Connected Corridors Review with SANDAG

2/20/2013

California Connected Corridors Vehicles, Information & People (CC-VIP) Pilot

- Enable existing transportation infrastructure and vehicles to work together in a highly coordinated manner
- Deliver improved corridor performance (safety and mobility)
- Improve accountability
- Evolve Caltrans to Real-Time operations and management
- Enhance regional, local and private sector partnerships







ICM California Components

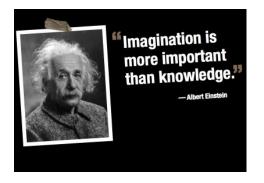
- Existing ICM Efforts San Diego, Dallas
- Guidance USDOT
- Organizational enhancements Caltrans
- New Technologies UC Berkeley
- Existing systems Delcan, TSS, Others
- Local and Regional Agencies
- ICM California Pilot to be used as a template for expanding ICM to all major corridors in Ca

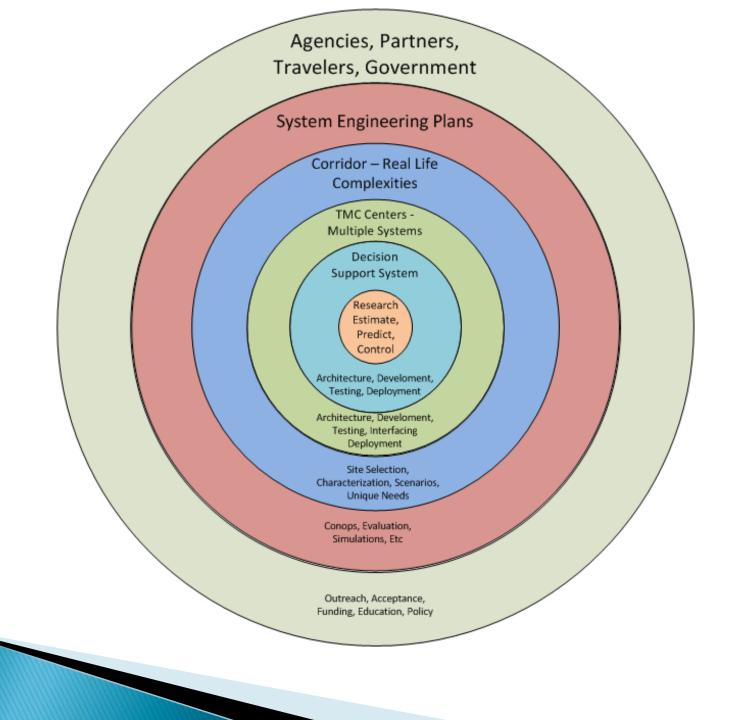
Connected Corridors Program

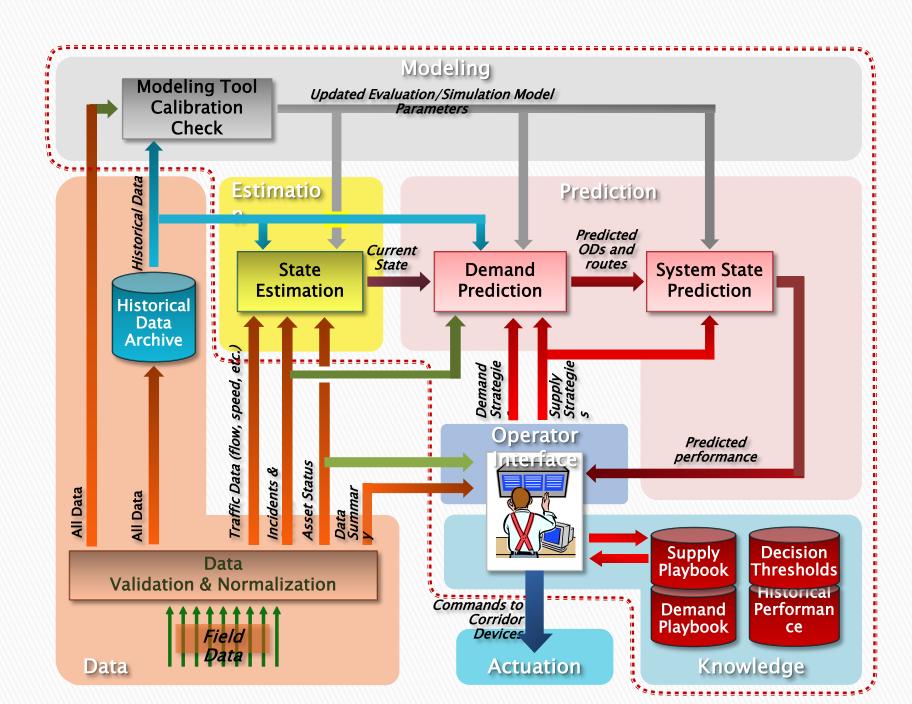
- Previous/Ongoing Efforts
 - USDOT ICM Efforts
 - PEMS California Performance Measurement
 - TOPL Tools for Operational Planning (Macro Modeling)
 - Mobile Millennium Big Data fusion with probes
- Concurrent Efforts
 - Organizational Analysis for Corridor Mgmt
 - San Diego and Dallas ICM Implementations
 - Connected Vehicles
- New Research Efforts
 - Machine Learning
 - Corridor Control with highly fused data
 - Demand Mgmt with crowd sourced decisions
 - True Collaborative Commuting People, Infrastructure and Vehicles

