



South Bay Corridor Study and Evaluation for Dynamic Corridor Congestion Management (DCCM)

Measure R South Bay Highway Program Oversight Committee Meeting

September 9, 2013



Agenda

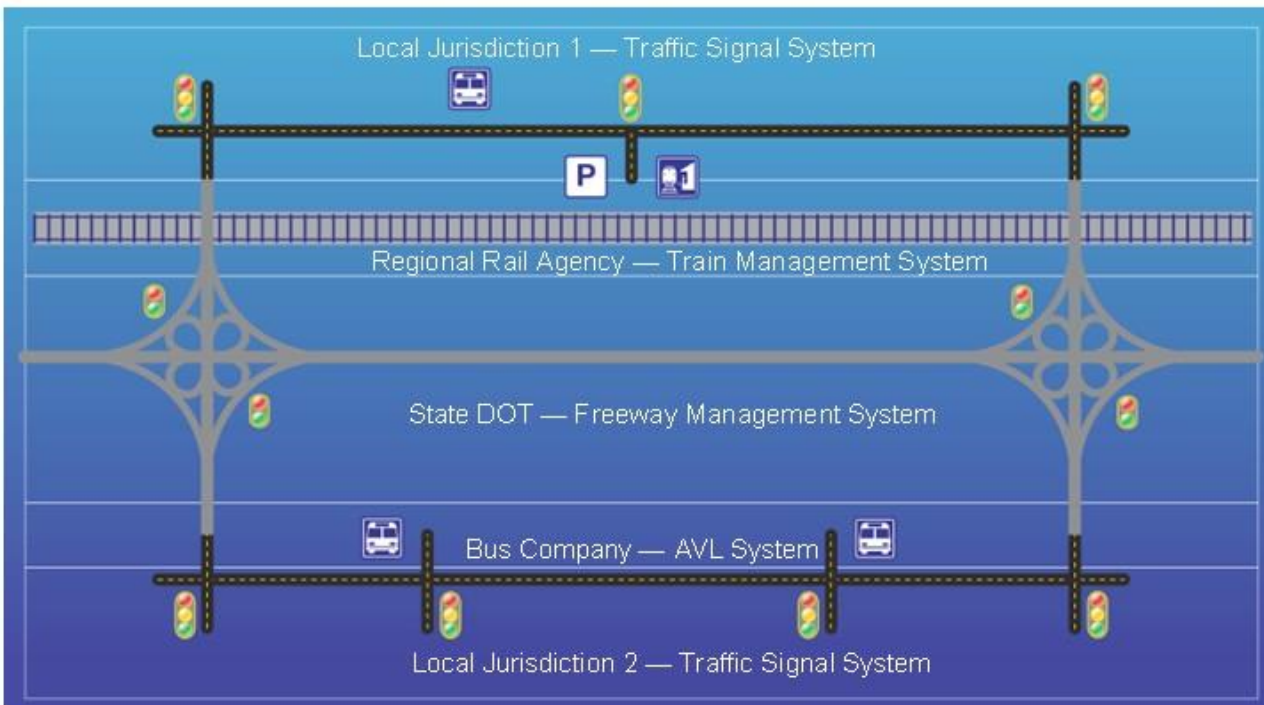
1. DCCM Background
2. Project Overview and Schedule
3. Corridor Study Overview and Results
4. ConOps and Need for Stakeholder Engagement
5. Next Steps

The Integrated Corridor Management (ICM) Approach to Congestion Reduction

Problem: Surface transportation congestion

Traditional approach: Optimization of individual networks (freeway, arterials, transit, etc. each considered separately)

ICM approach: Integrated corridor-wide operations to optimize entire system (not just individual networks)



ICM Manages:

- *Total Corridor Capacity*
- *All modes and routes together*
- *Corridor as a single system*

