

Transportation Systems Management & Operations (TSMO)

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Presented by:

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Technical Services

VTrans Maintenance & Operations Bureau

Definition

FHWA Definition of TSMO:

An integrated program to optimize the performance of existing multimodal infrastructure through implementation of systems, services, and projects to preserve capacity and improve the security, safety, and reliability of our transportation system.

VTrans Strategic Plan

MISSION

Provide for the **safe and efficient** movement of people and goods.

VISION

A **safe, efficient** and multimodal transportation system that promotes Vermont's **quality of life and economic wellbeing**

TSMO Mission & Goals

TSMO MISSION

VTrans will improve the reliability of the existing transportation system by managing delays and disruptions

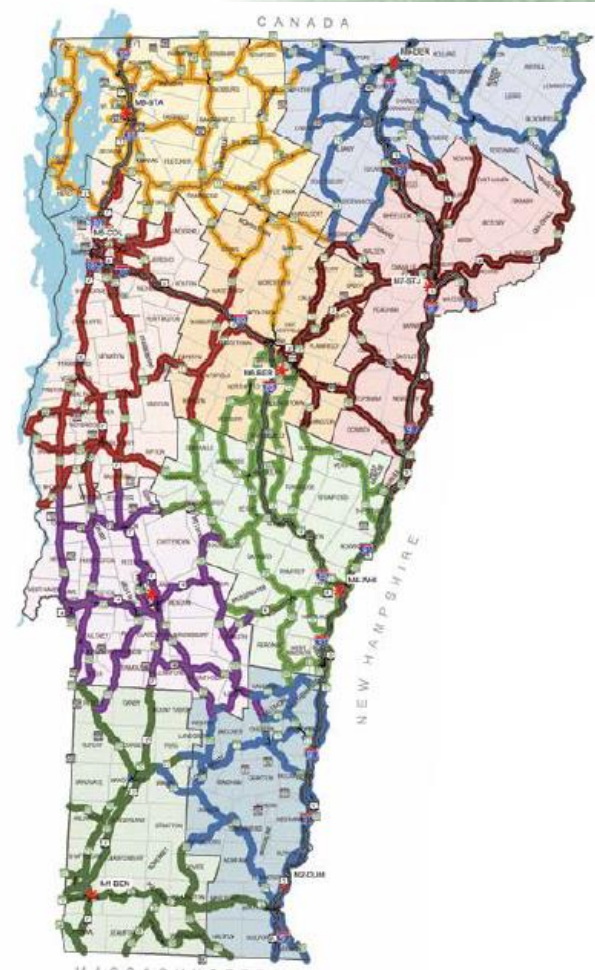
GOALS

Improve reliability:



- During **typical operating conditions** and **challenging weather**.
- For work zones, special events and other **planned disruptions**.
- For **unanticipated incidents** that cause short and long term disruptions

Key TSMO Principles

- Customer focused
- Data Driven
- Utilize existing foot print
 - Efficiency
 - Preserving capacity
- Balanced with Safety
- Multimodal
- Cross-jurisdictional



Strategic Plan & TSMO

Vrans Strategic Plan Goal	Related Objective	TSMO Relationship	
Goal 1: Provide a safe and resilient transportation system that supports the Vermont economy.	Reduce the number of major crashes		Support
	No unplanned road closures or restrictions due to conditions within VTrans' control		Support
	Increase the resilience of the transportation network to floods and other extreme weather and events.		Support
Goal 2: Preserve, maintain and operate the transportation system in a cost effective and environmentally responsible manner.	Minimize the environmental impacts of the transportation system.		Support
Goal 3: Provide Vermonters energy efficient, travel options.	Minimize traveler delay		PRIMARY
	Increase use of walking, biking, transit, rail, and Travel Demand Management options		Support
	Increase use of State and Municipal Park & Ride facilities		Support
Goal 4: Cultivate and continually pursue innovation, excellence and quality customer service.	Information given to customers is accurate and comprehensive		Support
	Staff are competent, fair, polite and sympathetic to customers' needs		Support
	Staff deliver the outcome as promised and manage any problems	Support	
Goal 5: Develop a workforce to meet the strategic needs of the Agency	Recruit excellent, qualified and diverse employees.		Dependent
	Retain and develop excellent and diverse employees		Dependent
	Implement succession planning		Dependent

Objectives for Typical Operating Conditions

- **Every Day**

- Provide timely and accurate traveler information
- Optimize the operation of existing traffic controls (signals, signs, lines) to reduce delay
- Reduce single occupancy vehicle use through Transportation Demand Management



