Integrated Corridor Management (ICM)

I-880 Integrated Corridor Management:

Building on Existing Planning Efforts

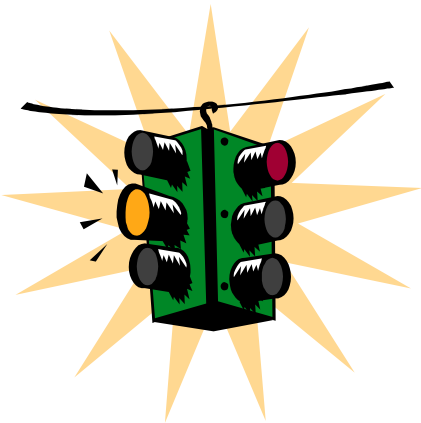
Presentation to
Arterial Operations Committee

July 13, 2010

Background: What is ICM?

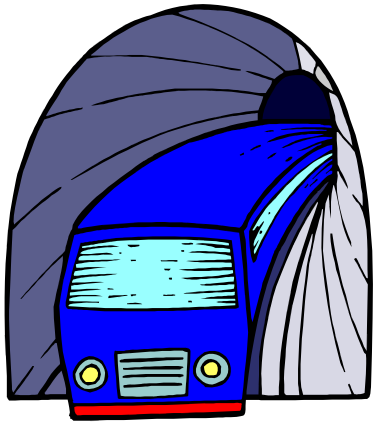
Today's Corridors: Independent Systems

Arterial Signal Systems



