

PDOQ

SUMMER 2014

PROJECT DELIVERY QUARTERLY

Construction • Design • Engineering Services •
Environmental • Project Management • Right of Way
and Land Surveys

Sustainable Investments and Project Delivery





Sustainable Investments and Project Delivery

I AM PLEASED TO PRESENT the Summer 2014 issue of the *Project Delivery Quarterly* (PDQ). In the last few months, Caltrans has been vigorously pursuing new opportunities to improve efficiencies, build on past successes, and strengthen our partnerships with statewide partners and stakeholders. With evolving fiscal challenges, growing stresses on our natural environment and increasingly complex demands on our transportation system, we must deepen our commitments to continuous quality improvement and innovation to help California meet long-range sustainability goals. This edition returns to the topic of sustainability and specifically focuses on how Project Delivery employs principles of economic sustainability in our program and projects.

As highlighted by the recent impasse with the federal Highway Trust Fund (which provides California with \$3 billion in federal funding annually for transportation projects), cost-effective methods and innovative strategies for delivering projects at the most optimal cost is a concern that is shared nationwide. The federal Highway Trust Fund is funded largely through gas taxes, and because many Americans are driving more fuel efficient cars, and a growing number of Americans are driving less in general, the long-term sustainability of transportation funding will require innovative solutions. While we await a long-term remedy to address federal transportation funding, it is clear that all transportation agencies and departments must continue to do more with less.

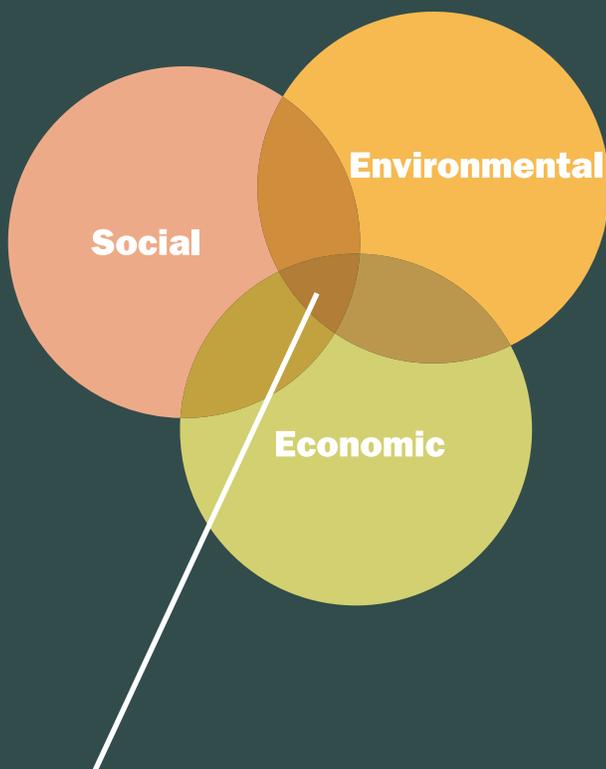
Caltrans, like all government entities, exists in order to provide value to the public. As good public stewards we strive to find the optimal point at which a project or program provides the maximum value for its users without using excess resources. This aligns with the very definition of sustainability which is inherently focused on finding the most efficient use of assets in order to conserve fiscal and natural resources. With this perspective in mind, it is evident that sustainability is a theoretical underpinning to both risk management and value analysis, which are processes and programs that Caltrans has long utilized. The first two articles in this PDQ highlight past successes and recent innovations

Front cover: The "Fix 50" project on U.S. Highway 50 in Sacramento. Caltrans rehabilitated the W/X Viaduct to extend the service life, significantly reducing maintenance expenditures. The completed project also provides widening at the shoulders, new joint seals, new concrete barriers and railings, energy-efficient lighting standards, and enhanced safety. This project was completed ahead of schedule and was the result of a successful partnership between Caltrans, the City and County of Sacramento, and the Sacramento Area Council of Governments (SACOG).



Sustainability

is long-term stewardship that balances environmental, economic and social equity factors.



