



# Northern Virginia Transportation Authority

The Authority for Transportation in Northern Virginia

## PLANNING COORDINATION ADVISORY COMMITTEE

Wednesday, December 1, 2021, 6:30pm

3040 Williams Drive, Suite 200

Fairfax, Virginia 22031

(In-person meeting and livestreamed via [YouTube](#))

### AGENDA

- I. **Call to Order/Welcome** Chair Colbert

#### Action

- II. **Summary Notes of October 27<sup>th</sup>, 2021 Meeting** Chair Colbert  
*Recommended action: Approve meeting notes*

- III. **Approval of Performance Measure Weightings for the TransAction update** Mr. Jasper, Principal,  
Transportation Planning  
and Programming  
*Recommended action: Recommend NVTA approval of the Performance Measure Weightings*

#### Discussion/Information

- VI. **TransAction: Scenario Definitions** Cambridge Systematics,  
Inc.
- VII. **NVTA Updates** Ms. Monica Backmon,  
CEO

#### Adjournment

- IX. **Adjourn**

#### **Next Meeting**

*TBD*



# Northern Virginia Transportation Authority

The Authority for Transportation in Northern Virginia

## PLANNING COORDINATION ADVISORY COMMITTEE Wednesday, October 27, 2021, 6:30 pm Northern Virginia Transportation Authority

### SUMMARY NOTES

#### I. Call to Order/Welcome

Vice-Chair Miles

- Vice-chair and Council member Miles welcomed Committee members and called the meeting to order at 6:40 p.m.
- Attendees:
  - **PCAC Members:** In-person – Vice-Chair and Council member Miles (Town of Dumfries); Board Member Garvey (Arlington County); Vice-Mayor Bennett-Parker (City of Alexandria); Council Member Duncan (City of Falls Church); Vice-Mayor Sebesky (City of Manassas); Vice-Mayor Banks (City of Manassas Park); Council Member Friedrichs (Town of Herndon).  
Remote – Council member Stehle (City of Fairfax); Council member Milan (Town of Purcellville).
  - **NVTA Staff:** Monica Backmon (Chief Executive Officer); Keith Jasper (Principal, Transportation Planning and Programming); Harun Rashid (Transportation Planner).
  - **Consultant:** Thomas Harrington (Cambridge Systematics).

### Action

#### II. Summary Notes of September 22, 2021 Meeting

- The September 22, 2021, meeting summary was approved, with abstentions from members who did not attend the September 22 meeting.

### III. Approval of Goals, Objectives, and Performance Measures for TransAction Update

Mr. Jasper

- In the September 22, 2021 committee meeting, NVTAs staff briefed committee members on the broader planning context and importance of a framework of Goals, Objectives, and Performance Measures, and associated weights. Mr. Jasper reminded members of a previously-discussed timeline for development and approval process of this framework for Authority's adoption in December.
- Mr. Jasper presented on TransAction's goals to improve mobility, increase accessibility, and improve resiliency; and their relations to planning core values of equity, sustainability, and safety. These core values are associated with multiple goals, objectives, and performance measures. While goals dictate what we want to achieve, objectives are measurable actions to achieve identified goals, and performance measures show advancements towards each objective. Each of these performance measures can be weighted differently to reflect the region's priorities. Staff has refined the set of goals, objectives, and performance measures with feedbacks from this and other statutory/standing committees.
- This presentation was followed by questions/comments from members:

*How do we measure robustly for the quality of access to bike/ped network, and safety/security improvements?* The impacts of non-motorized facility improvements will be analyzed by post-processing of model outputs, details will be shared later. For safety measure, staff will follow a methodology developed by VDOT for the SmartScale process.

*In measuring transportation-related emission, will all vehicle types be considered?* Yes. Travel model simulation will provide average speed values for various congested conditions, which will be utilized to calculate emissions based on vehicle types.

*How will the TransAction address overall regional priorities; is it scalable, where large and smaller jurisdictions will be treated equally?* TransAction planning process is closely coordinated with similar approach in National Capital Region Transportation Planning Board. In addition to quantitative analyses with this set of performance measures, investment decisions are also guided with qualitative evaluations to ensure geographic and modal balance.

*Explain how current measure for resiliency is different than the previous iteration?*

*Will this measure include multimodal options?* The current version includes a specific requirement of system redundancy as dictated by a Commonwealth code (HB 599). Experience suggests during an emergency situation, such as homeland security, there are very limited mode shifts.

Following this discussion, the set of goals, objectives, and performance measures was unanimously approved to recommend for Authority adoption.

