



Northern Virginia Transportation Authority

The Authority for Transportation in Northern Virginia

PLANNING AND PROGRAMMING COMMITTEE

Monday, October 3, 2022, 5:30 p.m.

3040 Williams Drive, Suite 200

Fairfax, Virginia 22031

The meeting will be livestreamed on [NVTA's YouTube Channel](#)

AGENDA

- I. Call to Order/Welcome** Chair

Action

- II. Summary Notes of June 23, 2022, Meeting**
Recommended action: Approve meeting notes

Discussion/Information

- III. TransAction: Status Update** Mr. Jasper, Principal,
Planning and Programming
- IV. NVTA Update** Ms. Backmon, CEO

Adjournment

- V. Adjourn**

Next Meeting: Monday, November 21, 5:00 PM (subject to Committee approval)



Northern Virginia Transportation Authority

The Authority for Transportation in Northern Virginia

PLANNING AND PROGRAMMING COMMITTEE

Monday, June 23, 2022, 7:30 p.m.

Northern Virginia Transportation Authority

SUMMARY NOTES

I. Call to Order/Welcome

- Chairman Wilson called the meeting to order at 7:35 p.m.
- Attendees:
 - **PPC Members:** Mayor Wilson (City of Alexandria); Mayor Meyer (City of Fairfax); Mayor Rishell (City of Manassas Park); Council Member Snyder (City of Falls Church); Chair Wheeler (Prince William County).
 - **Other NVTa Members:** Mary Hynes (Governor's Appointee, CTB Member).
 - **NVTa Staff:** Monica Backmon (CEO); Keith Jasper (Principal); Sree Nampoothiri (Senior Transportation Planner); Ian Newman (Regional Transportation Planner).
 - **Jurisdiction/Agency Staff:** Rich Roisman (Arlington County)
 - **Others:** Proceedings were livestreamed on YouTube Live.

Action

II. Summary Notes of March 21, 2022, Meeting

- The March 21, 2022, Planning and Programming Committee meeting summary was approved with abstention from Mayor Meyer who was absent at the last meeting.

III. FY2022-2027 Six Year Program

- Mr. Jasper presented the highlights of previous funding programs totaling nearly \$2.5 Billion including ratio of available funds to requested funds, number of projects and funds allocated by mode, the low percentage of added lane miles from NVTa funded roadway projects, and added centerline miles of dedicated right of way for NVTa funded transit projects.
- In response to Mayor Rishell's question on time period of lane mile increase due to NVTa funding, Mr. Jasper noted that the NVTa funding identified here is the revenues approved between FY2014 and FY2025, though some of the projects are yet to be constructed. Ms. Hynes suggested to include lane miles of bike and pedestrian infrastructure added to enhance this evaluation, in the future.

- In response to Ms. Hynes' question of the dedicated line miles are counted as part of total lane miles added, Mr. Jasper noted that they are not.
- In response to Mayor Rishell's question if the lane miles for bus rapid transit (BRT) are new or repurposed, Mr. Jasper noted that these are new lanes.
- Mr. Jasper showed graphs detailing number of applications, requested amounts, and total project costs by mode.
- Mr. Jasper further explained the evaluation process that includes four major criteria – eligibility (included in TransAction and governing body resolution in support), quantitative criteria (congestion reduction relative to cost (CRRC) ratio, TransAction rating, long term benefit), qualitative considerations (past performance, external funds, etc.), and public comments.
- Mr. Jasper explained the long-term benefit analysis in detail and noted that Arlington County is under-performing, Prince William County is over-performing, and other localities are performing in an approximately balanced manner.
- Mr. Jasper noted that the Committee received a briefing about the public comments at the last meeting.
- Mr. Jasper walked the Committee through the staff recommendations and the rationale. 17 projects are recommended for full funding request while 3 projects are recommended for partial funding (preliminary engineering/design phase only). He emphasized that the recommendations include a continued emphasis on the Route 1 and Fairfax County Parkway Corridors, continued emphasis on decarbonization and intelligent transportation system, and the modal and geographic balance of the program. He noted that all the transit, bike-ped, and technology projects submitted are being recommended for full funding.
- Mr. Jasper presented the modal and jurisdictional breakdown of the projects recommended for funding.
- Mayor Wilson expressed enthusiasm at fully funding all technology, transit and bike-ped projects in this program and expressed a need to encourage more applications for these types of projects.
- In response to Mayor Rishell's question on most common issues raised in public comments, Mr. Jasper explained that the opposition comments came from a community that is nearby the project location that was concerned about increased traffic and the supporting comments came from a community that is slightly away who think that this project will reduce the cut through traffic happening in their community. He added that there were a few comments that opposed roadway projects in general. He added that the staff is encouraging jurisdiction staff to take a look at the comments so they can address these as the projects move forward.
- Mr. Jasper noted that the staff recommendations for this program will make the total NVTa funding of additional lane miles increase by 1.82%. He added that though additional funds are recommended for two BRT projects, since these are continuation projects, there is no additional dedicated right of way added.
- Dr. Nampoothiri informed the Committee that Technical Advisory Committee and Planning Coordination Advisory Committee unanimously endorsed the staff recommendations. He noted that the Committees discussed the relationship between

Ballston-MU West Entrance project and the Metro state of good repair funding that diverted NVTAs revenues in 2018, rationale for partial funding certain projects, other funding sources, nature and geographical spread of public comments, clarification on long term benefit, and the rationale for discussing centerline roadway miles while NVTAs approach is multimodal.

- Mr. Jasper noted that the recommendations from this Committee will be posted on the NVTAs website and will be considered by the Authority for adoption at its July 14, 2022, meeting. He added that the call for projects for the next SYP cycle will probably be in May 2023 and that will be based on the project list that will be part of TransAction update, which is expected to be adopted by the end of the year
- Mayor Rishell made a motion to approve the FY2022-2027 Six Year Program Staff Recommendations, seconded by Mayor Meyer. The motion passed unanimously. Recommended project list is provided as an attachment.
- Mayor Rishell complimented NVTAs staff for all the work carried out and explaining the process and rationale of recommendations in detail. Other Committee members expressed their agreement.

Discussion/Information

IV. TransAction: Status Update

- Mr. Jasper noted that the team is preparing the draft TransAction Plan document and project list, which will be published for public comment. The public comment is expected to start in early August and run through end of September with an anticipated public hearing at the Authority meeting on September 8, 2022. After further review by the Authority and Committees in Fall, the Authority is expected to adopt the Plan by the end of the year.
- Ms. Hynes asked how big ideas on the core values were to be incorporated in the Plan. She noted region-wide improvements to bus stops could be an example that will increase accessibility.
 - Mr. Jasper noted that a regional BRT system that includes bus routes, stops, stations, transfer points, bike-ped access, technology, etc.
 - Ms. Hynes expressed the general perception that BRT is synonymous with high quality express bus and may not be the ideal service for local routes.
 - In response to Mayor Wilsons question if it meant a regional common approach for such projects, Ms. Hynes noted that there is a need to understand how to operationalize the three core values.
 - Mr. Jasper noted that one way to operationalize core values is to add questions in the project application that can address the support for core values. Ms. Hynes encouraged the staff to develop meaningful ways to understand/evaluate these factors.
 - Ms. Backmon noted the difficulty of transit agencies (e.g. PRTC/OmniRide) to serve population during different times of the day.
 - Ms. Backmon noted that NVTAs coordinates across jurisdictional boundaries to meet the many goals of NVTAs including attaining geographical and modal

balance, but ultimately it is the prerogative of the jurisdictions to decide which projects they want to apply for NVTAFunding, .

- Mr. Jasper noted that the surveys pointed to a need for travel options other than driving
- Council Member Snyder wondered if there is a Northern Virginia approach to reduce emissions, such as investing in bike and pedestrian infrastructure. Mr. Jasper noted that the Commonwealth of Virginia is also planning on programs/projects that will help in decarbonizing the transportation field. Ms. Hynes encouraged everyone to understand the bike-pedestrian fatalities/injuries in Northern Virginia and how projects that address it can be funded.
- Ms. Hynes suggested NVTAFunding staff talk to the Commonwealth department of Transportation staff to explore federal grant opportunities.

V. NVTAFunding Update

- Ms. Backmon reminded that the next Authority meeting is on July 14th and the main agenda item is the adoption of FY2022-2027 SYP.

Adjournment

VI. Adjourn

- The date for next meeting will be decided later.
- The meeting adjourned at 8:50 p.m.

