

Traffic Operations Performance Management System

National Context and MAP-21

presented to

**National 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!!!**

- **By:**

- ◆ Detecting and correcting problems

- **We:**

- ◆ Manage, describe, and improve processes (programs)

- **Which allows for:**

- ◆ Ongoing evaluation – demonstrates value of our activities

- ◆ Transparency with decision-makers

- ◆ Better communication with the traveling public

Why do we need Operations Performance Measures?

BAD WEATHER



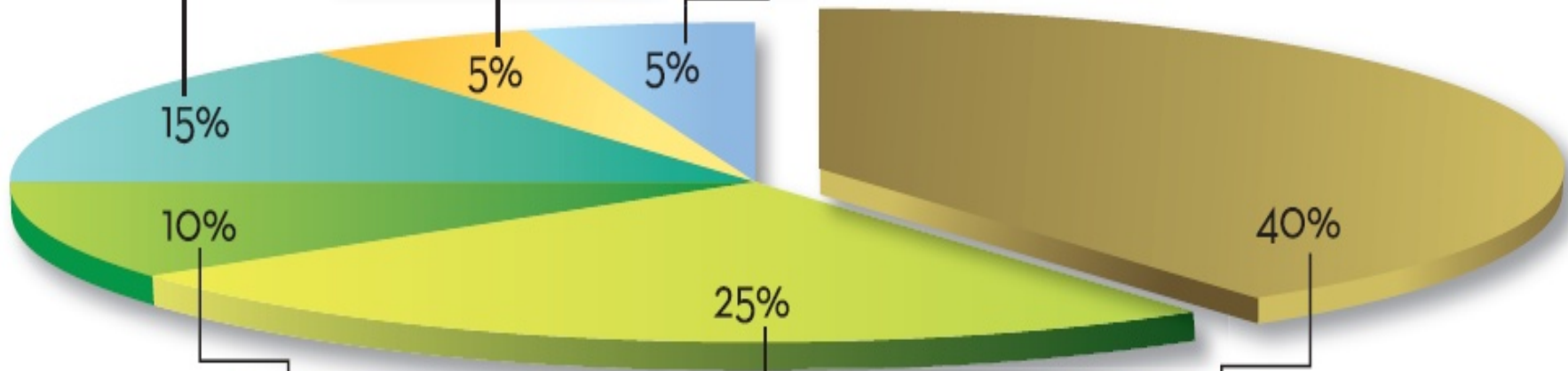
POOR SIGNAL TIMING



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

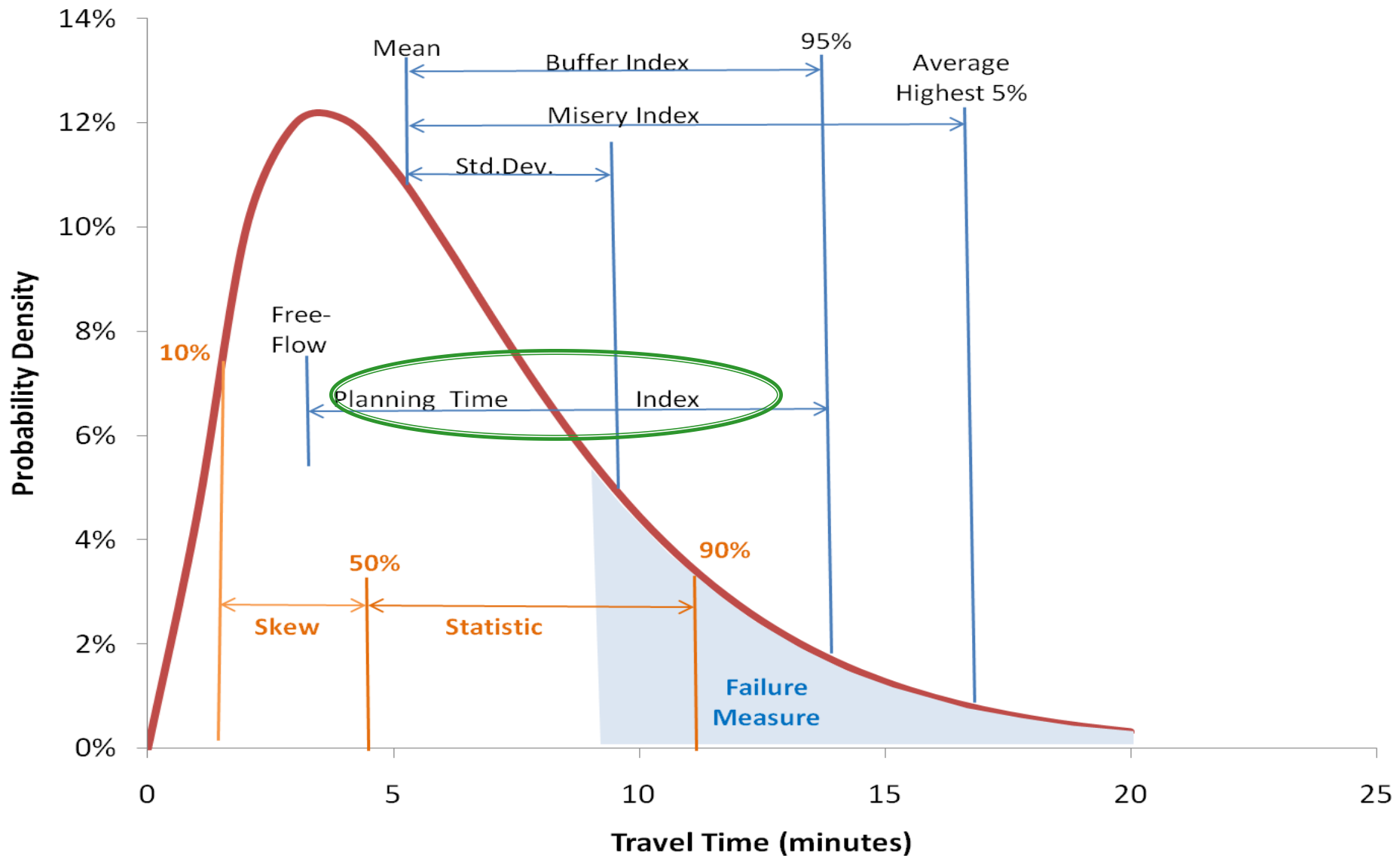


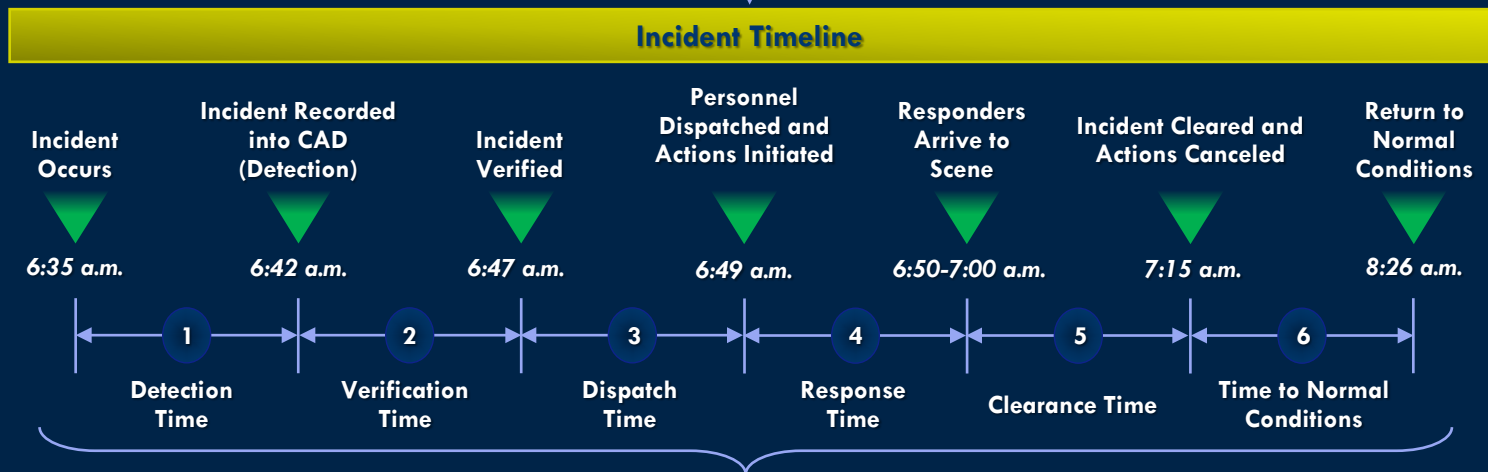
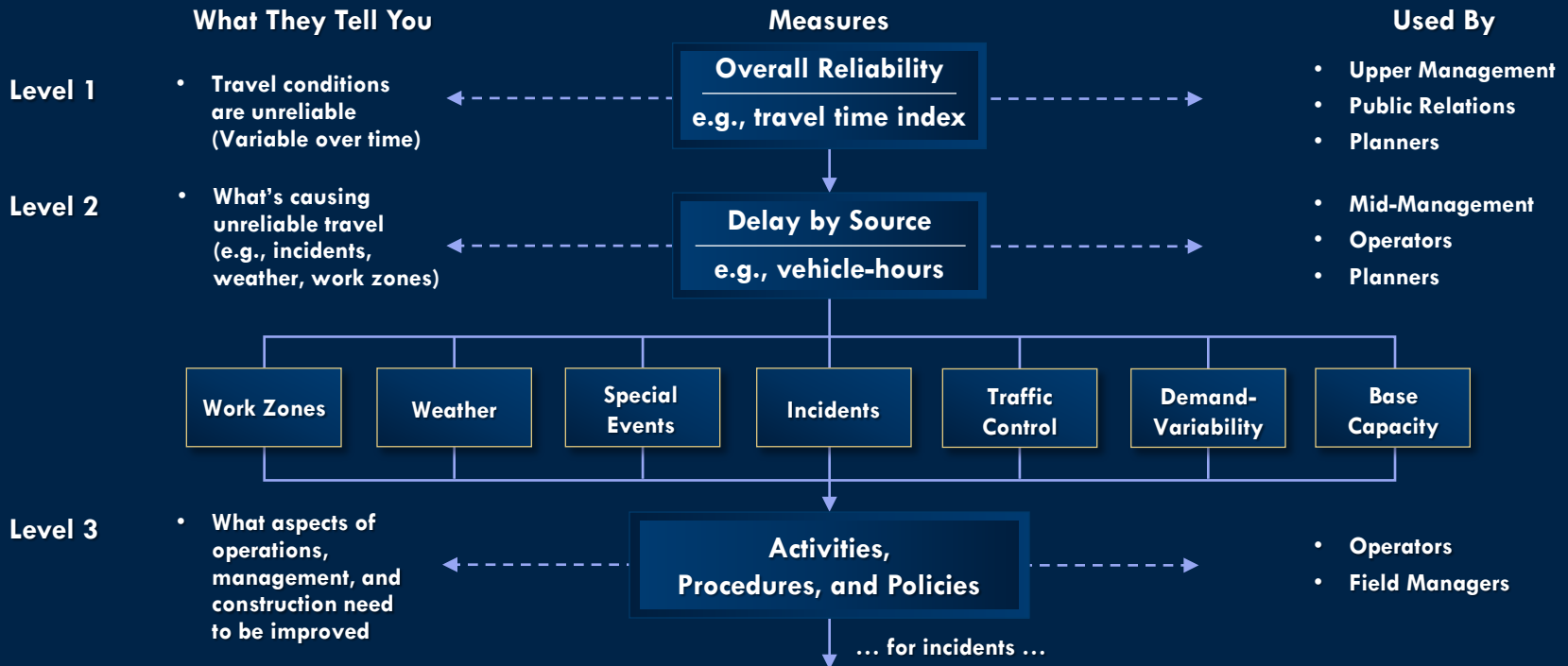
TRAFFIC INCIDENTS