The area of overlap identifies the highest degree of sustainability.

The **April 2014 PDQ** provided a comprehensive discussion of sustainability principles and outlined many Caltrans activities related to sustainability.

This issue of the PDQ focuses on Project Delivery's commitment to **"sustainable investments"** which highlights how economic sustainability principles are incorporated into our projects and processes.

within Project Delivery's use of risk management and value analysis. The third article highlights the Division of Construction's rigorous adoption of quality improvements which strengthen Project Delivery's ability to be wise stewards of fiscal resources.

Caltrans executive management continues to work on teams with the California State Transportation Agency to implement quality improvements and modernization strategies recommended by the internal Caltrans Program Review and the review performed by the State Smart Transportation Initiative. One of the teams is actively pursuing the development of an Asset Management System which is a powerful economic sustainability tool that ensures that financial forecasting, system preservation goals and strategic planning efforts are fully aligned. I will continue to provide updates as this and other teams report on their important milestones.

I thank you for your continued dedication to improving California's transportation system, and for your daily commitment to helping Project Delivery succeed.

A handwritten signature in black ink, appearing to read 'KSutliff'.

Karla Sutliff
Project Delivery Deputy Director
(Chief Engineer)

Managing Risk

A Sustainable Investment Strategy

CALTRANS EMPLOYS RISK MANAGEMENT as an essential component of sustainable investment strategies which require controlling and reducing risk related to fiscal and physical assets, schedules, and human resources. Caltrans employs risk management to identify potential risks and to prioritize risk reduction measures that can help address project or program vulnerabilities. Risk analysis is used to identify strategies for responding to negative risks and also uncovers strategies for maximizing on uncertainties that produce positive outcomes or opportunities.

A highly successful use of risk management principles is evident in the seismic screening program initiated by the Division of Engineering Services in 1990. The seismic retrofit program evaluates major factors that affect seismic performance, such as structural details, earthquake fault proximity, soil conditions, etc., as well as other factors for hazard and potential risks. Continual screening of bridge inventory and evaluation of hazard and risk factors allows Caltrans to rank bridges in order of vulnerability. Risk assessment and the subsequent prioritization process allows Caltrans to deploy resources in the most efficient manner to protect transportation assets, fiscal resources, the state's economy and public safety.

Enterprise Risk Management

In February 2013, Caltrans launched the Office of Enterprise Risk Management (OERM) to enhance and expand the application of risk management to the business processes of the entire Department. Enterprise risk management is a strategic business discipline that supports the achievement of an organization's objectives by addressing the full spectrum of its risks, and managing the combined impact of those risks as an interrelated risk portfolio. OERM works to support a sustainable, risk-conscious workforce, and to inspire ethical conduct, engagement, and empowerment of employees to achieve the Caltrans Mission and Vision.

OERM is primarily engaged with enterprise and program level risk, and conducts Caltrans-wide risk assessments, providing ad hoc risk identification



Risk management- “identifying and responding to the inherent uncertainties of managing a complex organization and its assets.”



RESPONSIBILITY: Executives

TYPE: Risks that impact achievement of agency goals and objectives and involve multiple functions

STRATEGIES: Manage risks in a way that optimizes the success of the organization rather than the success of a single business unit or project.

RESPONSIBILITY: Program managers

TYPE: Risks that are common to clusters of projects, programs, or entire business units

STRATEGIES: Set program contingency funds; allocate resources to projects consistently to optimize the outcomes of the program as opposed to solely projects.

RESPONSIBILITY: Project managers

TYPE: Risks that are specific to individual projects

STRATEGIES: Use advanced analysis techniques, contingency planning, and consistent risk mitigation strategies with the perspective that risks are managed in projects.

Transportation Risk Management: International Practices for Program Development and Project Delivery, FHWA Report PL-12-029.

