COMMONWEALTH of VIRGINIA

Office of the

SECRETARY of TRANSPORTATION

Innovative Technology and Transportation Fund - 101

Dr. Laura Schewel

Deputy Secretary of Transportation

Agenda/Reason for this Presentation

- What is the Innovative Technology and Transportation Fund (ITTF)?
- What is the board's role in ITTF?
- Project examples

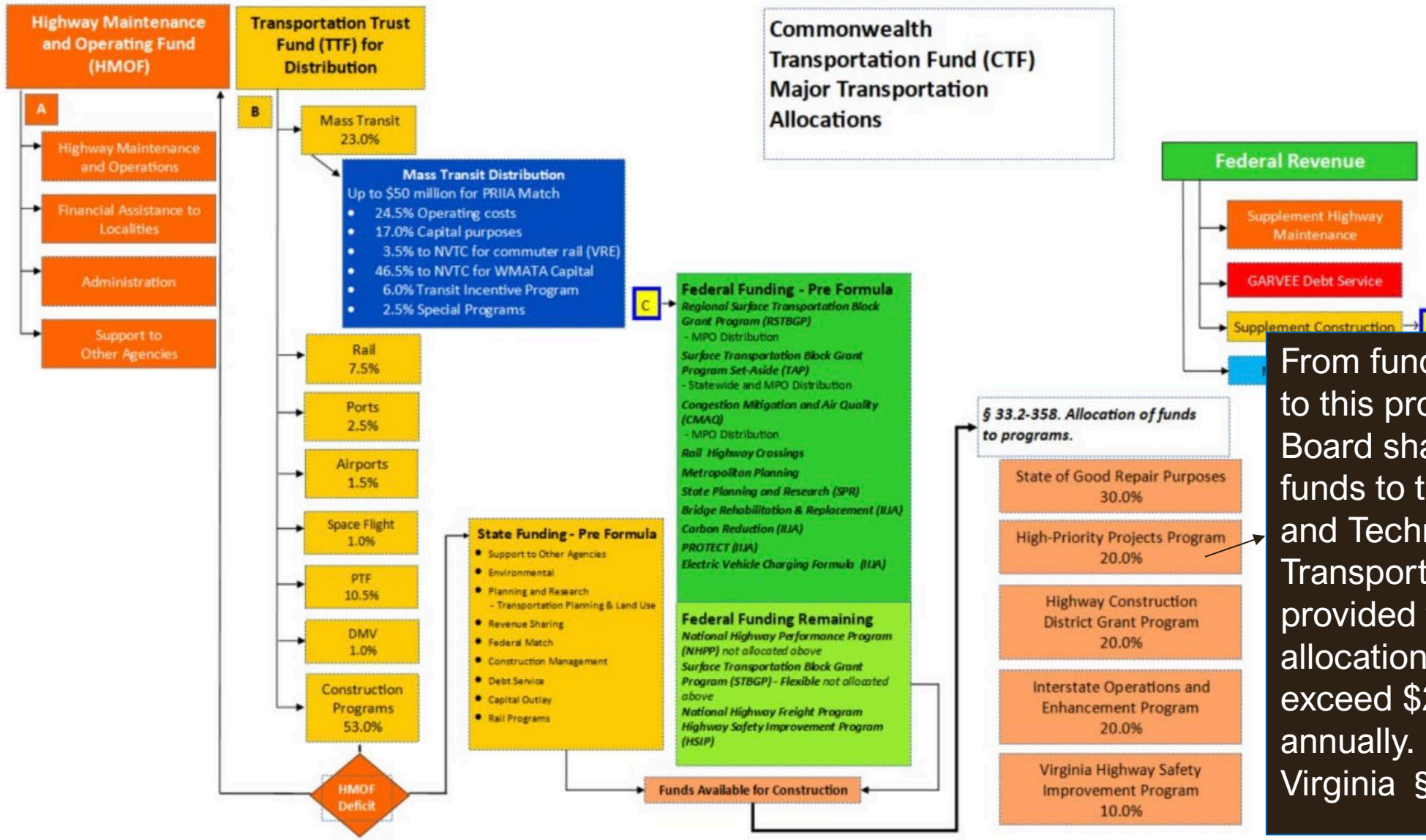
Goal: Familiarize board with this fund and complete our briefings on all the major categories of funding in the Construction Program.

