



Northern Virginia Transportation Authority

The Authority for Transportation in Northern Virginia

TECHNICAL ADVISORY COMMITTEE
Wednesday, September 21, 2022, 7:00pm
3040 Williams Drive, Suite 200
Fairfax, Virginia 22031

This meeting will be conducted virtually over [ZOOM](#) and live streamed via [YouTube](#)¹

AGENDA

- I. Call to Order/Welcome** Vice Chair Ciccarelli

Action

- II. Summary Notes of June 15th, 2022, Meeting** Vice Chair Ciccarelli
Recommended action: Approve meeting notes

Discussion/Information

- III. Status of TransAction Plan Update** Dr. Nampootheri, Senior Transportation Planner
- IV. NVTA Updates** Ms. Monica Backmon, Chief Executive Officer

Adjournment

- V. Adjourn**

Next Meeting
October 19th, 2022

¹ *If technical difficulties arise, the meeting may be audio or video recorded. Any recordings will be made available on the [Technical Advisory Committee meetings'](#) webpage.*



Northern Virginia Transportation Authority
The Authority for Transportation in Northern Virginia

TECHNICAL ADVISORY COMMITTEE
Tuesday, June 14th, 2022, 6:30 pm
Northern Virginia Transportation Authority
Live-streamed on [YouTube](#)

MEETING SUMMARY

I. Call to Order/Welcome

- Chair Boice called the meeting to order at 6:30: pm at the NVTA Office. Chair Boice introduced the two new members of the committee, Michelle Cavucci, and Kerianne Masters.
- **Attendees:**
 - **TAC Members:** Randy Boice, Karen Campblin, Michelle Cavucci, Armand Ciccarelli, Kerianne Masters, Amy Morris, and Frank Spielberg.
 - **NVTA Staff:** Monica Backmon, CEO; Keith Jasper, Principal, Transportation Planning and Programming; Dr. Sree Nampoothiri, Senior Transportation Planner; and Ian Newman, Regional Transportation Planner.
 - **Others:** Robert Whitfield (Fairfax County Taxpayer Alliance), Meeting was also live streamed on YouTube.

II. Summary Notes of March 16th, 2022, Meeting

- Chair Boice called for a motion to approve the March 16th meeting summary notes from a member who was present at the meeting. Motion to approve the summary notes of the March 16th meeting was made by Mr. Spielberg. Seconded by Ms. Morris. The motion passed unanimously.

III. Summary Notes of April 20th, 2022, Meeting

- As Chair Boice was absent for the April 20th, 2022, meeting, he asked for Mr. Ciccarelli, who led the meeting, to call for a motion to approve the meeting summary. Mr. Ciccarelli called for a motion to approve the meeting summary notes for the April 20th, 2022, meeting. Motion to approve the summary notes of the April 20th meeting was made by Mr. Spielberg. Seconded by Ms. Morris. The motion passed unanimously.

IV. Summary Notes of May 18th, 2022, Meeting

- Chair Boice called for a motion to approve the May 18th meeting summary notes from a member who was present at the meeting. Motion to approve this meeting's summary notes was made by Ms. Morris. Seconded by Mr. Ciccarelli. The motion passed unanimously.

V. Review FY 2022-2027 Six Year Program Staff Recommendations

- Mr. Jasper presented the context of NVTA funding programs to date and that the FY2022-2027 Six Year Program cycle is extremely competitive based on the total request and available funds. He showed how the previous programmed 106 total projects and \$2.5 billion dollars of funding has been allocated by primary mode. He noted that the 33 total roadway projects resulted in 140 new/additional lane miles resulting in approximately 3.27% increase in lane miles in the region, excluding local and interstate roads. He also noted the addition of 33 centerline miles of bus rapid transit (BRT) added as part of this funding.
- Mr. Jasper then presented charts, showing the number of applications, the requested amount (approximately \$1.2 billion dollars), and total project cost (approximately \$3 billion dollars), all of which were divided by mode.
 - Ms. Backmon mentioned that some projects received federal funds and SMART SCALE funds, and project endorsement of their applications are sought from NVTA.
 - Mr. Jasper added that what is being discussed are regional, 70% revenues, but the additional 30% revenues, used by nine member jurisdictions, are also used as a supplementary funding source.
- Mr. Jasper then shared the key components of the project selection process: eligibility, quantitative analysis, qualitative analysis, and public comment. He emphasized that staff project selection recommendations are not based on a single factor though Congestion Reduction Relative to Cost (CRRC) provides the initial ranking. The Long-Term Benefit (LTB) factor was particularly emphasized, and it was noted the lack of specific definition of LTB by the enabling legislation.
 - Chair Boice mentioned that this is an important feature in terms of a regional scope between counties benefitting from numerous intangibles.
 - Mr. Jasper noted that defining LTB took almost all of 2014 for NVTA, and that its principles were established in December 2014 and were intended to be explored after 10 years. These principles are applied if there is an imbalance of benefit.
- Mr. Jasper then showed a chart that is designed to help find a balance between the share of revenue and share of benefits to help understand LTB, the summary table of the quantitative and qualitative analyses for each project along with their CRRC rank, and the public comments bar chart for each project. He pointed out the Arlington County's Ballston-MU Metrorail station second entrance project, the City of Falls Church's North

Washington Street Multimodal Improvements project, both of which received extensive public approval, and Prince William County's Van Buren Road North Extension project, which received negative and positive comments in an approximately 2:1 proportion.

- Mr. Jasper highlighted the project breakdown in that NVTA staff is recommending 20 of 26 candidate projects, 17 of 20 for full and three for partial funding. Seven recommended projects are continuation projects - previously funded project or closely related to a previously funded project. Staff is not recommending funding 6 of 26 projects, two of which are continuation projects that received NVTA funding in the past. He pointed out that \$1.4 million is left unprogrammed.
 - Ms. Morris asked how much weight for projects being considered for funding is attributed to public comment. Mr. Jasper responded that this is one of multiple factors, but that no one factor dominates.
 - Chair Boice mentioned that lower CRRC projects were more quality-of-life projects and did not work towards the congestion relief factor enough.
 - Ms. Backmon mentioned that concerning the Van Buren Road project, it had a CRRC ranking of #6 on the list but received considerable public negative comments, which led to a partial funding recommendation. This shows quantitative, qualitative, and public comment data on a project to determine a recommendation.
- Mr. Jasper then shared the importance of recommendations to be both geographically and modally balanced and mentioned that only 0.2% of the total Six-Year-Program (SYP) recommended is unprogrammed (\$1,408,156).
- Mr. Jasper showed the breakdown of applications and requested amount by jurisdiction and reviewed the three largest recommended funding allocations are all continuation projects.
 - Chair Boice asked how the Metrorail projects are resolved to be funded in the context of Commonwealth diverting NVTA funding to Metro.
 - Ms. Backmon noted that the NVTA funding diverted to Metro is for State of Good Repair projects. She mentioned that NVTA only funds capital projects and discussed multiple sources of NVTA's revenues. She also mentioned the difference of how Metro projects are funded in Virginia versus how they are funded in DC and Maryland, as the District and the Maryland, respectively, pay, but localities in Virginia, primarily pay for Metro capital and operating costs.
 - Ms. Cavucci mentioned that this is Arlington's only application and that this is perhaps a strategic move by them.
- Mr. Jasper then expanded on the four other continuation projects that will receive funding and the list of 10 projects that are recommended for the first time.
 - Chair Boice mentioned that one project on this list, Route 7 Corridor ITS Implementation Program is ranked #1 in CRRC though it showed as #2 on Mr. Jasper's list. This was determined to be a typo; Chair Boice was correct.

