Project Delivery & Innovative Practices Study of Washington State DOT

Presentation to JTC

December 11, 2024

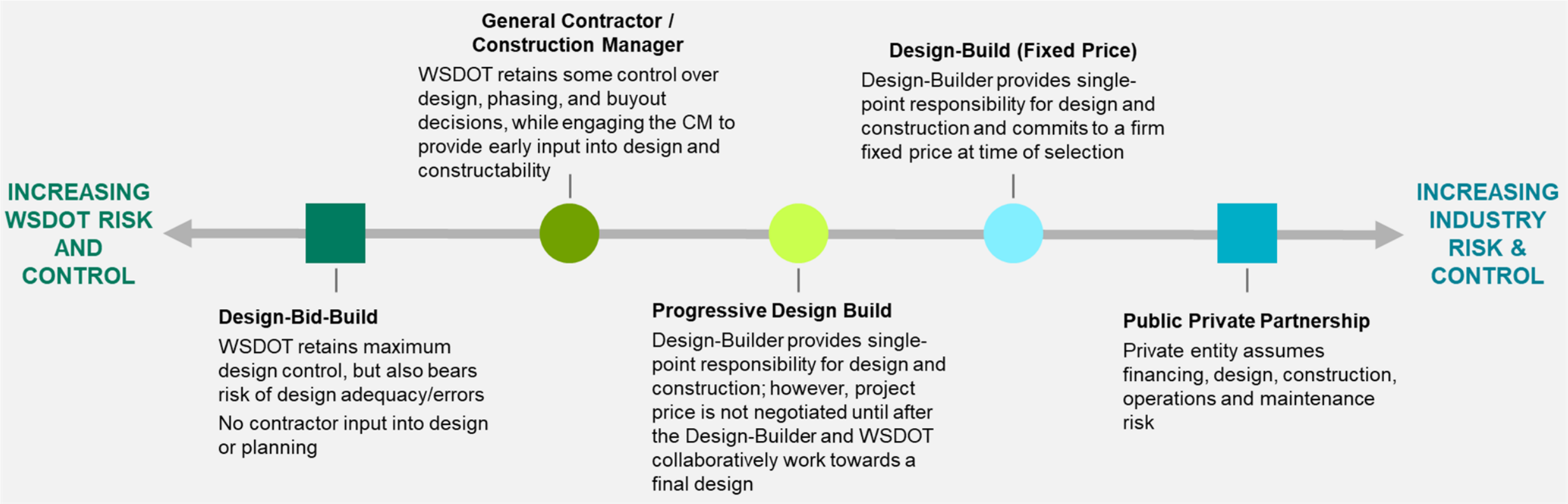
Overall Objectives of Study

- High bids on long identified Washington State Department of Transportation (WSDOT) projects resulted in frustrations on the part of all stakeholders.
- The Legislature would like to learn from WSDOT, private industry, other transportation owners or entities with capital programs the causes of the current issues and explore more efficient ways to deliver projects.
- The goal of this study is to provide recommendations for changes to current practices and statutory requirements related to WSDOT's project delivery practices that will:
  - Reduce costs
  - Improve competition
  - Shorten the delivery schedule, or
  - Make progress in a combination of all three factors

Staff Technical Team Membership

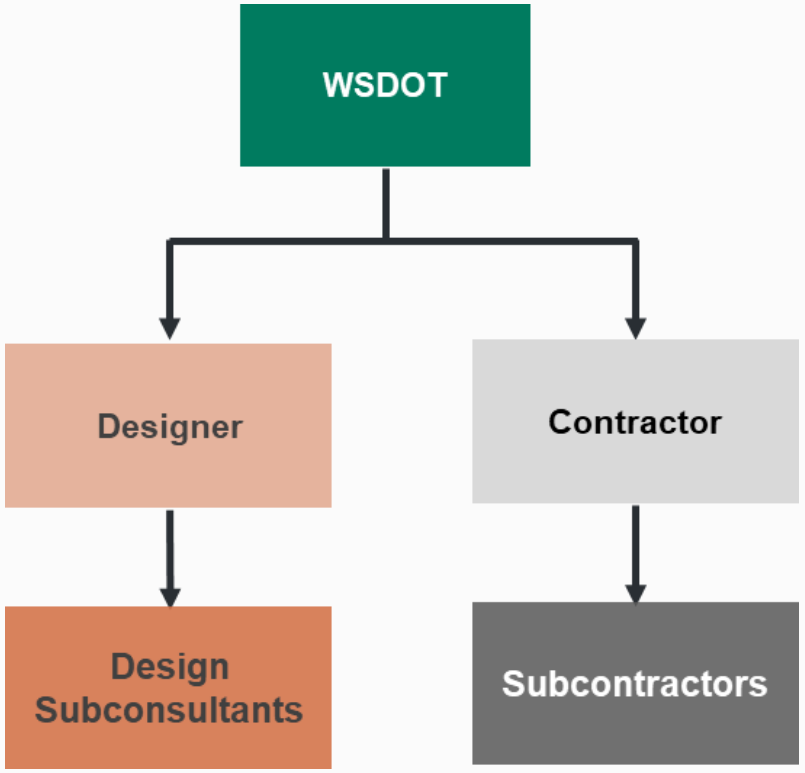
Organization	Representatives
Washington State Department of Transportation	• Art McCluskey, Design-Build Program Manager, Construction Division • Joanna Lowery, Assistant State Design Engineer, Development Division • Nina Jones, ECMCA, Assistant Director of Business Diversity and Inclusion, Office of Equity & Civil Rights • Travis Snell, Legislative Relations
Office of Financial Management	• Maria Thomas, Budget Advisor to the Governor
House & Senate Transportation Committees	• Chris Thomas, HTC Senior Fiscal Analyst • Danny Masterson, STC Senior Fiscal Analyst
Senate and House Democratic and Republican Caucuses	• Hannah McCarty, Senior Staff Counsel • Martin Presley, Senior Staff Counsel • Loren Othón, Senior Policy Analyst • Dana Quam, Senior Counsel
Joint Transportation Committee	• Alyson Cummings, Senior Policy Analyst, Project Manager • Rachel Dean, Policy Analyst

