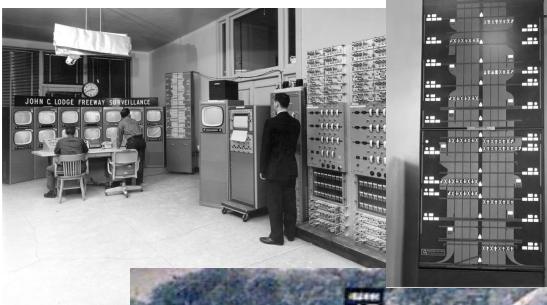
Transportation Systems Management & Operations (TSMO)

Program Planning & Organizational Development

First Generation TSMO







Transportation System Management

(Caltrans - Wolf)

System
Completion
and
Expansion

Operational Improvements

Intelligent Transportation Systems Traveler Information/ Traffic Control Incident Management

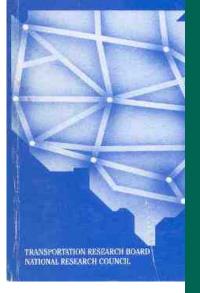
Smart Land Use Demand Management/ Value Pricing

Maintenance and Preservation

System Monitoring and Evaluation

Genesis of Strategic Highway Research



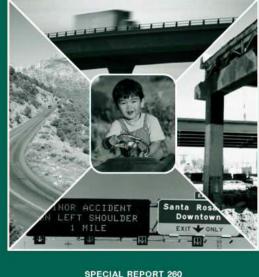


Special Report 202

1984



SAVING LIVES
REDUCING CONGESTION
IMPROVING QUALITY OF LIFE



Transportation Research Board
THE NATIONAL ACADEMIES

SPECIAL REPORT 296

Implementing the Results of the Second Strategic Highway Research Program

Saving Lives, Reducing Congestion, Improving Quality of Life

for a Future
Strategic Highway
Research Program
TRANSPORTATION RESEARCH BOARD:

Interim Planning

National Cooperative Highway Research Program

NCHRP

2003



TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES

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SHRP2 Focus Areas



Safety: fostering safer driving through analysis of driver, roadway, and vehicle factors in crashes, near crashes, and ordinary driving



Renewal: rapid maintenance and repair of deteriorating infrastructure using already-available resources, innovations, and technologies



Reliability: reducing congestion and creating more predictable travel times through better operations



Capacity: planning and designing a highway system that offers minimum disruption and meets the environmental and economic needs of the community



Reliability Focus Area

"To provide reliable travel times by preventing and reducing non-recurring congestion"





reduce the variability of travel time through reducing the underlying causes



Reliability Product "Bundles"



Advanced Operations Strategies







Reliability Analysis Tools (TSM&O Decision Support)

Reliability Data & Analysis Tools (RDAT): From Data to Decisions

Data Collection

Establishing a Travel Time Reliability Monitoring System (L02)



Analysis

Effects of Designs (L07)

Highway Capacity Methods (L08)

Benefit-Cost Analysis (C11)

Reliability in Simulation (L04)

Freight (C15/20)

Work Zones (R11)



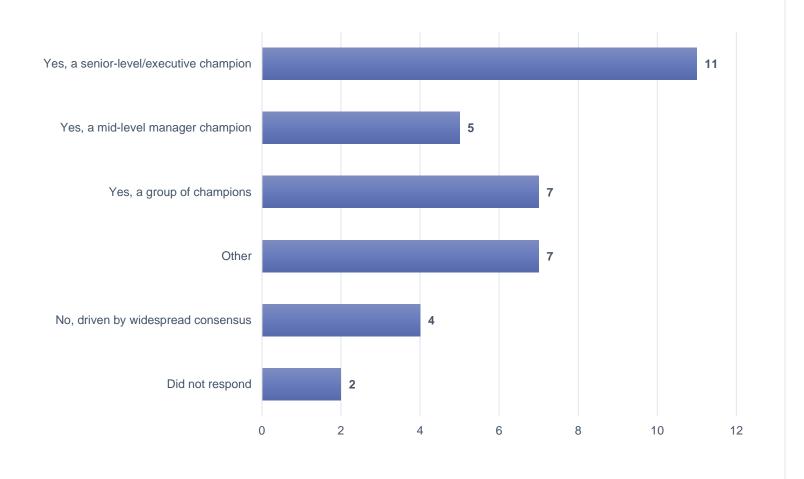
Decision

Reliability in Planning and Programming (L05)

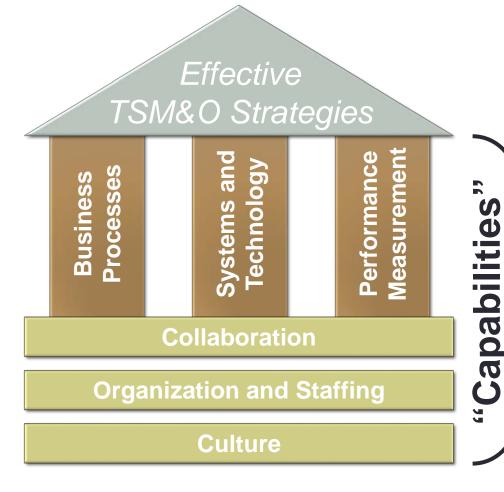
Champions vs Culture

NCHRP 20-7/365 "TSMO Program Planning Experiences

In your opinion, has the progress of TSMO activities in your agency been largely due to an internal champion?



