



Northern Virginia Transportation Authority FY2022-2027 Six Year Program

Northern Virginia ITS/ICM Improvements

Date Submitted: 09/30/2021

APPLICATION #: LDN-023

Route 7 Corridor ITS Implementation Program

Project Description

Loudoun County has been a rapidly-growing leader in various aspects of technology in community and business life and is the fastest-growing County in Virginia. This growth has coincided with a rapid increase in traffic congestion, roadway construction, and a rise in multimodal transportation options. Despite its status as a leader in technology in community and business life, however, Loudoun County lacks baseline technologies to provide improved traffic operations and information to travelers. This Implementation Plan defines a program of projects for the County to achieve this baseline of technology and provide situational awareness to operators and travelers. The following actions are proposed:

- Integrate with Waze via its Connected Citizens Program (CCP) to share information on work zones, road closures, planned events, and incidents.
- Provide additional camera coverage at known bottleneck and high-crash locations.
- Provide overhead and portable message sign deployments for traveler information and alerts.
- Implement systems for monitoring road conditions during severe weather events, including devices for monitoring flooding at known hotspot locations.
- Deploy intelligent safety improvements for bicycles and pedestrians at trail crossings and intersections.
- Deploy smart parking infrastructure at targeted garages, lots, or streets to inform travelers of parking space availability and aid in wayfinding.
- Provide dynamic traveler information displays at transit hubs and activity centers to inform users of travel options and enhance economic development.
- Build out a communication network to support transportation technology, including a County-owned fiber optic network for transportation
- Improve incident management on Route 28, Route 7, and US 50 using County-funded safety service patrols
- Increase use of novel data source for transportation planning, including third-party probe data and smart sensor data.
- Pilot active real-time traffic signal management of an arterial corridor.
- Pilot an autonomous shuttle circulator service in a transit-oriented urban development.
- Establish a Loudoun County Transportation Operations Center (TOC) of appropriate scale to actively monitor and manage the transportation network. This application is specifically directed at the Route 7 Corridor in Loudoun County

| Primary Mode(s) | Secondary Mode(s) |
|--------------------------------|---|
| | |
| Application Number | LDN-023 |
| Primary TransAction ID Number | 339 |
| Submitting Jurisdiction/Agency | Loudoun County |
| Location | Route 7 corridor in Loudoun County from Clarke County to Fairfax County |
| Requested NVTA Funds | \$2,500,000.00 |
| NVTA Funds Approved | \$2,500,000 |
| Previous NVTA Funds Received | \$0.00 |
| Total Cost to Complete Project | \$3,777,000.00 |

Project Location



Project Milestones

| | Study | Design / Engineering / Environmental | ROW and Utilities | Construction | Asset Acquisition |
|---------|-------|--------------------------------------|-------------------|--------------|-------------------|
| Earlier | | | | | |
| FY21 | | | | | |
| FY22 | | | | | |
| FY23 | | | | | |
| FY24 | | X | | | |
| FY25 | | | X | | |
| FY26 | | | | X | |
| FY27 | | | | | |
| Beyond | | | | | |

Project Funding

| Source | Study | Design / Engineering / Environmental | ROW and Utilities | Construction | Asset Acquisition | Total |
|--------------------|-------|--------------------------------------|-------------------|--------------|-------------------|-------------|
| Total Cost | \$0 | \$277,000 | \$1,000,000 | \$2,500,000 | \$0 | \$3,777,000 |
| NVTA Funds Applied | \$0 | \$0 | \$0 | \$2,500,000 | \$0 | \$2,500,000 |
| Local | | \$277,000 | \$1,000,000 | \$0 | | \$1,277,000 |
| Total Other | \$0 | \$277,000 | \$1,000,000 | \$0 | \$0 | \$1,277,000 |
| Gap | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |

Project Analysis Highlights

| | |
|---|--------------|
| Congestion Reduction Relative to Cost (CRRC) Rating | 2,064.26 |
| Congestion Reduction Relative to Cost (CRRC) Rank | 1 |
| TransAction Project Rating | 20.10 |
| TransAction Project Rank | 9 |
| Project's Past Performance (Percentage of expected funds that was reimbursed by 12/31/2021) | N/A |
| Jurisdiction/Agency's Past Performance on All Projects (Percentage of expected funds that was reimbursed by 12/31/2021) | 56 % |
| Percentage of Total Project Cost Covered by Funds from Sources Other than NVTA | 34 % |
| Local Priority | 5 |
| Number of Supporting Resolutions (does not include resolution from applicant's own Board/Council) | 0 |
| Number of NVTA-Funded Project(s) Nearby | 1 |
| Regional Funds allocated to NVTA-Funded Project(s) Nearby | \$58,000,000 |