Overview of Project Delivery Methods



HKTA

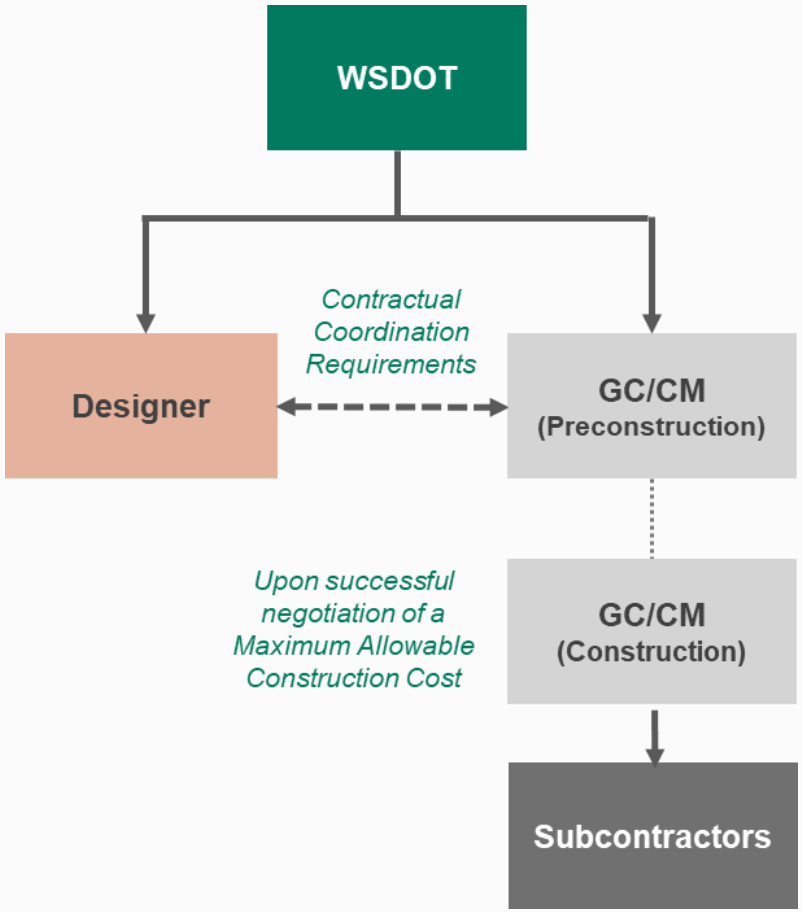
Design-Bid-Build (DBB)



Key Attributes

- Clear separation between design and construction
  - Designer (internal staff or third-party consultant) prepares 100% construction documents
  - Contractor bids on 100% complete plans and specifications
- Award to lowest responsible and responsive bidder
- Design and construction are performed sequentially
- Owner has full control over design, and bears design risk
- Minimal Contractor input into the design process
- Smaller projects with well-defined scope

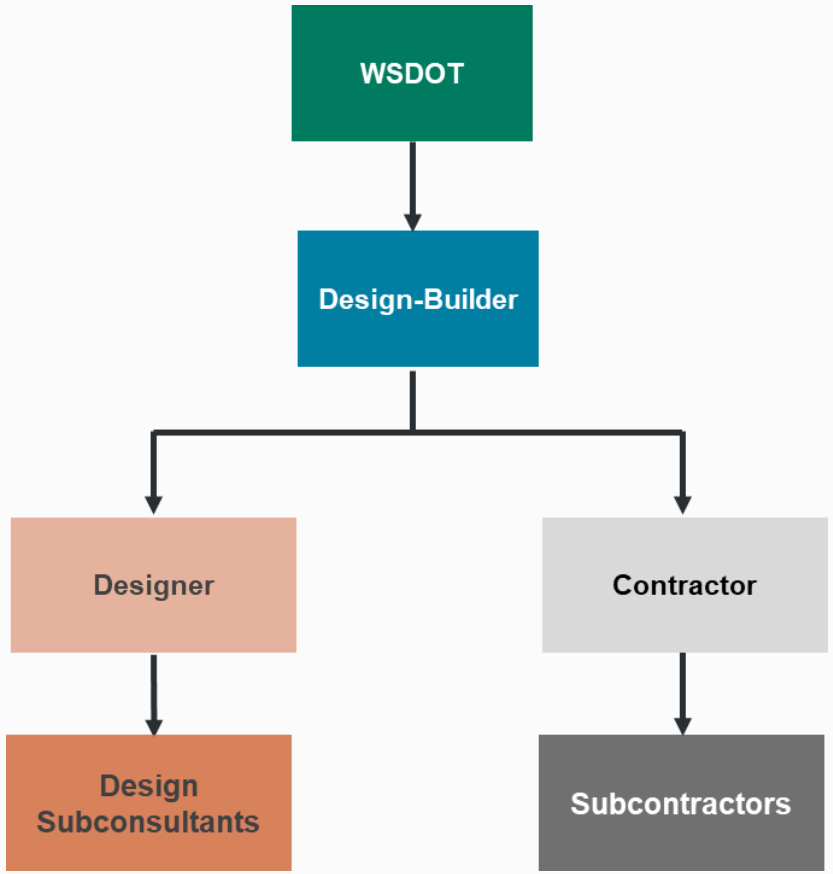
General Contractor Construction Manager (GC/CM)



