



COMMONWEALTH *of* VIRGINIA
Office of the
SECRETARY *of* TRANSPORTATION

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Director of Research and Innovation

Innovation and Technology Transportation Fund

The ITTF provides funding specifically for the purposes of funding pilot programs and fully developed initiatives pertaining to high-tech infrastructure improvements with a focus on:

- Reducing congestion
- Improving mobility
- Improving safety
- Providing up-to-date travel data
- Improving emergency response

ITTF projects are guided by the members of the CTB Innovation and Technology Subcommittee

ITTF Project Selection

Projects can be recommended by VDOT, DRPT, or localities

Projects are evaluated based on:

- Contribution to innovation
- Potential for transferability
- Applicability across modes
- Anticipated benefit
- Acceptability of risk

Proposed Projects

Automated Virginia	Infrastructure/Connectivity	Data/Analytics	Cybersecurity	Other
<ul style="list-style-type: none">• Virtual ATMS• I-95 Active Traffic Management• Hanover Specialized Transit• MicroTransit Pilot• Worker Alert	<ul style="list-style-type: none">• Signal Controller Connectivity	<ul style="list-style-type: none">• Regional Multimodal Mobility Program• Data Analytics for Safety• Performance Parking• Customer Service Bots• Arterial Operations Dashboard	<ul style="list-style-type: none">• Cybersecurity Upgrades for Operations	<ul style="list-style-type: none">• I-64 Afton Mountain Safety Improvements• Pilot Program for Innovation• Local Innovations

Proposed Projects

Improve Safety

- Regional Multimodal Mobility Program
- I-95 Active Traffic Management
- Virtual ATM
- I-64 Afton Mountain Safety Improvements
- Data Analytics for Safety
- Worker Alert
- Cybersecurity Upgrades for Operations

Reduce Congestion

- Regional Multimodal Mobility Program
- Performance Parking
- I-95 Active Traffic Management
- Virtual ATM
- Arterial Operations Dashboard
- Signal Controller Connectivity
- I-64 Afton Mountain Safety Improvements

Improve Traveler Information

- Regional Multimodal Mobility Program
- Performance Parking
- I-95 Active Traffic Management
- I-64 Afton Mountain Safety Improvements
- Data Analytics for Safety
- Customer Service Bots

