Building Capital Projects in Tough Times

John Lynch, State of Washington

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Introduction

The construction market has changed dramatically over the last twelve months. Not long ago, owners felt lucky if they received three bids on a construction project. It's now not uncommon to see ten or more bids, and recent bid prices are often dramatically lower than expected. As a public agency responsible for the construction of educational and institutional buildings, the Department of General Administration (GA) for the state of Washington feels fortunate that the current market can deliver more for the money. However, GA is also concerned about the downside of significantly lower bids: increase of project management risk.

In this market, what measures should owners take to deliver the best value and lower risk? The Department of General Administration recently received 20 bids on a single project. The increased competition gives GA the benefit of a lower initial contract amount, but there is a real danger of ending up with a contractor who is taking on a project beyond its capabilities and/or at an unachievable price.

Approach

Across the country, owners who are responsible for capital projects are trying to answer the same questions:

- What are the responsible actions to be taking in the current market?
- How do we ensure that we take advantage of the lower prices now available?
- Do we have to throw out schedule acceleration and collaboration to get the benefit of lower prices?
- How do we ensure an increased focus on price does not distract us from our goal of maximizing value?
- Which procurement type should we use? Should we be low-bidding everything?

Ultimately, owners with capital programs will have to decide what they believe will work best for their individual circumstances. Is this the time to low-bid all projects or is another approach more appropriate?

To answer this question, owners should consider the following three thoughts:

Lessons from the Past
Consider lessons based on the experiences of owners who have lived through previous downturns. If you must use a Design-Bid-Build low-bid process, then this first section will be most useful to you.

Price Versus Value
There are many factors to consider when deciding to use a bid process based almost entirely on price. If you are in a position to make the case for not low-bidding everything, you will find helpful information in section two.

Project Delivery Options
There are other approaches that are still competitive, but also allow you to achieve competitive pricing. If you have the choice and do not have to low-bid everything, then section three offers common alternative approaches that still provide mechanisms to maintain full and open competition.

Lessons from the Past

What can owners learn from previous downturns? In general, the quantity of construction activity decreases, especially in the private sector, and the competition for the remaining work increases. Public works projects become very attractive. In past downturns, owners learned that the hyper-competition for public projects is accompanied by a number of negative consequences:

- There is an increase in the likelihood that the low bidder has a bid price that is inadequate to effectively complete the work. This could be due to an error in the take-off, leaving something out by error, or intentionally under bidding to “buy the job” with the hope of making up the difference in change orders.

- The subcontractor’s bid to the general contractor may also be inadequate for the same reasons as the general contractor’s bid.

- Some of the contractors and subcontractors in this market are likely to be economically stressed. Some may be on the verge of bankruptcy. In this circumstance we may see a contractor or subcontractor robbing Peter (the current contract) to pay Paul (the last job). If a contractor or subcontractor defaults on a contract it will usually impact cost and schedule on the project.

- With the financial stress on the private sector markets and the filings for bankruptcy, many subcontractors are having trouble receiving compensation for work performed. For the subcontractor, taking work for under value may be a way of maintaining cash flow, but can lead to poor credit or possible bankruptcy. A subcontractor going out of business creates a serious problem for the project.

- Collectively, these all lead to a higher rate of claims and legal actions that take valuable time away from an owner’s staff, not to mention the costs to address these disputes.

- Bidders that do not normally bid our projects increase. As a public owner, this presents several concerns. Do bidders understand the unique requirements in a public project such as: prevailing wage, apprenticeship, and the "paperwork?" Are bidders familiar with our contract conditions? Are bidders prepared for the billing procedures and possible impacts to cash flow?

- Bid protests sharply increase from unsuccessful bidders and from material suppliers that are not identified in the specifications. At a time when our own staff level has been cut back, it is challenging to deal with these issues.

Under traditional delivery methods, the builder is not proactively engaged with design professionals during the design phase, and material selections (i.e., concrete versus steel) may be made out of favor with the economic climate. The owner may receive a low-bid, but it may not reflect the actual value available in the marketplace.

Price Versus Value

The concept of value is not new. The concept of price versus value has also been around for years. In fact, many still use the "three-legged stool" analogy of cost, schedule, and quality. However, many go on to say, "You can only have two of these, you cannot have all three." The Department of General Administration believes in a refined approach that seeks a balance of all three goals. No owner should ever have to entirely sacrifice cost, schedule, or quality. The trick for the owner and project team is to define the balance of cost, schedule, and quality and determine a process that increases the likelihood of achieving this balance.

The question for an owner then becomes, "What is the best process to help us achieve the best balance of cost, schedule, and quality on this project?"

To those with limited experience with different delivery approaches, the tendency is to believe that the ability to define the scope and deliver a quality facility within a reasonable time is relatively simple. With this line of thinking, the only variable left is price. In order to maximize the "value" we must therefore be sure we get the lowest price. Thus, a low-bid price-driven process is used to make the selection.