- Mr. Jasper then discussed the six projects not being recommended for funding and explained the primary reasons behind why each project in this list did not receive funding recommendation. Discussion on funding Right-of-Way (ROW) costs ensued, specifically in determining a jurisdiction's ability to fund the construction phase if ROW is funded and NVTA's previous experience with funding ROW in the region.
- Mr. Jasper finally showed the number of new lane miles if this funding recommendation is endorsed, from 140 miles in 12 years of funding to 172 miles in 14 years of funding. Excluding interstate and local roads, this represents an approximate 4% increase in lane miles.
- Mr. Jasper also explained the reasoning of recommending only the preliminary engineering (PE) phase for three projects. He then noted the next steps highlighting that this presentation will be given to the next two committees and that the Authority is expected to adopt the SYP at its July 14 meeting.
- Mr. Jasper then directed Mr. Newman to show two supplemental documents, one being the FY 2022-2027 SYP candidate project location map, and the other being the project summary table of all 26 projects examined in the SYP ranked by their CRRC rating and the recommended projects highlighted.
 - Chair Boice asked if the TAC agrees with the funding recommendations and the rationale. He invited members of the TAC to discuss.
 - Mr. Spielberg provided his full support of the technical procedures outlined by Mr. Jasper during his presentation that resulted in the analysis presented.
 - Ms. Cavucci asked if, when it came to the two projects not recommended for funding due to a county bond referendum if this was a happenstance of the timing when project applications were submitted. She followed with why they were ranked and considered if they were funded by this manner.
 - Chair Boice responded by mentioning that sometimes counties and jurisdictions will submit a project to see, "if the project will stick." He noted that many times, the bond does not fully fund the projects. This is a common practice to see if they can receive the additional funding needed. Ms. Backmon confirmed Chair Boice's statement and added that although the bond was approved, the County Board has not issued debt yet.
 - Ms. Cavucci then asked for clarification on each project's CRRC ranking and if this is the reason these projects are not receiving funding. Ms. Backmon responded that though these projects have some funding, and they are waiting on board action. She added that NVTA is not supposed to supplant projects that have other identified funding with NVTA funds.
 - Mr. Jasper mentioned that this is not unprecedented and gave an example with Loudoun County where NVTA reduced the funding amount since the project received federal funding after the project application was submitted to NVTA.

- Ms. Cavucci also asked if the nature of the opposition in public comment, in other words, the content of the negative comment, is taken into consideration. Mr. Jasper responded that it is a matter of the volume or the number of comments and that NVTa encourages the project applicants to review the concerns, and that this is expected to occur during the PE phase of the project. Ms. Backmon added that comments could be derived as personally against a project, but other times, they are the result of organizations that are fundamentally against certain types of projects. All comments are reported though, she mentioned, and that NVTa does not make judgement on the nature of comments.
- Mr. Ciccarelli then asked, when it comes to partially funded projects, the amount requested appears to be a very small portion of the total project cost and how can the project use it? Ms. Backmon and Mr. Jasper confirmed that the funds would cover 100% of the PE request. Ms. Backmon noted that some larger localities can put in other own funds to ensure that projects advance. She added that for the next call for projects, these projects may be in a better position financially to have additional funding sources behind it.
- Chair Boice echoed Mr. Spielberg's comments and asked for a motion to approve the NVTa Staff recommendations for the FY2022-2027 SYP. Ms. Morris made a motion to approve. Seconded by Mr. Ciccarelli. The motion passed unanimously.
- Chair Boice allowed Mr. Whitfield, a guest attending the meeting in person, to express his concern over project cost increases, cost effectiveness, Metro project funding in the context of low ridership during pandemic, etc. Discussion between Ms. Backmon, Chair Boice, and Mr. Whitfield ensued over Mr. Whitfield's concerns and clarified the program's funding cycle years (revenues from FY2026 and 2027 will be used for this set of projects).

VI. Status of the TransAction Plan Update

- Mr. Jasper mentioned that TransAction is moving forward and on the same evening the Authority is meeting to adopt the SYP, staff is planning to seek their approval for the TransAction public comment period beginning in early August and ending in September with a September date for the public hearing. TransAction is expected to be adopted by end of the calendar year.
- An updated project list is being finalized, and the Plan document will be in an advanced draft by the next TAC meeting in July.

VII. NVTa Updates

- Ms. Backmon gave the NVTa updates. She mentioned the General Assembly will reconvene by Friday at noon, and discussion on the proposed gas tax repeal will occur. Ms. Backmon also clarified the date of the next TAC meeting is July 20th. Chair Boice

asked if this date would work for those in attendance, to which there was no shown opposition, except for Ms. Cavucci.

VIII. Adjournment

The meeting adjourned at 7:49 pm.

DRAFT

TransAction Work Session

Project Update

September 21, 2022

presented to

Technical Advisory Committee



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

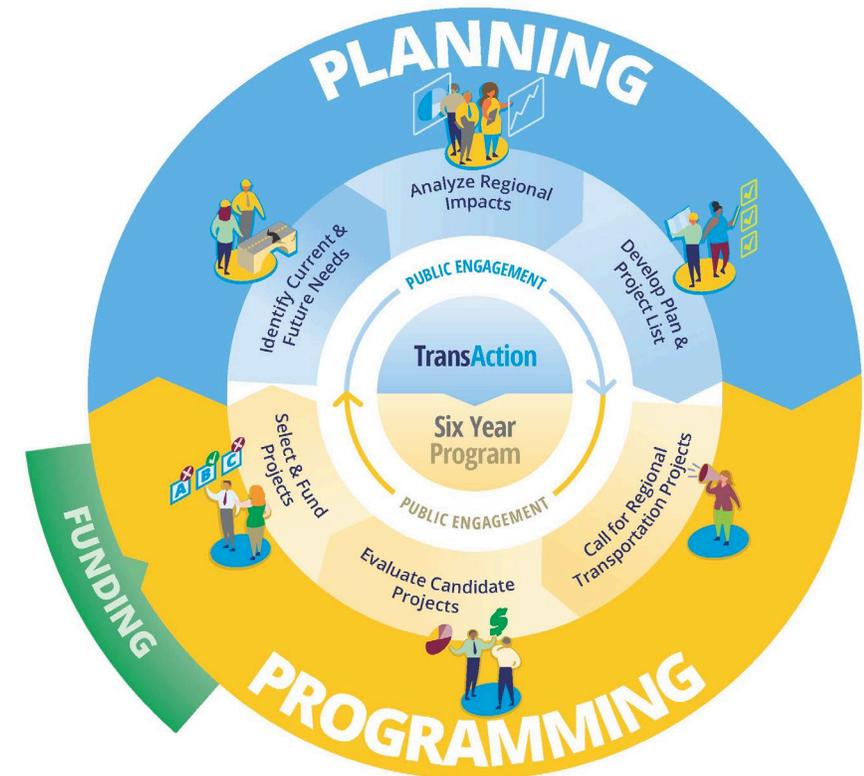


Topics

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

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 and 1 in Korean
- 205 unique commenters

