

2010 SCoPM Performance Excellence Award Application Cover Sheet

Team Name	LA DOTD – Design-Build Procurement Team
Date Team Operating from	May 5, 2008, through May 11, 2010
Organization Name	Louisiana Department of Transportation and Development
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Team Purpose:

Louisiana passed enabling legislation for design-build (DB) procurement of transportation projects in 2004. This original legislation limited the use of DB procurement to a single project – the John James Audubon Bridge across the Mississippi River just North of Baton Rouge. Following Hurricane Katrina, the legislation was broadened to allow DB procurement to be used on a wider range of transportation projects. In 2008, DB procurement was used for a much needed capacity improvement project to widen Interstate-12 in East Baton Rouge and Livingston Parishes (I-12 a) using surplus funds that resulted from higher-than-anticipated state petroleum tax revenues.

In early 2009, President Barack Obama signed into law the American Recovery and Reinvestment Act of 2009 (ARRA). The Stimulus Program, as it came to be known, allocated \$430 million to the State of Louisiana for highway funding. In order to meet the “shovel-ready” requirements of funding and maximize the impact of the funding on significant transportation infrastructure projects, the Louisiana Department of Transportation and Development (LA DOTD) decided to once again use DB procurement. Two projects were initially identified – the Interstate 10 (I-10) Widening in Baton Rouge from Siegen Lane to Highland Road, and the US 90 (future Interstate 49) grade separated interchange at LA 85 in Iberia Parish. Subsequently, funds were available (due in part to the budget savings realized from the efficiencies in the first two ARRA-funded DB projects listed above) for a third DB project – the Interstate 12 Widening from Range to Juban (I-12 b). An ad hoc team was appointed to meet the goal of procuring these three projects in record time. The team was charged with accomplishing this task on a greatly accelerated schedule while maintaining their normally assigned workloads.

Impact of Team’s Improvement(s):

The three ARRA-funded DB projects were successfully procured, contracts executed and notices to proceed issued according to the original schedule. The impact of the team’s efforts on the goals and objectives of the Department was two-fold. First, the team successfully utilized the design-build procurement process to maximize the benefit and positive impact of the ARRA funding, resulting in additional capacity and safety on three significant transportation routes in the State. Secondly, as a more long-term impact to the Department’s goals and objectives, the DB model for procurement of transportation infrastructure projects was refined, and more LA DOTD staff members were cross-trained in the use of DB contracting. This has provided LA DOTD with a strategic advantage by equipping the Department with another tool in its “procurement toolbox.”

Category 1 - Customer Focus

1.1. List the key customers of the team

- 1.1.a. LA DOTD Secretary
- 1.1.b. Federal Highway Administration (FHWA)
- 1.1.c. Louisiana Legislature

1.2. Explain **why you determined that these were key customers**

1.2.a. The LA DOTD Secretary was determined to be a key customer because the Secretary tasked the team with developing the procurement documents for the ARRA-funded DB projects and set the expectations that the accelerated schedules would be met.

1.2.b. The FHWA was determined to be a key customer because the three ARRA-funded DB projects were subject to the FHWA's authorization and approval.

1.2.c. The Joint Legislative Committee on Transportation was determined to be a key customer because its members granted approval to utilize the DB methodology/delivery method for the DB projects.

1.3. Explain **how the team listened to and collected information from the key customers**

1.3.a. A series of working sessions were conducted with the LA DOTD Secretary to determine the scope schedule and budgets for the projects. These sessions were documented and the procurement documents were amended to reflect the direction from the Secretary.

1.3.b. The draft procurement documents were shared with the local FHWA personnel for review and comment. The FHWA staff person assigned to each of the projects was invited to participate in all meetings related to the development of the scope, other technical requirements of the projects, and schedules required for the ARRA-funded projects.