Key Attributes

- Early contractor involvement - Owner engages a General Contractor/Construction Manager (GC/CM) early in the design phase (e.g., at 15-30% design)
- The GC/CM acts as an advisor during the pre-construction phase (cost estimating, scheduling, and constructability reviews) and as a general contractor during the construction phase self-performing and managing the trades and assuming ‘performance risk’ for cost and schedule
- Design and construction phases may overlap, allowing for the completion of early work packages
- More applicable to complex projects with limited scope definition, multiple stakeholders, and risks that would benefit from early contractor involvement and collaboration.

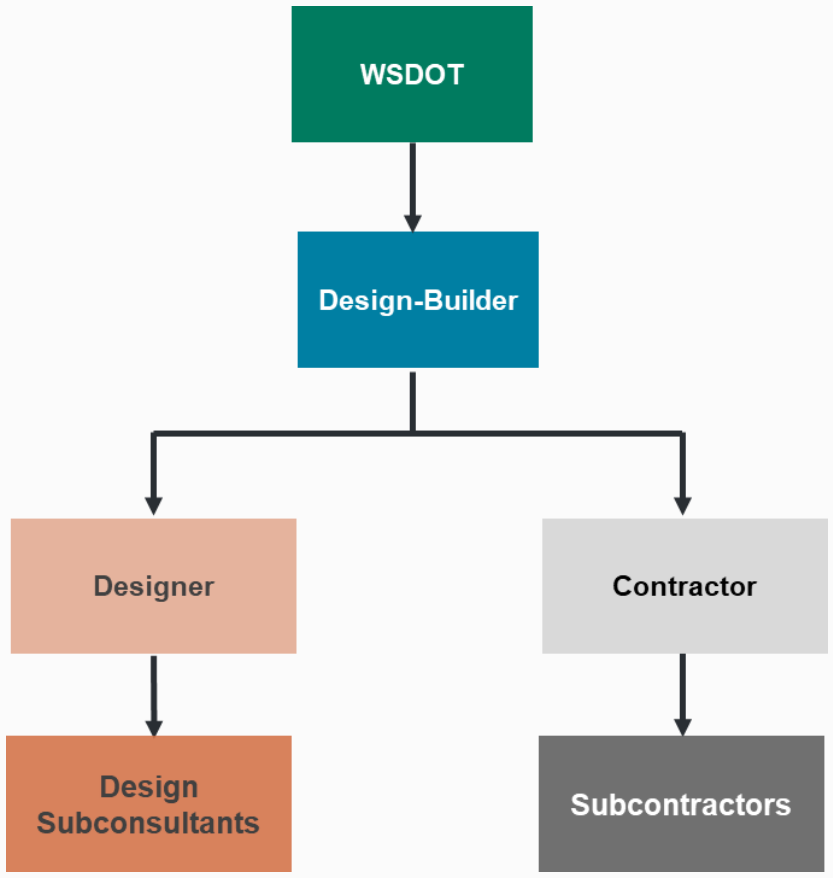
Design-Build (DB)



Key Attributes

- Single point of responsibility - Owner contracts with a single legal entity with responsibility for completing the design and constructing the project
- Integration of design and construction phases with potential for time savings
- Early cost certainty - Design-Builder commits to a fixed price (lump sum) at the time of selection (i.e., 30% or well before final design is complete)
- Applicable to larger more complex projects with significant potential for innovation and time savings