TransAction Work Session

Project Update

October 3, 2022

presented to

Planning and Programming Committee



NVTA's
TransAction
*Transportation Action Plan
for Northern Virginia*

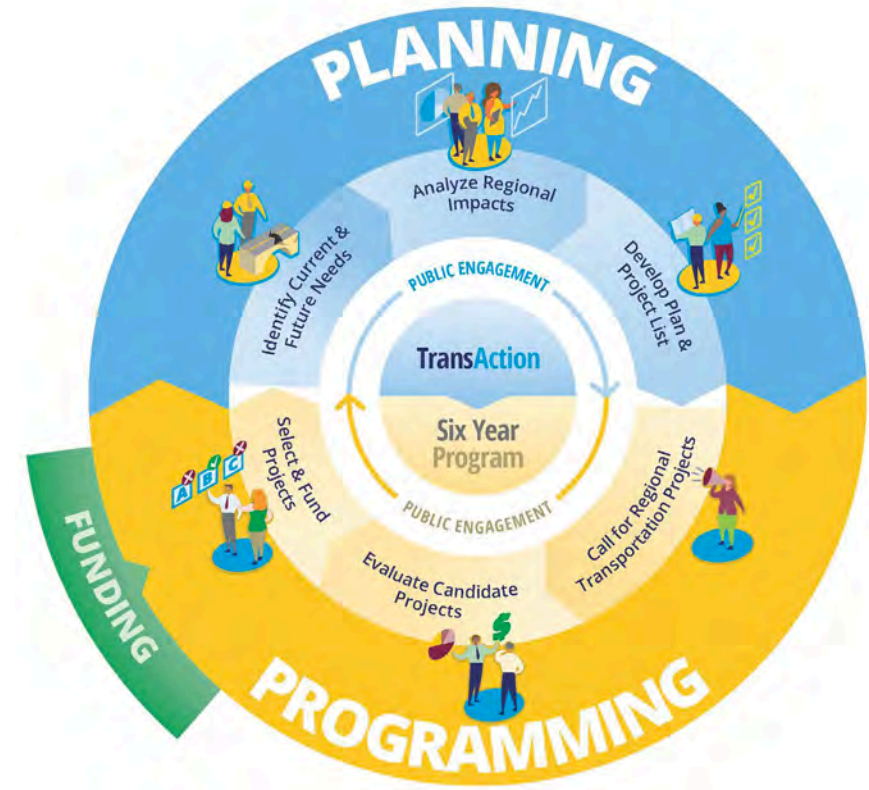


Topics

1. Welcome & Introductions
2. Update on TransAction Progress
3. Public Comments on TransAction
4. Modeling Results
5. Scenario Analysis
6. Next Steps

TransAction Activities and Schedule

- » Nov/Dec 2021: NVTa approved TransAction goals, objectives, performance measures, and weights
- » Winter/Spring 2022: Transportation Perception Survey, web post series, TransAction project modeling and analysis
- » Summer 2022: Public comment period – August 1 – September 18th
- » Fall 2022: Finalization of plan and project list based on public and stakeholder comments
- » December 2022: NVTa adopts TransAction



TransAction Public Engagement 2022

- » Public comment period: August 1 – September 18th
 - Detailed on-line comment form
 - TransAction Plan 2022 Update – Draft Summary
 - TransAction Plan 2022 Update – Draft Project List, containing 429 projects
 - Other supporting information
- » Draft Summary document and comment form available in English, Spanish, and Korean





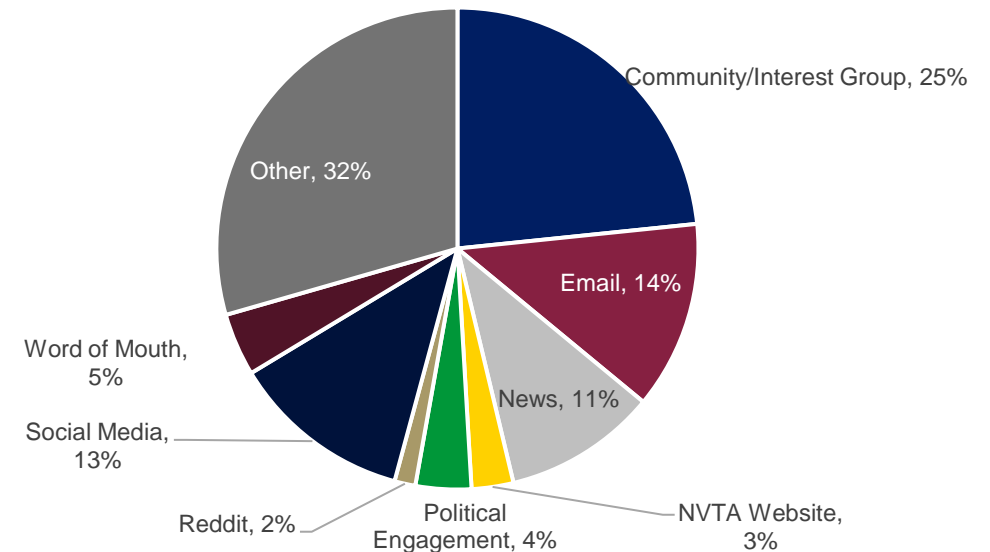
Public Comments Received

» Total Comments Received

- 223 comments received
 - 193 comments through web comment form
 - 21 comments heard at public hearing
 - 6 letter responses
 - 2 emails
 - 1 voicemail
- 222 comments in English, 1 in Korean
- 205 unique commenters

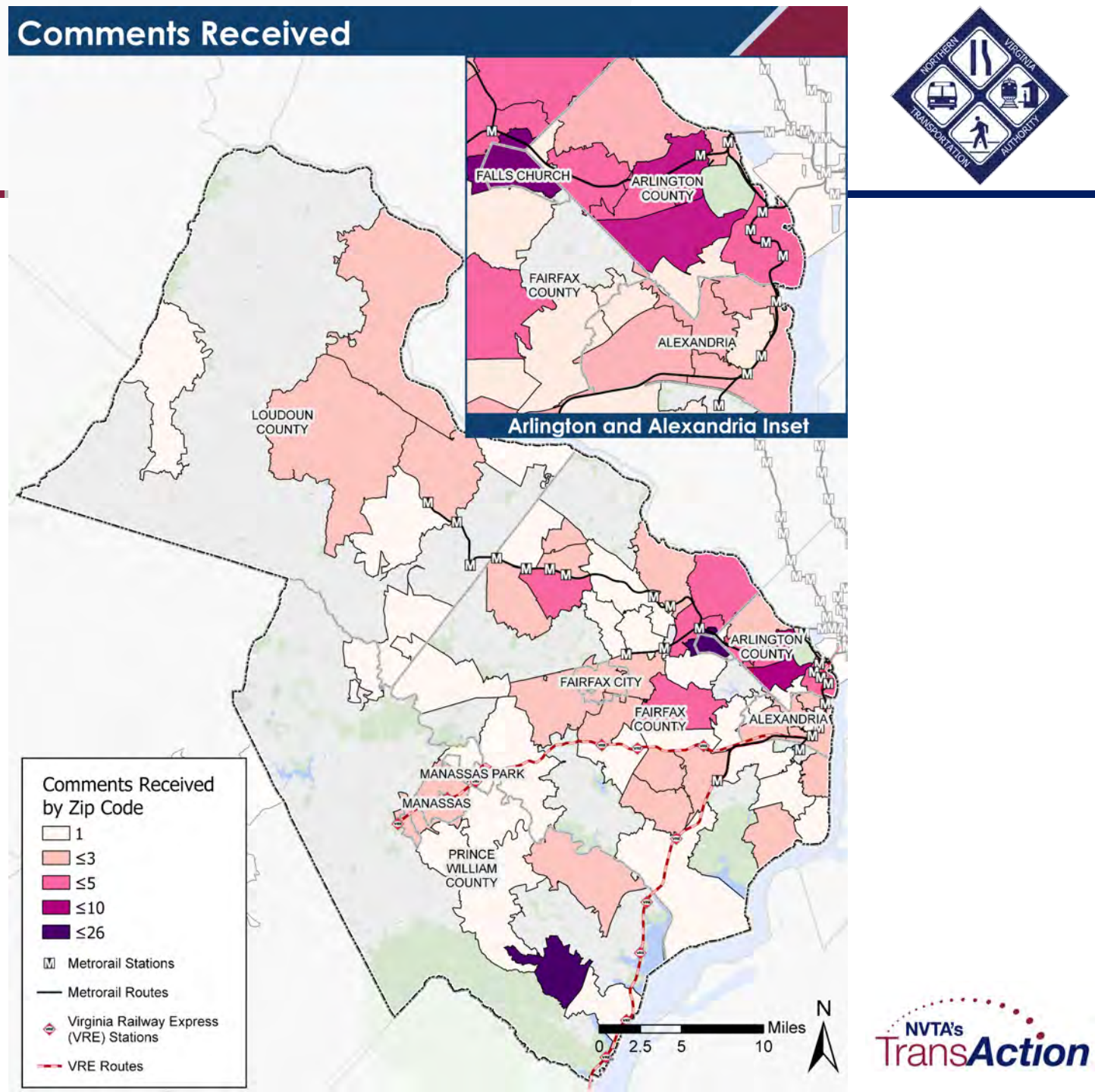
» Where public heard about TransAction Comment Period

Where People Heard about TransAction



Comments Received by ZIP Code

- » Most comments from Inside the Beltway
- » Zip code 22025 (Four Seasons): Van Buren Rd Extn
- » Zip code 22046 (Falls Church): Mixed comments
- » A few from DC, MD, other VA

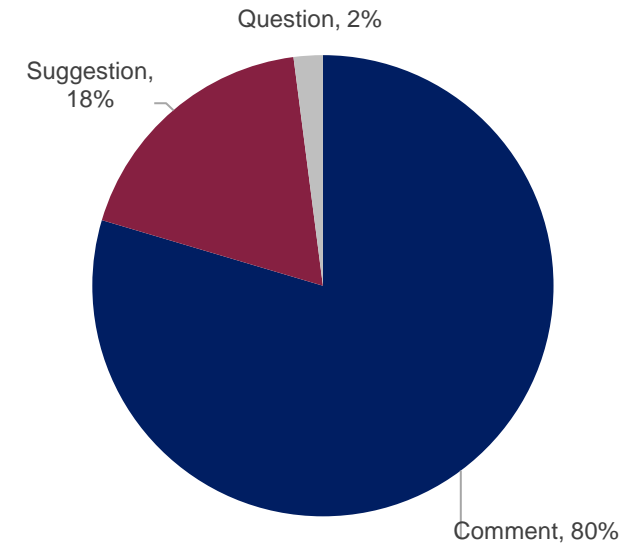




Type and Themes of Comments Received

Common Theme	Example Comment
Against Roadway or Widening	"We must shift the scoring for NVTA projects to reward those that reduce Vehicle Miles Traveled if we are ever going to meet our climate goals."
Environmental Concern	"Northern Virginia needs a plan that will keep its residents safe from disastrous climate change. We should be working towards resilience and emissions-curbing solutions, not business-as-usual and increased driving. From what I have read, the list of projects in 2045 far exceeds what Northern Virginia can afford, fails to address the land use policies and lack of affordable housing at the root of our transportation problems, and largely ignores urgent climate goals."
Increase/Improve Transit	"As a resident, I would like to voice my support for this NVTA TransAction vision, and for the City projects contained within the draft project list. Investments in pedestrian, bicycle, transit projects help to relieve congestion and increase connectivity and accessibility."
Improve Bike-Ped Routes	
Safety	

