PDQ
JANUARY 2014
PROJECT DELIVERY QUARTERLY
Construction • Design • Engineering Services •
Environmental • Project Management • Right of Way

Highway 1 -Devil's Slide.

Partnering for Success

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Chief Engineer

Project Delivery Leads the Way

I am pleased to present the January 2014 edition of the *Project Delivery Quarterly* (PDQ). This, and future editions, will highlight how Caltrans is successfully responding to current challenges, optimizing efficiency and planning strategically to deliver high-quality transportation projects.

To continue to be a national transportation leader, Caltrans must skillfully adapt to shifting terrain and redouble our ongoing efforts to form effective partnerships. Partnering is now not only a sound business practice; it's a fiscal necessity in order to best serve the mobility needs of the state. California is embarking on a new era of transportation funding— with bond funded programs nearing completion and traditional funding sources in decline, the outcome will be fewer capital projects.

Historically, transportation improvements in California received funding from numerous sources. Caltrans strategically used all available transportation related funds, including the State Highway Operations and Protection Program (SHOPP), State Transportation Improvement Program (STIP), local funding and bond funding to improve statewide mobility. It is currently projected that future funding allocations for state highway improvements will come primarily from STIP and local sources. From 2013/14 through 2016/17, approximately 62% of transportation dollars will be under local control. Due to fewer projects on the horizon, our staffing levels have also decreased, primarily through attrition. Capital Outlay Support staff declined from approximately 12,500 in 2008/09 to just over 10,000 this year.

To efficiently deliver quality projects, products and services and to effectively meet state transportation expectations and needs, we must strategically plan capital and support costs, plan and meet major milestones, implement quality management and risk management plans and strengthen our partnering skills.

Thank you for your extraordinary public service and for your professional dedication to improving mobility across California. I am proud to highlight some of the recent and ongoing Caltrans and Project Delivery achievements on the following pages.

—Karla Sutliff
Project Delivery Deputy Director
(Chief Engineer)

Division of Construction: Excellence in Partnering

The Division of Construction's mission is to ensure quality projects that are constructed safely, within budget, and on time. The outcome is a robust transportation system that contributes to a growing economy, improved safety, and the well-being and quality of life for our citizens. Caltrans is currently administering approximately 700 construction contracts totaling nearly $11.5 billion.

Each year the Division develops specific focus areas to assist in meeting its mission. The 2012/13 focus areas included the Caltrans Construction Partnering Steering Committee (CCPSC) initiatives, the Construction Management System (CMS) and rewriting the *Construction Manual.* Addressing these focus areas led to a number of measurable successes. Implementing the CCPSC initiatives resulted in more projects than ever utilizing partnering best practices, a collaborative approach to problem solving. The new CMS will replace a 45-year-old legacy computer system and will be capable of managing construction operations and ensuring timely payments to contractors. Although there have been great strides and successes in the development of CMS, there are still ongoing efforts to be completed before final implementation. Finally, the effort to rewrite the entire *Construction Manual* to align with the *2010 Standard Specifications* took a great deal of coordination and cooperation from key stakeholders to make this effort a success.

This year's focus areas include developing the *2015 Standard Specifications*, which will continue to improve on the advances made in the *2010 Standard Specifications*. Another effort is to develop a strategic plan to implement new innovative technologies,

Above: 2013 Excellence in Partnering Awards

The Caltrans Excellence in Partnering Awards recognize project teams who use Partnering and its best practices to facilitate successful project implementation. In 2013, 23 award-winning projects highlighted the benefits of partnering to Caltrans, its partners and the public – projects that finished safely, on time and within budget.

such as automated machine guidance, subsurface utility engineering, and intelligent compaction. The Division will also coordinate with our partners to improve safety for workers and the public through 12 safety initiatives.

