



Caltrans Division of Research,  
Innovation and System Information

# Research



# Results



Planning/Policy/  
Programming

## Analysis of Public-Private Partnerships and Traditional Delivery for Transport

Identifying and analyzing the relative advantages and disadvantages of public-private partnerships and traditional delivery for transport projects

### WHAT IS THE NEED?

With the recent adoption of MAP-21, the U.S. Congress sent out a clarion call to the transport community that all roads should lead to private sector financing of our infrastructure. Congress increased the key transport lending tool, the TIFIA program, almost ten-fold to \$1 billion in the second year of the authorization bill to spur private participation. The Wall Street Journal further laid out to the financial sector and its readership,

“Private investment in America’s transportation systems through PPPs has the potential to expand, revitalize and rationalize our infrastructure. With the right policies, that can happen. Motorists, truckers, shippers and private investors all stand to benefit.” [Geddes, WSJ, May 23, 2011]

### WHAT WAS OUR GOAL?

This project aimed to assess the advantages and disadvantages of Public-Private Partnerships (P3) in comparison to traditional forms of project delivery and financing (DBB). This task order research focused on the State of California and the Pacific Northwest States of Oregon and Washington.

This task order’s objective was to develop an evaluative tool that could be used to ascertain the relative merits and disadvantages of DBB and P3 across California, learning lessons also from Oregon and Washington. This involved applying a transaction cost economic measurement framework to these two modes of delivery, adapted from comparative ex post analyses of projects that were developed side-by-side using DBB and P3 methods [Whittington, 2012], systematically comparing the institutional arrangements for implementing these modes across states.

**MAY 2019**

**Project Title:**

Analysis of Public-Private Partnerships and Traditional Delivery for Transport Projects

**Task Number:** 2965

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Caltrans provides a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability.

## WHAT DID WE DO?

This project assessed the advantages and disadvantages of Public-Private Partnerships (P3) in comparison to traditional forms of project delivery and financing (DBB). It focused on the State of California and the Pacific Northwest States of Oregon and Washington.

- Task 1: Initiation of Case Studies (Question 1): This phase was designed to investigate the context and use of delivery methods and contracting approaches in California, Washington, and Oregon. To this end, at least one case study for each state (based on research need and progress) was conducted to provide deeper insight on how each delivery and/or contracting approach impacts on different core functions. Also, basic information on the context for transportation contracting in these states were collected, to compare to the data collected and analyzed on side-by-side comparative developments using DBB and P3.
- Task 2: Evaluation Framework (Question 2): This phase built on the qualitative assessment findings and translated that into quantitative assessment (e.g., transaction cost economic). In this phase the model for conducting side-by-side projects was completed.

## WHAT WAS THE OUTCOME?

This research examined the outcomes from designing and constructing infrastructure projects with alternative contracting methods, with the secondary target of looking that the changes in transaction costs that followed by using alternative contracting. The research looked at selected pairs of bridges in Oregon and Washington that utilized both traditional design-bid-build (DBB) and alternative design-build (DB) contracting on very similar bridge projects, some nearly adjacent to each other.

Although the overall costs of construction were similar across many bridge pairs, the method of disaggregation into different categories revealed strong differences when the choice of contracting method is made, largely related to moving the risk of design and administration from the public sector (DBB) to the private (DB). Transaction costs did not appreciably decline with the DB projects. State DOTs need to be aware of these challenges and atypical cost profiles before embarking on new alternative contracts. As always, the “devil is in the details.”

## WHAT IS THE BENEFIT?

The implementation of this project resulted in:

1. Realistic bases for comparing DBB and P3 projects
2. Adjustment of results from cases of DBB and P3 projects developed in California and the Pacific Northwest
3. Development of substantial material that is used for tech transfer, education or workforce development activities as it provides easily accessible materials useful for instruction purposes and tailored to practitioners and policymakers.

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