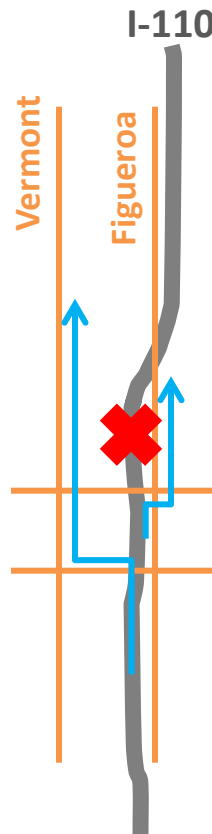
DCCM Freeway/Arterial Coordination Example

Scenario

- Accident blocks several lanes on NB I-110 during morning rush hour
- Drivers exit to Figueroa and Vermont to detour around the incident

Current response

1. Arterial signal system unaware of increased arterial demand
2. Fixed/time-of-day signal timings not set up to accommodate new demand
3. Traffic backs up on arterials, turn pockets, and freeway off-ramps







DCCM-enabled response

1. Freeway management system alerts arterial system to increased demand
2. Signal system automatically implements agreed-upon signal timing plan designed for the scenario
3. Traffic flows efficiently along parallel arterials around the incident with minimized impact to the arterial network

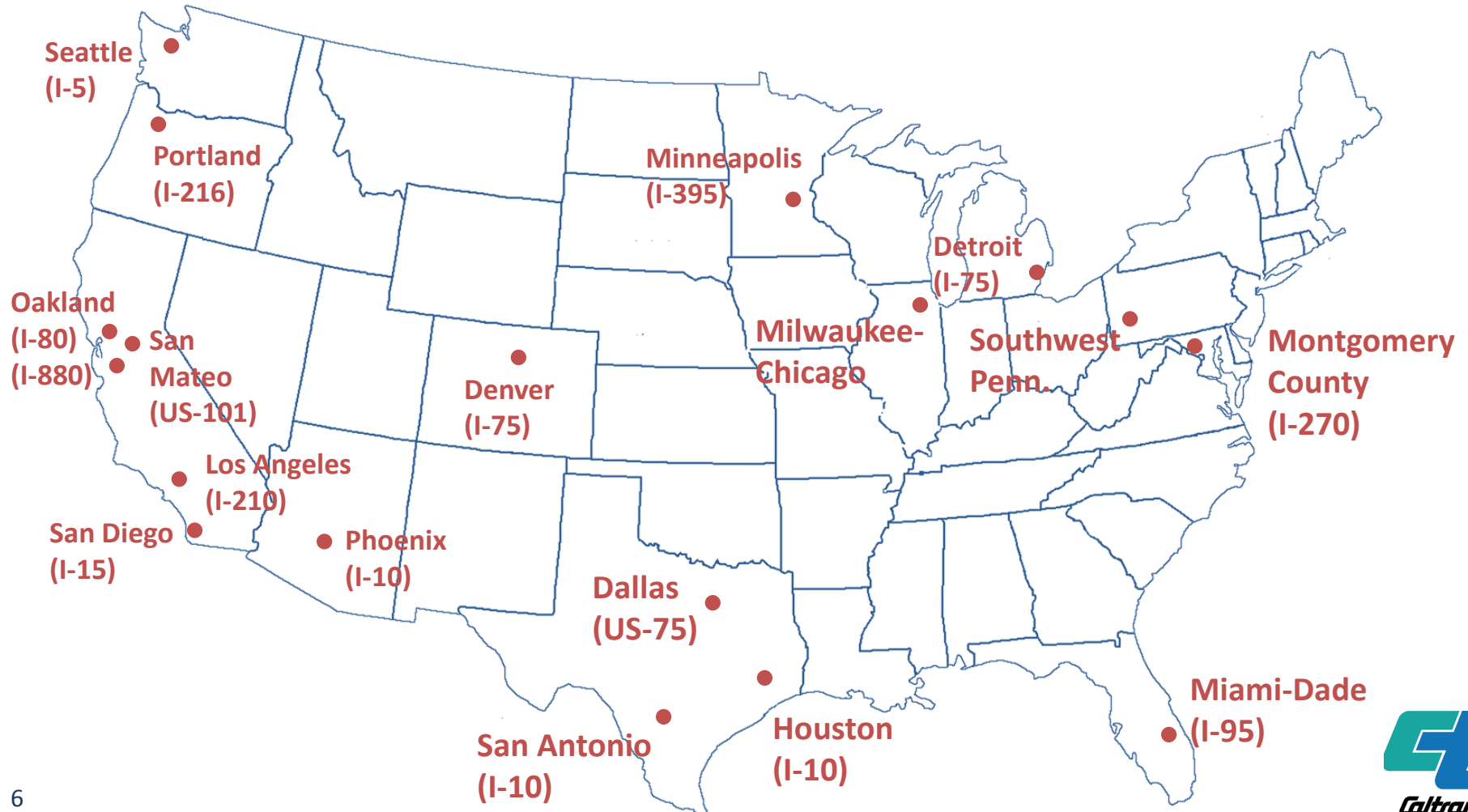
DCCM Benefits and Opportunities

