



PROGRESSIVE DESIGN-BUILD IMPLEMENTATION

FINAL REPORT

IN PARTNERSHIP WITH



JUNE 2026



Relationship To Companion Documents

This research report is intended to document the evidence supporting the ACEC Research Institute's related Progressive Design-Build (PDB) guidance resources:

- [Progressive Design-Build: Practice, Perception and Potential \(May 2025\)](#)
- [Progressive Design-Build Recommendations For Owners And PDB Teams On Effective Project Delivery \(May 2026\)](#)

While the companion guides translate the findings into practical recommendations, tools, and implementation guidance for industry use, this report presents the underlying research basis for those materials.

This report summarizes findings from the firm-level survey, project-level survey, completed project interviews, and off-ramped project interviews. Together, these data sources explain the current state of PDB practice, the conditions associated with project outcomes, the challenges that can lead to off-ramping, and the practical lessons that informed the development of the ACEC Research Institute's guidance materials.

Readers seeking concise implementation guidance should refer to the companion resources noted above. Readers seeking supporting evidence, research methods, data summaries, and analytical basis for those recommendations should use this report.

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Contents

EXECUTIVE SUMMARY	6
CHAPTER 1: INTRODUCTION AND PURPOSE	8
Why PDB Matters	8
What is PDB?	8
Context for the Rise of PDB	9
Purpose of this Report	9
Research Approach	10
Intended Audience	11
Reader's Guide	11
CHAPTER 2: FIRM-LEVEL PERSPECTIVES AND OUTLOOK	12
Respondent Profile	12
Market Growth and Adoption	13
PDB Satisfaction Level and Drivers	13
Barriers to Broader Adoption	14
Comparative Risk Allocation Insights	15
Comparative Insurance Insights	16
Key Takeaways	16
CHAPTER 3: PROJECT-LEVEL INSIGHTS	17
Overall Project Sample Profile	17
Procurement and Commercial Structure	19
Pricing Strategy Across Project Phases	20
Project Size and Duration	20
Project Performance of PDB Projects	21
Comparison with Other Alternative Contracting Study Benchmarks	22
Key Takeaways	24
CHAPTER 4: INSIGHTS FROM COMPLETED PROJECTS	25
Interview Sample Overview	25
Key Insights on Success Factors in Completed PDB Projects	25
Recommendations for Owners	26
Recommendations for the PDB Team	28
Practices Leading to Success	29
Key Takeaways	30
CHAPTER 5: INSIGHTS FROM OFF-RAMPED PROJECTS	31
Off-Ramped Interview Sample Overview	31
Key Insights on Off-Ramped Projects	31
Recommendations for Owners	32
Recommendations for the PDB Team	33
Key Takeaways	34

CHAPTER 6: OVERALL KEY TAKEAWAYS	35
State of Practice: Growth, Reach, and Remaining Constraints	35
Phase 1 as the Core Mechanism of PDB	35
Collaboration Supported by Effective Governance	36
Commercial Clarity and Alignment Across Project Phases	36
Understanding Off-Ramping Within PDB Practice	36
Organizational Readiness and Delivery Conditions	37
Practical Implications for Industry Stakeholders	37
Final Reflection	37
LIST OF ABBREVIATIONS	38

List Of Figures

Figure 1. <i>Two-Phase Structure of PDB</i>	9
Figure 2. <i>Data Collection Strategies and Overview</i>	10
Figure 3. <i>Distribution of Respondents by Firm Role</i>	12
Figure 4. <i>Reported Change in PDB Construction Value and Number of Projects over the Past Five Years</i>	13
Figure 5. <i>Comparative Ratings of Project Delivery Methods on Risk-Related Considerations</i>	15
Figure 6. <i>Comparative Ratings of the Ability to Secure Required Insurance by Project Delivery Method</i>	16
Figure 7. <i>Project Progress and Off-Ramp Status</i>	17
Figure 8. <i>Project and Owner Types</i>	18
Figure 9. <i>Respondent Firm Role in Completed Projects</i>	18
Figure 10. <i>Procurement Method in Completed Projects</i>	19
Figure 11. <i>Phase 1 and 2 Pricing Strategy in Completed Projects</i>	20
Figure 12. <i>Project Size in Completed Projects</i>	20
Figure 13. <i>Project Duration in Completed Projects</i>	21
Figure 14. <i>Cost Variance Distribution</i>	21
Figure 15. <i>Schedule Variance Distribution</i>	22



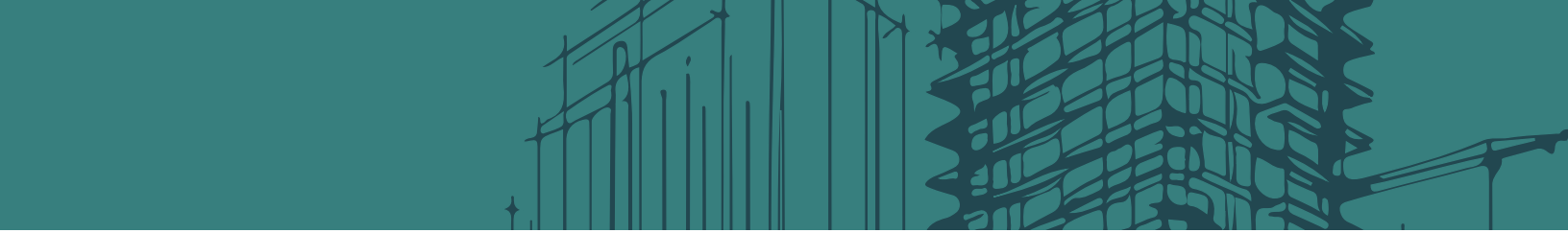
Executive Summary

This report presents findings from a multi-phase study on the current state of Progressive Design-Build (PDB) practice. Data for the study was collected through a firm-level survey, a project-level survey, interviews with project teams on completed projects, and interviews with project teams on off-ramped projects. Overall, the findings show that PDB implementation continues to expand, is viewed positively by many industry participants, and provides a collaborative framework for aligning scope, cost, schedule, and risk. At the same time, successful implementation depends on disciplined project validation, clear project governance structures, realistic commercial structures, and early resolution of key project constraints. When these factors are present and align properly, the data shows strong and consistent performance related to project schedule as compared to other delivery models. The data also points to cost savings with PDB when benchmarked against studies on other delivery systems.

The firm-level survey showed continued growth in both the number and value of PDB projects over the last five years, along with generally high satisfaction. Respondents also viewed PDB favorably relative to other project delivery methods on risk-related considerations. However, the survey also highlighted barriers to broader adoption, including limited owner familiarity, regulatory and procurement constraints, uneven market opportunity, and implementation challenges.

The project-level survey showed that current PDB practice is concentrated primarily in the public sector and is especially strong in the buildings sector, with additional representation from the transportation and water/wastewater sectors. Within completed projects, procurement was mainly qualifications-driven, partnering agreements were used inconsistently, and pricing strategies varied across phases. These findings show that PDB is being applied across a broad range of project sizes and durations, but with meaningful variation in how projects are commercially structured.

The completed projects analysis showed that stronger outcomes were associated with three recurring conditions. First, successful teams used Phase 1 as a disciplined alignment process supported by risk registers, frequent estimate reconciliation,



credible baseline schedules, and clear scope and basis documentation. Second, strong outcomes depended on collaboration supported by governance, including clear decision authority, disciplined coordination, and timely issue resolution. Third, successful teams addressed key enabling conditions early, including permitting, utilities, site readiness, third-party constraints, and continuity of key personnel.

When teams achieve these goals, project performance in terms of cost and schedule compares favorably to other delivery systems. The PDB dataset in the study showed 0 percent median schedule growth, which compares very favorably to similar studies on different delivery systems from the Pankow Foundation and FHWA. The data on cost shows more promising results, with the median cost growth at only 0.6 percent in the PDB dataset, which is below the Pankow Foundation's building-project total and the FHWA highway-project total. While the comparison should be interpreted cautiously because of differing project sectors, cost-growth definitions, and data-screening procedures, the strong performance on cost and schedule for PDB projects may also be driving the favorable impressions of this delivery system among industry and public clients.

The off-ramped project analysis showed that off-ramping was typically driven by feasibility and alignment constraints rather than technical failure alone. The main issues leading to off-ramping were scope-funding mismatch, market pricing and escalation, unresolved commercial and risk-allocation rules, and third-party or site-readiness barriers. In many cases, off-ramping indicated that Phase 1 was functioning as intended, demonstrating that the project could not responsibly proceed under the existing conditions that prevailed at that time.

Overall, this report shows that the value of PDB lies not only in early collaboration but in how that collaboration is structured and managed. For owners and PDB teams, the key implication is clear: successful PDB delivery requires disciplined project validation, transparent commercial rules, clear governance, and active management of risk and constraints. Continued advancement of PDB will depend on strengthening these practices and improving the guidance and tools available to support implementation.

Introduction and Purpose

Why PDB Matters

Design-Build (DB) has become a major project delivery method in the U.S. design and construction market¹. At the same time, some DB procurement and contracting approaches continue to face challenges related to pricing, risk allocation, insurance, and disputes². Progressive Design-Build (PDB) has emerged as an important response to these challenges by allowing owners and design-builders to collaborate early, before final project pricing and full risk commitments are established. This early collaboration provides an opportunity to align scope, budget, schedule, and risk before moving into full execution.

