BRENT SPENCE BRIDGE CORRIDOR PROJECT

SPECIAL EXPERIMENTAL PROJECT NUMBER 14 (SEP-14)

ODOT PID 116649 | KYTC PROJECT ITEM NO. 6-17
November 17 2022

KENTUCKY TRANSPORTATION CABINET

HNTB

TABLE OF CONTENTS

LIST OF FIGURES

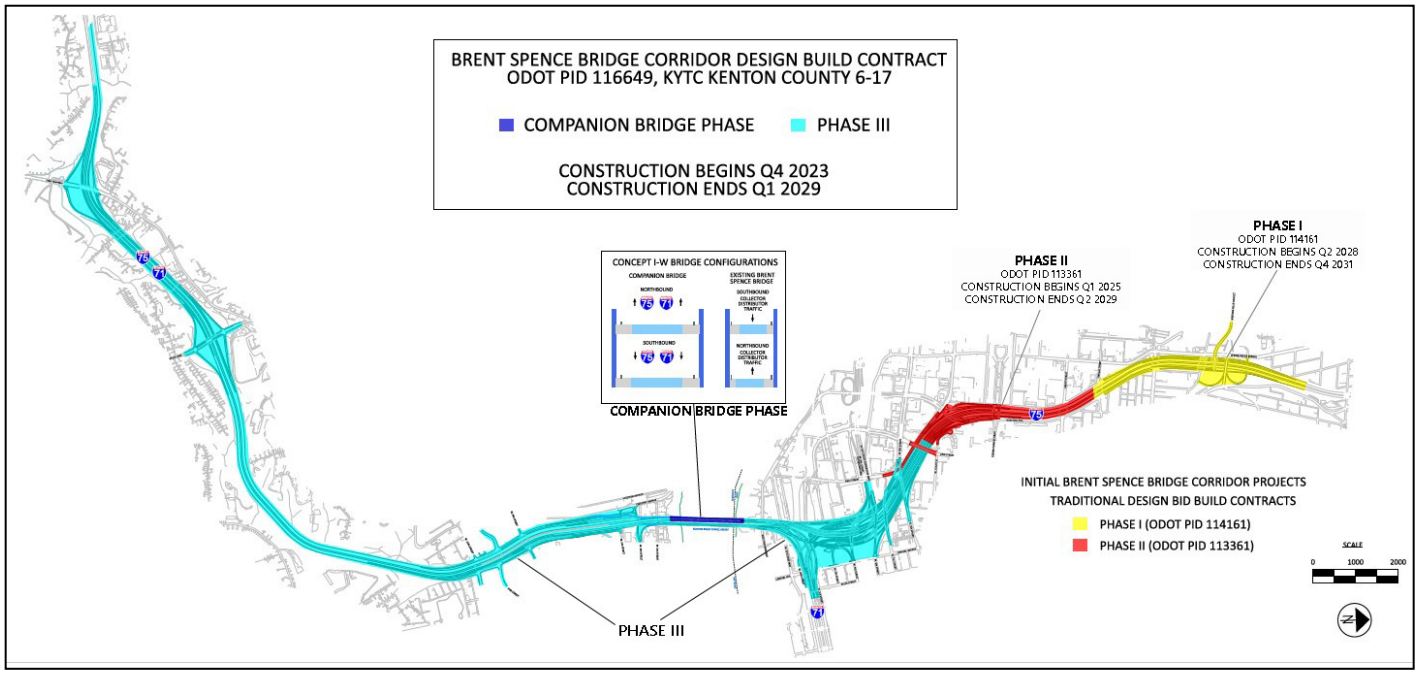
1. INTRODUCTION

This workplan is for the Brent Spence Bridge Corridor Project (PID 116649) (the Project) and a request by the Ohio Department of Transportation for a Special Experimental Project Number 14 (SEP-14) Program approval.

The overall Brent Spence Bridge Corridor Program and phases of implementation are depicted in Figure 1. The Project will construct Phase III and the Companion Bridge Phase depicted in Figure 1. Phase III will construct approximately five miles of I-71/I-75 in Kentucky and one mile of I-75 in Ohio. The Companion Bridge Phase will construct a new companion bridge over the Ohio River just to the west of the existing Brent Spence Bridge. Phases I and II of Figure 1 will be constructed through traditional design-bid-build contracting; Phases I and II are not part of this Workplan.

The Ohio Department of Transportation (ODOT) and Kentucky Transportation Cabinet (KYTC) established a Bi-State Management Team (BSMT) with the authority to oversee the Project. ODOT will be the lead contracting agency but will partner with KYTC in respect to the BSMT's efforts.