1. Improved corridor throughput
2. Reduced impact of incidents on freeways and arterials
3. Enhanced performance measurement capability
4. Improved information sharing
5. Opportunity for regional stakeholders to participate in developing a model for automated operations
6. Better informed travelers

PERFORMANCE MEASURE AREAS	San Diego	Dallas	Minneapolis
 Annual Travel Time Savings (Person-Hours)	246,000	740,000	132,000
 Improvement in Travel-Time Reliability (Reduction in Travel-Time Variance)	10.6%	3%	4.4%
 Fuel Saved Annually (in Gallons)	323,000	981,000	17,600
 Tons of Mobile Emissions Saved Annually (in Tons)	3,100	9,400	175

Who Else is Implementing DCCM Solutions?

Integrated corridor management systems are rapidly being implemented on major corridors across the country:



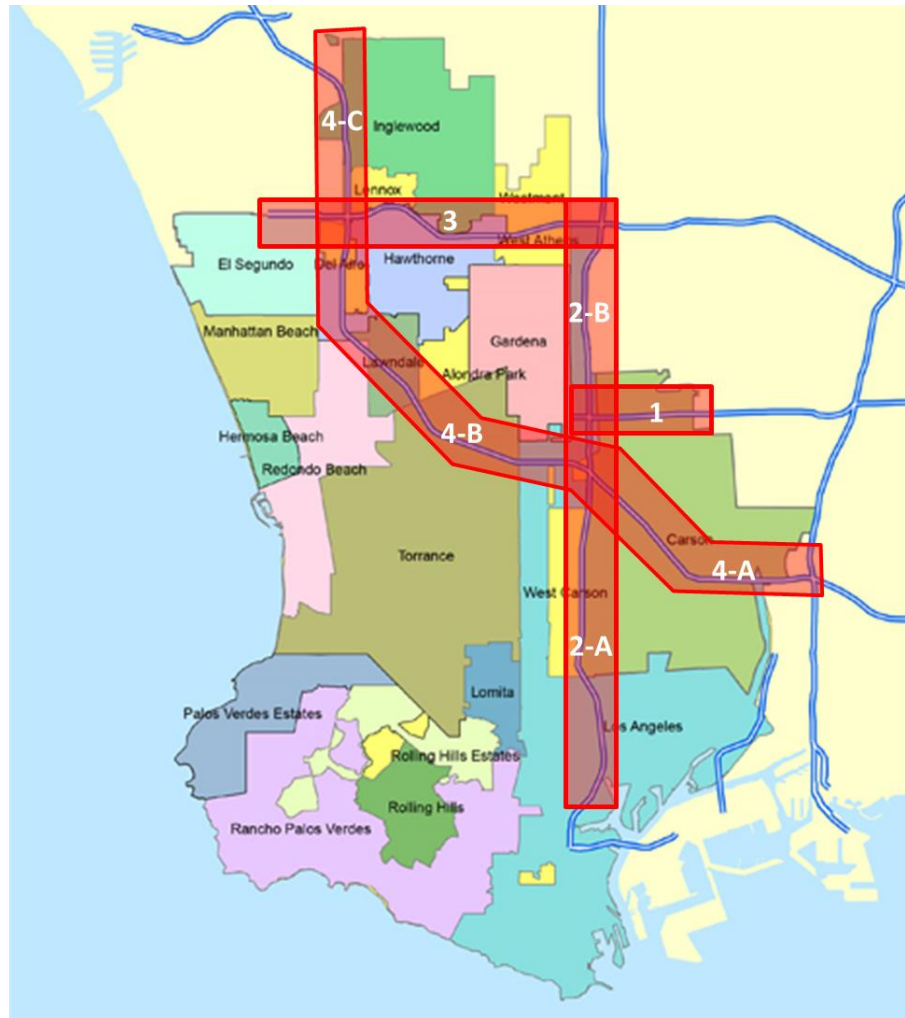
South Bay DCCM Project Scope and Schedule