- **Challenging Weather**

- Use technology to better manage snow and ice control



Objectives for Anticipated Travel Disruptions

- **Work Zone & Special Events**
 - Provide timely and accurate traveler information
 - Minimize delay increase from a network/corridor perspective
 - Prevent crashes
 - Traffic Management Plans will accommodate bike, pedestrians, transit and commercial vehicles
- **Special Event Specific**
 - Plan for all events affecting state system
 - Minimize the cost to the public/VTrans

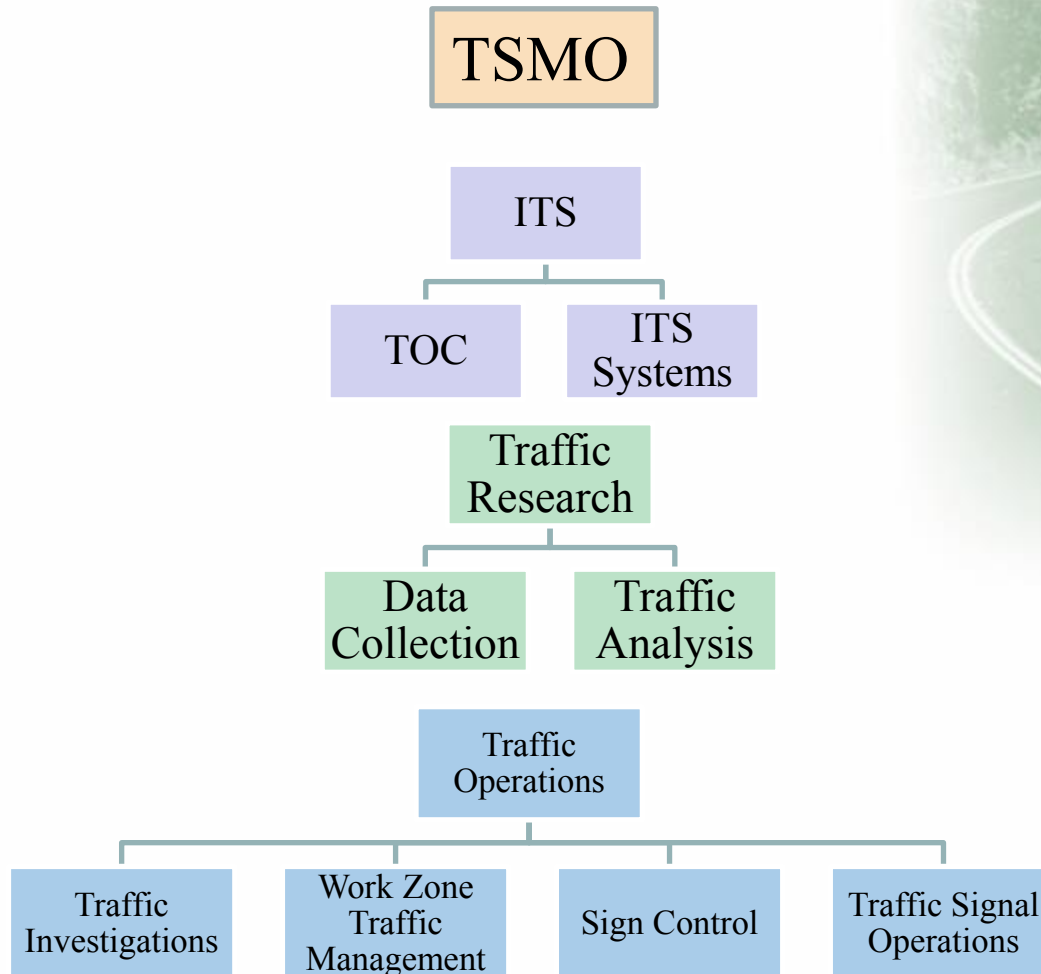


Objectives for Unanticipated Travel Disruptions

- **Short Term and (crash, sink hole) & Long Term Incidents (flood, unexpected bridge closure, transit strike)**
 - Provide timely and accurate traveler information
 - Develop/improve situational awareness of real time operating conditions
 - Quickly deploy response/mitigation
 - Minimize duration of travel restrictions and closures
 - Reduce potential for secondary crashes



