Project Delivery and Innovative Practices Study of WSDOT Phase II

Final Supplemental Report

FOR: Washington State Joint Transportation Committee

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1. Executive Summary

Study Overview

Objectives

The Joint Transportation Committee (JTC) of the Washington State Legislature directed an amendment to an existing study in ESHB 2134, Section 204, requesting that HKA address additional innovative practices that could reduce costs or delivery schedule, improve estimating transparency, enhance regional collaboration among agencies with capital programs, or enhance competition.

Key Tasks

The proviso for the amended Phase II study included the following tasks:

1. Provide an overview of other innovative approaches for contracting, including:
    a. Indefinite Delivery / Indefinite Quantity (IDIQ) and Multiple Award Task Order Contracts (MATOC)
    b. Alliance Contracts
    c. Fixed Budget Variable Scope Contracting
2. Address key cost estimating topics:
    - Industry standard practices for communicating cost estimate certainty at different stages of design to facilitate decision-making
    - Options for aging estimates
    - Strategies to improve clarity and accountability in cost estimates and cost containment
3. Address bonding options for large, alternative delivery projects
4. Provide a case study of infrastructure collaboration efforts (e.g. Infrastructure LA model)

Oversight and Direction

This amended Phase II study is a continuation of the Project Delivery Methods and Innovative Practices Study. This phase of the study did not include a Staff Technical Team (STT) but was guided by JTC, House, and Senate Transportation Committee staff and member questions and input. The study was a collaborative effort that included input, feedback, and perspectives shared by WSDOT staff and industry representatives.

The consultant team was led by two HKA consultants with expertise in design, contracting and procurement, risk management, alternative project delivery methods, process improvement, performance auditing, and dispute resolution. This experience includes working with both public and private owners with large capital construction programs and industry groups. The HKA consultants have and are currently engaged in conducting research projects for FHWA, among other transportation entities.

The recommendations in this report are made by the HKA team based on the independent analysis conducted for this study.

Study Recommendations

Based on its findings, HKA developed a series of recommendations, as summarized in Table 1.1.

For each recommendation, guidance is provided regarding:

- Implementation costs (based on an order-of-magnitude estimate of one-time (O) or recurring (R) costs);
- Implementation difficulty; and the
- Beneficial impact of the recommendation.

Most of the recommended actions are policy decisions within WSDOT's jurisdiction and responsibility. WSDOT will need to develop internal estimates of the time and cost to implement the recommendations. Legislative action may be required for budgetary purposes to provide additional appropriations for implementation of priority actions.

Table 1.1: Recommendations and Implementation Considerations

Recommendation	Timing	Cost (1)		Difficulty	Beneficial Impact	Status
I. Additional Innovative Contracting Methods						
a) IDIQ / MATOC 1) Enhance the current JOC process with legislative changes to adjust current JOC constraints, increase process flexibility, and attract competition 2) Consider legislation to test IDIQs in the form of Multiple Award Task Order Contracts (MATOC) to expedite procurement, enhance competition, and reduce the cost and overall time of delivery 3) Evaluate whether IDIQ contracts can facilitate use of unused funding at end of a fiscal year 4) Offer increased opportunities for smaller businesses by structuring work under an IDIQ contract in smaller packages	18-24 months	$250k to $500k	O	Moderate	Moderate	It does not appear that WSDOT is actively using JOC for capital construction projects (only maintenance)

Recommendation	Timing	Cost [1]		Difficulty	Beneficial Impact	Status
b) Fixed Budget Variable Scope (FBVS) 1) Continue to implement FBVS for appropriate lump sum best value DB projects to control costs by asking the industry to provide the most scope or best design solutions within a defined budget ceiling. 2) Consider implementing FPVS in conjunction with progressive delivery methods PDB and GC/CM and use Integrated Project Delivery (IPD) tools such as Target Value Design (TVD) found in Alliancing contracts to adjust scope to meet budget constraints	12-24 months	>$100k	O	Moderate	High	Currently part of WSDOT's DB program, but can be expanded for use with PDB and GC/CM
II. Cost Estimating						
a) Communicating Estimate Uncertainty 1) For legislative budget requests for DB projects, identify the applicable estimate class based on the stage of project development 2) Recast budget estimates as ranges to convey concept that an estimate represents a level of uncertainty based on estimate class. 3) If a point estimate is required, identify a P-value (probability that costs will not exceed) associated with estimate	6 to 12 months	$50 to 100k	O	Moderate	High	Underway (Estimating Working Group is in the planning stages)
b) Aging Projects 1) Continue to use the Inflation tables to adjust project costs from current year dollars to year-of-expenditure dollars. 2) Monitor market conditions and industry capacity, and consider adjusting advertisement dates to minimize concurrent lettings and improve competition (for major, multi-year projects)	Immediate	<$100k	R	Low	High	Underway with more regular market assessments encouraged

Recommendation	Timing	Cost [1]		Difficulty	Beneficial Impact	Status
c) Enhancing Transparency 1) Consider building additional functionality, user-friendliness, and transparency into WSDOT's data sharing and reporting, including data sharing processes with the Legislature and online project performance and stewardship reports 2) Integrate data sources so that the website can automatically refresh key cost and schedule metrics for both completed and active projects as information changes	>24 months to implement	$250k to $500k	O	Moderate	High	---
III. Surety Bonds						
a) Consider reinstating the legislative authority for WSDOT to allow for surety bonds less than 100% of contract price for select DB projects greater than $500M, where risk profiles justify reduced bonding b) Develop a procedure for conducting risk-based probable maximum loss assessments to assess project-specific risks and potential financial exposure if bonding is less than 100% c) Adopt a phased bonding approach where performance bond requirements adjust at key project milestones. d) Consider allowing alternative forms of performance security such as: • Parent company guarantees (PCG) • Letter of Credit (LOC) from a financial institution • Hybrid approaches combining construction bonds with other security for non-construction obligations (e.g., extended warranty/24performance guarantees, O&M obligations	12-18 months	$150k - $200k	O	Moderate	Moderate	---

Recommendation	Timing	Cost (1)		Difficulty	Beneficial Impact	Status
IV. Collaboration Across Agencies						
The Infrastructure LA case study provides a model that could be adapted to the Puget Sound region to encourage cross-agency collaboration to prioritize projects, identify potential conflicts and synergies, and minimize duplication of efforts (e.g., joint training programs) To effectively launch and sustain such collaboration would require some investment (seed money) to set up the program (e.g., develop sharing platform, public relations, etc.)	>24months	$300k to $500k to implement	O	Moderate	High	_

(1) Not all costs require a new appropriation or new funding. One-time $ = O, Recurring $ = R. WSDOT will need to determine which of these recommendations requires additional funding, and which they can accomplish within their existing budgets.

2. Additional Project Delivery and Contracting Methods

Introduction

As a supplement to the project delivery methods (PDM) discussed in HKA's June 30, 2025, report, which included Design-Build, Progressive Design-Build, General Contractor/Construction Manager, and Public Private Partnerships, this chapter examines three additional alternative delivery and contracting approaches, defined in Table 2.1 below.

Similar to the June 2025 report, this chapter presents an overview of each of these methods, including:

- General advantages and disadvantages;
- Project circumstances or conditions typically associated with successful implementation; and
- Examples of projects on which the methods have been implemented.

Table 2.1: Definitions of Additional Project Delivery and Contracting Options

Method	Definition
Indefinite Delivery Indefinite Quantity (IDIQ) Contracting	A type of procurement and contracting approach used to acquire goods or services when the exact quantities and delivery schedules are not known at the time of award. Quantities and delivery dates are instead determined when individual task or work orders are issued under the master IDIQ agreement. Types of IDIQ contracts include: • **Job Order Contracts (JOC):** a type of IDIQ contract commonly used for repair, maintenance, and minor construction projects. JOCs typically entail use of unit price books with pre-established prices for various tasks. • **Multiple Award Task Order Contracts (MATOC):** entails awarding master IDIQ agreements to multiple qualified contractors for the same general scope of work. During the contract period, the pool of IDIQ contractors are then invited to bid on various work orders that may be issued under those master agreements.
Alliancing Contracting	A collaborative, multiparty agreement where owner, designer and contractor share risks and rewards, operating under a "best-for-project" approach.
Fixed Budget Variable Scope	A contracting approach, often used in conjunction with Design-Build delivery, where the budget is fixed upfront, and the scope is adjusted to fit within that budget, prioritizing cost certainty.

Indefinite Delivery Indefinite Quantity (IDIQ) Contracting

Overview

Indefinite Delivery Indefinite Quantity (IDIQ) contracting streamlines procurement processes by allowing agencies to advertise, evaluate, and award a single "umbrella" contract that can be used to support the delivery of multiple projects or services, even when the exact quantities are unknown at the time of award.

IDIQ contracts are generally used when agencies anticipate recurring needs but cannot precisely predict quantities beyond a guaranteed minimum. This structure allows agencies to adjust the amount of products or services required over the life of the contract, providing significant flexibility and maximizing efficiency.

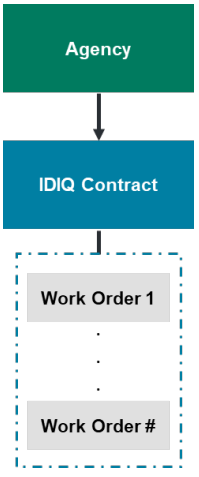
Under an IDIQ approach, the agency will award an IDIQ contract to a contractor—usually selected based on qualifications, a proposed markup fee, and possibly unit pricing ("price book")—to perform work over a set period. During the contract period, the agency then issues requests for work orders, which the IDIQ contractor will price using the pre-established terms included in the IDIQ contract. Typically, IDIQ contracts specify minimum and maximum quantity thresholds, either in units (for supplies) or dollar values (for services).