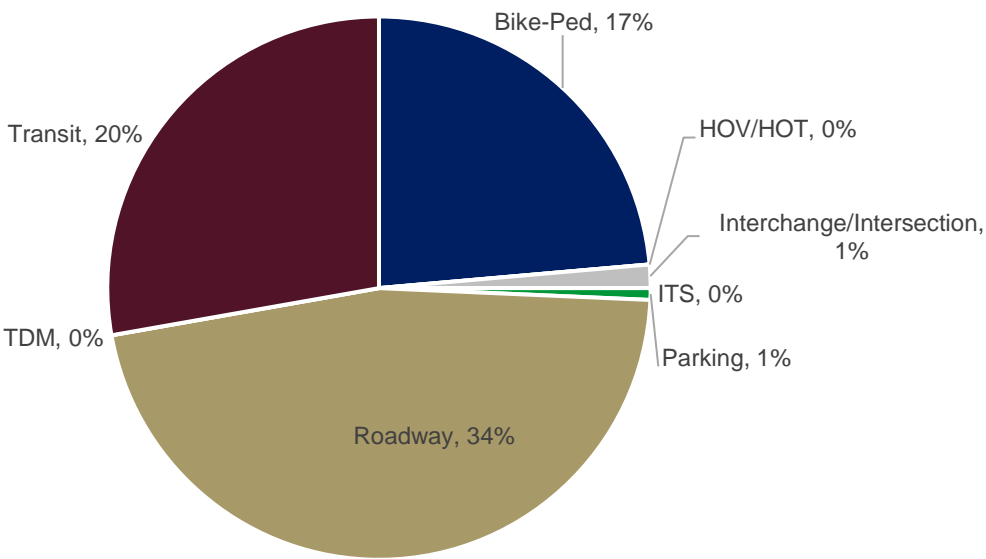
Type of Feedback



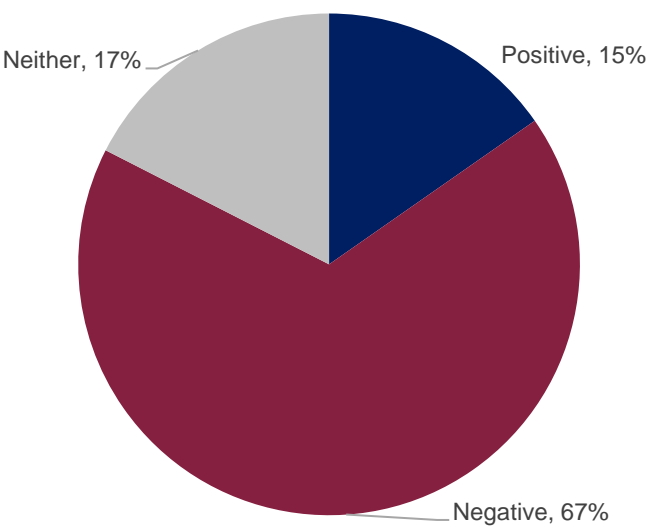
Public Comments Received



Amount Modes Mentioned



Direction of Feedback

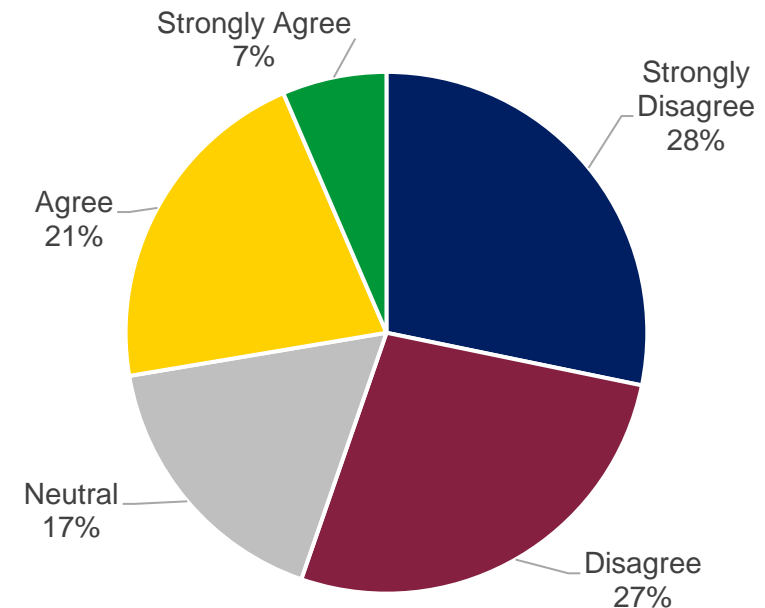


Does the Plan Achieve TransAction Goals - Mobility, Accessibility, and Resiliency?



» Example comments:

- “It is a start, but there is so much more to be done to actually achieve those goals.”
- “A plan that would do little to improve mobility without the massive financial outlay of a car cannot achieve true mobility in the region nor improve accessibility for those who need it most.”
- “The BRT plan definitely increases mobility, accessibility, and resiliency.”
- “A plan that fails to reduce vehicle miles traveled and greenhouse gas emissions cannot be a resilient plan; it dooms us to more and more of the disruptive severe weather we have been seeing over the last few years.”
- “I often use the Burke VRE trail to travel from the GMU area to West Springfield. I'm glad to see you are extending the trail out to Manassas. Please continue to expand these types of trails, keeping cyclists and pedestrians as far away from busy roads as possible.”

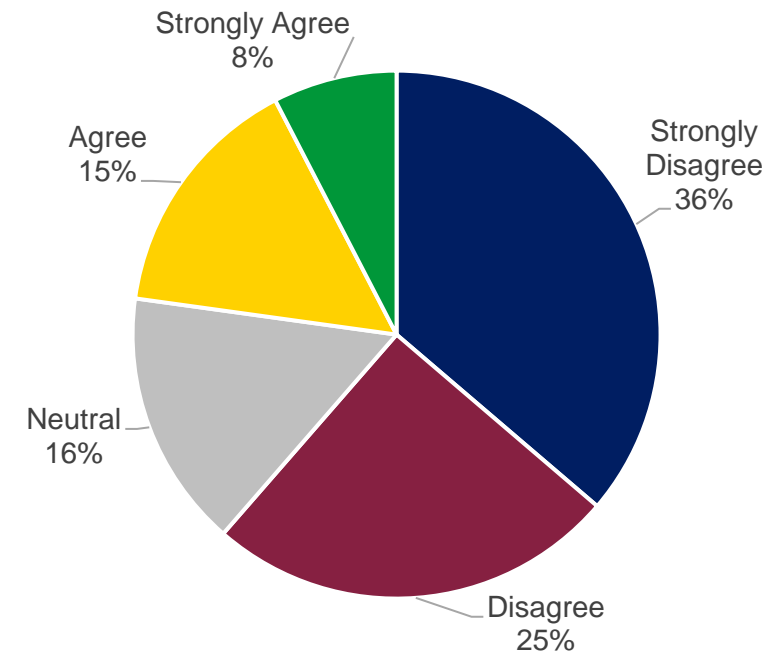


Does the Plan Reflect TransAction Core Values - Safety, Equity and Sustainability?



» Example comments:

- “A plan that anticipates such a large increase in VMT for a majority of the region cannot reasonably be called sustainable”
- “Expanding transit options can build up lower-income and minority communities by providing needed access to public goods, employment, and amenities.”
- “More bus services (including BRT) for underserved communities. People shouldn't have to take three buses to get to work.”
- “NVTA and TransAction continue to advocate for roadway widening. Nearly 1000 people die every year on Virginia roads, and a non-insignificant cause of some of these crashes are roadway design and roads meant to speed up cars.”
- The goals are reasonable to meet the core values of safety, equity, and sustainability.





Comments on Scenario Analysis

“Because there is uncertainty associated with predicting the future, TransAction considered multiple ways that the future of Northern Virginia could unfold. These scenarios were: Post-Pandemic ‘New Normal’, Technology, and Incentives/Pricing.”

Common Themes	% of Responses	Positive	Negative	Neither
Specific strategies or types of projects	13%	31%	35%	34%
Scenario definition	11%	5%	14%	81%
Thoughts on future travel	10%	5%	5%	90%

Example Comments:

- “It sounds as though the region is preparing for multiple scenarios, which is encouraging to see.”
- “Post-Pandemic 'New Normal' -> need to focus on transit and non-car travel across the region, not just connections to DC”
- “Technology - With automated vehicles, there should probably be fewer cars on the road: if people can rent cars out to ride-share services while they aren't using their own cars, then it will decrease the reliance on owning a car”
- “Incentives and pricing are one of the most effective ways to alter behavior, but NVTA needs to support such a policy with the appropriate infrastructure to give people a real choice. Without that infrastructure, it will be nothing more than a tax on the poor.”



