Planning and Deploying Integrated Corridor Management (ICM) Projects

Caltrans Connected Corridors Program and Corridor System Management/Pilot Projects

Friday, March 8th 2019
Southern California Joint ITE Workshop
San Juan Capistrano, CA

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Transportation System Management and Operations (TSMO)

Definition of TSMO

Integrated 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...

Section 101(a) of title 23, United States Code, as amended by MAP-21
The Promise of TSMO

“We promise travelers and shippers that we will manage traffic and incidents as well as provide timely and accurate travel information so that they can make informed decisions to minimize their unexpected delay and improve the safety of their travel.”

SHRP2 L17 Technical Report
TSMO Focus on Integration

**Institutional Integration**
Coordination to collaboration between various agencies and jurisdictions that transcends institutional boundaries.

**Technical Integration**
Sharing and distribution of information, and system operations and control functions to support the immediate analysis and response.

**Operational Integration**
Multi-agency and cross-network operational strategies to manage the total capacity and demand of the corridor.
Implementing TSMO is Complicated

This is a description of the Langrangian of the Standard Model. In essence, it's a description of the underlying physics of the universe.
Implementing TSMO is Complicated

Institutional Integration + Technical Integration + Operational Integration

People

All Electronic Stuff Works Together

People and Electronic Stuff Make Things Happen
Implementing TSMO at Caltrans

- 2015-2020 Caltrans Strategic Management Plan – e.g., Stewardship and System Performance Goals
- Draft TSMO Director’s Policy -08 & Draft ITS Deputy Directive -70
- 25 Top Priority Corridors
- Caltrans TSMO Steering Committee
- Regional Operations Forums/Capability Maturity Model Self Assessments
- Planning for Operations Effort
Implementing TSMO at Caltrans

**Organizing for Corridor Management** - Making TSMO a central part of an agency’s mission and institutional structure.

- Current Organizational Structure
- Future Organizational Structure
- Existing Knowledge, Skills, and Abilities (KSAs)
- Future KSA Needs
- Gaps
- Necessary Training
  - At Caltrans
  - External to Caltrans
  - Not Existing, but needed
Implementing TSMO at Caltrans

- Organizing for Corridor Management Statewide Workshops
  - All but D1 and D2

- Sub-regional, Corridor-Level Operations Forums
  - Only 3 left CTs D5, D1, & D2

* all scheduled for later this year.
District 7 Traffic Operations Reorganization

Institutional Integration

District Traffic Manager
- TMC Operations
- Incident Mgmt
- Planned Lane Closures
- TMP

System Management
- Principal TE
- System Monitoring & Evaluation
- Managed Lanes Monitoring
- TASAS, Table C
- Performance Monitoring
- System Analysis
- Planning for Operations
- Int/Ext Coordination

Corridor Manager
- Operational Investigations
- Safety Investigations
- Ramp Metering
- Signal Ops
- Signing
- Staff from external units where needed

DDD Operations

ITS Support & Development
- ITS Support & Development
- Metering Development
- Elec Sys Development
- COS Coordination
- Project Reports
- Signing

Traffic Design
- Traffic PS&E
- Elec Sys Development

Permits
- Permits
- Truck Services
Implementing TSMO at Caltrans

Technical Integration

- Connected Corridors I-210 Pilot and I-80 Smart Corridor Project
- Decision Support System
- Standardized Data Formats
- Upgrades to Caltrans PeMS to support Performance Measurement/Analysis
Implementing TSMO at Caltrans

Operational Integration

☑ Corridor Management - I-80 Smart Corridor Project and Connected Corridors I-210 Pilot

☑ Connected Corridors / ICM - Caltrans, UC Berkeley PATH, LA Metro, LA County, Cities of Pasadena, Arcadia, Monrovia, Duarte

☑ Caltrans and local agency personnel working together with UC personnel and researchers and private sector consultants to deliver Corridor Management
Last Year - 2017

Catching a Wave
This Year 2019!
Smooth Sailing
Thank you!

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