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Contracting Strategies: A Different Approach to Address Long-term Performance

Maria Calahorra-Jimenez, PhD

California State University Transportation Consortium

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Report 22-33

Contracting Strategies: A Different Approach to Address Long-term Performance

Exploring Long-term Performance in Design-Build Best-Value Evaluation Criteria

Maria Calahorra-Jimenez, Ph.D.

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16. Abstract

For cost-efficiency, public safety, and sustainability, improving long-term performance in highway projects is imperative for public administrations. Project delivery and procurement methods provide an opportunity to align design and construction processes with this goal. While previous studies have explored whether project delivery methods impact the long-term performance of highway projects, these studies did not focus on how core elements within project procurement relate to long-term performance. Thus, to fill this gap, this research explores how and to what extent long-term evaluation criteria are considered in design-build best-value procurement of highway projects. To this end, the team conducted content analysis on 100 projects procured between 2009 and 2019 by 19 DOTs across the U.S. The analysis of 365 evaluation criteria found that (1) roughly 11% of them related to long-term performance. (2) The weight given to these criteria in the overall technical proposal was lower than 30%. (3) Sixty-five percent (65%) of long-term evaluation criteria focused on design while 15% related to materials and technology, respectively. The results of this study are a steppingstone to initiate a deep exploration of the relationship between procurement practices and actual project performance. Currently, as sustainability and life cycle assessments remain top concerns in infrastructure projects, this line of research may benefit DOTs and highway agencies across the U.S. and worldwide.

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Mineta Transportation Institute
College of Business
San José State University
San José, CA 95192-0219

Tel: (408) 924-7560
Fax: (408) 924-7565
Email: mineta-institute@sjsu.edu

transweb.sjsu.edu/research/2130

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1. Introduction

Improving long-term performance in highway projects is imperative for Departments of Transportation (DOTs). Highways that perform better over the long-term might optimize life cycle costs (Heravi & Esmaeeli, 2014). Further, better long-term performance leads to enhance sustainability in these types of infrastructures (Van Dam et al., 2015). Currently, there is a call for innovative approaches to reduce life cycle cost and enhance sustainability in transportation systems (AASHTO, 2009; Global Infrastructure Hub, 2021a, 2021b). Considering long-term performance under the lens of contracting strategies—such as project delivery and procurement methods—is an innovative approach to improve long-term performance and, in turn, life cycle cost and sustainability in highway projects.

The long-term performance of highway projects results from each DOT's management of the project design, procurement, and construction processes. Alternative project delivery and procurement methods—such as design-build and best-value—have the ability to play an essential role in establishing the tone to work towards pre-determined goals. For example, in design-build project delivery designers and constructors are hired together ensuring collaboration and providing room to innovate in their proposals (Gransberg et al., 2006). Best-value procurement, on the other hand, considers technical criteria in addition to cost in the proposals' evaluation, which enables highway agencies to select the best proposal based on technical criteria aligned with the project's goals (Scott et al., 2006). In both cases, procurement is the starting point in which highway agencies, potential designers, and constructors share the project's goals and draft the project action plan in alignment with those goals (Calahorra-Jimenez et al., 2020). In other words, procurement can incentivize design-builder's design and construction performance (Sanchez et al., 2014).

In design-build best-value procurement, highway agencies convey their goals, expectations, and evaluation criteria in the Request for Proposals (RFPs). Based on these expectations, design-build firms can prepare their proposals and the firm that best meets the DOT's goals and expectations would be selected based on the established evaluation criteria. Thus, the procurement provides an opportunity to align construction with long-term performance goals. However, are DOTs taking advantage of this opportunity? If so, what is the approach that they are taking?

Previous studies have explored whether project delivery methods impact the long-term performance of highway projects. They found that highway projects delivered using design-build delivery systems performed better than those delivered using design-bid-build (Abkarian et al., 2017; Cho et al., 2020). However, these studies did not explore the reasons for these results. Other studies examined how goals and evaluation criteria should be defined in the RFPs in order to be effective (Calahorra-Jimenez et al., 2020; Gransberg et al., 2006; NASFA/AGC, 2008). However, they did not focus specifically on goals and evaluation criteria related to long-term highway performance.

Thus, this research aims to fill this gap by exploring how and to what extent long-term evaluation criteria are considered in design-build best-value system of RFPs.

