

Refining the Adjusted-Score Design-Build Process

Through its design-build process, the Florida Department of Transportation seeks to provide continuous improvement for both its projects and the process itself

by Thomas A. Andres, Florida Department of Transportation



Florida Department of Transportation's J. Turner Boulevard/Interstate 95 design-build project features a curved, spliced U-girder structure. Photo: Florida Department of Transportation.

The Florida Department of Transportation (FDOT) has encouraged the use of design-build delivery methods since the late 1980s, and the process continues to improve as designers, contractors, and the Department gain experience. FDOT has procured more than 475 design-build projects with total contract amounts of more than \$13.5 billion. Currently, more than 70 projects are underway, totaling more than \$5.5 billion. The program has proven successful at encouraging innovation through a fair, competitive process that strives to meet or exceed project expectations while providing a high level of transparency.

Increasingly, FDOT realized that the design-build format meant it didn't need to have all the solutions to transportation problems. FDOT quickly witnessed the power of mobilizing hundreds of minds to focus on developing the best comprehensive solution to a complex transportation problem through a competitive process.



Precast concrete pile cap on Escambia Bay Interstate 10 design-build project. Photo: WSP.

Design-build projects create innovation by bringing the contractor's expertise into the design process up front to maximize efficiencies. These can include customizing the solution based on available equipment, workforce talents, and supplier availability and expertise. The contractor typically looks to optimize production rates by separating the work from the traffic and reordering the sequence of construction for added efficiency. The contractor's perspective serves to challenge designers and past norms.

For design-build projects to continue to be successful, the process has to be dynamic and evolving. Project solutions improve over time based on lessons learned. Ideally, the bar rises for each successive project.

Developing Design Criteria

For the most part, design criteria do not change from project to project for a given work mix, but design-build criteria may differ from those for a conventional project. FDOT's governing regulations (such as design manuals) have been developed for each delivery method. Design manuals include separate boxes within the text that amend certain design requirements specifically for design-build projects.

Industry feedback is encouraged prior to the start of the project's procurement process. Most large projects include an Industry Forum, which occurs prior to the advertisement. The Industry Forum allows the project to be presented by FDOT and provides final teaming/networking opportunities for both contractors and consultants.

The draft request for proposal (RFP) is posted prior to the Industry Forum. Teams are encouraged to meet with FDOT management in one-on-one meetings to introduce team members and provide feedback on the project and the RFP. With the goal of gaining feedback to improve the RFP to better meet project objectives, FDOT typically asks all the teams the same questions.

Once the procurement process starts (by posting the project advertisement), a "veil of silence" descends on FDOT and the teams pursuing the project. Except for the prescribed one-on-one meetings, all communications cease, although questions and responses may be posted on a website-based platform to be viewed by all teams.

Encouraging Competition

FDOT's design-build program was initially fairly rigid, with a shortlist of approved contractors selected according to experience and other factors. This precluded some qualified companies that could have generated successful concepts. To encourage more competition, the process was revised to create a two-tiered grading system that allows any team to participate in the opening phase and be judged on its merits. The only caveats are that a consultant involved in writing the RFP cannot pursue the project, and that each team has to meet certain work-type qualifications based on the work mix.

FDOT first evaluates the letters of interest (LOIs), typically worth 20 of the project's 100-point total score. It focuses on the

qualifications and experience of both the design-build firm and its key team members. The LOI also includes the team's understanding of the project and its general approach. Based on a team's LOI score relative to other teams' scores, each team decides whether to proceed to the technical proposal phase.

Next, the teams prepare and submit technical proposals. FDOT scores each technical proposal, which is typically worth the remaining 80 points of the total project score. The technical proposal presents the team's design with sufficient information to enable the Department to further evaluate the proposer's solution. A stipend is usually provided to the two top non-winning teams that submit a technical proposal meeting all RFP requirements.