1.3.c. As ARRA funds were being distributed, DOTD submitted recommended projects to the Joint Legislative Committee on Transportation. Meetings were held with legislators prior to the allocation of funds in order to listen to their concerns and expectations.

1.4. Explain **how the team turned information collected from the customers into requirements**

1.4.a. The scoping meetings held with the LA DOTD Secretary determined that he wanted to utilize DB procurement to allow the projects to be under construction in the shortest time possible and that he desired to get the maximum scope for the budget allowed. Performance-based specifications were used to focus the ultimate performance of the facility while allowing the design-builder maximum flexibility in both the design and construction methods used to achieve the desired performance results.

1.4.b. FHWA officials were quite receptive to the concept of utilizing DB procurement for the ARRA-funded projects even though the local FHWA personnel did not have first-hand experience with DB contracting. Their primary concern was assuring that equal or greater quality in the finished projects could be achieved as compared with the more traditional design-bid-build contracting. This concern was addressed by incorporating FHWA review comments/edits into the DB contract and by increasing the LA DOTD Quality Assurance testing frequencies to provide a 70% confidence of detecting flaws greater than 2.5 standard deviations from the mean.

1.4.c. The Team was able to procure all of the projects successfully in order to secure all possible ARRA funding, which was one of the legislature's expectations of the Department.

1.5. Explain **how the team determined both customer satisfaction and dissatisfaction**

1.5.a. A comment resolution process was used to determine the satisfaction and dissatisfaction of the LA DOTD Secretary. The comments were based on individual and group reviews of the draft design-build procurement documents for the three ARRA-funded DB projects. Preliminary

designs, cost estimates and preliminary schedules were prepared to validate the assumptions made and the requirements which were written into the design-build procurement documents. Successive iterations of the draft design-build procurement documents were subjected to the comment resolution process until no further comments were made (which indicated agreement and satisfaction). Customer satisfaction and dissatisfaction were also defined by on/off schedule performance, respectively.

1.5.b. The FHWA participated in the iterative comment resolution process for draft design-build procurement documents of the projects. The indication of their satisfaction and dissatisfaction was likewise determined by the number of comments/required revisions that were received on each successive review cycle. Total satisfaction was deemed to be met once all comments that had been received were addressed and no further comments were generated.

1.5.c The Team was given legislative feedback throughout the process through the LA DOTD Secretary. All comments were incorporated into the resolution process via direction from the Secretary (1.5.a).

Category 2 - Process Management

2.1. List the process(es) applicable to the team purpose and performance expectations

2.1.a A key process for this initiative was the development of the Final Design-Build Procurement and Contract Documents for the four projects. The LA DOTD Secretary set two performance expectations on these documents relative the procurement process. First, the procurements had to be completed and the contracts executed according to the very aggressive schedule warranted by the ARRA funding. Secondly, the total lump sum price proposals of the successful design-builders had to be within the limits of the funds allocated through the ARRA funding.

2.1.b. A key process for this initiative was the preparation of *Performance Specifications* for the three ARRA-funded DB projects. The performance expectations for the Performance Specifications was that the finished construction projects would be of equal or greater levels of quality and durability as compared to traditional design-bid-build projects that were governed by the *Louisiana Standard Specifications for Road and Bridge Construction*.

2.2. Describe the steps taken to achieve the purpose of the team

2.2.a. The Team developed and refined bar schedules and flow charts to map out the activities necessary to achieve schedule milestones in accordance with performance expectations. Schedules were developed to allow sufficient time for project advertisement, proposal deadlines, proposal evaluations, proposal selection and contract execution. This required the input and complete cooperation of every team member to produce their deliverables to keep the schedule.

2.2.b. An extensive multi-discipline team of Department personnel was used to develop the Performance Specification Package for the projects. The various technical-discipline leads were tasked with developing the performance goals that could be further articulated into understandable performance standards. Each performance standard was required to be observable and measurable so that the finished project could be evaluated to determine acceptability. Emphasis was placed on what the finished project should be or do, rather than how the design-builder would design or build the project. Prescriptive specifications were also utilized where no practical alternative existed to define or measure performance.