1.1 Evaluation Criteria and Long-term Performance

This study focuses on design-build projects that use best-value procurement. Best-value procurement considers other technical criteria in addition to price to evaluate and select the design-builder that will develop the work. This type of procurement provides an opportunity to meet long-term performance expectations if teams are selected with this goal in mind. Two core elements in best-value procurement are parameters and evaluation criteria (Keith. Molenaar & Tran, 2015; Scott et al., 2006). Best-value parameters relate to and are based on the project goals, and by using these parameters, highway agencies should determine the evaluation criteria for a given project.

The most relevant best-value parameters are cost, time, qualifications, and performance (Keith. Molenaar & Tran, 2015). On the other hand, the evaluation criteria assess the requirements—established by the Departments of Transportation (DOTs)—that companies need to accomplish within their proposals. These evaluation criteria are project-specific and should depend on the project goals. Evaluation criteria should "represent the key areas of importance and emphasis to be considered in the source selection decision"; and "support meaningful comparison and discrimination between and among competing proposals" (US Federal Goverment, 2002). Qualifications, quality, past performance, management solutions, technical solutions, and proposed design approach are some of the most common primary evaluation criteria used in best-value procurement (Anderson & Russell, 2001; KeithMolenaar et al., 2005; Keith Molenaar & Tran, 2015; Keith Molenaar et al., 2014; Scott et al., 2006).

Long-term performance is not listed as one of the most commonly used primary evaluation criteria. However, design-build best-value contracting might serve DOTs to assess each proposer's design alternatives and award the contract based on criteria that include capital cost and life cycle considerations (Gransberg & Molenaar, 2004). Life cycle considerations are becoming more relevant as the industry moves toward smart maintenance. According to Johannes et al. (2021), maturity in smart maintenance implies data-driven decision-making. This means that maintenance data and feedback should inform procurement. In other words, there should be an alignment between DOTs' goals, evaluation criteria (established in the procurement), and performance measures (obtained during the service of the project). In the design-build project delivery, each DOT defines functional performance requirements and construction behaviors and practices as in the procurement (Garvin et al., 2011).

Long-term performance requirements, according to Van Dam et al. (Van Dam et al., 2015), might relate to design, materials, and construction methods. In design, for example, achieving longer pavement life might imply using empirical mechanical designs to evaluate alternative materials, require higher materials quality, or improve construction specifications (for example, requiring less variability or greater density) (Van Dam et al., 2015). Examples of materials that can extend the life of asphalt pavements might be the use of Warm Mix Asphalt (WMA)—which can improve compaction by reducing compaction temperatures—polymers, or rubberized asphalt (Van Dam et al., 2015). Similarly, changes in construction methods, can extend pavement life by using placement or compaction equipment with smart technology, including thermal cameras and/or transfer vehicles to prevent segregation, or by using quality assurance technology such as nondestructive testing, infrared thermographic scanning, or intelligent compaction (Van Dam et al., 2015).

In summary, best-value evaluation criteria should be defined based on each project's goals and improving long-term performance might be one of these goals. In the procurement stage, goals should be conveyed into evaluation criteria, which should assess meaningful focus areas—such as design, materials, and methods—that contribute to achieving the related goals.

2. Research Methodology

This research aims to explore (1) to what extent design-build RFPs include long-term evaluation criteria; and (2) how long-term evaluation criteria relates to the areas of design, materials, and methods.

To this end, the study follows a three-step approach, as shown by Figure 1.

Figure 1. Research Methodology

First, through data collection, the researchers gathered 100 RFPs from 19 DOTs to be analyzed in the research. Second, the researchers used content analysis to identify, count and compare units of content embedded in the RFP. Finally, long-term evaluation criteria were categorized based on the focus of their assessment.

2.1 Data Collection

In design-build best-value procurement, highway agencies convey their goals and expectations in their RFPs. They also include the evaluation criteria used to assess proposals and select the best firm to develop the work. Thus, the authors collected 100 design-build RFPs from 19 Departments of Transportation (DOTs) across the U.S. (Table 1).