PDB is also gaining momentum in industry practice. As shown later in this report, firms are reporting growth in both the number and value of PDB projects, along with generally positive experiences using the method. These trends make PDB an increasingly important topic for owners, designers, builders, and industry stakeholders seeking project delivery approaches that support transparency, flexibility, and better-informed decision-making.

What is PDB?

PDB is a project delivery method in which the owner selects a design-builder early, typically through a qualifications-based process, and then collaborates with that team during Phase 1 to define the project before final project pricing. Rather than requiring full price commitment at the time of selection, PDB allows the owner and design-builder to develop the design, test assumptions, clarify risks, and evaluate project feasibility before moving into construction.

As shown in Figure 1, PDB generally consists of two phases. In Phase 1, the owner and design-builder collaboratively advance the design, refine the scope, evaluate cost and schedule, identify and allocate risks, and determine whether the project is ready for validation and to proceed. The second phase is execution, which begins after the parties reach an agreement on the project's technical basis and commercial terms. This structure distinguishes PDB from other delivery approaches by making validation the central mechanism for Phase 1 alignment before final commitment.

¹ FMI "Design-Build Utilization Study Key Findings Report."

² ACEC Research Institute. (2022). *Design-build state of practice: Recommendations for agencies and industry on effective project delivery*. ACEC Research Institute.

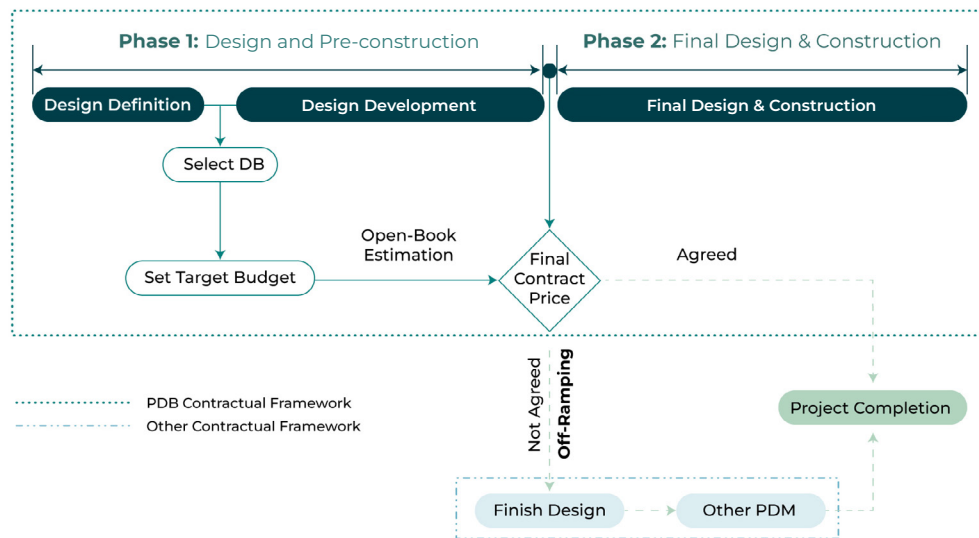


Figure 1. Two-Phase Structure of PDB³

Context for the Rise of PDB

The increasing interest in PDB reflects broader changes in owner expectations and project complexity. Owners are seeking delivery methods that provide greater flexibility during early project development, improve collaboration across the project team, and create more transparency around scope, pricing, and risk. Previous industry studies⁴ have shown that firms continue to face challenges in DB related to risk allocation, insurance, and commercial alignment, while also identifying qualifications-based selection, phased pricing, and stronger owner-team collaboration as important strategies for improving outcomes.

PDB responds directly to these needs by creating a structured process for early alignment. It gives owners and design-builders an opportunity to work through project uncertainty before making full commitments and provides a framework for improving decision-making, reducing disputes, and increasing visibility into project development. In this way, the rise of PDB reflects both market demand for more collaborative delivery and the practical need for better tools to manage uncertainty in complex projects.

Purpose of this Report

This research report is intended to document the evidence supporting the ACEC Research Institute’s related PDB guidance resources:

- [Progressive Design-Build: Practice, Perception and Potential \(May 2025\)](#)
- [Progressive Design-Build Recommendations For Owners And PDB Teams On Effective Project Delivery \(May 2026\)](#)

³ Gransberg, D. D., and K. R. Molenaar. 2019. “Critical Comparison of Progressive Design-Build and Construction Manager/General Contractor Project Delivery Methods.” Transportation Research Record: Journal of the Transportation Research Board.

⁴ ACEC Research Institute. (2022). *Design-build state of practice: Recommendations for agencies and industry on effective project delivery*. ACEC Research Institute.

This report presents the findings of a multi-phase study on the current state of PDB practice. It brings together evidence from the firm-level survey, project-level survey, completed project interviews, and off-ramped project interviews to provide an industry-focused assessment of how PDB is being used, where it is performing well, and where challenges remain.

Specifically, this report aims to document the research by:

- Providing a data-driven assessment of current industry trends, project characteristics, and overall satisfaction with PDB.
- Examining how PDB is implemented across firms, projects, and sectors.
- Comparing PDB with other project delivery methods in relation to risk-related considerations.
- Identifying key benefits, recurring challenges, and conditions associated with successful PDB implementation.
- Highlighting lessons learned from completed and off-ramped projects.
- Identifying areas where additional guidance, tools, and industry support are needed to strengthen PDB practice.

Research Approach

To assess current PDB practice, the research team used a three-part research design. First, a firm-level survey was used to capture quantitative ratings and qualitative responses on market trends, perceived benefits and barriers, satisfaction, and comparative views of PDB relative to other delivery methods. Second, a project-level survey was used to collect data on procurement and selection practices, project structure, commercial arrangements, pricing strategies, and project characteristics. Third, project interviews were conducted to capture lessons learned, success factors, and challenges across completed and off-ramped projects.

Together, these three components allowed the study to examine PDB from multiple perspectives: firm-level outlook, project-level structure, and case-based experience. As shown in Figure 2, the research approach was designed to connect broad survey evidence with deeper project and interview-based insights, creating a stronger basis for understanding both current practice and the conditions associated with project outcomes.

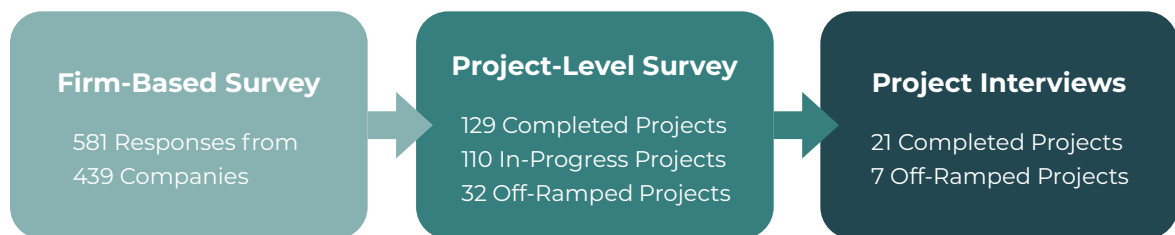
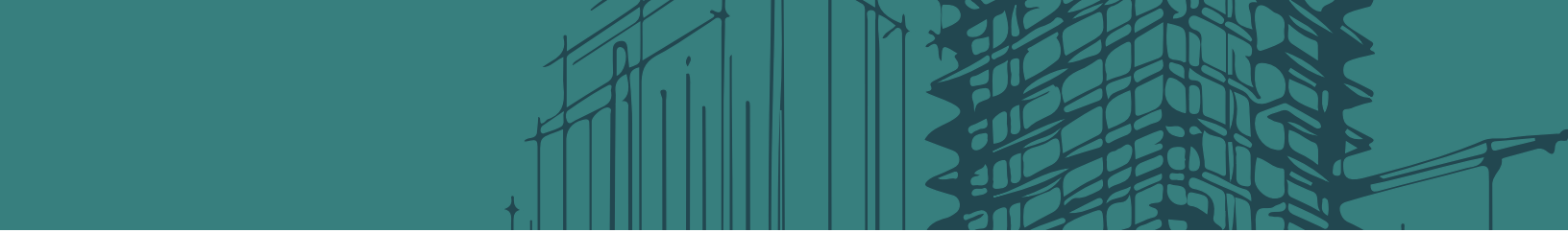


Figure 2. Data Collection Strategies and Overview



The firm- and project-level surveys were distributed to a broad range of industry participants, including owners, owner-advisors, design-builders, architects, engineers, and subcontractors. These participants represented firms and projects across major sectors, including aviation, industry, buildings, transportation, and water/wastewater. Interview cases were identified from the project-level survey based on project performance, risk-related considerations, and overall outcomes. The findings presented in the following chapters are based on the combined analysis of these surveys and interviews.

Intended Audience

Readers who want to know more about how the companion PDB guide and state-of-practice report were developed will find this report useful. It documents the research approach, data sources, survey findings, interview evidence, and analytical basis that informed those resources. It is relevant for public and private owners, owner advisors, builders, designers, engineers, agency decision-makers, policymakers, and industry stakeholders seeking a deeper understanding of the evidence behind the guide's recommendations and the broader state of PDB practice.

Reader's Guide

This report is organized to document the evidence base behind the companion PDB guide and state-of-practice report.

Chapter 1: Introduction and Purpose explains why PDB is important, defines the delivery method, introduces the study purpose, and summarizes the research approach.

