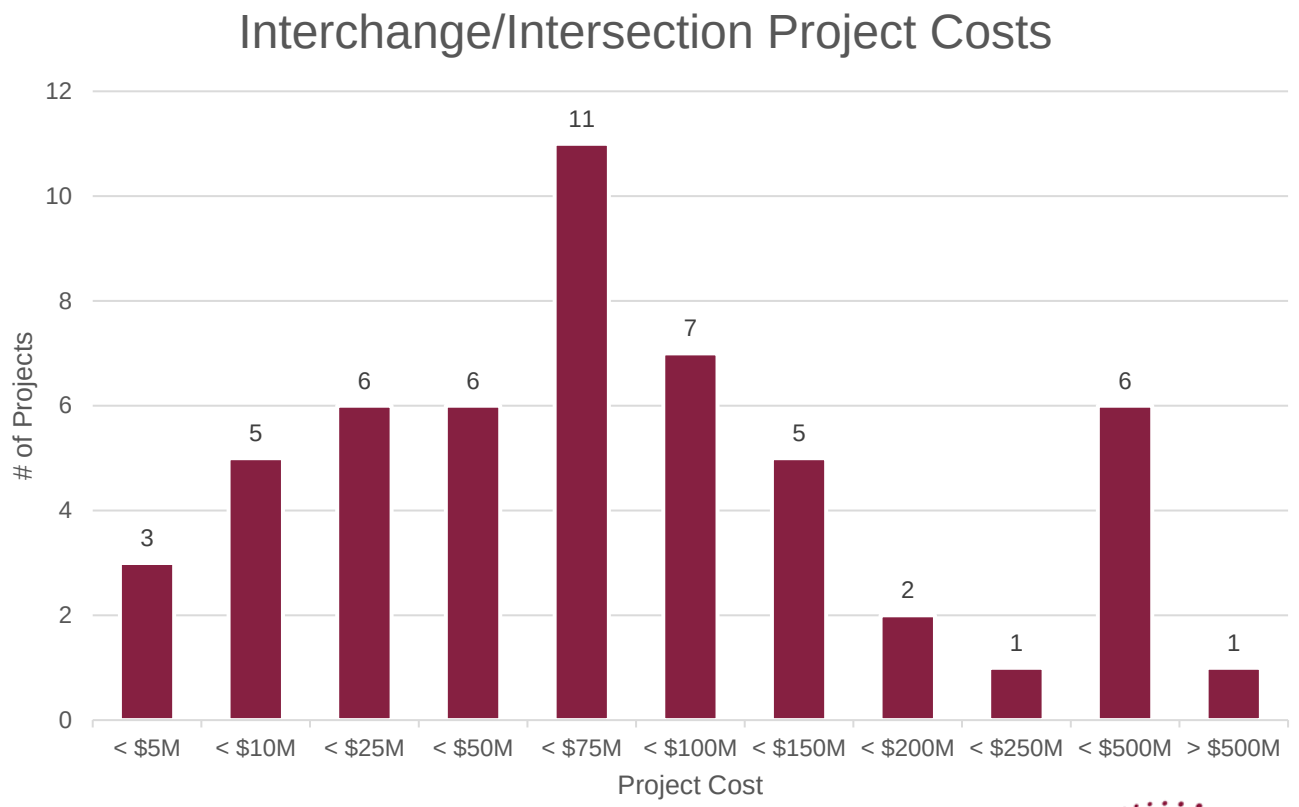


TransAction Projects: Interchange/Intersection

- 89 projects include intersection/ interchange elements:
  - Grade Separated interchanges
  - Partial grade separation
  - Innovative intersection designs
  - Intersection improvements (signalization, added turn lanes, medians, etc.)

