

# Traffic Operations Performance Management System

## *National Context and MAP-21*

*presented to*

**Regional Performance Management  
Web Meeting**

*presented by*

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# Topics

- Why is this important?
- MAP-21
- Data
- Resources



# Transportation Planning and Operations Agency Challenges

- **MAP 21 – Decision-making, performance measures, and executive-level awareness**
- **Declining resources and increasing customer expectations for multimodal mobility, safety, and efficient operation of transportation system**
- **Operations/Real Time – New data sources, capability to merge with travel demand, analytics, predictive, and integration of sources**

# Why Do Performance Measurement?

- **Sound business practice**

- » **We measure performance because it helps us get better at what we do!!!**
  - Detect and correct problems in an era of shrinking budgets (projects)
  - Manage, describe, and improve processes (programs)
  - Ongoing evaluations – demonstrating the value of our activities
  - Transparency with decision-makers
  - Better communication with the traveling public

# Why do we need Operations Performance Measures?

BAD WEATHER



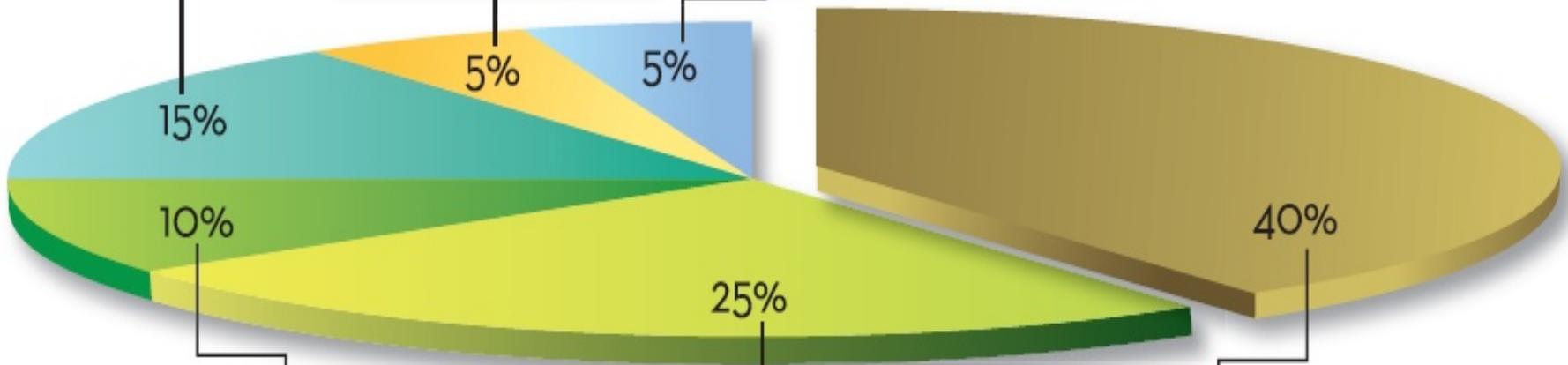
POOR SIGNAL TIMING



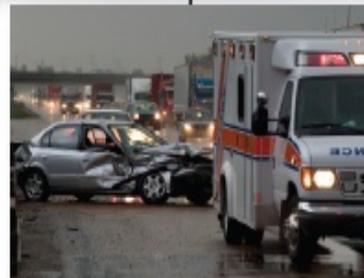
SPECIAL EVENTS/OTHER



Sources of Congestion Over 50% of congestion is directly attributable to large fluctuations in demand (such as special events), poor signal timing, traffic incidents, inclement weather, and work zones.