Risk analysis can be performed at the Agency (Department), Program or Project level.



and management support in an effort to ensure that decisions are strategic, prudent, and successfully support organizational objectives. Applying a risk based approach to business processes provides a broader understanding of threats and opportunities that may affect objectives, and facilitates collaborative, targeted, and value-added decision making. Earlier this year, OERM released the first “Caltrans Enterprise Risk Profile,” which captures 15 “Top Categories of Risk to Caltrans’ Objectives.” The risk profile provides organization-wide visibility into how these risks can influence Caltrans’ ability to deliver on its mission to “provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability.” The risk profile is a tool that enables strategic resource allocation and priority-setting with respect to Caltrans’ risk tolerance. Of particular interest to the Project Delivery Program was the category of risk entitled: “Streamline the Delivery Process.”

Project Delivery already has initiated some actions to address this risk, and has additional actions under development. Some of the actions already underway that are listed in the risk profile include the continued pursuit of innovative contracting methods such as the Design Build and Construction Management/General Contractor efforts; fully implementing Right of Way’s Incentive Payment Program to facilitate the project delivery process and reduce support costs; and the organizational streamlining within the Division of Design.

Additional quality improvement and streamlining activities recently undertaken within Project Delivery include the 2013 update to the *Project Delivery Directive 05: Constructability Reviews*, which outlines policy requirements for ensuring project quality and improving communication between construction and design staff (to minimize plan changes at final design phase). Another ongoing action is the Division of Design’s Quality Management System which intends to support “the delivery of quality design products” and uses a risk management criterion as one measure of a high quality design product.

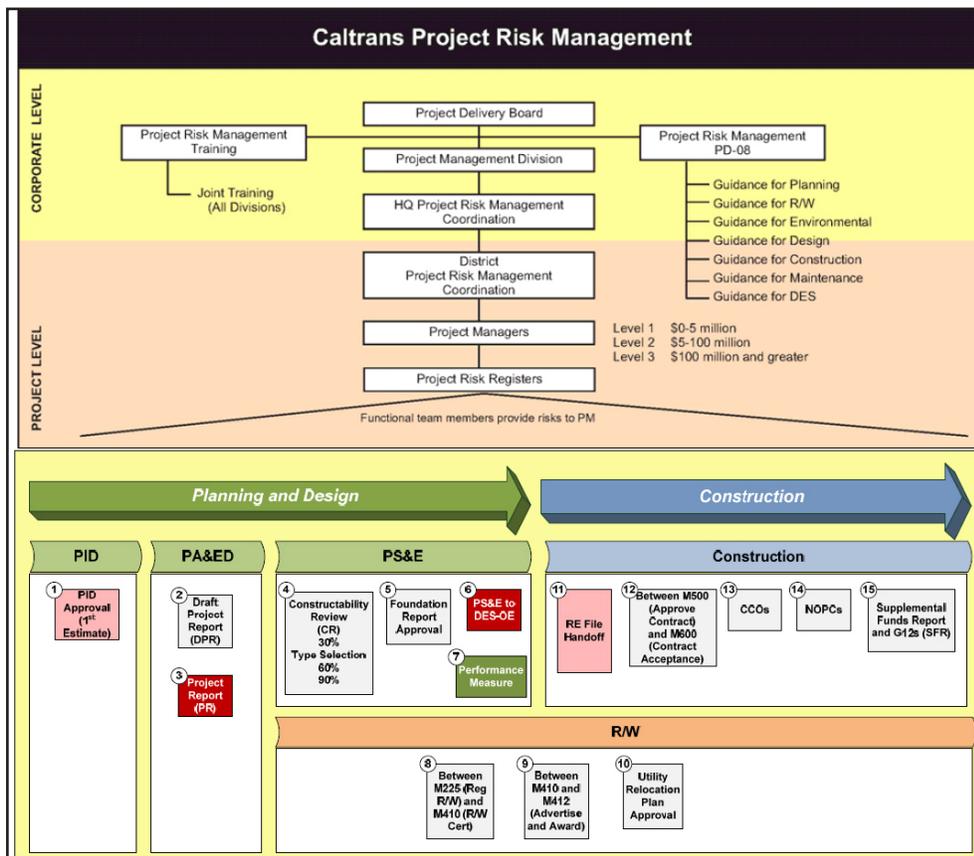
Risk Management and Project Management

The Division of Project Management is responsible for overseeing the implementation and administration of project risk management on Caltrans transportation improvement projects. *Project Delivery Directive (PD-09) Project Risk Management* describes criteria for evaluating project risks, and provides guidance on how to manage the information and processes through effective and standardized communication of risks throughout the project delivery process.