## Discussion/Information

### **IV. TransAction Online Survey: Interim Findings**

Mr. Harrington

- A survey was conducted between August 6 and September 19 of this year, to seek feedback on travel behaviors, transportation needs and priorities of Northern Virginia citizens. The survey did not apply a random sample recruitment method, and therefore does not statistically represent the population of the region. Mr. Harrington explained various media platforms for outreach activities, shared geographic distribution of responses received, and broad summary findings.
- The survey contained questions to cover following topics:
  - Pre and post-pandemic travel modes, and factors that will affect these mode choices.
  - Effective incentives to utilize transit modes.
  - Likely usage of emerging transportation technology based on various conditions.
  - Transportation priorities, e.g., improve access to jobs, improve multimodal connectivity, improve safety etc.
- Results of responses were tallied by geographic areas – ‘Core’ jurisdictions (Arlington, Alexandria, Falls Church); ‘Inner’ jurisdictions (Fairfax County/City); and ‘Outer’ jurisdictions (Loudoun, Prince William, Manassas and Manassas Park cities). The top priorities were “more transit, walking, biking options”, “reduce traffic congestion” and “improve travel time predictability”, but the order varied by geographic area.
- Mr. Harrington responded to some clarifying questions from members on question formats. He stated that one major take-away was responses to mode choices after pandemic, which will be utilized in the scenario analyses. Members expressed their overall satisfaction on staff outreach efforts.

### **V. TransAction: Preliminary Discussion on Weightings for Performance Measures**

Mr. Jasper

- Mr. Jasper outlined the following process to assign weights to each performance measure:
  - Recommendations for each measure, as received from each committee members, will be averaged and rounded to nearest 5%.
  - Weights for individual measures will effectively be summed for each core value, additionally reflecting the priority associated with each.
  - A final set of weights for each measure will be presented for Authority’s approval in November/December cycle. Authority members may accept or modify these recommendations prior to approval in December.
- For each of the measures, survey responses (item IV above) were tallied to derive citizens’ priorities. This was done as an illustrative example to aid members’ decision-making process, and by no means to assert any priorities from any groups or staff. In response to a member’s question, Ms. Backmon stated that NVTA staff is looking forward to receiving committee recommendations, and does not have any particular priority other than adhering to relevant Commonwealth codes for NVTA.

**VI. NVTA Update**

Ms. Backmon

- Ms. Backmon reminded committee members of a special session for Authority members to be held on October 28, to discuss these goals, objectives, and performance measures. She stated that the session will be informative in nature, and contains no action items.

**VII. Adjourn**

Vice-Chair Miles mentioned the next meeting to be held on a rescheduled date of December 1. Meeting was adjourned at 7:50 pm.

DRAFT

# TransAction Update

*Weights for Performance Measures; Scenario Analysis*

December 1, 2021

*presented to*

*Planning Coordination Advisory Committee*



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



# Agenda

1. Weighting of Performance Measures
2. Scenario Analysis
3. Next Steps/Future Meetings

# Weighting of Performance Measures





# Development & Approval Process

- » November: NVTA approves TransAction goals, objectives, and performance measures
- » December: NVTA approves weights for performance measures
- » Winter/Spring 2022: Analysis
- » Summer/Fall 2022: Public Comment/Hearing
- » November 2022: NVTA adopts TransAction

# Goals and Core Values

- Goals:**  
What we want to achieve
- Enhance Mobility
  - Increase Accessibility
  - Improve Resiliency



- Core Values:**  
How we achieve the goals
- Equitably
  - Sustainably
  - Safely

*Core Values are associated with multiple goals, objectives, and performance measures.*

# Recommended Goals, Objectives & Performance Measures



Goal	Objective	Performance Measure	Alignment with Core Values
<b>Mobility:</b> 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	
		A2. Total Person-Hours of Delay on Transit	
	B. Improve travel time reliability*	B1. Duration of Severe Congestion	
		B2. Transit person-miles in dedicated/priority ROW	
<b>Accessibility:</b> 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	
		C2. Access to jobs by car, transit, and bike for EEA populations	
	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	
		E. Improve safety and security of the multimodal transportation system	
<b>Resiliency:</b> Improve the transportation system's ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions.	F. Reduce transportation related emissions	F1. Vehicle Emissions	
	G. Maintain operations of the regional transportation system during extreme conditions*	G1. Transportation System Redundancy	

\* Measure included in HB 599 rating process.

Transit may include High Occupancy Vehicles (HOV)

# Process for Weighting Performance Measures



- » TAC/PCAC/PPC will each be asked to recommend weights for each approved measure, these will be averaged, and then rounded to the nearest 5%
- » Weights for individual measures will effectively be summed for each core value, additionally reflecting the priority associated with each
- » Measure weights to be recommended to NVTA during November committee meeting cycle
- » NVTA may accept or modify these recommendations prior to approval in December