Freeway Systems

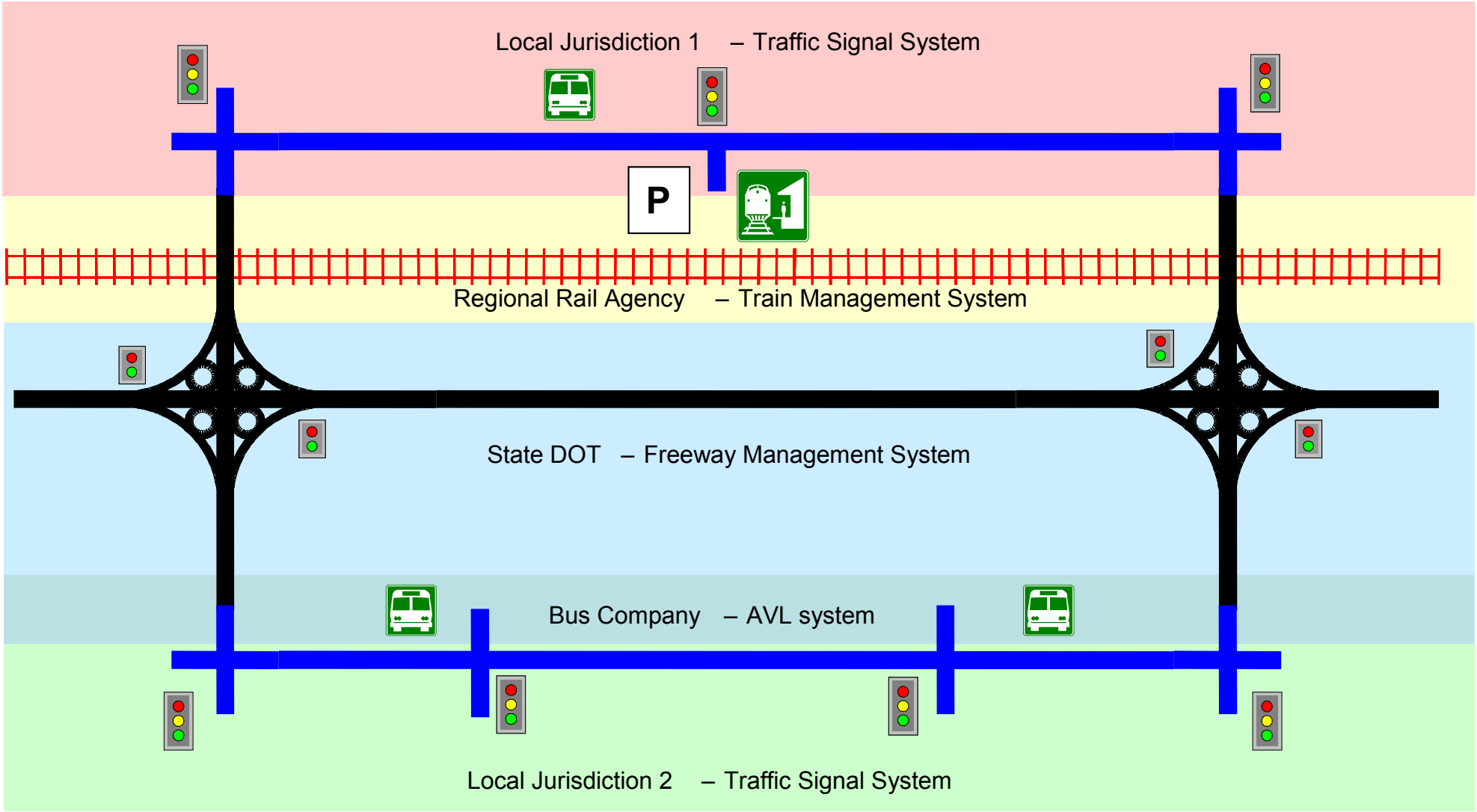
Rail Systems



Bus Systems

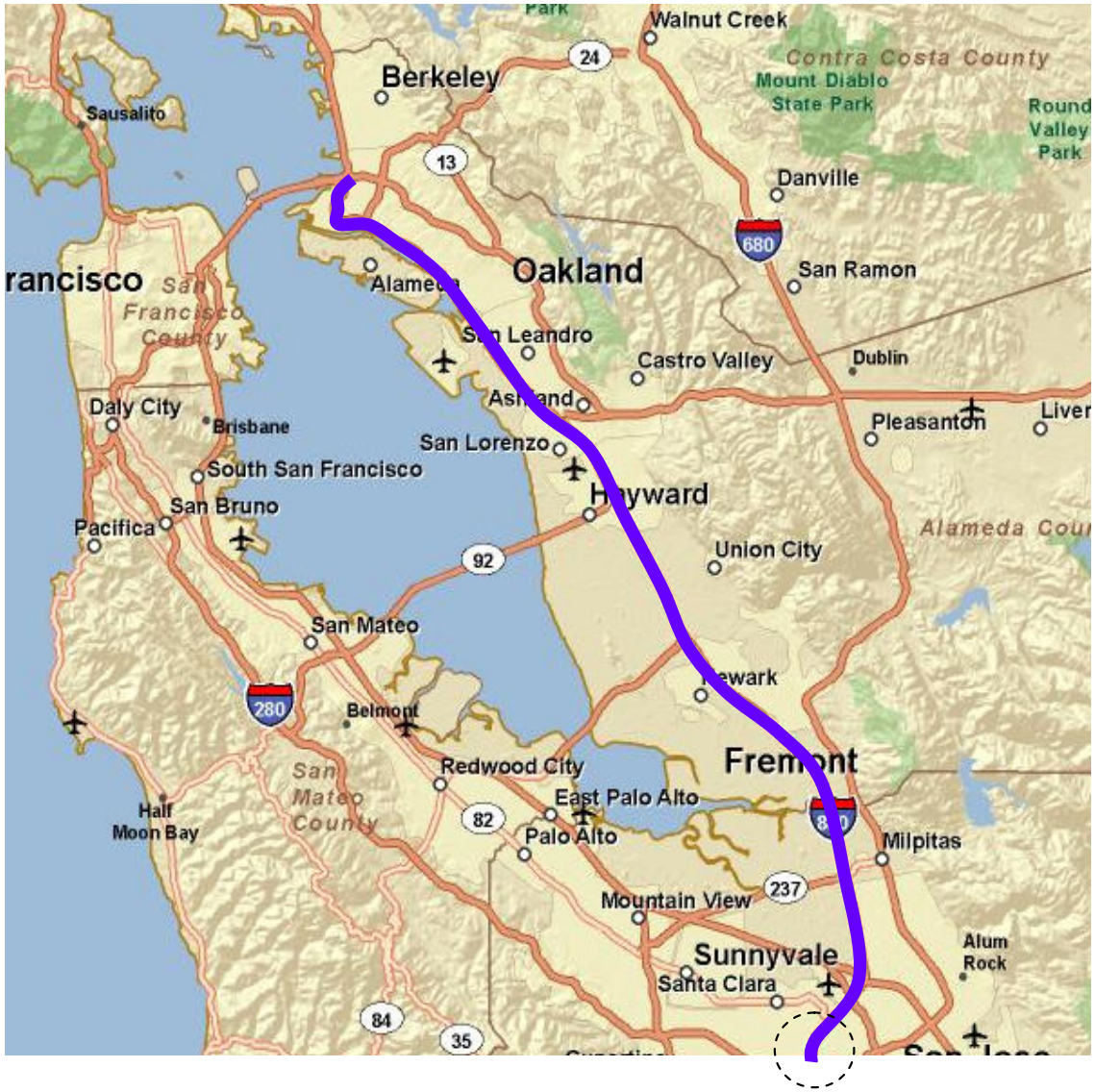
- Efforts to date to "reduce congestion" have focused on optimization of individual systems
- There have been significant investments in ITS
- There are tremendous opportunities to integrate operations to manage total corridor capacity