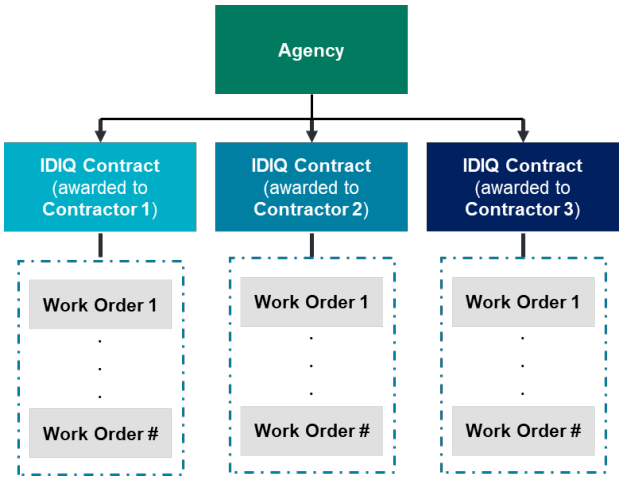
This flexible contracting approach is commonly referred to by various names across agencies, including Job Order Contracting, task order contracts, on-call contracts, master agreements, push-button contracts, and Multiple Award Task Order Contracts. While these terms are often used interchangeably, they can be differentiated based on the types of services being performed and other procedural or contractual nuances.

Contractual Structure

As summarized in Table 2.2, IDIQ contracts may be structured as either single award or multiple award agreements.

Table 2.2: IDIQ Contracting Models

IDIQ Model	Structure
a) **Single award IDIQ contracting** entails awarding a master agreement to a single contractor to fulfil a recurring agency need over a specified period. 1) This IDIQ model allows the agency to issue multiple task or work orders to the selected contractor, typically up to a defined maximum quantity or dollar value, without committing to a fixed amount upfront. 2) A Job Order Contract (JOC) is a type of a single-award IDIQ contract that typically entails use of a unit price book, allowing for faster, more transparent, and cost-effective procurement. **Under RCW 39.10.420, all "public bodies" in Washington are authorized to use JOC.**	

IDIQ Model	Structure
b) **Multiple award IDIQ contracting** entails awarding master IDIQ agreements to multiple qualified contractors for the same general scope of work under a single procurement process. During the contract period, the pool of IDIQ contractors are then invited to bid on various work orders that may be issued under those master agreements. 1) By awarding contracts to multiple vendors, this IDIQ model promotes competition for each task order, which can lead to better pricing and higher quality services or products. 2) Several agencies refer to this IDIQ model as a **Multiple Award Task Order Contract (MATOC). RCW does not specifically address MATOCs.**	

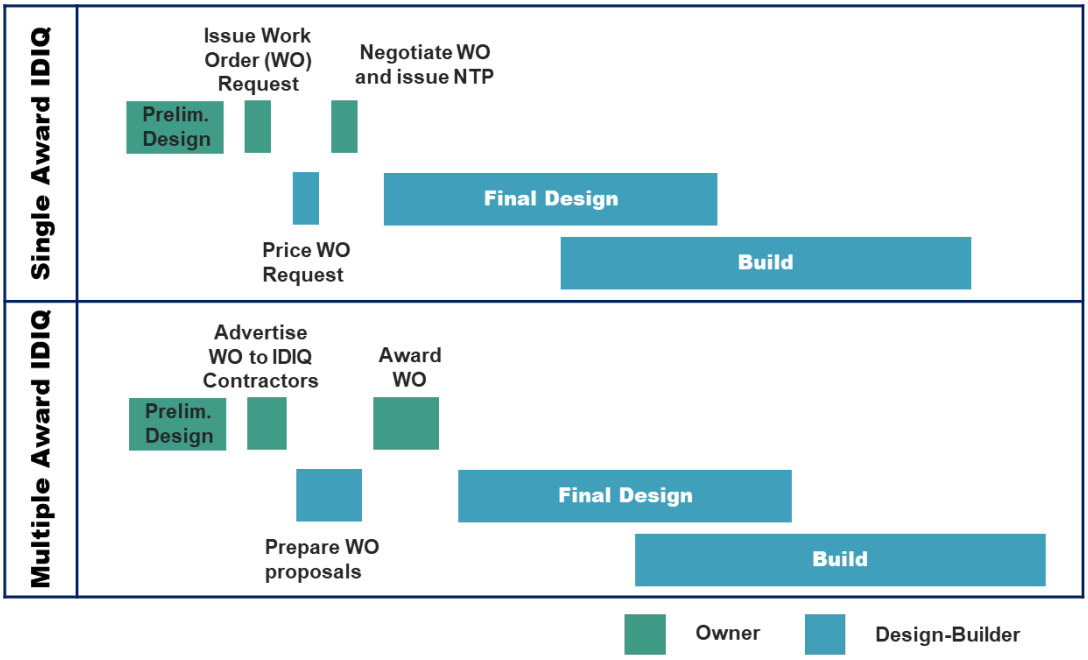
Key differences between these IDIQ models are summarized in Table 2.3.

Table 2.3: Comparing IDIQ Models

	Single Award IDIQ	Multiple Award IDIQ
Common Agreement Form	Job Order Contract	MATOC
Number of Contractors	One firm	Multiple pre-qualified firms
Work Order Pricing Method	Unit price book	Competitive proposals for each work order (No preset pricing; each work order requires a proposal and evaluation)
Procurement Speed	Fast turnaround because pricing and processes are standardized	Slower relative to JOC, because each work order requires a mini-competition among MATOC holders
Application	Best for repetitive, routine, and smaller projects like maintenance, repairs, renovations, and minor construction (e.g., pavement preservation)	Large-scale or complex projects where flexibility and competition are needed

IDIQ contracts can be combined with alternative delivery methods, such as Design-Build (DB) and General Contractor/Construction Manager (GC/CM), to leverage the flexibility of IDIQ's multi-project procurement approach alongside the benefits of alternative project delivery. This integration can streamline procurement while optimizing schedule, cost, and risk management. Figure 2.1 illustrates how a DB project would generally proceed under either a single award or multiple award DB-IDIQ contract.

Figure 2.1: DB IDIQ Project Lifecyle



Potential Advantages and Disadvantages

Engaging contractors through IDIQ work orders can significantly reduce a project's lead time and cost by eliminating the potentially time-consuming and costly aspects of traditional bidding procedures. The purported benefits also include expedited project delivery, administrative efficiency, and cost savings.

The FHWA encourages agencies to consider IDIQ, stating "*the amount of time it takes to put together a project and a contract package for an IDIQ or JOC is reduced from an average of 1-2 years using traditional contracting methods for similar projects, down to an average of 5 months. In addition, the average cost reduction has been 26 percent below the engineer's estimate*."[1]

A summary of advantages and disadvantages related to IDIQ Contracting is presented in Table 2.4.

Table 2.4: IDIQ Contracting – Potential Advantages and Disadvantages

Potential Advantages	Potential Disadvantages
• **Streamlined Procurement:** Eliminates the need for the procurement of individual contracts, saving time, administrative effort, and cost for the owner and industry • **Flexibility and Efficiency:** - Allows agencies to quickly issue task orders for specific needs, reducing the time and administrative effort required for individual procurements.	• **Reduced competition: Potential** contractors may be discouraged from pursuing IDIQ contracts due to a lack of: - Work guarantees - Advance knowledge of the timing and duration of the work

[1] FHWA Highway Safety Improvement Program - Noteworthy Practices / IDIQ Contracting, April 2023

Potential Advantages	Potential Disadvantages
- Can be used to facilitate use of unused funding at end of fiscal year • **Diversity:** - Structuring work in small tasks may offer increased opportunities for smaller or disadvantaged businesses - Offers agencies access to a diverse range of expertise and solutions, enabling them to select the best fit for their specific requirements • **Collaboration:** Long-term contracts can foster a spirit of cooperation/partnership between contractors and the owner	• **Potential administrative challenges:** - More upfront research and planning needed to establish a unit price book aligned to market conditions (for JOC) - Managing multiple contractors under one umbrella contract requires significant oversight. Task order competitions, evaluations, and performance monitoring can be time-consuming (for MATOC)

Washington State Experience with IDIQ Contracting

Job Order Contract (JOC)

Under RCW 39.10.420, all "public bodies" in Washington—defined in RCW 39.10.210 as any general or special purpose government entity, including state agencies, higher education institutions, counties, cities, towns, ports, school districts, and special purpose districts—are authorized to use Job Order Contracts (JOC).

Agencies seeking to use JOC do not need to obtain the approval of the CPARB (Capital Projects Advisory Review Board). However, agencies should have appropriate staff expertise or consultants to assist them in establishing the unit price book and administering a job order contract.

Key aspects of Washington's current JOC requirements include the following:

1. **JOC Award Process:** Per RCW 39.10.430, JOCs must be awarded through a competitive request for proposals (RFP) process. The RFP must include the following:

   - Detailed description of the scope of the contract,
   - Reason for using JOC,
   - Qualifications required of proposers,
   - Identity of the specific unit price book to be used and description of which elements must be included in the bid coefficient,
   - Minimum contracted amount committed to the selected job order contractor,
   - Contract duration with extension options, and a
   - Description of the process that will be used to evaluate qualifications and proposals.

   The job order contractor is then selected on the basis of its:

   - Coefficient on the unit price book (a multiplier that may increase or decrease costs listed in the unit price book), and

   - Demonstrated ability to perform the scope of work (e.g., personnel, past performance, bonding capacity, workload, location, etc.)

2. **Work Order Process:** Work orders issued under a JOC must comply with the requirements of RCW 39.10.450. In particular:

- No individual work order may exceed $500,000 excluding sales and use tax. All work orders issued for the same project are treated as a single work order for the purposes of this dollar limit.
- No more than 20% of the dollar value of any work order may consist of items not contained in the unit price book.
- At least 90% of the work must be subcontracted to entities other than the job order contractor.
- The initial JOC term may not exceed two years, with the option of extending or renewing the contract for one additional year.
- For all local governments except the very largest cities and counties, the total contract amount may not exceed $4 million per year for a maximum of three years (RCW 39.10.440). Agencies can carry over unused capacity to the following year, but there are limitations.