Feedback on Specific Projects

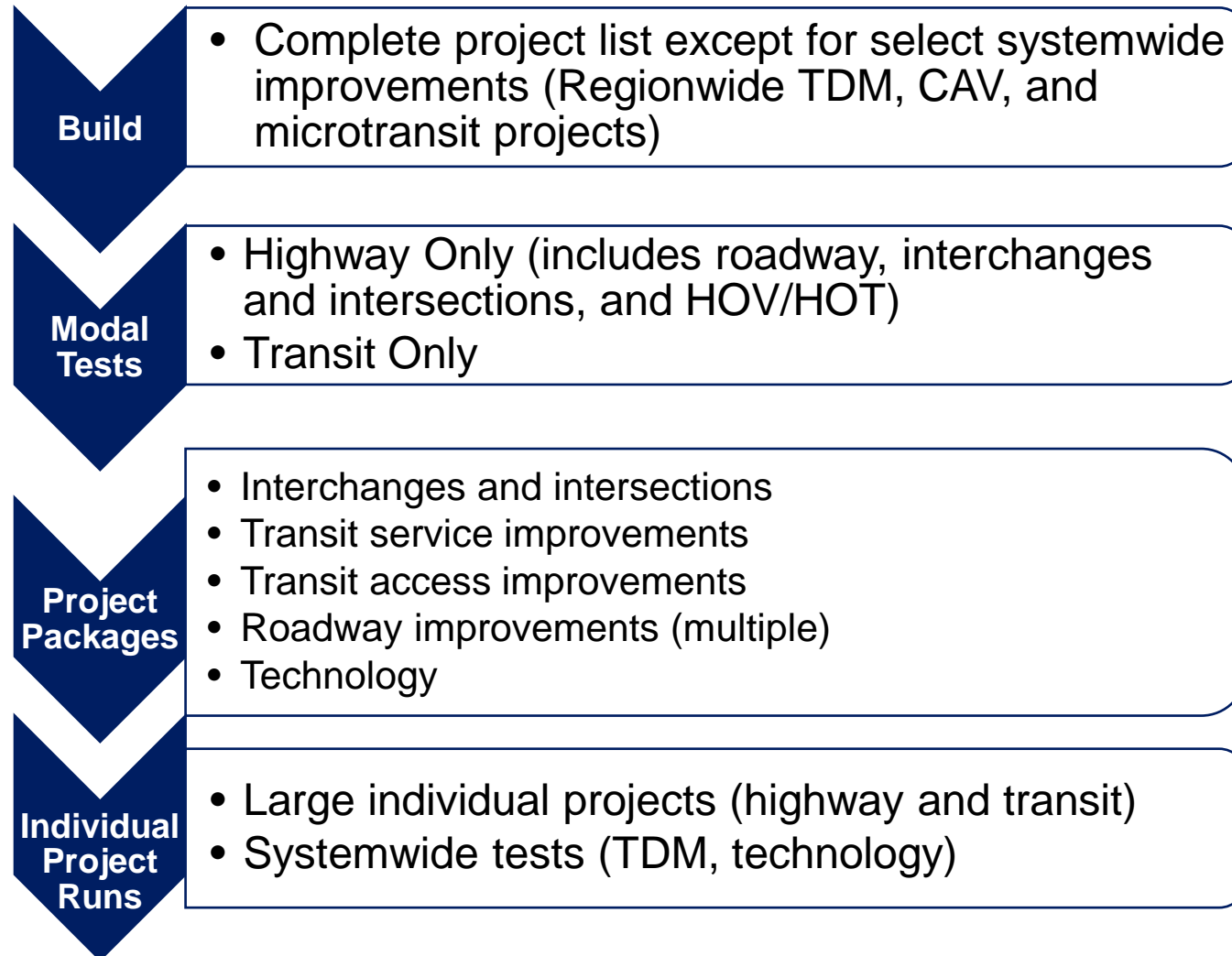
Project ID	Project Name	Mentions	Positive	Negative	Neither
273	Construct Van Buren North Road: Cardinal Drive to Dumfries Road	28	0	28	
67	Route 29 Trail	10	8	0	2
31	Route 7 Transit: Tysons to Mark Center	9	8	0	1
18	Seven Corners Ring Road Improvements	8	8	0	
21	Bike Lanes on Route 7: Alexandria to Seven Corners	8	8	0	
62	East Falls Church Metrorail Station Second Entrance	8	8	0	
66	Falls Church Multimodal	8	8	0	
70	East Falls Church Metrorail Station Multimodal Improvements	8	8	0	
71	Route 29 Bus Improvements	8	8	0	
114	Metrorail Pocket Track Improvements	8	8	0	
118	East Falls Church Bikeshare Connections	8	8	0	
133	Falls Church Enhanced Bus Service	8	8	0	
208	Underpass at Intersection of Route 123, Lewinsville Road, and Great Falls Street	8	8	0	
333	Transit Boulevard on Sycamore St	8	8	0	
334	Falls Church Metro Station Access	8	8	0	
335	Falls Church Regional Bicycle Connections	8	8	0	
356	CoFC Greenway and Parkway Network	8	8	0	
357	Bicycle Facility Route 7	8	8	0	
359	Fall Church Park Once and Walk	8	8	0	
360	Falls Church Safe Routes to School	8	8	0	

Modeling Results





TransAction 2045 Build Networks for Testing



All Build networks evaluated relative to the 2045 No Build network.



Build Network Results

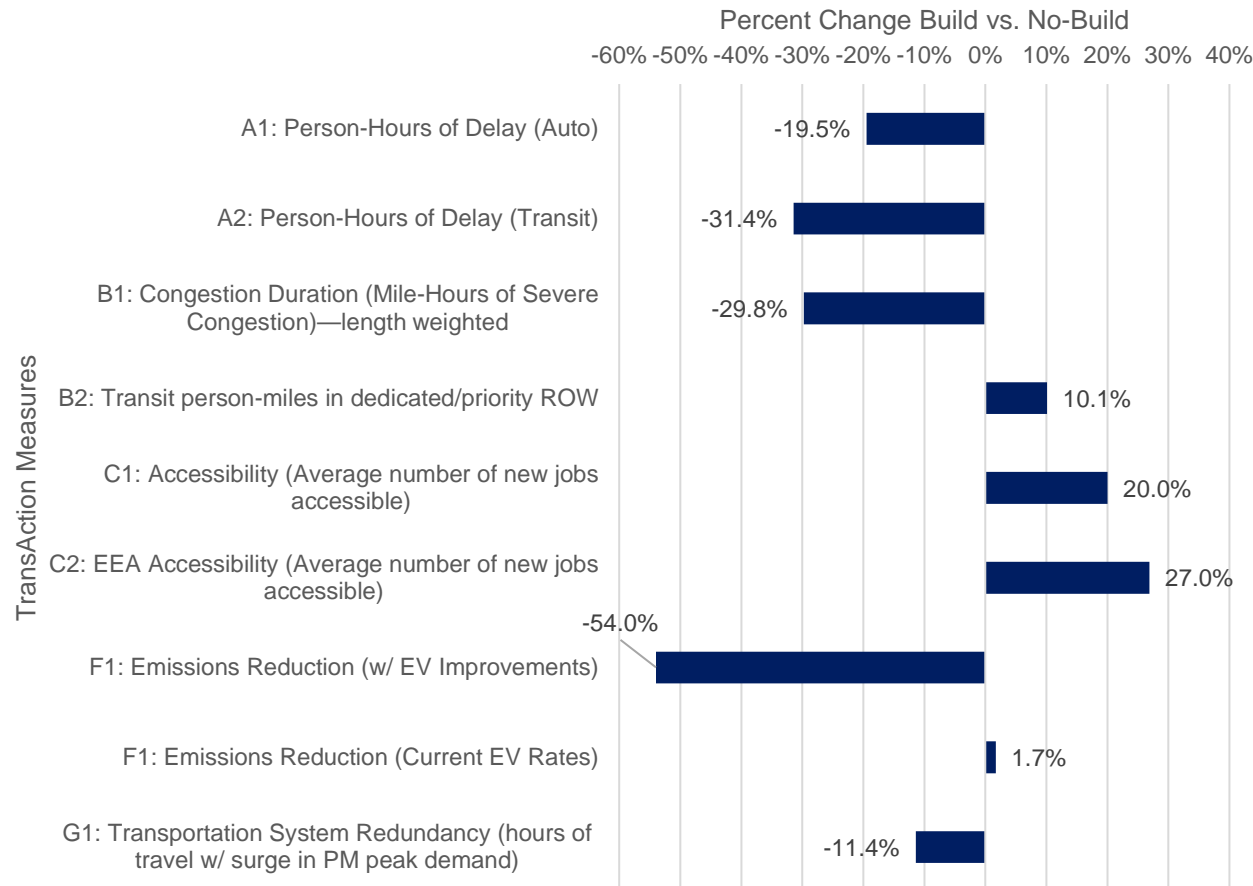
Daily Travel	2017 Base	2045 No-Build	2045 Build	% Change 2017 to 2045 No-Build	% Change 2045 Build vs. 2045 No-Build
Auto Person Trips	6.74 M	8.22 M	8.15 M	22.0%	-0.8%
Transit Person Trips	0.26 M	0.39 M	0.43 M	47.5%	12.1%
Non-Motorized Person Trips	0.85 M	1.36 M	1.35 M	59.3%	-0.2%
Total Person Trips	7.86 M	9.97 M	9.94 M	26.9%	-0.2%
Person Miles Traveled (PMT)	70.69 M	91.16 M	94.70 M	29.0%	3.9%
Vehicle Miles Traveled (VMT)	52.42 M	66.12 M	68.53 M	26.1%	3.6%

- » Total person trips remain essentially the same between the 2045 No-Build and 2045 Build analysis
- » Number of transit trips increases by 12% due to the significant investment in proposed in transit projects.
- » Vehicle miles traveled (VMT) increase by 3.6% between the 2045 No-Build and 2045 Build analysis, as highway capacity improvements and reduced travel delay lead to some increases in the length of auto trips.

