Lowering the barriers to state wide implementation of Integrated Corridor Management

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Connected Corridors State Wide Program

- A state wide program focused on:
  - Bringing ICM to major corridors in California
  - Growing Caltrans leadership in corridor based transportation management
  - Showcasing new technologies and processes
  - Delivering an ICM implementation on the I-210 in LA
  - Providing a solution that is affordable, replicable and scalable

- Lowering the barriers to ICM adoption, operation, and maintenance:
  - Funding and Costs
  - Work force skills
  - Technical Complexity and Risk
How will we do this?

- Help with access to and management of funding
- Provide system engineering documents and process templates
- Provide guidance on workforce skills, training and organization
- Enable the consulting ecosystem
- Provide a \textit{cloud based} reference implementation architecture with data quality
- Provide a \textit{cloud based} replicable and scalable intelligent data hub and DSS (Decision Support System)
How will we do this?

- Certify ICM and TCS vendors as enabling plug in play data exchange interfaces
- Ensure Caltrans is actively leading this effort and integrating it with TSM&O
- Prove the viability of our solutions through a pilot on the I-210
- Caltrans and PATH freely sharing our work products through downloadable documents, software and training
Funding

- **State**
  - Worked with legislature to ease approval of “Congested Corridors”
  - Working with legislature to define standards for approval
  - Broadening the SHOPP program

- **Regional**
  - Caltrans, through its work with LA Metro, has established an approved method for managing regional funds as part of an ICM

- **Examples of applications for SHOPP and regional funding**
Templates, standards, and processes

- **High quality system engineering documents**
- These include technical, human and organizational requirements
- **Examples of MOUs and charters**
- **Data Quality Standards**
- **Model Calibration guidance**
- Organized for tailoring by each ICM effort
Workforce skills, training and organization

- KSA (Knowledge, Skills and Abilities) developed by Kimley Horn
- Organizational structures developed by SMG
- ICM Duties and Tasks (Human Requirements) developed by PATH

- Presenting to AASHTO Center of Excellence on workforce skills - Nov 8th
- Developing new courseware for the Institute of Transportation Studies at Berkeley
- Developing a white paper for the Ca legislature on workforce skills required for TSM&O
Industry and Consulting Eco System

- Transcore
- Amazon
- McCain
- TSS
- Iteris
- SMG
- Emergent
- Parsons
- Kapsch
- Telegra
- AT&T (RIITS)
- Kimley-Horn
- Cambridge
ICM Integration – Subsystems
ICM Vendors – TMDD Standard Interfaces

- The following ICM vendors will be participating in the pilot:
  - Kapsch – EcoTrafix
  - Parsons – iNET
  - Telegra – topXview

- Each of these vendors will provide software with interfaces built to permit exchange of data through CC defined TMDD standards.
The following TCS vendors will participate in the pilot:
- Kimley-Horn – KITS
- McCain – Transparity
- TransCore – TransSuite

Each is developing TMDD data exchange interfaces defined as part of the CC standards.

There will also be a sign vendor (not yet selected) with data exchange.
Mix and Match
Standardized, tested Interfaces

Choose Multiple

- KITS
- Transparity
- TransSuite
- Sign Vendor
- Caltrans ATMS

Provided by Caltrans

Choose 1

- DSS
- TMDD Tested Interface

- Data Hub
- TSS Model Interface (Optional)

- Kapsch
- TMDD Tested Interface

- Parsons
- Telegra

Choose Multiple

- KITS
- Transparity
- TransSuite
- Sign Vendor
- Caltrans ATMS
Other software updates and interfaces

- PEMS will be updated to permit simpler integration into new corridors based on the CC architecture

- We are also defining interfaces for:
  - Transit
  - 511
  - Air Quality
  - Travel Time
Software Examples

- Incident Response Plan Development
- Data Quality on Freeways and Arterials
Caltrans and the PATH Websites

- Website on
  - connected-corridors.Berkeley.edu
  - www.ccdocs.Berkeley.edu
  - www.dot.ca.gov

- Please contact
  - Caltrans HQ – Nick Compin
  - Caltrans D7 – Allen Chen
  - Metro – Steve Gota
  - PATH – Joe Butler
Thank You