

**Improving California's
Transportation
Project Delivery Through
Better Information Management**

**AB 1012
COMPREHENSIVE
MANAGEMENT INFORMATION SYSTEM
PLAN**

Department of Alcoholic Beverage Control
 Department of Corporations
 Department of Financial Institutions
 California Highway Patrol
 California Housing Finance Agency
 Department of Housing & Community Development
 Department of Managed Health Care



Department of Motor Vehicles
 Office of the Patient Advocate
 Department of Real Estate
 Office of Real Estate Appraisers
 Stephen P. Teale Data Center
 Office of Traffic Safety
 Department of Transportation

BUSINESS, TRANSPORTATION AND HOUSING AGENCY

March 13, 2001

To Governor Davis and Members of the California Legislature:

It is with great pleasure that I send you the attached report: *Improving California's Transportation Project Delivery Through Better Information Management: AB 1012 Comprehensive Management Information System (MIS) Improvement Plan.*

Last year Governor Davis proposed and the Legislature approved an unprecedented investment of more than \$8 billion in critical transportation improvements throughout California to alleviate the growing transportation congestion that threatens California's economy and our quality of life. In making this investment, Governor Davis and the Legislature emphasized the need make efficient use of public funds, and to accelerate these transportation improvements. Governor Davis furthered this thought when he said "As some of you know, earlier this year, I signed Assembly Bill 1012 (by Assemblyman Tom Torlakson), a bill to cut through the red tape and accelerate transportation project delivery here in California."

This report represents a critical step toward this goal. The report identifies strategies to speed the delivery of transportation projects and improve accountability in the use of public funding through the use of management information systems. The connection between our information systems and transportation improvements is perhaps best captured in the vision statement developed by the AB 1012 MIS Advisory Committee: Sharing mission critical information among the transportation community will position California to maximize available funding and efficiently deliver transportation improvements to its' citizens.

This report is the result of work of a committee of distinguished members of California's diverse transportation community. I would like to recognize the hard work of the individuals who freely gave of their time and expertise to serve on the AB 1012 Management Information Systems Advisory Committee and Technical Subcommittee. The names of these dedicated individuals are listed in the appendices to the report. In particular, I would like to thank Senators Tom Torlakson and Betty Karnette for their leadership in sponsoring Assembly Bill 1012 when they were Chairs, respectively, of the Assembly and Senate Transportation Committees.

The successful and timely delivery of transportation projects requires continuous access to accurate information by Caltrans and its partners in local government and the private sector. Perhaps the most significant contribution of the Advisory Committee is the



delineation in the attached report of the most critical data needed by state and local transportation officials to more effectively manage transportation project delivery.

Beyond this listing of critical data elements, the Advisory Committee analyzed the capabilities and shortcomings of the information systems currently used by Caltrans and its partners. As might be expected, these current information systems do not fully meet the needs of the transportation community. The Advisory Committee developed a plan and process that will, over time, create a system that will meet these needs.

No one report can solve the many complex challenges facing California's transportation community as it strives to improve project delivery timeliness and cost effectiveness. The planning represented in this report provides the objectives and measuring devices, organizational structure, and estimated costs of moving forward. Key recommendations of the plan include:

1. Develop and deploy a universal transportation project identifier methodology suitable to all stakeholders;
2. Provide access to mission critical transportation project information by all transportation partners;
3. Conduct a high-level assessment of its information technology environment and develop an enterprise architecture and a strategy for its development;
4. Develop a data dictionary for informational elements necessary for the analysis of the veracity of ongoing transportation projects;
5. Deploy of a decision support system and operational convention among stakeholders; and,
6. Establish organizational entities responsible for managing relationships between stakeholders and responding to identified transportation management challenges.

I hope that you find this report useful as we strive to improve our transportation systems and in so doing improve the economic opportunities and quality of life for all Californians.