Table 1. Research Data

State	Number of RFPs	State	Number of RFPs
Arizona	1	Mississippi	6
California	3	New York	5
Colorado	4	North Carolina	5
Connecticut	1	Ohio	6
Florida	8	South Carolina	9
Georgia	3	Tennessee	4
Kentucky	3	Texas	5
Louisiana	7	Virginia	4
Maryland	10	Washington	10
Minnesota	6	Total	100

RFPs are public documents that can be downloaded from DOTs' websites. The RFPs collected for this research were used in highway projects procured between 2009 and 2019.

2.2 Content Analysis

According to Smith (2000), "content analysis is a technique used to extract desired information for a body of material by systematically and objectively identifying specified characteristics of the material…[thereby] yielding unbiased results that other qualified investigators can reproduce." Content analysis has been previously used in construction research. For example, Xia et al. (Xia et al., 2012, 2013) conducted content analysis to identify and classify evaluation criteria included in Request for Qualifications (RFQ) and RFPs used in different types of construction projects. Harper et al. (2014) conducted an extensive literature review and content analysis to summarize performance measures for cost estimating. Further, Stanford (2016) explored contracting strategies such as indefinite delivery-indefinite quantity contracting applying content analysis.

According to Fellows and Liu (2008), there are three types of content analysis, quantitative, qualitative, and structural. Quantitative content analysis aims to obtain numerical values such as rankings and frequencies from the categorical data obtained from the documents. Qualitative content analysis focuses on exploring the meanings of the data. Finally, structural content analysis seeks to examine the relationship between categories of data.

In this research, the objective of the content analysis is twofold. First, it aims to identify to what extent RFPs include long-term performance evaluation criteria. To this end, the researcher used quantitative content analysis. Second, the study seeks to explore how long-term goals and evaluation criteria relate to various assessment categories. To this end, the researchers conducted a qualitative content analysis.

Quantitative Content Analysis

Using the software dedoose, the RFPs were stored, identified, and codified. First, the researchers stored the RFPs in the dedoose's cloud-based environment. Second, the researchers identified each RFP using identification numbers (I.D.s) and information fields such as the year when the RFP was issued and the DOT's state. Finally, the researchers conducted a two-step coding approach. The research focuses on analyzing the evaluation criteria related to long-term performance. Thus, the first step in the coding process was identifying all the evaluation criteria within each RFP. To this end, the authors used "EVALUATION CRITERIA" and "CRITERIA" as keywords in this stage. In the second step, the focus was to codify any evaluation criteria related to long-term performance. In this case, the keywords used were "LONG-TERM," "MAINTENANCE," and "LIFECYCLE."

The researchers finalized the quantitative content analysis by determining the frequency of each of the codes defined.

Qualitative Content Analysis

Evaluation criteria with a focus on long-term performance were analyzed using affinity diagrams. According to Holtzblatt and Beyer (2016), "An affinity diagram is an inductive process that bubbles structure up out of the details of the user data."

Long-term evaluation criteria were categorized based on the focus of the assessment articulated by the evaluation criteria. In this regard, the researchers defined three areas of focus for improving long-term performance: design, materials, and methods.

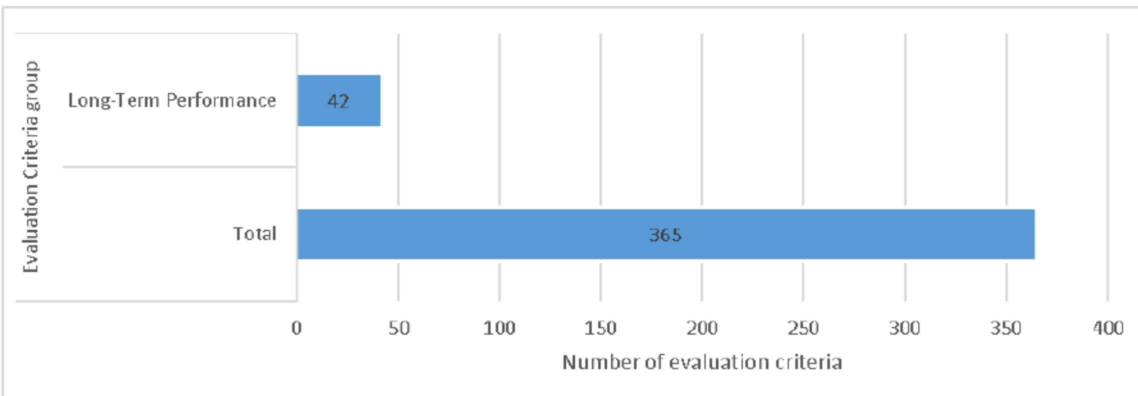
3. Results & Discussion

This section presents the results obtained from the qualitative and quantitative contents analysis. The subsequent section provides a discussion on how these results relate with previous findings.