However, can a project that does not perform well, does not meet the needs of the users, or gets delivered months or years late be considered a good value? When a project is in the pre-design phase, managers are optimistic and are tempted to take the Design-Bid-Build path because it is perceived to provide the lowest cost, yet a high quality product may not always be the outcome.

Price versus value also equates to "commodity versus professional service." Is selection based on initial price (a commodity) or on qualifications and quality of services offered (value)? Project objectives and the owner's culture may determine which is appropriate and provides the best opportunity for success.

Teaming, collaboration, and simultaneous selection of design consultants and builders have proven to produce better design and quality projects, lower project costs, provide quicker delivery, and result in fewer warranty calls and less litigation. Technological advancements, such as Building Information Modeling (BIM), are much more effective when being used by multiple parties throughout the design of a project.

Sustainable strategies are much better plotted by several committed parties working to a common objective than an individual party. Recent research showed a higher rate of success achieving sustainability goals with collaborative delivery methods and use of Qualifications Based Selections (QBS) (Molenaar, Gransberg, et al., September 2009). Based on the percentage of projects achieving either their original LEED goal or higher, CMAR was highest at 94% (Design-Build was 82% and Low Bid was 77%) and QBS was highest at 95% (Best Value was 87% and Low Bid was 78%).

Cost models prepared and agreed to by the design and construction team prior to the initiation of design will promote improved cost management and greater schedule efficiency. Simply put, some projects benefit greatly from collaboration and thus, as a result of a more integrated process, end up delivering a better value to our constituents. The caution is not to let the desire to get the lowest price cause you to abandon your mission to maximize value.

Project Delivery Options

Many public agencies have the option of choosing project delivery methods other than Design-Bid-Build. Typically, these options include Construction Management at-Risk (CMAR) and Design-Build. Few public agencies have the option of using fully Integrated Project Delivery contracts such as three-party agreements.

The choice of a project delivery method is best made very early in the project planning process. For many public agencies, the Design-Bid-Build method is used for most small and medium-sized projects and is used by default. Yet before any selection processes are started for consultants, designers, or contractors, the agency should weigh the costs and benefits of various delivery methods and then make the delivery method decision.

Today's construction market should be carefully considered when deciding on the best delivery method for the project. While it is tempting to "hard-bid" the job and take advantage of the hyper-competitive market, this choice may not be the best in the long run for some projects.

The following outline identifies some market-related elements that a public agency should consider when choosing a project delivery method. The listed pros and cons are specifically related to the current highly competitive market and are <u>not</u> intended to be a complete list of the pros and cons of the various delivery methods:

Design-Bid-Build (DBB)

Pros:

- In the current competitive market, the low-bid is likely to be considerably below the designers' estimate. The money left "on the table" plus planned contingency funds should provide owners with a comfortable contingency to cover potential change orders.

Cons:

- Contractors who don't usually bid public projects may be bidding due to the lack of private sector work. The result might be a low bidder that is unfamiliar with the requirements and complexities of a public project.

- The low bidder's price may be at or below the actual anticipated costs. This will create pressure to look for change orders and to aggressively price change orders in an effort to break even and make some profit.
- In order to be the winning bidder, the successful contractor must go with the lowest available subcontractor prices. With many more subcontractors bidding in this market, there is an increased risk that one or more subcontractors are on the job who may have misunderstood the plans and specs, do not have the capability or capacity to do the job, are unfamiliar with the requirements of a public project, and/or are on the brink of bankruptcy.
- Bid protests will be more common. The second or third bidder may challenge the owner's award decision in an attempt to win the bid.

Construction Manager At-Risk (CMAR)

Pros:

- The CMAR can be selected in a process that considers qualifications only or qualifications and some form of price, which tends to discourage unrealistically low bids which might be a problem in this market.
- The owner has the ability to pick the most qualified team (architect, engineer and CMAR) for the project. If a price component is required on behalf of the owner's agency, the influence of price in the selection process may be minimized to enable the owner to still select the most qualified team at the best value for the project rather than the lowest price. When subcontracts are bought-out, the owner can receive the benefit of the low pricing available in a tight market.
- Once on board, the owner can work collaboratively with the CMAR to assist them in managing the bidding process for all of the trade contracts (approximately 80 – 90% of the project costs) and take advantage of the low pricing available in the marketplace.
- Subcontractors can be pre-qualified, which can help ensure quality and performance on the job. Some public agencies have restrictions on pre-qualifying subcontractors, which can limit pre-qualification to only the major subcontractors.
- The general contractor can collaborate with the owner and the designer during the design phase and choose materials, systems, and design details that take advantage of the market conditions.
- Repeat work is an exceptionally strong motivator for architects, engineers, and contractors in alternate project delivery methods. Architects, engineers, and contractors all understand that their ability to get the next project will be greatly enhanced or inhibited by the owner's judgment of their performance. In a tight market repeat work is especially important to contractors.