Schematic of an Integrated Corridor



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.

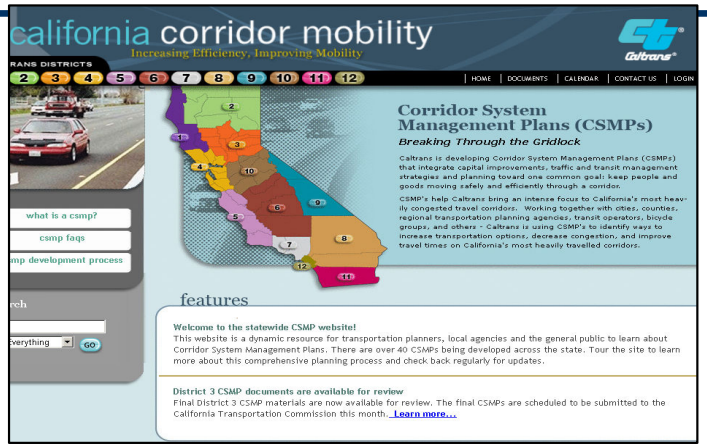
Regional and Local Partnerships

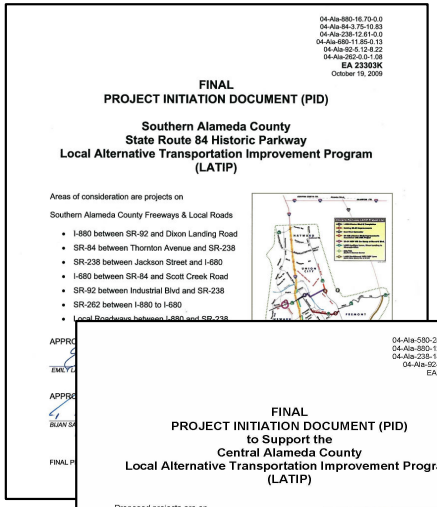
Congestion Mitigation & Air Quality Program

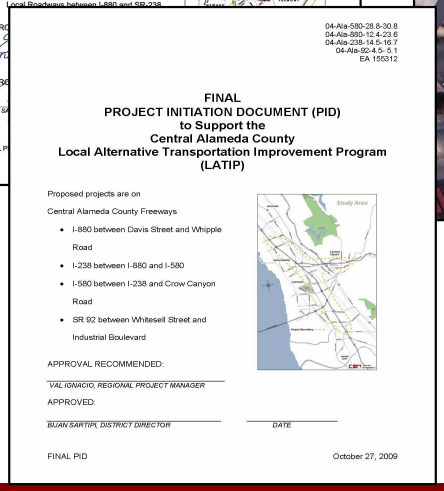
CTC & Local Alternative Transportation Improvement Program

