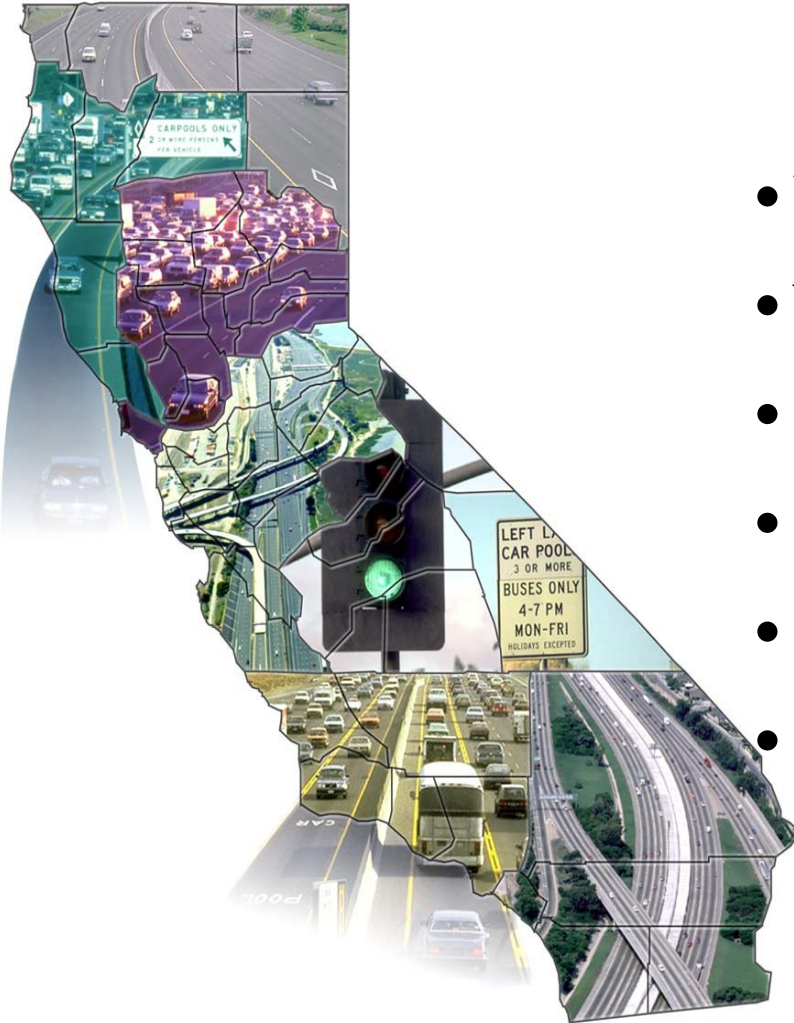March 28, 2014

California Transportation System Management and Operations (TSM&O)

Maturing Transportation System Management and Operations for an efficient Transportation System

Joan Sollenberger
Division of Traffic Operations
Office of Strategic Development
TSM&O Kick Off Meeting Sacramento

Overview

- What are TSM&O and CMM
- Vision for TSM&O in California
- TSM&O Implementation Plan
- Progress to Date
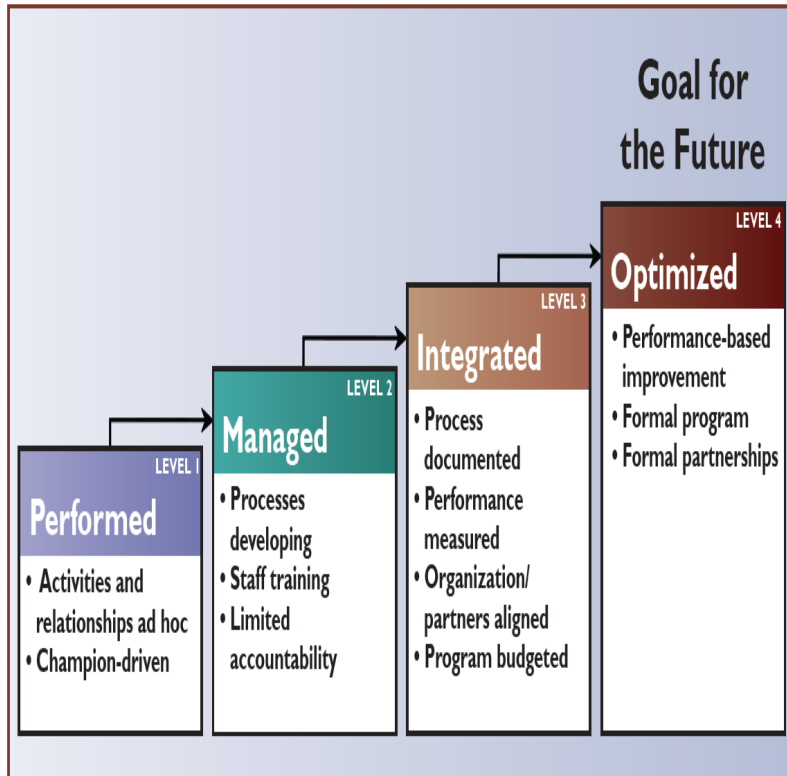- Next Steps
- Strategies – Now and Future

