



Advancing Transportation Systems Management and Operations (TSMO) in Rural Areas

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Why Rural TSMO?

- Opportunities in rural areas
- TSMO's connection with safety
- Importance of travel time reliability, especially with the freight community

What is TSMO?

An integrated set of strategies to optimize the performance of existing infrastructure through the implementation of multimodal and intermodal, cross-jurisdictional systems, services, and projects designed to preserve capacity and improve security, safety, and reliability of the transportation system.

23 U.S.C. 101(a)(30)(A)

TSMO Strategies

- Work Zone Management
- Traffic Incident Management
- Special Event Management
- Road Weather Management
- Transit Management
- Freight Operations
- Traffic Signal Coordination
- Traveler Information
- Ramp Management
- Congestion Pricing
- Active Transportation and Demand Management
- Integrated Corridor Management
- Access Management
- Improved Bicycle and Pedestrian Crossings
- Connected and Automated Vehicle Deployment

Paradigm Shift

- Operating completed projects
- Static and reactive
- Average travel time, level of service
- Adding capacity

- Integration throughout the project life cycle
- Responsive, proactive, and predictive
- Travel time reliability
- Preserving and restoring existing capacity

Paradigm Shift

- Focus on individual facilities and jurisdictions
- Moving the car/truck from point A to point B
- Individual strategies

- Entire transportation system
- Moving the person/cargo from point A to point B
- Integrated strategies

Urban vs. Rural Congestion

CAUSE OF DELAY		CONTEXT		
		Large Urban Areas > 1m	Small Urban Areas 0.1-1.0m	Rural
RECURRING CAUSES	Demand greater than capacity	29-37%	20-26%	0%
	Poor signal timing	4-5%>	7-13%	2%
TOTAL RECURRING		**33-42%**	**32-33%**	**2%**
NON-RECURRING CAUSES	Crashes	35-36%	19-26%	26%
	Breakdowns	6-7%	6-10%	25%
	Work zones	8-19%	26-27%	39%
	Weather	5-6%	7-10%	7%
	Special events, other	1	<1%	0%
TOTAL NON-RECURRING		**58-67%**	**67%**	**98%**

Incidents

Source: Washington DOT

Source: Wisconsin State Patrol

Weather

Source: FHWA

Work Zones

Source: FHWA

Source: FHWA

Special Events

Source: Minot Air Force Base

Source: FHWA

Recreat

Feedback on Rural TSMO

- Based on feedback in various workshops and venues
- General approach
- Making the business Case
- Data and information
- Incident management
- Staffing

Source: Wyoming DOT

General Approach

- Ad hoc approach to non-recurring congestion
- Statewide vs district focus
- Participation by rural districts
- Local governments
- Corridor coalitions

Making the Business Case

- TSMO provides value in rural areas
- No Recurring Congestion

Source: Tracy Scriba, FHWA

Making the Business Case

- The benefit-cost of investing in performance measurement and data collection systems
- Technology not warranted for rural roads/remote areas
- Need to further educate rural staff on the benefits and purpose of TSMO strategies

Source: FHWA

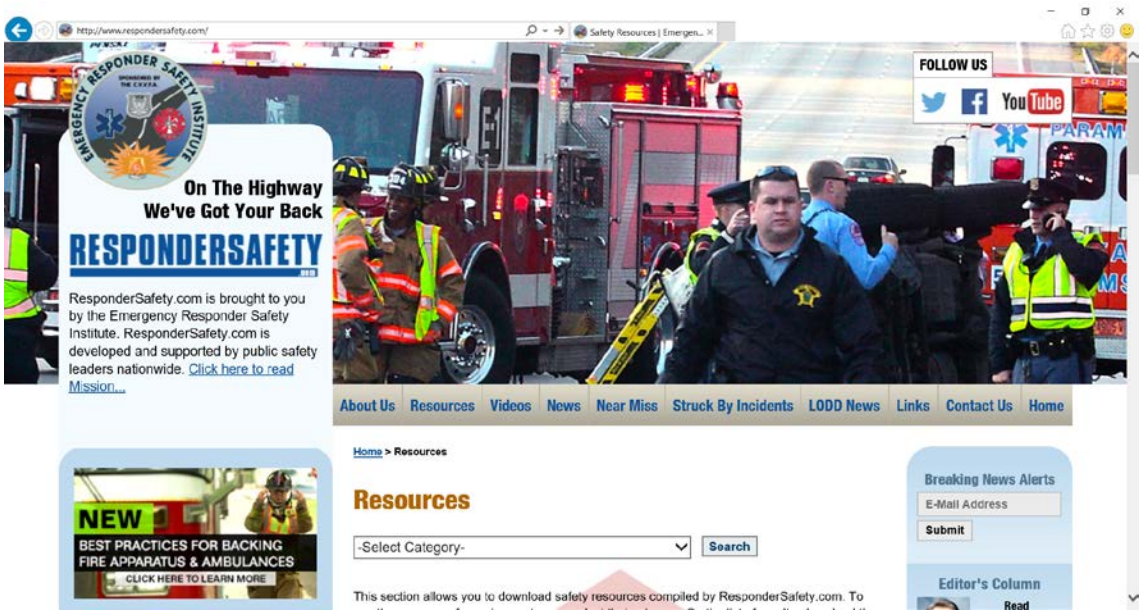
Data and Information

- Need for information in rural areas
- Need for more cameras
- Connectivity in the rural areas