3.1 Results

Results from the quantitative content analysis of the 100 RFPs showed that 42 out of the 365 evaluation criteria identified (roughly 11%) related to long-term performance (Figure 2).

Figure 2. Number of Evaluation Criteria Identified



Further, the analysis showed that 63% of the states analyzed did include long-term performance information evaluation criteria in their RFPs.

After identifying the long-term evaluation criteria, the authors categorized each item based on the focus of their assessment, considering four categories, design, materials, technology and other topics.

Results from this analysis showed that 60% of long-term evaluation criteria focused on the assessment in the design, 15% in materials, 15% in technology, and 10% on other topics (Figure 3). The weight given to these criteria in the overall technical proposal was lower than 30%.

Figures 2, 3, and 4 show examples of how the categories of design, materials, and methods are articulated to assess long-term performance in the evaluation criteria.

Figure 3. Long-term Evaluation Criteria per Assessment Focus

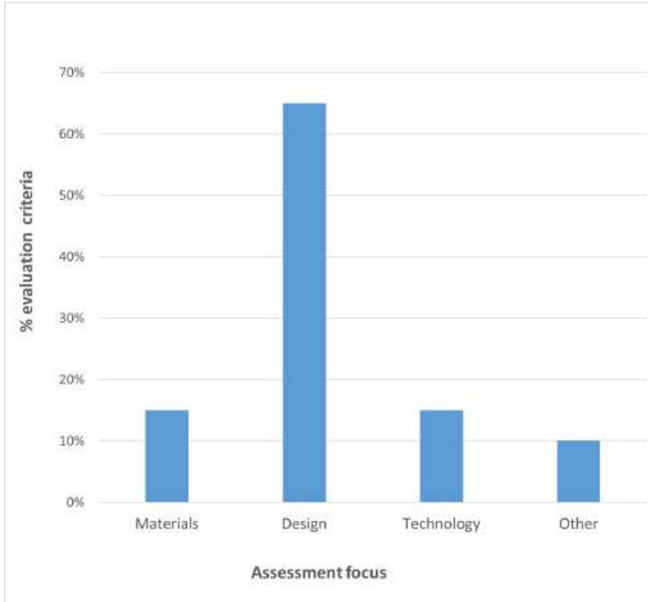


Table 2. Long-term Evaluation Criteria with a Focus on Design

Design focus	Long-term performance feature under evaluation
Master design	Maximize performance and serviceability, minimize long-term maintenance cost
Design features	Reduce the need for maintenance or would make inspection/maintenance more effective
Design approaches	Minimize periodic and routine maintenance
Technical solutions	Long-term durability, service life, and considerations for future inspections and maintenance
Special design	Reduce future maintenance cost

In these cases, the long-term approach is assessed by asking the proposers to provide a design that reduces maintenance and maintenance costs and increases performance and durability.

Table 3. Long-term Evaluation Criteria with a Focus on Materials

Materials focus	Long-term performance feature under evaluation
Exceed minimum material requirements	Enhance the durability of the project components
Consider the type of materials	Reduce the need for future inspection and maintenance
Special materials	Result in a long-term reduction in maintenance.

Long-term evaluation criteria that focus on materials ask proposers to exceed minimum requirements or use special materials that reduce maintenance requirements and increase performance and durability.

Table 4. Long-term Evaluation Criteria with a Focus on Technology/Methods

Technology/Methods focus	Long-term performance feature under evaluation
Develop and deploy construction techniques	Enhance project durability, reduce long-term performance and routine maintenance
Consider methods	Reduce the need for future inspection and maintenance
Construction methods	Would reduce maintenance costs to the department

In the case of criteria addressing technology and/or methods, the long-term approach is assessed by asking the design-builders to propose construction techniques that reduce maintenance and maintenance costs and increase performance and durability.

Ten percent of the long-term evaluation criteria identified were categorized as "other." In this case, the long-term assessment referred to "temporary impacts and final site configuration" or general statements such as "initiatives that result in permanent benefit vs. temporary benefits."