Transportation System Management and Operations (TSM&O)
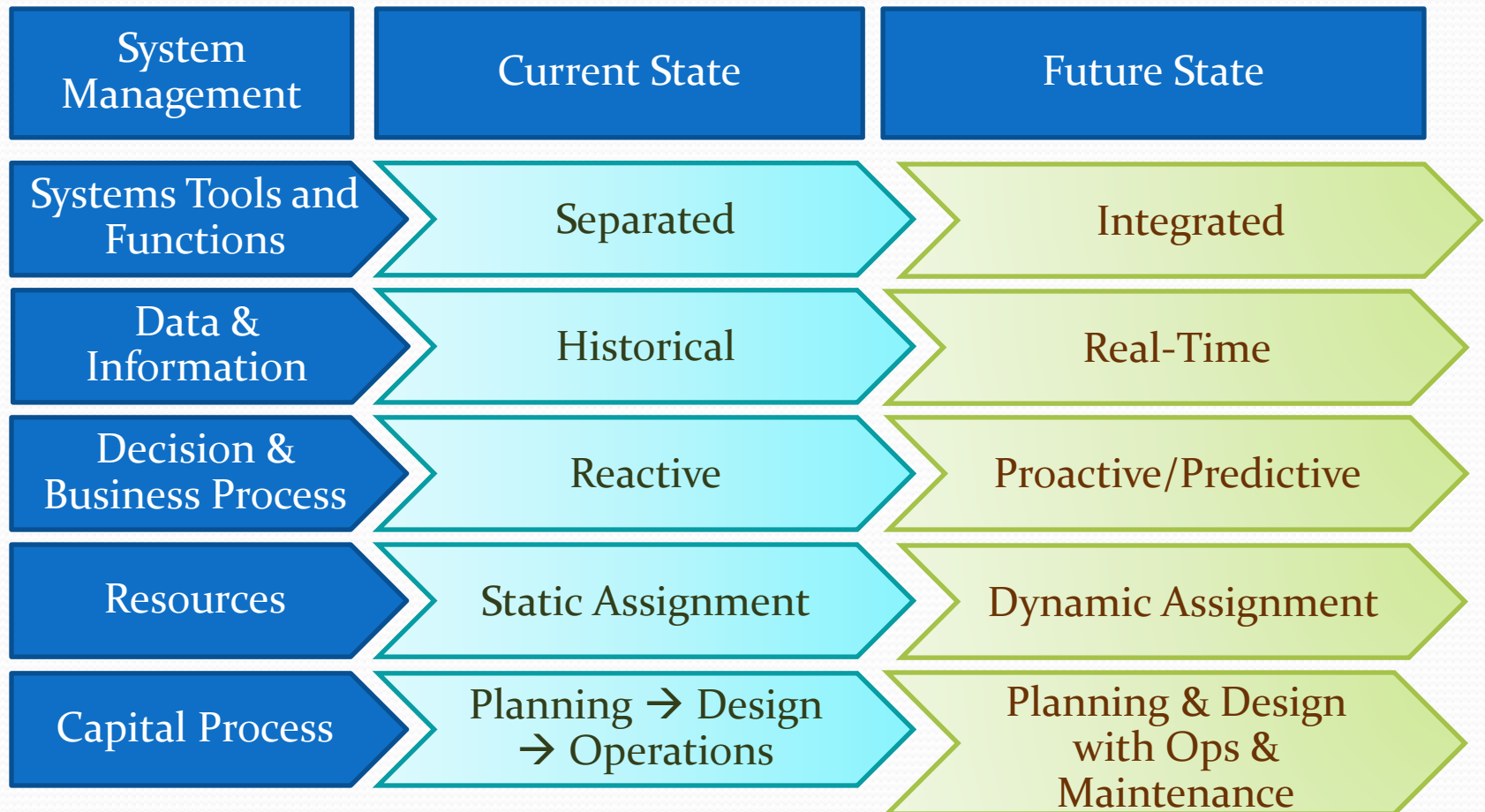