Build Network Results



Evaluation Results—Northern Virginia Regional Totals

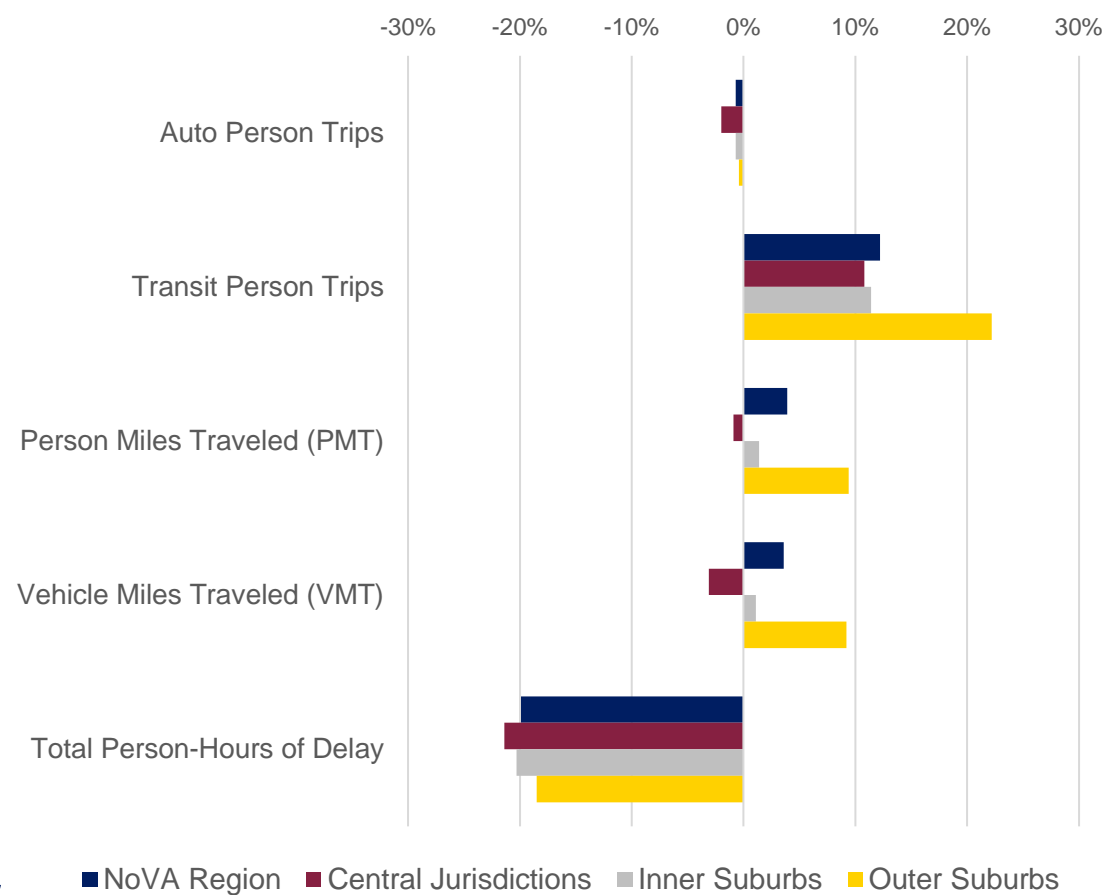


- » Person hours of delay decreases by 19.5% for auto trips and by 31.4% for transit trips representing significant improvements in congestion across the region
- » Hours of severe congestion decrease by 29.8%
- » Accessibility to jobs improves by 20.0% overall, and slightly more (27.0%) for Equity Emphasis Area (EEA) residents
- » Emissions impacts are highly dependent on electrification of vehicles - emissions could be reduced by up to 54%



Build Network Results by Subregion

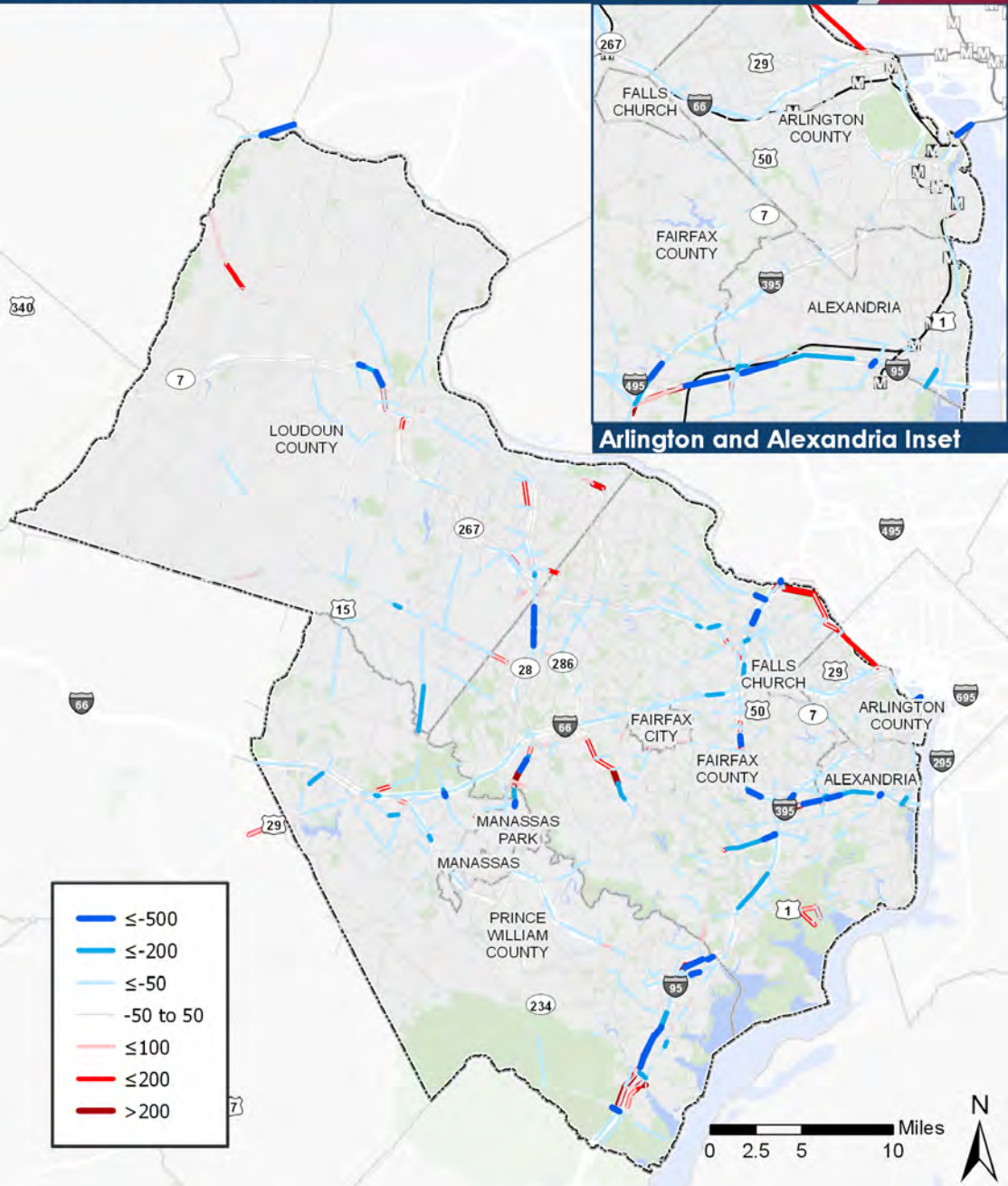
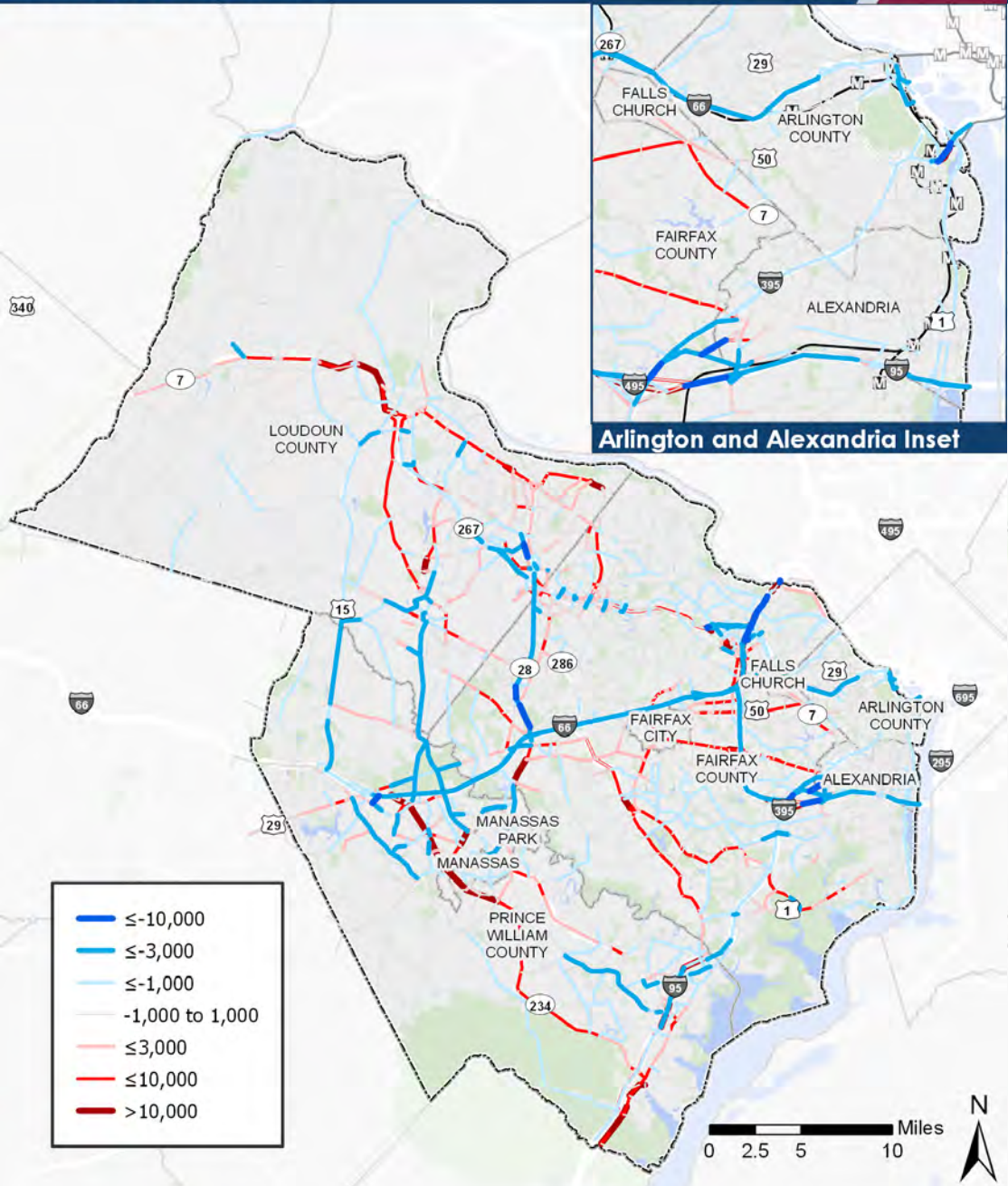
2045 Full-Build Relative to No-Build, Regional and Subregional Results