2.3. Explain how the steps taken to achieve the purpose of the team affected efficiency, effectiveness, quality, and/or customer satisfaction attributes

2.3.a. A previous procurement using design-build contracting in Louisiana had taken as long as 1-1/3 years. With the ARRA funding requirements and the direction given by the LA DOTD Secretary, it was imperative that new efficiencies be introduced to cut that development schedule in half. LA DOTD and FHWA Team meetings were held so that edits to the documents could be vetted in “real time.” Interface with the proposers was enhanced to use industry input to refine the process. This included allowing multiple rounds of proposer one-on-one meetings, written Q&A and clarification phases with proposers, consideration of the Alternative Technical Concepts (ATC) under an FHWA SEP 14 approval, and oral technical presentations by the proposers. The combined effects of these efforts reduced the average procurement time by more than 25% as compared to the state’s earlier design-build procurement (while also allowing the proposers approximately 60% more time to prepare their submittals). Allowing the proposers more time benefitted the Department, because it gave them time to define more project details – which ultimately resulted in lower risk, a better price, and a better project. The ARRA-funded DB projects were each procured in approximately 270 days from RFQ to contract execution.

2.3.b. Given the economies of scale of three overlapping project procurements, it was possible to standardize the process to save time while still developing unique Performance Specifications for each individual project. Experience gained and lessons learned from earlier design-build procurements also helped to streamline the process of developing the Performance Specifications for these projects. The net effect of this effort was a 30% decrease in the time needed to pull together Performance Specifications for design-build projects. These efforts also resulted in developing a template approach that will be used on future design-build projects in the state, although by their nature performance specifications will always need to be customized for each project.

2.4. Explain how the team gathered data, analyzed it, and the tools used to make decisions

2.4.a. Explain how you gathered the data and how you analyzed it.

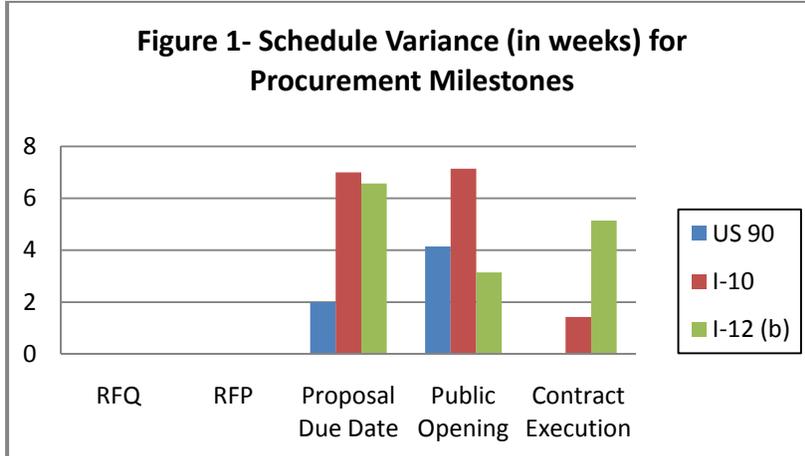
A schedule comparison was used to track progress toward the Contract Execution dates set by the LA DOTD Secretary, as well as the development of the Performance Specifications packages that were tied to the overall procurement schedules. Also, the team continuously collected feedback from the LA DOTD Secretary, the FHWA, and the Proposers to ensure that the process was on-track to meet key customer expectations of the final product and delivery dates.

