Alternative Project Delivery Method Guidelines

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Purpose

The intent of these guidelines are to: (1) offer support to individuals responsible for executing, processing and/or managing contracts related to construction projects utilizing an alternative project delivery methodology and (2) to establish standards for assessing and seeking authorization for utilization of such methods.

The Chief Procurement Officer will maintain and regularly update these guidelines, ensuring they are readily available and accessible on the university's website.

Background

Project delivery methodologies generally refer to how a project is managed and the contractual relationships established between the owner, designer, and contractor. When assessing a project and determining the most suitable project delivery method, several key factors should be taken into account:

- Budget: This entails evaluating the total project cost, the flexibility of funding, the possibility of phased implementation, and the need to commence construction before full funding is secured. Consider how adaptable the budget is and whether it can easily expand or contract based on available resources.
- Design: Examine the extent of the scope of work, the size of the site or building, the number of disciplines or trades involved in project execution, and the desired level of quality, functionality, sustainability, and aesthetic character. Consider what the final project will look like and how it will function.
- Risks: Assess the potential exposure to various risks, including danger, financial loss, disruption of the mission, and harm to the organization's reputation. Understanding and mitigating these risks is crucial in selecting an appropriate delivery method.
- Schedule: Analyze the complexity of scheduling, phasing, critical path and milestones, the timetable for project completion and occupancy, constraints particular to climate, location, academic calendar, as well as the cashflow schedule.
- Owner Expertise: Consider whether the owner's project management team has prior experience with similar projects and experience with the alternative project delivery methods.

The primary project delivery method most commonly used by public entities is Design-Bid-Build (DBB). This preference arises from the widely held belief that competitive bidding ensures cost efficiency and creates a level playing field for contractors. In the DBB approach, the owner initiates a contract with the designer and, upon completion, publicly solicits bids for the construction phase. The contract is awarded to the lowest responsive and responsible bidder. This method follows a linear process and is

well-understood by all involved parties. In this model, the owner maintains significant control throughout both the design and construction phases and assumes the majority of associated risks. While DBB will continue to be the standard for most construction projects at the University, this document also introduces alternative project delivery methods. It outlines the advantages and disadvantages of each approach, provides a comprehensive analysis, and establishes criteria for their use. Furthermore, it details the process for obtaining approval to implement these alternatives.

When dealing with larger, more intricate, and risk-prone projects, where the lowest cost is not the driving factor for project delivery, the University should explore alternative project delivery methods. Design approaches that involve early engagement of a designer, general contractor and/or major subcontractors can streamline construction activities, foster efficiencies in the design phase, and leverage the expertise of contractors for project costing and value engineering. This practice is often referred to as Design Assist or Pre-Construction Services.

Engaging these stakeholders early allows the owner to convey the intricacies and risks associated with the project and benefit from the collaborative insights and expertise of all three parties to achieve optimal outcomes. Rather than first preparing the design, establishing a schedule, and estimating costs, the owner sets key project objectives such as cost, scheduling, and desired quality up-front. Subsequently, the owner collaborates with the design assist team to create a design that aligns with these objectives.

Design Assist is a process and a goal that can be integrated into various alternative project delivery methods, including Design Build, Construction Manager at Risk, Integrated Project Delivery, or similar collaborative approaches. This concept promotes synergy and cooperation among project stakeholders to achieve the best results for the owner.

In the construction industry, several prominent alternative project delivery methods are frequently employed today. The aim of these guidelines is to establish a uniform set of defining terms and the criteria that will assist in the decision-making process when preparing for future construction projects at the University.

Alternative Project Delivery Methods

Design-Build (DB) is an alternative project delivery method suitable for performance-based projects like housing, airplane hangars, office facilities, and certain highway projects. Under the DB methodology, the owner initiates a request for proposals and selects a single entity to provide both design and construction services, based on qualifications and a total price. With this approach, the owner typically cedes some control over various project aspects, while the contractor assumes most of the design risk.

Advantages

DB offers several key advantages, including enhanced efficiency and cost savings through close collaboration between design and construction teams. This collaboration streamlines communication and financial commitments for the owner, simplifying the project management process. DB also allows for a faster project timeline as construction can start before design completion, expediting the overall schedule. Moreover, DB transfers design risk to the DB entity, reducing the owner's exposure to

potential issues. This project delivery method is particularly well-suited for funded projects with clearly defined scopes, budgets, and schedules, ensuring effective project management and cost control.