- » Transit trips show the largest percentage increase (22.2%) in the Outer Suburbs as transit options expand
- » VMT changes vary considerably by sub-region, with a decrease (-3.1%) in the Central jurisdictions; modest increase (+1.1%) for Inner Suburbs; and a larger increase (+9.2%) in the Outer Suburbs
- » Reductions in total person hours of delay are distributed more evenly throughout Northern Virginia

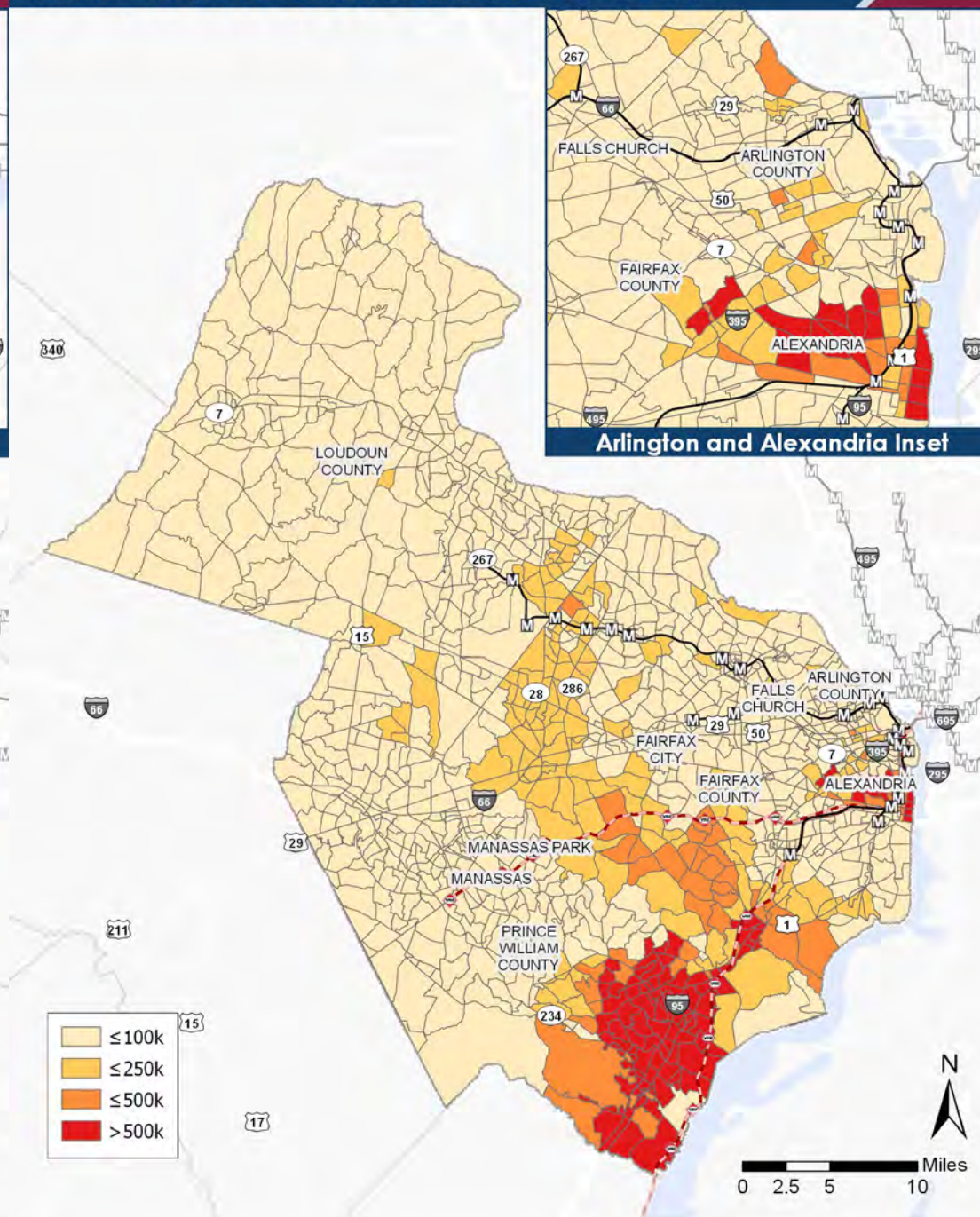
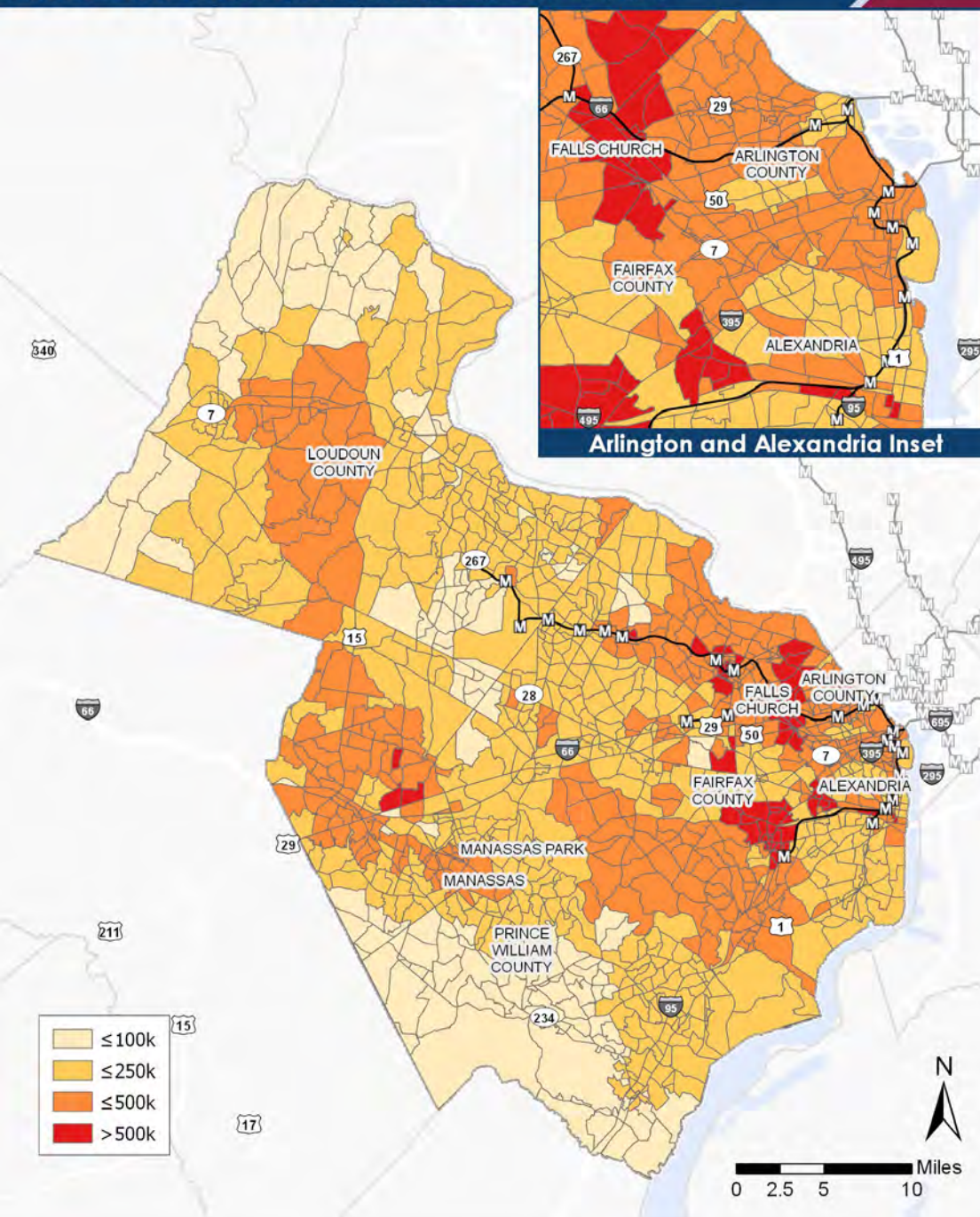
Change in 2045 Daily Highway Traffic Volumes Build vs. No-Build