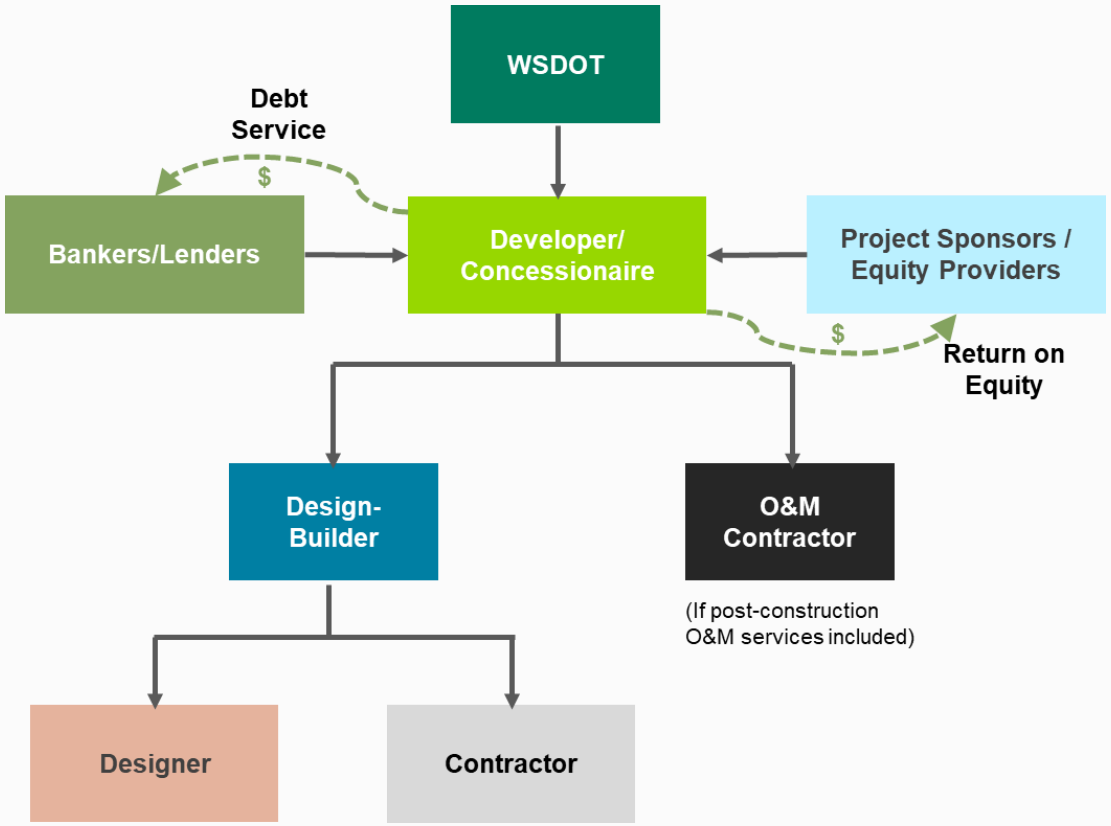
Progressive Design-Build (PDB)



Key Attributes

- Single point of responsibility - Owner contracts with a single legal entity with responsibility for completing the design and constructing the project
- Early involvement - Design-Builder engaged very early in the life of the project (e.g., during programming phase)
- Final project cost and schedule is not fixed at the time of the Design-Builder's selection
- Design-Builder and Owner work collaboratively during preconstruction to validate basis of design and advance or "progress" towards a final design and associated contract price. In the construction phase, the Design-Builder executes final design, construction, and commissioning.
- Design and construction phases overlap, allowing for early work packages and schedule compression
- More applicable to complex projects with limited scope definition, multiple stakeholders, and risks that would benefit from early contractor involvement and collaboration.

Public Private Partnership (P3)



Key Attributes

- Single point responsibility – the developer/concessionaire assumes responsibility for design, construction, operations, maintenance, and/or financing responsibilities of a public facility.
- Early contractor involvement and input in all aspects of project lifecycle including financing, design, construction, operations and maintenance can enhance the maintainability of design solutions, and lifecycle cost performance.
- Public Private Partnerships allow for delivery of very large projects much sooner than otherwise possible through traditional DOT funding or financing.
- P3 developer may be able to provide specialized expertise to operate and manage ancillary assets that are not part of an owner's core mission.