In addition to dedicating resources to the focus areas, the Division also utilizes additional tools such as the Contract Administration Process Evaluation (CAPE) to optimize performance and efficiency. Last year's CAPE report identified pavement smoothness, oversight work, the construction general permit, and CPM (critical path method) scheduling software as essential efforts. This year's report will focus on the dispute review board process, safety, and construction records management.

In addition to focus areas and CAPEs, and to assist District and Regional Managers with implementing quality construction programs, the Division also does a significant amount of internal performance tracking in areas such as safety, schedule, and cost.

Finally, the Division of Construction assists with the administration of some of the highest profile projects in the state, including Doyle Drive, Devil's Slide, the Caldecott Tunnel Fourth Bore, and the East Span of the San Francisco-Oakland Bay Bridge. Division offices work together to provide assistance in resolving claims, putting together complex change orders, implementing labor compliance laws and regulations, and by developing policy, procedures, training, guidance, and tools.

Please visit the Division of Construction, online:
http://onramp/hq/construction/

Main Street, California

The Division of Design, in partnership with Caltrans Maintenance and Operations and Planning and Modal Programs, recently completed a comprehensive evaluation of main street concepts to assist Caltrans, agency partners and local stakeholders to improve the vitality of State highway main streets. Six hundred internal and external stakeholders were enlisted to help shape the update of the document *Main Street, California (Main Street)*.

California State Highways that are also main streets through communities are challenged with balancing the public's need for roadways that provide local, regional and statewide connections, with local needs for a vibrant community street. Just as mobility is essential to California's economic and civic vitality, the planning, design and operation of main streets is tied to the prosperity and quality of life for local communities.

Incorporating principles of livability and sustainability into main street projects can help balance the need for an efficient multimodal transportation facility with local needs for a main street that functions as the heart of the community.

Some design solutions highlighted in *Main Street* will be familiar or slight variations of traditional strategies, while others will entail a new and broader vision of how main streets can benefit travelers and the local community.

Making Main Street a Complete Street

State highway main streets are ideal locations for Caltrans to showcase its dedication to providing access to all travelers. In keeping with Deputy Directive 64-R1, and the recently updated Highway Design Manual, incorporating complete streets concepts into main street projects is essential to provide comfortable access for all.

Livable Main Streets

Livability refers to the degree to which the public realm improves the quality of life for people who use the space.

Livable neighborhoods require that streets function as transportation facilities as well as vibrant public places. Main street improvements can significantly bolster community efforts to create and preserve livable neighborhood centers. Communities may have goals of preserving historic or unique elements along main streets; inviting suitable new businesses and development; and energizing public spaces for civic activities and community celebrations such as parades and special events.

Main Street describes specific roadway and roadside features that can improve main street livability such as the addition of bicycle lanes, wide sidewalks and attractive street trees and landscaping.

Just as an efficient transportation system is the backbone of a vibrant economy, a livable main street can connect communities to the larger state, national and even global economy.

Sustainable Main Streets

Within transportation projects, sustainability balances safety and life-cycle requirements of transportation facilities with stewardship of natural, social and economic resources.

Physical main street improvements that provide comfortable travel options for all transportation modes can support local and statewide plans to meet sustainability goals, including reductions in greenhouse gas emissions. Replacing single-occupant driving trips with walking, cycling, or taking public transit significantly improves environmental quality and public health.

Streets themselves can also be designed and operated to include techniques or materials that support sustainability. *Main Street* describes specific roadway and roadside features that can improve main street sustainability such as the use of recycled materials, innovative storm water treatment facilities, and regionally appropriate street trees that reduce heat islands and support local ecosystems.

Right: A main street improvement project on State Route 49/143 (High Street) in Auburn improved traffic flow, increased the visual appeal of the street, and included sustainable design features like a storm water treatment area that includes street trees and landscaping.

Fiscal sustainability entails consideration of life-cycle costs of transportation facilities. Caltrans must ensure that transportation investments, including those along California's main streets, are cost-effective and efficient from the initial capital expenditure through maintenance and operations.