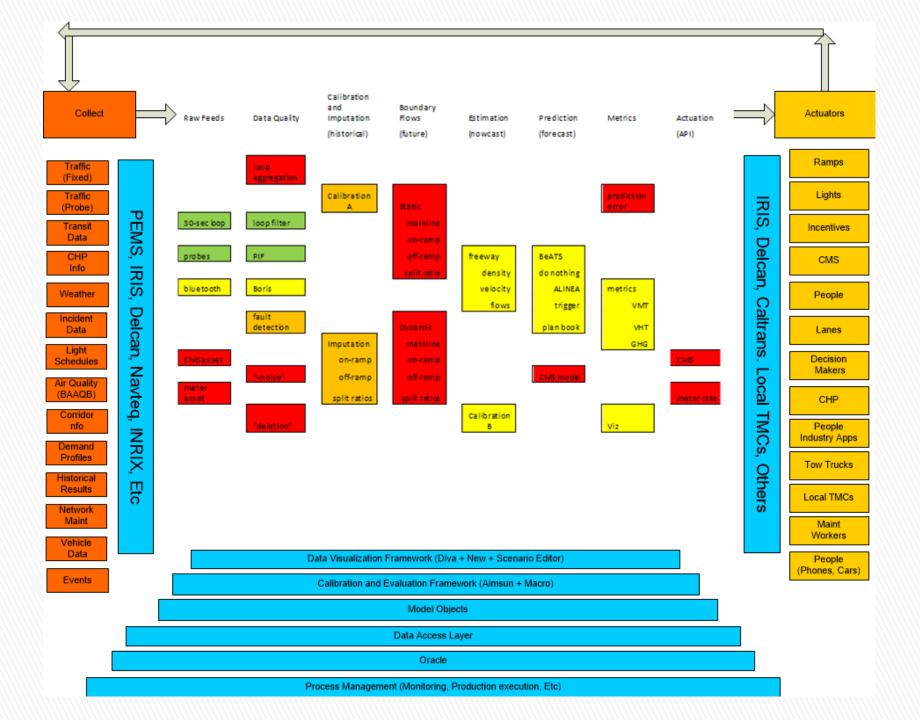












| Raw Feeds | Data Quality | Calibration and Imputation | Boundary Flows | Estimation | Prediction | Metrics | Actuation |
|----------------|---------------------|----------------------------------|-------------------|------------------|------------|---------------------|------------|
| | | (historical) | (future) | (nowcast) | (forecast) | | (API) |
| | loop aggregation | | | | | | |
| | | Calibration A | Static | | | prediction error | |
| 30-sec loop | loop filter | | mainline | | | | |
| | | | on-ramp | | | | |
| probes | PIF | | off-ramp | freeway | BeATS | | |
| | | | split ratio | density | do nothing | | |
| bluetooth | Boris | | | velocity | ALINEA | metrics | |
| | 6.11 | | | flows | trigger | VMT | |
| | fault detection | | Dynamic | | plan book | VHT | |
| | | Imputation | mainline | | | GHG | |
| CMS asset | | on-ramp | on-ramp | | | | CMS |
| | "+noise" | off-ramp | off-ramp | | CMS model | | |
| meter asset | | split ratios | split ratios | | | | meter rate |
| | "deletion" | | | Calibration B | | Viz | |

Connected Corridors and SANDAG

- Establish a partnership to prioritize and study new technologies
- Work together to improve estimation and prediction
- Improve real time play book evaluation under defined circumstances
- Understand what aspects of SANDAG's ICM implementation are appropriate for other California corridors
- We are currently partnering with TSS who is contributing resources, software and know-how
- We have held discussions with Delcan