Change in 2045 Daily Vehicle Hours of Delay Build vs. No-Build



Auto Job Access: Build vs. No-Build

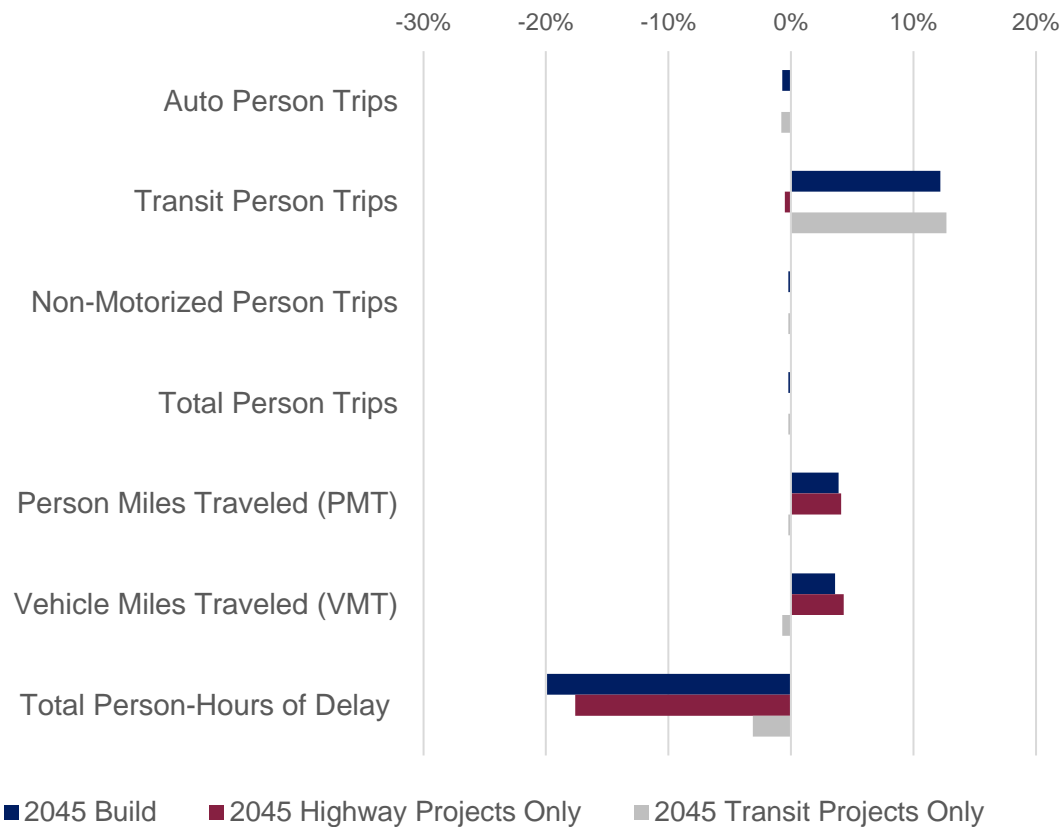
Transit Job Access: Build vs. No-Build





Build Network Results by Primary Mode

2045 Build Relative to No-Build,
Compared with Highway-Only and Transit-Only Results



» Transit projects and highway projects appear to be serving very different markets and are only in competition with one another in very limited cases:

- Transit-only network shows only a small percentage increase in transit trips relative to the Build network (12.6% vs. 12.1%)
- VMT difference between Build and Transit-only is less than 1%

» Roadway projects have a bigger impact on reducing congestion in the region than other modes:

- Roadway projects alone reduce delay by 17.6%
- Addition of the remaining projects further reduces congestion to a total of 19.9%

Scenario Analysis





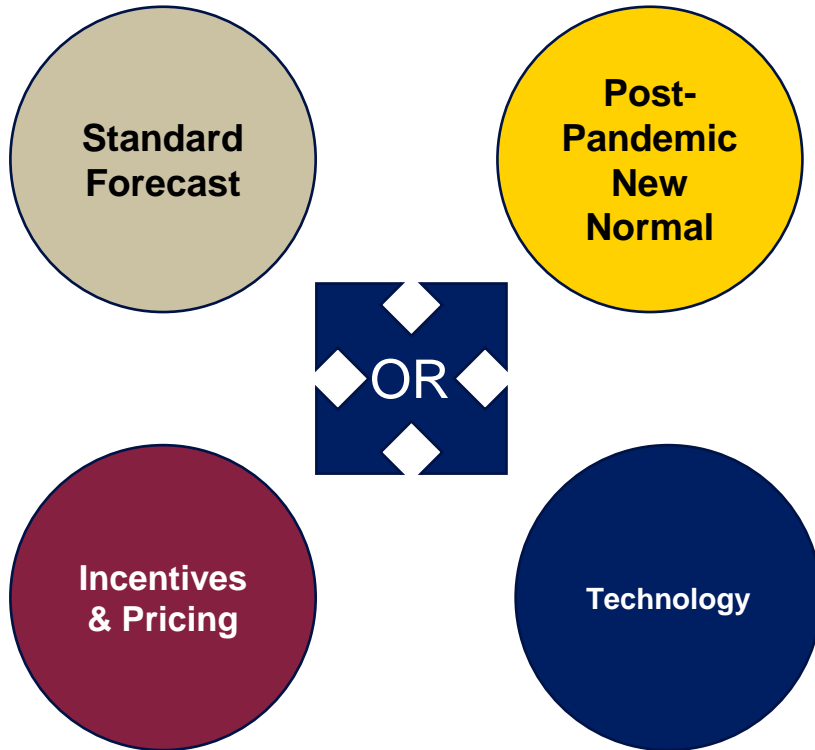
Dealing with Uncertainty

- » 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):
 - Post-Pandemic 'New Normal'
 - Transportation Technology
 - Transportation Policy/Mechanisms

Scenario Analysis

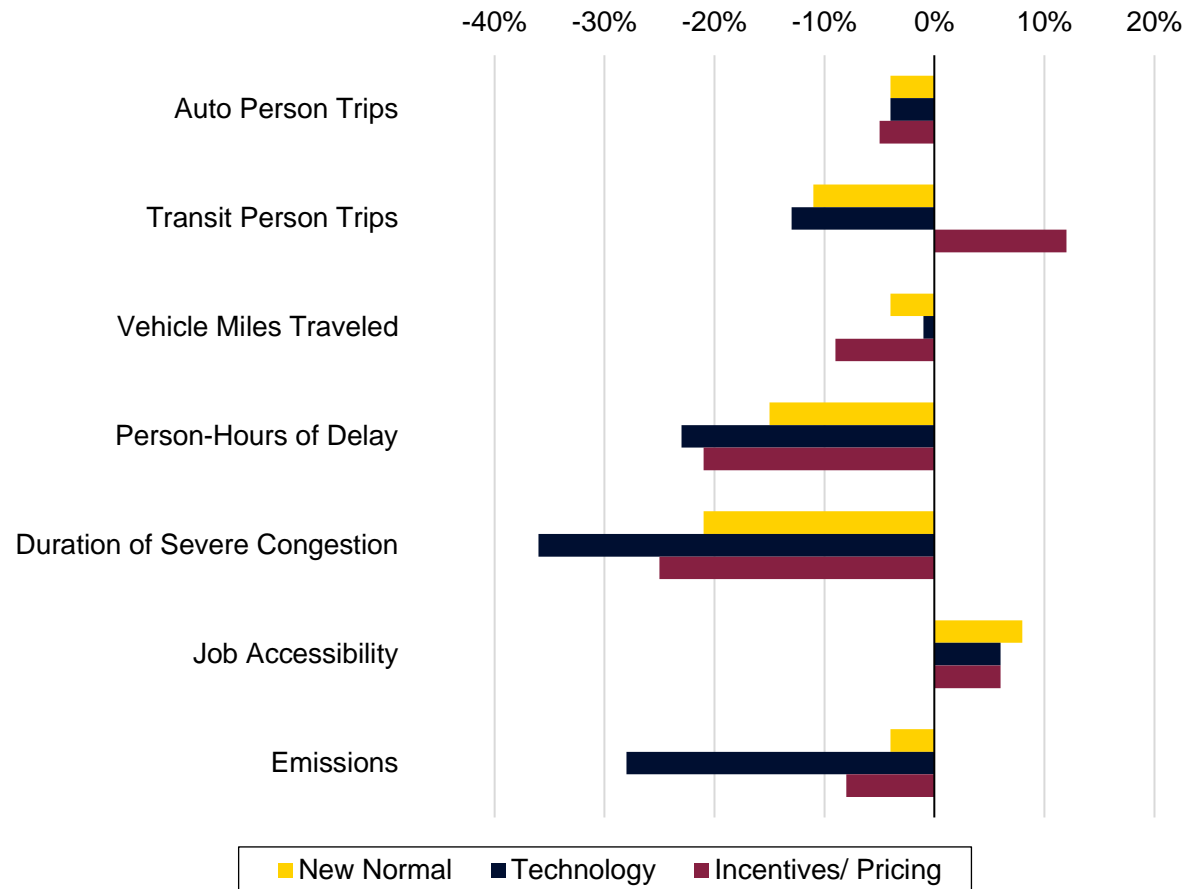


What could happen to transportation in Northern Virginia by 2045?



