

Diverse contracting program drives GDOT's historic initiative

Eleven projects valued at \$11 billion will be delivered by 2030 under multiple delivery models

Georgia's ballooning population and aging transportation system have precipitated an unprecedented \$11 billion investment to reduce congestion along key freight and passenger corridors. Branded as the Major Mobility Investment Program, 11 critical mobility projects statewide will be delivered using only alternative contracting methods, marking a first for the Georgia Department of Transportation.

Back in the early 2000s, when we asked ourselves how we would deliver an ever-growing list of major projects, it became evident we needed new approaches that would accelerate schedules and invite innovation. In 2003 and 2004, the Georgia General Assembly gave us authority to use public-private partnerships and design-build delivery.

Instead of assigning designer and contractor to their respective stages, alternative delivery brings both parties together in a collaborative environment that leads to innovation and powerful results, such as:

- Improved quality
- Earlier schedule certainty
- Time and money savings

These innovative delivery methods contrasted sharply with our traditional delivery approach and forced us to change our 100-year-old way of conducting business.

Research leads to best practices

We began our investigation into alternative delivery by first considering our objectives and industry trends. We then launched an extensive research phase to become more knowledgeable and proficient not just in alternative delivery methods but in next-generation best practices. Below are some of the processes we identified and adopted from our research:

- **Take a total-project delivery approach.** Early agency due diligence, procurement method selection and varied contract management approaches foster a competitive environment that ultimately saves our department time and money.
- **Conduct objective assessments.** We examine a project's characteristics to determine its fitness for alternative delivery. This practice forces us to identify the true goals for any infrastructure project, a step that otherwise takes a backseat to routine bid activities.
- **Emphasize innovation.** We consider not only the bid but also the technical merits of the bidder's proposal, which encourages bidders to present new design or construction methods that save time and money and deliver a quality asset.

- **Designate a department.** Ultimately, GDOT created a special unit within our department to house, procure and manage our alternative delivery program, allowing us to focus on this new way of doing business for our agency.

- **Collaborate with industry groups.** In addition to speaking with other DOTs that had made inroads in alternative delivery, we collaborated with other practitioners through the Transportation Research Board's Standing Committee on Project Delivery Methods and a project oversight panel for the second Strategic Highway Research Program (SHRP 2). Tapping into this knowledge brought value and maturity to our approach at a time when there was little practical information to go by in the industry.

We developed a *Design-Build Manual* to capture this intelligence and transparently documented our lessons learned on experimental projects. The manual provides guidelines for identifying, selecting, procuring and administering design-build projects.

Design-build best-value invites innovation

Another best practice is how Georgia systematically evolved its alternative delivery program. We rolled it out in increments. Each step allowed us to retain a level of comfort while adding a degree of difficulty or complexity.

When GDOT was first granted authority to enter into design-build procurements, we could award contracts only to the lowest bidder. Further, the number of design-build projects could not exceed 15 percent of the total amount of construction projects awarded in the previous fiscal year.

During the next 14 years, we built a track record of successful design-build projects and, based on that track record, we expanded our practice to include variations of the contracting method. By 2013, we were letting design-build best-value contracts, the most common design-build award methodology and one that emphasizes (and incentivizes) innovation. By then, the General Assembly had increased the dollar amount of allowable design-build projects from 15 percent to 50 percent of the previous year program amount.

In the procurement phase of a design-build best-value contract, we entertain alternative technical concepts. ATCs are, by definition, proposed ideas that demonstrate concepts equal to or better than the baseline requirement but are not otherwise compliant with the request for proposals.

Alternative Technical Concepts typically target and propose confidential solutions for reducing high-cost items, such as the square footage of a bridge or the number of foundation footings. We consider each concept and, before the procurement ends, provide an answer of yes, no, or yes with conditions. The combination of ATCs and contractor innovations on our Northwest Corridor Express Lanes Project and Transform 285/400 Interchange Improvement Project saved taxpayers more than \$500 million.