3.2 Discussion

The purpose of this research was twofold. Firstly, to explore to what extent design-build RFPs include long-term goals and evaluation criteria. The research found that 63% of the states analyzed included long-term evaluation criteria in their proposals. However, only 11% of all evaluation criteria included in the RFPs focused on long-term performance.

Secondly, this research aimed to explore how long-term criteria related to design, materials, and methods. Long-term evaluation criteria were found to be secondary criteria included in three primary criteria categories: design, management, and innovation. Within these categories, 65% of the evaluation criteria focused on design solutions to address long-term performance issues, while 15% emphasized materials and methods, respectively. Thus, the primary focus of long-term assessment is design, while materials and methods are less frequently considered. DOTs might evaluate what materials and methods have benefited the long-term performance of their projects and require them in the procurement of future projects. Further, they may use the “value-added” primary criteria to require materials and methods that enhance projects' long-term performance. Van Dam et al. (2015) provided examples of these materials, such as WMA that improve compaction, and methods like thermal cameras and transfer vehicles that might prevent segregation.

The results of this study are aligned with previous research, where long-term goals and evaluation criteria were not considered among the primary most commonly used criteria (Anderson & Russell, 2001; K. Molenaar et al., 2005; Keith. Molenaar & Tran, 2015; Keith Molenaar et al., 2014; Scott et al., 2006). Further, this research's findings contribute to the field of alternative project delivery by providing insight about how and to what extent long-term performance is being considered when crafting design-build best-value evaluation criteria. Thus, this study adds a new line of research to the current studies by Cho, El Asmar, S. Underwood, and Kamarianakis (2020), Abkarian, El Asmar, and S. Underwood, (2017) on long-term performance and design-build delivery.

This research shows the historical trend of design-build best-value evaluation criteria regarding long-term performance. Future research is needed to explore the relevance and effectiveness of including long-term evaluation criteria in the procurement of actual projects. To this end, surveys and case studies might be conducted on projects already procured and executed. The results from the analysis of best-value procurement evaluation criteria and long-term performance might establish the foundations to explore the impact that procurement practices might have on the actual performance of highway projects.

Conclusions

Improving long-term performance in highway projects is an imperative goal for DOTs, and procurement might be an opportunity to align the design and construction processes with this goal. This research's findings show that DOTs are not taking full advantage of this opportunity, with only 11% of the evaluation criteria analyzed assessing long-term performance issues.

This study is a first step to initiate a deeper exploration of the relationship between procurement practices and actual project performance.

Currently, with sustainability and life cycle assessments being top concerns in infrastructure projects, this line of research might be of particular interest to DOTs and highway agencies across the U.S. and worldwide.

Appendix A

Table 5 list all the projects whose Request for Proposals (RFPs) were analyzed in this research.

Table 5. Projects Analyzed

ID	State	Year	Name
1	Arizona	2018	Pima Freeway (SR 101) Interstate 17 to Pima Road. Design & Construct General Purpose Lanes
2	California	2011	Los Angeles County in the City of Baldwin Park at Route 10/605 Interchange
3	Ohio	2011	I-670/71 Interchange Improvement Design Build Project. Evaluation Criteria
4	Ohio	2011	I-670/71 Interchange Improvement Design Build Project. Project Scope
5	Colorado	2014	I-25/Cimarron Street (US 24) Interchange
6	Connecticut	2014	Rehabilitation of Bridge No: 03761, 03762, 03764, & 03765
7	Florida	2018	I-10 Widening from I-295 to I-95 Duval County
8	Georgia	2017	The I-84 Widening project
9	Kentucky	2019	Boone County
10	Louisiana	2009	Interstate-10 Widening. Instruction to proposers
11	Louisiana	2010	Interstate-10 Widening. Instruction to proposers. Appendix A
12	Maryland	2016	MD-32-MD 108 to North of Linden Church Road
13	Minnesota	2018	I-94 St. Michael to Albertville
14	Mississippi	2014	Woodrow Wilson Avenue Bridge over Mill Street
15	New York	2019	I-390 Interchange Improvements
16	North Carolina	2011	Replacement of bridges
17	Ohio	2011	I-70/I71 South innerbelt & I-71/I-670 Interchange
18	Ohio	2011	I-70/I71 South innerbelt & I-71/I-670 Interchange
19	South Carolina	2018	Interstate 26 Widening
20	Tennessee	2018	Interstate I-75 at Interstate I-24 Interchange Modification
21	Texas	2018	The I-20/I-69C Interchange Project
22	Virginia	2016	Route 606 Bridge Replacement over I-94 with 606 Improvements
23	Washington	2019	SR 167/70th Ave Vicinity Bridge Replacement Project
24	California	2012	I-15/I-215 Interchange Improvements Design-Build Project. Instruction to Proposers