Impact of Project Delivery Method on Cost and Competition

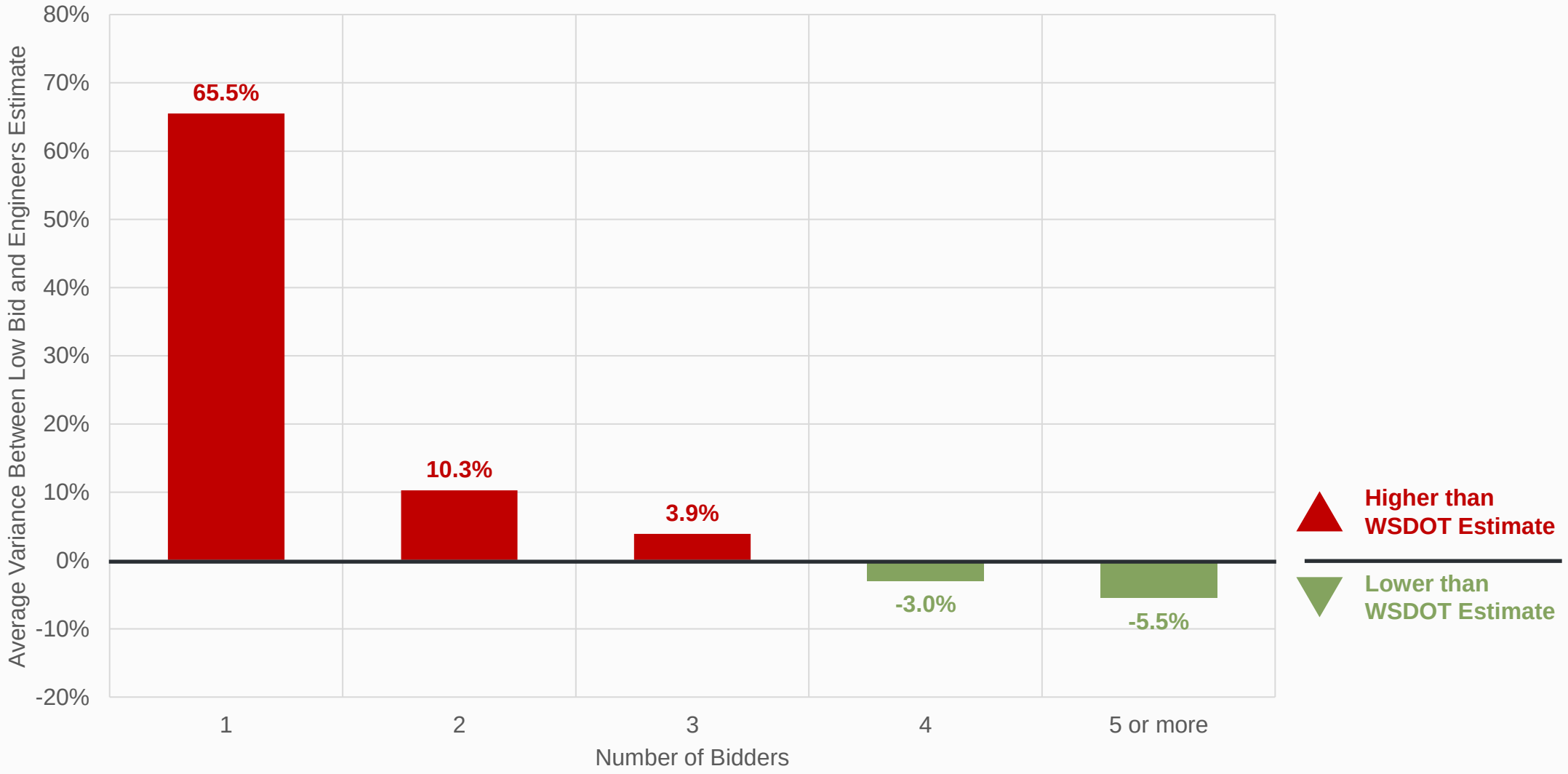
Metric	Result
Award Growth = Contract award price - Engineers Estimate	Lowest for Design-Bid-Build followed by Design-Build and highest for General Contractor/Construction Manager
Cost growth = Final contract cost - Contract award price	General Contractor/Construction Manager projects had lowest cost growth, suggesting that cost certainty is more accurate for progressive project delivery methods (GC/CM and Progressive Design-Build) once a construction price is negotiated
Project Intensity = Dollars spent per day	General Contractor/Construction Manager and Design-Build had significantly higher project intensity than Design-Bid-Build resulting in shorter construction durations for the same scope of work
Competition = # of bidders per project	Higher numbers of bidders result in more competitive pricing. Design-Build or Public Private Partnership (P3) Mega-projects have resulted in fewer bidders, withdrawals from procurements, and higher award costs compared to Engineer Estimates

Reference:

Alternative Contracting Method Performance in U.S. Highway Construction, FHWA Publication No. FHWA-HRT-17-100, research performed by the University of Colorado, Boulder, the University of Kansas, and Hill International, Inc., April 2018. https://des.wa.gov/sites/default/files/2024-05/WDSOT-PDMRTF-TechBrief-FHWA-AltContMethodPerformance-04-2018.pdf