Process Promotes Innovation

With the objective of providing better solutions at lower costs, FDOT uses an alternative technical concept (ATC) process, which allows teams to develop concepts and manage risks that FDOT would assume to be unrealistic on a conventional design-bid-build project. Any deviation from the RFP is by definition an ATC. A proposed ATC must provide an approach equal to or better than the RFP requirements, with no reduction in scope, quality, performance, or reliability. The ATCs are kept confidential prior to the final selection.

In the past, FDOT tended to amend the RFP based on an approved ATC. That made it difficult to draft RFP language that allowed an ATC without giving the idea to the other teams. The current trend is to amend the RFP only for approved ATCs that change the fundamental rules of the game, such as ATCs that introduce design exceptions (violate AASHTO criteria) or ATCs that reduce project scope.

The design-build process has been criticized by some owners for providing less control compared with conventional design-bid-build projects, resulting in a final solution that does not meet expectations. FDOT has overcome this by intentionally writing certain aspects of the RFP rigidly. This allows ideas to be vetted through the ATC process. For example:

- Concept plans are attached to the RFP as a reference document, and therefore are "for information only" and not a requirement. For instance, if the RFP states that the horizontal and vertical alignments shall be "per the concept plans ± 5 ft," the proposer must show



Rendering of Pensacola Bay Bridge low-level single-piece precast concrete piers. Photo: WSP.

through the ATC process that its ATC solution (interchange reconfiguration, for example) is equal to or better than the RFP requirements.

- An ATC also is required for design concepts, components, elements, details, or construction techniques not normally used by FDOT. The bottom line is to promote new ideas and innovation but ensure the details are well executed.

Contractors are sometimes frustrated by this ATC vetting step, but they are happy FDOT is open-minded and willing to work through the issues with them, reducing risk on both sides.

One-on-one ATC meetings are held to allow teams to describe their proposed alterations and their benefits. The lists of proposed ATCs are sent to FDOT prior to the meeting to ensure the proper FDOT personnel attend the meeting to respond to the proposed ideas.

For a large project, two to three one-on-one ATC meetings with each team may be necessary. On many projects, informal, draft-written ATC submittals are encouraged so FDOT staff (gatekeepers) can offer draft responses between meetings. This early and consistent feedback allows the teams to better understand FDOT's intentions and expectations and is focused on achieving an ATC that will eventually be approved by FDOT.

FDOT has approved thousands of ATCs on hundreds of design-build projects, resulting in hundreds of millions of dollars in savings, shorter construction times, and added value.

Scoring Factors

Technical review committee (TRC) members provide the technical scores based on the information presented in the LOIs. They also provide the technical scores based on the information presented in the technical proposals. As part of the "veil of silence," each TRC member works independently of other TRC members to review LOIs and technical proposals.

FDOT strives to use TRC members with diverse backgrounds to cover the project's work mix. TRC members are FDOT

employees and are typically assisted by technical experts on complex projects. Technical experts are available throughout the process to answer questions outside of the TRC members' expertise.

The members provide technical scores for all aspects of the project listed in the RFP evaluation criteria; the scores are then averaged and the best-value formula is applied. The best-value determination is the team's price divided by its technical score, with the team with the lowest number being the winner.

It is important for the RFP to be customized to provide an appropriate breakdown in technical score points to achieve an acceptable outcome. What is important on an urban interchange project in south Florida may be quite different from a rural project in north Florida.



Precast concrete bent cap being erected on SR 83 (US 331) over Choctawhatchee Bay. Photo: WSP.

Summary

Experience has shown that doing design-build well is hard work for both the owner and the proposers. But its results are worth the effort.

FDOT continues to learn from the competitive design-build process to achieve the goal of establishing better ways to construct transportation facilities. Conventional projects also continue to get better as FDOT incorporates solutions based on lessons learned from design-build projects. **A**

Thomas A. Andres is the assistant state structures design engineer in the Florida Department of Transportation in Tallahassee, Fla.