



# **Project Study Report – Project Development Support (PSR-PDS) Process and Preparation Procedures – Part Four**

California Department of Transportation

January 5, 2012



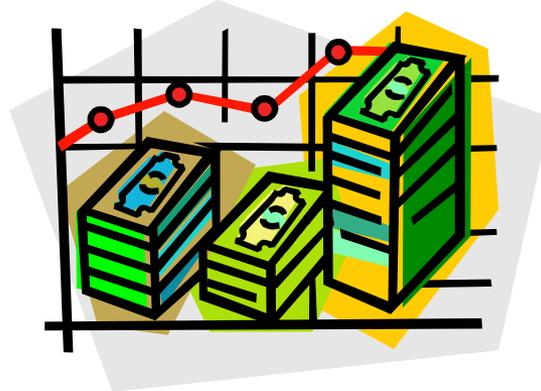
# PSR-PDS Preparation Process



# Overview

- Develop Cost Estimates
- Develop Schedules
- Develop Risks
- Quality Management Plan

# Developing Cost Estimates for the PSR-PDS



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California Department of Transportation – District 6

# Capital Cost

- The purpose of developing a capital cost estimate for the PSR-PDS is to get an idea of the funds needed by the sponsor to construct the project.
- The capital cost estimate should be developed using an order of magnitude cost for each area.

# What is an Order of Magnitude Estimate?

- An order of Magnitude estimate is a range of which you are confident that the estimate will stay within.
- Example: A previous passing lane project has a cost per mile of \$1,500,000. Your passing lane project is 3.5 miles. Your magnitude of cost may range from \$5.0 to \$8.0 million.

# Capital Cost Estimate - Four Elements

1. Roadway Cost
2. Structures Cost
3. Environmental Cost
4. Right of Way (R/W) Cost

# PSR-PDS Roadway Cost Estimate Form

- It is not necessary to do a detailed estimate for every item of work.
- Lump minor items of work in with major items of work.
- The Design estimate form should be modified for your specific project.

PSR-PDS Cost Estimate:

<http://www.dot.ca.gov/hq/oppd/design/psr-outlines-estimate.doc>

# PSR–PDS Division of Engineering Services Cost Estimate



1. The Project Engineer will complete the Division of Engineering Services (DES) PSR-PDS Scoping Checklist except for the workload section.
2. DES will provide Project Development (PJD) with a DES estimate.

Structures Cost Estimate:

[http://www.dot.ca.gov/hq/tpp/offices/oppc/psr-pds\\_training.html](http://www.dot.ca.gov/hq/tpp/offices/oppc/psr-pds_training.html)

# PSR-PDS Environmental Cost Estimate

1. The Project Engineer will request a Preliminary Environmental Analysis Report (PEAR).
2. Environmental will submit a Mitigated Cost Compliance Estimate (MCCE) form to R/W that should include all Environmental Capital Cost.
3. Some costs in the MCCE shall be included in the Roadway cost estimate.

# PSR-PDS R/W Cost Estimate

- The Project Engineer will need to prepare a R/W cost estimate request.
- R/W will furnish a R/W cost estimate to the Project Engineer.

Right of Way Cost Estimate:

[http://www.dot.ca.gov/hq/tpp/offices/oppc/psr-pds\\_training.html](http://www.dot.ca.gov/hq/tpp/offices/oppc/psr-pds_training.html)

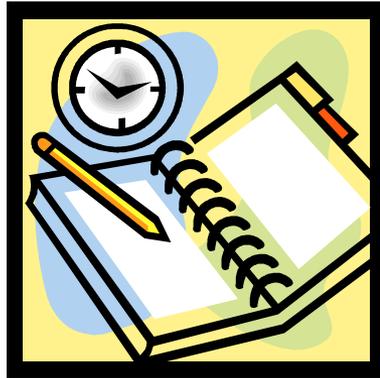
# PSR-PDS Resource Cost

- The Project Manager will prepare a work plan for the Project Approval and Environmental Document (PA&ED) phase of the project.
- The Project Manager will determine the PA&ED phase resources and include them in the report.
- If Caltrans is doing the work for a Local project you will need to add the Indirect Cost Rate Proposal (ICRP) rate (29.75% in 10/11 FY) and a Cooperative agreement will be needed.

# Questions



# Developing the Schedule for the PSR-PDS



# Purpose of a PSR-PDS Schedule

- The purpose of the schedule in the PSR-PDS is to develop a work plan for the PA&ED phase of the project and determine how long it will take to complete all the PA&ED tasks.
- The purpose of including an anticipated funding year for construction is for the sponsor of the project to have a reasonable idea on when Construction funds need to be available.

# PSR-PDS Project Schedule

- A detailed schedule will be prepared for the PA&ED phase of the project.
- The Project Manager will prepare a PA&ED schedule once they receive the Preliminary Environmental Analysis (PEAR).

# PSR-PDS Project Schedule

- To prepare a detailed schedule the Project Manager will need to prepare a work plan for the PA&ED phase.
- The Project Engineer will prepare a Project Fact sheet for the project.

Functional Unit Fact Sheet:

[http://www.dot.ca.gov/hq/tpp/offices/oppc/psr-pds\\_training.html](http://www.dot.ca.gov/hq/tpp/offices/oppc/psr-pds_training.html)

# PSR-PDS Project Schedule

- The Project Manager will send a draft PSR-PDS, Functional Fact sheet, draft Schedule and a Blank work breakdown structure (WBS) form to the functional units to develop a work plan.
- Once the Project Manager receives the functional units work plan, then a Final Schedule can be prepared based on the resource needs.