WORK ZONES

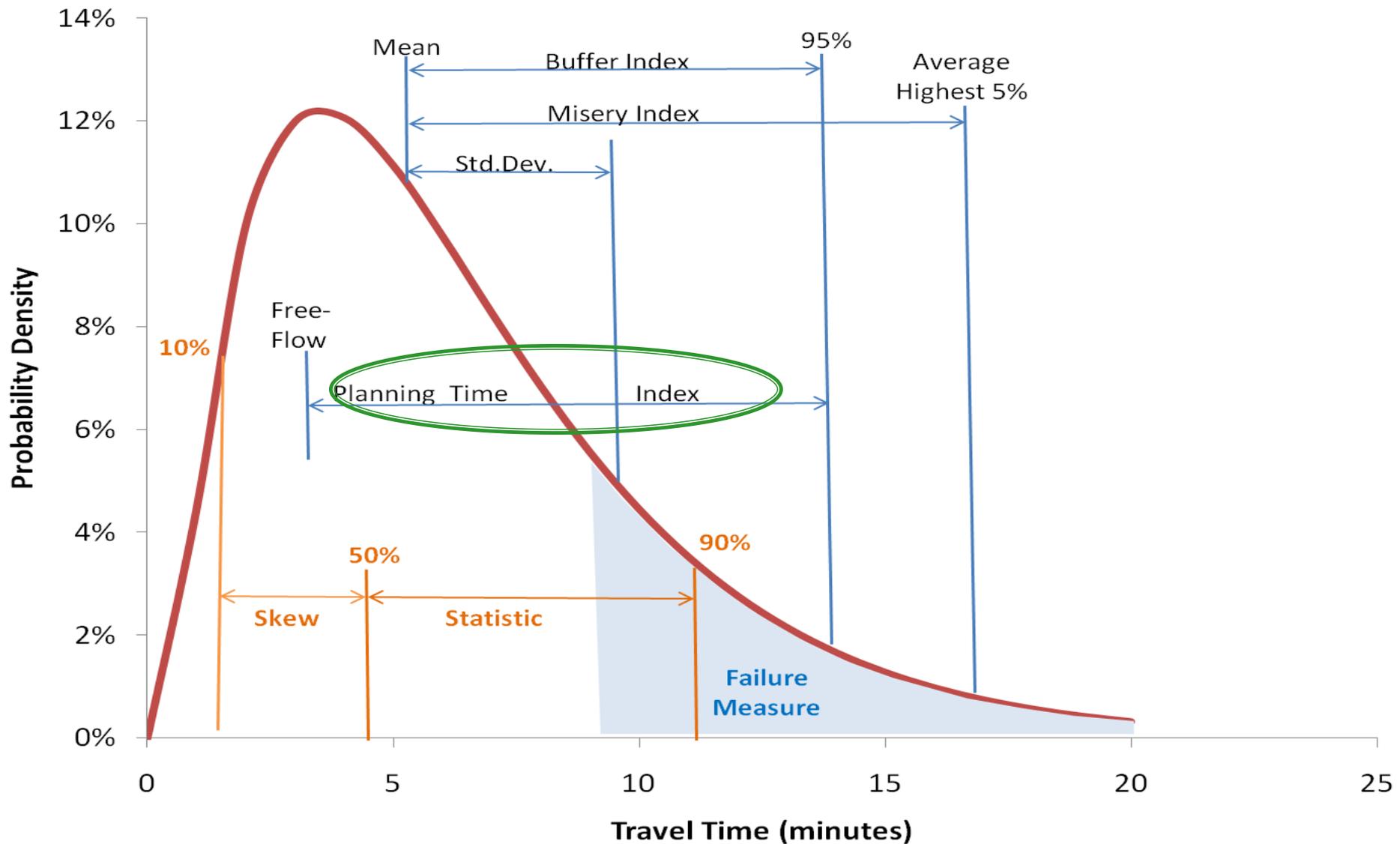


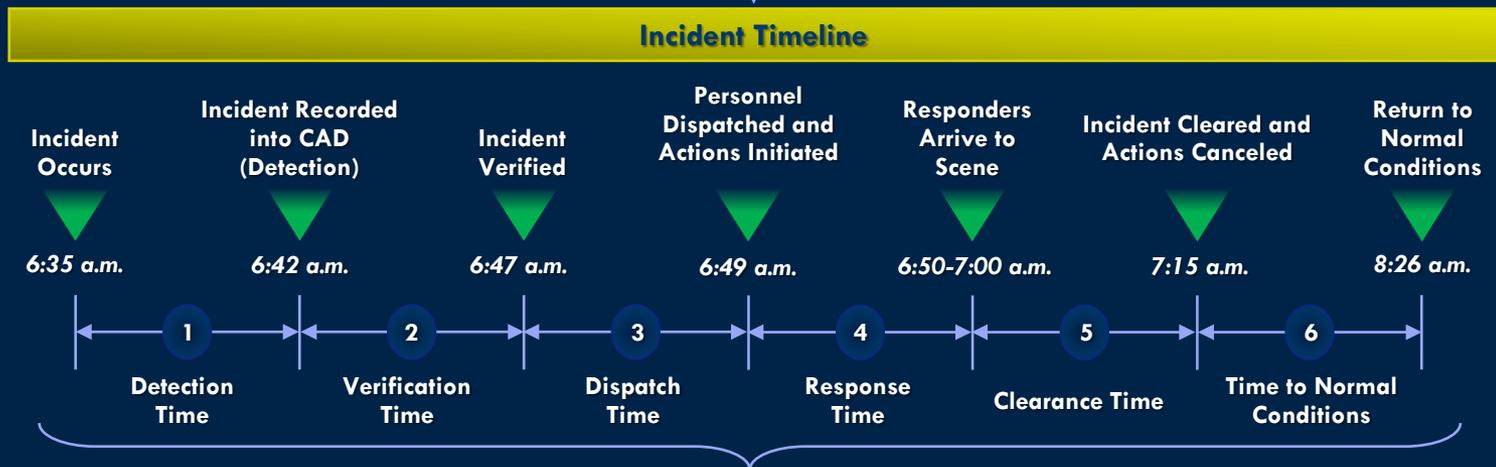