ID	State	Year	Name
25	California	2010	San Mateo 101 Ramp Metering Design-Build Project. Instruction to Proposers
26	Maryland	2016	MD 404 - US 50 to East of Holly Rd (Add 1-5) - Design-Build Project - Request for Proposals
27	Maryland	2018	Area Wide Total Maximum Daily Load (Add 1-2) - Design-Build Project - Request for Proposals
28	Maryland	2017	US 219 - I-68 to Old Salisbury Rd (Phase 1) - Design-Builb - Request for Proposals
29	Maryland	2017	US 219 - I-68 to Old Salisbury Rd (Phase 2) - Design-Builb - Request for Proposals
30	Maryland	2018	MD 32 From Linden Church Rd to I-70 - Design-Build - Request for Proposals
31	Maryland	2016	MD 32 - MD 108 To North of Linden Rd - Design-Build Project - Request for Proposals
32	Maryland	2014	MD 4 from Forestville Rd to MD 458 (Silver Hill Rd) - Design-Build Project - Request for Proposals
33	Maryland	2016	US 113 (Phase 4) from North of MD 365 to North of Five Mile Branch Road - Design-Build Project - Request for Proposals
34	Maryland	2014	US 113(Phase 3) from North of Massey Branch to Five Mile Branch Rd - Design-Build Project - Request for Proposals
35	North Carolina	2018	I-440/US 1 from south of SR 1313 (Walnut Street) to north of SR 1728 (Wade Avenue); and Grade Separations on Beryl Road, Norfolk Southern Railway / North Carolina Railroad / CSX Transportation and NC 54 (Hillsboro Street) at SR 1664 (Blue Ridge Road) - Design-Build Project - Request for Proposals
36	North Carolina	2018	Statesville – I-40 / I-77 Interchange: I-40 from SR 2003 (Radio Road) to SR 2158 (Old Mocksville Road); I-77 from SR 2171 (Jane Sowers Road) to SR 2321 (East Broad Street); and SR 2321 (East Broad Street) from Vine Street to SR 2422 (Signal Hill Drive)
37	North Carolina	2018	Triangle Expressway Southeast Extension from east of Pierce Olive Road (SR 1389) to east of US 401
38	North Carolina	2018	Winston-Salem Northern Beltway Interchange at US 52 (Future I-74)
39	Ohio	2010	Bridge Over Cuyahoga River Valley on I-90
40	Ohio	2010	Bridge Over Cuyahoga River Valley on I-91
41	Florida	2017	SR 60 (Courtney Campbell Causeway) Old Tampa Bay Water Quality Improvement Project