Because the RCW provisions impose relatively low ceiling amounts for total contract value and individual work orders and require a high level of subcontracting (at least 90%), the use of JOC type contracting by public agencies in Washington has generally been limited to smaller projects.

Multiple Award Task Order Contract (MATOC)

In May 2025, Sound Transit's System Expansion Committee presented a proposal to implement the MATOC approach to enhance flexibility and competition for professional services.

Three procurements are proposed to establish benches of qualified firms capable of providing:

- Environmental services
- Project management/construction management
- Design/architectural and engineering services

The proposal included a plan to award multiple MATOCs under each procurement, with a total shared value potentially reaching $1 billion per procurement, a significant increase compared to the $4 million ceiling under Job Order Contracting (JOC). Likewise, individual work orders under MATOCs are anticipated to be several magnitudes higher than the $500,000 maximum allowed under the JOC authorization, reflecting the scale and complexity of projects targeted by this approach.

Once qualified, prime consultants would be grouped into one of five categories based on firm size or scope: Micro, Small, Medium, Large, or Specialty, within their respective discipline (e.g., environmental, PM/CM, or design/A&E). Creating multiple award pools would enable firms of all sizes to participate, allowing different-sized entities to pursue opportunities aligned with their capabilities.

National Experience with IDIQ Contracting

Federal agencies, including the Department of Defense (DoD), Office of Federal Lands Highways (within FHWA), General Services Administration (GSA), and Department of Homeland Security (DHS), regularly use MATOCs to manage large-scale construction and service programs. For example:

- The Department of Defence (DoD) uses IDIQ contracting to support military forces worldwide using a set of major (>$1 billion) cost-plus-award-fee MATOCs: the Logistics Civil Augmentation Program (U.S. Army Sustainment Command 2007), the Global Contingency Construction Multiple Award Contract (NAVFAC 2012), and the Air Force Contract Augmentation Program (DoD 2005) administrated by the Army, Navy, and Air Force, respectively.

- The US Fish and Wildlife Service has awarded MATOCs for construction alteration and repair, geotechnical engineering, and architecture and engineering, and will soon award one for design-build construction. The agency touts the ability of MATOCs to "streamline the acquisition process, reduce administrative workload, and ensure faster service delivery on projects. They also offer contractors the opportunity to provide work on a steady stream of jobs over time, with fewer administrative hurdles and a reduced solicitation timeline."[2]

- In August 2025, the Federal Highway Administration's (FHWA) Eastern Federal Lands Highway Division issued a solicitation for the Mid-Atlantic Region Construction MATOC. The goal was to award up to four IDIQ contracts to small businesses for highway, street, and bridge construction services, potentially including design and design-build capabilities. The MATOC was structured with a shared ceiling value of $60 million, and individual task orders ranging from $50,000 to $3 million. These task orders would cover various construction activities such as roadway rehabilitation, pavement construction, and bridge repairs.

IDIQ contracting has also been used by state and local highway agencies. A national NCHRP synthesis study (Gransberg, Benavides, Loulakis, 2015) found that IDIQ contracts have been used nationally by more than 30 DOTs. IDIQ contracts were awarded using low-bid, best-value, and qualification-based selection and have been implemented for planning, design, construction, and maintenance contracts across the entire project lifecycle.

Examples of transportation agency use of IDIQ contracts includes the following:

- **Delaware DOT (DelDOT)** uses IDIQ contracting to decrease the time between completion of project design and start of construction for pavement projects. The agency's approach varies from awarding contracts to individual contractor teams to making awards to multiple teams. DelDOT has used open-ended contracts with no locations specified as well as contracts that list only some sites, leaving others to be determined.

- **Montana Department of Transportation** solicits IDIQ contracts for specific districts through a competitive bidding process, guaranteeing the successful bidder a minimum amount of work. After award, the selected contractor receives an initial Job Order containing a bundled list of projects, often between 40 to 50 paving projects, which must all be completed. Each Job Order serves as the State's official notice to proceed and includes site plans, specifications, quantities, schedules, certifications, and other required documentation. Montana treats each bundled Job Order as a single task.

- **Los Angeles World Airports (LAWA)** has been using the MATOC model as part of its $15 billion Capital Improvement Program to manage a broad range of design-build and construction projects. The MATOC approach was chosen to increase efficiency, flexibility, and competition for projects ranging from infrastructure upgrades to new civil and vertical construction.

Alliance Contracting

Overview

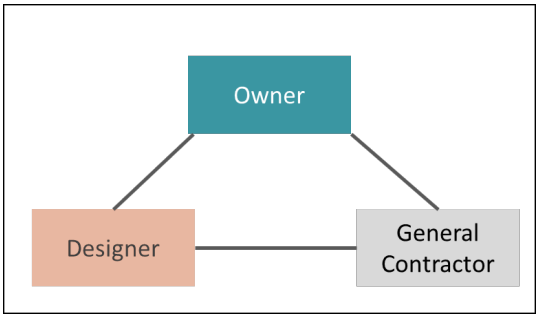
Under project alliancing, an owner and one or more service providers (constructors, consultants, designers, suppliers, or a combination thereof) collaborate on the delivery of a project. In contrast to GC/CM and PDB, which also entail a collaborative, relationship-based approach to project delivery, alliancing uses

[2] https://www.fws.gov/program/contracting/matoc-information (accessed October 10, 2025)

contractually established financial incentives to encourage project performance and cooperation among the alliance participants.

A project alliance, which often takes the form of a multi-party agreement as depicted in Figure 2.2, typically includes the following characteristics:

Figure 2.2: Alliance Agreement Structure



a) Owner selects the Alliance team through a qualifications-based selection process and executes a three-party agreement.

b) The three-party agreement creates a no-fault, no-blame, and no-dispute culture in which no legal recourse exists except for the limited cases of willful default and insolvency. Project risk and responsibilities are shared and managed collectively, rather than allocated to specific parties.

c) During an initial scope validation period, the owner sets a budget, and the team members jointly develop project goals, advance the design, and estimate a preliminary target cost using transparent open book pricing.

d) The parties optimize the scope and design to bring the target cost within the proposed budget.

e) Once the final budget is validated, the team proceeds with Phase 2 detailed design and construction.

f) All participants provide “best-in-class” resources. Full access is provided to the resources, skills, and expertise of all participants.

g) All participants have a say in decisions for the project, with decisions made on a “best-for-project” basis, rather than to further individual interests.

h) At project completion, the target cost is then compared to the final cost, and the under-runs or overruns are shared equitably (through pre-agreed ratios) among the participants based on their relative contributions to the leadership, performance, outcomes, and overall success of the project. In this manner, all participants have a financial stake in the overall project performance.

i) All transactions are open book.

Use of Alliancing

Alliance contracting has not been used to deliver transportation projects in the US. However, it is generally thought that this delivery method has the potential to deliver complex, high-risk projects, where risks are unpredictable, inherent to the nature of the project (rather than due to inadequate planning, scoping, or time), and best managed collectively.

The project should also derive significant benefit from the involvement of both the owner and non-owner participants in all aspects of project development and implementation.

Potential Advantages and Disadvantages

Table 2.5 identifies the potential advantages and disadvantages of alliance contracting.

Table 2.5: Alliance Contracting – Potential Advantages and Disadvantages

Potential Advantages	Potential Disadvantages
• Increased efficiency provided by a well-functioning team and open communication • Improved risk management due to ongoing collaboration, shared responsibilities, project-first mentality, and the incentive for all participants to work together to proactively mitigate risk • Avoidance of litigation and claims because the contract emphasizes cooperation rather than strict liability • Open-book financial arrangements build trust and allow for better cost control	• Absence of direct price competition can lead to overly conservative and easily achievable performance targets • Participants are exposed to a broader range of risks than on a traditional project (and may be liable for the performance of other team members) • Requires high level of involvement from senior management to establish and maintain an integrated team • Owner's ability to make unilateral decisions is severely restricted • Alliancing requires a high level of trust, transparency, and communication that may require a significant cultural shift for most project participants

Experience

Alliance contracts were first used in the early 1990s by British Petroleum (BP) to develop its North Sea oil and gas reserves. The method has since been used on multiple public infrastructure projects in Australia and New Zealand and more recently in Canada.

Kiewit was recently involved in two Alliancing projects in Canada using a tri-party agreement—Kings Crossing Project (Waaban Crossing) and Vancouver emergency flood repair project.

The Waaban Crossing project entailed a 4000-foot bridge with 19 precast spans and three spans of structural steel with a fixed budget of $180M. Contractors were selected based on 80% technical and 20% financial criteria. A tri-party agreement was executed between the City of Kingston, Ontario, the Contractor, and the Engineer, including trade partners in the profit/risk pool.

The initial validation phase involved assessing design details, costs, schedule, and constructability to establish a target cost. This target cost included direct costs, risk and contingency allowances, as well as base and goal incentive compensation for non-owner participants. Collaborative cost-reduction strategies were applied as needed to align the target cost with the budget, such as simplifying the design and staging of the work.

Fixed Budget Variable Scope

Background

Traditional project procurement and delivery methods typically set the project scope upfront, with the design process focused on meeting all specified features and stakeholder requirements. Cost and schedule are estimated based on this defined scope and often increase if scope changes or unforeseen complexities are encountered. Under this approach, the project team prioritizes fulfilling all scope requirements, even if it requires adjusting the budget or timeline.

