



Integrated Corridor Management (ICM)

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

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Presentation to  
Arterial Operations Committee

July 13, 2010





## Integrated Corridor Management (ICM)

# Background: What is ICM?

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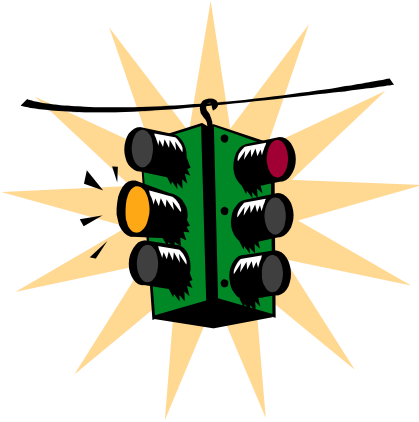




# Today's Corridors: Independent Systems

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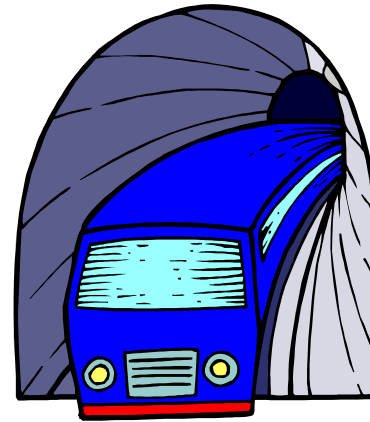
Arterial Signal Systems



Freeway Systems



Rail Systems



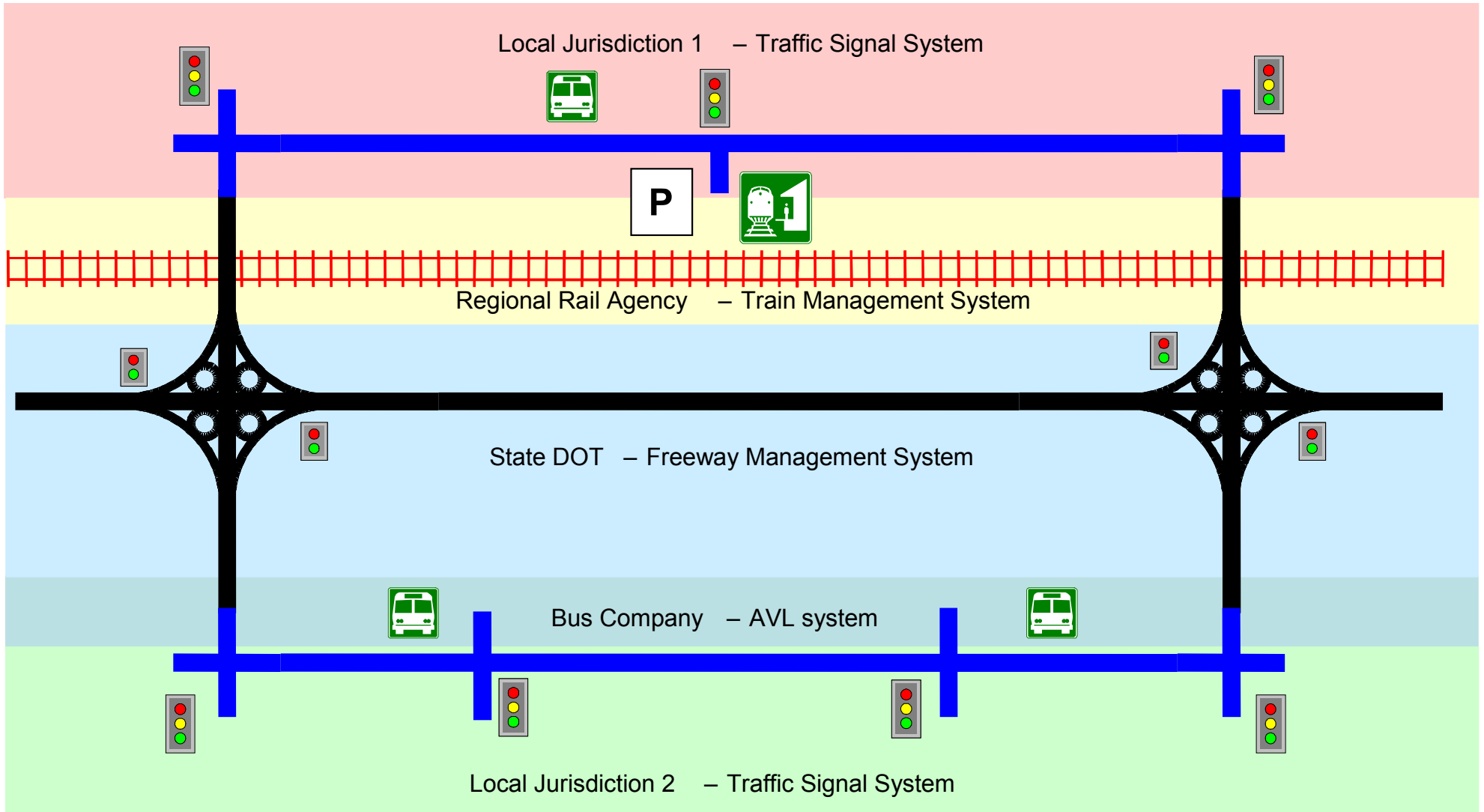
Bus Systems



- 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





Integrated Corridor Management (ICM)

