



**Northern Virginia Transportation Authority**  
*The Authority for Transportation in Northern Virginia*

**TECHNICAL ADVISORY COMMITTEE**  
**Wednesday, February 17, 2021**  
**7:00 pm**  
**(Virtual meeting and livestreaming via YouTube)**

**AGENDA**

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

**Action**

**II. Resolution finding need to conduct meeting electronically** Chairman Boice  
*Recommended action: Adoption of resolution*

**III. Summary Notes of November 18, 2020 Meeting** Chairman Boice  
*Recommended action: Approval [with abstentions from those who were not present]*

**IV. CY2021 Meeting Schedule** Chairman Boice  
*Recommended action: Approval of Calendar*

**Discussion/Information**

**V. Transportation Technology Strategic Plan** Mr. Jasper, Principal Planner

**VI. NVTA Update** Ms. Backmon, Executive Director

**Adjournment**

**VII. Adjourn**

**Next Meeting (Virtual)**  
**Wednesday, March 17, 2021**  
**7:00 pm**

**NORTHERN VIRGINIA TRANSPORTATION AUTHORITY**

**TECHNICAL ADVISORY COMMITTEE**

**RESOLUTION FINDING NEED TO CONDUCT MEETING BY ELECTRONIC  
COMMUNICATION MEANS DURING GOVERNOR’S DECLARED STATE OF  
EMERGENCY DURING COVID – 19 PANDEMIC**

**FEBRUARY 17, 2021 MEETING ELECTRONICALLY**

February 17, 2021

**WHEREAS**, on March 12, 2020, the Governor of Virginia declared a state of emergency in Virginia in response to the spread of novel coronavirus, or COVID-19, a communicable disease of public health threat as so declared by the State Health Commissioner on February 7, 2020 (“COVID-19”); and

**WHEREAS**, in subsequent Executive Orders, particularly Executive Order Nos. 53 and 55, as amended, the Governor of Virginia, among other measures designed to ensure safe physical distancing between individuals, prohibited public and private in person gatherings of 10 or more individuals and ordered all individuals in Virginia to remain at their place of residence, with limited exceptions, to mitigate the impacts of COVID-19 and prevent its spread; and

**WHEREAS**, the Northern Virginia Transportation Authority (Authority) – Technical Advisory Committee (Committee) finds that it has a responsibility to demonstrate to the public, through the Authority’s conduct, the importance of maintaining proper physical distance from others and to avoid gathering in public where the risks of infection are highest, and to take measures that promote physical distancing in order to protect the public health and mitigate the impacts and spread of COVID-19, including, among others, conducting meetings electronically whenever possible; and

**WHEREAS**, on April 22, 2020, the Virginia General Assembly adopted, and the Governor signed, budget bill amendments to HB 29 that expressly authorize “any public body, including any state, local, [or] regional body” to “meet by electronic communication means without a quorum of the public body . . . physically assembled at one location when the Governor has declared a state of emergency . . . , provided that (i) the nature of the declared emergency makes it impracticable or unsafe for the public body . . . to assemble in a single location; (ii) the purpose of the meeting is to discuss or transact the business statutorily required or necessary to continue operations of the public body . . . and the discharge of its lawful purposes, duties, and responsibilities” among other provisions; and

**WHEREAS**, member jurisdictions of the Northern Virginia Transportation Authority have adopted continuity of government ordinances pursuant to Va. Code Ann. § 15.2-1413 which ordinances, among other provisions, contemplate regional bodies of which the locality is a member meeting electronically to transact business to assure the continuity of government; and

**NOW, THEREFORE, BE IT RESOLVED**, that the Northern Virginia Transportation Authority Technical Advisory Committee hereby finds that meeting by electronic means is authorized because the nature of the declared emergency makes it both impracticable and unsafe for the Committee to assemble in a single location on February 17, 2021, to discuss and transact the business of the Authority listed on the February 17, 2021 Committee Meeting Agenda; and

**BE IT FURTHER RESOLVED**, that the Committee hereby finds that meeting by electronic means is authorized because the items on the February 17, 2021 Committee Meeting Agenda are statutorily required or necessary to continue operations of the Authority and the discharge of the Authority's lawful purposes, duties, and responsibilities; and

**BE IT FURTHER RESOLVED**, that the items on the February 17, 2021 Committee Meeting Agenda are encompassed within the continuity of operations ordinances adopted by member localities of the Northern Virginia Transportation Authority to assure the continued operation of the government during the disaster posed by the public health emergency resulting from COVID-19.