What is ITTF?

- Funds pilot programs and fully developed “high-tech” infrastructure improvements with a focus on:
  - Reducing congestion
  - Improving mobility
  - Improving safety
  - Providing up-to-date travel data
  - Improving emergency response
- Reported on annually to General Assembly (most recent report)



Where is ITTF in the CTF?



From funds allocated to this program, the Board shall allocate funds to the Innovation and Technology Transportation Fund, provided that the allocation shall not exceed $25 million annually. (Code of Virginia § 33.2-370)

What is the board's role in the ITTF?

§ 33.2-1531 "High-tech infrastructure improvements" means those projects or programs identified by the Board that reduce congestion, improve mobility, improve safety, provide up-to-date travel data, or improve emergency response.

The board: Approves the projects as part of the SYIP

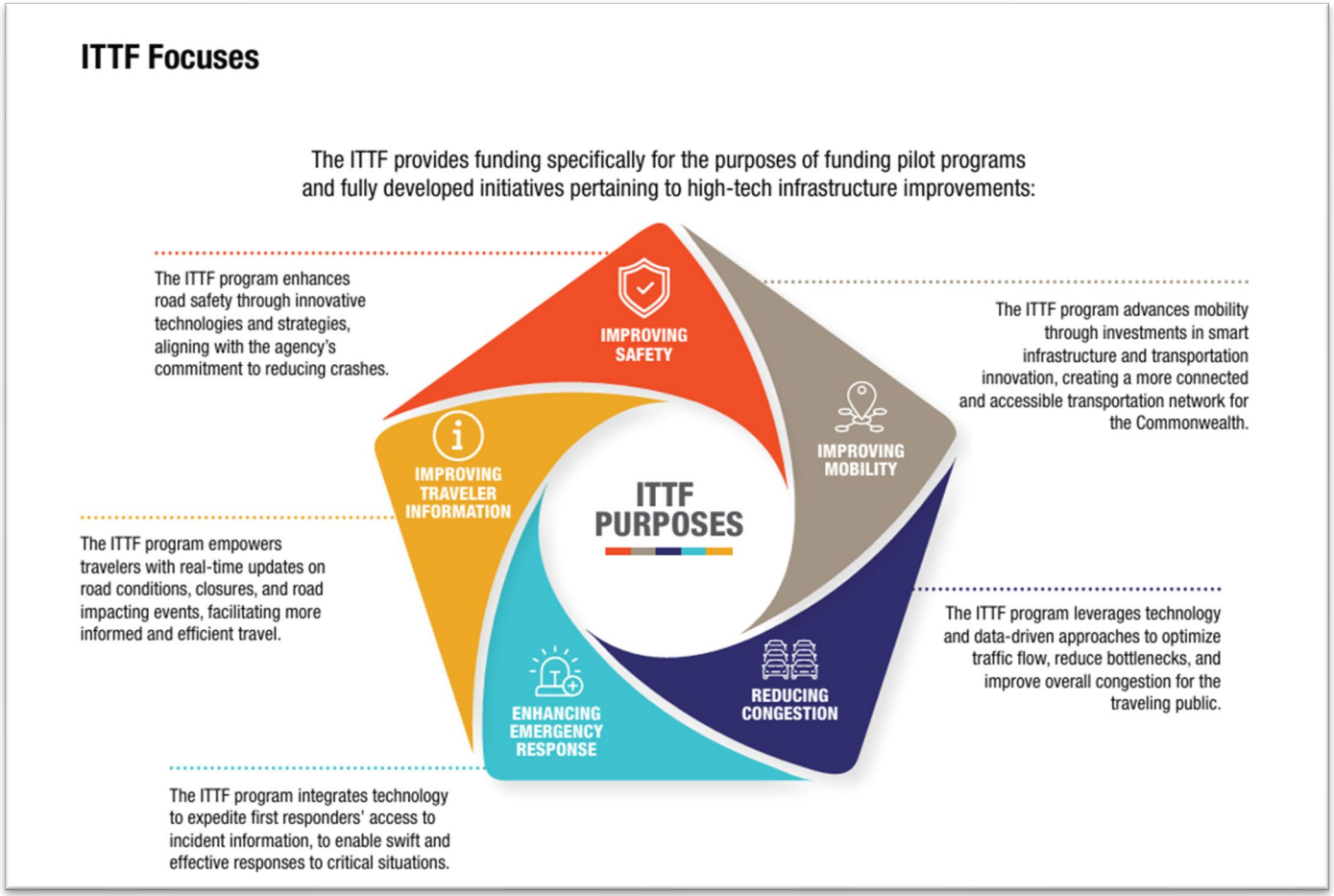
ITTF Project Stats

62

active Projects ($175M)

11

completed projects in last year



I95 Variable Speed Limit – Example ITTF Project

I-95 Variable Speed Limit (VSL) System

ITTF PURPOSES