# The I-880 Corridor

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# Corridor Limits



southern limit TBD by SCVTA (potentially I-280)



# I-880 ICM Vision

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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**

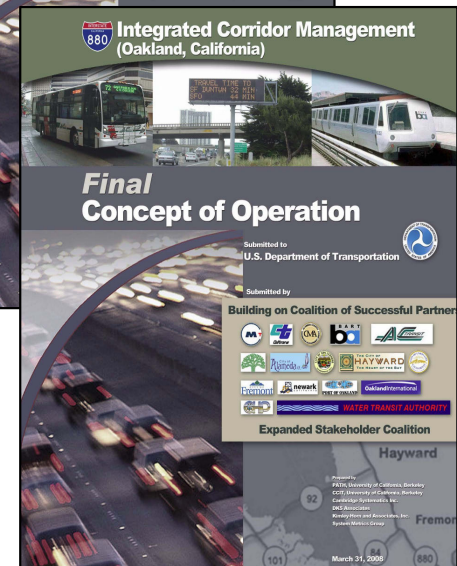
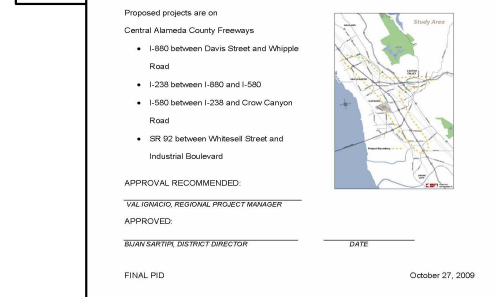
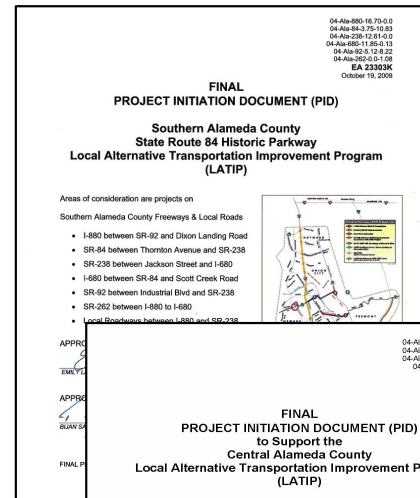
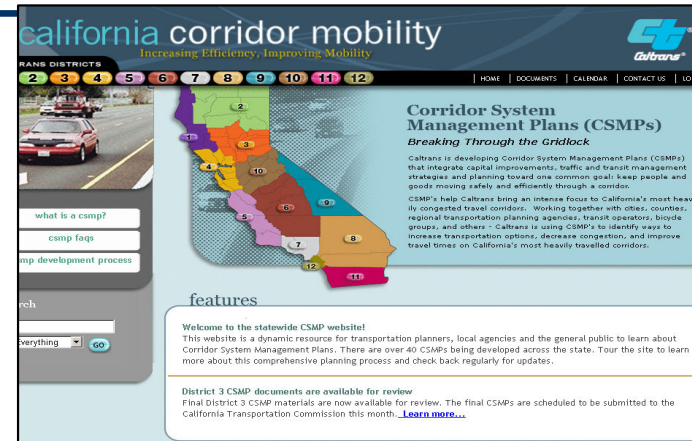






# Existing Plans and Reports

- **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 (ICM) 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)

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- **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?

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## Coordinated Deployment of ICM Strategies



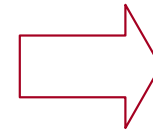


Integrated Corridor Management (ICM)

# Where do we go from here?

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**Coordinated Deployment  
of ICM Strategies**