Adopted the 17<sup>th</sup> day of February, 2021.



**TECHNICAL ADVISORY COMMITTEE**  
**Wednesday, November 18, 2020, 7:00 pm**  
**Electronic meeting and livestreamed on [YouTube](#)**

**MEETING SUMMARY**

**I. Call to Order/Welcome**

- Chairman Boice called the meeting to order at 7:05 pm.
- Attendees:
  - **Members:** Randy Boice, Karen Campblin, Armand Ciccarelli, Amy Morris, Frank Spielberg, Pat Turner
  - **NVTA Staff:** Monica Backmon (Executive Director), Keith Jasper (Principal), Sree Nampoothiri (Senior Transportation Planner), Ria Kulkarni (Regional Transportation Planner)
  - **Others: On YouTube livestream.**

**II. Resolution finding the need to conduct meetings electronically**

- Chairman Boice noted that as a result of the COVID-19 and Governor Northam's declaration of a State of Emergency, the Authority's Technical Advisory Committee Meeting was being held electronically. He noted that the passage of the amendments to HB 29 (the FOIA Bill) allowed regional bodies such as the Authority, and their committees to conduct business meetings electronically. He added that the meeting by electronic means is authorized because the items on the Committee Meeting Agenda are statutorily required or necessary to continue operations of the Authority. The resolution was approved unanimously.

**III. Summary of October 21, 2020 Meeting**

- The meeting summary was approved unanimously.

**IV. Action Items**

**a. TransAction Update - Vision & Goals**

- Mr. Jasper noted that about \$2.5 billion has been allocated over five funding programs and two iterations of TransAction.. He relayed that the update to TransAction is expected to be adopted by November of 2022.



## Northern Virginia Transportation Authority

*The Authority for Transportation in Northern Virginia*

- He also reviewed the process of NVTa planning and programming and discussed timelines of activities through the TransAction planning process and how public and stakeholder engagement will be complementing performance-based planning.
- He reiterated the two complementary approaches – performance measure based and core value – that will be undertaken for evaluating the plan. He also added that the other committees were discussing and providing their feedback.
- He reviewed the concepts of top-down and bottom-up projects where the former are aspirational regional projects and the latter are need-based projects resulting from jurisdictional comprehensive plan updates. He indicated that these projects will be screened, compiled into packages and compared against build and no-build networks along with sensitivity analysis that looks at alternative futures followed by project rankings and ratings.
- He further discussed the timeline through a project management perspective in sequential phases – identification of needs and priorities, analysis, and reporting and review.
- Mr. Jasper introduced the proposed vision statement that the Planning Coordination Advisory Committee (PCAC) and Planning and Programming Committee (PPC) approved and as principally agreed upon at the last TAC meeting. He added that a final vision statement and alternative if any would be taken to the Authority for approval in December.
- He reviewed the two approaches to Vision and Goals as done at the last TAC meeting:
  - Core value approach – guiding principles or foundational factors
  - Performance-based planning approach
- After Committee discussions, a motion for approval of recommendation of the revised Vision statement to the Authority was approved unanimously.

### **b. NVTa Update**

- Ms. Backmon, Executive Director, informed that the Authority is beginning to draft 2021 Legislative program where the primary initiative for the 2021 General Assembly session is the restoration of \$102 million dollars of the Authority revenues that were diverted to Metro in 2018 to meet the Commonwealth's share of Metro's State of Good Repair dedicated funding. She noted that once the Omnibus transportation bill was fully implemented, the balance of restoration would be \$32 million but 2021 may not be the year to receive this restoration due to the current state of economy. Another initiative that the Authority is supportive of is continuing



to expand the ability to meeting electronically even post pandemic. Furthermore, Ms. Backmon noted that the Authority is supportive of federal fund support for WMATA and other transit agencies due to the fall in transit ridership.

