



# Project Delivery News

SUMMER 2019

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I am pleased to present the Summer 2019 edition of the Project Delivery News. This edition is focused on recent initiatives undertaken by Divisions in Project Delivery to optimize business processes and products.

While each article discusses activities that are of special relevance to one of the Divisions, most of the highlighted achievements are the result of successful collaborative efforts across Project Delivery and beyond.

I thank you for your ongoing dedication to teamwork, and the continual improvement of our business model.

A handwritten signature in black ink, appearing to read 'KB Sutliff', with a long horizontal flourish extending to the right.

Karla B. Sutliff  
Project Delivery Deputy Director  
(Chief Engineer)

## DIVISION OF CONSTRUCTION

# Work Zone Safety

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The Division of Construction (Construction), along with several other Caltrans divisions including Design, Maintenance, Traffic Operations, and Project Management, continues to utilize collaborative and strategic efforts with the construction industry to make work zone safety its top priority. In December 2018, the parties convened for a Safety Summit to brainstorm best practices for enhancements to highway worker safety. As a result, 21 initiatives were created that encompass different facets of safety, including traffic management, communication, and contract administration.

Some of the safety initiatives that are under development, or are currently being implemented, are discussed in the following paragraphs:

- Reducing work zone speed limits - This will enhance traffic safety and add better protection for workers by slowing traffic down by 10 miles per hour in work zones where the posted speed limit is at least 35 miles an hour. Radar speed feedback signs will be placed in advance of work zones informing drivers of how fast they are going and warning them to slow down.
- Providing a buffer lane – This will provide more space between workers and motorists by requiring the adjacent lane to be closed to traffic prior to starting certain construction activities.
- Expanding the work window – This will allow workers more production time in order to complete projects faster, lessening exposure



to workers, and resulting in less impact and congestion to the traveling public.

- Exceeding minimum safety requirements – This may involve exceeding minimum Division of Occupational Safety and Health (Cal/OSHA) standards by requiring certification for traffic control personnel, requiring a full-time safety manager on-site, as well as additional project safety requirements that go above and beyond previous industry standards.
- Improving flagging operation specifications – This will provide additional advanced notice, and better visibility for motorists when extended traffic queues develop, or when traffic is stopped ahead in advance of the work area. This will also reduce a flagger’s exposure to live traffic with the use of

traffic safety devices such as Automated Flagger Assistance Devices (AFAD).

- Providing physical protection – This will evaluate the use of the *Manual for Assessing Safety Hardware* (MASH) compliant portable steel barriers as feasible alternatives to portable concrete barriers, and other traffic control devices, for certain construction activities to provide a physical barrier to protect workers.

As these safety initiatives are further developed, Caltrans will continue to make safety its number one priority, striving “[Toward Zero Deaths](#)” on our transportation system. Do your part in protecting our workers by being work zone alert - Move Over, Slow Down and Drive Safely Near Work Zones!

## DIVISION OF DESIGN

# Streamlining Project Delivery Processes

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In early March 2018, the Headquarters Division of Design (Design) launched several initiatives to improve and streamline design processes, activities, and products.

### **Streamlined Delivery with “Early Design”**

Design is developing a design workflow practice, coined as “Early Design,” which moves tasks from “Phase 1: Preliminary Design,” into “Phase 0: Project Approval and Environmental Document (PA&ED).” Early Design can reduce project development rework and delays in project delivery timelines; and allows greater opportunity to identify risks earlier in the project, which provides more lead time to develop solutions.

Reducing the overall project delivery timelines with Early Design may also provide cost benefits in the following areas:

- Capital Outlay Support (COS) Resources- Moving preliminary engineering and design activities into the 0 Phase reduces the risk of rework during final Plan, Specification and Estimate (PS&E) development, which could result in a slight reduction in the COS support costs in design activities (combined 0 & 1 phases).
- Capital Construction Cost- Moving preliminary engineering and design activities into the 0 Phase could result in a shorter final design PS&E schedule, and an earlier delivery milestone date

for Ready to List (RTL). Projects that have an earlier construction start date would see a capital construction cost savings (from the inflation rate compounded interest), compared to the conventional delivery schedule.