Chapter 2: Firm-Level Perspectives and Outlook presents findings from the firm-level survey, including respondent profiles, market growth, satisfaction with PDB, barriers to broader adoption, and comparative perspectives on risk allocation and insurance.

Chapter 3: Project-Level Insights summarizes the project-level survey findings, including project types, owner types, project status, off-ramp status, procurement methods, partnering agreements, stipends, pricing strategies, project size, and project duration.

Chapter 4: Insights from Completed Projects documents lessons from completed PDB projects. It focuses on success factors, owner recommendations, PDB team recommendations, and practices associated with stronger outcomes.

Chapter 5: Insights from Off-Ramped Projects documents lessons from projects that did not proceed to Phase 2. It explains common off-ramp drivers, how off-ramping can function as a disciplined Phase 1 outcome, and practical recommendations for owners and PDB teams.

Chapter 6: Overall Key Takeaways synthesizes findings across the firm survey, project survey, completed-project interviews, and off-ramped-project interviews. It summarizes the main evidence-based conclusions that informed the companion guidance materials.

Firm-Level Perspectives and Outlook

Respondent Profile

The firm-level survey captured the perspectives and outlook of many PDB implementations. We received 581 responses representing 439 different organizations. Of the 439 organizations, 292 (67%) reported experience with PDB, while 147 (33%) did not participate in PDB projects. These respondents represented a wide variety of roles, including owner, owner's advisor, design-builder, designer, engineer, builder, subcontractor, and subconsultant, as seen in Figure 3. Further, these firms had varying experience with PDB: 129 (44%) had 0 to 5 years, 38 (13%) had 5 to 15 years, and 125 (43%) had over 15 years.

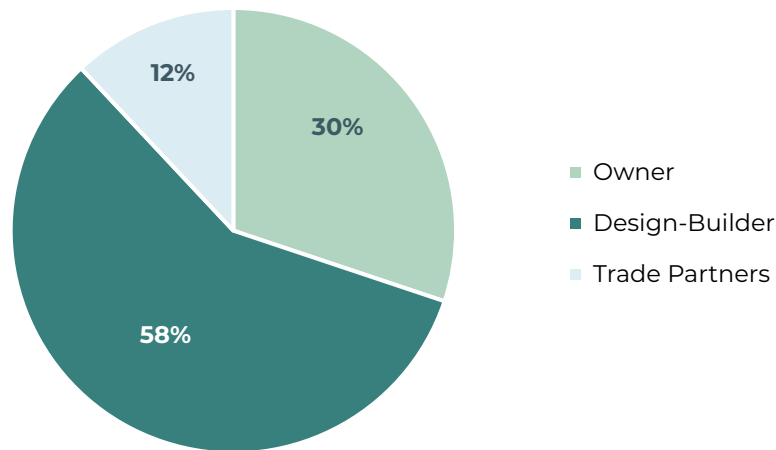


Figure 3. Distribution of Respondents by Firm Role

Respondents reported a wide range of typical PDB project sizes, but the largest share in both groups was \$50 million to \$250 million. Among owners, this category was followed by \$250 million to \$500 million and \$10 million to \$50 million. Among non-owners, \$10 million to \$50 million was the second-most-common category, followed by \$500 million to \$1 billion and \$250 million to \$500 million. Overall, the responses suggest that PDB is most commonly associated with medium- to large-sized projects rather than very small projects. It is also being used on a number of mega-projects (\$1 billion and larger) in the transportation and infrastructure sectors, but mega-projects are not included in the data for this study.

Market Growth and Adoption

The survey findings show continued growth in PDB use over the last five years. Among respondents with PDB experience, 88 percent reported an increase in the number of PDB projects, and 81 percent reported growth in the overall construction value of those projects, as shown in Figure 4.

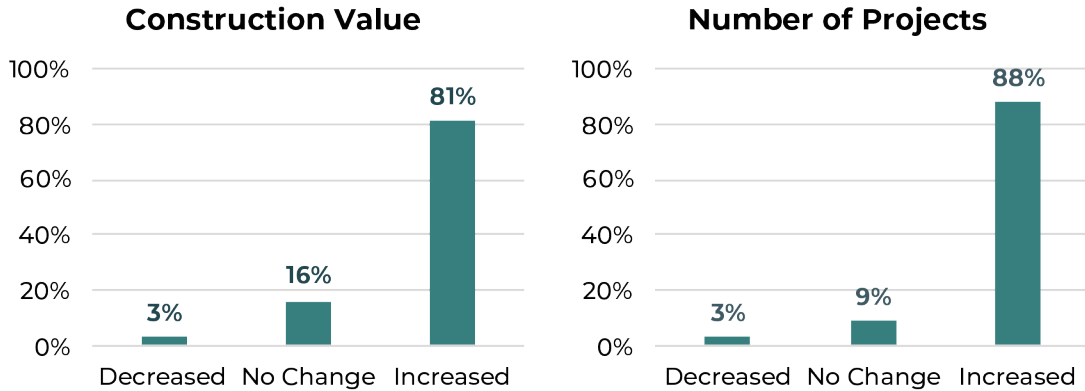


Figure 4. Reported Change in PDB Construction Value and Number of Projects over the Past Five Years

These results indicate that PDB is gaining momentum not only in project count but also in overall market significance. This growth appears to reflect broader industry interest in delivery methods that support collaboration, transparency, and better alignment during project development. From the firm's perspective, PDB is increasingly seen as a practical approach to early coordination, shared problem-solving, and more informed decision-making before final price commitment. The growth trend, therefore, suggests that firms are not only aware of PDB but are increasingly finding value in applying it in practice.

PDB Satisfaction Level and Drivers

Overall industry sentiment toward PDB was strongly positive. The survey found that 79 percent of respondents were satisfied with the PDB delivery method, while only 6 percent were dissatisfied, as shown in Table 1. This level of satisfaction indicates that, from the firm's perspective, PDB is generally meeting expectations and is associated with positive project experiences.

Table 1. Overall Satisfaction with PDB

Satisfaction level	Number of responses	Percentage
Satisfied	231	79%
Neutral	43	15%
Dissatisfied	18	6%
Total	292	100%



A collaborative approach that builds trust among all the Stakeholders involved.

— OWNER'S REP

The positive sentiment toward PDB is tied to how the method supports collaboration among project participants. Respondents consistently associated PDB with stronger team dynamics, more meaningful owner involvement, greater transparency, and better alignment of project goals. These characteristics appear to contribute to improved communication, more constructive decision-making, and a greater sense of shared accountability across the project team.



Given PDB is new to transportation markets, some clients are having a harder time understanding how to interact differently with the [DB] team from low-bid and value-based DB projects.

— DESIGN/BUILDER

In addition, respondents described PDB as creating conditions that improve overall project delivery by allowing teams to work through scope, budget, and risk matters more openly during Phase 1. From an industry standpoint, this structure supports trust-building and reduces the likelihood that major issues remain unresolved until later stages of the project. As a result, satisfaction with PDB is not only a reflection of team preferences, but also of the delivery method's perceived and demonstrated ability to improve how projects are developed and advanced.

Barriers to Broader Adoption

Despite the positive trends and generally high satisfaction, the survey also shows that barriers to broader PDB adoption remain. Qualitative responses indicate that these barriers are not driven by a single issue, but rather by a combination of market, regulatory, organizational, and cultural factors. The recurring theme was limited market opportunity and uneven familiarity with the method. In some markets, firms reported that PDB opportunities remain limited, making it difficult to build internal experience or establish repeatable processes around the delivery method.



[PDB is] not legislatively authorized where our company is headquartered. We are not opposed to the method if the opportunity arises.

— DESIGN/BUILDER

In other cases, firms noted that owners and project teams are still becoming familiar with the roles, expectations, and procurement dynamics associated with PDB. Respondents also identified regulatory and legal constraints as a significant barrier, particularly in the public sector. In addition, some responses pointed to owner hesitancy and cultural resistance to changing established delivery practices, especially in environments where conventional approaches are already well understood and widely accepted. From the firm's perspective, these barriers can slow adoption even when project teams recognize the potential advantages of PDB.

Finally, some firms identified internal strategic and operational limitations that affect their ability or willingness to pursue PDB work. These include limited internal experience, concerns about readiness, and caution regarding how responsibilities and decisions are managed in a more collaborative delivery environment. Taken together, these findings suggest that continued growth in PDB will depend not only on project-level success but also on improving market familiarity, owner readiness, and implementation capacity across the industry.



Owner uncertainty of proceeding with no assurances of project price until GMP and commitment to collaborative participation.

— OWNER

Comparative Risk Allocation Insights

The survey also asked respondents to compare PDB with other project delivery methods, including low-bid design-build (LBDB), best-value design-build (BVDB), construction manager at risk (CMAR), and integrated project delivery (IPD). From the firm's perspective, PDB was rated most favorably overall on risk-related considerations, with stronger results than the other delivery methods included in the comparison, as shown in Figure 5.