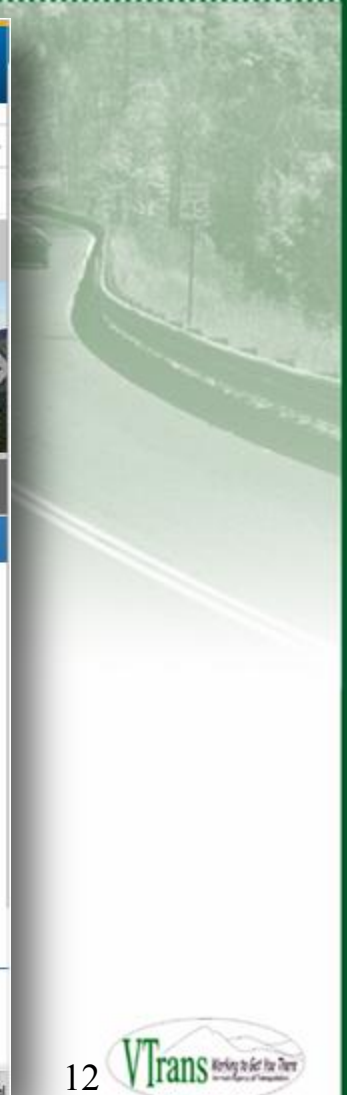
TSMO Section Organization (Current)



Implementation

- **TSMO Section officially created January 2015**
 - Up and running March 2015
- **Initiatives TSMO has focused on:**
 - Work Zone Traffic Control – Improving communication and project coordination (Waterbury projects)
 - Traffic signal operations – interconnectivity, improved timings, cross jurisdictional boundaries
 - Tri-state ATMS – Advanced Transportation Management System (New 511 site)
 - Data sharing – use data to improve mobility and highway safety

The screenshot displays the ATMS/511 website interface. At the top, there is a navigation bar with links for Home, Traffic, Transit, Trucking, Parking, Biking, Weather, More Info, Airports, and My Trips. Below this is a search bar with "Wide Area Alerts" and "Google It" options, and a "NH Amber Alert" indicator. The main content area features a map of New Hampshire with various icons representing incidents, roadwork, and weather events. A sidebar on the left lists "Emergency Announcements" and "Incidents/Construction" with specific details for each. A "Map Legend" on the right lists various icons and their corresponding alert types. The bottom of the page includes a copyright notice for 2015-511 Template Inc. and a footer with links for Help, Contact Us, Your Privacy, and Developer Portal.



ATMS Unplanned Event Response



Unplanned Event - Crash entered @ 12/30/2015 5:05:13 PM

Event Info | Weather | Info Page 2 | Response Plan | Event History | Current Owner: administrator@VTTRANS400727-11038 | jared@vttrans.com labeled in blue

Event Location: Crash entered @ 12/30/2015 5:05:13 PM

Event Description: Crash on NH-25 East at North Ashland Road

Event Type: **Crash**

Event Source: CCTV Camera

Event Severity: **Medium**

Event Verified By: CCTV Camera

Est. Duration: 30 min. Event Responder: 30 min. Event is private

Event Status: **Unplanned** | | | | | |

Secondary Events: Primary Event: Use Secondary Event: Use

Event Location: Location Type: **Point**

Location: Latitude: 43.727444° N Longitude: 71.653012° W

Location Description: NH-25 East at North Ashland Rd

State: **New Hampshire** County: **Merriam**

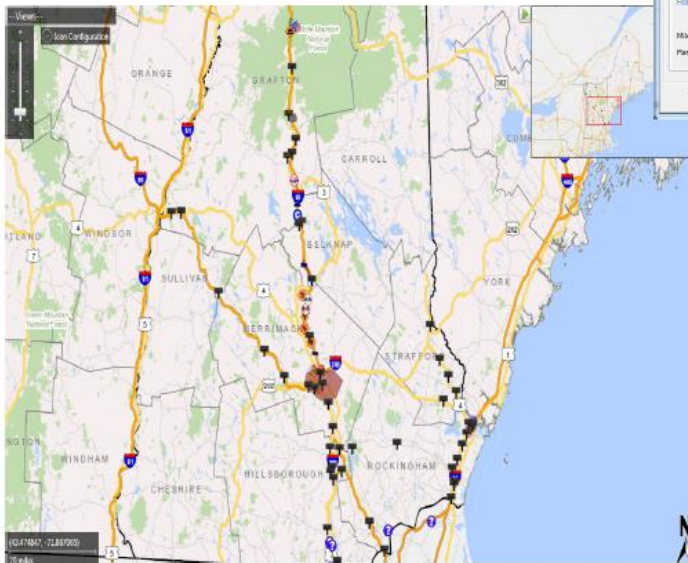
District: **District 3** City: **Concord**