One of the most effective tools to organize risk management information at the project level is through a risk register, which is used on specified projects during all project stages. The risk register serves as a standardized method of communicating and monitoring risk information. Its key function is to provide management, the project delivery team and key stakeholders with relevant information on the main risks faced by the project throughout the life of the project. The risk register documents the processes used to evaluate risk, the likelihood and consequences of various occurrences and makes recommendations for mitigating risks. This process helps ensure that Caltrans delivers quality projects, in a timely manner that are cost effective, and meet stakeholder needs. In the long-term, the use of the Project Resource and Schedule Management (PRSM) on-line project/program management system will allow information collected in risk registers to be compared in aggregate to identify commonly occurring risks, and to evaluate whether any quality improvements could mitigate or eliminate recurring risks.

The Project Risk Management Handbook: A Scalable Approach discusses two important concepts to effective risk management. The first concept is that risk management can be scaled to the level that is appropriate to a particular project’s size and complexity. The second concept is that “accountability checkpoints,” ensure that risks are documented and communicated from project inception through the completion of construction. A formal sign-off at each accountability checkpoint





An overview of the Caltrans Project Risk Management structure. It is divided into Corporate and Project levels. Figure from "Project Risk Management Handbook: A Scalable Approach."

accepts the risks moving forward through the project. All district-originated Plans, Specifications, and Estimate (PS&E) packages submitted to District or Headquarter Office Engineers should be accompanied by a Risk Register Certification Form, per the *Ready to List (RTL) Guide*.

A web-based utility called Risk Management Information System, or RMIS has been developed to assist the district project delivery team (PDT) members in documenting and managing project specific risks. Each district has identified a Risk Management Coordinator (RMC) that is the local subject matter expert on project risk management. The district RMC is the first-tier help to the district end-user. In headquarters, the Division of Project Management RMC is the second-tier of support.

Training entitled "Project Risk Management – A Scalable Approach" and "Project Risk Management for Managers" has been developed. District employees are encouraged to contact their local RMC to enroll in training as it becomes available and to

obtain technical support. All staff in Project Delivery can improve their effectiveness by understanding the risk environment and how they have a direct role in reducing project-related risk.

Through comprehensive evaluation of potential vulnerabilities and opportunities at organizational, program and project levels, Caltrans is employing risk management as a strategic method of making sustainable investments in the transportation system.

More information is available online:

Division of Engineering Services (DES)

<http://onramp.dot.ca.gov/hq/des/>

Division of Administration -Office of Enterprise Risk Management

<http://admin.dot.ca.gov/oerm/>

Division of Project Management- Project Risk Management

<http://onramp.dot.ca.gov/hq/projmgmt/>

Value Analysis:

Sustainable Fiscal Stewardship

IN AN ERA of unreliable transportation funding, the appropriate use of taxpayer dollars continues to be an important transportation agency responsibility. To implement fiscal stewardship on a project by project basis, Caltrans has used Value Analysis (VA) for more than 40 years. Value analysis is a systematic approach to identifying improvements to projects and processes. VA studies, conducted by multidisciplinary teams, result in recommendations for how to optimize project fiscal expenditures, scheduling, performance, constructability, life cycle costs, and maintainability. Meeting safety goals and environmental compliance targets are prioritized throughout the VA process. The Caltrans VA Program is a constant source of innovative solutions, cost-effectiveness, and quality improvements.