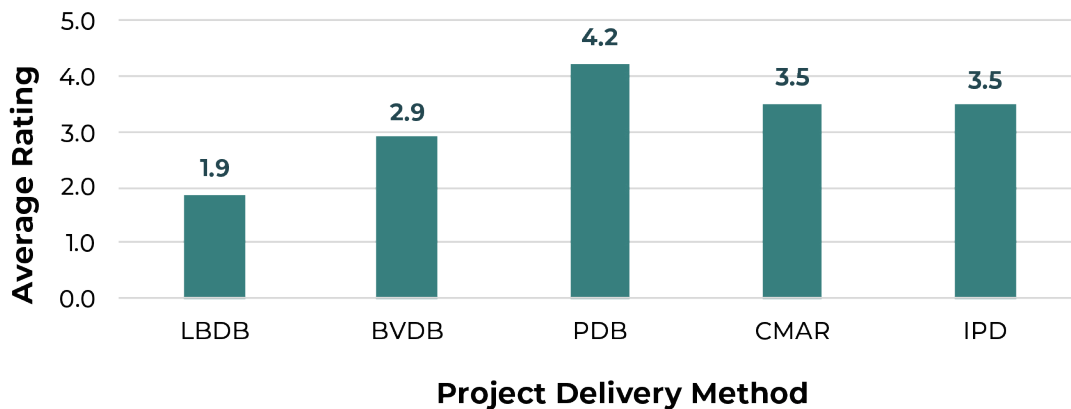


Figure 5. Comparative Ratings of Project Delivery Methods on Risk-Related Considerations (1 = Very Low, 5 = Very High)

This finding reinforces the broader perception that PDB offers a more balanced and collaborative environment for addressing project uncertainty. More broadly, respondents associated PDB with a delivery process that supports earlier alignment, better visibility into project development, and a more collaborative basis for managing project challenges. This perception aligns with the broader industry view that PDB can help reduce friction by enabling teams to address key issues before final pricing and execution are locked in.



Project-specific PLI is getting incredibly expensive. Availability is limited to one or two suppliers.

— DESIGNER/ENGINEER

Comparative Insurance Insights

The survey additionally explored firms' perspectives on insurance-related considerations across project delivery methods, as shown in Figure 6.

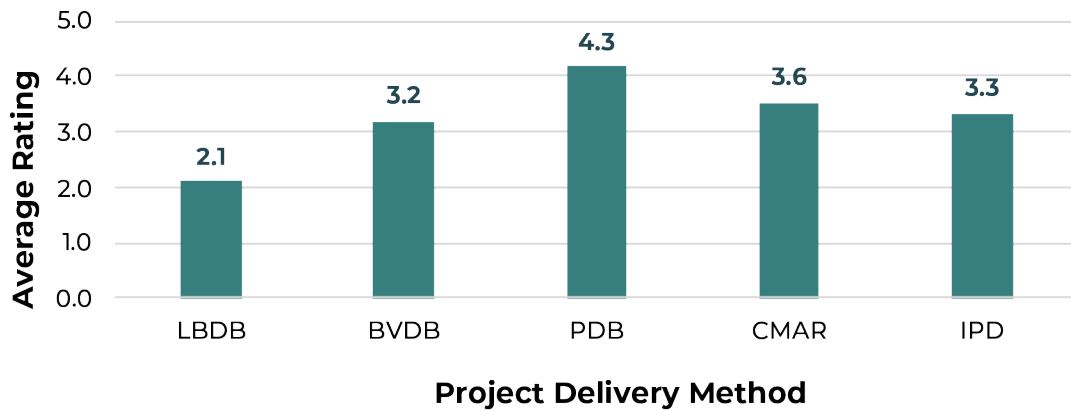


Figure 6. Comparative Ratings of the Ability to Secure Required Insurance by Project Delivery Method (1 = Very Low, 5 = Very High)

At a general level, these findings indicate that insurance remains an important practical issue in the selection and implementation of delivery methods. Although firms viewed PDB favorably as it relates to the ability to secure required insurance, as shown in Figure 6. The survey's responses also confirm that insurance-related considerations remain part of the broader delivery landscape and warrant continued attention from industry stakeholders.

Key Takeaways

Taken together, the firm-level findings present a clear message: PDB is gaining traction, is viewed positively by a large share of industry participants, and is increasingly associated with collaborative and transparent project delivery. At the same time, adoption is still shaped by market readiness, owner familiarity, regulatory context, and practical implementation challenges. For industry leaders, these findings suggest that the continued growth of PDB will depend not only on promoting its benefits but also on addressing the organizational and institutional conditions that influence whether firms and owners are prepared to use it effectively.

Project-Level Insights

This chapter presents project-level evidence characterizing how PDB is being implemented across completed projects. It first summarizes the overall project survey sample, including project status and off-ramping status, and then focuses on the completed project subset used for the descriptive project analysis. The chapter then examines procurement and commercial structure, pricing strategies, project size and duration, and cost and schedule performance. Finally, it places the current PDB project performance findings in context by comparing cost and schedule growth with benchmarks for the FHWA alternative contracting method.

Overall Project Sample Profile⁵

The sample includes 129 completed projects and 110 in-progress projects. Most projects were not off-ramped ($n = 207$), while 32 were, as shown in Figure 7. Together, these results show that the project survey captures a broad cross-section of PDB experience.

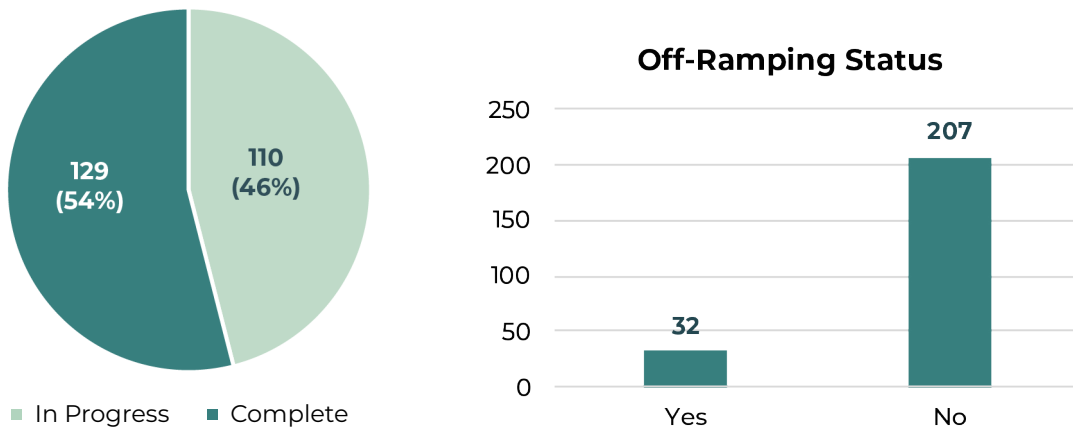


Figure 7. Project Progress and Off-Ramp Status

To understand the characteristics of projects that progressed through completion without off-ramping, the analysis focused on a subset of 113 completed non-off-ramped projects. This subset was developed after screening the completed-project responses to remove duplicate project entries and responses with insufficient project-level information for the descriptive analysis.

⁵ The full project survey dataset included 239 projects: Buildings ($n = 120$), Transportation ($n = 61$), and Water/Wastewater ($n = 58$). The dataset included 203 public-sector projects and 36 private-sector projects. In terms of status, 129 projects were completed and 110 were in progress. Most projects were not off-ramped ($n = 207$), while 32 were off-ramped.

The completed projects subset remains strongly public-sector, with 97 public projects and 16 private projects. By project type, it is led by Buildings (n = 68), followed by Water/Wastewater (n = 26) and Transportation (n = 19), as shown in Figure 8.

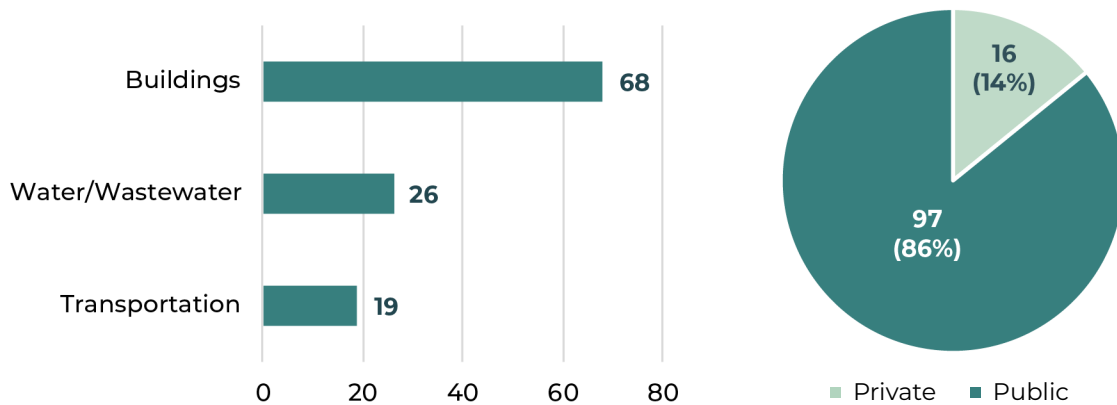


Figure 8. Project and Owner Types

Within this final subset, the largest share of responses came from Design/Builders (n = 42) and Architects/Engineers (n = 29), followed by Owners (n = 17) and Owner Representatives (n = 16). Smaller numbers came from Subconsultants (n = 6) and Subcontractors (n = 3), as shown in Figure 9. This distribution indicates that the completed non-off-ramped project findings are informed primarily by organizations directly involved in design, construction, and owner-side coordination.