» Where public heard about survey

- Where people heard about the survey?
 - Roughly $\frac{1}{3}$ from email, news, or social media
 - Roughly $\frac{1}{4}$ from community/interest groups
 - The rest from various other sources

Note: Analysis of comments is still being run – these are preliminary observations



Public Comments Received

» Themes of Comments

- Most Common
 - Against roadway or widening
- Common
 - Environmental concern
 - Increase/improve transit
 - Improve bike-ped routes
- Other
 - Plan process
 - Safety
 - Noise
 - Want more information
 - Other

» Type and Direction of Feedback

- Roughly 65% were negative
- Roughly 35% were positive or neutral
- Of the comments and suggestions:
 - Roughly $\frac{3}{4}$ were comments
 - Roughly $\frac{1}{4}$ were suggestions (action)

» Modes Mentioned

- Most Common: Roadway
- Common: Transit, Bike-Ped

Note: Analysis of comments is still being run – these are preliminary observations

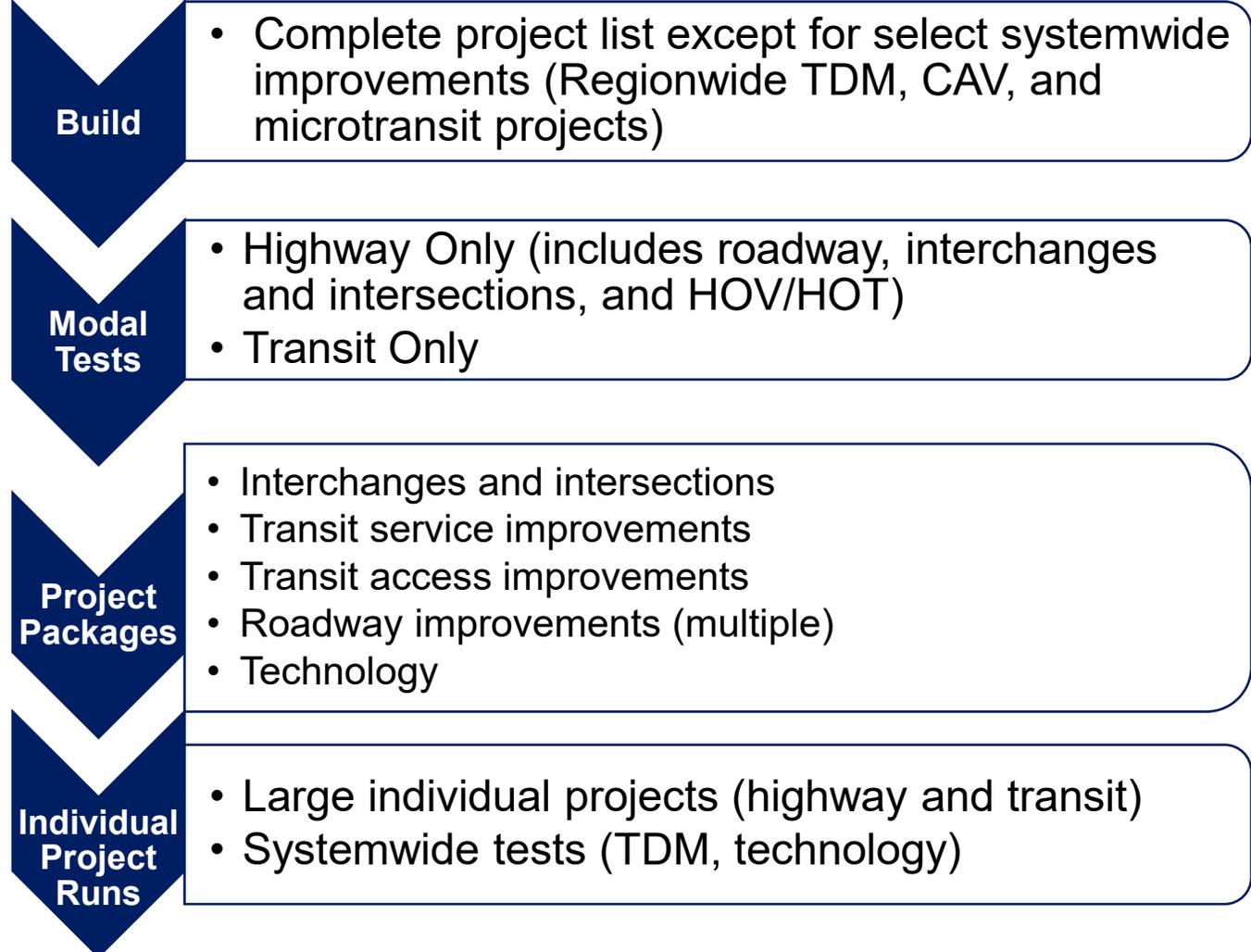
Modeling Results



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TransAction 2045 Build Networks for Testing



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



Build Network Results

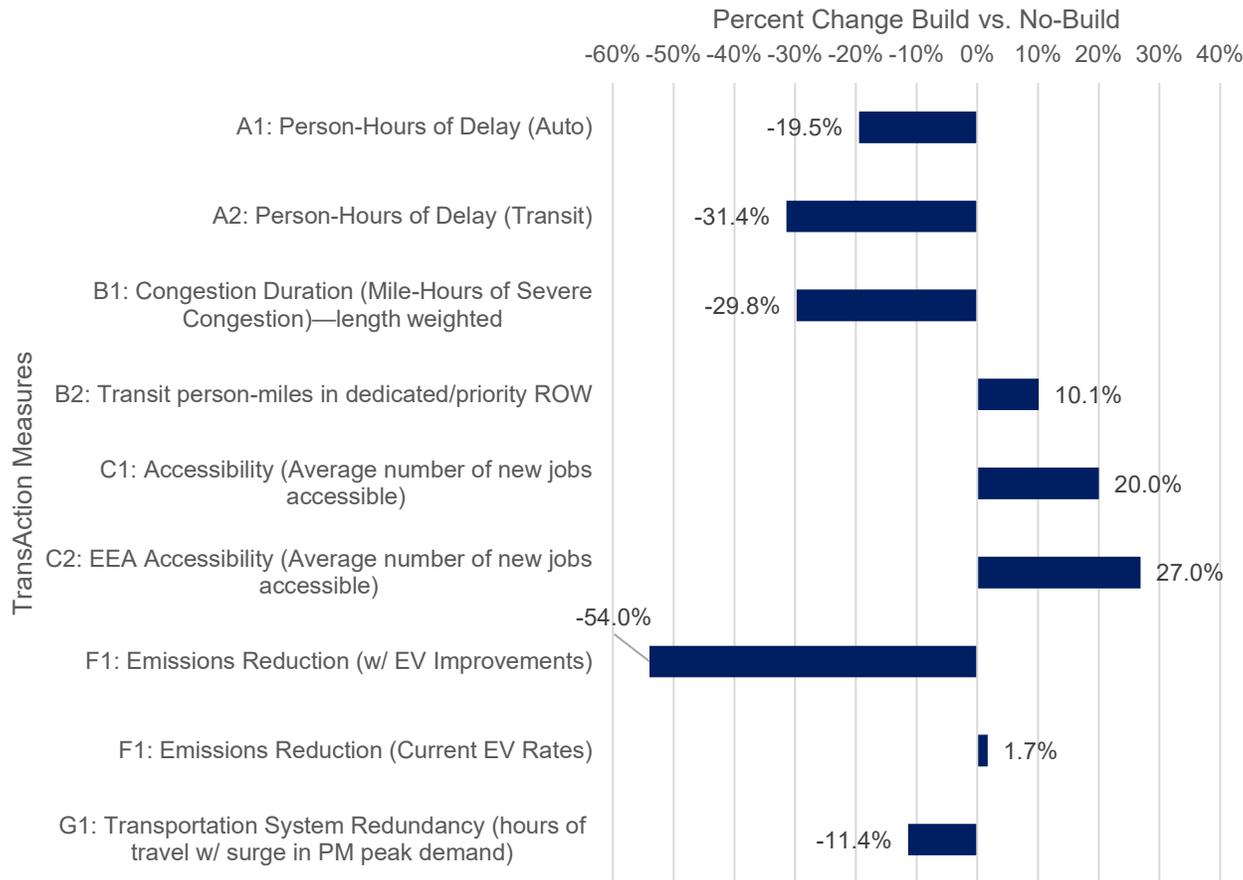
Daily Travel	2017 Base	2045 No-Build	2045 Build	% Change 2017 to 2045 No-Build	% Change 2045 Build vs. 2045 No-Build
Auto Person Trips	6.74 M	8.22 M	8.15 M	22.0%	-0.8%
Transit Person Trips	0.26 M	0.39 M	0.43 M	47.5%	12.1%
Non-Motorized Person Trips	0.85 M	1.36 M	1.35 M	59.3%	-0.2%
Total Person Trips	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