ID	State	Year	Name
42	Florida	2016	I-4 Fog/Low Visibility Detection System
43	Florida	2015	SR 30(US 98) Pensacola Bay Bridge Replacement of Bridge No. 480035
44	Florida	2015	I-75 (SR 93) From S. of US 98/SR 50/Cortez Blvd To N. of US 98/SR 50/Cortez Blvd
45	Florida	2018	SR 679 (Pin Bayway) Structure E Intracoastal Waterway from N End of Boca Ciega Bridge to SR 682
46	Florida	2019	I-275 Howard Frankland Bridge from North of SR 687 to South of SR 60
47	Florida	2016	I-275 Sunshine Skyway Rest Areas and Seawall Repairs
48	Kentucky	2019	I-265, I-64, & I-265 Interchange Mobility and Safety Improvements
49	Kentucky	2019	I-275 Development between Interstate Exits 8 and 11
50	Virginia	2014	Route 7 and Battefield Parkway Interchange
51	Virginia	2015	I-64 Capacity Improvements - Segment II
52	Virginia	2016	I-64 Southside Widening and High Rise Bridge, Phase 1
53	Tennessee	2018	I-440, Widening from I-40 to I-24
54	Tennessee	2017	State Route 396 Saturn Parkway Extension
55	Tennessee	2019	US-64 (SR-40) Over Ocoee River Bridge
56	Colorado	2014	Eisenhower/Johnson Memorial Tunnel Fixed Fire Suppression System
57	Colorado	2017	Colorado Express Lanes Master Plan
58	Colorado	2014	I-25-Ilex Design Build
59	Louisiana	2013	US 90 (I-49 South) Albertson's Parkway to Ambassador Caffery
60	Louisiana	2006	New Mississippi River Bridge
61	Louisiana	2014	US 90 (Future I-49) LA 318 Interchange
62	Louisiana	2009	US 90 Interchange at LA 85
63	Louisiana	2009	Amite River Bridge to Juban Rd(WB) & Pete's Highway to Juban Road(EB)
64	Georgia	2018	I-20 at Savannah River Bridge Replacements and Roadway Widening
65	Georgia	2015	SR 299 at I-24 Bridge Replacement (Accelerated Bridge Construction)
66	South Carolina	2015	Interstate 20 Widening From MM 49-60
67	South Carolina	2019	I-85 Over Rocky Creek Bridge
68	South Carolina	2015	Port Access Road
69	South Carolina	2019	US 1 Over I-20 Interchange

ID	State	Year	Name
70	South Carolina	2014	Federal Aid Bridge Replacement Project Package E
71	South Carolina	2014	US Route 701 Bridge Replacements Over Yauhannah Lake, Great Pee Dee River and Overflow
72	South Carolina	2014	Interstate 85/385 Interchange Improvements
73	South Carolina	2016	Interstate 85 Reconstruction and Widening from Approximate MM 77 to MM 98
74	New York	2017	Region 11 Rehabilitation of Three Interchange Bridges
75	New York	2015	Region 8 Bundle Bridges(Contract 3)
76	New York	2018	Buffalo Station
77	New York	2017	Route 17 at Route 32 (Exit 131) Reconstruction
78	Mississippi	2009	I-59 Bridge Widening Project
79	Mississippi	2009	Extension of I-59/I-20 Merge Lanes and I-20 Bridge Widening Project
80	Mississippi	2010	I-55 District 7 Lincoln County
81	Mississippi	2011	Improvements to State Route 9 From US 278 to US 78
82	Mississippi	2013	SR 304/I-269 Project Design and Construction
83	Minnesota	2017	Willmar Wye Roadway Design-Build Project
84	Minnesota	2015	Steel Country Bridge Rehabilitation
85	Minnesota	2019	I-94 Monticello to Clearwater
86	Minnesota	2014	TH 2 Crookston Slope Stability from Groveland Ave to Pine Street
87	Minnesota	2022	I-35W North MnPass Express Lane
88	Texas	2014	SH 360 Addition of Toll Lanes and Frontage Rd Improvements
89	Texas	2015	SH 99 Grand Parkway Segments H, I-1 and I-2
90	Texas	2016	Southern Gateway Project - I-35E from Colorado Blvd to Soutn of I-35E/US 67 Interchange
91	Texas	2018	The I-635 LBJ from East of US 75 to I-30
92	Washington	2018	I-5 Portland Ave to Port of Tacoma Rd-Southbound HOV
93	Washington	2019	SR 167/70th Ave E. Vicinity Bridge Replacement
94	Washington	2015	I-405 / SR 167 Interchange Direct Connector Project
95	Washington	2018	US 12 Wildcat Creek Bridge Replacement
96	Washington	2018	I-82 South Union Gap Interchange Ramps
97	Washington	2019	US 12/Nine Mile Hill to Frenchtown Vic.
98	Washington	2017	I-5 / NB MLK Jr Way to NE Ravenna Br - Pavement Repair
99	Washington	2014	SR 167 / 8th E Vic to S 277th St - Southbound HOT Lane

ID	State	Year	Name
100	Washington	2019	I-405 Renton to Bellevue Widening & Express Toll Lanes

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About the Author

Dr. Maria Calahorra-Jimenez is an Assistant Professor in the Department of Construction Management at California State University, Fresno. Maria holds a Ph.D. degree in Civil Engineering from the University of Colorado Boulder and a Ph.D. degree in Engineering Science from the Catholic University of Chile. Before earning her doctorates, Maria worked in international engineering firms for 14 years.

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