Caltrans completed policy and guidance updates to *Project Delivery Directive 10* (PD-10), the *Project Development Procedures Manual* (PDPM), and the *Work Breakdown Structure Guide*, to make Early Design available for implementation on a project-by-project basis. Since late 2018, Design has partnered with Project Management in delivering an education and communications campaign to share information about Early Design with project delivery units and partners. In the coming months, Design, in partnership with Project Management, will evaluate potential performance measures to track the cost efficiencies from utilizing Early Design on projects.

### **Value Analysis to Streamline Project Delivery Workflow**

Design recently initiated a Value Analysis (VA)/ Process Improvement project to streamline the design task workflow for non-complex projects in the PA&ED and PS&E phases of project delivery. Historically, Caltrans has used a single project delivery process for all projects, regardless of the project size or complexity. The VA project goal is to optimize design-related

processes and evaluate a shortened project schedule from PA&ED to Final PS&E for non-complex projects with relatively lower risks.

The VA project team first defined a “non-complex” project, by establishing the criteria to determine the path of delivery for a given project. The VA team then evaluated the value and necessity of the design task workflow for non-complex projects and develop a streamlined process flow chart to reflect those changes. Efficiencies in COS capital and support resources will be evaluated for their potential benefits.

To date, the main process improvement recommendation is that projects should have the following characteristics:

- Single-build alternative only
- A Categorical Exemption/ Categorical Exclusion (CE/CE )
- Projects with no right-of-way acquisition (no utility relocation, no railroad involvement, etc.)

Currently underway are efforts related to guidance updates, tool development, and information outreach. In the coming months, Design and Project Management will explore potential performance measures to track the cost efficiencies from implementing streamlined design activities for non-complex projects.

## **Contract Plans Improvement**

The Divisions of Design and Construction partnered to initiate a VA study to improve contract plan contents for all projects within Caltrans. The need is to improve efficiency in the delivery of high-quality, biddable, and buildable contract plans that minimize claims due to issues with plan-sheet details.

The VA project launched a Contract Plans Details Improvement Summit in November 2018 that included 55 headquarters and district employees from Caltrans Design, Construction, and other Project Delivery divisions. The summit focused on:

- Identifying Project Types for which Contract Plan Details could be improved to enhance PS&E quality (such as Pavement Rehabilitation, Americans with Disabilities Act (ADA), and other project types).
- Developing an Understanding of potential challenges and best practices.
- Developing Improvement Recommendations regarding the types and level of detail for each project type that are necessary to deliver a set of high quality plans that incur minimal claims.

Following the summit, several workshops were conducted in 2019 with a smaller team to further evaluate guidance, training, and outreach. Currently, the team’s improvement recommendations have been drafted, and implementation is expected to begin this fall.

## DIVISION OF ENVIRONMENTAL ANALYSIS

# Transportation Permitting Task Force

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With the increased level of transportation funding from Senate Bill 1 (SB 1)- *The Road Repair and Accountability Act of 2017*, efficiencies in transportation project delivery are more important than ever. Last year, the Governor signed Assembly Bill 1282 (Mullin), which established the Transportation Permitting Task Force (Task Force), with membership from transportation infrastructure departments and environmental permitting departments.

The Task Force provides a unique opportunity for transportation and resource agencies to partner on an integrated approach to expanding resource conservation and expediting enhanced mobility. The statutory goal of the Task Force is to develop a structured coordinated process for early agency coordination in transportation projects to reduce permit processing time; establish reasonable deadlines for permit approvals; and to provide for greater certainty of permit approval requirements.

The Task Force was launched in April 2018, when the California State Transportation Agency (CalSTA) convened the first Transportation Permitting Task Force (Task

Force) meeting to review the overall goals, and to establish deliverables. At that time, the Task Force comprised leaders from CalSTA, the California Natural Resources Agency (including several departments and commissions under the umbrella of the aforementioned agencies), and the Coastal Commission. After the first meeting, the California Environmental Protection Agency (CalEPA) joined the Task Force.

The permitting analysis has already yielded exciting results and creative solutions. Bruce April, District 11 Deputy Director for Environmental, is the project manager, and he is working with the Division of Environmental Analysis and other Project Delivery divisions. An interim report was delivered in April 2019, and a final report with implementable recommendations is scheduled for release at the end of this year.

So far in 2019, the Task Force has:

- Witnessed Secretary Blumenfeld and Secretary Crowfoot sign a renewal of the Tri-Agency Partnership Agreement with CalSTA, reaffirming commitment

to this important effort at the highest levels of California state government.