2.4.b. Identify the tools you used from this list: Pareto Chart, Flowchart, Cause and Effect Analysis, Check Sheet, Control Chart, Histogram, and Scatter Diagram

The DB team used bar schedules and flowcharts for the contemporaneous planning and developing of the documents to identify items that represented satisfaction or dissatisfaction by the LA DOTD Secretary and the FHWA. The team used flowcharts linked to the procurement schedules to document the status and current progress against the goals set forth by the LA DOTD Secretary. Figure 1 (see 3.1) demonstrates that although overall procurement schedules were met, several internal milestone delays were experienced by the Team throughout the process. Figure 2 (see 3.2) shows the number of days required to meet the various internal milestones of the DB procurements as described in Section 2.2.a. Figure 3 (see 3.3) demonstrates the efficiencies as described in Section 2.3 regarding the overall procurements being complete ahead of schedule when compared to previous design-build procurement processes/timelines in order to continue to meet increasingly aggressive schedules, which have proved to be a key component of customer satisfaction/dissatisfaction.

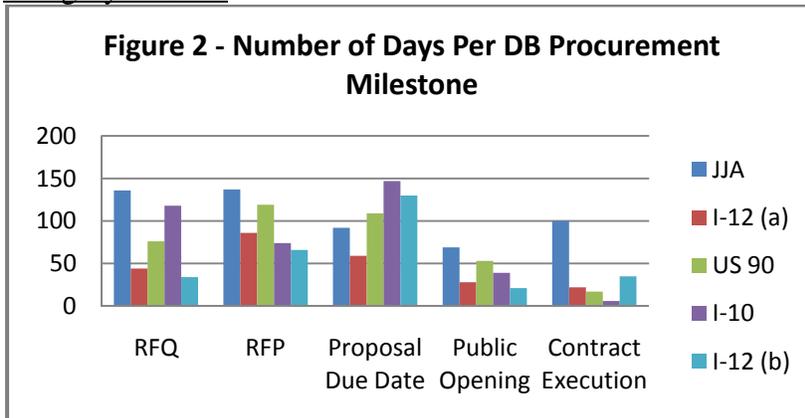
Category 3 – Results (this section is worth 450 of 1000 point total) Provide one page of graphical results

3.1. Provide current levels and trends for customer satisfaction and dissatisfaction



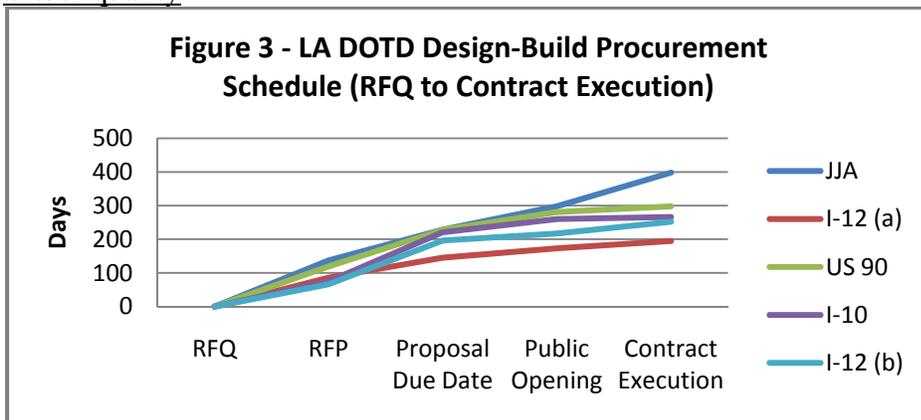
Note: Though the customers were satisfied that the overall procurement schedules were met, Figure 1 shows the areas in the DB procurements that had schedule variances. These are the areas the team will work to improve on future procurements.

3.2. Provide current levels and trends in key measures or indicators for the process(es) listed in Category 2 above



Note: Figure 2 shows the amount of time required to accomplish each DB procurement milestone. The ARRA-funded DB projects procured by the team allowed the proposers more time to produce their proposals while maintaining the overall schedules.

3.3. Provide current levels and trends in key measures or indicators of effectiveness, efficiency, and/or quality



Note: Figure 3 shows that overall DB procurement schedules have shown reduction in duration, which has led to increased customer satisfaction.