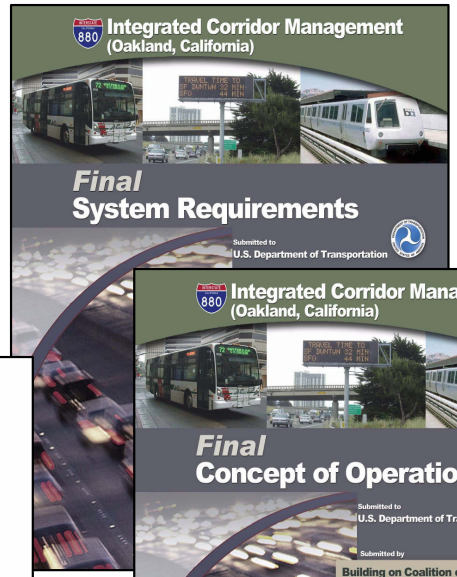
Existing Plans and Reports

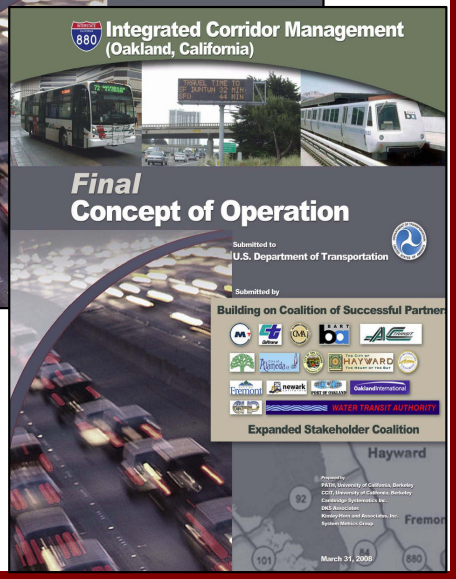
- **Corridor System Management Plan (CSMP) for I-880,** Caltrans (June 2010)
- **Central Alameda County Local Alternative Transportation Improvement Program (Central LATIP) – Final Project Initiation Document,** ACCMA (November 2009)
- **State Route 84 Historic Parkway Local Alternative Transportation 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

Where do we go from here?

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Coordinated Deployment of ICM Strategies