To help ensure cost certainty, many owners have adopted a "design-to-budget" approach, also known as Fixed Budget Variable Scope (FBVS). In an FBVS contract, the owner establishes a fixed cost and timeline upfront, while allowing scope to adjust based on priorities. Unlike the traditional "design-to-scope" model, FBVS emphasizes remaining within the defined budget while delivering as much scope as possible**.**

Key characteristics of FBVS contracts include the following:

- Budget is predetermined and cannot be exceeded.
- Schedule is fixed, ensuring predictable delivery dates.
- Scope is variable, with features ranked by priority or value.
- Change control emphasizes reprioritization over renegotiating price or timeline.

Potential Advantages and Disadvantages

Table 2.6 identifies the potential advantages and disadvantages of FBVS contracts.

Table 2.6: Fixed Budget Variable Scope – Potential Advantages and Disadvantages

Potential Advantages	Potential Disadvantages
• Improves performance predictability by fixing cost and delivery date • Focuses on delivering highest-priority features first, maximizing return on investment • Reduces risk of overruns by eliminating or adjusting scope as needed • Encourages continuous stakeholder engagement to refine priorities	• Stakeholders expecting full scope delivery may be disappointed • Limiting scope may not result in best value for money

WSDOT and Washington State Experience with FBVS

WSDOT (e.g., Project No. 9242 I-405/Renton to Bellevue) has procured DB using a "fixed price, maximum scope" (or "build-to-budget") approach in which proposers compete based on how much scope they can deliver within a predefined budget. WSDOT refers to this as a "Maximum Scope Best Value procurement process." Under this approach, the procurement documents set forth a base scope of work with additional scopes of work that proposers may choose to include in their proposals.

WSDOT has used a maximum or upset price with a fixed or base scope and variable options as recommended by CPARB "Review of WSDOT Projects Pursuant to ESHB 2134, Part 2B, Report to the Legislature", December 1, 2024.

The City of Seattle, Wenatchee, and Spokane County use progressive GC/CM and PDB delivery methods and work with industry during the preconstruction phase to prioritize the scope and design to meet specific budget limits.

National Experience with FBVS

Examples of this practice include the following:

- Florida DOT and Virginia DOT have implemented a "Design-Build with Optional Scope" process by which proposers provide pricing for both base scope elements and optional scope items that are listed in a specific (priority) order.

- Several state DOTs and local agencies use a FBVS procurement process in which the contractor is selected based on how much scope (e.g. lineal feet of paving) they commit to delivering within a defined budget ceiling. Agencies refer to this process by many names: Fixed price, Variable Scope (MnDOT), Design-Build Maximum Price (Florida DOT), and Fixed Price, Maximum Scope (Utah DOT).

- Missouri DOT (MoDOT) implemented FBVS contracting for its Safe & Sound DB Bridge Program, which included the replacement or repair of 802 bridges across Missouri. MoDOT set a fixed budget of $487 million, and bidders competed on how many bridges they could address for this amount. The winning team proposed 554 replacements and 248 rehabilitations—exceeding expectations.

MoDOT has since developed a standard contracting model (see MoDOT Engineering Policy Guide) for FBVS Contracting, which is a variation of IDIQ under a fixed budget. MoDOT will set up a FBVS project with estimated quantities of work at specified locations which the contractor will complete in an established priority order until the budget has been exhausted.

Under this procurement method, the contractor bids a unit price for the estimated quantities for each item of work in the contract. The initial estimated quantities included in the contract represent the amount of work that than can be completed for the budgeted amount. Once the project has been awarded, the MoDOT construction office will then manage the contract based on the priorities in the contract by adjusting the contract quantities to hit the budgeted amount.

Recommendations

Of the three methods discussed herein, HKA believes the **FBVS** method offers the greatest potential for cost containment. Moreover, given WSDOT's prior successful use of this approach, it should be the most straightforward to implement on a broader scale.

To allow WSDOT to more effectively implement **IDIQ** contracting for capital construction projects, legislative changes would be required to adjust current JOC constraints and increase process flexibility. Additional legislation would also likely be necessary to allow MATOC-style IDIQ contracts.

Alliance contracting, while holding promise, has not widely implemented in the U.S. As a result, it is uncertain whether this approach would attract the level of competition needed to deliver meaningful benefits.

3. Project Cost Estimating

This chapter covers the following topics related to cost estimating practices used across the industry:

- Industry standard practices for communicating cost estimate certainty at different stages of design to facilitate decision-making
- Options for aging estimates
- Strategies to improve clarity and accountability in cost estimates and cost containment

Estimating Practices for Communicating Uncertainty and Supporting Decision-Making

Estimate Ranges and Classification Systems

No estimate is perfectly accurate, especially in the early stages of a project. Across industries, estimate ranges are used to communicate and account for unknowns such as design changes, market fluctuations, or scope adjustments. A narrow range signals high certainty, while a wide range indicates estimate immaturity (i.e., early-stage information) or high-risk conditions.

To promote consistency in communicating and understanding the accuracy of estimates, many organizations have adopted standard estimate classification systems. These frameworks help prevent misunderstandings (such as assuming an early rough estimate is final and suitable for financial decision-making) by categorizing cost estimates according to their level of detail, accuracy, and intended purpose.

Cost estimate classification systems have been described by various standards setting organizations, including the American Society of Testing and Materials (ASTM) International and the Association for Advancement of Cost Engineering (AACE) International. For example:

- AACE Recommended Practice 18R establishes five estimate classes, from Class 5 (low maturity of design and scope definition) to Class 1 (high maturity).
- ASTM E2516, *Standard Classification for Cost Estimate Classification System* (itself based on AACE Recommended Practices 17R, 18R, and 56R), similarly sets forth five cost estimate classes.

Central to the systems described by AACE and ASTM is the concept that estimate classifications are primarily driven by the degree of project definition, or the extent and type of information available to support the estimating process. As summarized in the ASTM E2516 Cost Estimate Classification Matrix reproduced in Figure 3.1 below, a Class 5 estimate is based on the lowest degree of project definition; a Class 1 estimate the highest.

Figure 3.1: Cost Estimate Classification Matrix (adapted from ASTM E2516)

ESTIMATE CLASS	DEGREE OF PROJECT DEFINITION	END USE OF ESTIMATE	ESTIMATING METHODOLOGY	EXPECTED ACCURACY RANGE
Class 5	0 to 2%	Screening or feasibility	Stochastic or judgement	+50% to -30%
Class 4	1 to 15%	Concept study / feasibility	Primarily stochastic	+30% to -20%
Class 3	10 to 40%	Budget authorization or control	Mixed but primarily stochastic	+20% to -15%
Class 2	40 to 70%	Control or bid/tender	Primarily deterministic	+15% to -10%
Class 1	70 to 100%	Check estimate or bid/tender	Deterministic	+10% to -5%

Figure 3.1 also highlights the correlation between project definition and several secondary estimate characteristics, including end usage, estimating methodology, and expected accuracy range. For example:

- **End Use of Estimate:** With increasing levels of project definition (or design maturity), the end use of the estimate evolves from feasibility and concept studies to funding authorization and budgeting, and ultimately to project control.

- **Estimating Methodology:** Similarly, as project definition increases, the estimating methodology tends to progress from "stochastic" to "deterministic" techniques. *Stochastic* methods generally entail the use of factors, ratios, models or similar "top-down" relationships involving something other than a direct measure of the units of the items being estimated. Such techniques are primarily used to support development of planning or early scoping phase estimates when minimal project definition is available.[3] In contrast, *deterministic* methods apply known unit costs to item quantities obtained from detailed take-offs, quotes, or other definitive measures that reduce the "level of conjecture inherent in an estimate." [4]

- **Expected Estimate Accuracy**: Increasing levels of project definition also generally align with improvements to the expected accuracy of the estimate, or the degree to which the project's actual final cost could vary from the estimated cost.

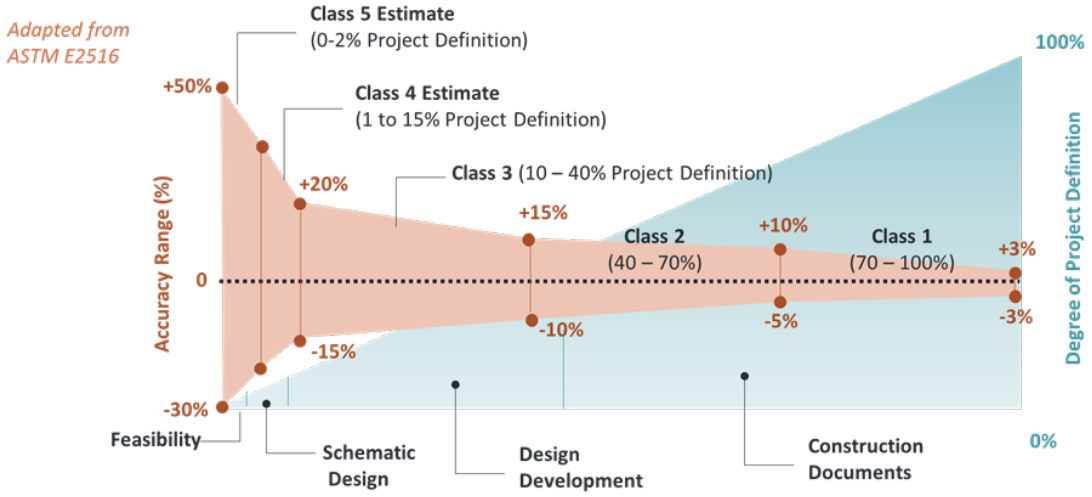
  The accuracy of a given estimate, however, is not necessarily defined or fixed by the degree of project definition (and estimate classification) alone.

  In addition to the degree of project definition, estimate accuracy may also be driven by other factors, including project complexity, estimating methodology, the availability of appropriate cost reference information, the time and resources available to prepare the estimate, and the inclusion of the appropriate contingency determination.[5]

  The presence of such factors can lead to significant variations in accuracy from estimate to estimate, even if deemed to be of the same estimate class. With reference to Figure 3.2 below, such variability means that even after the application of contingency, a typical Class 3 estimate used for budget authorization in the general construction industry may still exhibit an accuracy range as broad as -15% to +20%, or as narrow as -10% to +15%.