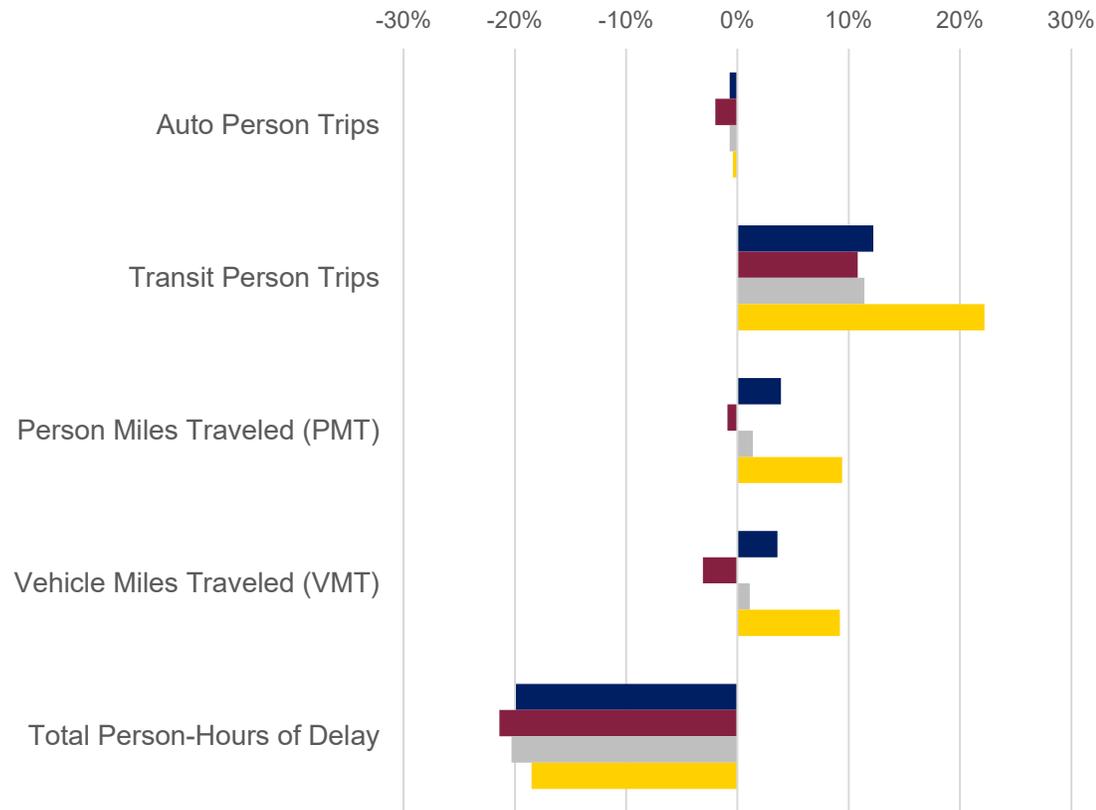


- » Person hours of delay decreases by 19.5% for auto trips and by 31.4% for transit trips representing significant improvements in congestion across the region
- » Hours of severe congestion decrease by 29.8%
- » Accessibility to jobs improves by 20.0% overall, and slightly more (27.0%) for Equity Emphasis 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