Source: FHWA

Incident Management

- Rural response agencies are small with limited resources
- Response time can still be an issue in the rural areas of the state
- Coordination challenges with rural/remote responders



www.respondersafety.com

Incident Management

- Collaboration challenges with land use and access management
- Limited options for collaborating on alternate routes
- Tow Incentive and Recovery programs

Source: Oregon DOT

Staffing

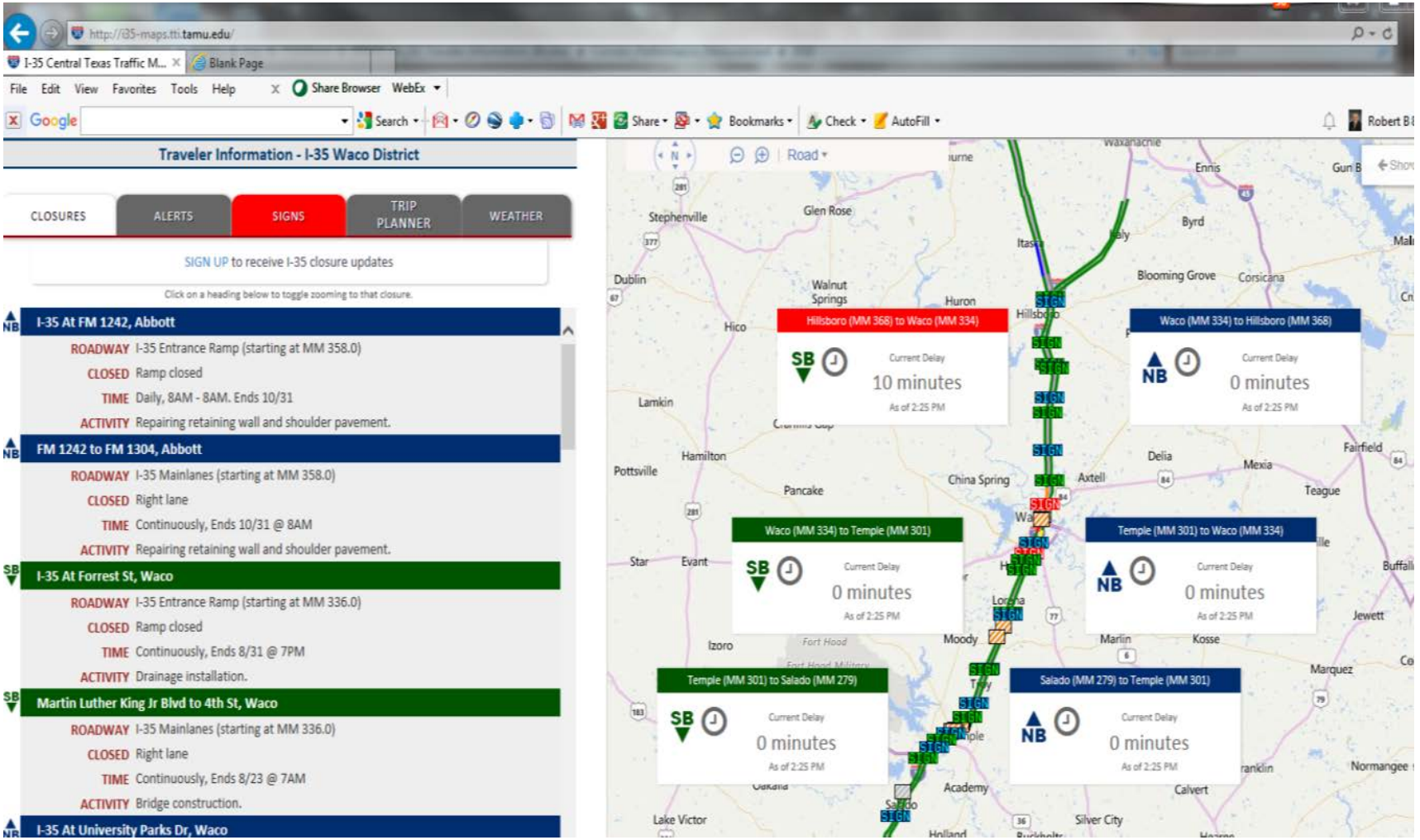
- Capacity of rural groups
- Staff retention
- The re-organization of State DOT districts toward TSMO
- Citizen Reporter Program

Other Feedback

- Intelligent Transportation Systems (ITS) test runs
- Geographic Information Systems (GIS)
- Community outreach