- 53 projects are primarily Interchange/ Intersection projects



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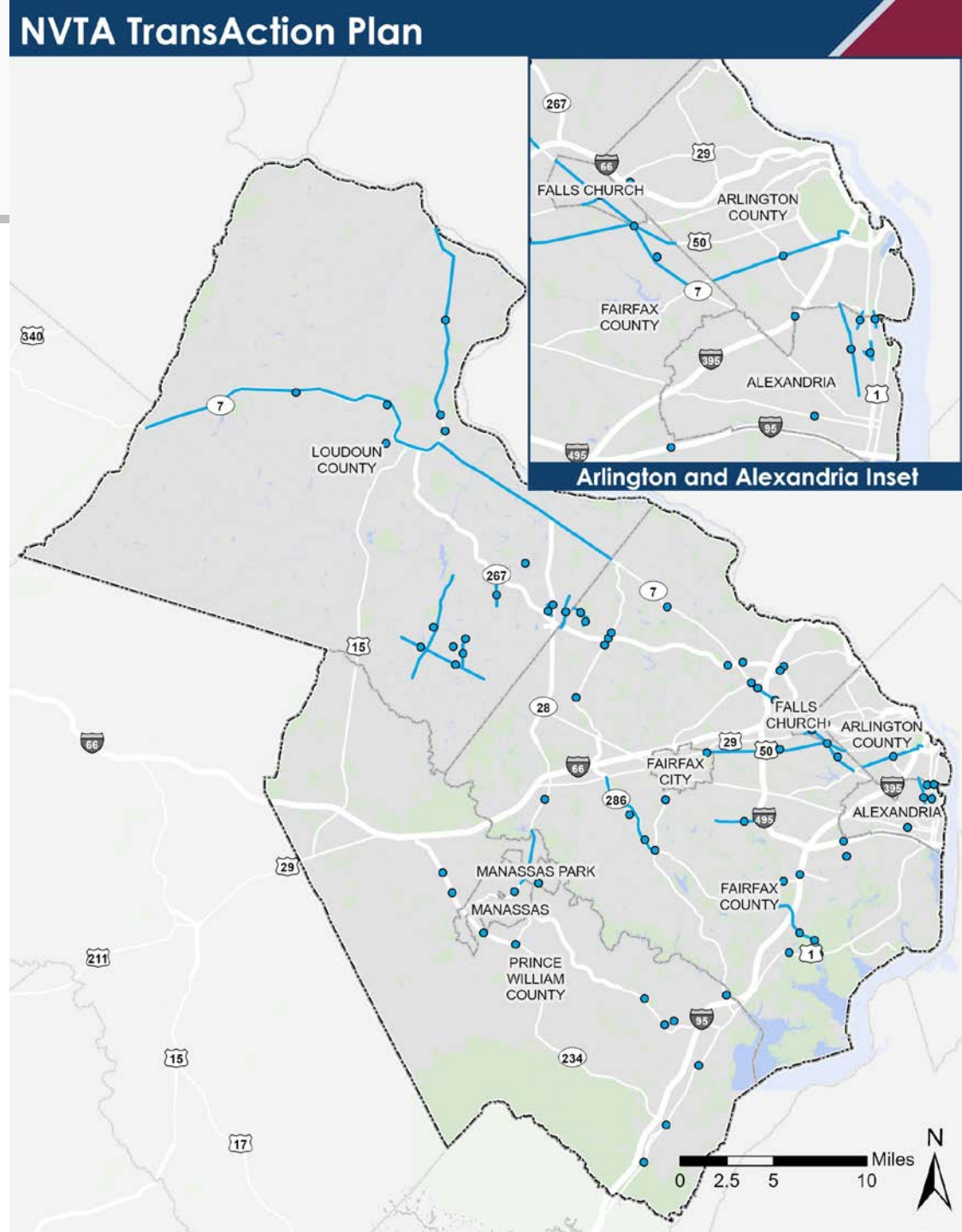
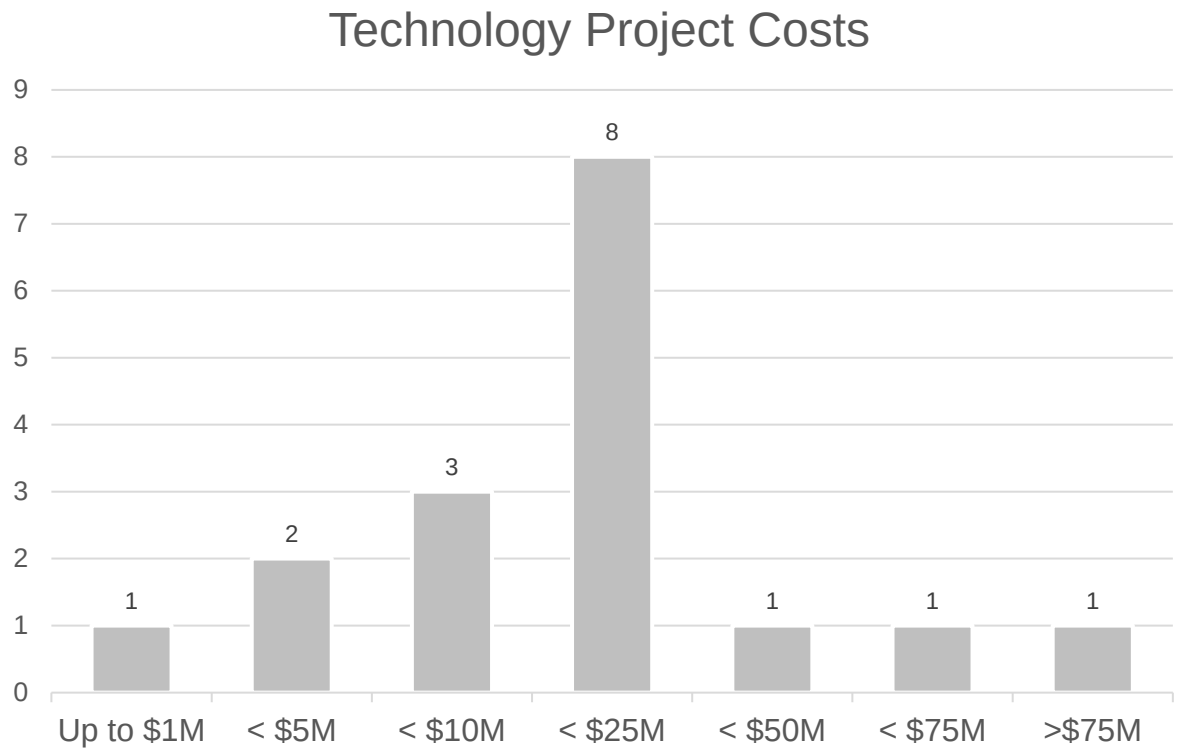