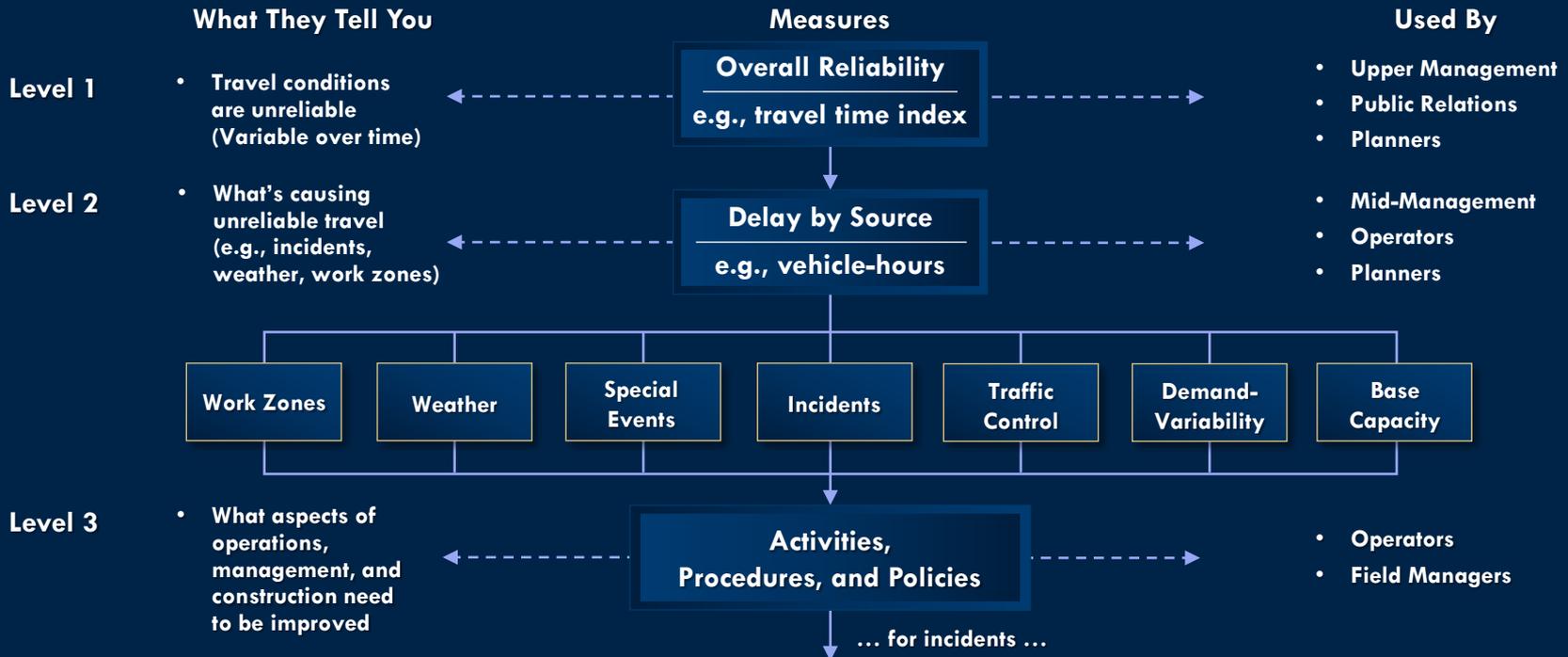
TRAFFIC INCIDENTS