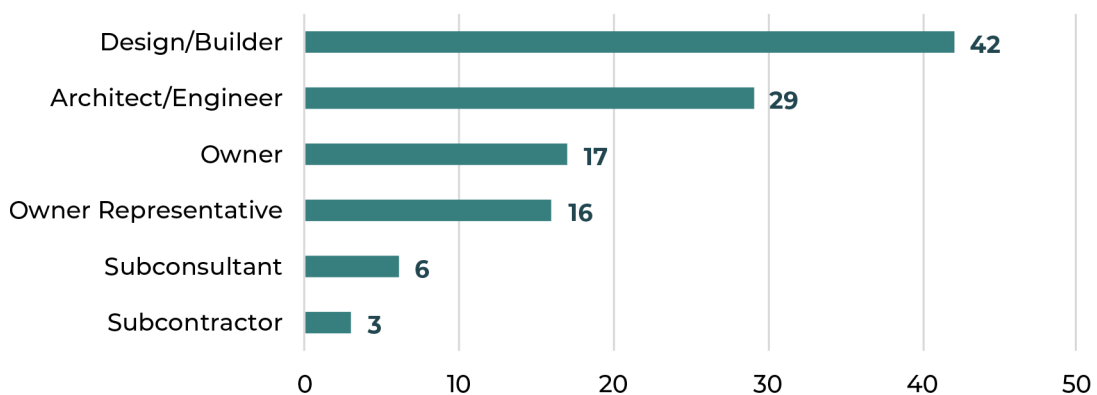


Figure 9. Respondent Firm Role in Completed Projects

Procurement and Commercial Structure

The completed projects show that procurement was driven mainly by qualifications-based approaches. The most common method was qualification and fees/price (n = 57), followed by qualification-based selection (n = 40). Single-source selection (n = 11) and fees/price-only procurement (n = 5) were much less common, as shown in Figure 10. This suggests that most completed projects were procured through approaches that placed substantial weight on qualifications rather than relying primarily on price competition.

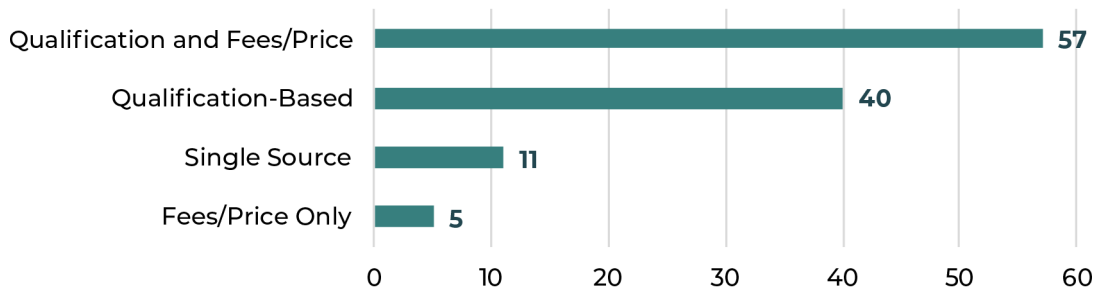


Figure 10. Procurement Method in Completed Projects

The use of partnering agreements also varies across the sample. Forty-seven projects reported a partnering agreement in Phase 1, while 13 projects reported one in Phase 2. At the same time, 41 projects reported no partnering agreement, and 12 respondents were not sure. These results indicate that formal partnering was used in many projects, but not consistently across the sample.

The use of stipends for unsuccessful bidders was less common. Sixty-one projects reported no stipend, 31 offered a stipend, and 16 for which the question was not applicable. This suggests that stipends were used selectively rather than as a standard feature of project procurement.

Pricing Strategy Across Project Phases

The pricing results show that completed projects used more than one commercial pathway across phases. In Phase 1, the sample was split into cost-plus (n = 19), cost-plus with a GMP (n = 48), and lump sum (n = 46). In Phase 2, the distribution shifted more clearly toward cost-plus with a GMP (n = 69), while lump sum (n = 39) remained common and cost-plus (n = 5) became much less common, as shown in Figure 11. Overall, these results suggest that completed projects often moved toward greater price certainty in the later phases of delivery.

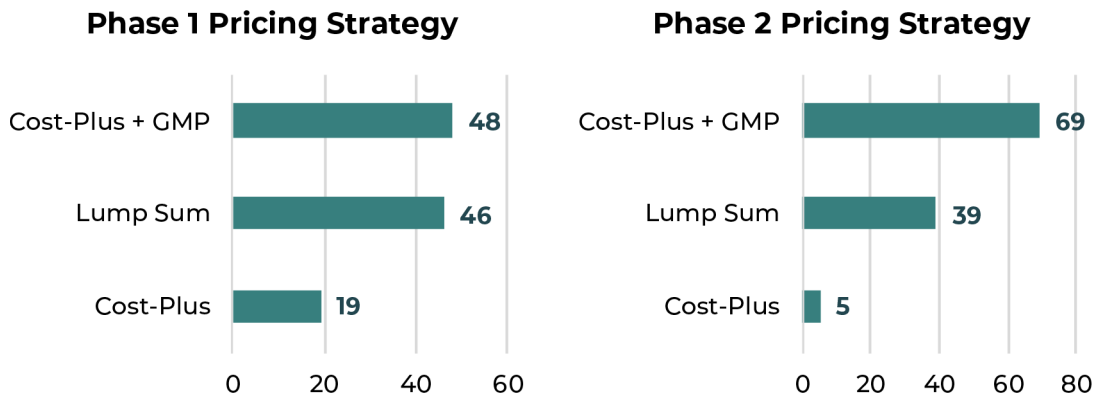


Figure 11. Phase 1 and 2 Pricing Strategy in Completed Projects

Project Size and Duration

The completed projects were distributed relatively evenly across project size ranges. The sample included 38 projects under \$15 million, 35 projects between \$15 million and \$70 million, and 40 projects above \$70 million, as shown in Figures 12 and 13. Project values ranged from approximately \$12,700 to \$484 million, which helps bound the scale range represented in the completed-project subset. This indicates that the completed project findings are not focused on a single-size category.

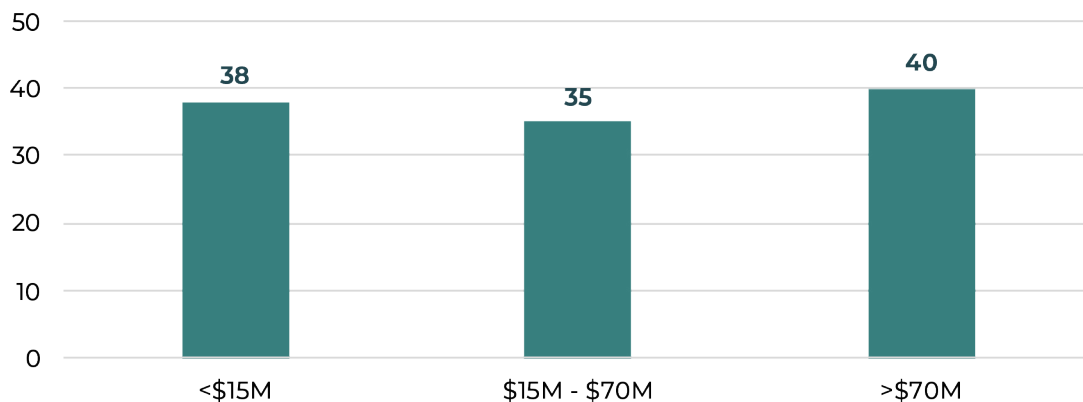


Figure 12. Project Size in Completed Projects

Project duration was similarly balanced. The sample included 36 projects under 18 months, 39 projects between 18 and 24 months, and 38 projects above 24 months, as shown in Figure 13. Project durations ranged from approximately one month to 99 months, providing useful bounds for the shortest and longest projects represented in the completed project subset. This distribution suggests that the completed projects' findings reflect PDB use across short-, medium-, and longer-duration projects.

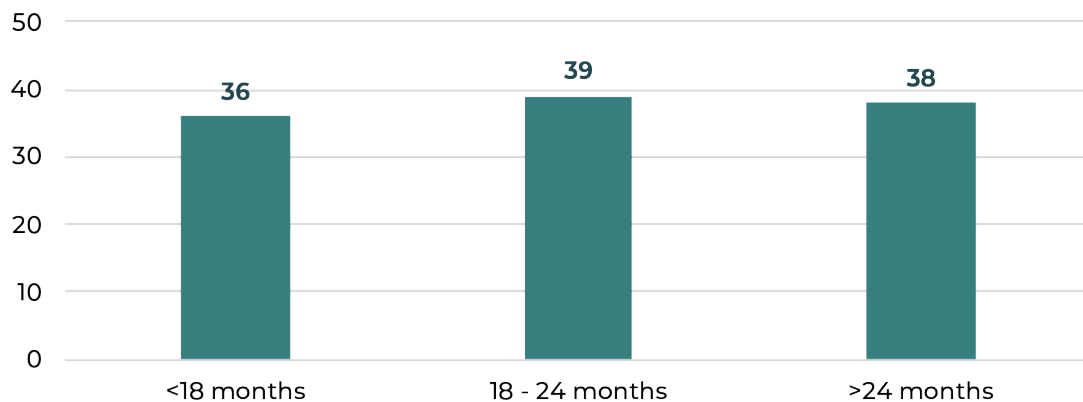


Figure 13. Project Duration in Completed Projects

Project Performance of PDB Projects

Figures 14 and 15 summarize the distribution of cost and schedule variance among completed projects with available paired initial and final values. The cost variance distribution shows that 30 projects finished at the initial cost baseline, while 35 projects finished within 0 percent to 10 percent above the baseline.