What is TSM&O?

- **Integrated strategies** to optimize performance
  - Multimodal / Intermodal
  - Cross-Jurisdictional systems
- Uses Systems, Services and Projects
  - Preserve Capacity
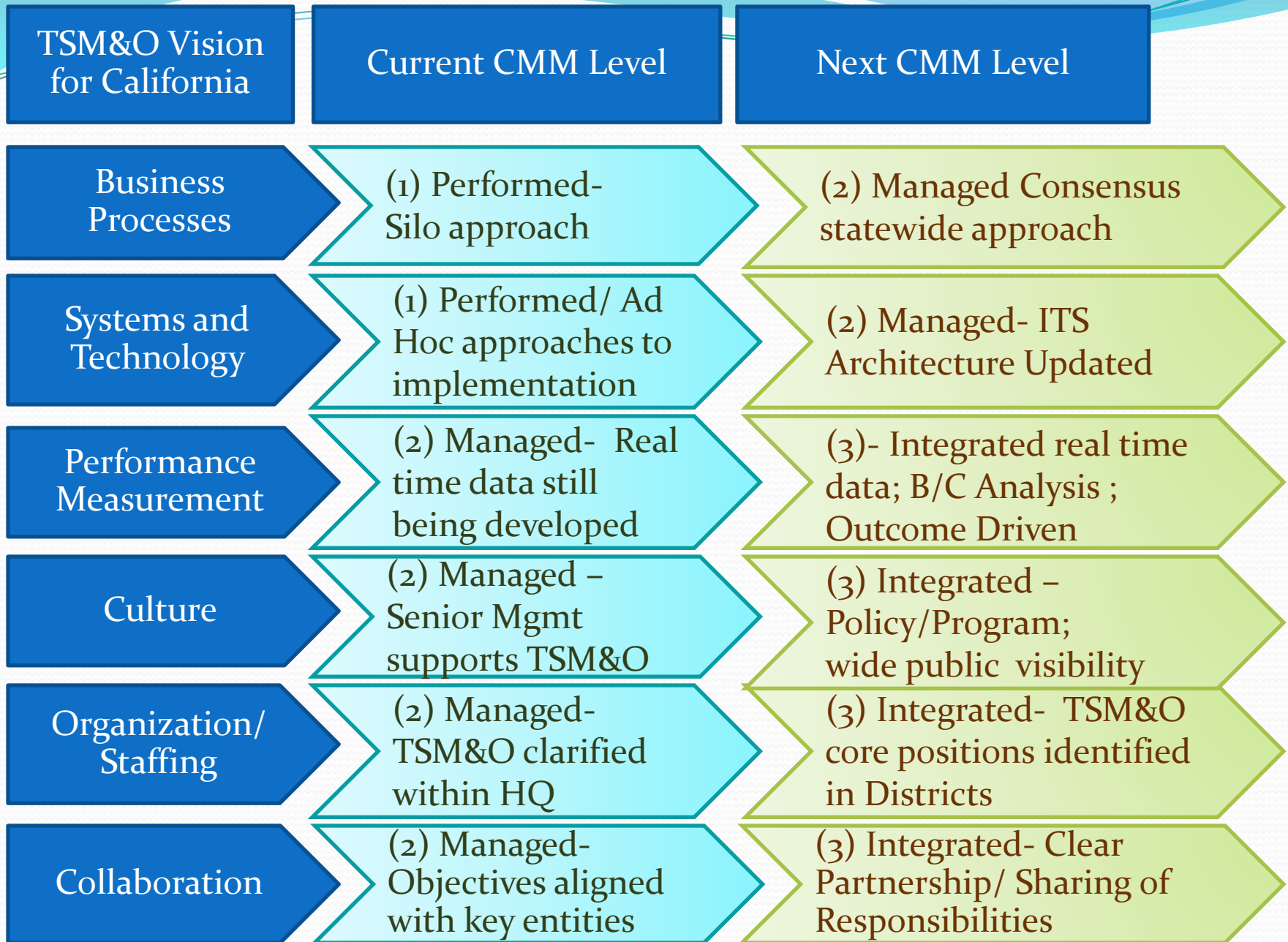 - Improve Security , Safety and reliability