Enhance Emergency Response

- Signal Controller Connectivity
- Data Analytics for Safety
- Worker Alert

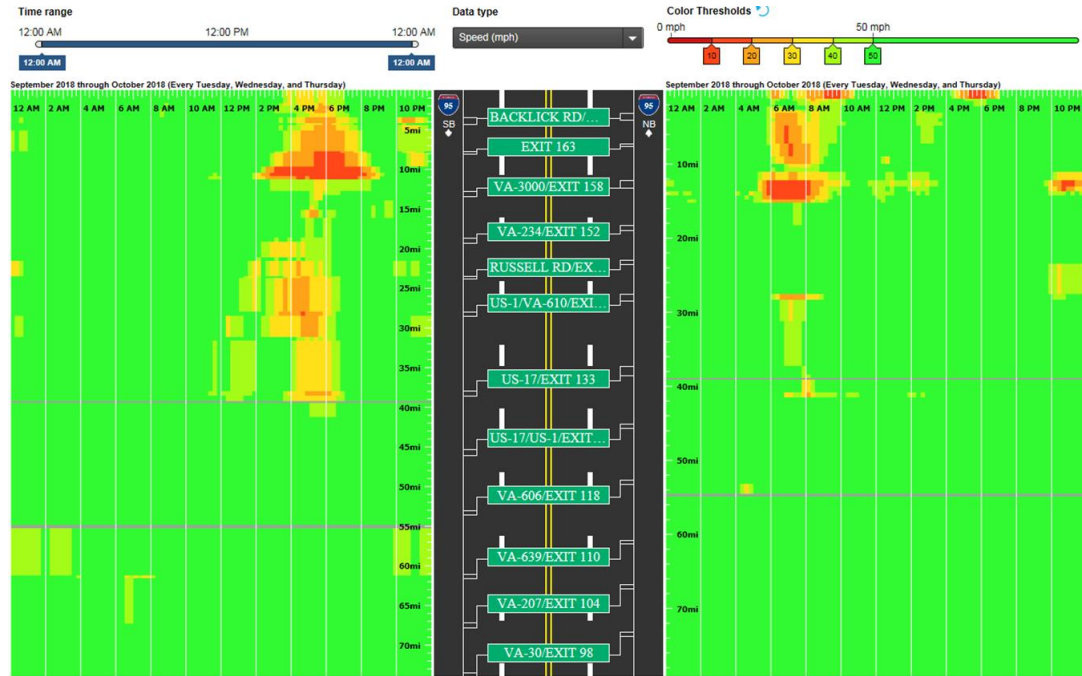
Improve Mobility

- Hanover Specialized Transit
- MicroTransit Pilot

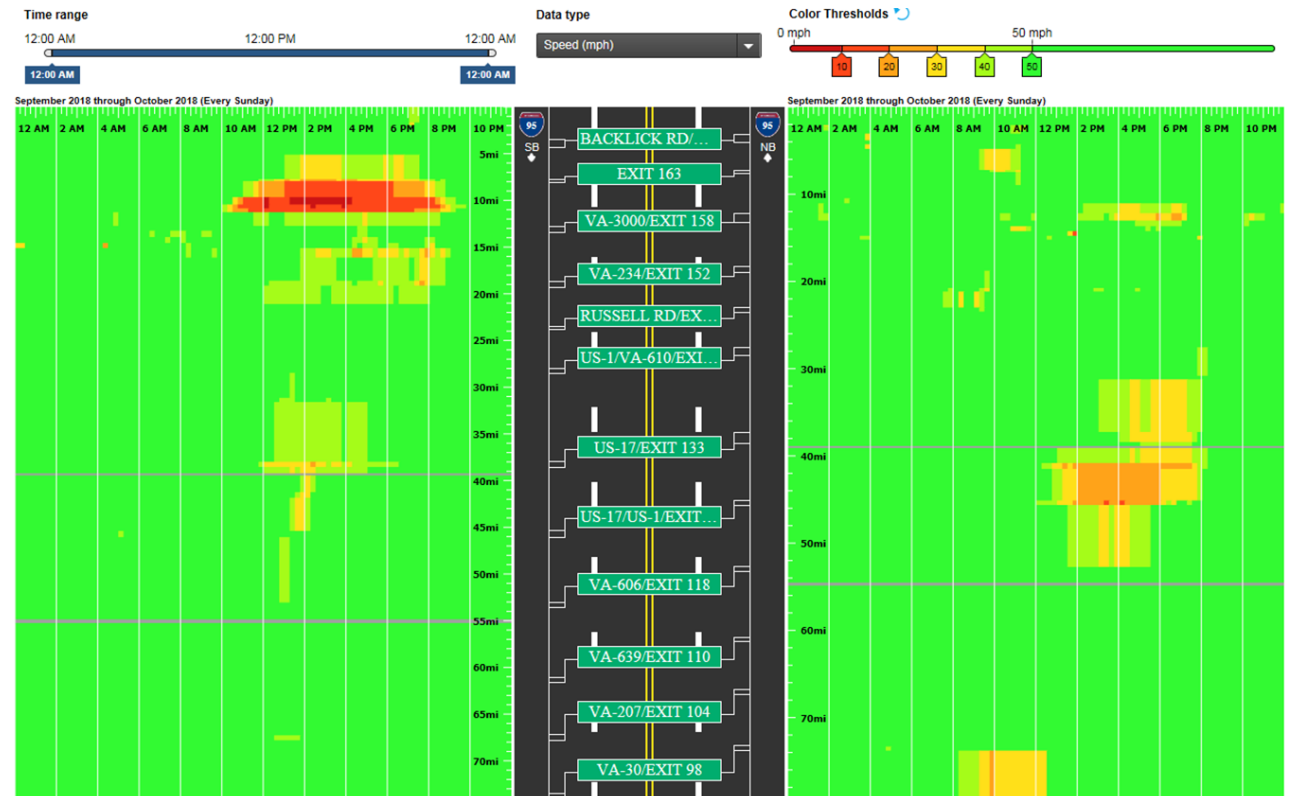
Remaining Projects

- **I-95 Variable Speed Limits**
- **I-64 Afton Mountain Safety and Congestion**
- **Pilot Program for Innovation**
- **Innovation Program for Localities**
- **High Speed Communications for Signals**
- **Cyber Security Upgrades for Operations**
- **I-81 Operational Improvements**

I-95 Operational Improvements



Sept./Oct. Weekdays



Sept./Oct. Sundays

I-95 Variable Speed Limits

- **Active traffic management – experience internationally has shown VSL/speed harmonization to be effective in reducing congestion**
- **Other strategies may be identified through I-95 Corridor Study**
- **Total cost: \$ 15 million**

I-64 Afton Mountain Safety Improvements

- Safety during the PM peak travel westbound is the biggest single concern
- Evaluating a range of potential strategies:
 - ATM designed to mitigate high speeds and speed differentials at the top of the mountain where fog is most likely
 - Speed feedback signs
 - Dynamic signing to alert trucks to travel in the right lane during the PM peak
 - Flashing chevrons, enhanced signs and markings, modified operation of existing fog lights
- Total cost: \$5 million

Pilot Program for Innovation

- **Pilot program in partnership with the Center for Innovative Technology can bridge the gap between VDOT-identified transportation challenges and entrepreneurs who have potential solutions**
- **CTB Subcommittee for Innovation and Technology will help to identify high priority issues to put forward as problem statements**
- **Total cost: \$1.5 million**

Innovation Program for Localities

- Initiative to fund locally identified innovative strategies that meet the goals of the ITTF program
- Working group of VDOT and DRPT staff will prioritize submitted projects on the basis of congestion relief, safety improvement, innovation, and potential for widespread deployment
- Total cost: \$2 million

High-Speed Communications Upgrades for Signalized Intersections

- Real-time monitoring and operations of traffic signals requires reliable communications between the field controllers and the central system
- Currently, approximately 35% of signals statewide have substandard communications
- Effort will leverage a variety of approaches (VDOT fiber, resource sharing, leased lines, etc) to facilitate effective communications with all intersections
- Total cost: \$4.7 million

Cybersecurity Enhancements for Operations Technology

- **Transportation operations is more connected than ever before**
- **Connectivity brings added risks and vulnerabilities**
- **Implementation of appropriate mitigation strategies can limit risk and impact**
- **Total cost: \$2 million**

I-81 Operational Improvements

- The I-81 Corridor Improvement Study identified a number of operational strategies targeted at the non-recurring congestion that is common throughout the corridor
- Signal enhancements to facilitate detours when incidents occur is a key element of the operational improvement plan
 - Real-time signal timing modifications to address diverting traffic patterns
 - Real-time monitoring of conditions for operational improvement and traveler information
- Total cost: \$10 million



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