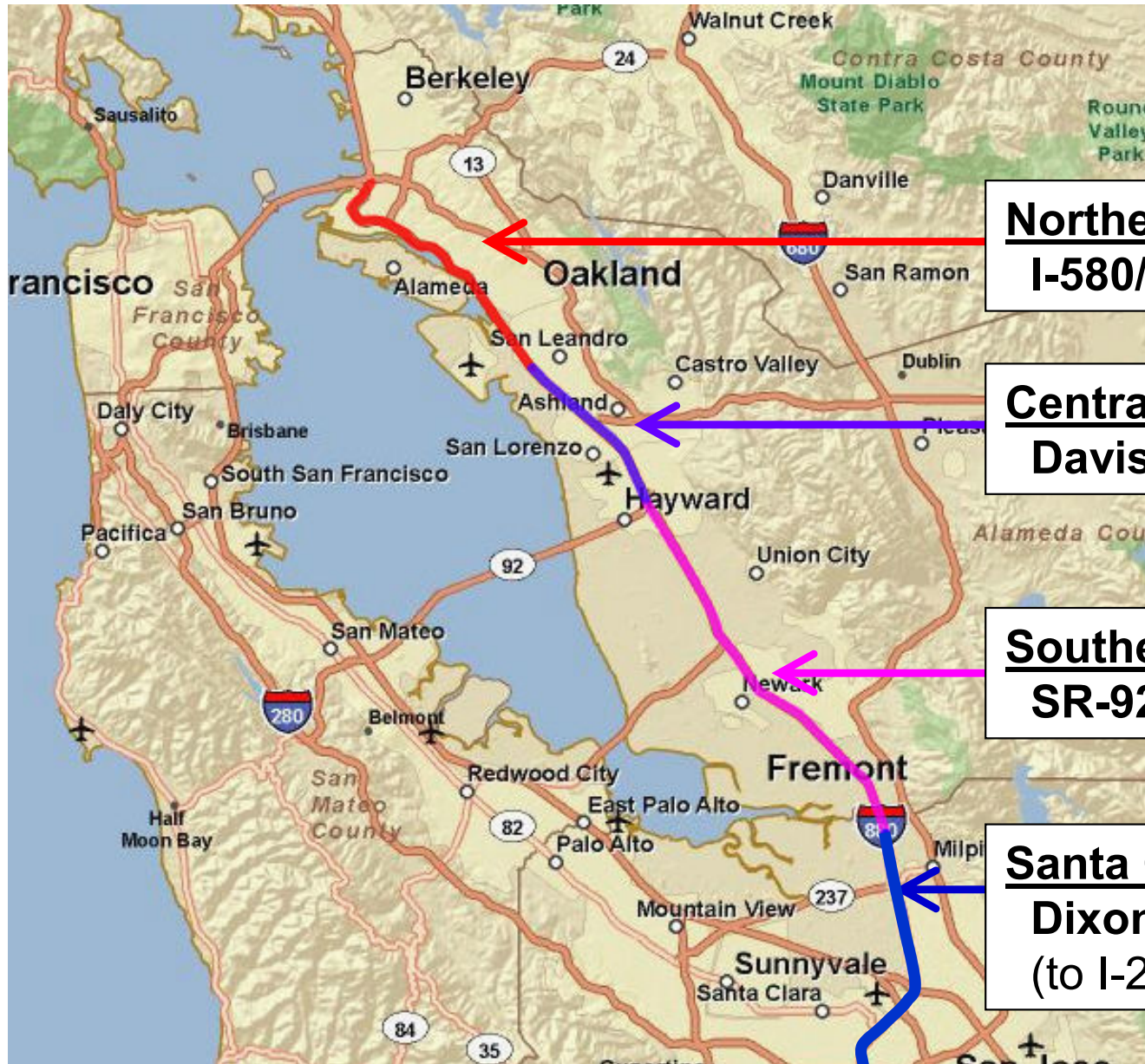
**Current  
RFP**





Coordinated  
Deployment

# 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

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Coordinated  
Deployment





# RFP Scope of Work

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Coordinated  
Deployment

- 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)

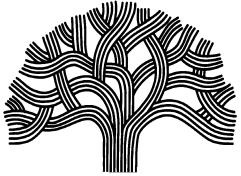
**Coordinated  
Deployment**

- I. Coordinate among stakeholders
- II. Develop sustainable strategies for the Corridor
- III. Prepare systems engineering documentation