BOTTLENECKS

# Travel Time Reliability Measures





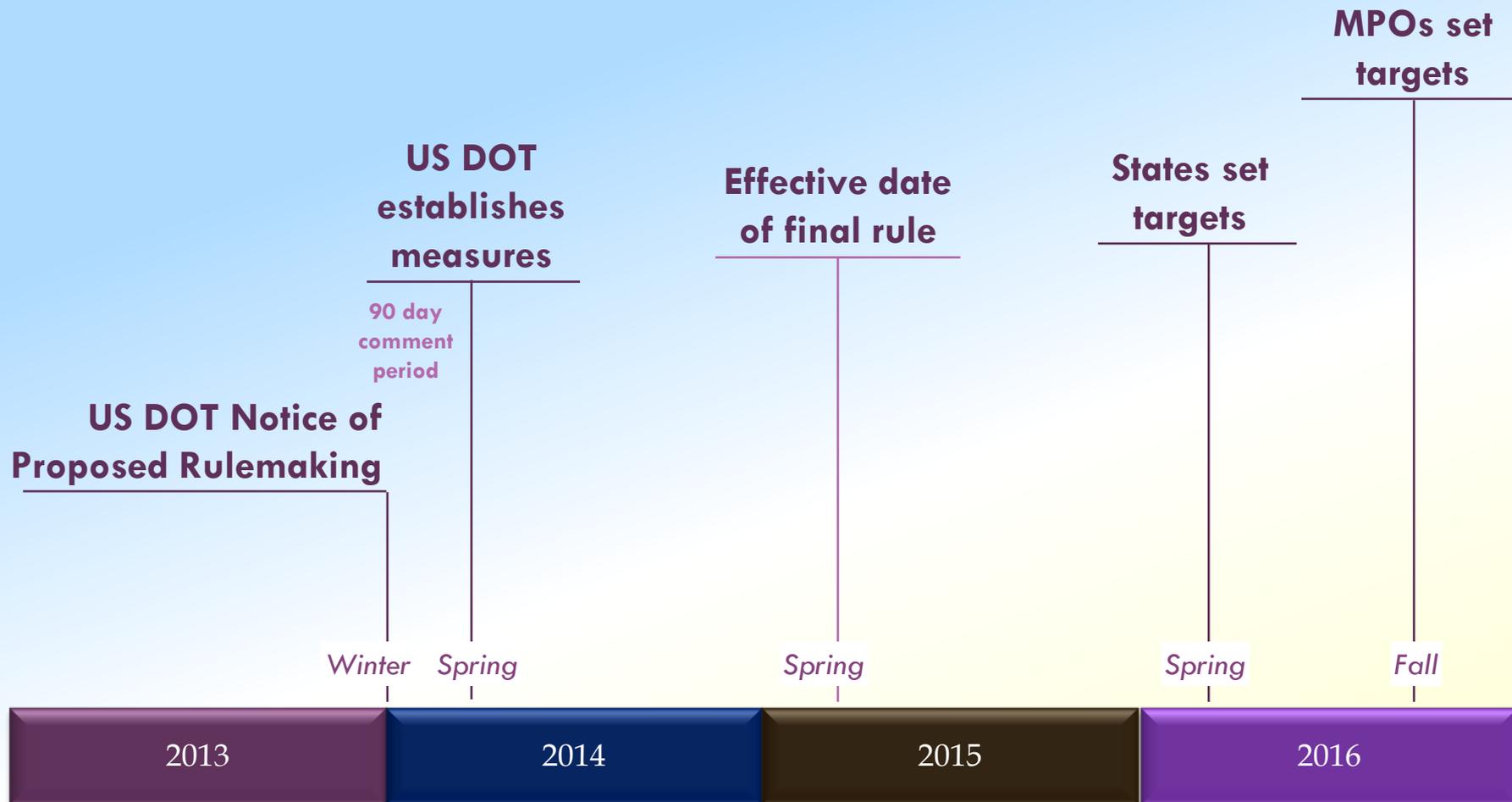
- **ITS is needed to measure and improve safety, congestion, system reliability, and freight movement**
- **Contains strong language supporting Transportation Systems Management and Operations (TSM&O)**
- **Potential for a large ITS planning effort out of RITA/JPO**
- **Section 513 requires a comprehensive plan be developed to assess ITS deployment activities across all modes**
- **Continues funding for the Connected Vehicle Program**
- **Includes research statements on several Ops and ITS areas**