# PSR-PDS Project Schedule

- The funding year is based on when the funding will be available. The project sponsor should be able to provide this information.

# Questions



# PSR-PDS Risk Management



# Purpose of Risk Management

- The purpose of Risk Management in the PSR-PDS is to document the risks associated with preparing a PID document that defers studies to the PA&ED phase of the project.
- Risk Management documents the owners of the risks.
- Risk Management defines a plan if the risk trigger occurs.

# Risk Management for the PSR-PDS

- The Risk Management process is the same for the PSR-PDS as it is for other Caltrans PIDs.
- Every PSR-PDS shall have a Risk Register attached to the project.

Risk Register:

[http://www.dot.ca.gov/hq/tpp/offices/oppc/psr-pds\\_training.html](http://www.dot.ca.gov/hq/tpp/offices/oppc/psr-pds_training.html)

# Risk Management for the PSR-PDS

- The PSR-PDS only looks at existing information and does not perform new studies.
- The Risk Register should identify which critical studies were deferred until the PA&ED phase of the project and what are the implications of not doing these studies at the PID stage of the project.
- The Risk Register should also identify what project decisions were deferred to the PA&ED phase of the project (i.e. Design exceptions, length of passing lanes, sound wall locations)
- The major risks shall be summarized in the text of the PSR-PDS

# Questions





**QUALITY**

# **MANAGEMENT PLAN**

**PSR-PDS Web Training - Session 5**

**Patricia Romo**  
**Deputy Director of Transportation**  
**County of Riverside**

# Quality Management Plan

## PURPOSE

To facilitate an efficient and effective process for the development, review, and approval of PIDs for State Highway projects sponsored by others

# Quality Management Plan

## OBJECTIVE

Accurate, Complete, Quality documents on schedule and within budget

# Quality Management Plan

## DEFINITIONS:

### Quality Control

- Responsible for quality of work and reviews in accordance with the Quality Control Plan

### Quality Assurance

### Independent Assurance

# Quality Control (QC) Plan

Estimated Start and Finish Dates

Established Procedures for Development of Deliverables

Processes to confirm that deliverables meet the documented requirements

The forms, formats, checklists, and templates that will be used to verify that the deliverables are accurate.



# Quality Control Reviews

Shall be conducted for all deliverables

Shall be conducted prior to submission to Caltrans

Documents shall be reviewed for conformance with design criteria, legibility, completeness, and compliance with regulatory requirements.

All QC comments will be evaluated, discussed, and incorporated if appropriate.

Local Agency and Caltrans PM shall review and approve resolution to comments

All reviews will be documented



# Quality Management Plan

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### Quality Assurance

- Ensures consistency with Caltrans Policies, Standards, and Procedures
- Periodic reviews of Quality Control Documentation
- Identification and control of nonconforming conditions

### Independent Assurance

# Quality Assurance

**Review and Approval of Major Deliverables**



**Verifies that deliverables meet project requirements**



**Confirm QC Plan is being followed and is effective in producing deliverables that satisfy customer needs**

# Quality Management Plan

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### Independent Assurance

- Verifies that QC/QA is being implemented through evaluation of delivery processes, quality procedures, and deliverables

# QC/QA Duties and Responsibilities

## Principals in Charge

- Periodic audits of work and performance of staff. (QA)

## Consultant Project Manager

- Reviews and monitors implementation of QA/QC and identifies and controls nonconforming conditions. (QC/QA)

## Consultant staff

- Responsible for quality of work, checking of calculations and drawings, resolves QC review comments, and reviews completed work prior to submittal. (QC)

## Local Agency Project Manager

- Responsible for completion of project tasks, budget, and schedule. Responsible for technical review prior to issuance to Caltrans. Certifies that each submittal has been checked and is a quality product. (QA)

## Caltrans Project Manager

- Responsible for Independent Quality Assurance (IQA)

# Quality Management Summary

QC/QA Plan

Quality Control Reviews

Quality Assurance

Document Control

IQA

# Questions



# Resources

- Project Development Procedures Manual
  - <http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm>
- Office of Projects Plan Coordination
  - <http://www.dot.ca.gov/hq/tpp/offices/oppc/index.html>

# PSR-PDS Training Schedule



Session	Chapter	Topic	Nov 2011	Dec 2011	Jan 2012
One	One	<b>Introduction</b>	10		
Two	Two	<b>PSR-PDS Process and Preparation Procedures</b> Develop Work Programs, Authorization for PID Preparation, Pre-PID Meeting, Form the PDT, Develop Consensus on the Project Purpose and Need	17		
Three	Two	Obtain and Review Existing Reports..., Review of the Project Site in the Field, Identify Additional Data Requirements for Project Scoping Perform the Initial Engineering Analysis and Develop Alternatives - Environmental, Design, Structures		8	
Four	Two	Perform the Initial Engineering Analysis and Develop Alternatives - Traffic Engineering Performance Assessment		15	
Five	Two	Perform the Initial Engineering Analysis and Develop Alternatives -Develop Cost Estimates, Develop Schedules, Risk, Quality Management Plan			5
Six	Two	Perform the Initial Engineering Analysis and Develop Alternatives – Independent Quality Assurance, Stormwater, Right of Way, Local and Regional Input			9
Seven	Two	Complete PSR-PDS, Caltrans District Review and Approval			12
	Three	<b>Outline for PSR-PDS</b>			
	Four	<b>PSR-PDS Estimates</b>			
	Five	<b>Scoping Tools</b>			
	Six	<b>PSR-PDS Templates</b>			