Main streets that are planned to support multimodal networks and designed to include features or materials that contribute to ecological health, will have the greatest number of sustainability benefits for the state and local communities.

Main Street Partners

Arriving at a shared vision for how to incorporate livability and sustainability principles into main street projects requires a collaborative approach during planning and design, construction, operation and maintenance. Since transportation solutions will vary from place to place depending upon local context, transportation needs, and the vision of the local community, it is important that early planning efforts include discussion of each partner's goals, needs, abilities and limitations.

To best serve community needs, some main street elements may need to be funded, designed, constructed, maintained and/or owned by communities or their local agencies. Caltrans and stakeholders must determine financial and maintenance activity commitments for proposed design elements during early planning and project development. Collaborative negotiation that identifies constraints and assigns roles and responsibilities (for various operational activities and roadway features, and their associated funding) enables appropriate transportation decisions for the design of main streets.

Caltrans multidisciplinary teams, including engineers, planners, landscape architects and environmental and historic preservation professionals are essential to identify and address the full range of main street project needs. Multidisciplinary teams with input from stakeholders and partners can collectively identify the best strategies for addressing traveler and worker safety, multimodal access, transportation system efficiency, livability, sustainability and prudent initial and life-cycle fiscal investments. *Main Street* is a tool to assist these professional teams in developing main street projects that improve the vitality of the transportation system and local communities.

***Main Street, California* is available online: http://www.dot.ca.gov/hq/LandArch/mainstreet/main_street_3rd_edition.pdf**

Division of Project Management

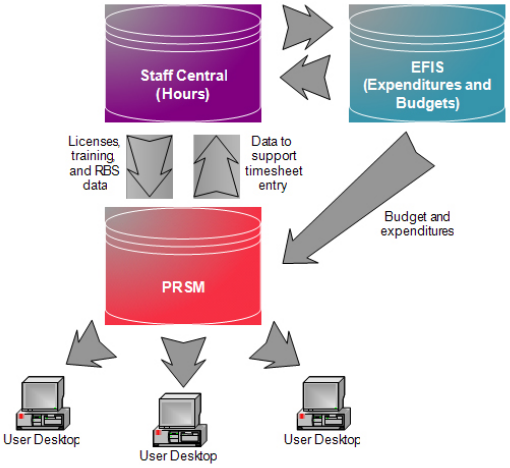
Project Resource and Schedule Management (PRSM)

Project Resource and Schedule Management (PRSM) is an enterprise web-based utility to optimize efficient project management throughout the entire project life-cycle. The implementation of PRSM radically streamlines and improves the way Caltrans Capital projects are planned, resourced and managed. It provides comprehensive resource information in real-time and offers thorough internal and external reporting capabilities.

The core of PRSM is a commercial off-the-shelf utility called Clarity, which was configured and customized specifically to meet Caltrans needs. PRSM replaces the older Caltrans project management tool, eXpert Project Manager (XPM).

PRSM Interfaces

Many capabilities of the PRSM system are due to its interface with the Caltrans time keeping system (Staff Central) and accounting system (E-FIS). The exchange of information between these three systems takes place on a nightly basis, and enables users to have access to project planned, versus actual statewide information, in real-time.



Key PRSM Benefits

Approximately 10,000 Project Delivery staff from Project Management, Design, Environmental, Right of Way, and Construction, as well as others working on State highway projects already use the PRSM system.