What is the Capability Maturity Model

- Capability Maturity Model (CMM)
  - Evaluates key business processes
    - Business processes
    - Systems and technology
    - Performance management
    - Culture
    - Organization and workforce
    - Collaboration
  - End goal is full maturity in all activities

Vision for TSM&O in California

System Management	Current State	Future State
Systems Tools and Functions	Separated	Integrated
Data & Information	Historical	Real-Time
Decision & Business Process	Reactive	Proactive/Predictive
Resources	Static Assignment	Dynamic Assignment
Capital Process	Planning → Design → Operations	Planning & Design with Ops & Maintenance

TSM&O Vision for California	Current CMM Level	Next CMM Level
Business Processes	(1) Performed- Silo approach	(2) Managed Consensus statewide approach
Systems and Technology	(1) Performed/ Ad Hoc approaches to implementation	(2) Managed- ITS Architecture Updated
Performance Measurement	(2) Managed- Real time data still being developed	(3)- Integrated real time data; B/C Analysis ; Outcome Driven
Culture	(2) Managed – Senior Mgmt supports TSM&O	(3) Integrated – Policy/Program; wide public visibility
Organization/ Staffing	(2) Managed- TSM&O clarified within HQ	(3) Integrated- TSM&O core positions identified in Districts
Collaboration	(2) Managed- Objectives aligned with key entities	(3) Integrated- Clear Partnership/ Sharing of Responsibilities

Business Processes Implementation Actions

CCM Workshop Suggested Actions

- Reconcile/coordinate guideline and planning documents

- Work with MPOs to introduce TSM in regional planning
- Introduce performance/accountability for discussion with Executive Board.
- Develop consistent TSM assessment methodologies
- Develop a uniform understanding of the payoff of TSM statewide
- Ensure inclusion for TSM options at all stages of project development

Consultant Implementation Plan with Connected Corridors / ICM Focus

Action	**Suggested Steps to Implement Actions**
Establish Caltrans role with Connected Corridors partners	• Define and develop consensus on roles of key players in corridor planning
Desired Outcomes	• Clarify Caltrans' specific role in both planning and programming
Clear concept of Caltrans' role in collaborative Connected Corridors planning context	• Identify and reconcile priorities and develop cooperative agreement concept for: planning; programming; operations; and management.

Consultant Implementation Plan with Connected Corridors / ICM Focus

Action

Develop Standardized Connected Corridors planning and Programming process

Desired Outcomes

Guidance for Caltrans in Connected Corridors Program planning

- **Suggested Steps to Implement Actions**
- Review existing guidelines and planning documents related to planning, prioritization, and project selection
- Identify implications of planning, programming, and procedures in a Connected Corridors context
- Consider implications of including strategic alternatives as well as capital, operating and maintenance costs.
- Develop simulation and evaluation tools and processes
- Develop guidelines for future Connected Corridors planning related to Caltrans' role
- Develop approach to continuing cooperative programming