Disadvantages

DB comes with specific challenges, including reduced owner control, necessitating meticulous project specification preparation. Fixed budgets and limited collaboration time may lead to potential compromises in project outcomes, affecting aesthetics and long-term performance. The owner's influence over subcontractor selection is limited in a DB approach, impacting project quality. Furthermore, the process can be less accommodating when it comes to requesting changes or improvements, posing challenges. DB is generally not suitable for unfunded projects or those requiring a significant upfront investment to develop the Request for Proposal (RFP). In university settings, obtaining the necessary investment can be challenging, potentially diminishing the advantages of the DB method.

Analysis and Criteria for use

For the DB project delivery method, several key considerations should be taken into account:

- Budget: Suited for projects with a total project cost that requires clear budget predictability.
- Design: Appropriate for projects where the scope of work and owner's expectations can be easily conveyed in an RFP.
- Risk: Works well for projects with a fairly predictable, low to medium level of risk, where outcomes are manageable by transferring design risk to the DB contractor, and the owner can manage schedule risk.
- Schedule: Suitable for projects with timelines that require construction to start before final design completion, improving occupancy dates.
- Owner Expertise: Involves front-loading project management time and expertise to develop the RFP, with reduced owner involvement required after awarding a DB contract.

Construction Manager at Risk (CM@Risk) is an alternative project delivery method in which the owner engages a designer and a construction manager/general contractor (CM) through separate contracts. This approach involves early engagement of the CM during the design phase, fostering a collaborative effort among the owner, designer, and contractor throughout the completion of the design process.

During design, the CM plays a crucial role by assisting with design review, constructability assessment, value engineering, and soliciting long-lead equipment. If the owner so chooses, the CM can also bring major subcontractors into the fold during the design phase.

In this process, the owner maintains project control while transferring some risk to the CM and mitigating other risks associated with both design and construction. Additionally, CM@Risk enables fast-tracked construction, which involves overlapping design and construction phases to expedite the project schedule, all while upholding high standards of quality and budget control.

CM selection for CM@Risk is based on technical aspects, encompassing factors such as experience, safety and financial records, project methodology, philosophy, cost analysis, and project staffing, as well as price components, which may include the fixed fee, design assistance costs, and certain general conditions costs. A Guaranteed Maximum Price is negotiated before construction starts,

providing the owner with an exit option if an agreement cannot be reached.

Advantages

The CM@Risk project delivery method promotes a cooperative environment among the three key parties involved - owner, designer, and CM. This collaboration greatly enhances the ability to identify and address problems, assess constructability, and explore alternative means and materials during the design phase, leading to better integration and overall project outcomes. Equally sharing the risk, especially when change orders emerge, is a notable advantage of this approach.

Moreover, CM@Risk allows owners to actively participate in the selection of subcontractors, providing a more hands-on role in project management. The owner's engagement with the design team early in the process aids in early development of key project objectives and the exploration of multiple solution sets to achieve desired outcomes, all before engaging a CM.

Leveraging the CM's expertise, CM@Risk facilitates the development of accurate cost estimates and the exploration of value-engineering alternatives. The CM's costs are fully transparent, and multiple pricing aspects are open for negotiation, often resulting in a relatively low fixed fee for overhead and profit compared to other delivery methods.

The early involvement of the CM in the project allows on-site construction to commence before the final design is complete, and in some cases, even before full project funding is secured. This feature can significantly expedite the project timeline while maintaining a strong focus on quality and budget control.

Disadvantages

The initial Guaranteed Maximum Price (GMP) in the CM@Risk method may appear more expensive than what is seen in other project delivery methods. This is due to the fact that the CM's costs are typically higher, and greater resources are necessary for project management. In some cases, the general requirements cost may seem excessive or overly inclusive, potentially feeling "bulky" to the owner.