Sincerely,



MARIA CONTRERAS-SWEET
Secretary

EXECUTIVE SUMMARY

To maintain California's robust economy and meet the mobility needs of our ever growing population, transportation improvements must be delivered to the public more quickly and efficiently. In signing AB 1012 into law, Governor Davis recognized the need to expedite the delivery of state and local transportation projects. This report establishes a blueprint that will help achieve this goal by improving management information systems utilized by the transportation community. The report is a result of work done by a committee of distinguished members of the state's most senior transportation and information technology executives and advisors.

The transportation community recognizes the trust that the taxpayers have placed upon them in the administration of transportation funds. With this trust comes the responsibility to deliver transportation improvements on time and within budget. Successful delivery requires partnership and collaboration among many participants. A key component to the delivery effort is the ability to universally define projects and access accurate and timely information for that project. The Advisory Committee examined what information is needed, who needs the information and what systems must be developed to ensure that the information is provided. As might be expected, the current information systems do not fully accommodate the needs of the transportation community.

The Advisory Committee developed a plan and process that will, over time, create a system that will support expedited project delivery, and provide greater accountability to the transportation community's ultimate customer, the traveling public.

The planning represented in this report provides the objectives and measuring devices, organizational structure, and estimated costs of moving forward. Key recommendations of the plan include:

1. a universal transportation project identifier methodology suitable to all stakeholders be developed and deployed;
2. access to mission critical transportation project information be made accessible as quickly as possible;
3. the transportation community conduct a high-level assessment of its information technology environment and develop an enterprise architecture and a strategy for its continued improvement;
4. the development of a data dictionary for informational elements necessary for the analysis of the veracity of ongoing transportation projects;
5. the deployment of a decision support system and operational convention among stakeholders; and,
6. the establishment of organizational entities responsible for managing relationships between stakeholders and responding to identified transportation management challenges.

The implementation of this plan can and should begin immediately. Several of the recommendations can be accomplished in the short term, and provide substantial benefits ahead of the entire plan being in place. In fact, what might be perceived as a relatively small item such as developing a common project identifier, can equate to substantial achievements in project delivery and the administration of funds. The issues of implementation funding for the plan should be resolved through the State's budget processes. The Advisory Committee believes that the monetary benefits of timely transportation project completion will compensate for the cost of implementation.

1 BACKGROUND

1.1. AB 1012

Assembly Bill 1012 was signed by the Governor in October 1999 and was chaptered in 1999 as an urgency measure. Among other things, the statute required the Secretary of Business, Transportation and Housing Agency to appoint a committee consisting of various city, county and state stakeholders, and for the committee to develop a plan for a management information system to improve transportation project monitoring and delivery. This report constitutes that plan.

1.2. Scope

Section 3 of AB 1012 details the Legislative scope of the Management Information Plan. Specifically the plan is required to address the following issues:

- ✓ *Improve project tracking and monitoring capabilities of transportation projects.*
- ✓ *Update Caltrans' information management systems to modern standards that reflect current public and private practices and technology.*
- ✓ *Closely monitor the use of federal transportation funds to ensure full and timely use of those funds.*
- ✓ *List the data that would be required to provide necessary project accountability and tracking, including, but not limited to, requirements for specific project identification, budgeting, scheduling, milestone reporting, expenditures, and progress reports.*
- ✓ *Develop protocols regarding input and maintenance of the system.*
- ✓ *Recommend improvements to the department's internal data management system that can be implemented in phases, complementing existing efforts within the department.*
- ✓ *Identify the anticipated costs of building and operating a project management MIS system and describe the appropriate procurement process.*
- ✓ *Develop a system designed to reflect the diverse constituency of agencies that may need access to the system, including, but not limited to, regional transportation planning agencies, self-help sales tax authorities, local cities and counties, transit districts, and other recipients of funds under the state transportation improvement program.*

These requirements are in addition to requirements of previous bills (e.g., SB 45), as well as requirements of other jurisdictions especially the federal government with regards to tracking of funds per project and within projects. (The texts of AB 1012 and SB 45 are contained in Appendices B and C.)