Figure 1: Brent Spence Bridge Corridor



2. PURPOSE

The Progressive Design-Build (PDB) delivery method is being proposed for the Project. Using PDB delivery provides opportunities to streamline project completion, identify and properly address high risk work approaches, and provide a quality, cost-effective project in an uncertain construction pricing environment.

The overall intent of the SEP-14 program is to foster innovation and to evaluate promising non-traditional contracting techniques.

This letter constitutes an application to the Federal Highway Administration (FHWA) by ODOT for review and approval of this workplan for delivery of the Project using a PDB delivery model under the provisions of SEP-14.

Under 23 CFR 636.302(a)(1), "You must evaluate price in every source selection where construction is a significant component of the scope of work". Since the total contract price will not be known upon selection of the Design-Build Team (DBT) and the FONSI decision has been signed, SEP-14 approval is required.

ODOT is requesting SEP-14 approval for deviating from the 23 CFR 636.302(a)(1) requirement.

The proposed PDB delivery method is an innovative process that is being increasingly utilized by transportation agencies for the delivery of highway projects. PDB delivery places the responsibility for design and construction with a single DBT. The single DBT is selected based on best value which will include a combination of qualifications and competitive bidding elements before substantial design work is completed. The BSMT and the DBT then progress the design together toward authorization of construction work and a final contract price. This delivery method would allow the BSMT to incorporate desired design details, final design decisions, provide for better cost input regarding options under consideration, provide for well-informed decision-making using a collaborative, open-book negotiation approach, and align the BSMT and DBT expectations up front before completion of final design and execution of construction work.

3. PROJECT SCOPE AND BACKGROUND

The Brent Spence Bridge Corridor is a critical link not only in the adjoining regions of Ohio and Kentucky, but also a critical connection of the I-75 national freight corridor from Florida to Canada, spanning eight miles from just north of the Western Hills Viaduct in Ohio to just south of the Dixie Highway interchange in Kentucky. Included in this corridor is the Brent Spence Bridge crossing the Ohio River, the second-worst truck bottleneck in the nation that carries more than $400 billion worth of freight every year. The Project will address both safety and congestion issues along this important interstate connection.

On October 14, 2004, KYTC and ODOT recognized the need to improve the Brent Spence Bridge corridor and entered into an agreement to evaluate the replacement of the existing Brent Spence Bridge (BSB) over the Ohio River. The corridor consists of 7.8 total miles of I-71 and I-75 located within portions of Ohio and Kentucky.

- The BSB carries both I-71 and I-75 over the Ohio River.
- The BSB opened in 1963 and was originally designed to carry 80,000 vehicles per day (VPD) with current traffic volumes of 160,000 VPD.
- The corridor exhibits congestion and safety-related issues due to capacity constraints for current traffic demand, which is exacerbated by design deficiencies along the corridor.

In August 2012, the FHWA issued a Finding of No Significant Impact (FONSI) selecting the preferred alternative for the Brent Spence Bridge Corridor, referred to as Alternative I. Since the approval of the FONSI and establishment of the BSMT, additional studies have been conducted by KYTC and ODOT to better understand financial and procurement options and any potential updates to the environmental impacts. In addition, KYTC and ODOT evaluated value engineering refinements to reduce the costs and impacts of the preferred Alternative I. Those efforts culminated in identifying Concept I-W as a value engineering refinement to the preferred Alternative I that will proceed into more detailed design and engineering in 2023. Concept I-W changes the lane configurations at the Ohio River crossing. However, it does not change the access points provided in the preferred Alternative I nor does it change the concept of creating a C-D system that separates interstate through traffic from local street connections. Initial evaluation shows that Concept I-W remains within the footprint of the 2012 NEPA document. FHWA completed two prior reevaluations on February 11, 2015 and March 15, 2018. Both reevaluations concluded that until KYTC and ODOT committed to any potential changes in project scope and required additional studies were completed, the existing FONSI dated August 9, 2012 would remain valid. In a letter to FHWA on July 22, 2021, KYTC and ODOT provided project updates and committed to preparing a supplemental Environmental Assessment, which will be completed in 2023. FHWA is part of this ongoing effort, has participated in weekly discussions including most recently in September 2022, and will be holding a Cost and Schedule Risk Assessment workshop in October 2022, which will include a risk assessment.

The following primary goals were identified as part of the Brent Spence Corridor NEPA decision:

- Improve traffic flow and level of service,
- Improve safety,
- Correct geometric deficiencies, and
- Maintain connections to key regional and national transportation corridors.

