



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

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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

Status of Previous Projects

- There are 40 projects currently funded with ITTF that were approved by the CTB in previous SYIP updates
- Those 40 projects total \$125,465,169
- 6 of these projects are complete or nearing completion
- Of the remaining 34, all but two are underway and the remaining 2 are in development

Proposed Projects

- Proposed projects for inclusion in FY22 SYIP were developed in consultation with VTRC, DRPT, the Operations Technology Team, VDOT Districts, and Traffic Engineering and Operations Divisions
- Total value of proposed projects is \$13.2 million (funded from prior ITTF balances and FY22 allocation)
- Proposed projects include focus on:
 - Congestion Mitigation
 - Traffic Signal Operational Improvements
 - Communication Network Enhancements
 - Operations Maintenance
 - Work Zones/Incident Management

Congestion Mitigation

- **I-77 VSL and Queue Warning Feasibility**
 - Address travel speed degradation with speed harmonization and queue warning
 - Reduce potential of rear-end collisions
- **Statewide VSL Framework/Feasibility Assessment**
 - Quantify benefits of VSL under varying conditions
 - Identify other locations for beneficial deployment
- **Improved Freeway Management (IFM) Pilot**
 - Leverage I-95 VSL project
 - Connected vehicle deployment of speed harmonization (CACCC strings)

Congestion Mitigation (cont.)

- **Tunnel Speed Management (Guide Lights)**
 - Address phenomenon of reduced speed on inclines
 - “Pace” lights provide visual cues of appropriate speed
- **HRBT Over-height Detection and Mitigation**
 - Separate project will address tunnel height restriction
 - Identify and pilot system to detect and divert remaining over-height vehicles

Traffic Signal Operational Improvements

- **Rt. 19/460 Signal Detection Upgrades**
 - Primary diversion route for I-77
 - Facilitate ATSPM and EVP
 - Three camera for situational awareness
- **Jefferson Avenue Signal Improvements**
 - Upgrade signal controllers and connect to statewide system
 - Provide continuity of operations and enhanced incident management capabilities

Operations Maintenance

- **High Water Monitoring System**
 - Lynchburg District – locations experience frequent roadway flooding
 - Automatically detect and report roadway flooding
- **Pavement Marking/Marker Management System**
 - Mobile collection of retroreflectivity data
 - Facilitate maintenance and replacement of markings/markers
- **Smarter Lighting**
 - Network assessment of current nighttime lighting levels
 - Impacts of lighting deenergization
 - Targeted illumination of crosswalks

Work Zones/Incident Management

- **Connected Work Zones**
 - Real-time work zone status information dissemination
 - Worker Alerts
 - ATMAs
- **Automated Speed Enforcement**
 - Pilot in 2-3 work zones
 - At least one I-81 work zone
- **Incident Response Optimization**
 - Focus on VDOT people, skills, equipment
 - Reduce response time and overall duration

Communications for Operations Technology

- **Osprey Fiber Connections**
 - Leverage Osprey RSA to connect devices along I-81 in Southwest/Northwest Regions
 - Will result in \$400,000 annual cost savings
- **High Speed Signal Communications – Phase 2**
 - Reliable high-speed communications required for real-time operations and performance monitoring
 - 95 signals will be upgraded in Phase 2

Project	Improve Safety	Reduce Congestion	Improve Traveler Information	Enhance Emergency Response	Improve Mobility
I-77 VSL/Queue Warning	✓	✓	✓		
Statewide VSL Framework/Feasibility	✓	✓			
IFM Pilot	✓	✓			✓
Tunnel Speed Management	✓	✓	✓		
HRBT Over-height Detection and Mitigation	✓	✓			✓
Rt. 19/460 Signal Detection Upgrades	✓	✓		✓	
Jefferson Avenue Signal Improvements	✓	✓		✓	
High Water Monitoring	✓		✓		
Pavement Marking Management	✓		✓		✓
Smarter Lighting	✓				
Connected Work Zones	✓	✓	✓		
Automated Speed Enforcement	✓	✓			
Incident Response Optimization	✓	✓		✓	
Osprey Fiber Connections	✓	✓	✓	✓	✓
High Speed Signal Comms – Phase 2	✓	✓			✓



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