- » **Post-Pandemic “New Normal” Scenario:**
Reduction of work-related trips, reduction of shopping trips, increase in delivery trips, increase in non-motorized trips.
- » **Technology Scenario:**
Increased market penetration of CASE vehicles, changes in operating costs for automated vehicles, increases in effective roadway capacity, changes in trip generation, and automated transit shuttles at all rail stations
- » **Incentives/Pricing Scenario:**
VMT pricing on all roads with discounts for lower-income households, increase in parking costs across the region, free transit (no fares), and shift in travel times from peak hours

Change in 2045 No-Build Results Under Each Scenario



» Post-Pandemic 'New Normal' scenario:

- Fewer commute trips in the peak period results in less congestion: person-hours of delay decreases by 15%
- Decreases also seen in VMT (-4%) and overall emissions

» Technology scenario:

- Decreases in person hours of delay (-23%) and in duration of severe congestion (-36%)
- Transit trips decrease (-13%) due to the combined effects of reduced trips and transit trips shifting to CASE vehicles
- Emissions decrease by 28% as a result of electrification.

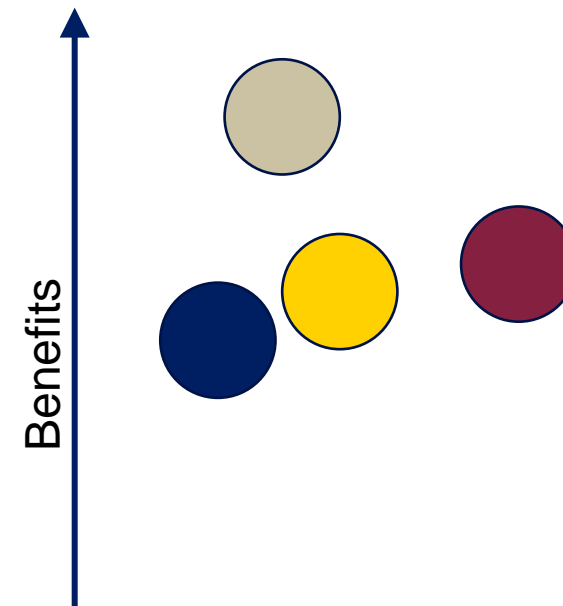
» Incentives/Pricing scenario:

- Transit trips increase by 12%, with gains in transit use offset by reduced work trips
- Decreases in VMT (-9%), person hours of delay (-20%) and in duration of severe congestion (-25%) are more significant because of the reduced work trips.

Robustness of TransAction Investments

- » Tested how well the TransAction projects would perform in each of these potential futures
- » Scenario build network compared with scenario no-build

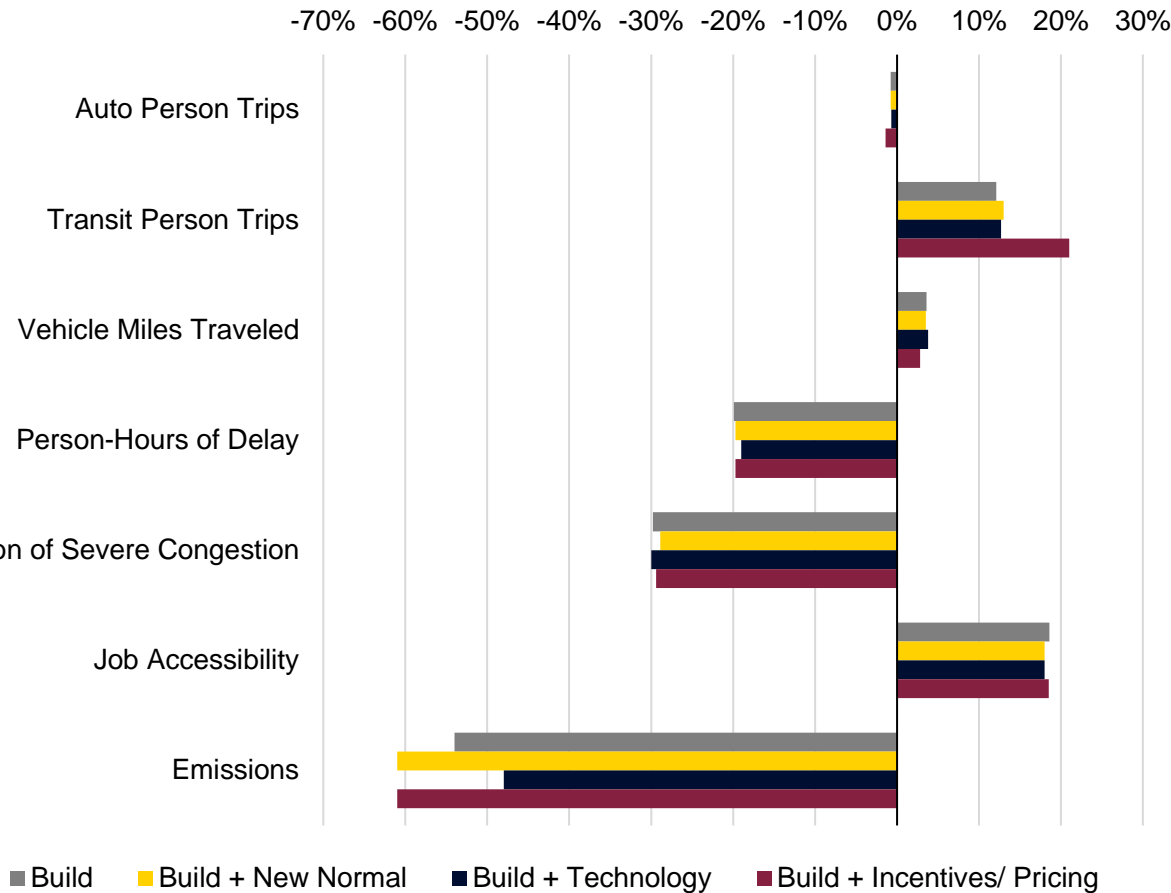
What are the potential benefits of the TransAction projects?



Performance of TransAction Projects by Scenario



Change in 2045 Build vs No-build Results
Under Each Scenario



As compared to the standard forecast:

- » The increase in transit trips in the New Normal (13%) and Incentives/Pricing+ (21%) scenarios is greater than in the standard forecast (12.1%)
 - Transit projects included in the TransAction Plan are more attractive under the assumptions of those two scenarios
- » TransAction projects have a similar impact on congestion in the alternative future scenarios
- » TransAction projects have the biggest impacts in the Incentives/Pricing+ scenario; increasing transit trips by 21%, decreasing emissions by up to 61% and resulting in the smallest increase in VMT of any of the four futures considered

Next Steps





Remaining TransAction Activities

- » Complete public comment report
- » Finalization of plan and project list based on public and stakeholder comments
- » PPC Role:
 - October: Review any refinements to plan and project list
 - November: Endorsement of TransAction
- » December 2022: NVTA adopts TransAction

Reference Slides



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

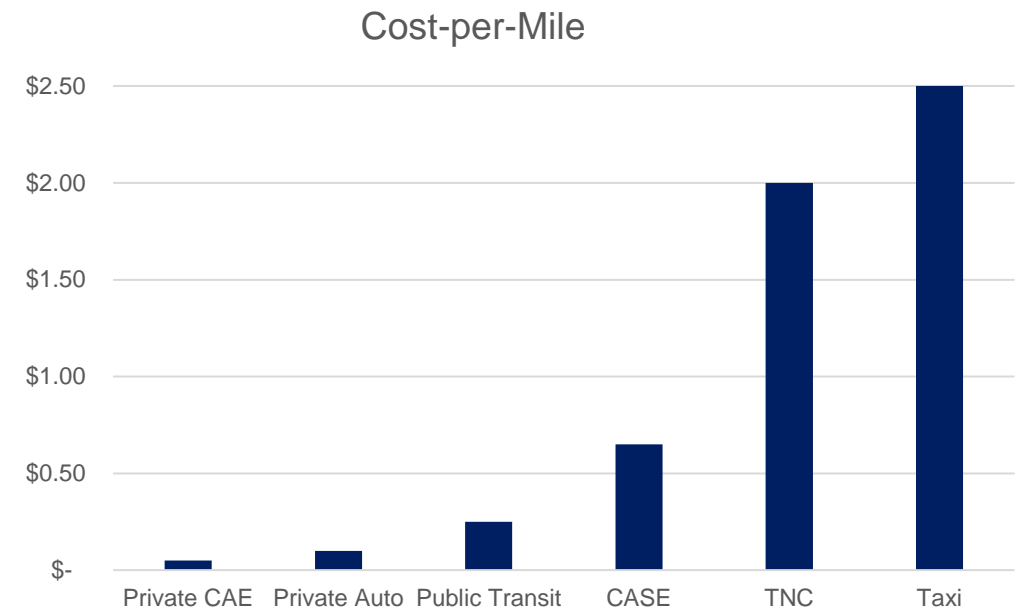
» Focus on implementation of Connected/ Automated/ Shared/ Electric vehicles (CASEs)

» 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



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



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



Hourly Parking Costs