Consultant Implementation Plan with Connected Corridors / ICM Focus

Action

Develop TSM&O Business case for senior executives

Desired Outcomes

Business Case and marketing materials focused on Connected Corridors

- Introduce performance and accountability as an item for discussion and consideration for the Steering Committee and Executive Board
- Establish cross-disciplinary working group to develop TSM&O specific business case
- Review peer experience with TSM&O business case development
- Identify promising formats and communication strategies for business case
- Develop communication materials based on the TSM&O and Connected Corridor Business Cases

Systems and Technology

Workshop Actions to Advance to the Next Level

- Conduct review of regional and HQ architectures
- Capitalize on related review at FHWA Division Office (attempting to overcome consultant architecture updates that are not integrated)
- Engage and build relationships with IT personnel on purpose and benefit of projects;
- Create a "two-way communication document" to market/explain goals of operations/ITS
- Develop decision support system for asset management, including partners

Consultant Implementation Plan with Connected Corridors / ICM Focus

Action

Review and update systems engineering state of practice in Caltrans for Connected Corridors

Desired Outcomes

Program of priority improvements in ConOps, architecture and standards focused on Connected Corridors development

- Review current state of the practice regarding systems engineering at each stage in the project development process
  - Identify critical issues impacting efficiency of process and effectiveness of outcomes.
- Evaluate current ITS architecture related to Connected Corridors
- Incorporate FHWA Division Office review and peer state experience.
- Identify critical hardware, communication, and software standards for consistency
- Develop program and timeline for updates of standards, architecture, and migration plans appropriate for Connected Corridors

Consultant Implementation Plan with Connected Corridors / ICM Focus

Action

Develop cooperatively streamlined approval process for Connected Corridors IT working with State Technology Agency (IT)

Desired Outcomes

Streamlined process for IT approvals and joint MOU

- Develop joint working group with CA IT Agency and Caltrans to review key IT issues impacting Caltrans procurement and projects.
- Define terms to clarify all parties' key concerns by type of project.
- Prepare document and conduct dialogue to clarify Caltrans perspective regarding challenges in upgrading technology and achieving consistency.
- Identify interagency strategies for better communication streamline project approval with the IT group.
- Develop and establish specific approval process for implementation at staff level
- Secure top management buy-in.
- Develop MOU with CA IT regarding streamlined approval process for Connected Corridors.

Progress to Date

- Provide an update and overview of current Caltrans efforts to Plan for Operations –
  - 2013Transportation Management System Business Plan Goals
  - MAP-21 Performance Based Management
  - Caltrans 2013 Strategic Plan Update – New Goal!
  - Director's Policies/Deputy Directives Updates
  - Connected Corridors Program – Integrated Corridor Management
  - Organizing for Corridor/System Management
  - Tools and Funding
    - System Management Maturity Capability Model
    - 2014 SHOPP Changes
    - California Transportation Infrastructure Priorities (CTIP)

Caltrans Director's Policies and Deputy Directives related to System Management

➢ To be Revised in Fall 2013 – coordinated with DOTP and DRISI

- Policy/Deputy Directive
- DP-08 Freeway System Management
- DP-26 Intelligent Transportation Systems
- DD-43 HOV (now Managed Lanes Systems)
- DD-57 Route Information for Oversize/Overweight Vehicles
- DD-70 Transportation Management Systems
- DD-78 Traveler Information

Next Steps

- Finalize Draft Implementation Plan (IP) with Local Core Technical Assistance Team

- Review IP with TSM&O Consultant

- Present IP to Caltrans TSM&O Steering Committee and Caltrans TSM&O Sponsor Committee for Approval and Support

- Present Plan to FHWA to Receive Implementation Assistance Grant

- Begin Implementation Strategies

TSM&O Strategies – Now and Future

- Focus on actions items in TSM&O IP

- Utilize FHWA and AASHTO Products and Support
  - Training
  - Workshops and working meetings
  - Peer Exchanges
  - Technical Assistance
  - Collaboration
  - Tactical Assessments

- Follow up briefings for senior agency leaders to help sustain momentum

- Bring TSM&O and CMM To Districts and Local Partners
- Reassess California TSM&O after two year IP period

Thank You !

Joan Sollenberger, Chief
Office of Strategic Development
Caltrans Division of Traffic Operations