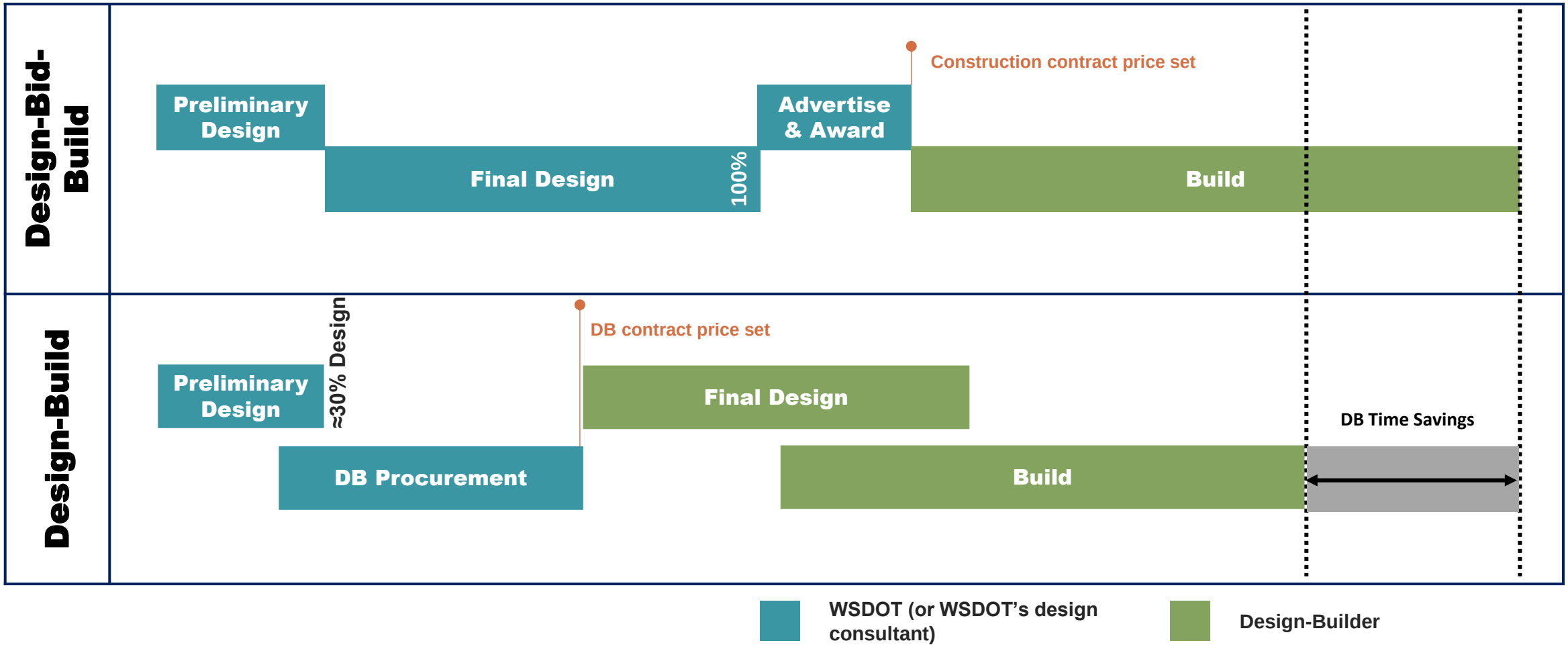
Variance Between Low Bid and Engineer's Estimate by # of Bidders

WSDOT Design-Bid-Build Project Data, 2017 – 2024



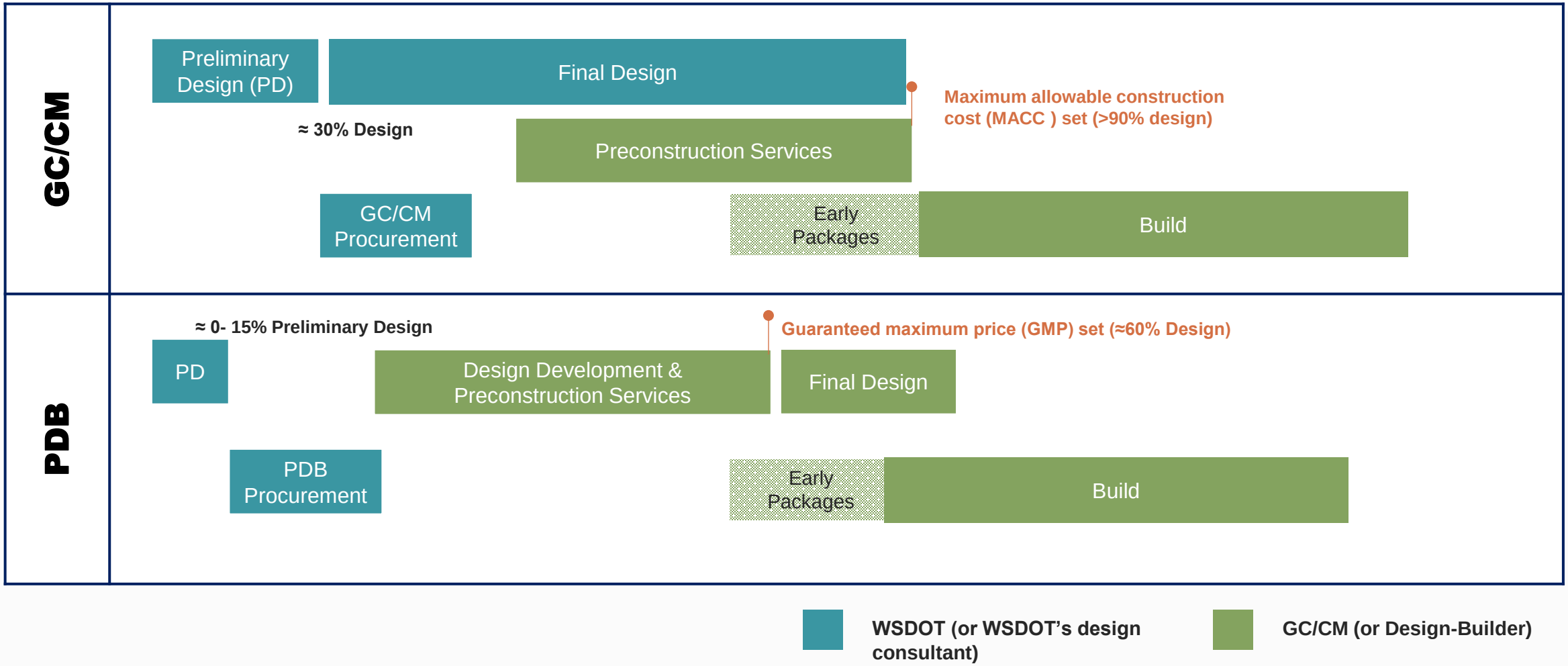
Overview of Project Delivery Method Time Performance