# MAP 21 - Goals

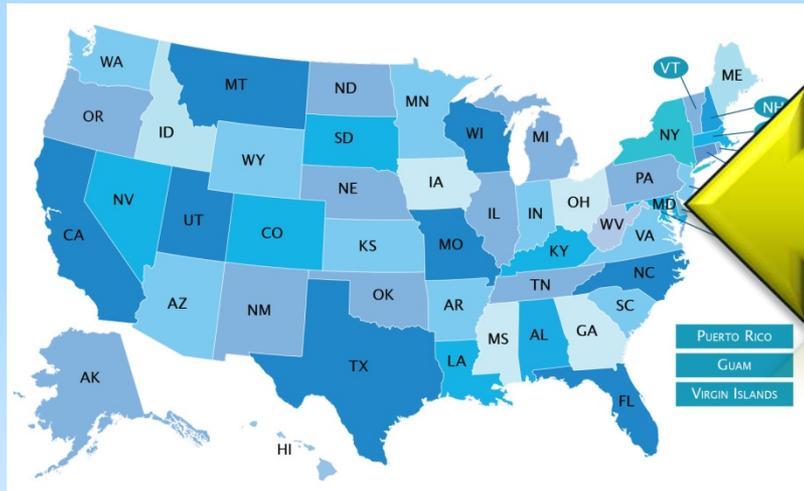
- 1) Safety
- 2) Infrastructure Condition
- 3) Congestion Reduction
- 4) System Reliability
- 5) Freight Movement and Economic Vitality
- 6) Environmental Sustainability
- 7) Reduced Project Delivery Delays



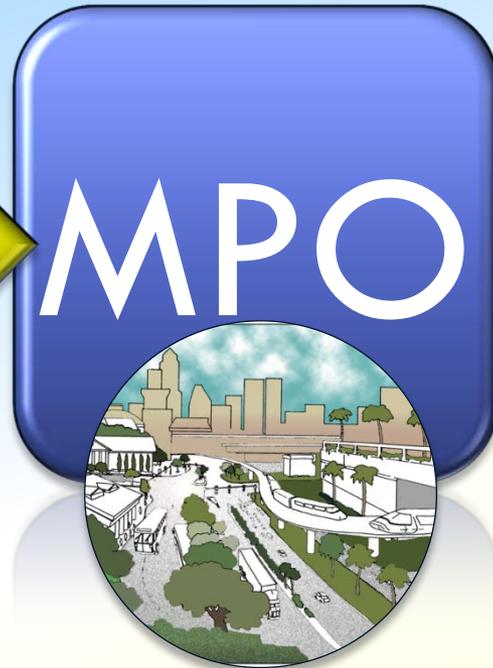
# MAP-21 Mobility Performance Measures Schedule



# Performance Targets



Desire for  
Consistency



**States and MPOs must integrate  
performance plans into a performance-based process**

# Performance Evaluation

US DOT will establish criteria to evaluate the effectiveness



# AASHTO's Position: Measures



- **System Performance**

- » **Delay (annual vehicle-hours)**

- » **Reliability Index (80th %ile TTI)**

- 80<sup>th</sup> Percentile Travel Time/Travel Time at agency specified threshold speed