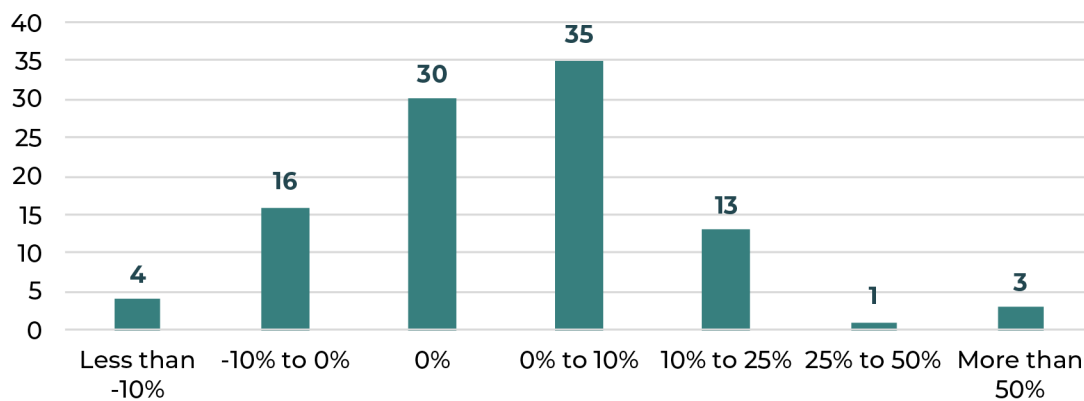


Figure 14. Cost Variance Distribution



The schedule variance distribution is more concentrated, with 58 projects finishing at the initial schedule baseline. Overall, the distributions suggest that completed projects were generally stable in traditional performance terms, particularly with respect to schedule, while a smaller number of projects experienced higher cost or schedule increases.

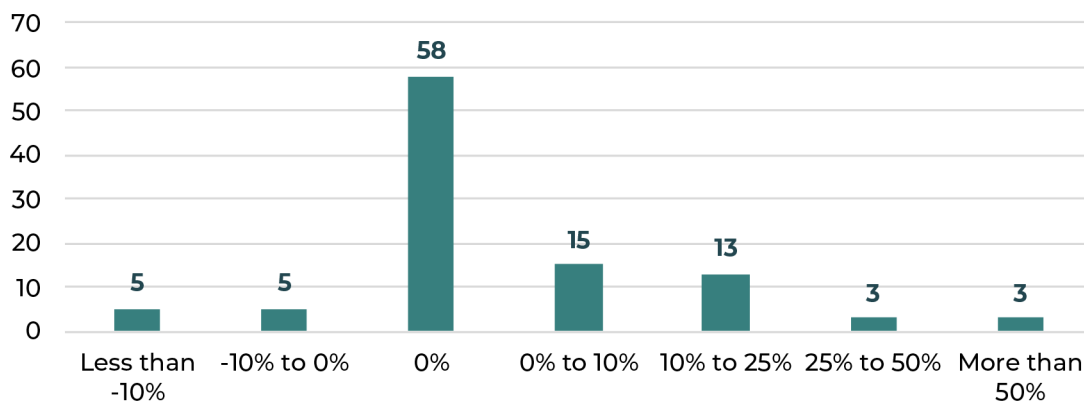


Figure 15. Schedule Variance Distribution

Comparison with Other Alternative Contracting Study Benchmarks

Tables 2 and 3 place the current PDB project performance findings in context with two prior delivery-method benchmarking studies: the FHWA study of alternative contracting methods in highway construction and the Pankow study of project delivery system performance in vertical building projects^{6a,b}. Because these studies differ in sector, project type, metric definitions, and outlier treatment, the comparison is limited to sample size and median values. Median values are preferred because they are less sensitive to extreme observations and provide a more appropriate contextual benchmark when outlier treatment is inconsistent across studies.

Table 2 compares median schedule growth across the current PDB dataset and prior delivery-method benchmarks. The current PDB dataset has a median schedule growth of 0 percent, which is similar to the Pankow building-project total and the FHWA highway-project total. The comparison suggests that the completed PDB projects in this dataset were generally stable in terms of schedule growth, but the results should be interpreted as contextual benchmarking rather than a controlled comparison across delivery methods.

^{6a} Franz, B., K. R. Molenaar, and B. A. M. Roberts. 2020. "Revisiting project delivery system performance from 1998 to 2018." *Journal of Construction Engineering and Management* 146 (9): 04020100. [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001896](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001896).

^{6b} Federal Highway Administration. 2018. *Alternative contracting method performance in U.S. highway construction*. FHWA-HRT-17-100. McLean, VA: Federal Highway Administration.

Table 2. Median Schedule Growth Benchmarks from the Current PDB Dataset and Prior Delivery-Method Studies

Source / Delivery Method	n	Median Schedule Growth
Current PDB dataset: Completed projects	102	0%
Pankow building projects: DBB	53	2%
Pankow building projects: CMR	78	0.2%
Pankow building projects: DB	81	0%
Pankow building projects: Total	212	0%
FHWA highway projects: DBB	63	0%
FHWA highway projects: CM/GC	13	0%
FHWA highway projects: DB/LB	20	-6%
FHWA highway projects: DB/BV	50	7%
FHWA highway projects: Total	146	0%

**Note: The current PDB dataset is based on completed PDB projects with available paired initial and final schedule values. Pankow/ASCE values are based on vertical building projects. FHWA values are based on construction schedule growth from award to final completion for highway projects. Because the studies differ in sector, metric definition, and outlier treatment, this comparison is intended only as contextual benchmarking.*

Table 3 compares median cost growth across the current PDB dataset and prior delivery-method benchmarks. The current PDB dataset has a median cost growth of 0.6 percent, which is below the Pankow building-project total and the FHWA highway-project total. This suggests that the completed PDB projects in this dataset were generally stable in cost-growth terms, as measured by the median. However, the comparison should be interpreted cautiously because the studies differ in project sectors, cost-growth definitions, and data-screening procedures.

Table 3. Median Cost Growth Benchmarks from the Current PDB Dataset and Prior Delivery-Method Studies

Source / Delivery Method	n	Median Cost Growth
Current PDB dataset: Completed projects	102	0.6%
Pankow building projects: DBB	53	2%
Pankow building projects: CMR	72	0.9%
Pankow building projects: DB	78	0.9%
Pankow building projects: Total	203	1%
FHWA highway projects: DBB	129	2%
FHWA highway projects: CM/GC	31	0.8%
FHWA highway projects: DB/LB	36	0.7%
FHWA highway projects: DB/BV	74	2%
FHWA highway projects: Total	270	2%

**Note: The current PDB dataset is based on completed PDB projects with available paired initial and final cost values. Pankow/ASCE values are based on vertical building projects. FHWA values are based on cost growth from contract award to final contract cost for completed highway projects. Because the studies differ in sector, metric definition, and outlier treatment, this comparison is intended only as contextual benchmarking.*

Key Takeaways

The project survey results show that the dataset is anchored in public-sector PDB practice, with particularly strong representation from building projects and completed projects. Within the completed subset, procurement was primarily qualifications-driven, partnering agreements were used inconsistently, stipends were selective, and pricing strategies varied across phases. The distributions of project size and duration were balanced, which strengthens the dataset’s usefulness for understanding PDB practice across different project scales and timelines. Overall, the survey provides a strong descriptive foundation for the later case-based analysis of completed and off-ramped projects.

Insights From Completed Projects

This section summarizes the key lessons from completed PDB projects. The findings are based on the project-level survey and follow-up interviews and focus on the practices and conditions associated with stronger and weaker project outcomes. Overall, the results show that successful projects were shaped by three factors: disciplined validation, effective governance, and early management of key constraints.

Interview Sample Overview

A total of 21 interviews were completed and transcribed, representing 21 projects across 13 states. The interviews comprised 11 projects with stronger outcomes and 10 projects with weaker outcomes. Interviewees represented a range of organizational perspectives, including Design/Builders (n = 6), Owner Representatives (n = 5), Architects/Engineers (n = 5), Owners (n = 4), and Contractors (n = 1). The sample included strong representation from public-sector projects (n = 17), with four private-sector projects, and covered four major project types: Buildings (n = 8), Water/Wastewater (n = 8), and Transportation (n = 5). Interviews averaged 52.2 minutes.

Key Insights on Success Factors in Completed PDB Projects



There was a risk identification process, a great level of the potential impact of cost and schedule...

— DESIGNER/ENGINEER

Phase 1 and Process Alignment

Successful projects used Phase 1 as a structured alignment process. Teams maintained a risk register, reconciled estimates through transparent assumptions and quantity alignment, developed a credible baseline schedule, and documented scope decisions through a clear basis of design and construction. These practices helped convert uncertainty into clear project commitments.

Projects with weaker outcomes completed some of these activities but did not achieve decision-grade alignment. As a result, uncertainty remained around scope, cost, and unresolved issues, which later contributed to disputes and delivery friction.



[We] must have a solid governance structure that allows us to make decisions very quickly.

— OWNER



One of the first critical things was getting some of that initial geotechnical and demolition permitting approved...