[3] ASTM E2516, Standard Classification for Cost Estimate Classification System
[4] Ibid.
[5] Ibid.

Figure 3.2: Variability in Estimate Accuracy Ranges

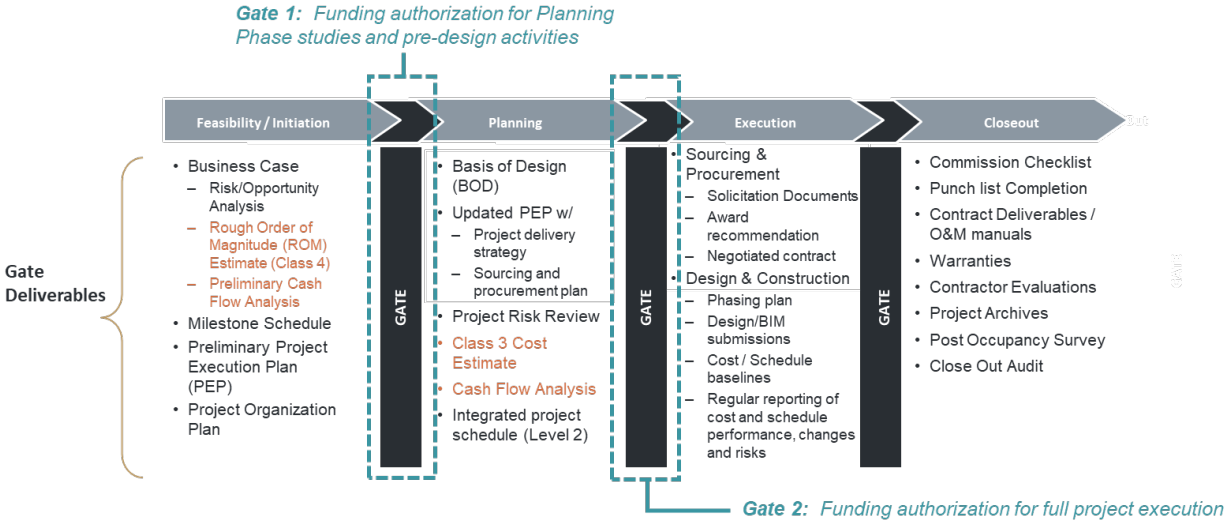


Aligning Estimate Classifications to Decision-Making

As project uncertainty and risk evolve with increasing levels of project definition, many owners with mature capital programs have implemented stage gate project governance processes to help ensure that project risk is properly understood and accounted for when developing budgets, schedules, and execution strategies.

Figure 3.3 provides an example of a stage gate process used by an owner in the oil and gas industry, where full capital project funding authorization by its executive board occurs at the second gate, contingent on a supportable Class 3 cost estimate.

Figure 3.3: Example Stage Gate Process



As a project progresses through the stage gate process, its scope becomes more fully defined as more information becomes available.

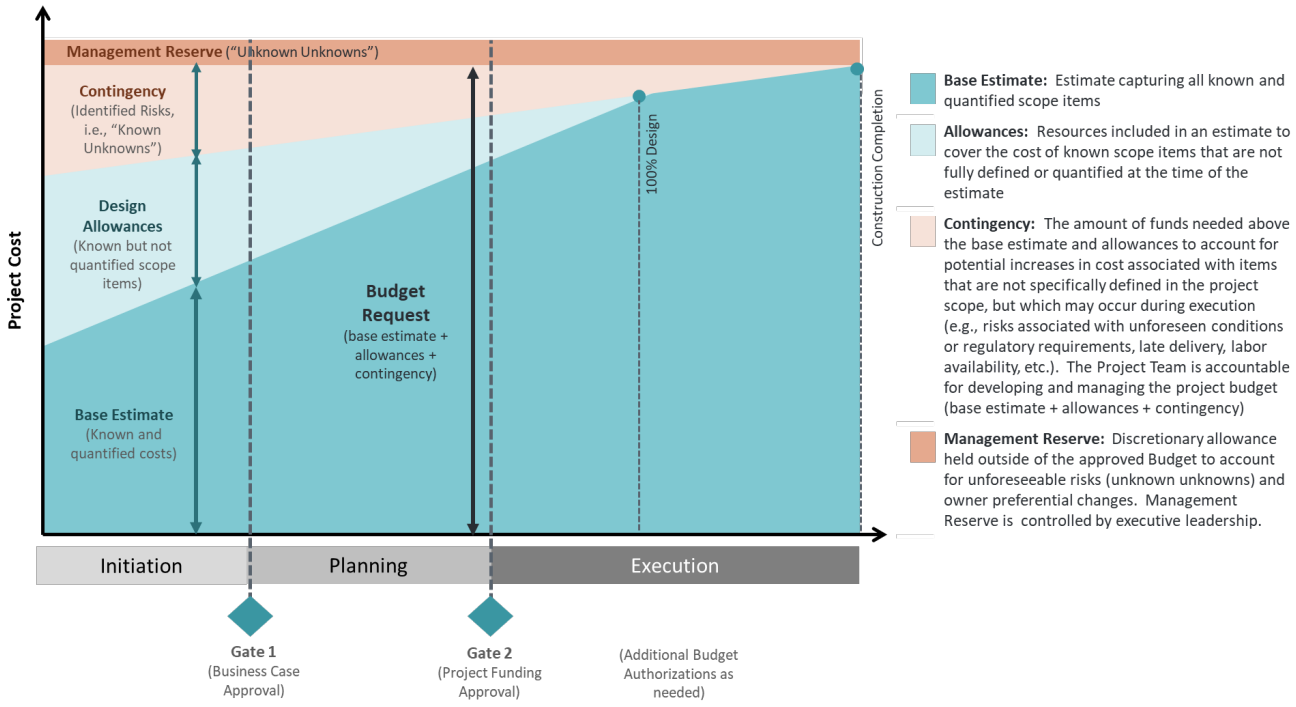
With regard to project budget development and monitoring and control activities, increasing levels of project definition generally allow for greater cost/schedule certainty and corresponding reductions in allowances and contingency. Figure 3.4 illustrates this concept by depicting how the typical components of a risk-based project budget will likely change as the project advances towards completion.

For example, at the end of Planning stage (when full project funding is often authorized):

- The status of project design may still warrant the inclusion of allowances to cover known scope items that remain not fully defined.
- Potential increases in cost associated with possible risk events that may occur during the execution phase (e.g., risks associated with differing site conditions, regulatory requirements, late delivery of materials, labor availability, etc.) should in turn be covered by contingency.
- A management reserve account may also be established to cover unforeseeable risks and preferential changes approved by executive leadership.

As the project progresses through the Execution stage, allowances will be converted to base scope items as the design is finalized. Similarly, contingency levels will also change as funds are either expended in response to realized risks (through budget transfers from the contingency line item to the appropriate work item) or are released/reduced from the overall project budget commensurate with the decreasing level of risk exposure as the project nears completion.

Figure 3.4: Evolution of Budget Components Over Time



WSDOT Estimating and Budgeting Practices

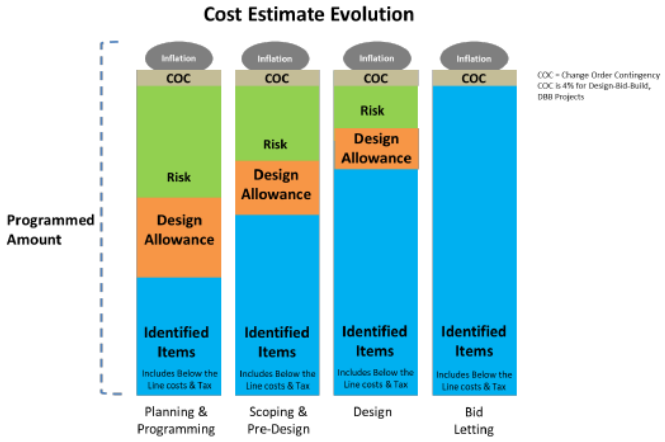
WSDOT's estimating practices, as defined in the January 2025 update to its Cost Estimating Manual, largely align with the industry standards discussed above. For example, as shown in Figure 3.5, WSDOT has adopted an estimate classification system similar to those endorsed by ASTM and AACE (see previous Figures 3.1 and 3.2), tailoring such systems to WSDOT's own project development practices.

Figure 3.5: WSDOT Cost Estimating Matrix
Source: WSDOT Cost Estimating Manual for Projects (January 2025)

Project Development Phase	Percentage of Design Completed	Purpose of Estimate	Methodology	Tools	Estimate Range
Planning Washington Transportation Plan Highway System Plan Design Studies Route Dev. Plans Pre-Design	0% to 2%	Screening or Feasibility WTP/HSP (20-Year Plan) WTP – Washington Transportation Plan HSP – Highway Systems Plan	Parametric	PLCE and/orMP3	-50% to +200%
	1% to 15%	Concept Studyor Feasibility Implementation Plan (10 Yr. Plan)	Parametric Risk-Based	PLCE and/orMPE Risk assessment models	-40% to 100%
Scoping Project Summary (PD, DDS)	10% to 30%	Budget Authorization or Control Capital Improvement & Preservation Plan (CIPP)	Parametric Historical Bid-Based Risk-Based	PLCE and/orMP3 UBA, BidTabsPro Risk assessment models	-30% to +50%
Design Design Documentation I/S Plans for Approval Design Approval	30% to 90%	Design Estimates (Project Control of Scope Schedule Budget)	Historical Bid - Based Cost-Based Risk-Based	UBA, BidTabsPro, Risk assessment models	-10% to +25%
PS&E Plans, Specs, Estimate (R/W Plans approved)	90% to 100%	Engineer's Estimate (prior to bid)	Historical Bid - Based Cost-Based Risk-Based	EBASE, UBA, BidTabs Pro, Risk assessment models	-5% to +10%

Additionally, WSDOT's manual illustrates how the components of a risk-based estimate evolve as a project advances toward completion. In a manner similar to Figure 3.4 shown earlier, WSDOT's Manual illustrates how allowances, risk, and contingency are progressively converted into base scope elements as project definition matures.