- Completed permitting process reviews and value stream mapping to identify focus areas associated with challenges, pinch points, causes of delay, and suboptimal environmental outcomes.
- Initiated efforts to identify challenges and solutions through analyzing selected “pilot projects.”
- Developed a framework for preparing a structured coordination plan for early engagement of all parties.
- Analyzed the costs and benefits of interagency agreements for transportation-funded staff liaison positions and assessed the levels of funding that will be needed to support the increased workload anticipated from the passage of SB 1, the Road Repair and Accountability Act of 2017.
- Identified opportunities to incorporate advance mitigation as a strategy for important

transportation projects across all modes and jurisdictions to protect natural resources.

By December 2019, the Task Force will prepare and submit a report of findings to the Legislature. The report will include recommendations from each of the key focus areas, and will address the following areas specified in the statute:

- Present results of analysis of project development and permitting processes, including where delays are most likely to occur.
- Identify utilization of transportation-funded staff positions in early coordination and permitting.
- Develop and present structured coordination processes.
- Identify resources required to implement the coordination processes.
- Identify legislative or regulatory issues that need to be addressed to implement recommendations.



## DIVISION OF PROJECT MANAGEMENT

# Cost Estimating Improvement Initiative

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The passage of SB-1, which provided Caltrans with a more stable project funding source, presented an ideal time for Caltrans to refresh project cost estimating practices and identify any needed improvements. Hence was born the *Cost Estimating Improvement Initiative (CEII)*. John Roccanova led a cross-functional team, made up of district and headquarters representatives from each Project Delivery division. The team evaluated project estimating and management for both capital and support resources. After identifying the features of a high quality estimate, the team provided recommendations for new or updated tools, policy, and guidance that would assist both the staff creating the estimates, and project managers reviewing and approving the estimates. The development and implementation of next generation tools, guidance, and focused training is currently underway in “Phase 2.”

### **CEII Progress to Date**

CEII has already resulted in the development of helpful tools such as a fact sheet, worksheets, and a flow chart which are available on the Project Management intranet site: <https://projmgt.onramp.dot.ca.gov/cost-estimating-improvement-initiative-ceii>

### Functional Scoping Fact Sheet

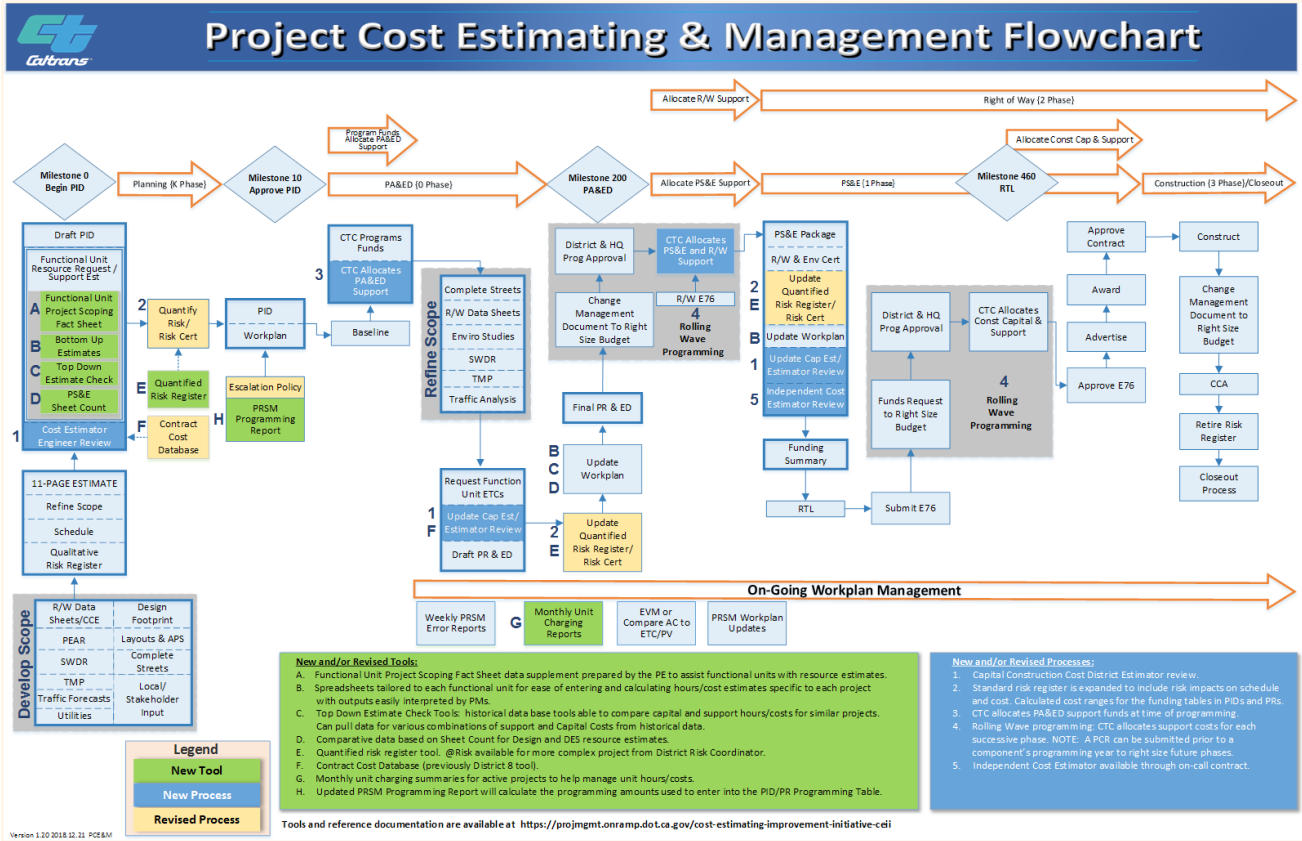
The fact sheet can be used once for programming estimates, or continually updated by the Project Engineer to keep the delivery team informed of refinements to the project scope. This is an important communication tool that helps the functions understand project scopes and how they affect their deliverables.