TransAction Projects: Technology

- 26 projects include technology elements:
  - ITS and ICM
  - Transit Signal Priority
  - Real time information (parking, transit)
  - Low/ZEV Charging/Fueling infrastructure
  - CAV Enabling Technologies
  - RM3P

- 17 projects are primarily technology projects



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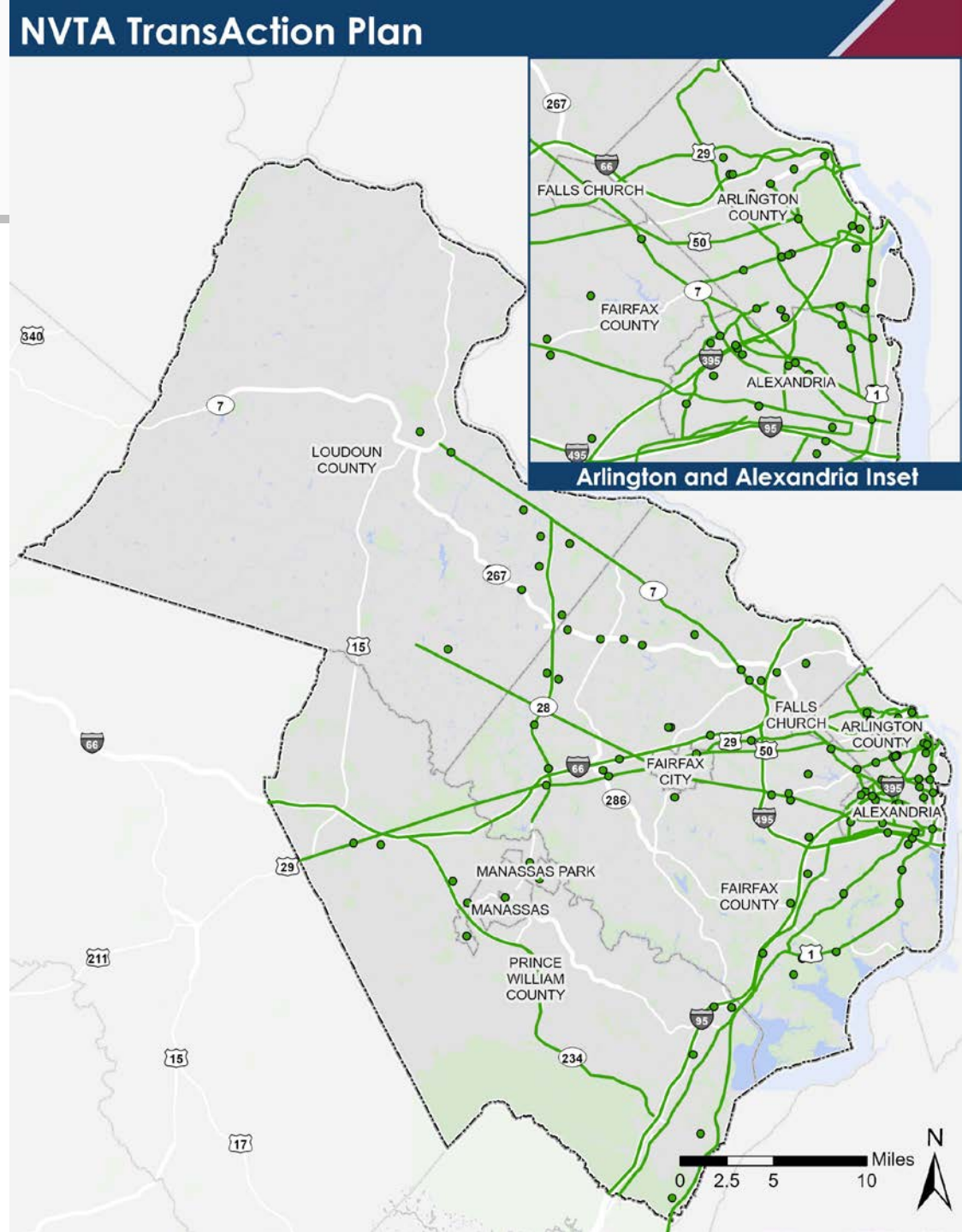

TransAction Projects: Other Projects

- HOV/HOT Projects:
  - New and expanded HOV/HOT Facilities
  - HOV/HOT interchange
- Parking Projects:
  - Park-and-Ride Lots
  - Local Parking Garage Network
- TDM Programs
  - Jurisdiction-specific
  - Northern-Virginia wide

No-Build Delay