Figure 3.6: Evolution of Cost Estimate Components
Source: WSDOT Cost Estimating Manual for Projects (January 2025)



Recommendations

What appears to be absent from WSDOT's current budgeting practice is a clear linkage between its understanding of estimate uncertainty and the budget authorization requests submitted to the legislature.

Unlike the stage gate processes used in the private sector, legislative budget requests and authorizations do not appear to be framed in terms of estimate classes or accuracy ranges.

To improve communication—consistent with the goal stated in the Foreword to WSDOT's 2025 Cost Estimating Manual to enhance "communication and credibility with external stakeholders" through "consistent and clear communication of cost estimate range at milestone points"—WSDOT should consider recasting budget requests as ranges or at least identifying the applicable estimate class. This would help convey the principle that an estimate represents a range of possible outcomes, not a single fixed number.

3.1 Options for Aging a Given Slate of Projects

Adjusting for Inflation

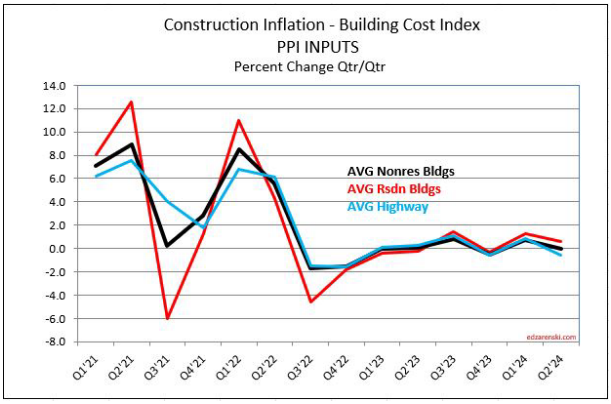
Chapter 10 of the WSDOT Cost Estimating Manual for Projects (January 2025), addresses factors that influence estimating, including inflation.

If an estimate is described as the "a quantitative assessment of the probable cost at the time of the estimate," any time an estimate is updated in time, the estimator must adjust the pricing for inflation. The manual provides WSDOT estimators with three standard inflation tables that are adjusted regionally. These include:

- Construction Cost Index (CCI) reflecting general construction trends in WA,
- Regional Wage Index (RWI) adjusting for labor costs changes specific to WA regions, and a
- Price Escalation Index (PEI) accounting for anticipated future cost increases based on market forecasts.

These indices are applied across project stages—Planning, Scoping, Design, and Letting—to ensure the estimates reflect current and projected inflation conditions.

These inflation tables are similar to what other DOTS use to reflect inflation and market trends in their localities. For example, Caltrans uses the California Department of General Services (DGS) Construction Cost Index (CCCI) based on the ENR Building Cost Index (BCI). The BCI provides periodic cost trends (Producer Price Index) for specific construction trade labor and materials in the California market as shown in the chart at right and does not reflect the current market bidding environment.



At the national level, various indices compile national inflation data such as captured by the U.S. Labor Department's Bureau of Labor Statistics for goods and services annually, or the Federal Reserve's inflation index (Price Index for Personal Consumption). These indices reflect national averages and are therefore not as useful as those targeted to specific industries and local geographical markets.

The WSDOT Secretary's Executive Order Number: E 1053.02 notes that these inflation tables should be used for quantitative cost and risk assessments to inflate project costs from current year dollars to year of expenditure dollars.

Additional Adjustments

Apart from inflation, market conditions represent the influences of supply and demand that can introduce uncertainty in bids. The WSDOT Estimating Manual Chapter 12 and the Secretary's Executive Order Number: E 1053.02 advise project managers to monitor market conditions, and industry capacity particularly for major multi-year projects utilizing DB delivery. In a strong market when more projects are advertised, the estimating manual recommends adjusting advertisement dates for major projects to minimize concurrent lettings, to help improve competition, and get better bid pricing. The E 1053.02 memo further recommends that estimates done within a year of the advertisement date be evaluated for potential numbers of bidders and the impact of the market on bid prices. WSDOT's estimating standards appear to provide reasonable state of the practice guidance for how to age a given slate of projects considering inflation, and market trends.

3.2 Strategies and Examples for Transparency

WSDOT Experience

HKA's prior report recommended that WSDOT capture and regularly present to the Legislature certain capital program performance data to facilitate productive dialogues regarding challenges facing certain capital projects and to help dispel misperceptions regarding project costs.

Providing some level of programmatic performance information aligns closely with WSDOT's historic practice. Currently WSDOT has project data sharing processes with the Office of Financial Management and the Legislature, including sharing data with the Legislative Evaluation and Accountability Program (LEAP) for its Transportation Budget Project reporting website.

Since 2001, WSDOT has produced quarterly performance and accountability reports that provide updates on key agency functions. Known as the Gray Notebook[6], these reports have evolved to track a broad range of performance indicators and statistics. Their purpose is to keep legislators, state and local officials, and other stakeholders, including the public, informed about WSDOT's progress in meeting its statewide transportation policy goals.

Beyond the content, the format and functionality of the reports have also evolved. From 2001 through 2019, the Gray Notebook was published as a formal document, available as a downloadable and printable PDF on the WSDOT website. In response to shifting user preferences toward more digital and interactive experiences, the Gray Notebook began transitioning in 2020 to a fully online, interactive platform.

The current online format of the Gray Notebook, while relatively easy to navigate, appears to have lost some of the "at-a-glance" utility of the traditional tabular and graphical content included in the PDF reports. For example, the prior written editions of the Gray Notebook featured tabular roll-ups of key programmatic project delivery information, including the percentage of projects completed early or on-time, within scope, under or on-budget, and both on time and on-budget.

Figure 3.7: Extract from Gray Notebook showing Programmatic Performance Information

Performance Information *As of March 31, 2008, dollars in thousands*	**Nickel (2003)**	**Transportation Partnership Account**	**Combined Nickel & TPA**	**Pre-Existing Funds**
Total number of projects[1]	153	238	391	769
Total biennial program (2007-09)[2]	$3,951,257	$9,409,158	$13,360,415	$4,127,777
Schedule, Scope, and Budget Summary: Results of completed projects				
Cumulative to date: 2003 – March 31, 2008		For Nickel and TPA details, see pages 5-7		See pages 33-39
Total number of projects completed	93	36	129	
% Completed early or on-time	89%	94%	91%	
% Completed within scope	100%	100%	100%	
% Completed under or on-budget	86%	78%	84%	
% Completed on-time and on-budget	78%	72%	77%	
Baseline estimated cost at completion	$1,215,313	$88,646	$1,303,959	
Current estimated cost at completion	$1,209,996	$87,940	$1,297,936	
% of total program over or under budget	0.4% under	0.8% under	0.5% under	
Biennium to date, 2007-09				
Total number of projects completed	24	13	37	140
% Completed early or on-time	83%	100%	89%	-
% Completed within scope	100%	100%	100%	-
% Completed under or on-budget	79%	85%	81%	-
% Completed on-time and on-budget	71%	85%	76%	-
Baseline estimated cost at completion	$460,671	$73,727	$534,398	$1,214,539
Current estimated cost at completion	$457,161	$72,983	$530,144	$1,113,693

In addition to programmatic roll-ups, historical reports also included project-level tabular summaries, indicating whether individual projects were advertised on time and subsequently were completed on schedule and within budget (compared to the baseline budget).

[6] From 2001 through 2008, this report was titled "Measures, Markers, and Mileposts"

Figure 3.8: Extract from Gray Notebook showing Project-Level Information

Project description	Fund type	On-time advertised	On-time completed	Within scope	Baseline estimated cost	Current estimated cost	On budget	Completed on time, on budget
SR 522/I-5 to I-405 - Multimodal improvements (King)	TPA	Early	Early	√	$22,581	$22,487	√	√
SR 3/SR 303 Interchange (Waaga Way) - Construct ramp (Kitsap) An additional $1.4 million is required to properly dispose of runoff storm water.	Nickel	√	√	√	$24,828	$26,313	Over	
SR 3/Imperial Way to Sunnyslope - Add lanes (Kitsap) Advertisement date was delayed due to unresolved utilities issues.	TPA	Late	Early	√	$2,911	$1,609	Under	√
SR 401/US 101 to E of Megler Rest Area Vicinity - Upgrade guardrail (Pacific)	Nickel	Early	Early	√	$296	$152	Under	√
SR 7/SR 507 to SR 512 - Safety improvements (Pierce) The operationally complete date was delayed to install the signal system, which further delayed the paving and sidewalk work.	Nickel	√	Late	√	$20,268	$21,068	√	
Pierce and Thurston Co - Roadside safety improvements (Pierce, Thurston)	TPA	√	Early	√	$1,000	$936	Under	√
SR 20/Thompson Road - Add signal (Skagit)	TPA	Early	√	√	$1,038	$1,038	√	√
US 2/Fern Bluff to Sultan Startup - Storm-water drainage improvements (Snohomish)	TPA	√	Early	√	$1,012	$1,012	√	√

National Experience

At the national level, several Departments of Transportation (DOTs) are also tracking and sharing capital program performance data. For example, Virginia DOT (VDOT) provides an integrated, web-based reporting platform called the "Dashboard," which publicly shares information on VDOT's performance across multiple areas, including progress and delivery of transportation projects.