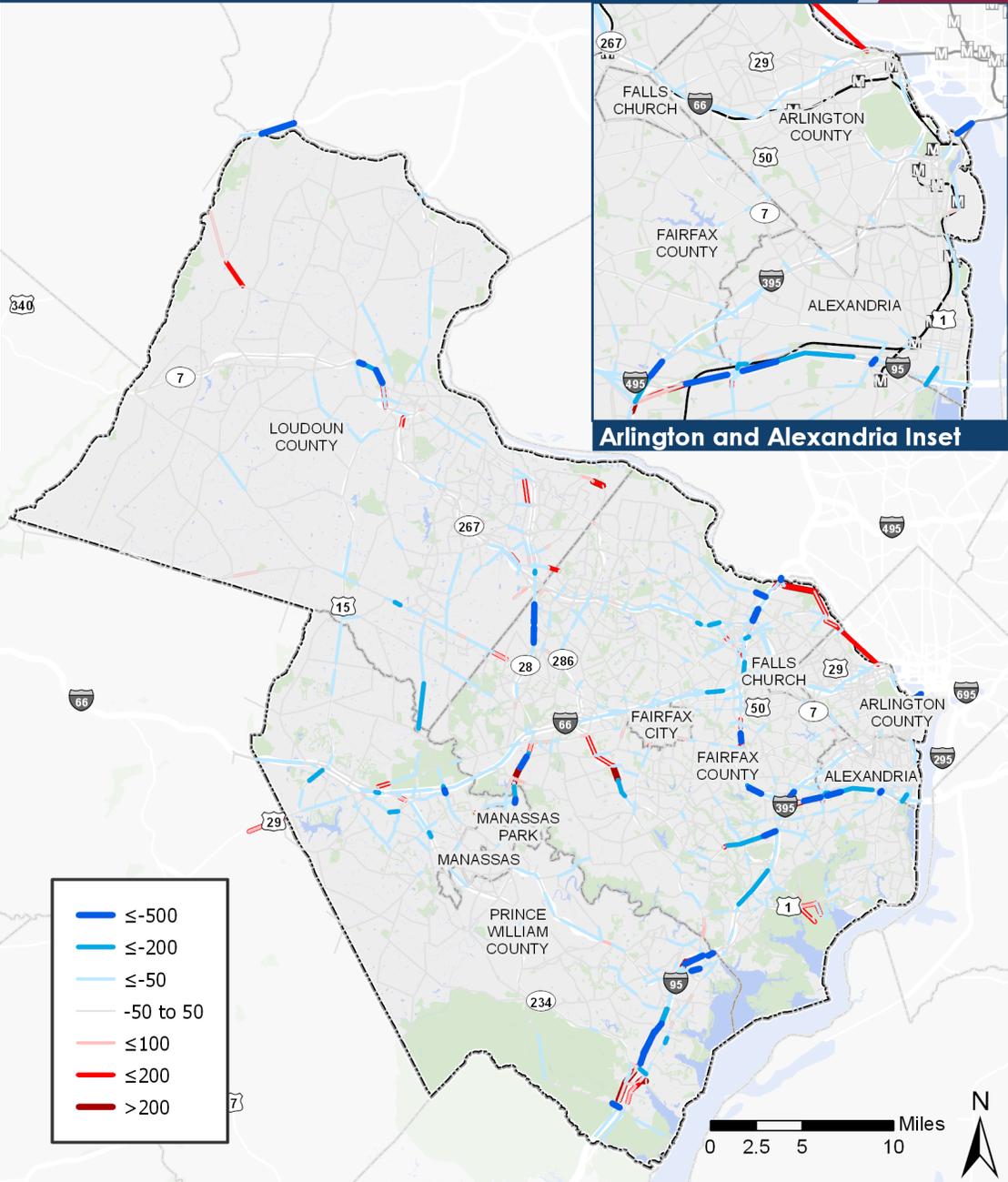
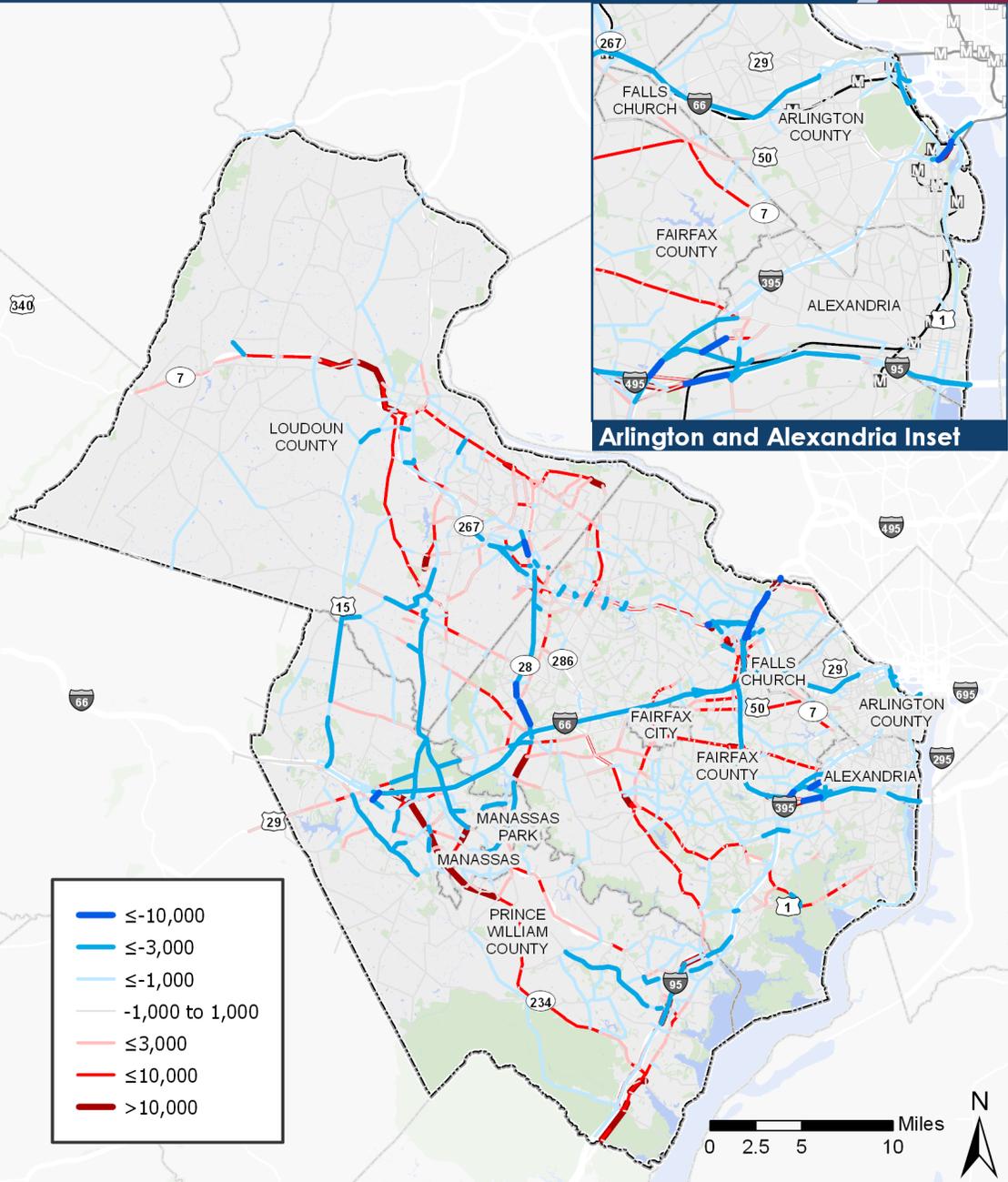