Use of PRSM has significant benefits for Caltrans which include:

- Enabling Caltrans to fully meet reporting requirements mandated by the Legislature and the California Transportation Commission
- Increasing efficiency in building resource-driven schedules
- Enabling project and functional managers the ability to status projects on a timely basis
- Facilitating critical path scheduling and the ability to assign individuals and/or units accordingly
- Enabling Caltrans to identify skilled individuals and resource them to specific tasks
- Providing current cost and schedule information via a web browser
- Ensuring accurate labor charges due to integration with Staff Central
- Facilitating the use of Task Management
- Estimating future workloads for supervisors and managers
- Providing information on resource availability
- Allowing comparison of project costs versus the budget

PRSM Implementation

Implementation of the PRSM system began with the initial roll-out in Districts 7 and 11, and concluded in late July with the statewide roll-out. Currently, all Caltrans districts, headquarters (HQ) and Division of Engineering Services (DES) are live, all Capital Outlay Support (COS) and Delivery Project data and information are in the PRSM system, and there is statewide use of the system. PRSM users can access the system from the CTPASS: **https://prsm.ctpass.dot.ca.gov**

PRSM Training

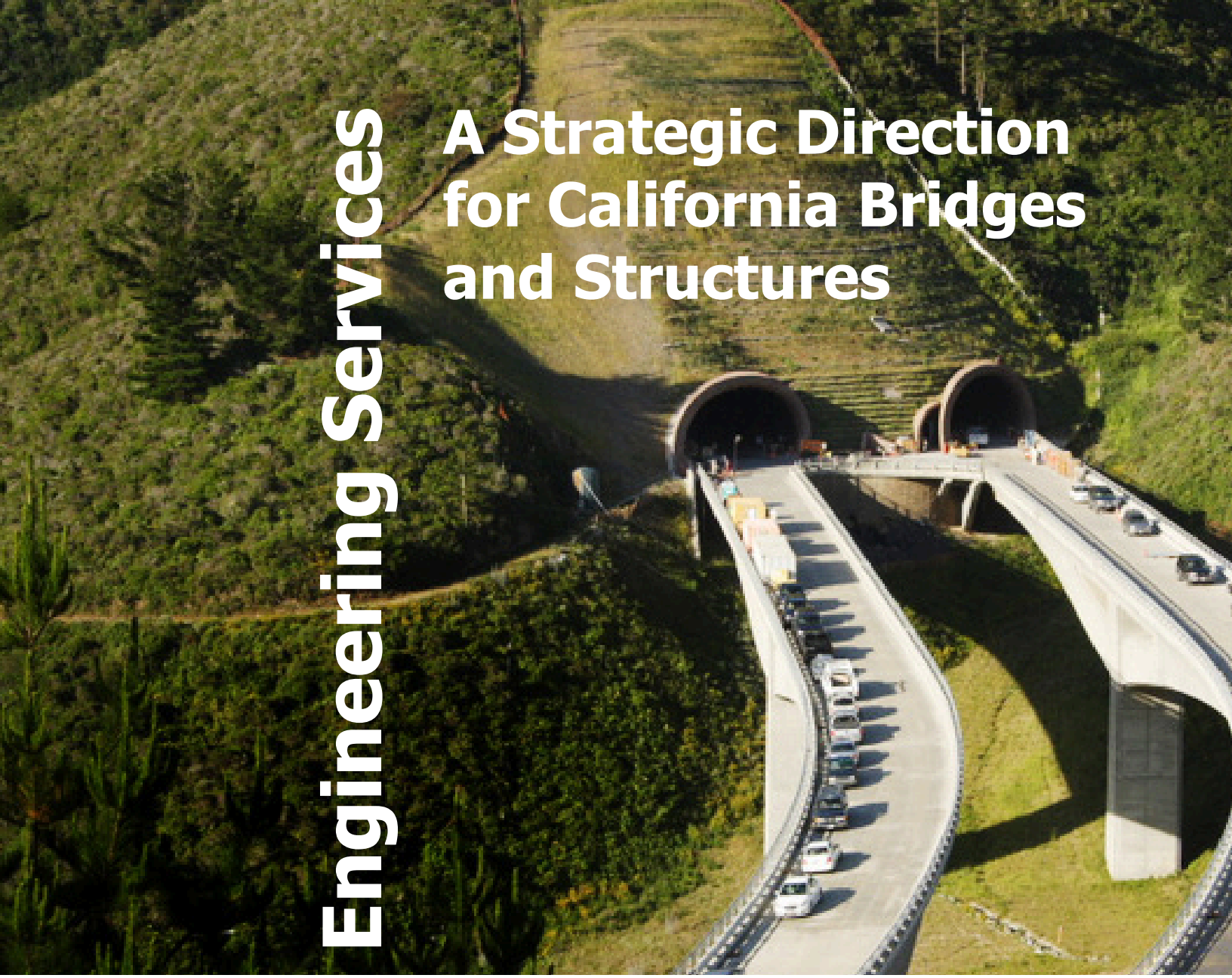
Users in DES, HQ and the Districts received training consisting of the core courses: *Project Management with PRSM, Task Management with PRSM, Custom Reporting, Program Management with PRSM* and *Planning with PRSM*. These courses provided live hands-on training which included instructor demonstrations followed by student exercises. Delivery of other courses included *Subject Matter Expert* (SME), *Train-the-Trainer*, *Readying Converted Projects, PRSM Prep* and *Open Workbench* (OWB) training. User sessions were also conducted to help the Project Managers and Task Managers to review and update their project data in the PRSM system.

