



# Project Delivery Notes

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Construction • Design • Engineering Services • Environmental • Project Management • R/W and Land Surveys

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## Project Delivery Success Through Risk Management

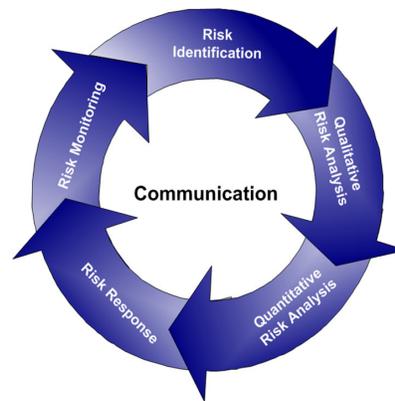
Thanks to your skill, dedication and teamwork, we have delivered over \$16 billion in contracts to construction since the 2005/06 fiscal year – a huge investment in improving and maintaining California’s state highway infrastructure. As stated in the previous edition of Project Delivery Notes (PDN #6), project delivery success is not just measured in meeting delivery schedules, but also by managing the costs (both capital and support) needed to deliver these projects with quality. Project delivery teams can achieve these goals by identifying and managing risks throughout a project.

What is risk management? Chief Engineer Rick Land’s May 2, 2007 memorandum defined risk management as a process to identify, analyze, plan for and monitor risks as they arise and change during a project. A risk is a potential future event. Risks have probabilities of occurrence (small to almost certain) and impacts. Proper risk management helps identify and minimize negative impacts on project cost (both capital and support), scope, schedule and quality. Risk management also helps identify and take advantage of opportunities that may arise to enhance the project. Each project should have a risk management team with members from the project development team. For complex projects, the risk management team should include sponsors and project stakeholders.

Risk management should be practiced through all project delivery phases, from Project Initiation through Project Closeout. A key component of risk management is documenting the risks in a risk register.

This tool helps track and manage risk identification, quantitative or qualitative risk analysis and risk responses.

The following diagram of the risk management process illustrates each step. The process is circular because it is continuous throughout the life of the project.



Risk Management Process

Communication of risks between the project team members, stakeholders and sponsors is both the heart of the process and perhaps the key benefit of a formal risk management process.

Risk management activities should be incorporated into project schedules with milestones for communication and accountability. As the project progresses, old risks are removed from the risk register and new ones are added. For sample risk management plans and risk registers, go to: <http://onramp/riskmanagement>.

I’d like to highlight two examples where risk management produced tangible benefits. In District 11, the project risk management team identified an opportunity to save time and money on the \$25.2 million Interstate 8/Dogwood

Road Interchange improvement project in Imperial County.

The team used separate risk registers for cost and time uncertainty. Using risk status reports at the project risk management team meetings, they quantified the project time contingency into days and eliminated one critical risk with savings of \$1.2 million and reduced project delay uncertainty by 97 days. Construction is scheduled to begin in January 2014.

The Caldecott Tunnel project is in District 4 on State Route 24 in the East Bay. This \$391 million project will add a fourth bore and greatly relieve congestion during non-peak periods on this route. The risk management team assigned risk to both cost and schedule elements. Due to the limited number of tunneling contractors in the United States, the team was concerned that the advertised contract would receive a low number of bids. To address this risk, the team performed a robust outreach program during the design phase using magazine articles and websites. The team also sought input during the design phase and posted preliminary plans and specifications on the project website for comments prior to project advertising. This effort paid off handsomely since the project received four bids and came in well below estimate. The project is within budget and on schedule for completion in early 2014.

Both examples illustrate the benefits of project risk management. Look for risk management tips, lessons learned and a new risk management manual on the Caltrans onramp site soon.

Thank you for your continued efforts to deliver quality projects on schedule and within budget.