2025 UPDATE

- VDOT's Research Council continues to monitor the success of the I-95 VSL system, which continues to yield positive results.
- Another detector was placed at the north end of the study area to provide additional downstream data and improve proactive management of traffic in the corridor.
- The I-95 NB Rappahannock Bridge construction project was completed in May 2024. This project may have influenced the amount of congestion and hence the potential for crashes.

Project Purpose

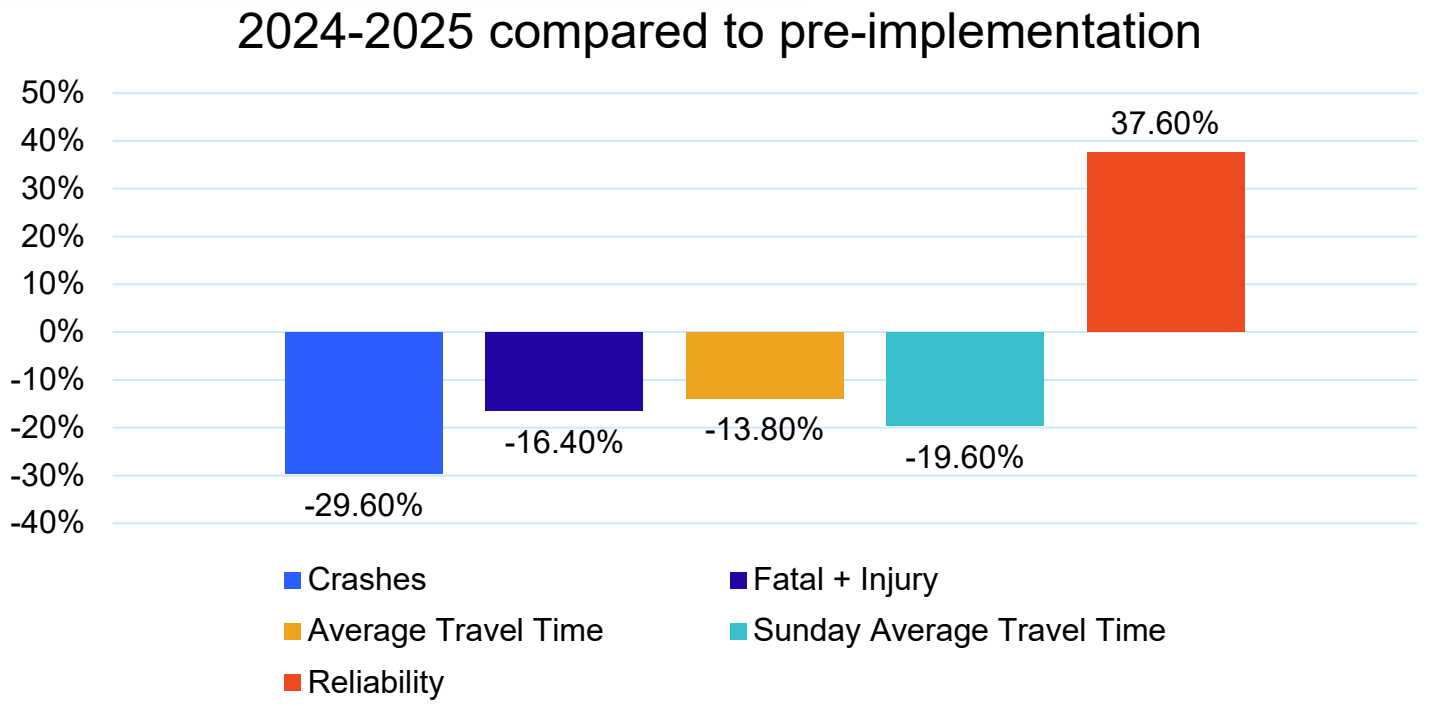
VDOT has installed variable speed limits on the I-95 northbound corridor between mile markers 115 and 130 in Caroline and Spotsylvania Counties. This is to address crashes caused by unexpected speed differentials when encountering congestion or lane-impacting events. LED signs displaying variable speed limits along with dynamic message boards provide real-time information to drivers. The speed limits are reduced only when necessary based on traffic speed and volume data collected by vehicle detectors. Enforcement authorities have access to real-time changes in the posted speed limits.