The Office of Special Projects in the Headquarters Division of Design manages the VA Program for the entire state. The VA Program maintains a pool of consultant Certified Value Specialist (CVS) VA team leaders to conduct VA studies. Under the leadership of District VA Coordinators (DVAC), individual project VA teams are assembled and assigned a VA team leader to organize and conduct a VA studies for the project. Through team work and the systematic VA approach, the process hails amazing results.

Last year, 26 studies were completed on projects with a total cost (capital and support) of over 3.5 billion. Of the 26 studies, 15 were performed by Caltrans with consultant CVS team leaders. The other 11 studies were performed by our local partners such as cities, counties, and local transportation authorities. The results of these studies were reported in the annual Federal Highway Administration (FHWA) VA Program Performance Report.

Cost savings were derived from the “Accepted Alternatives” proposed by the VA teams and implemented by the decision-makers, project

managers, functional managers, and Project Development Teams (PDTs). In comparing the cost savings to the cost to conduct the studies, Caltrans achieved a Return on Investment (ROI) of 285:1, meaning \$285 in savings for every dollar spent on conducting the studies. (The national average for ROI is about 100:1.) In the 2012/13 federal fiscal year, VA studies identified \$347 million in savings which could then be directed to other transportation improvement projects.

The Joint Stewardship and Oversight Agreement between Caltrans and the FHWA lists four performance indicators/measures for the Value Analysis Program: percent of required studies conducted, number of non-required studies conducted, percent project cost savings, and implementation rate. Caltrans conducted 100 percent of all required studies for the 2012/13 federal FY. In addition, Caltrans performed five studies on projects costing less than the \$50 million threshold for highway projects or the \$40 million threshold for bridge projects. Caltrans also reported an average cost savings of 10 percent, which is almost double the national average, and doubles our five percent performance goal. The implementation rate is determined by comparing the number of proposed recommendations to the number of implemented recommendations. Caltrans’ implementation rate was 57 percent for last year.

In addition to performing traditional project VA studies, Caltrans’ VA program has performed many other activities throughout the years. This year includes:

- Active participation in the American Association of State Highway Transportation Officials (AASHTO) Value Engineering technical committee. Caltrans holds the Chair position and leads the effort in coordinating national engagement. Sharing



information, building best practice databases, and using the Value Engineering (VE) methodology for innovative solutions to project delivery are discussed on a quarterly basis via webinars and teleconferences. In today's changing delivery environment, integrating VE with other federal initiatives such as Every Day Counts (EDC), Context Sensitive Solutions, and Practical Design has proven that VE is the premier tool for project managers and stakeholders alike. Caltrans is also leading the effort in planning for the 2015 Biennial Value Engineering Peer Exchange Workshop in Washington DC where these practices are demonstrated and transferred nationally.

- The team of District VA Coordinators (DVACs) works diligently to ensure the success of the VA program and encouraged District and Local Agency leaders to maximize VA benefits by using the process as a premier project management tool rather than just meeting the mandated thresholds. In 2013, Binh Dang, in District 4, earned the title of "Value Analysis Coordinator of the Year." Each year the Headquarters (HQ) Value Analysis Program evaluates the District and Regional VA Coordinators based on some very stringent criteria. Over the past year, Binh managed six Caltrans project studies and assisted with four local oversight project studies.

- The HQ VA program along with the Districts and Divisions initiated several process studies to streamline and improve the way Caltrans does business. Many of these process studies were in direct response to the Director's performance review and the Department of Finance's "zero-based" budgeting effort. These accomplishments were highlighted in the Program Review Final Report (dated January 2014). Common themes of these studies were to streamline delivery by collaborating with our partners to improve project delivery. These studies are:

- » Design and Right of Way decision making delegation
- » State Highway Operation and Protection Program (SHOPP) Project Initiation

- Document (PID) Process Improvement
- » HQ Office of Business and Economic Opportunity (OBEO) Organization
- » HQ Division of Design Organization
- » Division of Engineering Services (DES) Unbalanced Bid Process and Tools
- » Caltrans' Administration Program zero-based budget organization

Along with these organizational enhancements, Caltrans used the VA job plan to develop several "Strategic Plans" to align the divisions with the Caltrans mission, vision, and goals and to enhance the communication with our external partners. These included:

- *California Bridges and Structures Strategic Direction* – This effort resulted in a document outlining the strategies to guide all statewide efforts related to the delivery, management and preservation of statewide structural assets ranging from retaining walls to bridges.