Source: FHWA

I-35 Work Zone Traveler Interface



Credit – Tom Kearney, FHWA

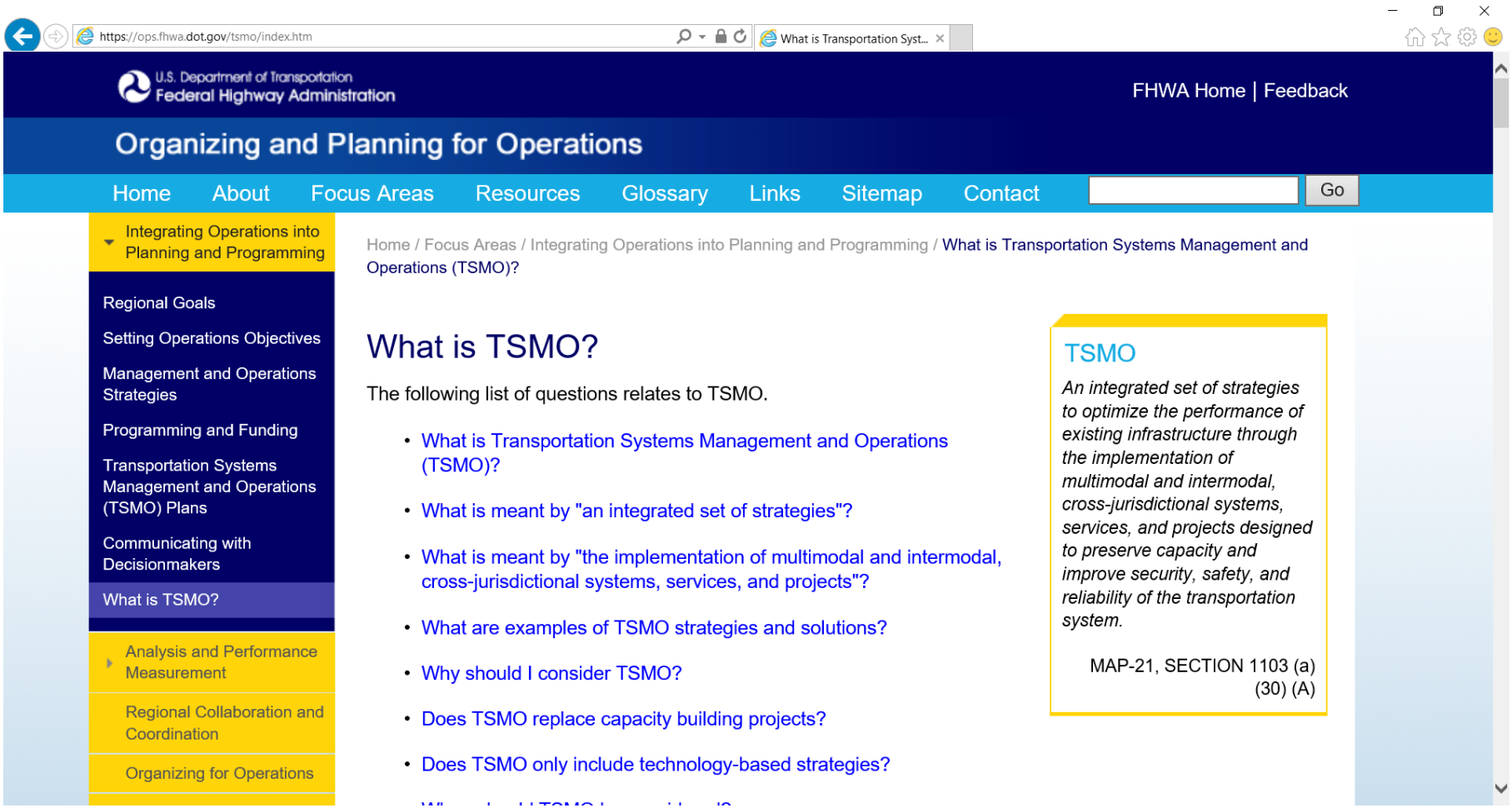
Questions to ask in Advancing TSMO

- Who owns what routes in the transportation system? (freeways, arterials, local roads)
- Are we coordinating with the right stakeholders? (State/local DOT's, cities, counties, metropolitan planning organizations, transit authorities, first responders, etc.)
- Is TSMO integrated into current processes, such as planning and project development?
- Do we have goals and objectives for TSMO in our State or region? Are they reflected in our existing plans and processes or will new ones need to be developed?

Questions to ask in Advancing TSMO

- Does our staff have the right skill sets to advance TSMO?
- How are we tracking and monitoring the performance of our transportation system?
- How can we best utilize the data and metrics we have?
- What technology needs should we address to advance TSMO? Is our technology interoperable with other related systems and jurisdictions?
- Do senior leadership and other departments understand TSMO?

FHWA TSMO Website



ops.fhwa.dot.gov/tsmo





Questions?

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