What Does TSMO Mean to Us?

**TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS (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.
How Does TSMO Relate to Safety?

- Provides travelers with timely and accurate information about adverse weather conditions, traffic incidents, work zones, and other potential hazards.
- Enables faster detection, verification, response, and clearance of traffic incidents, which reduces the frequency of secondary incidents.
- Safer and more efficient traffic signal operations.
- Improved safety and mobility through work zones.

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 bikes, pedestrians, transit and commercial vehicles

- **Special Event Specific**
  - Plan for all events affecting state system
  - New Special Event Permit

Objectives for Unanticipated Travel Disruptions

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

- All of us – TSMO is a culture, not just a section
  - Project Designers
  - Resident Engineers
  - Public Information Officers
  - Snow Plow Drivers
  - Maintenance Workers
  - Regional Planners
  - Asset Management
  - IT Specialists
  - Office of Highway Safety
  - Executive Staff
- Working in concert with the TSMO section

TSMO Section (Interim)

3 Existing Sections (21 people) plus 5 new positions and 1 consultant

- New TSMO Manager
- New Traffic Signal Operations Engineers (2)
- Consultant TSMO Data Analyst
- Traffic Signal Operations
- Sign Control
- Traffic Operations
- Traffic Analysis
- Data Collection
- Traffic Research
- TMC
- ITS Systems
- ITS
- TSMO
- New Traffic Investigations Supervisor
- New Work Zone Traffic Management Engineer
- Traffic Investigations
- Work Zone Traffic Management
VTrans’ Goal

**Goal:** To Create a Model Operations Program

**Objective:** Create and Implement an Action Plan to Take Us There

**Strategies:**
- Developing an Implementation Plan
- Making the Case for VTrans Operations
- Identify Organization and Staffing Needs
Using SHRP2’s Organizing for Reliability Tools

- **Capability Maturity Model (CMM) framework**
  Helps agencies evaluate strengths and weaknesses in 6 areas: business processes, systems and technology, performance measurement, culture, organization and workforce, and collaboration.

- **Online Self-Assessment** – evaluated agency’s institutional and process-oriented capabilities in systems management and operations.

- **CMM workshop** – used the CMM framework to assess effectiveness of our existing operations.

Reorganizing Our Operations

- **Developed Implementation Plan**
  Following the CMM workshop, we developed an implementation plan, identifying specific actions to elevate the agency’s capabilities to improve travel-time reliability and the efficiency of our transportation system.
We Didn’t Do It Alone – TSMO Support

- New England Regional Operations Forum (May 2014) *(SHRP2)*
  - Critical introduction to concepts for future TSMO section leaders and District TSMO specialists
- TSMO CMM Workshop (Sept 2014) *(SHRP2)*
  - Highlights that TSMO activities occur throughout the Agency, not just in the TSMO section
- Vermont Operations Forum (Sept 2015) *(SHRP2)*
  - Bringing TSMO concepts to newly formed TSMO section and District TSMO specialists (Buy in)
- New England TSMO Peer Exchange (Oct 2015) *(SHRP2)*
  - Keeping in touch with neighboring states, best practices

We Didn’t Do It Alone – Work Zones

- Work Zone Process Review (Feb 2014) *(FHWA)*
  - Highlighted need to coordinate projects in time and space, provide TMP training, and establish feedback loops.
- Work Zone/TMP Training (July 2014, Feb 2016) *(FHWA)*
  - Training provided to over 120 VTrans designers, maintenance technicians, and consultants with new emphasis on mobility.
- EDC-3 Smarter Work Zone Regional Peer Exchanges (Oct 2014, Oct 2015) *(FHWA)*
  - Working with neighboring states to implement best practices and provide a consistent work zone experience to the traveling public.
We Didn’t Do It Alone – Signal Operations

- Traffic Signal Operations Scan Tour (Oct 2015) (FHWA)
  - Seeing the “Purdue Method” in action, performance measures
- Traffic Signal Operations Plan assistance (ongoing) (FHWA)
  - Stepping back to establish an asset management plan (you can’t operate it if it isn’t functional)

We didn’t do it alone – Regional Collaboration

- Tri-State ATMS (FHWA)
  - Maine, New Hampshire, Vermont pooled fund project
  - New England Compass travel information system launches May 2016
  - NHDOT to provide off-hours TMC coverage for VTrans
- Northeast Traffic Engineers (State Organized)
  - NY, ME, NH, VT, CT, MA, RI meet twice a year to share traffic engineering best practices and challenges
- Northeast TSMO (State Organized)
  - Working to create a similar working group with neighboring states specific to TSMO
Next Steps for TSMO

• Continue to infect the Agency with the TSMO way of thinking.
• Develop new and innovative strategies to collect and use various forms of traffic data with the goal of improving mobility, and measuring the performance of VT’s highway system.
• Improve statewide traffic signal operations
• Continue focus on improving work zone safety and mobility

Questions?

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GoSHRP2 website
www.fhwa.dot.gov/goSHRP2
– Product details
– Information about SHRP2 implementation phases

SHRP2 AASHTO website
http://SHRP2.transportation.org
– Implementation Information for AASHTO members