1. Identify a **pilot corridor** on which to deploy a DCCM freeway-arterial coordination system (Aug 2013)
2. Develop a **concept of operations** to guide implementation (Sep-Dec 2013)
3. Develop Memorandums of Understanding (**MOUs**) among all involved stakeholders (Jan-Jun 2014)
4. Conduct a before/after **system evaluation** for the initial pilot project (2014-2015)

*We are
here*

Task 1: Corridor Study

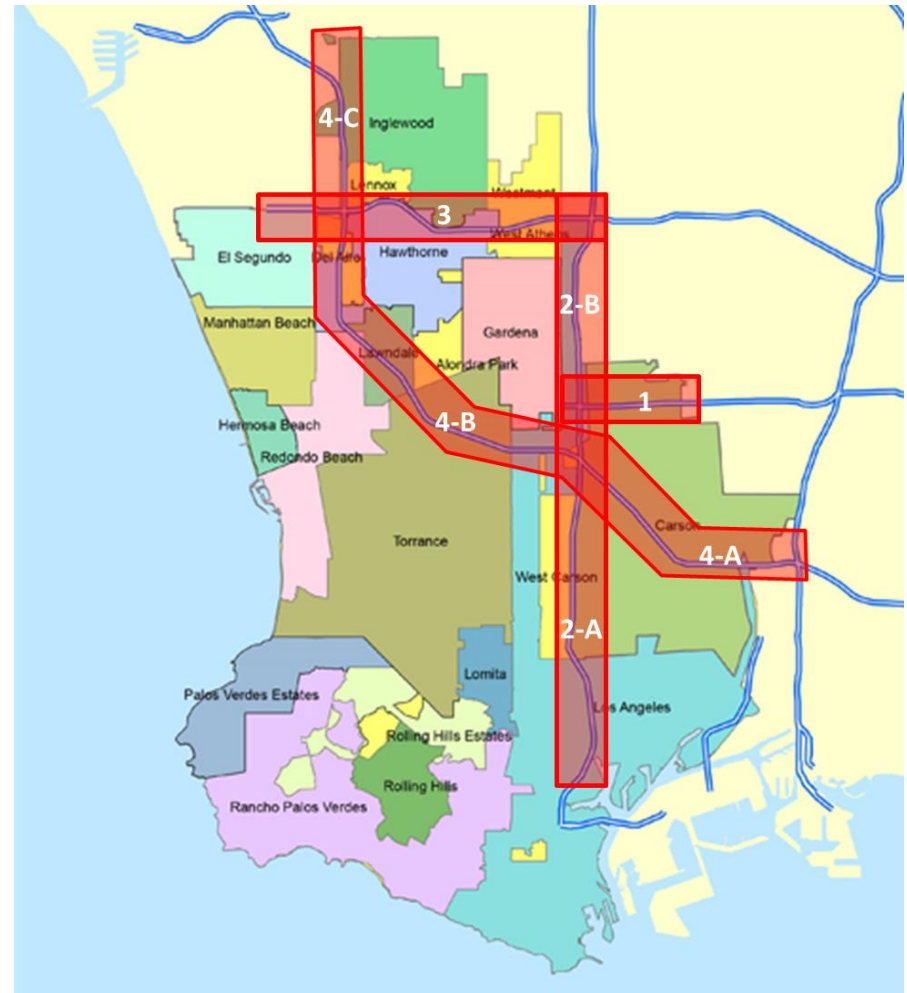
Six South Bay corridors evaluated



Task 1: Corridor Study – Evaluation Criteria

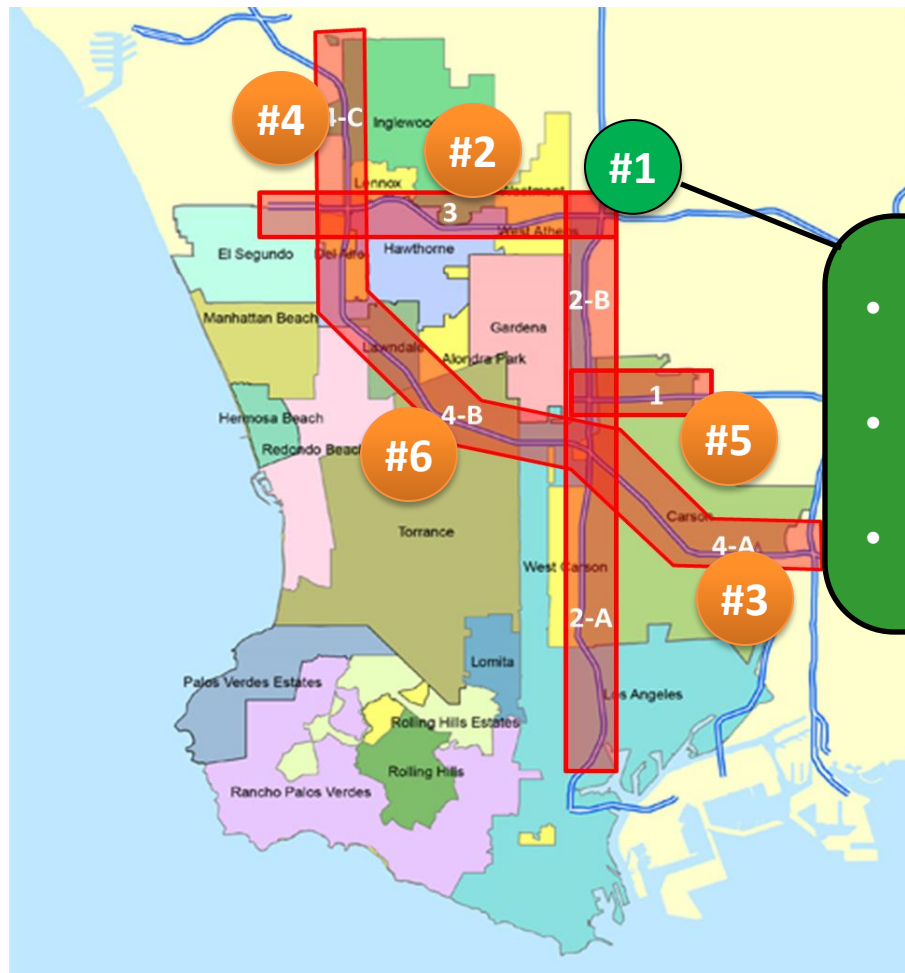
Five categories of evaluation criteria:

1. System demand
2. Physical infrastructure
3. ITS infrastructure
4. Institutional coordination challenges
5. ICM readiness



Task 1: Corridor Study – Preliminary Ranking

I-110 has emerged as the top rated candidate corridor for DCCM pilot; to be a test case and a model for implementation on the other corridors



- Improve Ramp/Signal Operations
- Improve Ramp and Signal Communications
- Fill in Detection Gaps

Next Steps

1. Stakeholder outreach to develop ConOps
 - Workshops at SCCCOG offices or Caltrans
 - Face-to-Face meetings
 - Webinars
 - Phone Interviews
2. Develop Concept of Operations Document
 - *Becomes blueprint for future similar projects in South Bay Region*

Your Help

South Bay city participation is crucial

- This project is all about collaboration between Caltrans and South Bay cities to solve the mobility problems of the region
- Without willing partners, the congestion reduction goals of DCCM can't be achieved

We need help with gaining support from the cities to support and be involved in the process