Roadside: **NH-25** Direction: **East**

Close Street: **North Ashland Rd**

Mile Marker: Before After Landmark:

Plamp ID: Bridge ID:



Unplanned Event - Crash entered @ 12/30/2015 5:05:13 PM

Event Info | Weather | Info Page 2 | **Response Plan** | Event History | Current Owner: administrator@VTTRANS400727-11038 | jared@vttrans.com labeled in blue

Current Response Plan: 183 North Response Plan

Drop Response Plan Here

Message 1: DMS Message Info. Proposed Message: **TEST MESSAGE** Convert Message: Pending

Message 2: DMS Message Info. Proposed Message: **TEST MESSAGE** Convert Message: Pending

Response Plan Control: Execute without saving changes

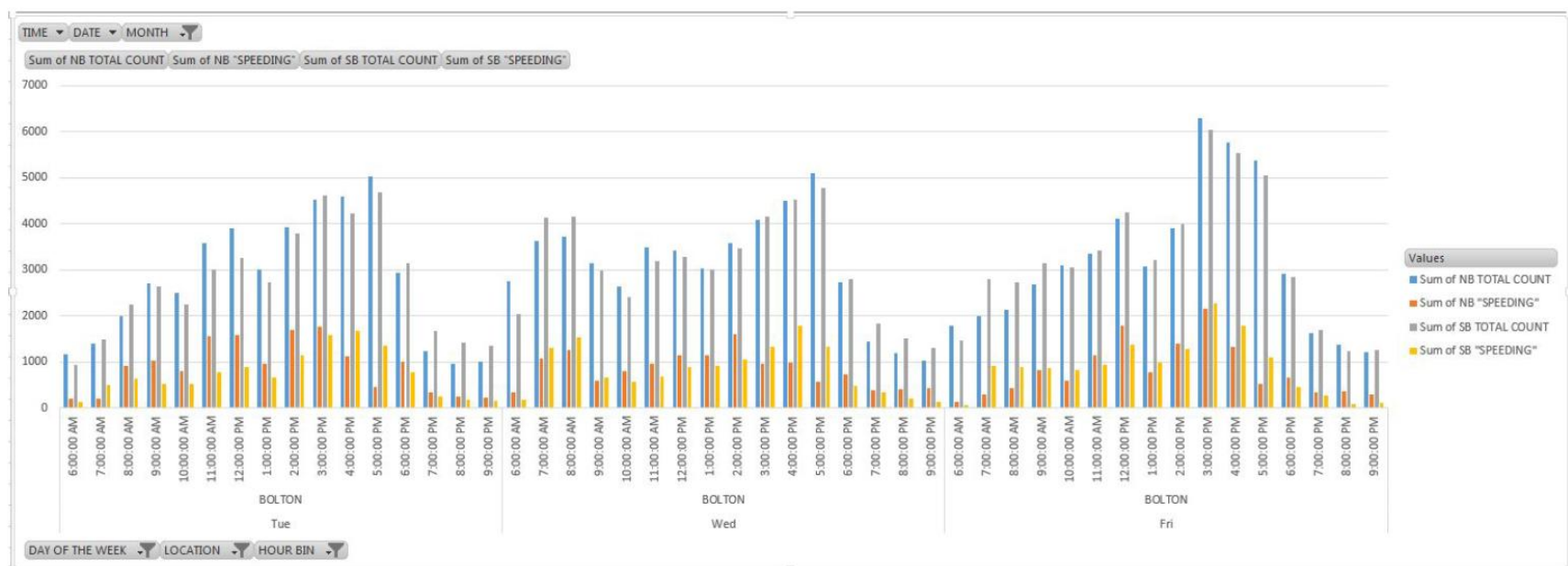
Primary Camera: No Press:

Suggested Response Plans:

Device more...: Override search range for response plans 5 miles

Modify Response Plan:

Speed & Volume Data



2 Highest Hours of Day 1 (Tuesday)	2 Highest Hours of Day 2 (Wednesday)	2 Highest Hours of Day 3 (Friday)
1. 3-4 PM	1. 4-5 PM	1. 3-4 PM
2. 2-3 PM	2. 8-9 AM	2. 4-5 PM

Traffic Signal Operations