Project Description

- Install detectors, signs and cameras for the VSL (funded via I-95 Corridor program)
- Develop the algorithm to assess traffic detector data to change the highway speed limits (ITTF funded)

Overview

Location	I-95 in Spotsylvania County/City of Fredericksburg
VDOT District	Fredericksburg
Route	I-95
City/County	Fredericksburg, Spotsylvania, Caroline
Project Cost	$2,404,000 (ITTF Funding for the I-95 VSL Algorithm)
2025 Milestones	Year 3 evaluation conducted. Project complete.



Fiber Network – Example ITTF Project

Fiber Network Stability Enhancement

ITTF PURPOSES

2025 UPDATE

- North/South Fiber Route completed.

PROJECT DESCRIPTION

- VDOT has a Fiber Network that utilizes a combination of VDOT-owned fiber as well as fibers obtained through Resource Sharing Agreements (RSA). This network connects VDOT's Traffic Operations Centers (TOC) to multiple traffic control and monitoring devices, and to two data centers that host critical Traffic Operations systems.
- Prior to this project, VDOT's five TOC's had a core communication ring (see diagram to the right). If the fiber was cut in two points, VDOT could lose access to multiple devices and communications to other TOC's and data centers.
- The purpose of this project is to enhance fiber network stability by creating an additional fiber ring. This additional fiber ring enhances the resiliency of the network with a redundant path.

Overview

Location	Statewide
VDOT District	Multiple
City/County	Multiple
Project Cost	$2,987,000
2025 Milestones	North/South route completed. Evaluation began.

Results

Focus	Metrics	2024-2025	2023-2024
Travel Data	Service-impacting fiber cuts resulting in loss of access to statewide Traffic Operations systems	0	1
Other	Reduction in rescheduling of construction activities	6	10