Design-Bid-Build compared to Design-Build



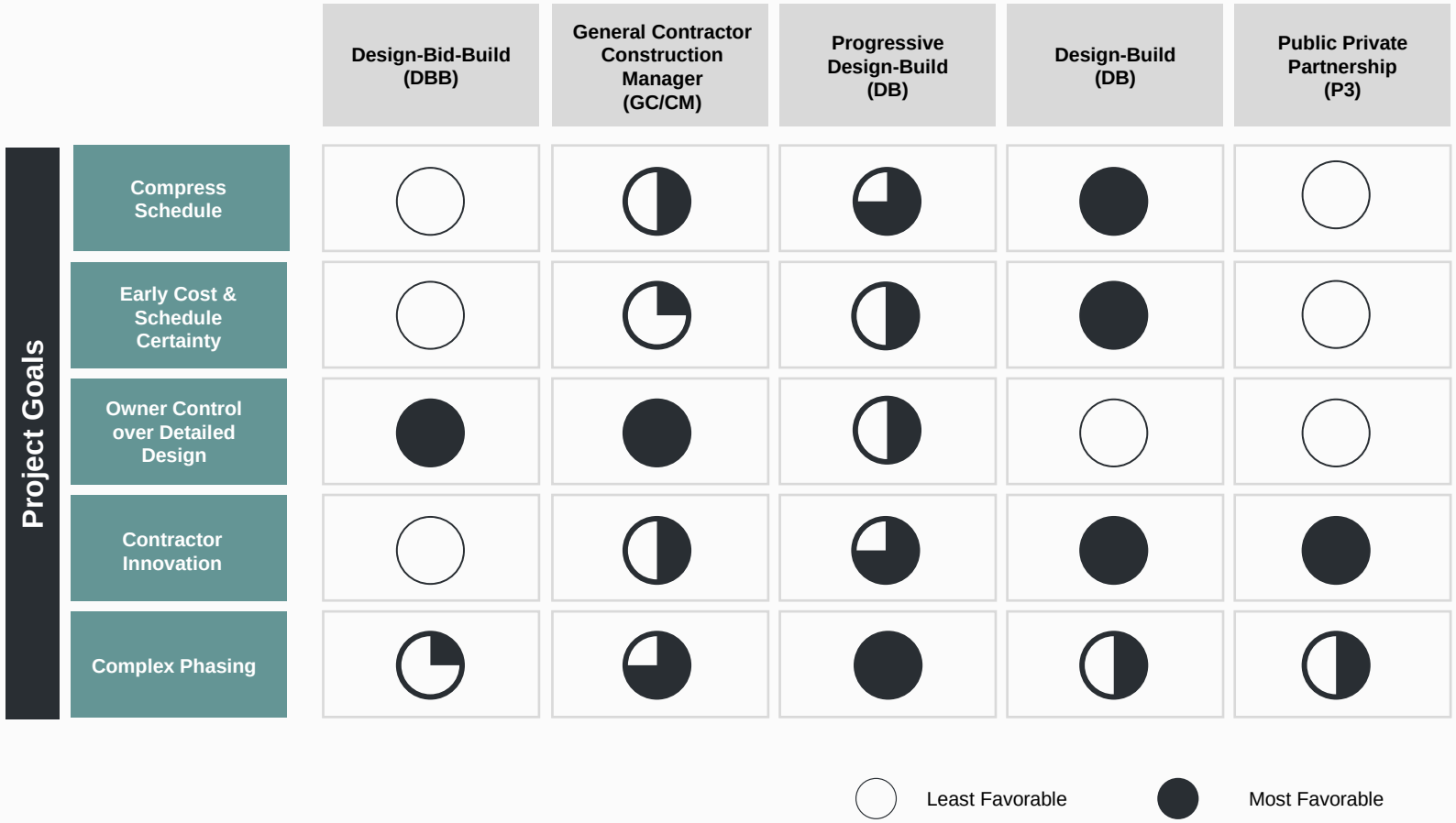
Overview of Project Delivery Method Time Performance

General Contractor/Construction Manager and Progressive Design-Build



Project Delivery Method - Achievement of Project Goals

Project delivery methods have varying ability to influence project goals or desired outcomes. This is a high-level view of the degree to which using each delivery method will likely achieve the specified project goals.



Key Topics Examined as Part of Internal and External Outreach

- Estimating & Cost Control
- Competition
  - Traditional and Alternative Delivery
- Risk Allocation
- Subcontracting/Disadvantaged Business Enterprise (DBE) Utilization
- Suggestions for Program Improvements