Effective management of the project and the GMP budget requires seasoned senior staff on the owner's side. The owner's team must possess the expertise and experience to handle the complexities of this method. One challenge in the CM@Risk approach is the potential difficulty in generating team chemistry among the involved parties. Unlike other methods, there may not be a tangible incentive or agreement that strongly binds the owner, designer, and CM together, making it essential to foster a collaborative and cooperative working relationship through effective communication and shared project goals.

Analysis and Criteria for use

For the CM@Risk project delivery method, several key considerations should be taken into account:

- Budget: Budget predictability is crucial for project success. It is essential to have a flexible costing approach that incorporates value-engineering proposals to help effectively manage the budget.
- Design: CM@Risk is well suited for projects with multiple complexities, challenging site conditions, or complicated equipment. It is particularly beneficial for projects where multiple

solution sets may exist and need to be explored. It is also applicable for "legacy" construction projects or those with complex operating systems.

- Risk: Projects with medium to high risk levels can be accommodated with the ability to share risk with the CM. This approach allows for a risk-sharing mechanism that can help mitigate uncertainties.
- Schedule: The timelines for CM@Risk projects often require construction to commence before the full design is completed or funding is secured. Staggered completion dates can be used to enable partial occupancy ahead of the overall project completion, optimizing project timelines.
- Owner Expertise: CM@Risk requires experienced project management staff and substantial resources on the owner's side to effectively manage the CM toward the required outcomes, including budget control and management. This method demands a high level of owner involvement and expertise in project management.

Progressive Design Build (PDB) is an alternative project delivery method that shares some similarities to DB and CM@Risk. In PDB, the design-builder (PDB entity) is primarily selected based on qualifications and their project approach to quality, schedule, and cost analysis. Unlike DB and CM@Risk, the final price and schedule commitment are not established during the selection process. PDB involves two distinct phases:

Phase One: This includes budget-level design development, preconstruction services, and the negotiation of a firm contract price, which can be either lump sum or guaranteed maximum price for Phase Two.

Phase Two: This encompasses final design, construction, and commissioning.

Advantages

Advantages of PDB include fostering owner project goals and innovation, offering flexibility in the RFP, involving the expertise of all parties early in the process, and reducing design risk. The PDB entity and owner can engage in discussions, testing, and costing of solution sets before a GMP is established. Unlike other methods, PDB does not require the RFP to include every project requirement. It also capitalizes on the early involvement of all three parties, including subcontractors and subconsultants, which is invaluable to testing concepts, researching materials, and identifying risks and complexities. Although design risk exists in PDB, it is typically at a lower level and is assigned to the PDB entity.

Disadvantages

PDB does come with certain disadvantages. Because PDB does not establish the GMP during the selection process, there is reduced cost predictability, and there is less competition to drive down construction costs. PDB necessitates a dedicated owner's management team capable of keeping pace with the PDB team to ensure alignment with owner goals. Moreover, PDB requires the owner to have well-established and tested design standards and guidelines in place. Additionally, it is important to note that PDB may not always be the lowest-cost method. Other factors, such as early completion, betterments, and life cycle considerations, can take precedence over the final cost in the decision-making process.

Analysis and Criteria for use

For the PBD project delivery method, several key considerations should be taken into account:

- Budget: PDB is suitable when the owner has a firm total project cost and requires budget predictability with options for value-engineering.
- Design: The scope of work and owner's outcomes should be fairly contained. PDB encourages innovation in a collaborative manner.
- Risk: PDB is appropriate for projects with fairly predictable risks and low to medium level of risk Outcomes are manageable by placing design risk on the PBD entity, and the owner can manage schedule risk.
- Schedule: Timelines are flexible as long as the completion date is maintained. Construction can also begin ahead of final design, similar to DB.
- Owner Expertise: PDB requires a dedicated team with expertise in DB and CM@Risk and sufficient resources to keep up with the pace of the PDB team. It may require less project staffing once construction begins.

Integrated Project Delivery (teaming agreements) (IPD) typically involves a selection process similar to CM@Risk or Progressive Design-Build, where the owner independently selects both a designer and a contractor**.** Once selected, the three parties - owner, designer, and contractor, negotiate an agreement that establishes shared goals, risks, incentives, and objectives. This agreement sets up contractual relationships that foster collaboration among the three parties.