1.3. Plan Methodology

The Management Information System (MIS) Advisory Committee members were selected from a broad range of representative stakeholders including cities, counties, regional transportation organizations, and other stakeholders. The Committee established a working MIS Technical Subcommittee to carry out the necessary research and analysis. Assigned Caltrans staff further supported the committee. Appendix A contains a listing of the Advisory Committee members, Technical Subcommittee members, and the assigned support staff.

The Technical Subcommittee carried out an in-depth review of the business requirements of stakeholders relative to state transportation project management and funds management supportable by management information systems, a review of existing Caltrans management information systems, and an examination of industry best practices. As a result, the Advisory Committee established MIS needs for which alternatives and recommendations were developed. In addition to the Plan's development and consensus within the working committee members, drafts of the findings and plan were reviewed by stakeholders at large. Thus, this report and its findings are not the product of any one agency.

1.4 Plan Report Structure

The MIS Advisory Committee's findings as represented in this report are presented as follows:

Section 1	BACKGROUND
Section 2	BUSINESS PROCESS REQUIREMENTS
Section 3	BUSINESS GOALS AND OBJECTIVES
Section 4	MIS DEVELOPMENT PLAN
Appendices	A – Committee members
	B – Text of AB 1012
	C – Text of SB 45

AB 1012 MIS Advisory Committee

Maria Contreras-Sweet	Secretary, Business, Transportation and Housing Agency
Jim Beall	Supervisor, Santa Clara County
Elias Cortez	Director, Department of Information Technology
Brent Felker	Deputy Director, Project Development, Department of Transportation
Betty Karnette	California State Senator
Allen Lawrence	Commissioner, California Transportation Commission
Larry Magid	Deputy Secretary, Business, Transportation and Housing Agency
Shelley Mateo	Program Budget Manager, Department of Finance
Jeff Morales	Director, Department of Transportation
Miguel Pulido	Mayor City of Santa Ana
Bob Remen	Executive Director, California Transportation Commission
Ken Sulzer	Executive Director, San Diego Association of Governments
Tom Torlakson	California State Senator

AB 1012 MIS Technical Subcommittee

Larry Magid	Deputy Secretary, Business, Transportation and Housing Agency
Joyce Amerson	Transportation Manager, City of Santa Ana Public Works
Wally Baker	Vice President, Los Angeles Economic Development Corporation.
Tom Bertken	Vice President, Bechtel Infrastructure Corporation
Sue Bost	Principal Program Budget Analyst, Department of Finance
Robert Caravella	Divisional Vice President, Computer Associates
Elias Cortez	Director, Department of Information Technology
Chuck Coulson	Executive Director, Oracle Services Industries Exchange Team
Mary Lou Gusman-Davis	Infrastructure Section Manager, Department of Information Technology
Dean Delgado	Principal Transportation Analyst, Orange County Transportation Authority
Brent Felker	Deputy Director, Project Development Department of Transportation
Gary Gallegos	District Director, District 11, Department of Transportation
Dan Grimm	System Engineer Manager, Compaq
Roy Hernandez	President and CEO, ThirdWave Corporation
Debbie Leibrock	Chief, Technology Investment Review Unit, Department of Finance
Dennis Martinez	Senior Project Manager, Parsons Brinckerhoff
Shelly Mateo	Program Budget Manager, Department of Finance
Therese McMillan	Manger, Funding and External Affairs, Metropolitan Transportation Commission
George Pla	President and CEO, Cordoba Corporation
Bob Remen	Executive Director, California Transportation Commission

Caltrans Core Team

Mark Rayback	Chief, Office of Project Management Systems Implementations
Jill Meyers	Office of Project Management Systems Implementations
Patti-Jo Dickinson	Office of Project Management Systems Implementations