— ENGINEER/ DESIGNER

Collaboration and Governance

Successful projects combined collaboration with clear governance. They established clear decision authority, followed disciplined coordination routines, and made decisions in a timely manner. This helped maintain execution momentum and reduced construction delays.

Projects with weaker outcomes were affected by unclear authority, leadership turnover, or by communication channels being bypassed. These conditions delayed issue resolution, increased rework, and contributed to schedule slippage and trust erosion.

Enabling Conditions and Constraints

Successful projects addressed critical constraints early or managed them explicitly with defined triggers, responsibilities, and funding paths. Common issues included permitting, site release, utilities, underground conditions, and third-party requirements. Continuity of key personnel also helped preserve alignment from Phase 1 into construction.

Projects with weaker outcomes were more likely to be destabilized by unresolved site-readiness issues, third-party issues, or staffing discontinuity. These factors reduced the team's ability to sustain coordination and manage change effectively during execution.

Recommendations for Owners

Procurement and Selection

Owners should select teams based on collaboration capability, relevant experience, and the continuity of key personnel, not solely on technical qualifications. The project survey showed that 35 percent of projects were procured based solely on qualifications, while 50 percent were procured based on qualifications together with fees or prices. During selection, owners can use interviews and scenario-based discussions to help assess how teams solve problems in the face of uncertainty.



This process vetted the teams and their members well, allowing later issues that were challenges to be dealt with more easily.

— BUILDER

Contracting and Commercial Rules

Owners should start with proven PDB or DB templates and clearly define any deviations. Commercial rules should be explicit, especially regarding the cost of the work, overhead, and fees, contingency, allowances, and owner-retained risks. Clear rules reduce ambiguity and support alignment. The project survey also showed that 42 percent of projects used partnering agreements during Phase 1.

Phase 1 Governance

Owners should require an early joint risk workshop, maintain a living risk register, enforce estimate convergence discipline, and require a credible schedule. The basis of design and construction should be documented, and major decisions should be captured in a decision log.

Construction Phase Execution and Change Control

Owners should empower decision-makers, establish a clear escalation path, and monitor decision cycle times. They should also maintain regular coordination meetings, promptly manage owner-driven changes, and plan commissioning and turnover early.



There were... disputes... as to the responsibility of the design builder and the definition of the cost of work, the design builder's contingency and allowances.

— DESIGN/BUILDER



We had weekly meetings with our subs... to keep the issues out on the table.

— BUILDER



We usually have a four-week look-ahead schedule... working through any change orders, any changing conditions...

— DESIGN/BUILDER

Recommendations for the PDB Team



If we can't get through project Phase 1, we don't have a project.

— OWNER'S REP

Go/No-Go Considerations

PDB teams should evaluate owner readiness early, including decision authority, staffing, governance, and site or third-party risks. They should avoid ambiguous or uninsurable risk transfer and require clear commercial definitions before advancing too far into Phase 1.

Phase 1 Delivery Excellence

Teams should treat Phase 1 outputs as core project controls. These include the risk register, cost model, schedule baseline, scope tradeoff log, and decision log. Transparency should support decision-making by clearly explaining assumptions, documenting the logic, and reconciling differences early.



When we started testing the system, those things burned out... the next piece of equipment we'd test, there'd be problems with that.

— DESIGNER/ENGINEER

Execution Phase Teaming Behaviors

Successful teams maintained continuity of key personnel, surfaced issues early, and resolved them through structured coordination. They also maintained role clarity across the PDB team and downstream subcontractors, especially for interfaces involving design, vendors, and major equipment.

Commissioning and Performance Risks

Teams should plan performance testing early rather than leaving it to the end of construction. When owners procure major equipment separately, teams should clearly define interface and performance responsibilities and actively manage integration risk.

Practices Leading to Success

Indicators of Weakening Alignment

Early warning signs of weakening alignment included repeated threats to terminate or off-ramp, accusations of bias or lack of transparency, and cost reviews that became overly focused on line-by-line auditing rather than convergence. Another warning sign was unresolved disagreement over contingency, allowances, and cost-of-work definitions.

Phase 1 Alignment Quality

Estimate convergence was a key indicator of Phase 1 quality. Persistent differences between the independent cost estimate and the design-builder's estimate signaled unresolved disagreement in scope, quantities, assumptions, risk pricing, or commercial rules. Other useful indicators included the percentage of major risks with clear ownership and funding paths, as well as the completeness of the decision log.

Schedule Credibility

A credible schedule included a defensible critical path and timely long-lead procurement decisions. Weak schedule logic, delayed submittals, and slow decisions were early signs of schedule instability. Unresolved permitting, utility, access, or third-party issues also signaled delivery risk.

Team Health

Continuity of key personnel was an important indicator of project stability. Frequent turnover weakened accountability and disrupted alignment. Other warning signs included prolonged email disputes, informal workarounds, persistent subcontractor coordination problems, and unresolved issues that remained open for extended periods.



We have a full open-book relationship... they trusted us. We're showing them everything we can, we're not hiding anything.

— DESIGN/BUILDER



We established a communication tree of who owns communications at each level and if things have to escalate, who makes those calls.

— DESIGN/BUILDER



Key Takeaways

Completed projects performed best when Phase 1 was disciplined, governance was clear, decisions were timely, and major constraints were addressed early. Weaker outcomes were associated with incomplete alignment, unclear commercial rules, unresolved external constraints, and inconsistent governance. The main implication for owners and PDB teams is straightforward: successful PDB delivery depends on disciplined process design and active management of the conditions that allow collaboration to translate into execution.

Insights From Off-Ramped Projects

This section summarizes the key lessons from off-ramped PDB projects. The findings are based on the analysis of off-ramped project interviews and focus on the conditions that prevented projects from reaching a final agreement to proceed.

Off-Ramped Interview Sample Overview

A total of seven interviews were conducted and transcribed for off-ramped projects. The sample included Transportation (n = 3), Buildings (n = 3), and Water/Wastewater (n = 1) projects. Most projects were public-sector (n = 6), with one private-sector project. Interviewees represented Architects/Engineers (n = 4), Owner Representatives (n = 2), and Design/Builders (n = 1). Geographically, the projects spanned multiple locations, including Tennessee, California, Arizona, Alabama, and Calgary. Interview durations averaged 32.3 minutes.

Key Insights on Off-Ramped Projects



The moment you select your design builder, the owner is retaining the exposure for price until such time as we can negotiate a GMP... And then they said, we're [...] over budget.

— OWNER

Off-Ramp Drivers

The findings indicate that off-ramped projects were most often affected by mismatches between scope and funding. In these cases, project requirements exceeded available or approved funding even after tradeoffs were explored. This prevented the owner and design-builder from reaching a workable alignment on project scope and final pricing.

A second recurring driver was market pricing and escalation. Some projects could not bridge the gap between owner budget expectations and achievable market cost. Even where teams worked collaboratively, market conditions made convergence difficult within the project's commercial and schedule constraints.

The third driver was commercial and risk-rule misalignment. Off-ramping occurred when the parties could not align risk ownership, contingency and allowance control, or the definition of the cost of the work. When these rules remained unresolved, guaranteed maximum price convergence became difficult, if not impossible.

The fourth driver was third-party and site-readiness barriers. Unresolved permitting, utility coordination, access limitations, and external stakeholder constraints prevented projects from reaching a feasible path forward within the Phase 1 window. In a smaller set of cases, off-ramping also functioned as a delivery-chain corrective action, such as de-scoping or re-procuring a non-performing package to protect the broader project.



Off-Ramping as an Outcome of Phase 1

The analysis suggests that off-ramping should not be viewed only as a project failure. In many cases, it reflected the Phase 1 function working as intended, indicating that the project could not proceed responsibly under the current scope, budget, risk, or external conditions. In that sense, off-ramping served as a disciplined decision point rather than a breakdown of the delivery method itself.

For owners, off-ramping avoided committing to a final price without demonstrated feasibility. It preserved the ability to re-scope the project, re-phase the work, pursue additional funding, or change delivery strategy using the information developed during Phase 1. For design-build teams, off-ramping reduced prolonged exposure to misaligned expectations and enabled an orderly Phase 1 closeout, with clearer boundaries around compensation and work products.

Recommendations for Owners



They decided to analyze the scenarios very quick... it probably took us three weeks to give them the options of, all right, we stop today. This is how much you're going to lose. We stop tomorrow, we do this portion, this is how much you're going to lose or how much you're going to spend.

— OWNER'S REP

Define the Off-Ramp Early

Owners should define the off-ramp decision point and criteria at the outset of the project. These criteria may include Phase 1 milestones, pricing gates, or specific conditions tied to scope, budget, schedule, or external constraints. Clear decision points reduce uncertainty and provide both parties with a transparent process for determining whether the project is ready to move forward.

Require Decision-Grade Phase 1 Deliverables

Owners should require reusable, decision-grade Phase 1 deliverables before a go/no-go decision is made. These should include a clear basis of design, a risk register with triggers, an estimate reconciliation record, a schedule basis, and a decision log. These deliverables support informed decisions and preserve value even when the project does not proceed directly into construction.

“

As we were developing the design, developing the estimate, schedule, et cetera, we're jointly populating a risk log... The owner had asked us for [...] our green sheet of where we think just a ROM for the overall project, and we showed them a [total project cost], with a pretty healthy risk log because not all the design had been done.