# Comparison of Recommended Objectives and Survey Responses



Recommended Objective	Corresponding Priority in Online Survey	% of Weighted Score – Region	% of Weighted Score – Core jurisdictions	% of Weighted Score – Inner jurisdictions	% of Weighted Score – Outer jurisdictions
A. Reduce congestion and delay	Reduce traffic congestion	17%	14%	18%	22%
B. Improve travel time reliability	Improve travel time predictability	14%	14%	13%	14%
C. Improve access to jobs	Improve access to jobs	7%	6%	7%	10%
D. Reduce dependence on driving alone by improving conditions for people accessing transit and using other modes	Improve multimodal connectivity	11%	11%	11%	10%
	More transit, walking, biking options	20%	23%	20%	17%
E. Improve safety and security of the multimodal transportation system	Improve safety	12%	12%	11%	10%
F. Reduce transportation related emissions	Reduce greenhouse gas emissions	14%	15%	15%	11%
G. Maintain operations of the regional transportation system during extreme conditions	Prepare for travel disruptions	5%	5%	5%	6%

# Scenario Analysis



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



# Dealing with Uncertainty

- » The TransAction process will include 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
  
- » Four specific alternative futures (scenarios):
  - Pandemic-created 'New Normal'
  - Transportation Technology
  - Transportation Policy/Mechanisms
  - Climate Change

# 1 Post-Pandemic New Normal Scenario

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

» Assumptions Needed:

- Percent of telework, by job type and employer
- Percent of tele-school
- Change to frequency of shopping trips
- Change to frequency of at-home deliveries
- Change in willingness to use public transit/shared-ride options
- Changes to land use: office market, housing market
- Changes to vehicle ownership levels
- Increases in non-motorized travel



Should we assume long-term aversion to shared rides/transit?

Are we willing to consider major changes to land use as part of this scenario?

## 2 Technology Scenario

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

» Assumptions needed:

- Market penetration of CASEs by 2045 – personal vehicles and commercial vehicles
- Costs of using CASEs (per mile)
- Limits to CASE service area?
- Capacity increases/speed changes by roadway type due to Connectivity/Automation
- Reductions in crashes due to

Connectivity/Automation

- Parking/Vehicle Storage
- Changes to land use patterns
- Changes to trip generation:
  - Zero Occupancy Vehicle (ZOV) trips (passenger vehicles)
  - Increased trip-making (induced demand)
- Decreased transit operating costs



Are we willing to consider major changes to land use as part of this scenario?

Should dramatic increases in transit service be included?

# Incentives/Pricing Scenario

- » Implementing transportation pricing and incentive mechanisms to manage travel demand
- » Options to include:
  - Free transit
  - Shared-ride incentives
  - Incentives to shift travel time
  - Roadway pricing structure: e.g. VMT pricing vs. Congestion pricing
  - Changes to parking/curbside pricing regionally



Are we more interested in VMT pricing?  
Congestion pricing?  
Something else?

# Climate Change Scenario

## » Options:

- How will the transportation system work if infrastructure is lost to climate change?
- Do combining technology, pricing incentives, and telework acting together achieve Northern Virginia's climate goals?
  - What level of electrification would be necessary?

Considering work already done by MWCOG, what is going to be the most interesting? The most useful?



# Next Steps



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



# Development & Approval Process

- » November: NVTA approves TransAction goals, objectives, and performance measures
- » December: NVTA approves weights for performance measures
- » Winter/Spring 2022: Analysis
- » Summer/Fall 2022: Public Comment/Hearing
- » November 2022: NVTA adopts TransAction

# Reference Slides





# Current TransAction (October 2017)

## » Vision Statement:

“In the 21st century, Northern Virginia will develop and sustain a multimodal transportation system that enhances quality of life and supports economic growth.

Investments in the system will provide effective transportation benefits, promote areas of concentrated growth, manage both demand and capacity, and employ the best technology, joining rail, roadway, bus, air, water, pedestrian, and bicycle facilities into an interconnected network that is fiscally sustainable.”

Goal	Objective	Performance Measure	Weight
Goal 1: Enhance quality of life and economic strength of Northern Virginia through transportation	Reduce congestion and crowding experienced by travelers in the region	Total person hours of delay*	10%
		Transit crowding*	5%
		Person hours of congested travel in automobiles*	5%
		Person hours of congested travel in transit vehicles*	5%
	Improve travel time reliability	Congestion severity: maximum travel time ratio	5%
		Congestion duration*	10%
	Increase access to jobs, employees, markets, and destinations	Percent of jobs/population within 1/2 mile of high frequency and/or high performance transit	5%
		Access to jobs within 45 minutes by auto or within 60 minutes by transit*	5%
		Improve connections among and within areas of concentrated growth	Average travel time per motorized trip between Regional Activity Centers
	Walkable/bikeable environment within a Regional Activity Center		5%
Goal 2: Enable optimal use of the transportation network and leverage the existing network	Improve the safety of transportation network	Safety of the transportation system	5%
	Increase integration between modes and systems	First and last mile connections	10%
	Provide more route and mode options to expand travel choices and improve resiliency of the system	Share of travel by non-SOV modes	10%
	Sustain and improve operation of the regional system	Person hours of travel caused by 10% increase in PM peak hour demand*	5%
Goal 3: Reduce negative impacts of transportation on communities and the environment	Reduce transportation related emissions	Vehicle miles traveled (VMT) by speed	10%

\* Measure included in HB 599 rating process.