

Planning for Innovation

*Virginia Transit Association
2021 Annual Conference*

**Presented by Keith Jasper, Principal
Northern Virginia Transportation Authority**

September 29, 2021





Why did we develop the Transportation Technology Strategic Plan (TTSP)?



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

2035 – Which version of the iPhone?



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

April 2021 – draft TTSP/Action Plan

2035 – Where should NVTA be?



What is the TTSP?



- Tool that will inform a proactive approach to adoption of transportation technology;
- Provides a rational, consistent approach to identify how transportation technologies support the region's vision, i.e. needs-driven NOT technology-driven;
- Includes eight strategies, and up to nine NVTA roles for each strategy;
- Living document that will be updated as transportation technologies evolve;
- Incorporates an Action Plan that enables NVTA to think big, start small, and build momentum with respect to adoption of transportation technologies in the region.





TTSP – Recommended Strategies



Recommended Strategies		Intent of Strategy (long term)
1	Reduce congestion and increase throughput	Support deployment of transportation technologies that improve performance and optimize efficiency of the regional multimodal transportation system
2	Maximize access to jobs, employees and housing	Support deployment of transportation technologies that increase travel options and awareness of them
3	Maximize cybersecurity and privacy for members of the public	Monitor concerns on behalf of Northern Virginians, and leverage NVTA processes where appropriate and feasible
4	Minimize potential for Zero Occupancy passenger Vehicles	Identify measures to address avoidable increases in passenger vehicle miles traveled
5	Develop pricing mechanisms that manage travel demand and provide sustainable travel options	Identify technology-related measures at a regional scale to dynamically address congestion, including incentives; revenues will be re-invested in equitable solutions
6	Maximize the potential of physical and communication infrastructure to serve existing and emerging modes	Support adaptation of existing resources to support desirable technologies such as CASE vehicles, travel apps, micro modes and robust data collection
7	Enhance regional coordination and encourage interoperability in the transportation system	Leverage regional synergies in the deployment of transportation technologies
8	Advance decarbonization of the transportation system	Support deployment of transportation technologies that reduce greenhouse gas emissions



What are the Expected Benefits of the TTSP?



1. Leverage transportation technologies that support NVTA's vision, and mitigate those that do not, through planning, policy, advocacy, funding, and other means;
2. Support data-driven decision making by the Authority with respect to development of TransAction and subsequent project selection during future funding programs. The TTSP will guide the development of technology-related scenarios;
3. Enable a consistent approach to NVTA's transportation technology investments, increasing synergies and maximizing return on investments and taxpayer dollars;
4. Enhance multimodal travel choices and contribute to a more seamless travel experience for Northern Virginians, through coordinated planning, deployment and operations, especially enabled by secure, real time information;
5. Inform Northern Virginians about the features, benefits, costs, and appropriateness of deploying such technologies in the region, by raising awareness and understanding of transportation technologies;
6. Strengthen the regional approach to transportation technologies, through open and regular exchange of ideas between NVTA staff and jurisdiction/agency staff.



How does the TTSP fit with NVTA's Primary Responsibilities?



Primary Responsibilities:

1. Develop and update the long-range, multimodal Transportation Plan for Northern Virginia → TransAction (updated every five years, last adopted October 2017)
2. Prioritize and fund regional transportation projects → Six Year Program (FY2020-FY2025 SYP (updated every two years, last adopted July 2020)

Integrated TransAction/TTSP Vision:

“Northern Virginia will plan for, and invest in, a **safe, equitable, sustainable**, and integrated multimodal transportation system that enhances quality of life, strengthens the economy, and builds resilience”

Approved by the NVTA on December 17, 2020



What did we learn from developing the TTSP?



1. Start by establishing regional needs and core values, to empower your entity to guide entrance of technologies into your region in a manner that benefits the community.
2. Seek external input from a wide range of stakeholders, to inform development of actionable and adaptable plans.
3. Avoid duplication of effort and build partnerships/synergies by acknowledging and/or participating in related initiatives in the region/state/country.
4. Strive for a plan that embodies the "3 Cs", meaning it is continuing, cooperative and comprehensive.



Regional Multimodal Mobility Project (RM3P)



"leverage the collaborative use of real-time data by Virginia's public and private sectors to improve travel safety, reliability, and mobility, and to give the public the tools to make more informed travel choices."

<https://rm3pvirginia.org/>





Thank you!



TheNoVaAuthority.org and
NVTATransAction.org



**Northern Virginia
Transportation Authority**



[@TheNVTA](https://www.facebook.com/TheNVTA)



**Subscribe to our
newsletters at
TheNoVaAuthority.org
to stay in the know!**



[@NVTAAuthority](https://twitter.com/NVTAAuthority) and
[@NVTATransAction](https://twitter.com/NVTATransAction)



Contact us at TheAuthority@thenovaauthority.org



Supplementary Slides



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 and increase throughput	✓		✓	✓	✓		✓	✓	
2	Maximize access to jobs, employees and housing	✓			✓	✓		✓	✓	
3	Maximize cybersecurity and privacy for members of the public	✓					✓			✓
4	Minimize potential for Zero Occupancy passenger 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 the transportation system	✓			✓	✓		✓	✓	
8	Advance decarbonization of the transportation system	✓	✓	✓	✓	✓		✓	✓	



TTSP Draft Action Plan Consolidated Actions Table

Roles		Immediate				Near Term				Mid Term	Long Term								
		Jan - March, 2021	April - June, 2021	July - Sept, 2021	Oct - Dec, 2021	Jan - March, 2022	April - June, 2022	July - Sept, 2022	Oct - Dec, 2022	2023 - 2025	2026 - 2029	2030 and Beyond							
Title	Applicable Strategies								TransAction kick-off			Completion of TransAction Phase 1		TransAction adoption		Development of legislative program			
	1	2	3	4	5	6	7	8				Development of legislative program	Six Year Program Update FY2022-2027						
Funding	1A, 1B	2A	3A, 3B			6A, 6B	7A	8A											
Policy				4B	5A			8B											
Advocate	1C			4C, 4D, 4E	5A			8C											
Champion	✓	✓		✓		✓	✓	✓											
Facilitate	✓	✓		✓		✓	7B	✓											
Stakeholder			✓		✓														
Planning	1A	2A	3A	4A	5B	6A	7A	8A											
Outreach/ Education	✓	✓		✓	✓	✓	✓	✓											
Observer			✓																

Key				
Preparatory Action	Potential Direct Action	Direct Action	Follow Up Action	Continual/ Serendipitously
Bold text indicates this Role is a focus of the Strategy-Specific mini-action plans.				



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 and increase throughput	●	●	●	●	●	●	●	●	●	●	●
2	Maximize access to jobs, employees and housing		●	●	●	●	●	●	●	●	●	●
3	Maximize cybersecurity and privacy for members of the public	●	●	●	●	●			●	●		●
4	Minimize potential for Zero Occupancy passenger 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 the transportation system	●	●	●	●	●	●	●	●	●	●	●
8	Advance decarbonization of the transportation system	●	●			●						

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	