



Mainstreaming Transportation Systems Management and Operations (TSMO) into Performance-Based Transportation Planning

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U.S. Department of Transportation
Federal Highway Administration



Changing Transportation Environment

- Challenging fiscal and physical environment limits opportunities for increasing road capacity.
- Heightened customer expectations.
- Increased reliance on information and technology.
- Growing emphasis on measurable outcomes and performance-based management and investment.
- Needs for rebuilding and modernizing infrastructure.
- Emerging technology and data offer opportunities to enhance operations.

A strong foundation for
TSMO is critical.



What is TSMO?

Transportation Systems Management and Operations

“[A set of] integrated strategies to optimize the performance of existing infrastructure through the implementation of multimodal and intermodal, cross-jurisdictional systems, services, and projects” (MAP-21, (a) (30)).

“Integrated strategies” means:

- Regional integration
- Intermodal coordination
- Interagency collaboration
- Technical integration



How do you describe TSMO?

- Optimizing use of existing facilities.
- Maximizing performance of the system.
- Buying the most mobility for the least cost.
- Treating capacity as an asset to manage.
- Getting you there – people and goods.
- Targeted solutions to congestion causes.
- Complement to capacity projects.
- Flexible approaches to match demand to supply.



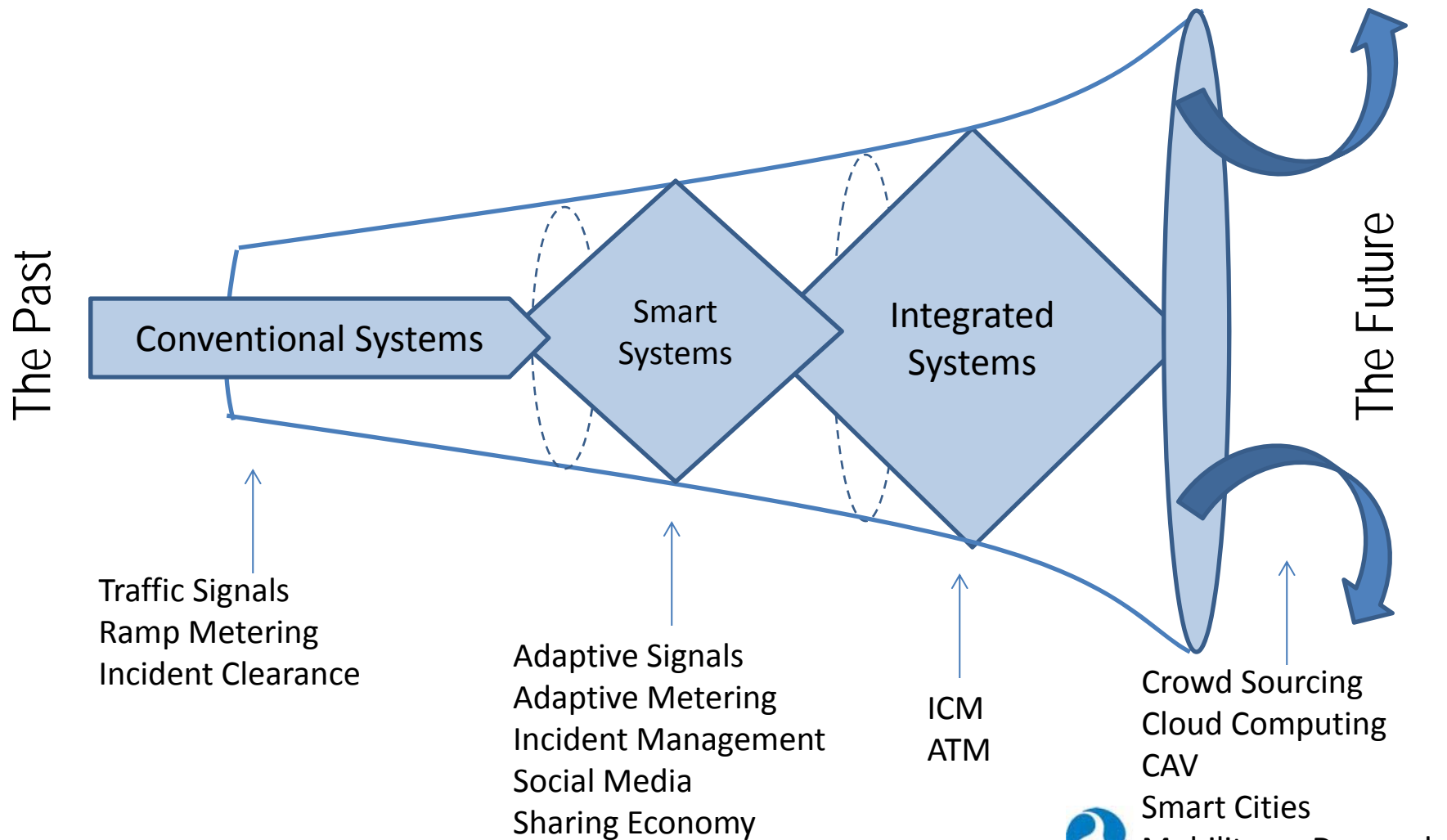
Example TSMO Strategies and Approaches

- Work Zone Management
- Traffic Incident Management
- Special Event Management
- Road Weather Management
- Multimodal Coordination
- Freight Management
- Traffic Signal Coordination
- Traveler Information
- Ramp Metering
- Managed Lanes
- Active Traffic Management
- Integrated Corridor Management

Implemented and operated by transportation agencies (State DOT, transit agency, local DOT) on a day-to-day basis.