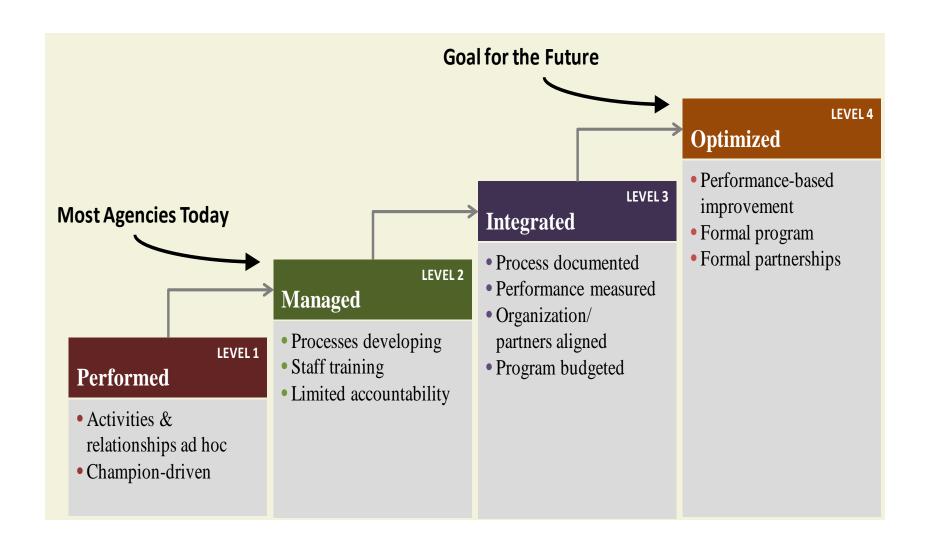
The "Dimensions" of Capability



Business and technical processes support strategies

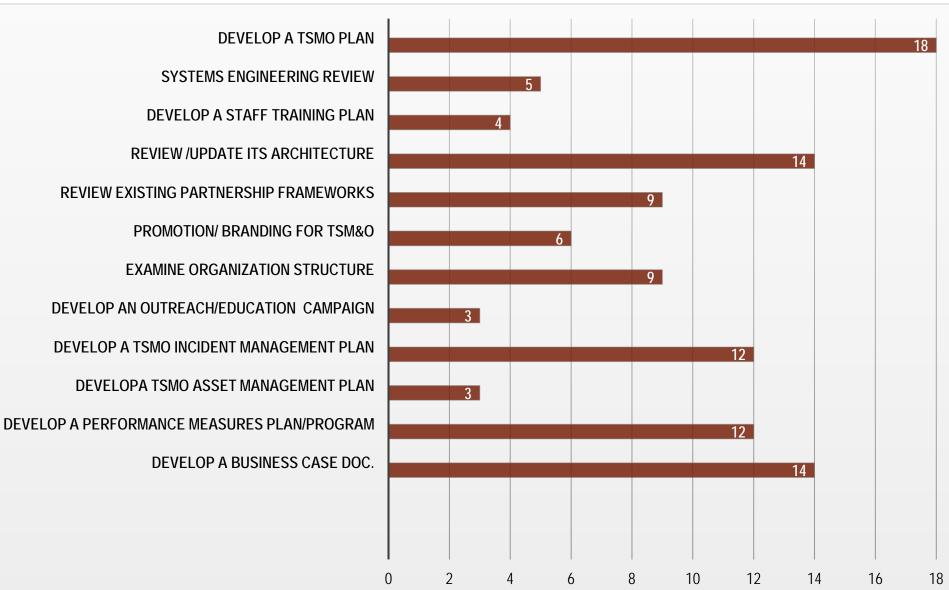
Organization and relationships support processes

Levels of Agency Capability Maturity





CMM Implementation Actions



Context of TSMO Program Planning

- Strategic Highway Safety Plans
- Congestion Management Plans
- ITS Deployment Plans
- Regional & Statewide ITS Architectures
- Regional Concepts of Transportation Ops
- Strategic TIM Programs
- SHRP CMM Method

• . . .



Impetus for TSMO Program Planning

- 1. Recognizing Organizational Culture as the Challenge & Transcending Champions
- 2. "Systematizing" TSMO Organizational Development (...beyond CMM)
- 3. Penetrating the **System Planning** Process(es) & Institutionalizing **Systems Engineering** Principles
- 4. Accommodating Dynamic Public-Private Business Models

Purposes of TSMO Program Planning

- A. Define (or clarify) <u>program mission, vision, goals, objectives</u>, and <u>performance measures</u>
- B. Describe, contextualize, & interconnect <u>program</u> <u>components</u> and subcomponents
- C.Establish (or clarify) organizational <u>roles, responsibilities</u>, & strategic relationships (internal/external)
- D.Recommend & <u>prioritize actions</u> to improve program components & commit resources
- E. <u>Inform and influence</u> internal stakeholders, partners, policy-makers, & customers
- F. Facilitate <u>change management</u> in refining the DOT's roles & responsibilities

TSMO Program Planning Core Elements



Considerations

- A. Business Process Analysis Methodology (SHRP L01)
- B. TSMO Decision Support Systems & Reliability Data Analysis
- C.Regional Operations Forums, Workforce Development Initiatives, & State DOT TSMO Training Programs
- D.Connected & Automated Vehicle Planning
- E. End of SHRP Implementation

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