— DESIGN/BUILDER

Establish Transparent Commercial Rules

Owners should clearly define commercial rules for Phase 1 early. This includes compensation during Phase 1, ownership of work products, and the treatment of risk, contingency, and allowances. Transparent rules reduce disputes and improve decision-making quality as a project approaches an off-ramp point.

Recommendations for the PDB Team

Test Feasibility Early and Realistically

PDB teams should use Phase 1 to test project feasibility directly and continuously. This includes identifying whether scope, budget, pricing assumptions, and external conditions are converging or diverging. Teams should not defer difficult commercial or feasibility issues in the hope that they will be resolved later.

“

Under the off-ramp, we're going to agree that I paid you for services to date. I paid for your design fee... so you're made whole.

— OWNER

Maintain Clear Commercial Boundaries

PDB teams should seek early clarity on cost-of-work definitions, control of contingency and allowances, risk ownership, and compensation for Phase 1 services. These issues should be resolved before they become obstacles to price convergence. Clear commercial boundaries are especially important when market escalation or funding constraints already place pressure on the project.



Produce Reusable Work Products

Even when off-ramping becomes likely, the PDB team should continue producing structured, reusable Phase 1 outputs. Basis documents, estimate records, schedule assumptions, and risk documentation can help the owner move into re-scoping, re-phasing, or alternative delivery with less disruption. This improves the value retained from the Phase 1 effort.

Leading Indicators of an Approaching Off-Ramp

The analysis identified several warning signs that an off-ramp decision may be approaching. One of the clearest indicators was persistent scope and cost nonconvergence during Phase 1. When the project repeatedly failed to align scope expectations with realistic pricing, the likelihood of an unsuccessful Phase 1 increased.

Another indicator was recurring disputes over commercial rules, especially regarding the cost of the work and control over contingency or allowance amounts. These disputes indicated that the parties had not reached sufficient agreement on how to price and manage uncertainty.

Additional warning signs included instability in owner decision authority or funding approvals and unresolved third-party or site-readiness constraints affecting schedule feasibility. When these issues remained open late in Phase 1, the project's path to execution became increasingly difficult.



It was known to the owner that their budget... for the project was low... we identified early on that this is a much larger project.

— OWNER'S REP

Key Takeaways

The off-ramped project analysis shows that off-ramping was primarily driven by unresolved feasibility and alignment constraints, including scope-funding mismatch, market pricing pressures, commercial rule misalignment, and third-party or site-readiness barriers. In this context, off-ramping can be a disciplined and mutually beneficial outcome when Phase 1 shows that the project is not ready to proceed. For owners and PDB teams, the main implication is clear: effective off-ramping depends on early feasibility testing, transparent commercial rules, clear decision criteria, and reusable Phase 1 deliverables that preserve value even when the project does not advance into construction.

Overall Key Takeaways

The findings in this chapter synthesize the evidence base that informed the companion PDB guide and state-of-practice summary. Readers seeking practical implementation guidance, checklists, or concise industry-facing recommendations should refer to the following companion resources:

- [Progressive Design-Build: Practice, Perception and Potential \(May 2025\)](#)
- [Progressive Design-Build Recommendations For Owners And PDB Teams On Effective Project Delivery \(May 2026\)](#)

This chapter explains the major research-based conclusions that support those materials and shows how the firm survey, project survey, completed-project interviews, and off-ramped-project interviews connect to the broader guidance.

State of Practice: Growth, Reach, and Remaining Constraints

The findings across the firm-level and project-level analyses show that PDB continues to gain traction across the industry. Firms reported growth in both the number and value of PDB projects, and the overall level of satisfaction with the method was strong. At the project level, the survey confirmed that PDB is being applied across a range of sectors, project sizes, and durations.

At the same time, adoption remains uneven. Based on the data collected for this study, current practice is still primarily shaped by public-sector applications and is especially concentrated in the buildings sector. The findings also suggest that broader expansion is constrained by owner familiarity, procurement and regulatory conditions, market readiness, and the practical capacity of organizations to implement PDB effectively. So, PDB is no longer emerging, but it is not yet fully mature or uniformly understood across the market.

Phase 1 as the Core Mechanism of PDB

Across the completed project and off-ramped analyses, the clearest finding is that the value of PDB lies in the Phase 1 process. Successful teams did not treat Phase 1 as a preliminary formality. They used it as the project's primary alignment mechanism to test feasibility, define scope, reconcile cost, establish schedule credibility, clarify risk ownership, and create the basis for execution. This is one of this report's most important conclusions: PDB does not create value simply by bringing parties together earlier. It creates value when that early collaboration is structured, disciplined, and translated into usable decisions. Where Phase 1 was rigorous, teams were better positioned to move into construction with shared expectations and fewer unresolved issues. Where Phase 1 was weak, uncertainty remained embedded in the project and later surfaced as conflict, delay, or commercial misalignment.



Collaboration Supported by Effective Governance

This research consistently shows that collaboration is a defining feature of PDB, but collaboration alone does not guarantee strong outcomes. The completed project analysis showed that stronger results occurred when collaboration was supported by clear governance: defined decision authority, disciplined coordination routines, timely issue resolution, and continuity of key personnel.

Teams may begin projects with strong working relationships and a shared commitment to collaboration, but those conditions can erode if governance is weak. Delayed decisions, unclear escalation paths, leadership turnover, and bypassed communication channels all reduce the practical value of collaboration. This report therefore suggests that the real strength of PDB is not simply early teamwork, but early teamwork supported by stable governance and operational discipline.

Commercial Clarity and Alignment Across Project Phases

A second consistent theme across this report is that technical progress alone is not enough to carry a PDB project forward. Projects performed best when teams aligned not only on design and scope, but also on the commercial rules governing the work. This included clarity on the pricing structure, the use of contingencies and allowances, owner-retained risks, and the definition of reimbursable costs.

The project survey findings showed meaningful variation in procurement methods, stipend use, partnering agreements, and pricing strategies across phases. The interviews helped explain why that variation matters. Completed projects tended to perform better when commercial expectations were explicit, and decision-making remained disciplined. By contrast, off-ramped projects often revealed what happens when pricing cannot converge, risk ownership remains unresolved, or the project's funding and scope cannot be credibly reconciled. The broader implication is clear: commercial clarity is not secondary to collaboration; it is one of the conditions that make collaboration durable.

Understanding Off-Ramping Within PDB Practice

One of the most important insights in this study is that off-ramping should not be understood only as a failed outcome. In many cases, off-ramping reflected the Phase 1 process doing its job by revealing that the project could not responsibly proceed under the current scope, budget, commercial structure, or external conditions.

This is a significant point for industry practice. A PDB process should not be judged only by whether every project reaches final execution. It should also be judged by whether it allows owners and teams to identify infeasible conditions early enough to avoid forcing an unworkable agreement. When handled well, off-ramping can preserve value, reduce exposure, support re-scoping or re-phasing, and prevent larger downstream failures. Therefore, this research positions off-ramping not as a breakdown of PDB but as a legitimate outcome when Phase 1 indicates that alignment cannot be achieved.



Organizational Readiness and Delivery Conditions

This research also shows that many of the conditions shaping PDB outcomes are organizational rather than purely technical. Successful projects were supported by timely decisions, continuity of key personnel, disciplined issue tracking, and early management of permitting, utility, access, and third-party constraints. Weaker and off-ramped projects were more likely to struggle with delayed approvals, staffing turnover, unresolved site-readiness issues, unstable commercial expectations, or weak owner-side readiness.

This is an important reminder for industry stakeholders. PDB does not eliminate uncertainty; it changes when and how uncertainty must be managed. The most consequential risks are often not design errors or isolated technical problems, but failures in governance, feasibility testing, commercial alignment, and constraint management. Teams that recognize this early are better positioned to use the PDB process effectively.

Practical Implications for Industry Stakeholders

Taken together, the findings point to a straightforward industry message. Owners should approach PDB with clear decision structures, realistic commercial rules, active engagement during Phase 1, and a willingness to confront feasibility questions early. PDB teams should treat Phase 1 outputs as decision-grade project controls, not as informal preconstruction artifacts. Both parties should focus on estimating convergence, schedule credibility, risk ownership, and the early resolution of external constraints.

More broadly, the findings suggest that the continued advancement of PDB will depend on improving implementation discipline rather than simply expanding usage. The market does not appear to need a broader statement that collaboration is beneficial; that much is already obvious. What is needed is better execution of the processes that turn collaboration into performance.

Final Reflection

The central conclusion of this report is that PDB performs best when Phase 1 is disciplined, governance is clear, commercial expectations are explicit, and project constraints are addressed early. Its value lies not only in early collaboration, but in structured alignment before major commitments are made. Where that alignment is achieved, PDB can support stronger project outcomes. Where it is not, the process still provides value by identifying infeasibility before larger commitments are locked in.



List Of Abbreviations

ACEC: American Council of Engineering Companies

ASCE: American Society of Civil Engineers

BVDB: Best-Value Design-Build

CMAR: Construction Manager at Risk

CPF: Charles Pankow Foundation

DB: Design-Build

DBIA: Design-Build Institute of America

FHWA: Federal Highway Administration

FMI: FMI Corp.

GMP: Guaranteed Maximum Price

IPD: Integrated Project Delivery

LBDB: Low-Bid Design-Build

PDB: Progressive Design-Build

PLI: Professional Liability Insurance

ROM: Rough Order of Magnitude

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