- *Caltrans Geospatial Strategic Direction* – This study identified strategies for unifying various geospatial efforts distributed between multiple Divisions and Districts within Caltrans.

- *Division of Right of Way and Land Survey Strategic Direction* – This effort resulted in a document outlining the Divisions' goals, objectives and strategies to guide all statewide efforts for the Division to become the premier Right of Way service provider for transportation related projects.

Many of these studies are continuing to work out the details. The VA program will continue to utilize VA studies, national engagement, process studies and strategic planning to enable Caltrans to achieve stewardship and sustainable investment goals.

More information is available online:

Division of Design- Value Analysis Program
<http://onramp.dot.ca.gov/hq/design/specproj/value-analysis.php>



Innovation and Fiscal Sustainability Division of Construction



FOLLOWING A RIGOROUS programmatic review, the Division of Construction (Division) released a *Construction Support Cost Reduction* report in 2012, which identified quality improvements to reduce construction support costs. As good stewards of taxpayer dollars – and to ensure economic sustainability - the Division developed a work plan to significantly reduce the ratio of construction support costs to capital costs.

The process started with extensive data collection which included stakeholder input, analysis of expenditures over a five year period and evaluation of other state transportation department expenditures. The effort culminated with a strategic plan that outlined three primary strategies to improve construction management efficiency:

- 1) Improve Charging Practices
- 2) Focus on Essential Construction Activities
- 3) Implement Efficiency Measures

The Division in partnership with the other

Project Delivery divisions, is implementing new policies, procedures, and charging practices to reduce construction phase project support costs. This partnership builds mutual consensus with the all the project delivery divisions working together providing design, specification and project administration changes that lower project delivery support and capital costs. These efficiency measures benefit the taxpayers and support economic sustainability by delivering transportation improvements at a lower cost.

In February 2013, three decision documents and three *Support Cost Reduction Initiative Proposals* (SCRIPs) were developed to implement the various cost-cutting ideas needed to carry out the initiative. These SCRIPs and associated work plans identified responsible implementation divisions, functional managers, task managers, and target dates.

A key item needed to manage this initiative, and to provide an online resource for all of the SCRIPs,





The US Highway 101/Santa Maria River Bridges Widening project under construction (left) and after completion (above). The project added a third lane in each direction on the bridges, a new bicycle lane, and upgraded the on/off ramps. The project was the result of a strong partnership between Caltrans, the San Luis Obispo Council of Governments (SLOCOG) and the Santa Barbara County Association of Governments (SBCAG).

was the creation of the Support Cost Reduction Initiative's website. This website also contains the deliverables identified in the SCRIPs, foundation documents (such as the *Construction Support Cost Reduction* report and decision documents), as well as documents detailing the status of the work being pursued to support this initiative.

To improve charging practices, the Division issued three *Construction Procedure Directives* (CPD):

- CPD 13-3: Reminds structure construction and district construction staff that they are held accountable for creating and adhering to reasonable project support budgets and for charging appropriately to projects and overhead.
- CPD 14-5: Introduced the Construction Resource Estimating Norms worksheet as an optional tool – developed to help prepare construction project resource budgets.
- CPD 14-6: Informed staff of the revised construction-related Work Breakdown Structure

(WBS) codes which will allow for easier resource estimating and charging. The revisions reorganized most of the WBS activities into logical functional groups and improved activity and subtask descriptions. The CPD also included an implementation plan to help staff transition to the new WBS codes.