BOTTLENECKS

Travel Time Reliability Measures





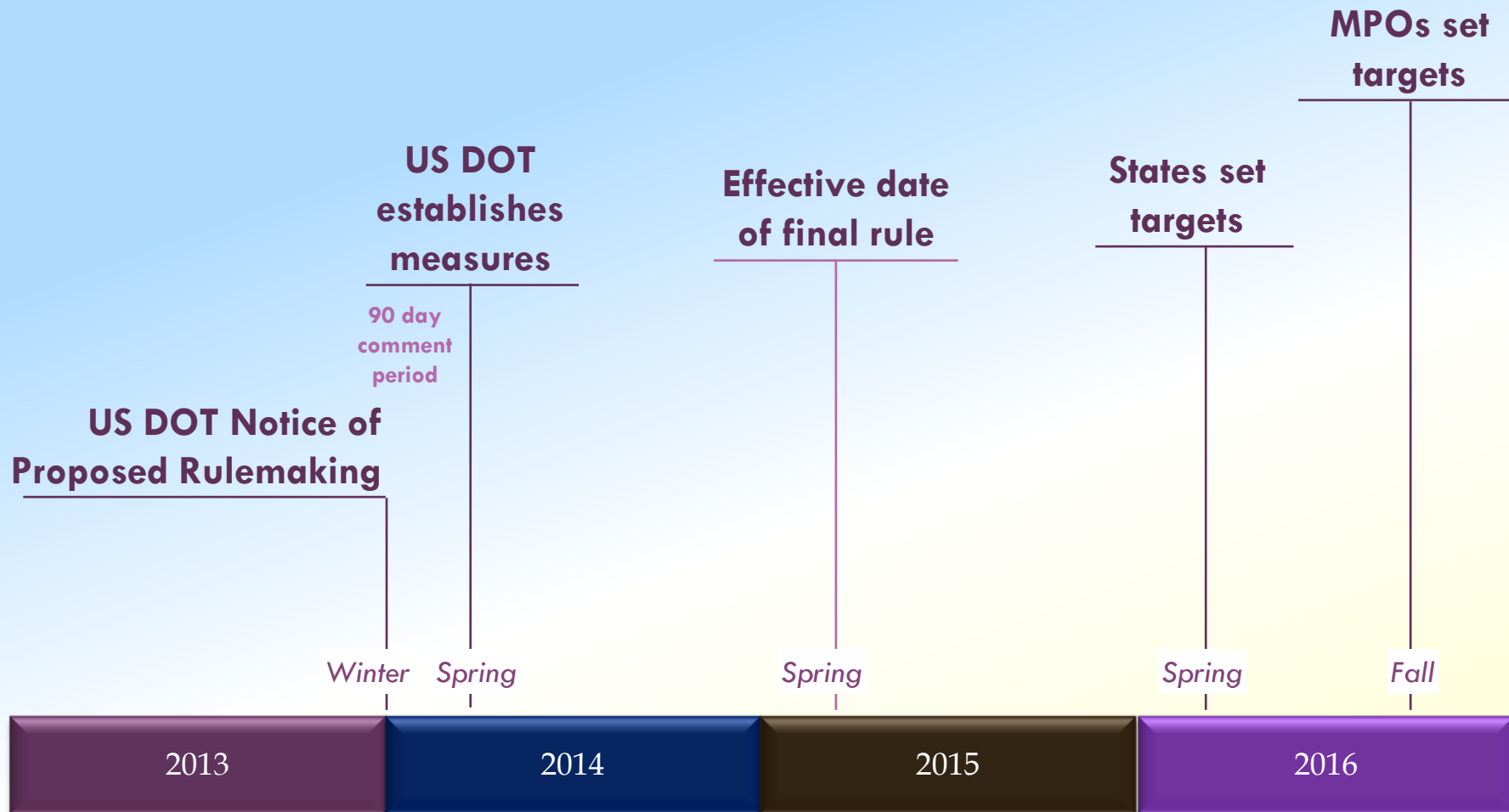
- **ITS is needed to measure and improve safety, congestion, system reliability, and freight movement**
- **Contains strong language supporting Transportation Systems Management and Operations (TSM&O)**
- **Section 513 requires a comprehensive plan be developed to assess ITS deployment activities across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

