

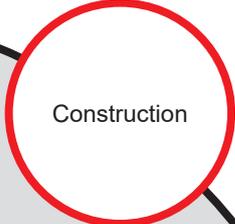


Caltrans Division of Research,  
Innovation and System Information

# Research



# Results



Construction

**MAY 2019**

**Project Title:**

Validating the Effect of Collaborative Partnering for Capital Project

**Task Number:** 2524

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## Validating the Effect of Collaborative Partnering for Capital Project

Data from Caltrans construction projects helps to quantify the benefit of partnering process on budget performance.

### WHAT IS THE NEED?

Caltrans has been fostering a process known as Collaborative Partnering - A framework for communication and problem solving with the goal of win/win outcomes that ensures successful project delivery. However, we still need to understand which mechanisms will increase the probability of establishing a successful partnership.

Furthermore, there was a need to identify specific processes embodied in collaborative partnering that have the strongest positive influence on project outcomes. The research described in this proposal will further Caltrans understanding of what provides the strongest positive influence on project outcomes.

### WHAT WAS OUR GOAL?

The goal was to identify successful Collaborative Partnering efforts or initiatives supported with data such as budget compliance, schedule compliance, safety compliance, claims mitigation and stakeholder satisfaction to develop a "best practice" guidance.

### WHAT DID WE DO?

The research team from UC Davis has collected and compiled data on 274 projects between 2006 and 2012 with costs greater than \$10 million to be statistically analyzed using logistic regression modeling to better understand effectiveness of management technique and performance measurement. Our dataset included descriptive information on project characteristics, project performance, and project partnering



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activities used for analyses. From this, the researchers were able to characterize the trends in partnering implementation, partnering process, levels of funding spent and the type of activities being deployed. A trend was developed to explore the relationship of variations in type and timing of partnering activities with project outcomes.

Finally, the researcher has developed a report summarizing the results which included an agency-wide survey to assemble information from field personnel using Collaborative Partnering. The results outlined suggestion on changes based on receptive atmosphere, training elements, and project complexity metrics rather than budget size and schedule length to improve the effectiveness of partnering process.

### WHAT WAS THE OUTCOME?

From the results of this research, many factors such as the mechanics, barriers and measuring methods have been examined. Informed by these factors, planning data collected, and modelling results, Caltrans can determine which project would mostly likely benefit from partnering and shared the results with industry partners.

### WHAT IS THE BENEFIT?

Caltrans recognizes that today's projects must contend with a host of challenges never before seen with tightening standards, public scrutiny, and tighter budgets. This changing environment can benefit from updated guidelines that incorporate experience gained from recently completed projects as well as project data analysis. This research taps into specific processes embodied in collaborative partnering that suggest the strongest positive influence on project outcomes.

### LEARN MORE

To view the evaluations visit:  
[http://www.dot.ca.gov/research/researchreports/current\\_research/index.htm](http://www.dot.ca.gov/research/researchreports/current_research/index.htm)

### IMAGES

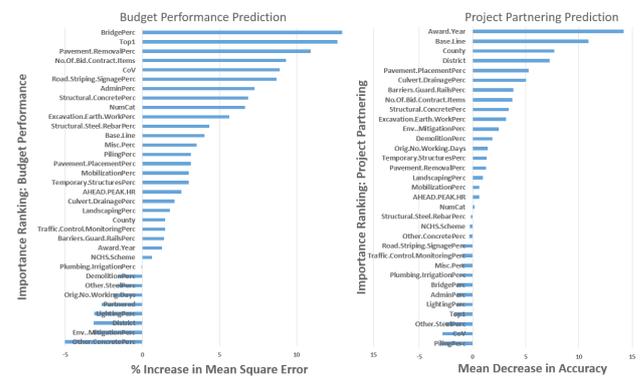


Image 1: Variable importance outputs with project budget performance (left) and project partnering (right) as outcomes

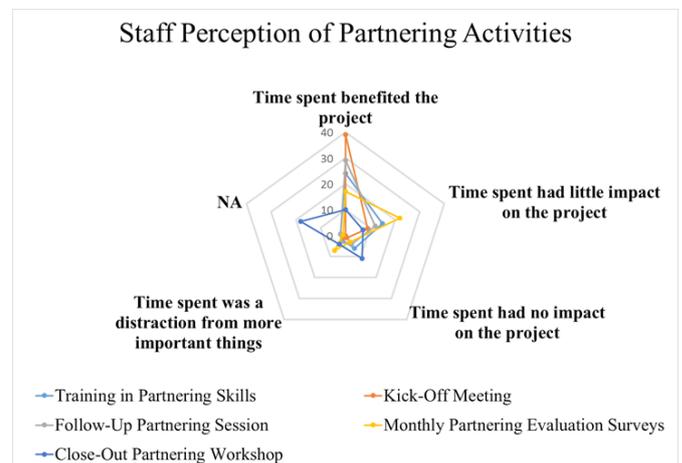


Image 2: Perceived utility of partnering activities

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Project Characteristics	Partnered Projects	Non- Partnered Projects
Number of Projects	192	82
Miscellanies	2%	2%
Bridge Work	22%	15%
Drainage	3%	1%
New Construction	18%	22%
Resurfacing/Rehabilitation	28%	39%
Road Widening	21%	7%
Safety/Noise	4%	6%
Support Structures	2%	7%
Average Bid Amount	\$40 Million	\$23.2 Million
Average Number of Planned Working Days	514	431
Average Number of Contract Bid Items	153	121
Project Length (Miles)	8.7	6.6
Project Location (District)		
1	5%	4%
2	3%	7%
3	13%	11%
4	33%	10%
5	2%	4%
6	5%	6%
7	13%	27%
8	9%	9%
9	1%	1%
10	6%	4%
11	7%	15%
12	5%	4%
Average Total Claims Value	\$.78 Million	\$1.03 Million
Average Total CCO Value <sup>1</sup>	\$6.1 Million	\$3.2 Million
Average Budget Growth	7.90%	9.20%
Average Schedule Growth	7.60%	11.10%

Image 3: Characteristics of Partnered and Non-Partnered Projects

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