To focus on essential construction activities, the Division developed performance based specifications making the contractor responsible for ensuring parts of the work achieve certain measurable requirements - verified by the contractor's own quality control tests. While Caltrans will continue to provide quality verification and contract administration, these types of specifications change the partnership dynamic between Caltrans and its contractors by making the contractor more responsible for controlling the quality of their work. This ensures that the facility performs as it was intended throughout its designed service life, while reducing Caltrans' resource needs

for testing and contract administration. Some of the SCRIP ideas for this strategy include:

- *Construction Quality Assurance Manual* – Provides guidance regarding the roles and responsibilities of Caltrans and the contractor, with regard to inspection and testing of construction materials placed.
- Performance based specification for Jointed Plain Concrete Pavement, making the contractor responsible for providing a Portland cement concrete mix design that achieves a specified strength.
- Performance based specification for structural concrete, making the contractor responsible for providing structural concrete that meets specified qualities (currently being piloted).
- To implement efficiency measures, the Division developed new initiatives while taking advantage of those initiatives being pursued by other divisions to streamline and introduce new technologies into Caltrans processes.
- CPD-13-10: Implements Automated Machine Guidance (AMG) on ongoing projects using a change order. AMG allows contractors to use design data to create a virtual design surface that is loaded onto computers which control construction equipment. Use of AMG will require fewer survey stakes and allow for easier grade checking.
- The AMG committee, made up of representatives from the Divisions of Construction; Design; Research, Innovation and System Information; Engineering Services; and Right of Way and Land Surveys, has been reestablished to develop specifications and guidelines for using AMG as an option for contractors' use on any project.
- 3-D virtual design and construction is being developed and will be facilitated by the nearly completed implementation of Civil 3-D software training for design engineers. By constructing a facility in the virtual world before constructing it in the real world, resource consuming items such as utility conflicts, incompatible staging, rework, and causes of construction delays and claims, can be avoided.
- Benchmark inspection guidelines are being developed to provide staff with direction regarding

which items of work should be inspected on a continuous basis versus those that can be inspected on an intermittent or benchmark basis. This will facilitate more efficient use of construction inspectors.

- Caltrans Construction Partnering Steering Committee's "Design Through Construction" subcommittee is developing recommendations to make project delivery team meetings and constructability reviews more effective to reduce construction claims.
- Construction is partnering with DES and Design to identify strategies for improving staging and other design considerations that could enable a contractor to minimize construction working days. Minimizing working days reduces the hours of staff time charged to a project. Some examples of design considerations that could reduce construction working days include:
 - » Use more full highway / freeway closures
 - » Expand work windows
 - » Use more positive barriers
 - » Lengthen closures
 - » Accelerated Bridge Construction (ABC)

In addition to reducing support costs, most of these strategies could potentially reduce capital costs as well – which is another facet of economic sustainability.

The Division manages construction capital costs by various means including providing consistent guidance to the districts regarding construction contract management. Implementation of the aforementioned ideas, construction management consistency, and high quality plans and specifications lead to reduced construction support costs, lower bids, fewer delays, less rework, and fewer claims – all of which facilitate economic sustainability.

More information is available online:

Division of Construction

<http://onramp.dot.ca.gov/hq/construction/>



Project Delivery congratulates the winners of the

2014 Outstanding Management and Engineering in Transportation

AWARDS



JAMES E. ROBERTS AWARD

Barton Newton, State Bridge Engineer, is the 2014 recipient of the James E. Roberts award. This award recognizes Barton for his outstanding contributions to the field of bridge engineering in the areas of design, construction, maintenance, preservation, research and policy.

Barton has been the driving force in the initiation and development of the *California Bridges and Structures Strategic Direction* (highlighted in the January 2014 edition of the PDQ), which is moving towards implementation. The result of a comprehensive and collaborative effort, the document identifies strategies for delivering and managing all public bridges and structures in California that are safe, durable and cost effective through integrated leadership, independent of ownership or financial funding.

Barton has also played an invaluable role in contributing to Caltrans' long-standing commitment to national engagement as a member of multiple organizations, including the Transportation Research Board Steel Bridges Committee AFF 20 & Long Term Bridge Performance Committee Expert Task Group for Bridge Durability & Preservation.