# I. Stakeholder Coordination

Coordinated Deployment





## II. Strategy Selection

Coordinated  
Deployment

### 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

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Coordinated  
Deployment

### 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

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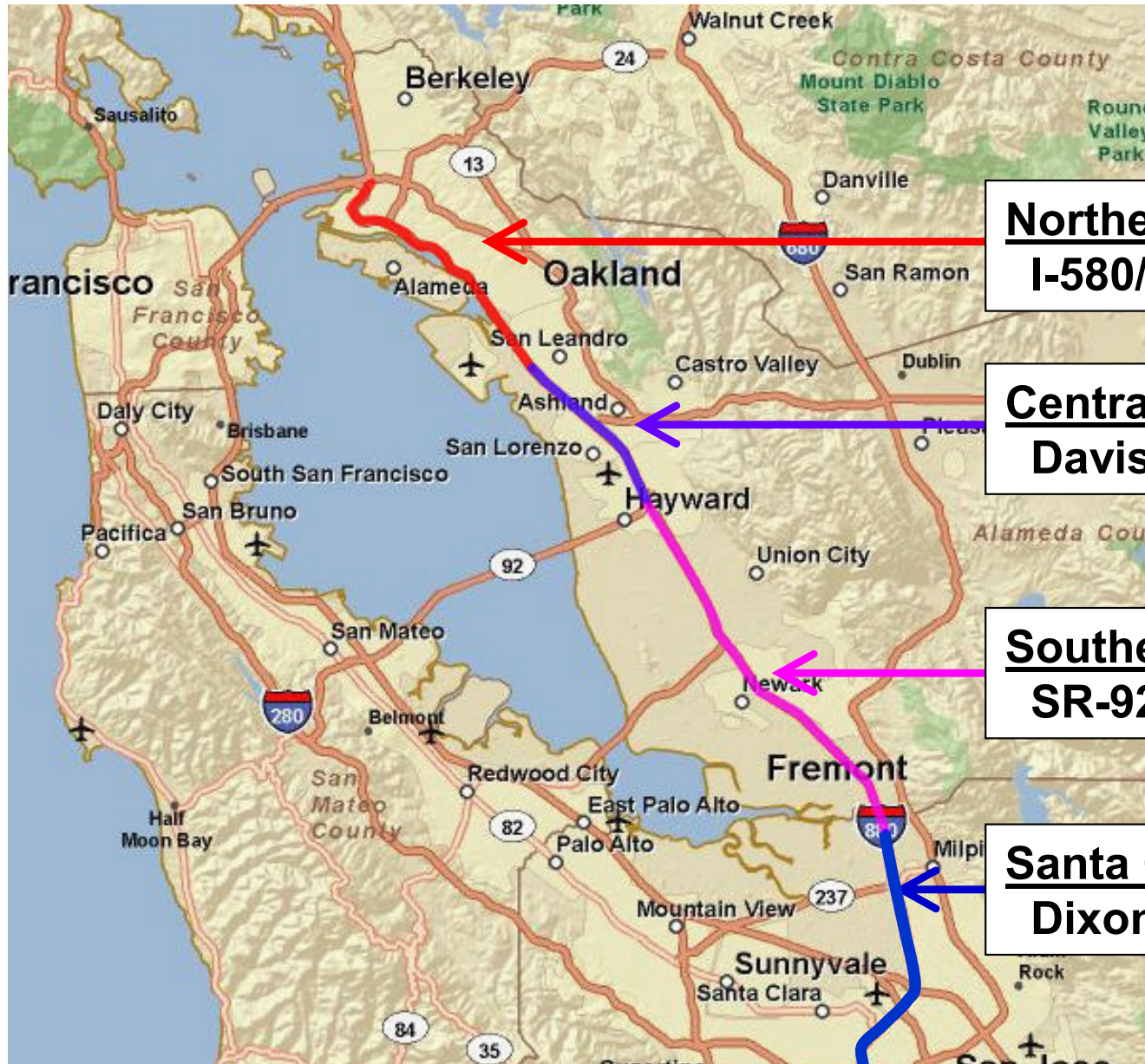
Coordinated  
Deployment

- Project Study Report
- *Expanded* Concept of Operations
- Systems Engineering Management Plan
- Implementation Plan
- Other documents required for deployment



Coordinated  
Deployment

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**Santa Clara**  
Dixon Ld. to [TBD]



# RFP Scope of Work: *Phase 2*

Funding dependent on cost estimates and MTC budget approval

Coordinated  
Deployment

- 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



trailblazer sign  
(not to scale)



# Subsequent Work

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- 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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Stakeholder Review of Draft RFP	Summer 2010
Release RFP	Summer/Fall 2010
MTC Commission Approval	Winter 2010
Begin Contract	Winter 2010



# RFP Milestones

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Start Phase 1	Winter 2010
Complete feasibility studies Start Phase 2	Mid-Year 2011
Complete PSR, ConOps, SEMP	Fall/Winter 2011
Complete Phase 1, part of Phase 2*	Winter 2011

\* Excludes the following Phase 2 work:  
environmental reviews, construction documentation, actual construction



# I-880 Corridor Stakeholder Survey

**Coordinated  
Deployment**

## I-880 Corridor Stakeholder Survey Distributed at AOC Mtg., July 13, 2010

**Name:**

**Agency:**

**Title:**

*Please scan or fax this completed form by July 20  
to:*

Stella So, MTC  
email: [sso@mtc.ca.gov](mailto:sso@mtc.ca.gov)  
fax: (510) 817-5848

*Or complete it at: [sites.google.com/site/i880survey](http://sites.google.com/site/i880survey)*

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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Coordinated  
Deployment

Stella So

I-880 ICM Project Manager

[sso@mtc.ca.gov](mailto:sso@mtc.ca.gov)

(510) 817-5724