

## PROGRESSIVE DELIVERY OF TRANSPORTATION INFRA

THE NEXT BIG THING IN CIVIL TRANSPORTATION PROJECT DELIVERY – INCLUDING NEW HIGHWAYS, BRIDGES, AND MASS TRANSIT – IS THE USE OF PROGRESSIVE DESIGN-BUILD, PROGRESSIVE PUBLIC-PRIVATE PARTNERSHIPS, AND PREDEVELOPMENT AGREEMENTS. BY MITCH HOLZRICHTER, EMILY GOLD GRUNSTEIN, NICK VALLORANO AND GABRIELA CHAVEZ BARRIENTOS, MAYER BROWN LLP.

These approaches have been used in major projects across the US over the past several years, challenging the dominance of fixed-price bidding. Proponents of predevelopment and progressive approaches cite their ability to mitigate construction risks and thereby reduce project costs, to explore innovative technological solutions, and to reduce bid costs by accelerating selection before significant design work is undertaken.

Such approaches have been more common in the vertical construction market, including airports, but have found recent traction in other transportation projects. The Pennsylvania Department of Transportation, for example, achieved financial close in December 2022 on the US\$2bn first package of its major bridge replacement programme using a predevelopment agreement and public-private partnership approach.

But their novelty and fast adoption within the transportation sector have exposed risks and downsides, as witnessed on several recent projects. The infrastructure development community has an opportunity to take stock of lessons learned to ensure these new approaches are used appropriately and further improved.

### **The opportunity of progressive delivery**

Historically, fixed-price bidding dominated the procurement of transportation infrastructure in the US. Even design-build and public-private partnership (P3) approaches, which moved away from procurement based solely on the lowest cost of construction by taking into account technical approach and qualifications, typically still use fixed pricing based on a conceptual project design.

But fixed pricing poses challenges. Proposers are required to advance design work during procurement, often without a significant stipend or work product payment. The pursuit cost has become unaffordable for many firms and consequently hindered competition. Contractors are required to take early views on significant construction risks, such as subsurface conditions, environmental conditions, and utility and railroad accommodations, with minimal information, thereby making some jobs unbidable or requiring excessive construction contingencies that hurt project affordability.

The use of progressive design-build, progressive P3s, and predevelopment agreements (PDAs) is intended to address these shortcomings.

In each of these models, a developer or contractor is selected primarily or exclusively on qualifications, before design is significantly advanced. The selected firm provides professional pre-construction services in a first phase, which may include design services. The selected firm also is able to conduct more thorough site investigation and diligence, which can then be incorporated into the design. A fixed price or guaranteed maximum price for development and construction of the project is agreed at the conclusion of this first phase.

These models can use a single agreement for all phases or different agreements by phase. Projects developed using PDAs, such as Pennsylvania's major bridge programme or Maryland's express lanes project, have contemplated different agreements for the predevelopment phase and subsequent construction phase. By contrast, recent progressive design-build projects that are in procurement, such as the Mobile River Bridge and Brent Spence Bridge, plan to use a single agreement to cover the entire project, which is then amended with construction pricing and other construction terms upon conclusion of the pre-construction phase.

The predevelopment or progressive approach addresses some of the key downsides of traditional bidding:

- *Streamlined procurement* – Procurement under this approach is cheaper and quicker. Proposers for the developer, contractor, or construction manager role are selected predominantly on their qualifications, while pricing is usually limited to the cost of pre-construction services or general conditions and margin rates for construction services. By not requiring bids for construction work, the design does not need to be advanced, thereby saving proposers potentially millions of dollars of design costs during procurement. Owners, too, can reduce their work product or stipend payments, as well as save both time and money with a simpler, streamlined procurement process and reduced evaluation workload.
- *Mitigated risk* – The project should be de-risked and thereby made more affordable. Construction work is not priced until conclusion of the pre-construction phase, during which the

owner and contractor conduct more significant project investigation and advance the project design, thereby reducing project risks. If the pre-development work is done properly, this de-risking should reduce construction costs, particularly contingencies, while remaining risks are clarified, both of which enable easier alignment among the parties on contract terms.

- *Opportunities for innovation* – The new progressive models also allow owners and developers to explore new and emerging technologies before committing to a major construction contract. This opportunity has been particularly useful in the transit sector, where novel autonomous and automated vehicles are coming to market. For example, LA Metro awarded competing PDAs to two teams to explore new transit options for the Sepulveda Transit Corridor in the San Fernando Valley. Following suit, the City of San Jose, California, recently awarded a PDA to a developer to explore the feasibility of using autonomous, personal cars to shuttle passengers to the airport. These types of technologies benefit from a progressive design and feasibility process.

#### Road-tested

The benefits of progressive and PDA approaches described above are significant, but they are not without trade-offs. The industry has the opportunity to learn from challenges experienced on recent projects and consider some unresolved issues that may diminish the potential benefits.

#### Taking the off-ramp

Who pays for predevelopment or pre-construction costs, particularly if the project does not move to implementation? It is not a given that every project advances to construction. The Maryland express lanes project, which used a PDA structure, was terminated in March 2023 after both the state and the developer spent significant sums on predevelopment work.

While the PDA would have permitted the developer to recoup its predevelopment costs up to a cap at financial close had the project reached that milestone, the PDA limited the developer's recovery to only a nominal payment for its work product upon termination – a small fraction of its actual costs. Putting costs at risk undermines partnership principles by potentially misaligning incentives and inhibiting candor between the owner and developer.

The City of San Jose used substantially the same form of PDA as the Maryland express lanes project but with a notable change: the city commits to repaying the developer's predevelopment costs at termination, up to a cap, unless the developer is at fault. In other words, the city is bearing the risk of the project not being feasible or moving forward, other than for the developer's default. The city will also receive the benefit of design and other work product.

