

System Operations & Management – Challenges & Opportunities

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Definition & Philosophy

Transportation system management and operations refers to >>>

Activities, Procedures, or Programs that are integrated to optimize the performance of the transportation system.

System management and operations perspective considers the impacts of activities on the transportation system as a whole

Source: Draft AASHTO Maintenance Manual

How is it done?

- Through system improvements such as:
 - Traffic detection and surveillance
 - Arterial and Freeway operations
 - Work zone traffic management
 - Road weather management
 - Traveler information systems

Goals

- Systems are implemented and operated to:
 - help preserve and manage system capacity
 - improve the security & safety
 - improve reliability
- Most effective when it is based on sustained, statewide/regional collaboration and coordination between agencies and jurisdictions

Role of Maintenance

Maintenance plays a key role in each of these areas:

- Incident Management
- Work Zones
- Weather Management Systems
- Traffic Management and Operations
- Planned Special Events

Technology's Role

- Deploying and integrating Intelligent Transportation System (ITS) is a key tool in improving system management and operations.
- ITS helps monitor and manage traffic flow, reduce congestion, provide alternate routes info to travelers, enhance productivity and save lives, time and money.

ITS Technologies

- Cameras
- Dynamic Message Signs
- Traffic Signal Systems
- Vehicle Detectors
- Ramp Meters
- Signal Preemption – for emergency vehicles
- Traveler information via – 511, az511.com, az511.com/pda/, radio, TV

Work Zone Delay Information



Real-Time System Management Information Program

- **SAFETEA-LU, Subtitle B, Section 1201**
 - ***Congestion Relief***
 - *Real-Time System Management Information Program*
- “The Secretary shall establish a real-time system management information program to provide, in all States, the capability to monitor, in real-time, the traffic and travel conditions of the major highways of the United States and to share that information to improve the security of the surface transportation system, to address congestion problems, to support improved response to weather events and surface transportation incidents, and to facilitate national and regional highway traveler information.”