The "Projects Dial Home Page," shown in Figure 3.9, tracks four key performance measures:

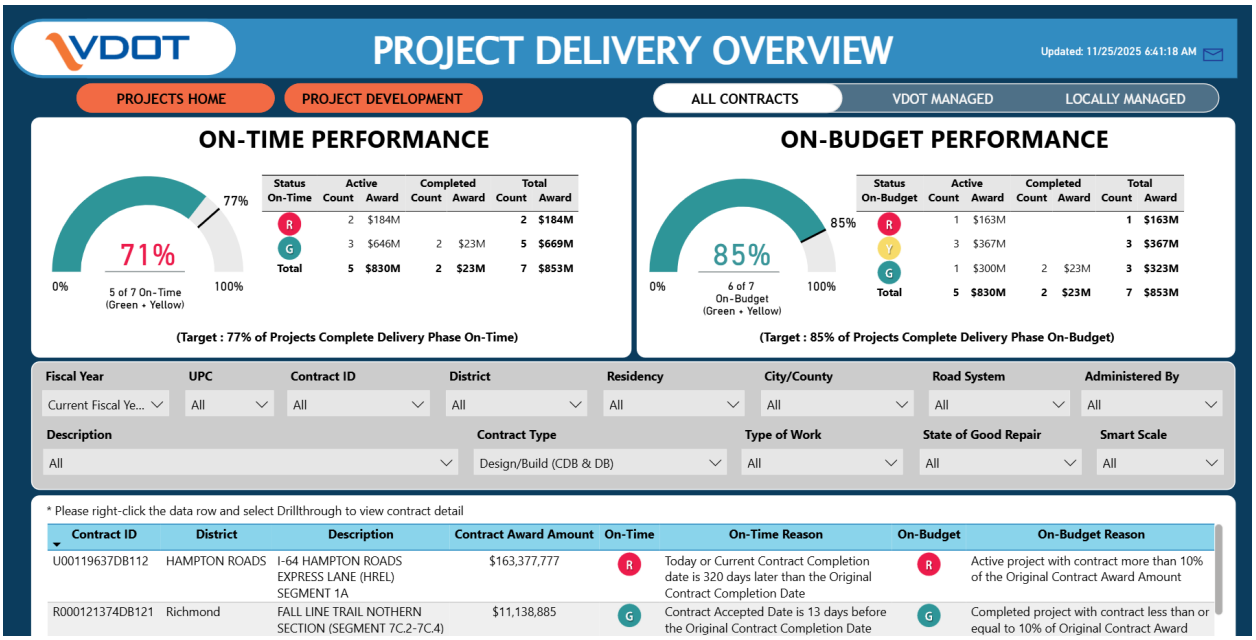
- Development On-Time
- Development On-Budget
- Delivery On-Time
- Delivery On-Budget

The dashboard features fully animated and interactive "dials," enabling users to filter and focus on specific programmatic criteria (e.g., active vs. completed projects, VDOT vs. locally let projects).

Figure 3.9: VDOT's Dashboard Projects Home Page

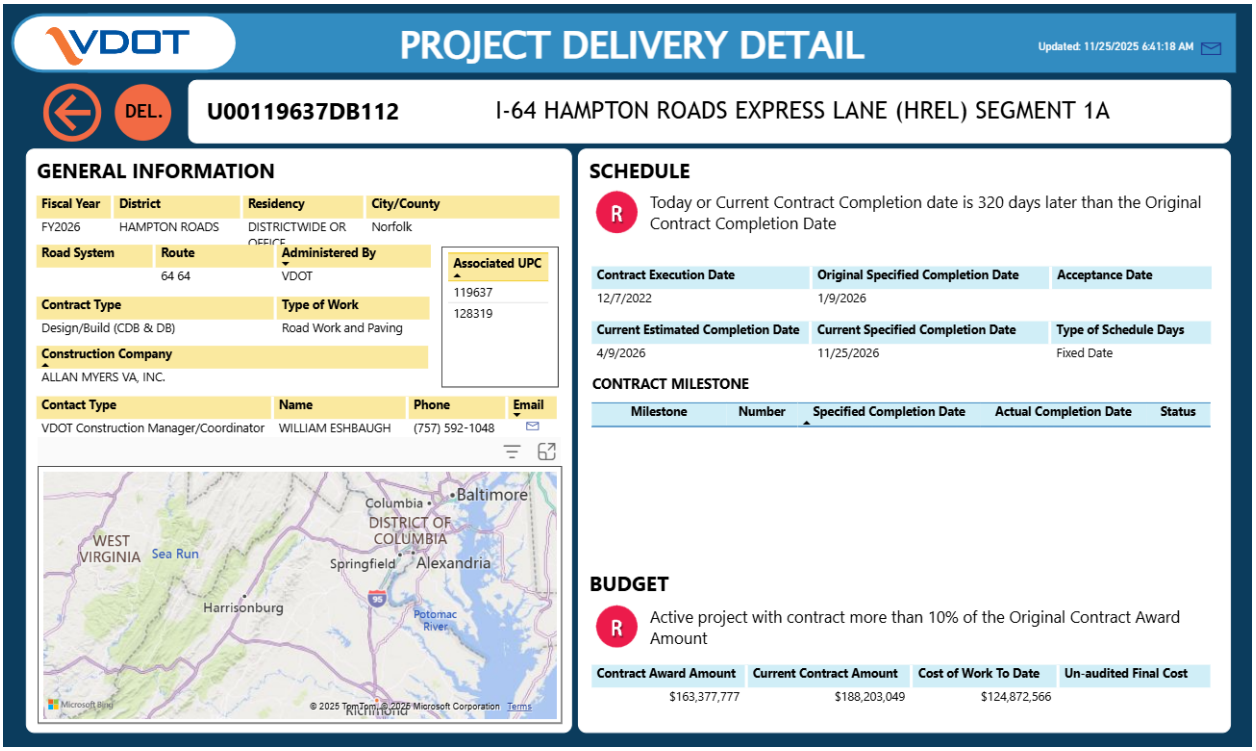
Users can also drill into more project-specific information to determine, for example, the performance of all DB projects or all projects in a specific region.

Figure 3.10: VDOT's Dashboard Filtered View of Projects



Users may also access more detailed information regarding each project, as shown in Figure 3.11.

Figure 3.11: VDOT's Dashboard Project Details View



Recommendations

For its active and completed budgeted projects, WSDOT should explore leveraging its recent technology upgrades to its internal systems (i.e. TRAINS and Capital Projects System) and existing data sharing arrangements with the Legislature. Once that is completed, or simultaneously, enhancing its current online Gray Notebook to provide more of an "at-a-glance" view of performance metrics, including the following:

- **Award Growth: Variance** between Engineer's Estimate and Contract Award Price
- **Cost Growth:** Variances between:
  - Contract Award Price and projected Estimated Cost at Completion (Active Projects)
  - Contract Award Price & Final Cost at Completion (Completed Projects)
- **Schedule Growth:** Variances between:
  - Original Completion Milestone and projected Completion Date (Active Projects)
  - Original Completion Milestone and Final Completion Date (Active Projects)

Implementing these recommendations would require resources to integrate data sources and ensure the website can automatically update as information changes. To be most effective, the information should include data not only on completed projects (or completed contracts within a project) but also on active, multi-year projects. This visibility would help set realistic expectations for the Legislature and other stakeholders regarding final costs and completion timelines.

4. Surety Bonds

Background

Definitions

Most federal, state, and local agencies require performance and payment bonds for public construction projects to protect owners and stakeholders from financial risk. A **performance bond** guarantees that the contractor will complete the project according to contract terms, while a **payment bond** ensures subcontractors and suppliers are paid, reducing the risk of property liens. The **surety**, or bonding company, issues these bonds and provides financial assurance that if the contractor fails to meet obligations, the owner can recover losses or hire another contractor without bearing the full cost.

Bonding Alternative Delivery Projects

Alternative delivery methods, such as Design-Build (DB) and Public-Private Partnerships (P3), often shift significantly more risk to the private sector compared to traditional Design-Bid-Build (DBB) contracts. In the event of contractor default, sureties bear these risks, making them highly attentive to contract terms and risk allocation, particularly on large, complex projects.[7]

A 2021 study conducted by Travelers insurance analyzed 224 heavy civil construction projects completed between 2004 and 2020, with contract values ranging from $250 million to $2 billion. These projects included bridges, highways, rail systems, tunnels, and other large-scale civil infrastructure, most of which involved Travelers as the surety or co-surety. The study found: [8]

- For fixed-price Design-Build (DB) or Public-Private Partnership (P3) contracts—where bids were based on approximately 30% design completion—design-builders frequently underestimated the quantity and design risks they were assuming. As a result, these projects often were unsuccessful for the DB or P3 consortiums, with many contractors unable to recover their costs.

- Over the past 15 years, infrastructure projects exceeding $250 million—particularly in bridge, highway, and transit sectors—have been the worst-performing segment in public construction for contractors.

Another consideration for sureties, particularly for very large DB projects, is the lack of bonding capacity to cover the full value of mega-projects. Contractors are increasingly involving sureties early (e.g., after publication of the RFP and during contract negotiation), which is the time sureties prefer to be brought in to review and negotiate key contract terms. Reflecting this trend, Zurich North America Surety established a risk management department based upon the company's perception that the majority of its losses in recent years could have been mitigated by more favorable contractual clauses.[9]

For very large DB projects, bonding the full value of a contract can be challenging. Traditional surety practices rely on completed designs (as in DBB) to assess risk. DB projects, with incomplete designs at the bid stage, complicate this assessment, limiting sureties' ability to provide performance bonds for the full contract value. Consequently, some owners of very large projects have:

- Allowed bond amounts of less than 100% of the contract value (sometimes as low as 50%),

[7] TCRP Project J-5, Legal Research Digest 40, *Issues Involving Surety for Public Transportation Projects* (2012)
[8] Dive Brief: Report: P3 Megaprojects Often Lose Money for Contractors, 09/26/2021.
[9] TCRP Project J-5, Legal Research Digest 40, Issues Involving Surety for Public Transportation Projects (2012)

- Accepted alternative forms of security, and/or
- Broken large contracts into smaller packages.