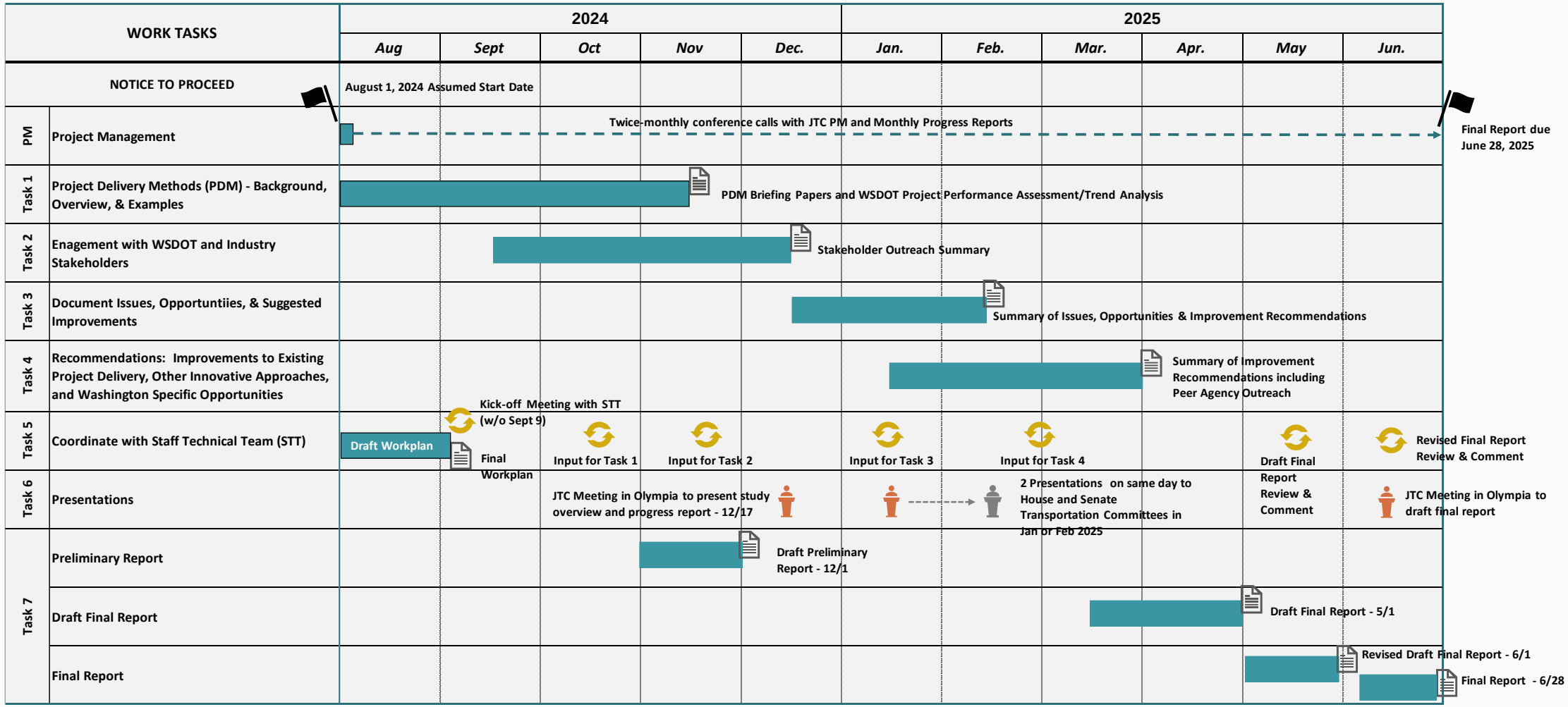
Coordination with Other Studies

- WSDOT Fish Passage Program Cost Management Recommendations §214(8)
- (Local) Project Delivery Streamlining Study §204(10)
- Capital Projects Advisory Review Board (CPARB) Project Delivery Method Review (including projects N52600R, N00900R, & M00800R) §304(25)

Questions

Thank you!

Schedule


WORK TASKS
2024
2025
Aug
Sept
Oct
Nov
Dec.
Jan.
Feb.
Mar.
Apr.
May
Jun.
NOTICE TO PROCEED
August 1, 2024 Assumed Start Date
PM
Project Management
Twice-monthly conference calls with JTC PM and Monthly Progress Reports
Final Report due June 28, 2025
Task 1
Project Delivery Methods (PDM) - Background, Overview, & Examples
PDM Briefing Papers and WSDOT Project Performance Assessment/Trend Analysis
Task 2
Enagement with WSDOT and Industry Stakeholders
Stakeholder Outreach Summary
Task 3
Document Issues, Opportuntiies, & Suggested Improvements
Summary of Issues, Opportunities & Improvement Recommendations
Task 4
Recommendations: Improvements to Existing Project Delivery, Other Innovative Approaches, and Washington Specific Opportunities
Summary of Improvement Recommendations including Peer Agency Outreach
Task 5
Coordinate with Staff Technical Team (STT)
Kick-off Meeting with STT (w/o Sept 9)
Draft Workplan
Final Workplan
Input for Task 1
Input for Task 2
Input for Task 3
Input for Task 4
Draft Final Report Review & Comment
Revised Final Report Review & Comment
Task 6
Presentations
JTC Meeting in Olympia to present study overview and progress report - 12/17
2 Presentations on same day to House and Senate Transportation Committees in Jan or Feb 2025
JTC Meeting in Olympia to draft final report
Task 7
Preliminary Report
Draft Preliminary Report - 12/1
Draft Final Report
Draft Final Report - 5/1
Final Report
Revised Draft Final Report - 6/1
Final Report - 6/28
Start/Finish Milestone
Deliverable
Collaboration w/ STT
Work Period
Presentation