**V. Adjournment**

- The meeting adjourned at 8:04 pm. The next meeting date will be decided contingent upon the information and action items in the future.

DRAFT



**Northern Virginia Transportation Authority**  
*The Authority for Transportation in Northern Virginia*

**TECHNICAL ADVISORY COMMITTEE**  
**Wednesday, February 17<sup>th</sup>, 2021**  
**7:00pm**  
**Virtual Meeting**

**DRAFT CY2021 MEETING SCHEDULE**

Meetings are on the third Wednesday of each month at 7:00pm (Virtual/NVTA Offices)

February 17, 2021; 7:00 PM

March 17, 2021; 7:00 PM

April 21, 2021; 7:00 PM

May 19, 2021; 7:00 PM

June 16, 2021; 7:00 PM

July 21, 2021; 7:00 PM

August: NO MEETING

September 15, 2021; 7:00 PM

October 20, 2021; 7:00 PM

November 17, 2021; 7:00 PM

December 15, 2021; 7:00 PM

# Draft Transportation Technology Strategic Plan - Overview



*February 17, 2021*



# The Fourth Industrial Revolution

1. Water and Steam – mechanized production
2. Electricity – mass production
3. Electronics and Information Technology – automated production
4. Digital Revolution – transforming production, management, and governance
  - Exponential increases in computing power
  - Big Data
  - Artificial Intelligence
  - Global Connectivity
  - Speed of Innovation and Disruption

“There has never been a time of greater promise, or one of greater potential peril.”

*Klaus Schwab, World Economic Forum (January 2016)/Foreign Affairs (December 2015)*



# Timeline

2004/5 – Apple begins product development on a computer that uses a touch screen instead of a physical keyboard/mouse or stylus

January 2007 – Launch of iPhone 2G

January 2017 – 2.2M apps in App Store

October 2020 – Launch of iPhone 12

July 2002 – NVTA created by General Assembly

September 2006 – TransAction 2030 adopted

November 2012 – TransAction 2040 adopted

July 2013 – NVTA revenue stream begins

October 2017 – TransAction update adopted



# What's In This Overview?

- Introduction, including some sample Q&A
- Summary of TTSP Strategies and NVTA Roles
- Technologies mapped to TTSP Strategies
- Guidance on desired feedback and how to respond



# Introduction

This presentation provides a high level overview of NVTA's draft Transportation Technology Strategic Plan (TTSP) and some guidelines for Technical Advisory Committee (TAC) members to review and provide comments.

The draft TTSP identifies eight strategies that are intended to leverage transportation technologies in support of NVTA's vision and goals for the regional transportation system in Northern Virginia. These strategies focus on mobility, accessibility, and resilience, while embracing core values of safety, equity, and sustainability.

Among other things, each strategy identifies up to nine possible NVTA roles.



## Introductory Q&A

**Q:** How does the TTSP fit within NVTA's current primary responsibilities of planning and programming/funding?

**A:** In the big picture, NVTA's approach to the TTSP is driven by TransAction, NVTA's long-range transportation plan for Northern Virginia. NVTA is required by the Code of Virginia to develop and maintain TransAction, and is in the early stages of the next update. NVTA's approach to evaluating project funding requests has always embraced multi-modal solutions, including new Metrorail stations, BRT systems, road widening/intersection improvements, pedestrian/bicycle trails, first/last mile solutions, and technology deployments. Since the TTSP is complementary to, and integrated with, TransAction, both reflect the NVTA's multi-modal approach to the regional transportation system. TransAction continues to be the first eligibility filter for funding approvals since the Code of Virginia requires funded projects to be included in TransAction.



## Introductory Q&A

**Q:** Have things permanently changed as a result of the pandemic? If so, what does this mean for the region's transportation system and how do we define success under these new conditions?