In IPD, the contractor has the capacity to exert downward pressure on the design team when project costs are rising. Similarly, the design team can direct the contractor on specific design elements or levels of quality. This collaborative approach ensures that the project team is actively involved in decision-making, helping to remove communication barriers, expedite the decision-making process, and prevent adversarial relationships from developing. IPD emphasizes the cooperation and shared responsibility among all stakeholders, aiming to optimize project outcomes and efficiency.

Advantages

IDP leverages the agreement to establish contractual relationships between the involved parties, which can yield several advantages. These contractual relationships provide better project context, risk sharing, cost control, and the potential for improved project outcomes. IDP shares similarities with other alternative project delivery methods that enable the construction team to offer early design assistance, conduct value-engineering assessments, and provide constructability reviews.

One of the key benefits of IDP is its capacity to encourage unique innovations for complex project outcomes through shared incentives. It is a method best utilized for projects that demand highly precise budgeting and rigorous cost control, particularly when dealing with large scale scopes of work. IPD's collaborative nature and shared responsibility among all parties can lead to enhanced project outcomes, cost-efficiency, and risk management. There is a high level of investment in this negotiation process which intends to lay the foundation for a successful and collaborative project that can yield improved outcomes and efficiencies.

Disadvantages

Negotiating the terms and conditions of an IDP agreement can be a complex and time-consuming process, especially if there are clauses related to incentives. The intricacies of IPD agreements require careful consideration, collaborative decision-making, and alignment of interests among all parties involved. As such, it may take a substantial amount of time to reach a consensus and establish the

framework for the project, including the specifics of incentives, risk sharing, and shared goals.

Analysis and Criteria for use

For the IPD project delivery method, several key considerations should be taken into account:

- Budget: IPD is well-suited for projects with a contained and usually substantial budget, with a strong aversion to any changes or cost increases.
- Design: IPD is ideal for projects with a high level of complexity, where the scope is well defined but challenging to turn into a complete design or has a risk of scope-creep that could increase costs.
- Risk: IDP is effective for high risk projects, as it enables risk sharing among the parties involved, helping to manage and distribute project uncertainties.
- Schedule: IPD is suitable for projects with complex scheduling requirements that need to be fully integrated into the design or budget. It is particularly useful for projects with fixed completion dates that offer no flexibility for scheduling adjustments. Construction work may need to commence before the final design is complete.
- Owner Expertise: Successful implementation of IDP requires the owner's project management team to be highly skilled in this delivery method and possess a solid understanding of the IDP agreement. Additionally, the owner should foster a cooperative environment among all parties involved. Legal counsel from the owner's side may also need to be involved at the project's outset to ensure the IPD agreement is appropriately structured and aligns with the project's objectives.

A Public Private Partnership (P3) is a long-term agreement that is primarily employed as a financing mechanism rather than a funding opportunity. It is typically used for long-term agreements with substantial capital investment and the potential for revenue streams. P3 arrangements can also encompass operations and maintenance of the facility as part of the overall cost of ownership. The delivery method in P3 projects is often similar to a Design-Build, but the P3 contractor typically has more control over the design phase.

P3 is most beneficial for projects that necessitate financing, operations and maintenance, often referred to as DBFOM (Design-Build-Finance-Operate-Maintain) projects. These partnerships offer a way to leverage private sector expertise and resources in projects with high capital involvement and long-term commitments, creating a collaborative model that can benefit both public and private entities.

Advantages

In a P3, several advantages include the consolidation of all project elements into a single contract, which expedites project completion by simplifying processes. The P3 entity bears the financial debt and the risk associated with design errors or omissions, thereby transferring these risks away from the owner. In cases where the P3 model includes the roles of designer, builder, and operator (without financing), the designs typically offer more accurate estimates for life cycle costs. The P3 entity as operator, driven by long-term maintenance considerations, is motivated to deliver a higher-quality design, enhancing project durability and operational efficiency. These factors make P3 a compelling option for projects requiring efficiency, risk mitigation, and a focus on long-term quality and cost control.

Disadvantages

In a P3, the owner may relinquish control over certain aspects of the project, particularly related to changes in scope, specific details, or owner criteria not initially included in the RFP. During the design phase, the owner's ability to make changes or exert influence may be limited, particularly in absence of a comprehensive RFP that includes both performance and design standards. As a result, the owner may have little maneuverability and may be required to accept the final project as delivered.