MAP 21 - Goals

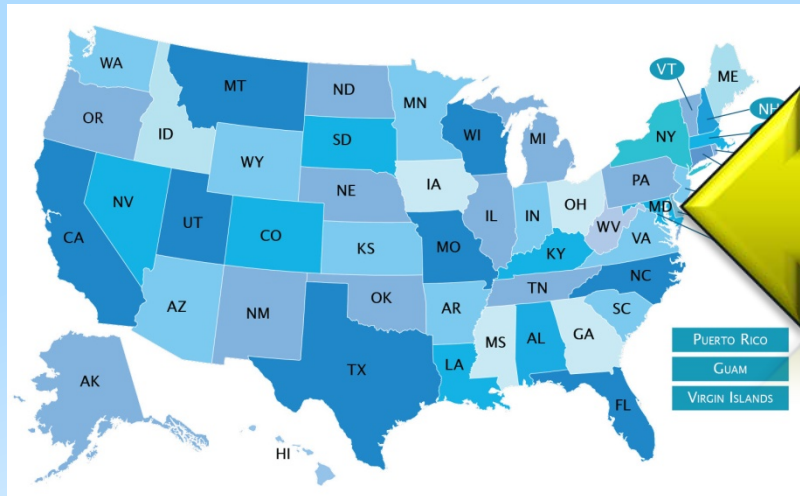
- 1) Safety
- 2) Infrastructure Condition
- 3) Congestion Reduction
- 4) System Reliability
- 5) Freight Movement and Economic Vitality
- 6) Environmental Sustainability
- 7) Reduced Project Delivery Delays



MAP-21 Performance Measures Schedule for Mobility



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)**

- 80th 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>

National Performance Management Research Data Set (NPMRDS)

- **Average travel times**
 - Every 5 minutes, 24 hours, 7 days a week
- **For entire National Highway System**
- **Provided by HERE – Formerly Nokia/Navteq**
- **Segmentation = Traffic Message Channel (TMC)**
- **Data for freight (from ATRI) and passenger**
- **Contact Rich Taylor FHWA or HERE**

Use of Operations Data in Performance Measures

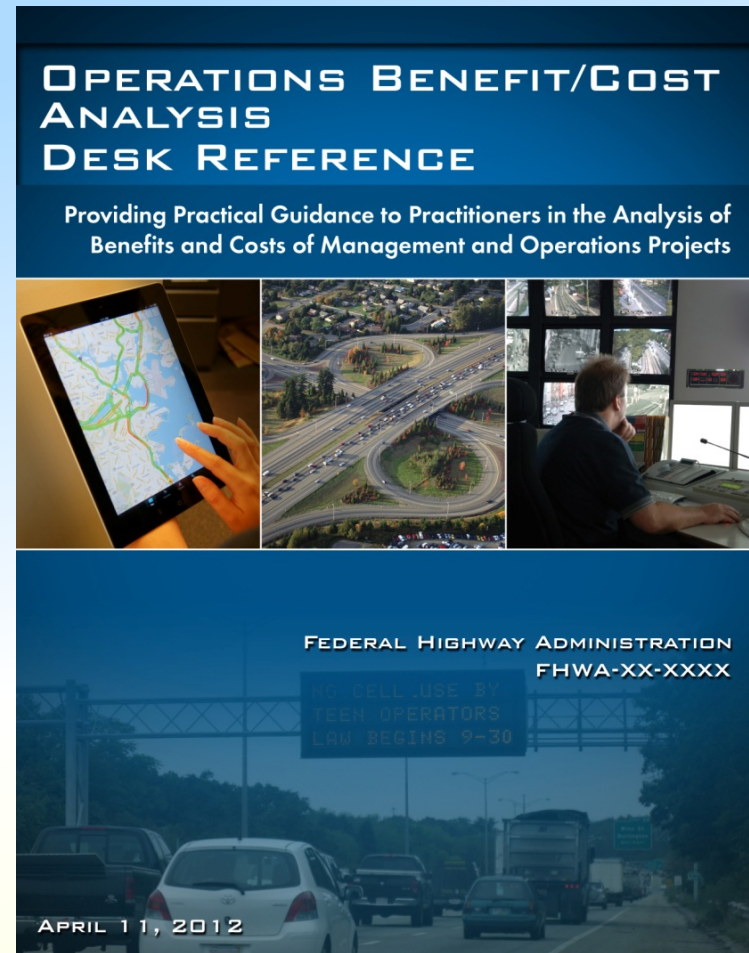
- **Transportation system coverage**
- **Data quality**
- **Data format/resolution**
- **Data integration**
- **Standards/consistency/metadata**
 - » **Backup, recovery, archiving**
- **Institutional issues**
- **Resources**

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

Thanks! (avandervalk@camsys.com)