Project owners may be reluctant to bear the cost of a project that dies before implementation. More traditional design-build and P3

procurements have typically limited an owner's procurement payment obligation to a modest stipend – often priced well before the proposers' actual pursuit and design development costs.

Accepting payment responsibility for a contractor's predevelopment costs may be a drawback of the predevelopment or progressive approach, but one that can be mitigated through cost caps, as used by the City of San Jose, or a sharing mechanism. Additionally, the owner may not walk away empty-handed should the project fail to advance to construction; the owner should acquire any design work completed during the preconstruction phase as part of the payment arrangement.

Owners also need to give serious thought to how off-ramps – termination rights during the predevelopment phase – align incentives. Putting the contractor too at risk, particularly with respect to its predevelopment costs, could jeopardise the success of the project. A contractor should be incentivised to share candid information with the owner and work jointly with the owner to assess project feasibility, no matter the outcome of that assessment. If, however, a contractor's payment is contingent on project implementation, an accurate assessment can be inhibited or biased.

Costs should also be considered in the context of financing. If a contractor's or developer's right to payment is contingent on a future closing, or payment is not made on a current basis, the contractor may need short-term financing. The predevelopment budget needed for large projects may not be able to be borne easily by a contractor's balance sheet or could minimise interest among certain potential proposers. Project financing may be possible, but predevelopment agreements have not been drafted with financing in mind, and payment contingencies make financing a challenge.

#### Bridges to nowhere

Strong collaboration between owner and developer is necessary for a successful project. Recent PDAs, however, have been remarkably one-sided, imposing almost all of the obligations on the developer or contractor while conferring only a few of the rights. That one-sidedness is a weakness that warrants re-examination.

For example, the PDAs from both the Maryland and San Jose projects mentioned above enumerate certain developer defaults and give the owner the right to terminate upon any such default. But there is no set of owner defaults or corresponding termination right in favour of the developer should the owner breach its obligations. True, the developer has more



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responsibility for carrying out the work, but the owner also plays an important role.

A key process during the predevelopment phase is the negotiation of the project or design-build agreement or amendment, under which the project would be constructed and implemented. The precedents mentioned above require the owner and developer to negotiate in good faith, but impose a consequence – default and termination – only on the developer for a failure to negotiate in good faith. Conversely, they provide no remedy if the owner fails to negotiate in good faith. Bridging this divide would help foster the open dialogue necessary to bring a viable project and mutually beneficial agreement to implementation.

#### **Caution – Work ahead**

If a significant premise of a predevelopment or progressive approach is to de-risk the project, the parties must take full advantage of the pre-construction period to do the investigation, design, and other work needed to mitigate and eliminate construction risk. The predevelopment period should not just be an extended time for negotiating a construction agreement and price.

Predevelopment work requires site access, coordination with stakeholders, and active partnership between the owner and developer. Many of the most material risks may depend on third parties, such as utility owners and railroads, and a developer will be more successful in advancing those discussions and reaching preliminary agreements with the full participation and support of the owner, particularly when the owner is a government agency. Other risks, like right of way acquisition, also are benefited by, or even depend on, the government's assistance. Third parties might otherwise delay their involvement until project implementation is more certain, inhibiting the developer's ability to address that third-party risk.

Predevelopment work also requires time. The pre-construction period should be long enough to advance the design work, conduct robust site investigation, and engage with third-party stakeholders. Short-changing the pre-construction period can undermine the potential value derived from the predevelopment work.

#### **Paying the toll**

Owners should consider carefully whether predevelopment and progressive approaches are appropriate for revenue-risk or demand-risk projects, where the developer earns revenue based on the use of the project, such as user fees. The typical public-private partnership procurement for a revenue-risk project relies on a fixed bid for both the capital cost of the project and the long-term revenues generated by the project, netting to either a public subsidy needed to support the project or a net surplus that can be returned to the owner. Both of these elements are derived under competitive tension during the procurement process, obviating the need for significant independent verification.

The construction industry has established methods for fairly pricing a project outside of a competitive bid, such as open-book pricing, over-the-shoulder reviews, “shadow bids,” and bidding out subcontracted scope. For federally funded highway projects, for example, the Federal Highway Administration rules have long recognised that these methods can be used to support a determination that a design-build price is “reasonable” for the purpose of qualifying for federal funding or financing.

The alternatives to competitive bids for demand and revenues, though, are less proven. Demand forecasts are proprietary, reflecting the specific risk tolerances and operating plans of the developer. They are a mix of art and science. In project finance transactions, lenders run their own cases to stress-test a demand model, but it is for the limited purpose of validating that the project is viable, not for a more nuanced negotiation of price. What is a practical, realistic way for an owner to negotiate or validate a demand forecast?

The consequences can be enormous: small changes in model assumptions or inputs can change whether or not a project is financially viable or whether it generates a surplus or requires a subsidy.

Airport and “vertical” developers have confronted this issue in different ways. Landlords often charge a percentage rent for space, so pricing is dependent on actual performance. Civil transportation projects have used revenue share mechanisms in limited ways, but those mechanisms are more often used to share in upside revenues or cost savings beyond what either party actually expects at closing; those mechanisms are not the primary pricing mechanism.

#### **Setting the right course**

When done correctly, progressive and PDA delivery models can provide numerous benefits to owners and developers alike, resulting in a streamlined procurement and mitigated project risks. They also provide a unique opportunity to explore innovative technologies without requiring owners to end a procurement before testing, which will be crucial for the next generation of transportation infrastructure.

Challenges on recent projects offer an opportunity to learn and chart a new course. A progressive delivery model that is based on true partnership between owners and project developers, and contractors will foster the collaboration necessary to advance projects through the pre-construction phase and into successful implementation. ■



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