- **Freight System Performance**

- » **Delay (annual truck-hours)**

- » **Truck Reliability Index (80th %ile TTI)**

- **<http://scopm.transportation.org/Pages/default.aspx>**

# Use of Operations Data in Performance Measures

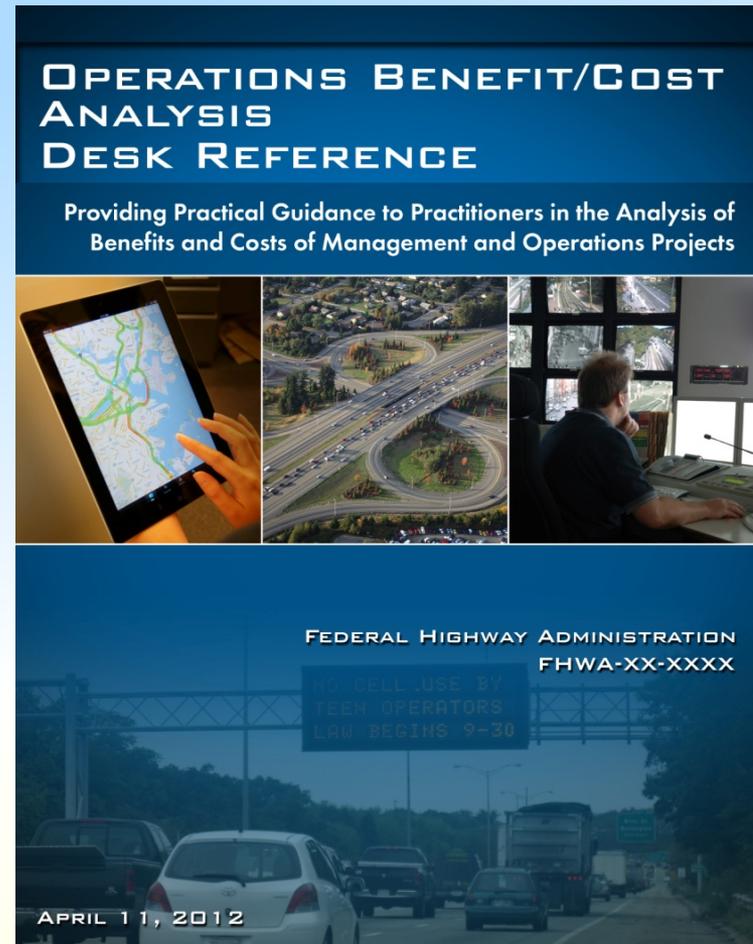
- **Transportation system coverage**
- **Data quality**
- **Data format/resolution**
- **Data integration**
- **Standards/consistency/metadata**
  - » **Backup, recovery, archiving**
- **Institutional issues**
- **Resources**

# Range of FHWA Resources Available

- **Integrating Operations, Safety, and Multimodal Planning Workshop**
- **Traffic Incident Management Peer Exchange and Workshops**
- **Technical Assistance for Traffic Signal Timing Training**
- **Work Zone process review team and guidance documents**
- **Performance Measures Workshop**
- **Traffic Data Collection and Analysis Peer Exchange**
- **Operations B/C Workshops**
- **Outreach for Special Events Peer Training in Charlotte**
- **Integrating Road Weather Mobile Observations**
- **Active Traffic Management Workshop**
- **Rural Incident Management Workshop**
- **Applying Analysis Tools in Planning for Operations Workshop**

# FHWA Benefit/Cost Handbook and Tool

- **Desk Reference Document**
  - » Provide comprehensive, one-stop-shopping for B/C information related to
- **Companion Operations B/C Decision Support Tool**
  - » TOPS-BC



# Resources from TRB SHRP 2 Program

- L01** Integrating Business Processes to Improve Travel Time Reliability
- L02** Establishing Monitoring Programs for Mobility and Travel-Time Reliability
- L05** Incorporating Reliability Performance Measures into the Transportation Planning and Programming Processes
- L06** Institutional Architectures to Support Operational Strategies
- L07** Identification and Evaluation of the Cost-effectiveness of Highway Design Features to Reduce Nonrecurrent Congestion
- L12** Training and Certification of Traffic Incident Responders
- L13** Requirements and Feasibility of a System for Archiving and Disseminating Data from SHRP 2 Reliability and Related Studies
- L31** Operations Capability Workshops

[http://www.trb.org/StrategicHighwayResearchProgram2SHRP2/Pages/Reliability\\_159.aspx](http://www.trb.org/StrategicHighwayResearchProgram2SHRP2/Pages/Reliability_159.aspx)

Thanks! (avandervalk@camsys.com)