PRSM User Support

Statewide PRSM Support Desks are available to answer questions and to address any system issues. Webinars are also currently on-going statewide to assist PRSM users.

Additional PRSM information, including a list of frequently asked questions (FAQs), is available on the following website:

http://onramp.dot.ca.gov/hq/projmgmt/index.jsp?pg=109



Division of Engineering Services

A Strategic Direction for California Bridges and Structures

The recently enacted federal transportation legislation MAP-21 is a performance and outcome-based highway program that recognizes the national shift in focus from building the transportation system to preservation and accelerated project delivery. With dwindling resources available for transportation improvements, there is constant pressure to optimize solutions faster while maintaining high quality.

Caltrans is moving toward asset management as a strategic and systematic process for effectively operating, maintaining, upgrading, and expanding physical assets throughout their life-cycle. In support of this new direction, the Divisions of Engineering Services (DES), Maintenance, and Local Assistance are partnering to develop the *California Bridges and Structures Strategic Direction*.

Above: The Devils Slide project on Highway 1.

The *California Bridges and Structures Strategic Direction* will enable Caltrans to maximize service performance, ensure quality, and minimize total life-cycle costs by:

- Focusing on long-term, cost-effective, and sustainable strategies for comprehensive management of bridges and structures statewide
- Providing an integrated and disciplined direction to improve the design, construction, inspection, and maintenance of our highway infrastructure assets
- Identifying specific goals and objectives that will provide Caltrans with a sustainable and efficient technical support system; support the entire life-cycle of bridges and structures on the state and local systems; and implement efficiencies and innovations that will lower support and capital costs, resulting in durable and long-lasting bridges and structures
- Focusing on strategic implementation of proper tools, deployment of highly trained staff, application of performance-based specifications, and streamlined efficiency of bridge and structures-related functional activities
- Providing the framework for setting Caltrans Structures Policy Board priorities, thereby providing focus and priorities for all Caltrans structures guidance, policies, and practices used by the transportation community

The current draft of *California Bridges and Structures Strategic Direction* addresses comments received from the transportation community. Release of the completed guidance will be announced on the DES website.

Please visit the Division of Engineering Services online:

http://www.dot.ca.gov/hq/esc/

CALTRANS PROJECT DELIVERY **is made up of several functional areas, which all provide a core purpose in solving transportation problems. Under the leadership of the Chief Engineer and the 12 District Directors, the functions of Project Management, Environmental Analysis, Design, Right of Way and Land Surveys, Engineering Services, and Construction work together to conceive, design, and build highways, bridges, and other transportation facilities for the traveling public.**

http://www.dot.ca.gov/hq/projdev/