P3 entities often shift risk into cost, particularly where they can finance those costs and recover any losses over the life of the agreement. This approach can potentially lock the owner into an agreement that does not allow for leveraging lower interest rates or refinancing, limiting financial flexibility in the long term. The trade-offs involved in P3 arrangements include reduced cost control and flexibility in exchange for risk transfer and long-term financing solutions.

Analysis and Criteria for use

For the P3 project delivery method, several key considerations should be taken into account:
For P3s involving projects without funding from the University, where the P3 entity provides the financial investment in design and construction and leases it back to the owner, the following analysis and criteria should be considered:

- Budget: P3 is suitable for projects when the University lacks direct funding, and the P3 entity assumes the financial responsibility for design and construction costs. This approach allows the University to access needed facilities without immediate financial burden.
- Design: P3 is well-suited for projects with well-defined outcomes, specific space types, and program elements that have revenue-generation potential such as sports facilities, housing, or food service. The complexity of the project can vary, and the P3 model can accommodate it within the cost structure.
- Risk: P3 can be applied to projects with varying levels of risk, but effective risk transfer requires precise planning and forecasting. The RFP and P3 agreement should capture risk factors comprehensively. It is important to consider the risk of the project not generating sufficient revenue when choosing this method.
- Schedule: P3 allows for expeditious delivery of financing and construction, making it suitable for projects of varying durations.
- Owner Expertise: Successful implementation of a P3 project necessitates an owner project manager skilled in this delivery method. They should have a solid understanding of the P3 agreement and the ability to craft precise performance standards. Additionally, involvement of legal and financial counsel on the owner's side is essential at the project's outset to ensure the agreement aligns with the University's objectives and financial strategy.

Job Order Contracting (JOC), sometimes referred to as Multiple Award Task Order Contracting, is an indefinite quantity/indefinite delivery project delivery method. It allows an owner to choose one or more contractors based on their qualifications and approach for a specific type or scope of work. The owner can decide whether the contractors should submit a unit price schedule or use a nationally recognized unit pricing schedule like RS Means. Typically, the owner has the flexibility to provide varying levels of detail to the contractor to arrive at a price for the work. If all parties agree on the price, a task order is authorized.

This approach is best suited for routine, straightforward, or maintenance type projects where there are predictable scopes of work or the owner has sufficient budget to cover the project risk. JOC offers

an efficient way to handle recurring or well-defined work with the flexibility to select contractors based on qualifications and pricing methods.

Advantages

In JOC, the owner benefits from a quick turnaround with minimal project input on scoping, allowing for a more hands-off approach. This methodology is particularly effective for projects like housing remodels or replacements where funding is available in fiscal year tranches. In JOC, the contractor can become familiar with various jobs, buildings, and sites over the long term, enabling the owner to address unusual or complex scopes of work that may be challenging to manage with other types of delivery methods.

Furthermore, the JOC method can be well-suited for the delivery and installation of complex systems where the system vendor takes the lead contractor role, and the vendor leverages JOC for the system installation. This approach allows for a seamless integration of complex systems while benefiting from the efficiency of the JOC process.

Disadvantages

In JOC, the negotiated prices or those based on a national standard may not be the lowest due to the absence of competitive, market driven pricing. When JOC projects utilize a nationally recognized unit pricing schedule, these prices may not align with the Alaskan market conditions and are often subject to standardized Consumer Price Index increases rather than being influenced by the local market dynamics. JOC risk assumption will fully reflect in pricing.

Analysis and Criteria for use

For the JOC project delivery method, several key considerations should be taken into account:

- Budget: Budget and cost control are not the primary drivers for the project. The owner may use cost modeling to predict spending potential, but cost control is not the central focus.
- Design: Scope development is minimal, and the owner does not need to invest substantial resources in conceptual or project development. The scope is typically not overly complex and should be routine, repetitive, or contained.
- Risk: JOC assumes the full project risk, and the scope is typically low risk, which reduces the owner's exposure to project uncertainties.
- Schedule: JOC is suitable for projects with quick turnaround requirements and tight timelines where returning the completed project to the owner is more critical than minimizing costs..
- Owner Expertise: While owner project management involvement can be minimal, the owner does need a qualified project controls group to manage invoicing and cost control, ensuring efficient project administration and financial oversight.