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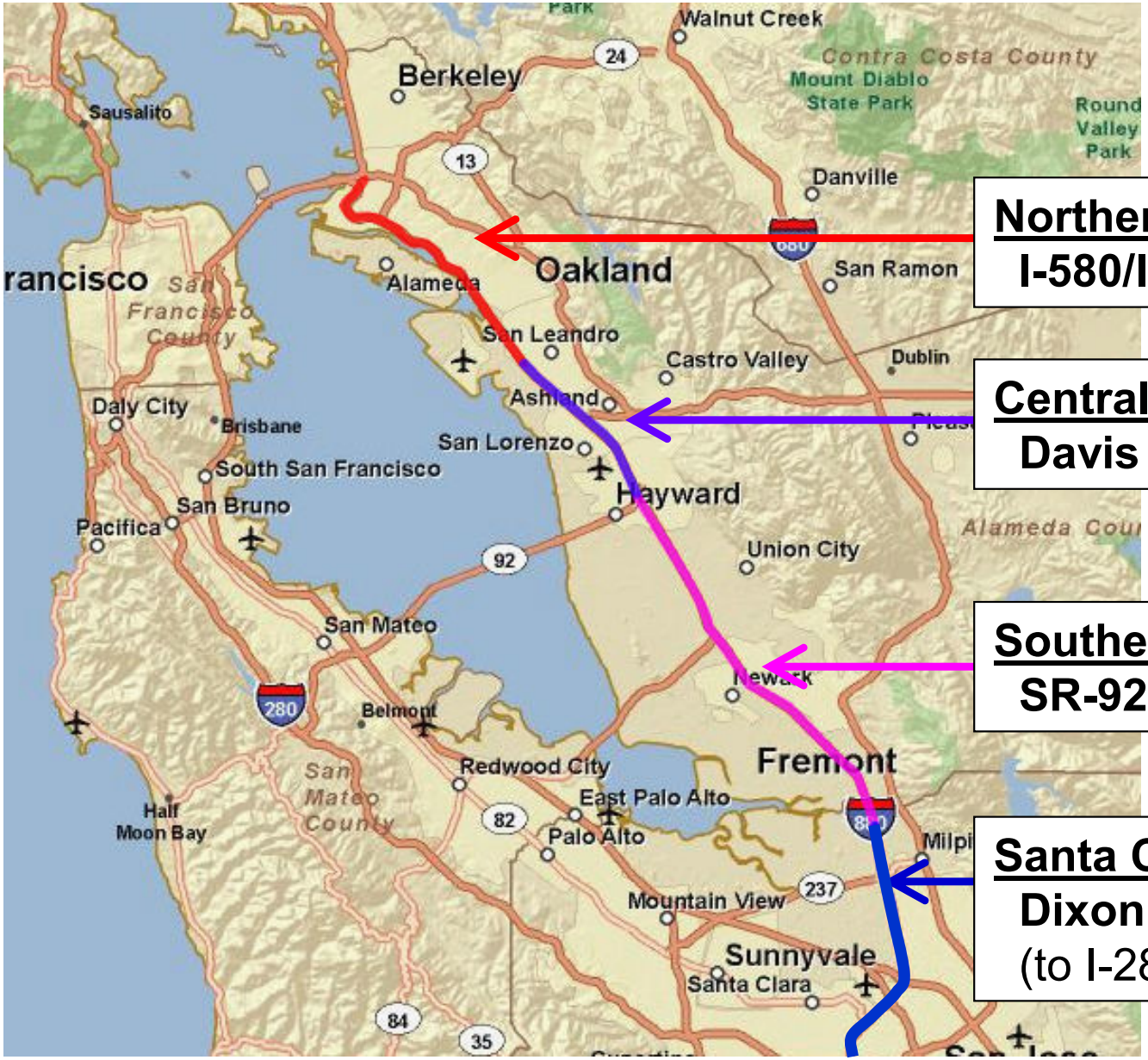
Coordinated Deployment
of ICM Strategies

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)

Coordinated Deployment

RFP Desired Outcomes

Coordinated Deployment

RFP Scope of Work

Phase 1. (MTC funded)

Corridor-Wide Process:

ICM Strategy Selection & Systems Engineering Documentation

(requirements before construction)

Phase 2. (pending MTC funding appr.)

Northern Ala. Segment:

Construction of Trailblazer Signs + Other Incident Management Strategies

Coordinated Deployment

RFP Scope of Work: *Phase 1*

(MTC funded)

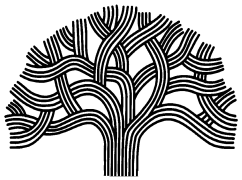
I. Coordinate among stakeholders

II. Develop sustainable strategies for the Corridor

III. Prepare systems engineering documentation

I. Stakeholder Coordination

Coordinated Deployment



Coordinated Deployment

II. Strategy Selection

Segment Approach

Single Strategy or Suite of Strategies?