**A:** As we undertake the next TransAction update, we will apply the findings from our own COVID-19 analysis conducted in early summer 2020, together with subsequent research findings by others in the region and nationally. While it is most certainly appropriate to question whether the pandemic has changed travel behaviors, it remains unclear as to what the 'new normal' will actually look like. Our approach is to be open-minded but cautious, to avoid 'over-correcting' until we have greater certainty. By summer 2021, the new normal should be clearer and still within the overall TransAction update schedule.



## Introductory Q&A

**Q:** In this changed environment, what has also changed with regard to the role of technology going forward? For example, how do we enable/support the new transportation patterns when increasing numbers of people are working from home?

**A:** There are significant examples of different ways in which technology has enabled new transportation patterns. Our region is one of the best in the nation in its ability to increase the level of work from home activity, which speaks highly of the preparedness among employers and employees with respect to IT/communications infrastructure, hardware/software, and HR practices. The adaptability of businesses to move to online shopping/delivery and curbside pickups is driven by technology and innovative business process re-engineering, all in a relatively short timeframe. As we are learning, there are silver linings in the form of reduced congestion and VMT, but negative consequences on transit ridership. As we noted in our COVID-19 presentation to NVTA in July 2020, transit ridership reduction may be challenging to the financial stability of some transit agencies. Finding a path forward that locks in the silver linings while mitigating the negative outcomes will be important considerations for TransAction and the TTSP.



## Introductory Q&A

**Q:** With the political/social emergence of equity and environmental concerns as top priorities, what can technology applied to transportation do to further them?

**A:** The TTSP will include a discussion of core values – equity, safety, and sustainability – for each strategy. This discussion will highlight how each of the eight strategies will address each of the core values.



## Introductory Q&A

**Q:** Considering the four pandemic recovery scenarios in NVTA's July 2020 COVID-19 analysis, what is the greatest role of technology to enhance recovery in each of them?

**A:** This is a difficult question to answer. Recognizing that we started work on the TTSP before the pandemic hit, it was never originally intended to address such a situation. That said, technologies that support the resilience of the transportation system while communicating decision-grade travel information to Northern Virginians will likely rise to the top. Any strategy that supports a willingness to travel in shared modes (carpools, vanpools, transit, rail, together with shared mobility devices such as bikeshare and scooters) will have an important role. More broadly, all the technologies rely on high quality data, without which much of the technology will be sub-optimal or ineffective. To that end, the data component of most strategies will be really important as we move beyond the pandemic to the new normal.



## Introductory Q&A

**Q:** Here are some examples of possible priorities for technology in the new normal — more demand responsive, attractive and reliable bus service — what can technology do to make that happen? Electrification of the entire vehicle fleet — commercial, private, trucks and cars — what can technology do to speed that and make it more cost/effective?

**A:** Multiple strategies will address a new normal bus service, including Strategy #1, #4, #5, and #7. Strategy #8 will address electrification infrastructure. However, note that the strategies alone will not necessarily achieve the desired outcomes. This will require a broad regional coalition of support among jurisdictions, transit agencies, other regional partners and stakeholders. The key point is that NVTA's TTSP is the first-of-a-kind initiative to take such a comprehensive position on how technology can be leveraged to support NVTA's vision for the NoVA transportation system.



# Transportation Technology Strategic Plan (TTSP) Proposed Structure

- Purpose and Scope
- Overarching Core Values
  - *Safety, Equity and Sustainability*
- Vision and Goals
- NVTA Toles
- Related Initiatives by Other Regional Partners and Coordination
- Transportation Technology Trends
  - *Overview*
    - *Automation, Sharing and Electrification*
  - *Emerging Business Models*
  - *Technologies*
    - *Opportunities and Challenges*
- Strategies for NVTA
- Data Needs
- Caveats and Assumptions
  - *Impacts of Covid-19*
- Monitoring Progress and Update Cycle
- Action Plan
  - *Introduction*
  - *Strategy-Specific Summaries*
  - *Consolidated Actions Table*
  - *Next Steps*
- Glossary



# TTSP Strategies Summary Structure

Strategy:

Description

NVTA Goal  
Choose an item.