To meet these primary goals, the BSMT has established the following specific contract objectives for the Project:

1. Deliver the Project within budget.
2. Maximize the public investment in the Project by minimizing the footprint.
3. Minimize traffic disruption during construction, with minimal detours or diversion of traffic to the local streets.
4. Provide opportunities for Workforce Development and DBE utilization.
5. Provide strong aesthetic value along the Project corridor.
6. Open the traffic on the new companion bridge by January 2029.

The BSMT proposes to use the PDB method as a means of exploring innovative design and construction approaches, innovative ways to investigate and evaluate high risk considerations, to continually engage the communities of the Northern Kentucky and Cincinnati metropolitan region, and to manage high inflationary concerns.

In the five-year period between 2017 and 2021, ODOT awarded $9.84B and KYTC awarded $4.75B in highway and bridge contracts and obligations, including construction, engineering, and land acquisition. With an annual operating budget of more than $3B per year, ODOT is well positioned to manage design-bid-build and design-build contracts and oversee construction on the Project. With increasing demands on available funds, the BSMT continues to further evaluate delivery methods that optimize tax dollar utilization and provide streamlined project delivery. The collaborative nature of the PDB delivery method will foster innovation and cooperation to design and construct the Project to a budget, to meet other Project goals and objectives, and to manage the volatility in construction pricing. The BSMT believes that a best value selection as outlined above will be the best approach for selecting a DBT to design and develop a fair and reasonable construction price using an open-book pricing process.

ODOT is procuring the Project in compliance with relevant federal regulations that qualify the Project for Federal assistance.

4. SCHEDULE

This section provides an approximate schedule for the advertisement, letting, award, Project completion, and evaluations and reports of the Project based on the proposed PDB delivery approach.

4.1 DBT Selection

RFP Advertisement: 1/2/2023

The procurement will include a Request for Proposals (RFP) followed by submittal of proposals by interested design-build teams. The RFP will request qualifications, understanding, and approach components for the technical submittal. While the approach to the development of the final design will be considered, detailed design information will not be requested.

Proposals Due: 2/27/2023

Interested Offerors will respond to the RFP with a technical proposal specifically addressing:

- Design Build Team Organization & Key Personnel
- Design Build Team Experience & Capabilities
- Project Understanding and Approach
- Ability to Contract (pass/fail evaluation)
- Bonding Capacity (pass/fail evaluation)
- Anticipated Markup

Offeror Interviews: 4/17/2023

The BSMT has the option to conduct interviews with all responsive Offerors. The interviews; if held; will be considered in the eventual selection.

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Apparent Best Value Announcement: 5/1/2023

The anticipated Technical Proposal evaluation and Interview processes is anticipated to be 80 to 90 percent of the evaluation selection. The markup consideration shall be approximately 10 to 20 percent of the selection.

Anticipated Contract Award: 5/30/2023

4.2 Progressive Design-Build Contract

The best value DBT will be invited to enter into a 2-phase contract with ODOT.

- Phase 1:
    - 1A budget level design development, preconstruction services
    - 1B the negotiation of a firm final contract price (either lump sum or guaranteed maximum price)
- Phase 2: Final design and construction at the negotiated contract price

Phase 1A - Proof of Concept: 6/1/2023 (approx.) – 3/1/2024 (approx.)

The DBT collaborates with the BSMT to create or confirm the Project's basis of design and then advances that design. Design and other Project decisions (including potential early work packages, further defined at the end of Section 4, Page 6) are based on cost, schedule, quality, operability, life cycle and other considerations, with the DBT providing ongoing, transparent cost estimates to ensure that the Owner's budgetary requirements can be achieved.

The BSMT will negotiate a design-build contract with that team, based on the indicative contract terms that will be set forth in the RFP for the procurement. The negotiation will establish the scope and compensation for each portion of the design/preconstruction phase. Compensation for services will be in compliance with FHWA policies and FAR cost principles, including FAR-compliant audited indirect cost rates for engineering and design-related services.

If the BSMT and the DBT are not able to mutually agree on the design-build contract, the BSMT will be able to terminate negotiations and initiate an "off-ramp" option where it can retain the design and move forward with the Project through another delivery strategy. The BSMT may also undertake negotiations with the next most highly qualified Offeror.

Phase 1B – Project Development: 3/1/2024 (approx.) – 3/1/2025 (approx.)

Design is advanced to approximately 60 to 70 percent complete. The DBT provides a formal proposal, including pricing, for the Final Design and Construction Phase (Phase 2).

