I-880 Integrated Corridor Management: Building on Existing Planning Efforts

Presentation to Arterial Operations Committee

July 13, 2010
Background: What is ICM?
Today’s Corridors: Independent Systems

• Efforts to date to “reduce congestion” have focused on optimization of individual systems
• There have been significant investments in ITS
• There are tremendous opportunities to integrate operations to manage total corridor capacity
Schematic of an Integrated Corridor

Local Jurisdiction 1 – Traffic Signal System

Regional Rail Agency – Train Management System

State DOT – Freeway Management System

Bus Company – AVL system

Local Jurisdiction 2 – Traffic Signal System
Integrated Corridor Management (ICM)

The I-880 Corridor
Corridor Limits

southern limit TBD by SCVTA (potentially I-280)
I-880 ICM Vision

I-880 ICM will help the existing highway, arterial, and transit (rail, ferry, and bus) elements along the corridor, operated by separate agencies, to function as an integrated transportation network, enhancing safety, efficiency, mobility and transportation choices for all travelers under all conditions.
Regional and Local Partnerships

Congestion Mitigation & Air Quality Program

CTC & Local Alternative Transportation Improvement Program
Existing Plans and Reports

- **Corridor System Management Plan (CSMP) for I-880, Caltrans (June 2010)**

- **Central Alameda County Local Alternative Transportation Improvement Program (Central LATIP) – Final Project Initiation Document, ACCMA (November 2009)**

- **State Route 84 Historic Parkway Local Alternative Transportation Improvement Program (SR-84 LATIP) – Final Project Initiation Document, ACTA (October 2009)**

- **I-880 Integrated Corridor Management Final Concept of Operation[s] (ICM ConOps), Caltrans, MTC, ACCMA, AC Transit, & BART (March 2008)**

- **I-880 Integrated Corridor Management (ICM) Final System Requirements, Caltrans, MTC, ACCMA, AC Transit, & BART (March 2008)**
Identified ICM Strategies (Past Efforts)

• **Information Sharing/Distribution**
  - 511 Traveler Information

• **Improve Operational Efficiency of Network Junctions and Interfaces**
  - Adaptive Ramp Metering & BRT

• **Accommodate/Promote Cross-Network Route and Modal Shifts**
  - Interagency Coordination & Information Sharing

• **Manage Capacity Using Real-Time Traffic Information**
  - Park and Ride Facilities
Integrated Corridor Management (ICM)

Where do we go from here?
Where do we go from here?

Coordinated Deployment
of ICM Strategies
Where do we go from here?

Coordinated Deployment of ICM Strategies → Current RFP
RFP Approach: Segment Centric

Northern Alameda
I-580/I-80 to Davis

Central Ala. (LATIP)
Davis to SR-92

Southern Ala. (LATIP)
SR-92 to Dixon Ld.

Santa Clara
Dixon Ld. to [TBD]
(to I-280, ~10 miles)
RFP Desired Outcomes

Safety

System Efficiency

Local Objectives
RFP Scope of Work

Phase 1. Corridor-Wide Process:
(MTC funded)
ICM Strategy Selection & Systems Engineering Documentation
(requirements before construction)

Phase 2. Northern Ala. Segment:
(pending MTC funding appr.)
Construction of Trailblazer Signs + Other Incident Management Strategies
RFP Scope of Work: *Phase 1* (MTC funded)

I. Coordinate among stakeholders

II. Develop sustainable strategies for the Corridor

III. Prepare systems engineering documentation
I. Stakeholder Coordination
II. Strategy Selection

Temporal Classification
- Incident Management
- Peak Hour/Recurrent Traffic Mgmt
  (e.g., corridor-wide adaptive ramp metering)

User-group Classification
- Managers & Operators (e.g., detection, surveillance)
  Freeway, Arterial, Transit
- Travelers (e.g., traveler information systems)
  Motorists, Transit Riders, Pedestrians, Freight
- The Community / Environment
  Residents, Businesses
II. Strategy Selection (cont.): For Arterials

Signal Timing Coordination
- Demand responsive (traffic responsive, adaptive, etc.)
- Red light running detection-signal coordination
- Preemption (TSP, EVP, etc.)

Dynamic Facility Management
- Smart parking (CMS with park-and-ride availability, reservation, etc.)
- Bus lanes with intermittent priority (BLIPs)

Traveler Information
- Advanced decision support (online traffic/transit information)
- En route decision support (CMS on fwy approach, trailblazer signs)
III. Systems Engineering Documentation

- Project Study Report
- *Expanded* Concept of Operations
- Systems Engineering Management Plan
- Implementation Plan
- Other documents required for deployment
RFP Approach: Segment Centric

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Dixon Ld. to [TBD]
RFP Scope of Work: Phase 2

Funding dependent on cost estimates and MTC budget approval

- Focus on Northern Ala. Segment
- Construction of trailblazer signs + other strategies for incident/traffic mgmt

- Scope includes:
  - PSR, ConOps, SEMP
  - Environmental reviews
  - Permits
  - Detailed designs
  - Construction

TURN LEFT TO I-880

trailblazer sign (not to scale)
Subsequent Work

- **Central Alameda Segment**
  Expected Timeline*: Construction in 2012
  Funding: Dependent on avail. and approval of LATIP

- **Southern Alameda Segment**
  Funding and Timeline: TBD

- **Santa Clara Segment**
  Funding and Timeline: TBD
### RFP Procurement Schedule

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<tr>
<td>Stakeholder Review of Draft RFP</td>
<td>Summer 2010</td>
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<tr>
<td>Release RFP</td>
<td>Summer/Fall 2010</td>
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<tr>
<td>MTC Commission Approval</td>
<td>Winter 2010</td>
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<tr>
<td>Begin Contract</td>
<td>Winter 2010</td>
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# RFP Milestones

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<th>Milestone Description</th>
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<tr>
<td>Start Phase 1</td>
<td>Winter 2010</td>
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<tr>
<td>Complete feasibility studies</td>
<td>Mid-Year 2011</td>
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<tr>
<td>Start Phase 2</td>
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<tr>
<td>Complete PSR, ConOps, SEMP</td>
<td>Fall/Winter 2011</td>
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<tr>
<td>Complete Phase 1, part of Phase 2*</td>
<td>Winter 2011</td>
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* Excludes the following Phase 2 work: environmental reviews, construction documentation, actual construction
I-880 Corridor Stakeholder Survey

Distributed at AOC Mtg., July 13, 2010

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<th>Name:</th>
<th>Please scan or fax this completed form by <strong>July 20</strong> to: Stella So, MTC</th>
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|       | email: sso@mtc.ca.gov
|       | fax: (510) 817-5848
|       | Or complete it at: sites.google.com/site/i880survey

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1. What are your current priority projects and objectives? Please rank them.

2. What are some of your incident management initiatives (plans or projects), if any?
Questions

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