■ NoVA Region ■ Central Jurisdictions ■ Inner Suburbs ■ Outer Suburbs

- » 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

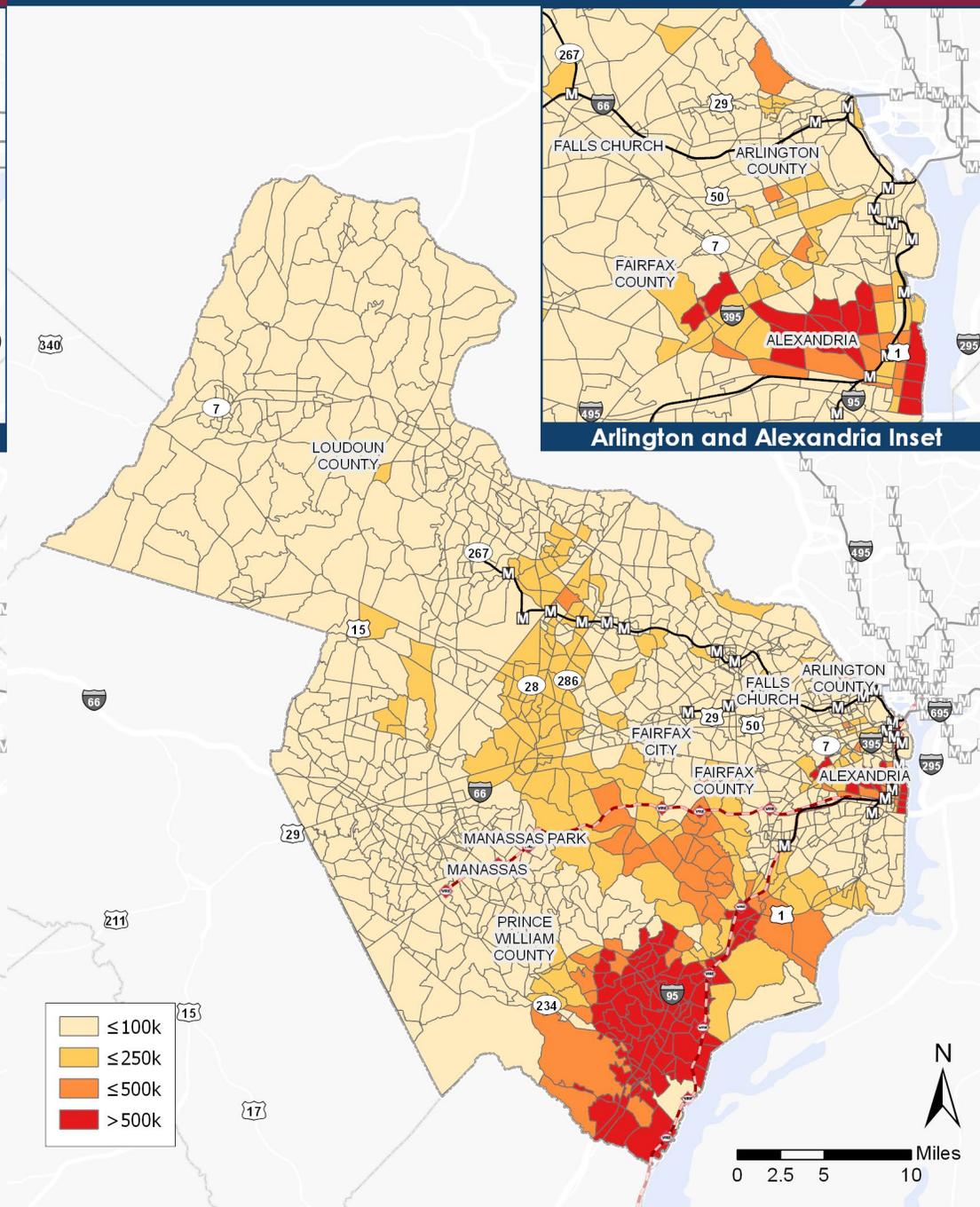
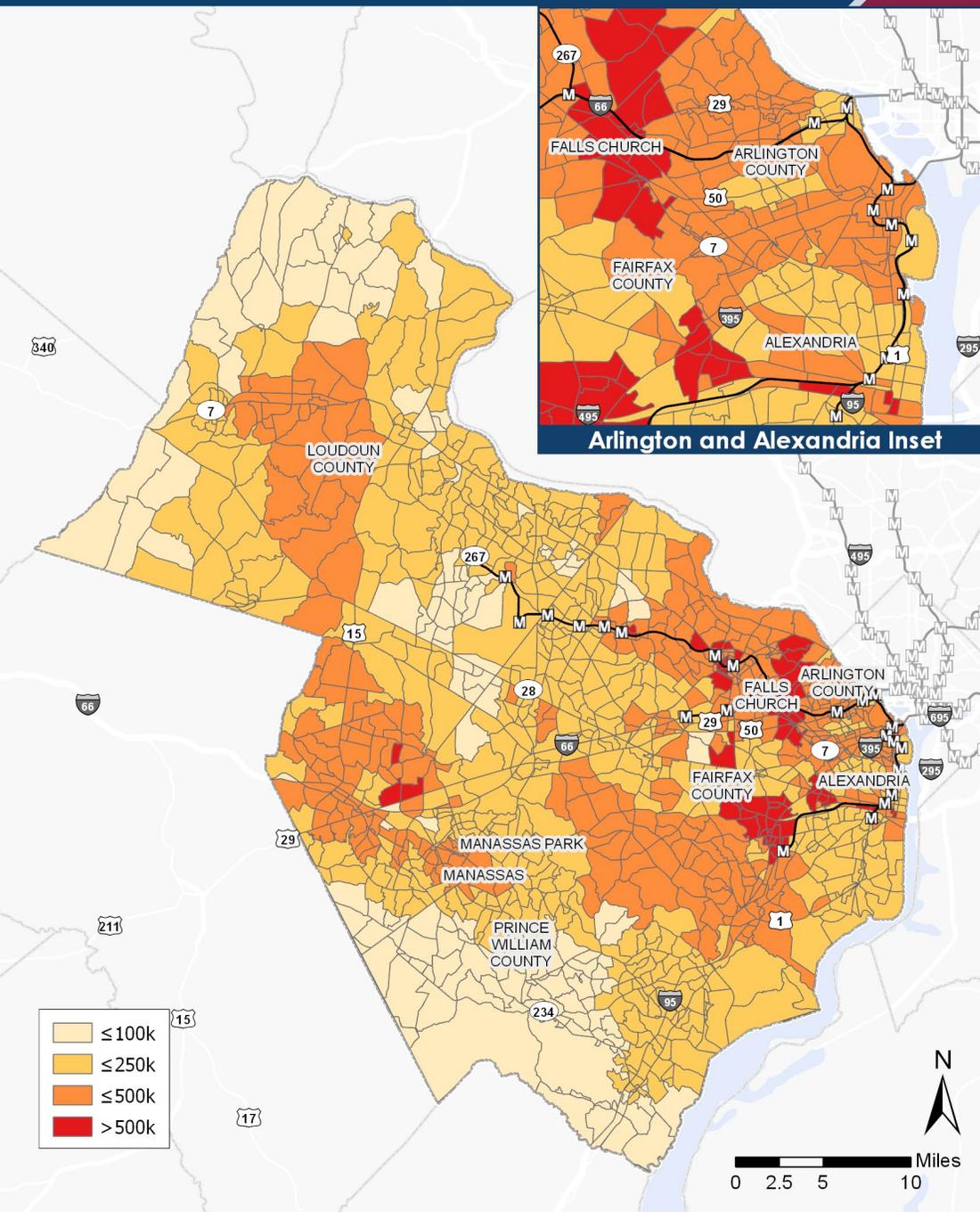
Change in 2045 Daily Highway Traffic Volumes Build vs. No-Build

