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Creating a successful bridge bundling program

DOTs should consider this strategy to save money and deliver multiple projects more efficiently

Given the increasing number of bridges that need immediate attention, the Federal Highway Administration is offering a one-time opportunity for states to expedite repair and replacement of multiple bridges under one contract. The Competitive Highway Bridge Program invites 25 rural states to compete for $225 million in bridge bundling funds to ensure these assets remain safe and well-maintained.

Although the FHWA program is targeted to specific states, bridge bundling is a proven delivery strategy any department of transportation can implement. Consider:

- Missouri had bridge work needs in all 114 counties, too many to address contract by contract. Bundling allowed the state to let a single design-build contract to replace 554 replacement bridges. The state grouped another 248 bridge repair projects by size, type and location and awarded them in modified design-bid-build contracts. Through bundling, Missouri delivered the Safe and Sound Program of 802 new or improved bridges in three and a half years.

- Using a public-private partnership agreement (P3), Pennsylvania will replace 558 structurally deficient bridges statewide.

New York is repairing or replacing over 550 structurally deficient bridges using bridge bundling philosophy. The bridge bundles were grouped by region and bridge type, and have a 25-year maintenance commitment Bridge bundling allowed these states to make significant advances in motorist safety and regional mobility in a short time.

One contract, many benefits

With bridge bundling, Owner's realize design, construction, cost and schedule efficiencies. Like the assembly line employee who becomes faster and more proficient at performing a single and routine task, so too will bridge construction crews who take a single design or construction technique and build it multiple times.

Owner's may receive more competitive bids as contractors hope to fill an entire construction season with one contract award. Owners save in-house resources letting and managing a single contract. Contractors buy in bulk, increasing their purchasing power. Additional advantages include improved mobilization and staging, an increased speed of project completion without sacrificing worksite safety. Coupling bundling and a design-build delivery method, an Owner could see additional delivery speed of a program.

Four steps toward successful delivery

When deciding whether to pursue a bridge bundling program, consider the following best practices:

1. **Invest time in research.**
   For bridge bundling to be successful, owners must first take time to understand what it is they want to accomplish. Is it preservation? Rehabilitation? Full replacement? Or a combination of these? Knowing the end goals is fundamental to creating the right bundling approach. However, if, after research and discovery, an owner finds that the bridges in need of being addressed are very different, the owner may be better off tackling each bridge under a separate contract.

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ABOUT THE AUTHOR

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2. **Group by similarity.**
   Bundling capitalizes on likenesses and shared features. For example, bridges can be grouped by:
   - Corridor
   - Location (county, district or region)
   - River or creek crossings
   - Structure type
   - Geometry
   - Environmental clearances

3. **Have a mobilization plan.**
   Owners often struggle with which bridge to tackle first. They could start with the bridge farthest from their office and work their way in or begin with the closest bridge and work their way out. The best mobilization plan considers the condition and nature of the bridges involved, such as each bridge's load-carrying capacity, vulnerability to further deterioration, traffic volume and types of materials that will for their construction. Given the particular contraints, a mobilization plan can be developed quickly and efficiently for the bridges included in the program.

4. **Talk with the people who will be affected.**
   Understanding what the impacted communities want is an important part of any successful project. This holds true for bridge bundling projects. Are citizens willing to endure a full closure and a detour in exchange for a shorter project delivery schedule? Or, do they want to continue using their normal route with reduced lanes in exchange for a longer project schedule? If the Owner can replace multiple bridges along a corridor under the same detour, does the answer change? Can a region take more than one roadway closed in a single season or does a program need to span multiple season in that area? Is this is the only facility for emergency responders to be where they need to be with sufficient response times? These are only some of the questions are important to ask during the development of a bundled bridge program, and the answer will change depending on the community.

Understanding the fundamentals of bridge bundling and applying best practices allow any Owner to make significant strides in bringing its bridge inventory closer to a state of good repair quickly, and with limited resources. ■

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