Cons:

- Some public owners are required to competitively bid all sub-contracts under their CMAR process. This can create many of the same issues outlined in the Design-Bid-Build discussion above.
- In any market, successful implementation of CMAR requires a culture change on behalf of the owner, designer, and contractor.

- It requires:
    - People to behave in a “win-win” fashion.
    - Different processes and procedures.
    - Different contracts.
    - An attitude that everyone must be committed to the success of each other.

Design-Build (DB)

Pros:

- The Design-Build team can be selected in a process that considers qualifications only or qualifications and price. The negative aspects of an overly competitive market can be minimized because the DB team is not forced to submit an unrealistically low bid in order to get the job.
- Depending on the DB contract, the owner can benefit from the pricing in this competitive market. As an added advantage, the DB contractor can select subcontractors in a process that considers qualifications in addition to price and not just price. This ability can be important in the current market.
- During the design phase the DB team can help the owner choose materials, systems, and design details that take advantage of the market conditions. The owner can be actively engaged in the design process on a regular basis.
- In the DB process, most public owners do not restrict how subcontractors are selected and therefore, the subs can be chosen to deliver value for a price within the budget and the low-bid problems can be avoided.

Cons:

- If construction cost is set early and construction costs drop sharply, the DB team may not be motivated to look for project savings. This situation can allow the DB contractor to realize a large, unanticipated profit if the subcontracts come in significantly below the original budget.
- The two-step DB selection process requires the owner to assemble their entire program and project information to give to the proposed DB teams. In a market that is changing rapidly, owners may lose the opportunity to take advantage of the market changes after the DB team is selected.

These lists are not all-inclusive and are certainly subject to debate. Regardless, the more significant point is, even in tough times, owners need to remember that in their quest to find the best balance of cost, schedule and quality, each project is unique and the smart move is to still consider <u>all</u> available options.

Recommendations

No single project delivery method works best for all projects. Factors including the culture and experience of the owner, project size, complexity, and location need to be considered. A challenge for project managers is to take time very early in the planning process to consider these factors and make the project delivery decision when it can have the most benefit. After the design architect is hired it is difficult to change the construction delivery method.

In the state of Washington, the Department of Engineering and Architectural Services is in the process of bidding projects that have been designed over the last two years. Most of these projects were planned for a traditional Design-Bid-Build process. With a dramatic increase in the number of bidders along with bids coming in well below the architect's estimates, we expect project management challenges as these projects start construction.

So back to the original questions that owners are trying to answer:

- **What are the responsible actions to be taking in the current market?**

  The responsible action to take is not to default to any one delivery method, but to consider all options. Owners need to understand the benefits and risks associated with each of the options and during tough times like these make informed, smart decisions.

- **How do we ensure that we take advantage of the lower prices now available?**

  In construction, depending on the delivery method, selection process and resulting relationship and contract, there are multiple options available that allow owners to take advantage of competitive pricing currently available.

- **Do we have to throw out schedule acceleration and collaboration to get the benefit of lower prices?**

  No. Owners do not have to give up on accelerated schedules or a collaborative process to get lower pricing. For example, using a highly collaborative open-book Construction Management At-Risk (CMAR) approach does allow an owner to negotiate competitive fees and general conditions and then work collaboratively with the CMAR to get the low pricing that is available during times like these. CMAR also allows owners to maintain the ability to overlap the design and construction phases when project timelines require fast tracking. Similarly, done with the right processes (selection, contract type, and terms), DB can offer this same ability to work collaboratively with the design-builder to get competitive pricing as well.

- **How do we ensure an increased focus on price does not distract us from our goal of maximizing value?**

  Remembering that a public owner's mission is to provide constituents the maximum value for their dollars, public owners must be careful not to focus so heavily on getting the lowest price that they give up on maximizing quality or forget the value of time. These are all part of the value equation and owners must be diligent about reminding everyone on the project team that the goal is to achieve the best balance of all three. Delivering poor quality projects a year or two late, but well below budget, does not define maximum value for an owner's constituents.

- **Which procurement type should we use? Should we be low-bidding everything?**
  Every project should be looked at on a case-by-case basis to determine the most appropriate procurement type for each project. Under the right circumstances, low bidding can be the best approach. The challenge is not to take a project that does not lend itself to low bidding (i.e. a project that really needs the benefit of collaboration) and use a low-bid process for the wrong reasons.

Conclusion

In the state of Washington, we strongly encourage a careful consideration of CMAR or Design-Build for new projects where there is a choice of delivery method. Not all projects require enhanced collaboration or the ability to accelerate the schedule, but many do. While it is tempting to continue with the low-bid market, we believe that for the right projects, these alternative methods will prove to deliver projects that are more cost effective, schedule responsive, higher quality, and more claim-free.

John Lynch is an Assistant Director, Engineering and Architectural Services with the Department of General Administration for the state of Washington. He can be reached at jlynch@ga.wa.gov.

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