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



Auto Job Access: Build vs. No-Build

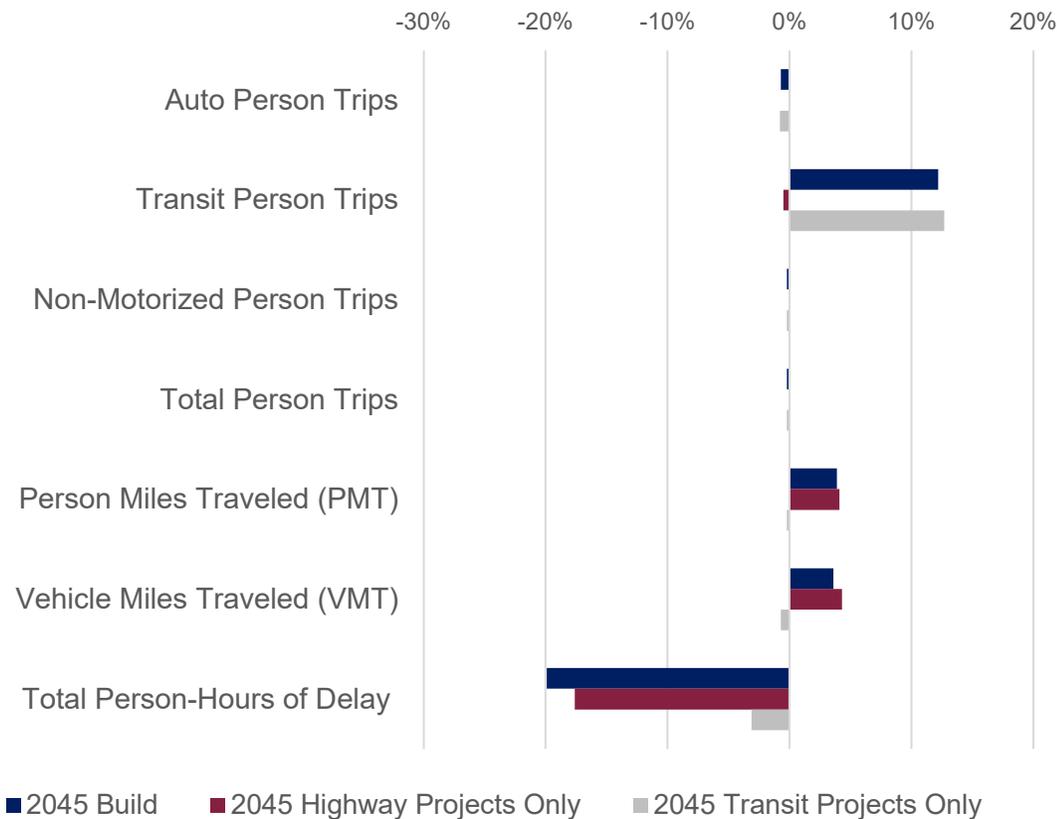
Transit Job Access: Build vs. No-Build





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



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Dealing with Uncertainty

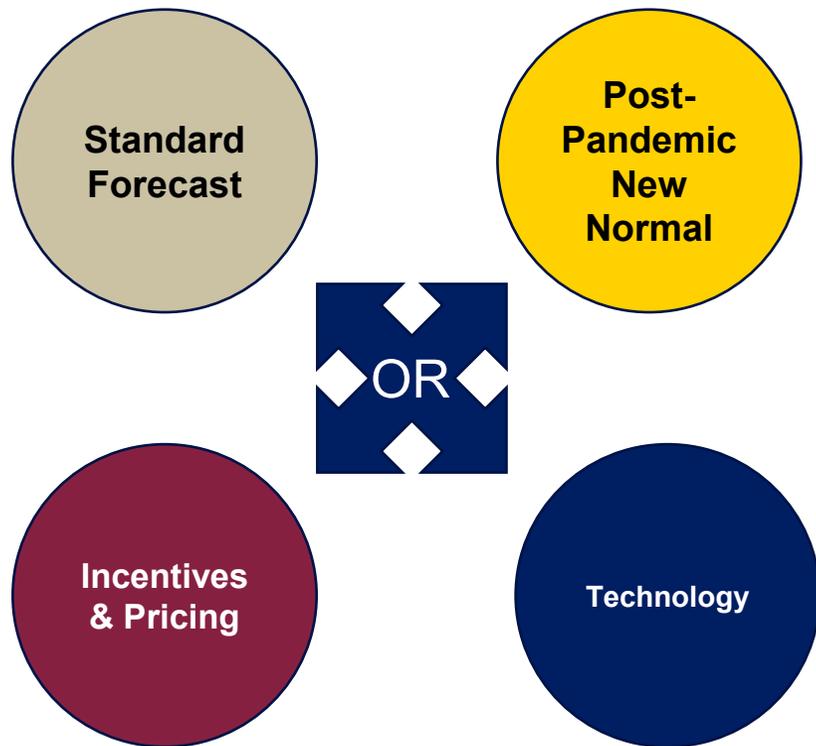
- » The TransAction process includes analysis to better understand uncertainty:
 - Plausible futures, but not necessarily preferred or predicted
 - Assumptions-based using proxy metrics than can be modeled
 - May identify potential investment obsolescence

- » Three specific alternative futures (scenarios):
 - Post-Pandemic 'New Normal'
 - Transportation Technology
 - Transportation Policy/Mechanisms

Scenario Analysis

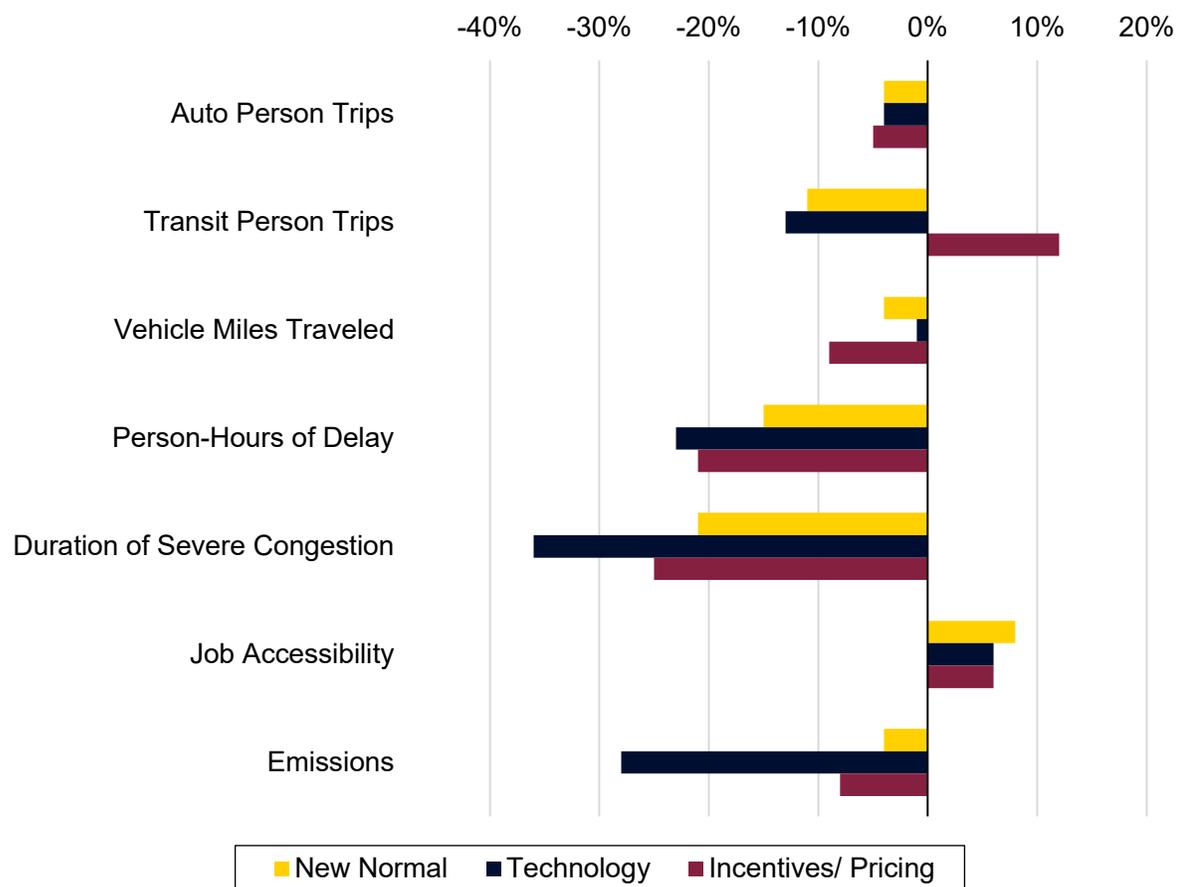


What could happen to transportation in Northern Virginia by 2045?