### Bottom Up and Top Down Tools

The “Bottom Up Tool” is an excel-based worksheet that allows each unit manager to consider the work that goes into completing their Work Breakdown Structure (WBS) tasks for a given project. The Project Manager (PM) can use the collected Bottom Up worksheets, and summarize them into an overall project estimate. The PM can then use the “Top Down Tool” to get a historical perspective of similar projects and evaluate the requested resources. The tools have easy to follow instructions built into them, and each of these tools also has an “e-How” training video which demonstrates use of the tool.

### Project Cost Estimating & Management Flowchart

This flowchart maps the cost estimating process from developing the workplan for the



Project Initiation Document, to updating and managing the costs through Project Closeout. The flowchart identifies tools that are available to facilitate estimating, and is color coded to highlight new or modified processes.

### Adoption of Risk Based Estimating.

While looking at project risks and their impacts to project schedules and costs is not new to Caltrans, the CEII put a spotlight on the subject, resulting in:

- Development of a new risk register that allows for risk cost quantification;
- The addition of Risk Tasks to PRSM, to capture the risk costs, and allow PMs to manage their use as they occur;

- An update to *Risk Directive* (PD-09), to capture the improved understanding of risk (currently in final circulation);
- Development of risk training which is currently being rolled out to all districts.

As part of ongoing project estimating improvement goals, the CEII continues to provide workshops and training, improve the developed tools, and solicit feedback from the District project delivery functions. Though Project Management is leading the team, the effort involved is truly cross-cutting across all of the Project Delivery divisions.

## DIVISION OF RIGHT OF WAY AND LAND SURVEYS

# Updated Right of Way Course

Request Training - Course Search

Enter a full or partial search criteria and click the 'Search' button to get a list of matching courses.

Search Criteria

Course: 100266

Title:

District:

Subject Area:  Refined Subject Area:

From:  Thru Date:

Description:

Course	Session	Title	Subject Area	Refined Subject Area
100266	0099	Right of Way and You!	PROJ DEL	RW-RW
100266	0098	Right of Way and You!	PROJ DEL	RW-RW

Would you like to know why it takes so long to get a right of way (RW) certification? Do you wonder about how to address challenges related to railroad and utility issues on projects? To answer these questions and more, the Division Right of Way and Land Surveys recently updated a course called “Right of Way and You.”

The 6-hour introduction to the RW process is taught by district and headquarters staff as often as resources permit. Courses can accommodate about 30 participants, and include interactive group activities. This course is also mandatory for those pursuing the first level of [certification as a RW Agent](#). Registration is available in the Learning Management System under the course code 100266.



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