Evolution of TSMO Strategies



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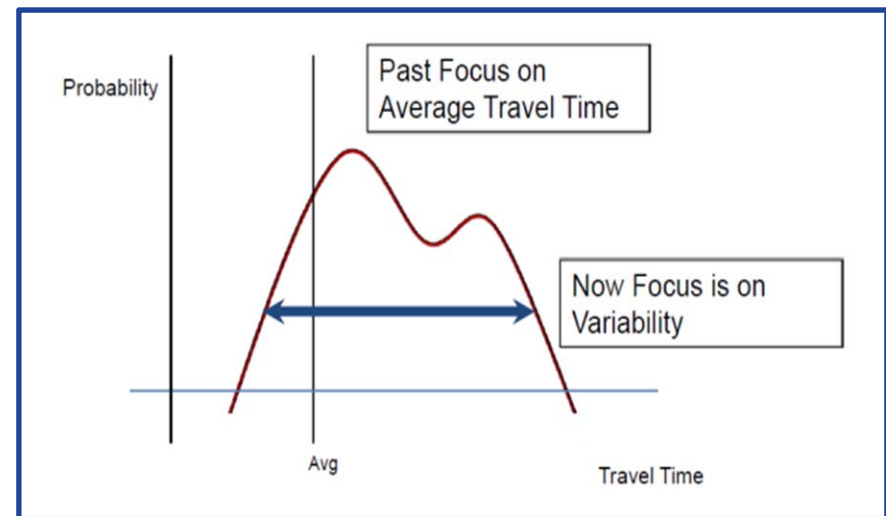
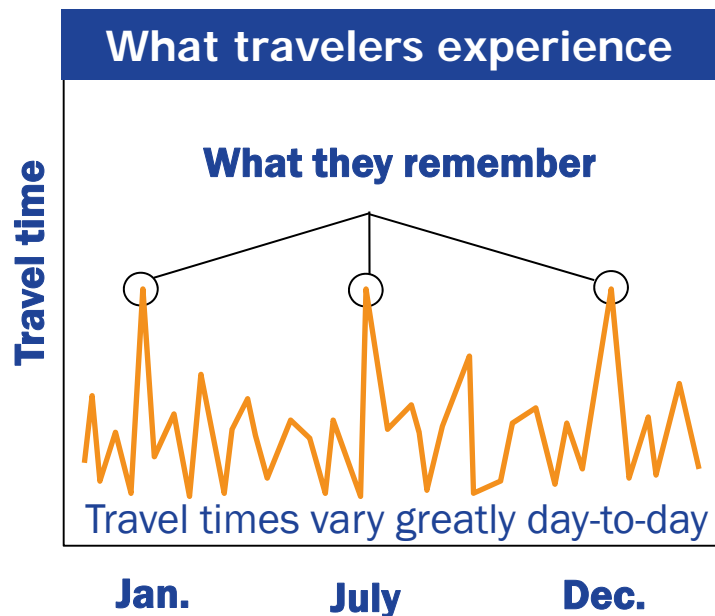
Characteristics of Effective TSMO

Typical Activities	Formal TSMO Program
<ul style="list-style-type: none">• Fuzzy mission• No formal program budget• Ad-hoc processes depend on champions• Changing technology• Lack of outcome-based metrics• Stove-piping• Reactive	<ul style="list-style-type: none">• Clear mission• Program/plan/budget• Processes standardized• Inoperable technology• Clear performance metrics• Clear roles and responsibilities• Proactive



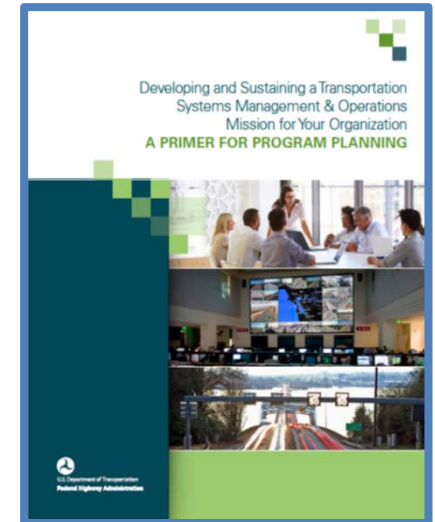
Value of Travel-Time Reliability

- Customers care about predictability of travel.
- Agencies need tools to better understand and identify strategies to improve travel-time reliability.



TSMO Program Planning

- How to develop, integrate, and sustain TSMO as a core program.
- Three main elements:
 - Strategic
 - Programmatic
 - Tactical
- Looks at:
 - How does TSMO currently fit into my agency?
 - What steps can I take to orient my agency toward TSMO?
 - How do we get there and who needs to be involved?
 - How do we establish and sustain it?
- More than 10 developed by States/MPOs/regions, and about 10 more underway.



How is TSMO Helping?

- Better understanding of the importance of reliability.
 - New ways to display data to better communicate.
- Greater ability to diagnose causes of congestion issues.
- Modifying processes to integrate TSMO.
 - Integrating travel-time reliability into planning – project and strategy analysis, and investment decisions.



What This Means For You?

- Does your agency's culture support TSMO?
- Does your agency have a readily identifiable TSMO program?
- Are you ready to communicate the value of TSMO?
- Can you effectively make the case for TSMO investments?
- Are you positioned to provide TSMO capabilities to your DOT customers to fill the gap?
- Has your region built the necessary partnerships?
- Have you tried SHRP2 products to help with this?



Websites and Contact Info

- FHWA Planning and Organizing for Operations
ops.fhwa.dot.gov/plan4ops/index.htm
- National Operations Center of Excellence
www.transportationops.org
- Tracy Scriba, FHWA Office of Operations
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