A prime example is the use of Florida I-beams on the Northwest Corridor project, a reversible express lanes facility along I-75 and I-575 that required multiple structures built with multiple beams. Florida prestressed I-beams are longer than we typically allowed on a bridge, but by permitting the contractor to use them, we reduced the number of foundation footings and saved a significant amount of money. Florida I-beams have since become an acceptable practice in our design-build program.

“Alternative delivery brings both parties together in a collaborative environment that leads to innovation and powerful results ...”



Darryl D. VanMeter, PE

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Design-build multiyear commitment avoids encumbering budget

Georgia's state constitution requires GDOT have enough money in the bank to cover the entire cost of a design-build project before we can sign the contract. Encumbering the cost of a large design-build project, say \$230 million, for example, would consume a significant portion of our annual budget and force us to delay other vital projects.

Our solution was to enlist a public-public partnership with Georgia's State Road and Tollway Authority to leverage a multiyear commitment. SRTA has legal authority to sign contracts without having the total cost of the project upfront. In a design-build multiyear contract, SRTA acts as signatory, allowing us to expend money on an annual basis instead of all at once. Plus, our annual transportation program budget remains intact.

Under the design-build multiyear approach, we forecast our expenditures over several years, verify that each year we will have enough money to cover those expenses and then enter into the agreement.

Adding a financial component creates first P3

Our department viewed P3s as a natural progression of design-build. Many of the processes we use in design-build translate to P3 delivery; thus, our growth and proficiency in design-build facilitated our entry into the P3 market.

For example, we originally envisioned procuring the Northwest Corridor under a full concession model. In a concession model, the private-sector partner assumes the obligation to design, build, finance, operate and maintain a facility for a specified term in exchange for compensation (e.g., toll revenues).

After further consideration, we decided to advertise the express lanes as a design-build-finance contract, our first competitively procured P3. Choosing design-build-finance gave us a level of comfort and familiarity we didn't have with the concession model. It allowed us to crystalize the financing component of a P3 and identify the appropriate delivery methods to advance the MMIP.

The Northwest Corridor Express Lanes' P3 provided the best opportunity for delivery, using the lowest amount of public funds. It also helped set the precedent for future use of P3s to deliver needed capital improvements in a financially constrained environment.

Because of the P3, we delivered the facility years earlier than we would have using conventional means. Construction began in 2014, and the toll lanes opened in 2018.

Today, we have nine more P3 contracts underway.

Greater mobility and safety sooner

We could not deliver a historic program, such as the MMIP, without using alternative delivery methods. It would be impossible; we would be building forever. Instead, we are addressing these challenges head-on with innovative solutions.

We have awarded two MMIP projects under design-build multiyear contracts: the \$115 million I-85 widening in Gwinnett, Barrow and Jackson counties, now under construction, and the \$230 million I-16/I-95 Interchange Improvement Project in Savannah, which will begin construction this year.

Two more MMIP projects will be contracted under design-build; four projects are contemplated to be design-build-finance; and three projects will be let by a full design-build-finance-operate-maintain/availability.

Once the projects are completed, they will lead to a 5 percent reduction in delays and travel-time savings in the year 2030, making a transformational difference in safety and mobility in the Atlanta area.

ABOUT THE AUTHOR

Darryl VanMeter leads the Office of Innovative Delivery for the Georgia Department of Transportation. His group is responsible for incorporating innovative financing techniques into select projects and implementing GDOT's managed lanes system, as well as providing procurement, technical, project management and construction management services to GDOT's P3 and design-build program. His office has more than \$2 billion (total value) in construction projects underway and has let 39 design-build contracts and two design-build-finance contracts since 2006. The office is charged with implementing the \$11 billion Major Mobility Improvement Program, including several P3 contracts along with a robust program of design-build projects, including statewide bridge replacements. Contact him at (404) 631-1703 or dvanmeter@dot.ga.gov.