NVTA Roles			
Authority Roles	Choose an item.	Click or tap here to enter text.	Choose an item.
	Choose an item.	Click or tap here to enter text.	Choose an item.
	Choose an item.	Click or tap here to enter text.	Choose an item.
Shared Roles	Choose an item.	Click or tap here to enter text.	Choose an item.
	Choose an item.	Click or tap here to enter text.	Choose an item.
	Choose an item.	Click or tap here to enter text.	Choose an item.
Staff Roles	Choose an item.	Click or tap here to enter text.	Choose an item.
	Choose an item.	Click or tap here to enter text.	Choose an item.
	Choose an item.	Click or tap here to enter text.	Choose an item.

Strategy:

*Application of Core Values*

*Safety* Click or tap here to enter text.

*Equity* Click or tap here to enter text.

*Sustainability* Click or tap here to enter text.

Potentially Applicable Technologies

Click or tap here to enter text.



# TTSP Strategies and NVTA Roles

Strategy		NVTA Roles								
		Authority Roles			Shared Roles			Staff Roles		
Number	Name	Funding	Policy	Advocate	Champion	Facilitate	Stakeholder	Planning	Outreach/ Education	Observer
1	Reduce congestion	✓		✓	✓	✓		✓	✓	
2	Maximize access to jobs, employees and housing	✓			✓	✓		✓	✓	
3	Maximize cybersecurity and maximize privacy for members of the public	✓					✓			✓
4	Minimize potential for Zero Occupancy Vehicles		✓	✓	✓	✓		✓	✓	
5	Develop pricing mechanisms that manage travel demand and provide sustainable travel options		✓	✓			✓	✓	✓	
6	Maximize the potential of physical and communication infrastructure to serve existing and emerging modes	✓			✓	✓		✓	✓	
7	Enhance regional coordination and encourage interoperability in all systems	✓			✓	✓		✓	✓	
8	Create a network of charging infrastructure, for use by private and fleet vehicles	✓	✓	✓	✓	✓		✓	✓	



# Technologies Mapped to TTSP Strategies

Strategies		Technologies										
Number	Name	Automated/ Autonomous vehicles	Shared Mobility Devices (SMDs)	Signal technologies	Apps	System optimization	Drones	Changes to delivery and freight systems	Surveillance/ monitoring (including telematics)	Data generation/ collection/ sharing	Improvements to mass transit (including BRT)	Smart technologies/ cities and IoT
1	Reduce congestion	●	●	●	●	●	●	●	●	●	●	●
2	Maximize access to jobs, employees and housing		●	●	●	●	●	●	●	●	●	●
3	Maximize cybersecurity and maximize privacy for members of the public	●	●	●	●	●			●	●		●
4	Minimize potential for Zero Occupancy Vehicles	●	●	●	●	●	●	●	●	●	●	●
5	Develop pricing mechanisms that manage travel demand and provide sustainable travel options	●	●		●	●	●	●	●	●	●	●
6	Maximize the potential of physical and communication infrastructure to serve existing and emerging modes	●	●	●		●	●	●			●	●
7	Enhance regional coordination and encourage interoperability in all systems	●	●	●	●	●	●	●	●	●	●	●
8	Create a network of charging infrastructure, for use by private and fleet vehicles	●	●			●						

Key	
Will definitely be helpful	●
Potential to be helpful	●
Equal potential to be helpful or detrimental	●
Potential to be detrimental	●
Likely to be detrimental	○
Not applicable or Insufficient Information Available	



# Feedback Requested from TAC Members

- Thoughts on what you have heard today?
- 8 strategies/9 NVTA roles – anything we need to change/add?
- Beyond NVTA Committees, who should we seek feedback from?
- Are there any related initiatives we should be aware of?
- What level of detail is required for the public-facing versions of the TTSP/Action Plan?
- Suggestions on low-cost visualizations? Examples?
- We request that you review the draft TTSP and provide any feedback, via email, by **COB on Wednesday, March 3<sup>rd</sup>**.
- We will share draft TTSP Action Plan prior to TAC meeting on March 17<sup>th</sup>.



**THANK YOU!**