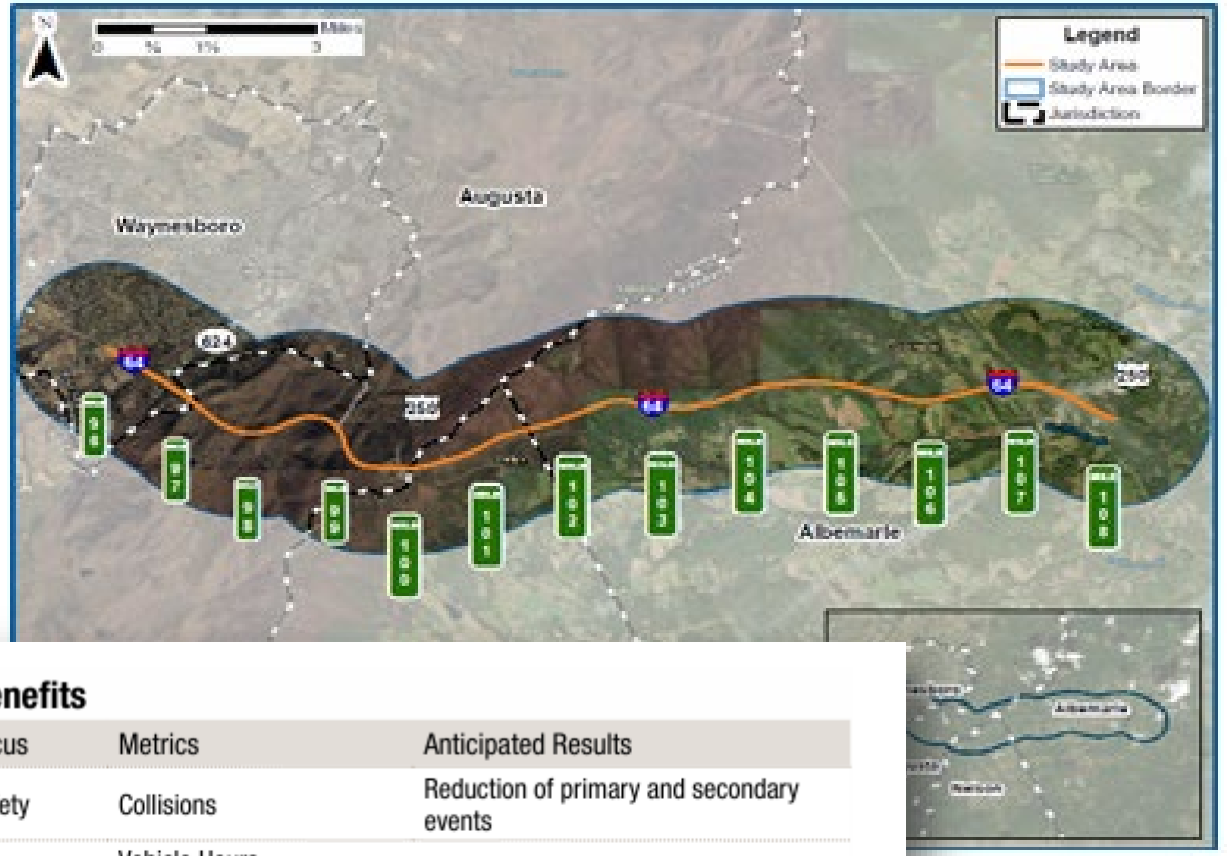
Afton Mountain Queue Warning – Example Project

I-64 Afton Mountain Queue Warning System

ITTF PURPOSES

Description

- The Afton Mountain crossing on I-64 presents many challenges including fog events and commercial vehicles traveling at low speeds. Both events can contribute to traffic congestion. Traffic congestion can cause secondary events such as rear-end collisions.
- This project developed a new Congestion Warning System (CWS) that will analyze data from existing and new detector stations, notify Transportation Operations Center staff, and disseminate messaging to sign infrastructure.
- The project integrated the CWS with the Advanced Traffic Management System (ATMS) to automate detection messaging. By-lane traffic sensors are used to detect and notify travelers of upcoming congestion.
- This project is part of a larger effort to improve the safety on I-64 as it crosses Afton Mountain. A concurrent project to improve the lighting system is underway. Both projects will be evaluated concurrently.



Benefits

Focus	Metrics	Anticipated Results
Safety	Collisions	Reduction of primary and secondary events
Congestion	Vehicle Hours of Delay (VHD)	Reduction in VHD
Information	Number of congestion notifications	Greater frequency of notification

What's new in ITTF for the FY27 SYIP?

Reminder from April SYIP Presentation

Project Name	District	Location	Total need ($k)	FY27 ($k)	FY28-32 ($k)
VALIDATE & DEPLOY AUTOMATED TRUCK MOUNT ATTEN SYSTEM	Richmond	Richmond District-wide	$8,000	$1,000	$7,000
IMPLEMENT SYSTEMIC MOVE AUTO QUEUE WARN SYSTEM	Fredericksburg	Fredericksburg District-wide	$1,500	$275	$1,225
DEPLOY TRAJ TRAF SIGNAL CTL DETECT RTE 220 RIDGEWAY	Salem	Ridgeway	$1,000	$250	$750
SLOW MOVING VEHICLE/AMISH BUGGY WARNING SYSTEM PILOT	Lynchburg	Lynchburg District-wide	$600	$150	$450

We will share updates and findings as they emerge

What's Next?

- The SOT will share our plan for focus areas for the ITTF for the remainder of the administration at a future CTB meeting.
- For FY28 - Submissions can come from DRPT, VDOT Districts, VDOT HQ. The Smart Portal is opening in early Fall for ITTF submissions.

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Thank you.