I-210 Pilot Project
Planning and Deploying ICM Projects
presenting at
JOINT ITE WORKSHOP, SO CAL

Friday, March 8, 2019
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District Traffic Manager
Caltrans D7
The 210 Freeway WB in Arcadia was closed for several hours.

Happened around 11:50 PM Friday night near the Baldwin Ave.

Big rig was involved in a multi-vehicle accident.

Early Saturday morning, Caltrans announced a total closure.

By about 7:30 AM, traffic was allowed through the express lane.

All lanes were reopened at about 8 AM.
ACCIDENT
W210 AT BALDWIN
4 RT LANE BLKD
queue over 1 mile
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Efforts are focused on the performance of individual facilities.

Rather than identifying opportunities to integrate operations that will optimize overall corridor performance.
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The vision of ICM:
- Minimize the impact of incidents on traffic,
- Move people and goods more efficiently,
- Optimize System Capacity
Institutional collaboration, and Proactive technology integration

- Establishment of relationships and fostering of collaboration
- Integration of multi-modal data within corridor
- Standardization of data collection
- Interoperability of ITS infrastructure
- Development of specific strategies and incident response plans
- Optimization of traffic throughput and minimize congestion.
Connected Corridors Statewide Program

- A statewide program focused on:
  - Bringing ICM to major corridors
  - Improve multimodal mobility
  - Growing Caltrans leadership in TSM&O
  - Showcasing new technologies and processes
  - Delivering an ICM implementation on the I-210 in LA
  - Providing a solution that is affordable, replicable and scalable

- Challenges:
  - Funding and Costs/ Procurement
  - Work force skills
  - Technical Complexity and Risk
  - Partnership with Stakeholders
CC Call out in California 2040 Plan

Improve Multimodal Mobility and Accessibility
Connected Corridors Pilot - The I-210 in LA
Aimsun Micro/Meso Model for Prediction – Cloud

459 signalized intersections
45 freeway ramp meters
~1000 lane miles
~5000 traffic detectors

One of the largest, most well calibrated micro models in the world
Corridor Operational Conditions

- Very few days without freeway incidents
  - 95% of weekdays with incidents
  - Typically between 5 and 20 incidents reported by CHP each day
  - 55% of congestion is non-recurrent

Number of Incidents per Weekday
Caltrans TASAS Data 2012
I-210, SR-134 to I-605
Connected Corridors Benefits

- Reduce Congestion and Delay
- Improve Safety
- Increase use of transit and ride sharing
- Reduce environmental impact
- Integrate third party transportation managers (Waze, Freight) into Caltrans real time management work flow
- Raise active involvement of travelers in system demand management
Operation Scenario Example – Phase 1
April 25, 2017 incident on I-210 WB near Huntington off-ramp in the off-peak direction

- Max Metering Rate:
  - 6:30 – 7:15

- Green ball:
  - 6:30 – 7:15

- 150s cycle along Huntington

- Some balancing between Huntington and NB left movements

- HOV + Lanes 1, 2 Blocked:
  - 5:15 PM → 6:30 PM
  - Residual traffic effects until 7:30 PM

**Response Elements**
- ▲ Modified ramp meters
- ● Modified signals
- ○ Signal not considered
- ● Stop-controlled intersection

**Evaluated Impacts**
- Reduction in delays
  - Freeway and Huntington: -313 veh-hrs (-13%)
  - Entire corridor: -1058 veh-hrs (-2%)

- Reduction in distance traveled (lesser need to seek long detours around incident)
  - Entire corridor: -2044 veh-miles
What is required? Innovation across the board
Connected Corridors Ecosystem

- Caltrans
  - District 7
  - Headquarters
  - Metro
  - SCAG
  - SGV COG
  - FHWA
  - SCAQMD

- Regional
  - CHP
  - Coroner
  - Local Police
  - Local Fire
  - Management
  - Engineering
  - Research
  - Outreach

- First Responders
  - System Metrics Group
  - Cambridge Systematics
  - Emergent Transportation
  - Kimley-Horn

- Cities and County
  - LA County DPW
  - Pasadena
  - Arcadia
  - Monrovia
  - Duarte
  - LASafe
  - 511 FSP

- Transit
  - Metro Bus
  - Metro Rail
  - Foothill Transit
  - Pasadena ARTS
  - Arcadia Transit
  - PATH
  - ITERIS
  - Here
  - Parsons
  - Kapsch
  - Telegra
  - TSS
  - Inrix
  - AT&T

- Industry Partners

- Consulting Firms
Stakeholders and Systems
Partnership Agreements

- **Operational**
  - Charters
  - Memorandums of Understanding
  - Maintenance Agreements

- **Definitional**
  - Corridor Selection
  - Concept of Operations
  - Requirements

- **Funding**
  - Metro Call for Projects
The Role of Planning in Connected Corridors

- Setting the vision
- Working with Regional Agencies
- Selecting Corridors
- Establishing relationships with local cities
- Allocating State funds
- Leading efforts for Regional Funds
Long-term TSM&O-focused Organization

- **System Management Principal TE**
  - District Traffic Manager
    - TMC Operations
    - Incident Mgmt
    - Planned Lane Closures
    - TMP
  - System Monitoring & Evaluation
    - Managed Lanes Monitoring
    - TASAS, Table C
    - Performance Monitoring
  - Corridor Manager
    - Operational Investigations
    - Safety Investigations
    - Ramp Metering
    - Signal Ops
    - Signing
    - PIDs
    - Staff from external units where needed
  - Planning for Operations
  - Int/Ext Coordination

- **DDD Operations**
  - ITS Support & Development
    - ITS Support & Development
  - Traffic Design
    - Traffic PS&E
    - Elec Sys Development
    - Truck Services
  - Permits
    - Permits
    - COS Coordination
    - Project Reports
    - Signing
Thank You