The pricing will be established based on open book methodology using the markup submitted with the Technical Proposal. Upon review with the Independent Cost Estimator (ICE) and BSMT, the price may be converted to lump sum. The DBT may be required to obtain competitive pricing for portions of the construction work.

If the BSMT and the DBT are unable to come to a mutually agreed upon construction price, the BSMT will have rights to initiate another "off-ramp" option and award the construction work to a separate contractor through another contract strategy.

Phase 2 – Final Design and Construction: 3/1/2025 (approx.) – 9/1/2029 (approx.)

The DBT proceeds with final design and construction in accordance with the Phase 2 Contract. The Phase 2 contract will include terms and conditions and pricing finalized in Phase 1A and 1B.

The BSMT, in conjunction with FHWA, will approve preliminary and final plans.

Early Work Packages

The collaboration between the DBT and BSMT during Phase 1A and 1B may identify "Early Work Packages" that will benefit overall completion of the Project. These Early Work Packages would be negotiated separately from the Phase 2 work and would progress through final design and construction separate from the Phase 2 work. Early Work Packages, if employed and an offramp is taken, would function as a Phase of the overall project.

Prior to engaging Early Work Packages, the BSMT and DBT shall ensure the work included in them is sufficiently independent so that the off-ramp option is not precluded.

5. MEASURES

The original procurement duration for the Project when it was proposed to follow a traditional Design-Build delivery process was anticipated to be 14 months from the date the RFQ was issued until the award of the Project. The PDB procurement is planned to be a faster way to get to an awarded contract. The BSMT will monitor the duration of the procurement and measure whether the procurement time was reduced.

The PDB approach will allow for more collaboration during Phase 1 to refine the scope, schedule, and price. Collaboration during Phase 1 will allow the DBT to innovate their design to develop improvements to the Concept I-W to meet the goals and objectives of the Project. The BSMT will track the innovations and refinements that result from the PDB delivery process and will measure the value of them.

6. REPORTING

The BSMT will prepare and submit to FHWA initial, interim, and final reports on this Project.

Within each report, the BSMT will address industry and 3rd party reaction, lessons learned, and quality improvement/benefits/innovations.

Industry and 3rd Party Reaction

The BSMT will record and track the response from Offerors regarding the procurement. This will also include an assessment of improvements to the procurement process that may be proposed by industry. The BSMT will also record the response and reaction to any engaged 3rd parties or generalized reactions from the public.

Lessons Learned (benefits, difficulties)

The BSMT will provide a summary of any lessons learned throughout the Project, both from the BSMT's and industry's perspectives, and will include any items that may be improved for any future projects that propose to utilize this technique. This will focus on the early identification and sharing of risks to reduce contingencies through assumption of how unknown and unmitigated risks could have affected a bid in a traditional DB procurement.

Quality improvement/benefits/innovations

The BSMT will provide a summary of any noted innovations brought forth through the collaboration of the DBT and owner. The report will address how the collaboration efforts impacted the development of the innovation. The report will evaluate any innovations for long term implementation into ODOT/KYTC's programs.

6.1 Initial Reporting (Initial Award)

The initial report will be prepared at the approximate time of award of the Phase 1 work. The initial report will include industry reaction to the progressive design-build process and procurement, a discussion of the contract negotiation process, and a breakdown of the design-builder's costs for categories of "design" and "preconstruction", including compliance with FAR cost principles.

Interim Reporting (Optional Early Work Packages)

If Early Work Packages are used, the BSMT will prepare an interim report near the initiation of each Optional Early Work Package, prior to Phase 1B completion and before construction begins. The Early Work Packages Interim Report will include reasons for the Early Work Packages, will demonstrate the advantage(s) to the Project goals of the Early Work Package, and will demonstrate how the Early Work Package is severable from the remaining Project work and will not jeopardize the off-ramp.

The BMST will seek concurrence in construction price reasonableness for all Early Work Packages as required by FHWA.

6.2 Interim Reporting (Construction Phase)

The BSMT will prepare an interim report upon agreement on the scope and price for the Phase 2 work. This report will describe the BSMT's experience with the "construction award" process, including with respect to competitive contracting and open book negotiation procedures, the BSMT's approach to determining price reasonableness, and reactions in the subcontractor community, as well as any identifiable effects of the progressive design-build approach on the final pricing.

6.3 Final Report (Final Acceptance)

A final report will be submitted upon completion of the design-build contracts for the Project and the BSMT's final acceptance of the work. The final report will contain an overall evaluation of the Project and the progressive design-build delivery model, along with "lessons learned" and any suggestions and recommendations for improving the process