While many state agencies have traditionally required surety bonds to cover 100 percent of the contract value for large infrastructure projects, states with flexibility to deviate are doing so. The primary reason project owners may decide to reduce the amount of required bonding coverage is to encourage competition during the procurement process. Higher performance bond requirements may lead to fewer bidders because only a few contractors will be large enough and have sufficient bonding capacity to obtain a surety bond in the amount necessary to cover 100 percent of a project's value.[10]

Some examples of projects with reduced bonding requirements for large, complex DB projects included the following:[11]

- **SR-99 Tunnel, Alaska Way Viaduct:** The total contract value was $1.21 billion. In 2009, WSDOT issued a project surety analysis to determine the default cost exposure. The analysis determined that the state could face a maximum total cost exposure of 52% of total project cost. The report determined that performance and payment bonds equal to a total of $642 million would be sufficient to protect the state from the financial risk of contractor default.
- **Tappen Zee Bridge:** Valued at $3.98 billion dollars, the project consisted of a new, 3.1-mile bridge across the Hudson River that connects Rockland and Westchester Counties, delivered under a design-build contract. The contract required a performance bond equal to $1.5 billion or 30 percent of the contract price (whichever was greater; along with a payment bond of similar value). The contract allows for the replacement of the bond with a warranty bond in the amount of 10 percent of the contract price after reaching final acceptance by the project owner. The warranty bond served to guarantee the performance of work, including warranty work, and frees up the developer's bonding capacity.
- **Maryland Purple Line:** The Maryland Purple Line Light Rail Project is a 16.2 mile, 21-station, east-west, light rail transit way in the southern Maryland/Washington D.C. metropolitan area. The P3 project's total capital cost was $2.4 billion. The P3 consortium provided payment and performance bonds both equal to 55 percent of the design and construction contract amount for the total amount of $906 million. Maryland's Little Miller Act requires performance security bonds to be at least 50 percent of the construction contract value. MTA also received three letters of credit totalling $20 million for the period between commercial close and financial close.

WSDOT Experience

WSDOT and other agencies in Washington have historically been required by law to have surety bonds equal to the full contract price. In Washington and a number of other states, separate bonds are required for performance and for payment.

In 2009, in response to market trends and industry concerns (including the reluctance of sureties to issue bonds exceeding $500 million) Washington State Senate Bill 5499 authorized WSDOT to accept surety bonds for less than 100% of the contract value on projects exceeding $250 million.

[10] Performance Bond Strategies for Project owners, WSP USA, 2019
[11] Performance Bond Strategies for Project owners, WSP USA, 2019

Under this provision, contractors still had to provide both performance and payment bonds, with WSDOT setting amounts sufficient to cover the state's exposure to loss, but not less than $250 million. WSDOT's analysis indicated that maximum risk exposure on highway projects typically averages about 30% of total contract value.

The legislation also required WSDOT to develop risk assessment guidelines, subject to approval by the Office of Financial Management (OFM), before allowing reduced bond amounts.

The authority (Chapter 473, Laws of 2009) to allow for surety bonds less than 100% of contract price expired at the end of fiscal year 2016 and reverted to a requirement to provide performance and payment bonds at 100% of the contract price. Under RCW 39.10.330, design-build contracts require bonds covering at least the construction portion of the contract, while design and preconstruction services are exempt from bonding requirements.

Industry Perspectives

Prime Contractors

Large, Tier 1 contractors are generally capable of obtaining 100% bonds for large DB projects greater than $500M. However, intermediate and smaller contractors often face bonding challenges when pursuing larger contracts. Aside from breaking scopes of work into smaller packages, one suggestion is to use phased bonding for DB projects where a performance bond is not required until commencement of construction, consistent with RCW 39.10.330.

Industry has also expressed that insurance costs are becoming exorbitant (e.g. cost of a $50M builders risk/general liability policy can be $0.50/dollar), and it would be more cost effective to include a $25M contingency pool for risks typically covered under the policy.

Subcontractors and Small Businesses

A 2020 *Surety Bonding Accessibility Study: OMWBE and HUB Contractors*, performed by Western Washington University, noted that small business subcontractors and DBE firms have had difficulty establishing credit and building sufficient bonding capacity, particularly for large projects with multi-year durations. Alternative protections for the owner noted in the study included:

- Use of joint check agreements giving the prime the right to issue checks to third party suppliers,
- Labor-only contracts to reduce the bonding exposure, and
- Letters of credit (LOC) from a bank.

In HKA's interviews with prime contractors performing work for WSDOT, some indicated that they work with their subcontractors regarding partial bonding and insurance requirements.

Recommendations

Given current market conditions and the risks borne by industry on major WSDOT projects, the following recommendations are offered for WSDOT's consideration:

a) **Develop a procedure for conducting risk-based probable maximum loss assessments** (similar to that used for the Alaska Way Viaduct DB project) to assess project-specific risks and potential financial exposure if bonding is less than 100%. This analysis is critical for determining whether reducing performance bond requirements is prudent and what level of risk WSDOT can reasonably assume.

b) **Adopt a phased bonding approach** where performance bond requirements adjust at key project milestones. For example, on design-build projects, bonding could be minimal or waived during early design phases, as exposure is limited before construction begins.

c) **Consider reinstating the legislative authority** for WSDOT to allow for surety bonds less than 100% of contract price for select DB projects greater than $500M, where risk profiles justify reduced bonding.

d) **Consider allowing alternative forms of performance security** such as:

   i) Parent company guarantees (PCG),

   ii) Letter of Credit (LOC) from a financial institution (An LOC is a bank instrument requiring payment on demand, and, similar to bonds, requires payment of a fee as well as security to assure the bank that it will be repaid in the event of a call on the letter of credit. Due to the nature of LOC, it is a much simpler process to make a demand on a LOC than to enforce a surety bond.)

   iii) Hybrid approaches combining construction bonds with other security for non-construction obligations (e.g., extended warranty/performance guarantees, O&M obligations).

5. Infrastructure Collaboration Efforts

Introduction

The following case study on the Infrastructure LA initiative demonstrates the benefits of interagency collaboration to advance regional priorities rather than focusing solely on individual goals. This example is presented as a potential model for what could be achieved in the Puget Sound area.

Infrastructure LA

Background

The LA County region is the largest, most populous county in the United States with 88 cities, over 200 water agencies, 15 airports, 27 municipal transit systems, and 70,000 lane miles of roadway. The region includes some of the largest public works, ports, and transportation agencies in the country (LA Metro, LAWA, LA DWP, Ports of LA and Long Beach, and the City of Los Angeles).

The Infrastructure LA initiative started with pursuing federal grant money under the Bipartisan Infrastructure Act (BIL). An idea was hatched that the region would be better served by pooling resources and developing a platform to apply for federal or state grants as a region rather than having agencies across the county submit individual grant applications for their capital projects. The idea was to develop an "LA Infrastructure" platform that used a regional approach to securing funding, coordinating projects, and maximizing funding. It has since adopted the moniker "Better Together."

Objectives and Development Process

The immediate goals were to reduce the paperwork and costs of developing and submitting grant applications, produce much more powerful and persuasive regional grant applications, and in effect allow smaller, less influential, underserved communities or agencies within the county to participate in the grants.

An important first step was to commit leadership from the agencies with major infrastructure programs in the region to advance the initiative. The initial executive leadership team included major agency Directors or CEOs from LA Public Works, LA Department of Water and Power, LA Metro, LA Sanitation District, and the City of Los Angeles. In addition to the Executive Team, the initiative evolved to include committees chaired by executive leadership focusing on transportation, water, environmental resiliency, workforce development, sustainable waste, digital equity, and construction.

Results

Infrastructure LA efforts initially secured an EPA Grant for $500M for climate pollution reduction as part of the Climate Reduction Act. It has since coordinated grant applications to secure more than $2.5B in federal funding over a three-year period including $330M for Equitable Decarbonization Program, $400M for Port of LA Electrification, and $150M for Reconnecting Communities among others. These large grant awards are then shared with the participating agencies in a coordinated way that prioritizes projects based on criticality and projected benefits. To date, over one-third of the grant applications were approved. More recently, Infrastructure LA supported legislation for the California Proposition 4 Environmental Climate/Water Bond measure passed in November 2025 for $10B to fund water, climate, wildfire, and natural resource projects.

With initial successes, the Infrastructure LA initiative has gained momentum. A project map was developed to show all the potential infrastructure projects in the county to aid in coordinating efforts.

Infrastructure LA member agencies are currently working in collaboration on:

- Coordinating with the Olympics 2028 committee headed by LA Metro representing 13 agencies to prioritize projects in support of the Olympic Games.
- Planning for projects to support FIFA World Cup events 2026 and the Super Bowl in 2027.
- Coordinating with all Infrastructure members to advance local wildfire cleanup efforts.
- Advancing the Equity in Infrastructure Project with 14 agencies supporting historically underserved businesses.
- Developing and using a simplified application process and shared data bank for small business certification reciprocity that allows small businesses to be certified across all the participating agencies.
- Implementing workforce development training for all the water agencies in the region.

Other highlights of Infrastructure LA initiative include publishing a bi-weekly newsletter to inform the public of ongoing projects and initiatives, holding an annual conference for businesses, and providing ongoing legislative support including the Prop 4 Environmental Bond, and revisions to the LA County Flood Control Act, and de-authorization of flood control facilities.

Successful Practices

The keys to success have been:

- Leadership buy-in,
- Development of strategic relationships among participating agencies,
- Promoting a “Better Together” mindset, and
- Using dedicated staff and resources (with consultant support) to set up and manage the program.