Process for Use of Alternative Project Delivery Method

The process for the use of alternative project delivery methods involves careful consideration of the characteristics, advantages, disadvantages, and services associated with each method, focusing on five key areas: Budget, Design, Risk, Schedule, and Owner Expertise. The selection of an alternative delivery methodology should not be based on isolated factors but on a comprehensive assessment of the significant risks and conditions associated with the project that make the use of an alternative method compelling.

In general, eligible projects for alternative project delivery methods should be relatively large, complex, or risky to offer significant savings or benefits that offset potential additional costs. Risk factors can include cost certainty, funding restrictions, and schedule constraints, with a focus on how project success or failure might impact the University's mission. Complexity may arise in various project aspects, such as design, materials, sequencing, equipment installation, specialty construction, multi-trade coordination, staging, budgeting, working in occupied facilities, multiple contractors working on the same site, and encountering unknown conditions. Schedule considerations may involve fast-tracking, seasonal construction, long lead-time equipment and materials procurement, or other time-related constraints.

Furthermore, It is imperative that projects utilizing alternative delivery methods are managed by experienced project management teams possessing a strong technical understanding of both design and constructability issues. These teams should employ structured techniques to effectively manage the project's cost, schedule, and quality. The decision to use alternative project delivery methods should be well-documented and supported by compelling factors and potential benefits, with a focus on addressing the unique characteristics and requirements of each project.

Alternative project delivery methods may be appropriate under various circumstances, including:

Complex Logistics and Scheduling Requirements:

1. Work in and around occupied spaces requiring dynamic temporary pedestrian and life safety construction
2. Work in and around occupied spaces requiring precise scheduling unique to the university setting (e.g. between semesters)
3. Sites with limited access, like remote campuses or just-in-time delivery sites where there is no available staging area. Installation of complex owner-furnished equipment, such as large boilers, steam chillers, projects with fast-track schedules involving overlapping design and construction activities or constrained seasonal construction. Projects with partial funding but a directive to begin construction due to programmatic or administrative needs. Ordering long-lead equipment during the design phase will reduce overall project completion durations significantly

Projects that disrupt significant operational activity, necessitating precise completion dates:

1. Specialty and complex facility construction or systems including laboratories, power plant and utilities infrastructure, and sports arenas
2. Complex plumbing, humidification and ventilation systems

Large or complex projects:

1. New Construction exceeding $20 million
2. Complex revitalization or renovation exceeding $10 million
3. Projects with multiple significant complexities, regardless of total project cost (TPC).
4. Project cash flow exceeding $2.0 million per month and multiple schedule complexities.

These circumstances indicate situations where alternative project delivery methods can offer advantages, such as risk management, streamlined schedules, and improved project outcomes, making them suitable for specific university projects.

Additional Considerations for Approval

The proposed changes to Board Policy BOR 05.05.215 will make the currently listed alternative project delivery methods allowable. However, to ensure the proper due diligence, the Chief Procurement Officer must review and approve any alternative project delivery method via a memo-based process that involves various stakeholders - from the project manager through the director and contracting officer to the chief procurement officer.

The request for authorization must include the following components:

1. Achieving Best Value: the request should clearly explain how the selected alternative project delivery method will achieve the best value for the university, considering the specific project's requirements and objectives.
2. Risk Identification and Mitigation: It should identify potential risks that are either transferred to or mitigated by the selected method and highlight the benefits that make a compelling case for its use, with a focus on the 5 key areas: Budget, Design, Risk, Schedule, and Owner Expertise.
3. Preserving Competitive Environment: The request should outline how the process will ensure reasonable competition and preserve a competitive environment for future procurements. This involves demonstrating that the method represents a fair, equitable and transparent procurement process for solicitation and contractor selection.
4. Project Monitoring and Reporting: The request should indicate how the project will monitor and audit the entire construction process through completion and report the findings back to the Chief Procurement Officer.

This process ensures a thorough evaluation and approval mechanism for alternative project delivery methods, emphasizing transparency, risk management, and the university's best interests.