The James E. Roberts Award annually recognizes outstanding contributions by Caltrans registered engineers to the field of transportation structures. Mr. Roberts served as a structural engineer and manager for more than half a century, including 15 years as California's State Bridge Engineer. He spearheaded Caltrans' \$4.5 billion seismic retrofit program and oversaw nearly \$50 million in seismic research projects. He was named to the National Academy of Engineering in 1996, the only state-employed engineer to be so honored. Mr. Roberts retired in 2001 as Chief Deputy Director.





CHARLES PURCELL AWARD

Basem Muallem, Director - District 8, has over 30 years of professional engineering experience with Caltrans. Basem played a significant role in securing the funding for I-15 Joint Port of Entry (JPOE). The JPOE provides a multipurpose facility that will protect California's transportation infrastructure and create 2,000 jobs. On the Colorado River Bridge Replacement, Basem was key in resolving many right of way issues and worked with 56 federal and state government and private entities.

The Charles H. Purcell Award recognizes valued contributions by Caltrans engineering managers to the field of transportation engineering and transportation program management. Mr. Purcell served as California's State Highway Engineer from 1928 to 1943 and as Director of Public Works until 1951. He established California's extraordinary record of leadership and integrity in transportation engineering and guided the construction of the San Francisco – Oakland Bay Bridge and the State Highway System.



KARL MOSKOWITZ AWARD

Steve Price, District Deputy Director - District 5, Maintenance and Operations, has a 35 year career with Caltrans. As the Deputy of Maintenance and Operations, Steve is tasked with balancing design and engineering concepts with owner/operator responsibilities. He strongly advocates for maintenance worker safety and he created the first Maintenance Safety Officer position in the State.

Another of Steve's major accomplishments was the successful collaborative effort to protect 82,000 acres of pristine coastal lands through the Heart Ranch Conservation Project. The project was a recipient of the prestigious Governor's Environmental and Economic Leadership Award.

The Karl Moskowitz Award annually recognizes contributions by Caltrans registered engineers to the field of transportation engineering. Mr. Moskowitz's work in freeway design and traffic flow appeared at the outset of the Interstate highway program and has been widely emulated by engineers and planners nationwide.

EMERSON RHYNER AWARD

Bill Figge, Deputy District Director - District 11, Division of Planning, has been with Caltrans for over 30 years. Bill's exemplary leadership, guidance and innovation have led to major advancements and accomplishments in the field of Transportation Planning – especially in coordinated, cooperative planning with other nations.

Under his leadership, the district partnered with officials in Mexico to develop the California-Baja California Border Master Plan (CA-BC BMP). The CA-BC BMP gained national recognition as a winner of the Border Research Partnership/Woodrow Wilson International Center for Scholars Award for U.S.-Mexico Cross-Border Cooperation and Innovation in 2011.

The Emerson Rhyner Award annually recognizes contributions to the field of transportation by non-engineering Caltrans managers. Emerson Rhyner was Deputy Chief of the Division of Right of Way and the Legal Division for California's highway program in the early 1960s. He represented the Department in Legislative Affairs, acting as a liaison to the Legislature and representing the State's transportation interests in Washington, D.C. His efforts helped define the relationship between state and national interests and established the roles of state and local governments in the early days of freeway system development.

More information is available online:

2014 Outstanding Management and Engineering in Transportation

<http://www.dot.ca.gov/awards/winners/14engineermanagerwinners.htm>



CALTRANS 2014 EXCELLENCE IN TRANSPORTATION AWARD WINNERS

Project Delivery congratulates the 2014 winners of the Excellence in Transportation awards. The Department received nearly 80 entries from within Caltrans, local and public agencies, private contractors and consultants across the state. A panel of judges, which includes professional engineers, environmental specialists, and transportation planners, reviewed the entries.

<http://www.dot.ca.gov/awards/winners/14winners.htm>



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/](http://www.dot.ca.gov/hq/projdev/)

CALIFORNIA DEPARTMENT OF
TRANSPORTATION
PROJECT DELIVERY QUARTERLY

<http://onramp.dot.ca.gov/hq/pd/>