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

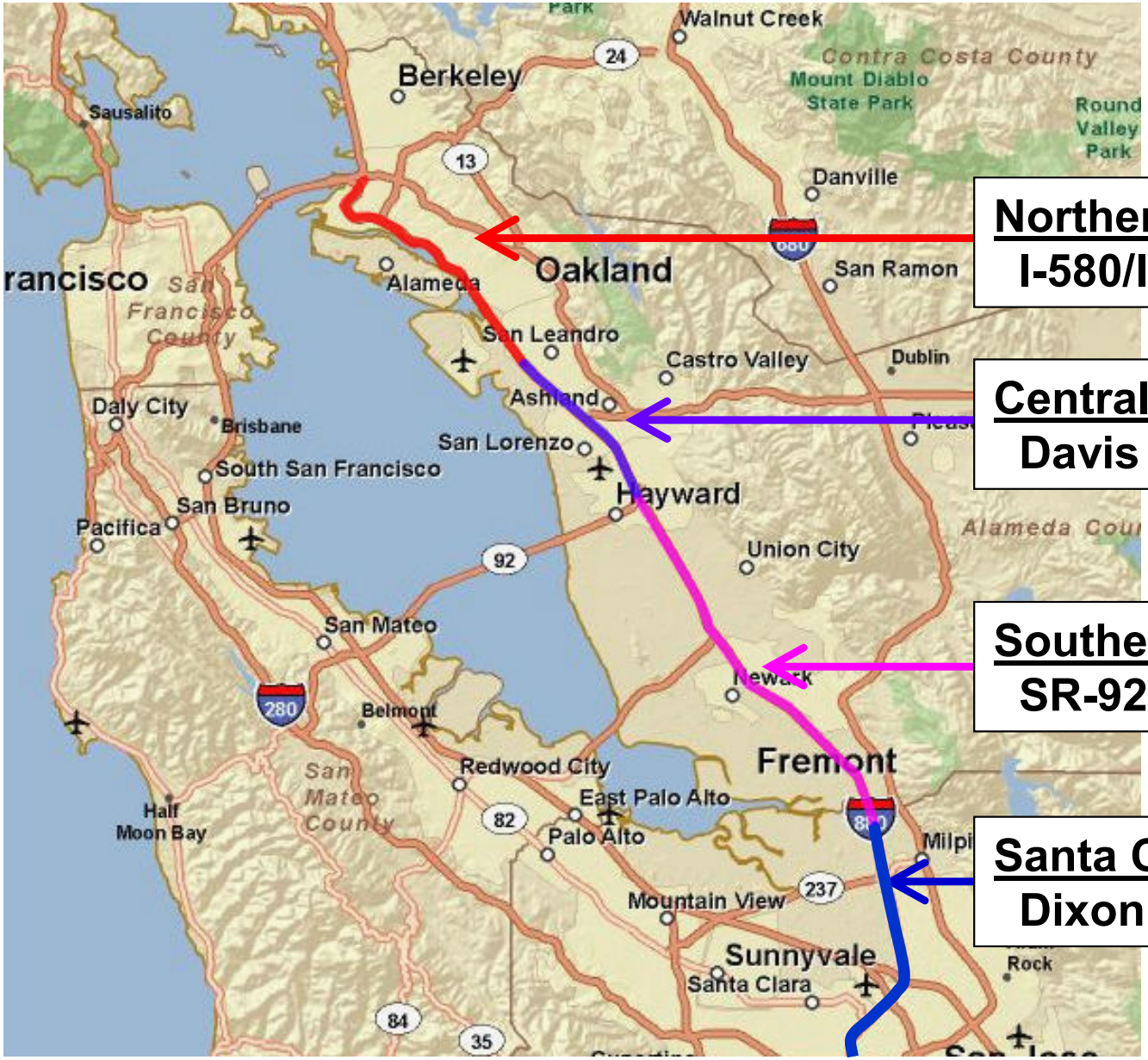
- Advanced decision support (online traffic/transit information)
- En route decision support (CMS on fwy approach, trailblazer signs)

III. Systems Engineering Documentation

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

Coordinated Deployment

RFP Approach: *Segment Centric*



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Coordinated Deployment

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

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

Coordinated Deployment

RFP Procurement Schedule

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

Coordinated Deployment

RFP Milestones

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
fax: (510) 817-5848

Or complete it at: 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?**

Coordinated Deployment

Questions

Stella So

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