- » **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:

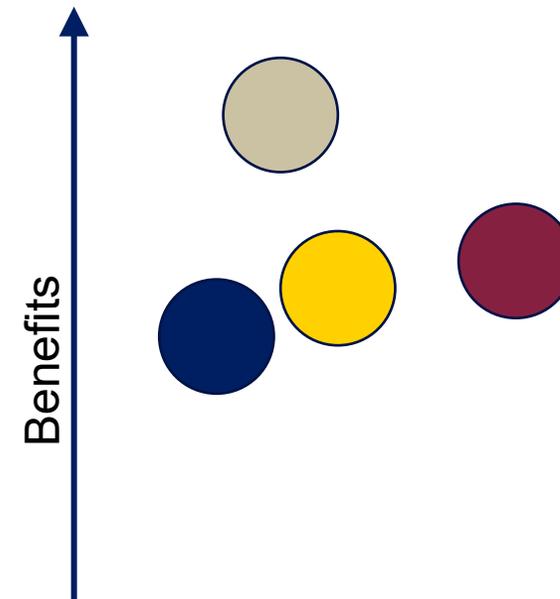
- Transit trips increase by 12%, with gains in transit use offset by reduced work trips
- Decreases in VMT (-9%), person hours of delay (-20%) and in duration of severe congestion (-25%) are more significant because of the reduced work trips.



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?

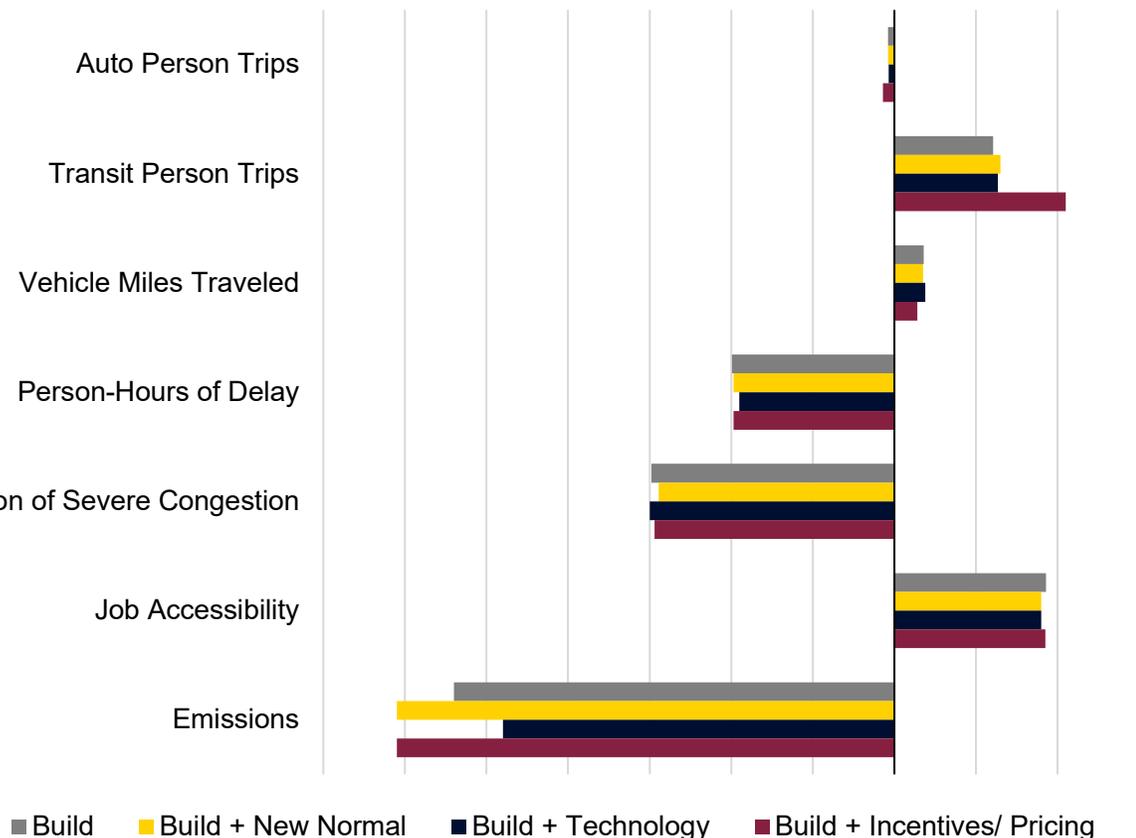


Performance of TransAction Projects by Scenario



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

-70% -60% -50% -40% -30% -20% -10% 0% 10% 20% 30%



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



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Remaining TransAction Activities

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

Reference Slides



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



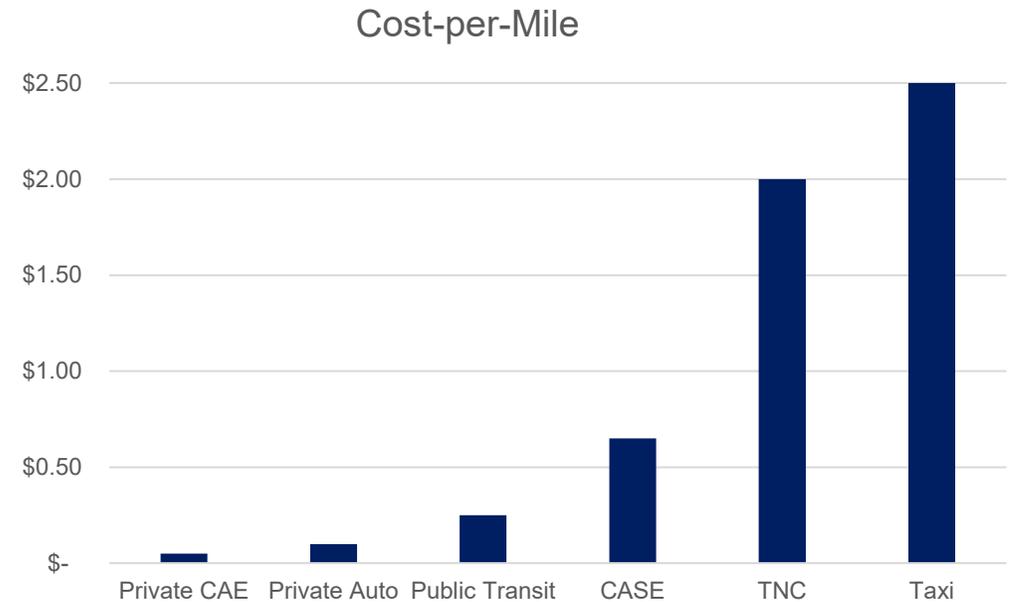
2 Technology Scenario

» 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



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

