

Missouri DOT

General Information	
Contact Information	<p>David Simmons Project Manager – DB Coordinator 314-453-1878 David.J.Simmons@modot.mo.gov</p>
Relevant Statute	<p><i>Missouri Rev. Stat. §227.107</i></p> <ul style="list-style-type: none"> • MoDOT originally granted authority in 2004 to use DB on 3 pilot projects • DB authority ultimately extended to allow up to 2% of MoDOT’s annual number of projects to be delivered using DB • Statute provides the state highway and transportation commission rather broad discretion to develop DB processes • Commission must provide status reports to the governor and legislature related to DB projects
DB Program Characteristics	<ul style="list-style-type: none"> • Originally granted authority in 2004 to use DB on 3 pilot projects: <ul style="list-style-type: none"> - I-64 project, \$535M (2005) - I-29/I-35 kcICON, \$245M (2007) - Safe and Sound Bridge Improvement Program, 554 bridges for \$487M (2008)

Agency Culture, Organization and Training	
Dedicated DB Program Staff	1 dedicated staff, who works closely with the project delivery team during both the design and construction phases
Outsourcing	<ul style="list-style-type: none"> • For the first DB projects, consultants were heavily involved in document development and contract administration • After the first 3 projects, scaled back consultant use – now use consultants only for scheduling, bridge work, hydraulic work (i.e., discipline areas for which MoDOT doesn’t have the expertise or resources in-house)
DB Project Team Makeup	<ul style="list-style-type: none"> • For DB projects, some specific authority of the Chief Engineer is granted to the Project Director (PD) of each Project: <ul style="list-style-type: none"> - Establishes the PD as the project decision-maker - Creates trust with industry (contractor has confidence when a decision is made by the PD, the decision is final) - Expedites decision-making - Helps develop one team with the contractor • Core project team of 5 to 10 individuals that participate in the development of procurement documents, selection of DB contractor, and oversight of the work • Team members represent the disciplines that are important to the project • To the extent possible, project team members should be located together and should meet at least weekly to manage the delivery of the project • MoDOT’s project teams must hold the following core values: <ul style="list-style-type: none"> - Be goal oriented - Be flexible - Be confidential - Be an empowered team
Internal Issues Related to DB Use	Have come to the understanding that not all staff are cut out for working on a DB project – for some, yielding control to industry was too much of a grieving process

Industry Issues Related to DB Use	<ul style="list-style-type: none"> • MoDOT works closely with industry to establish policies • Industry would like to reduce the short-list • Some local apprehension regarding conflicts of interest and getting too many local consultants involved during procurement
Procedural Guidance and Template Documents	<ul style="list-style-type: none"> • Would like to develop standard templates • Would like to post RFP documents online as it could be a way to educate smaller firms on what the DB process is all about • RFP documents include: <ul style="list-style-type: none"> - Book 1 – Contract language - Book 2 – Performance requirements - Book 3 – Applicable standards - Book 4 – Contract drawings, documents and reports - Book 5 – Informational (or reference) documents - Instructions to Proposers (ITP) • Engineering Policy Guide includes guidance on DB (Category 139) and ATCs (Category 147)
Training	Not discussed

Selection of Project Delivery Method	
Drivers for Using DB	Innovation (DB allows MoDOT to capitalize on industry development and advancement)
Process and Tools	<ul style="list-style-type: none"> • Historically performed a high-level (i.e., executive) risk assessment • Now looking at adapting the Colorado DOT method, but continue to work out some kinks
Key Considerations	<p>Per MoDOT’s Engineering Policy Guide, DB should be considered for projects that have:</p> <ul style="list-style-type: none"> • Multiple solutions providing an opportunity for innovation • High impact to the public especially with regard to traffic control • Other unique or unusual conditions or the need for specialty skills for the project’s design and construction <p>In contrast, the traditional <u>DBB</u> approach is often the most viable for typical construction projects, especially those that are:</p> <ul style="list-style-type: none"> • Fairly routine • Constrained in some manner that reduces the opportunity for innovation
Entity Making the Delivery Decision	Not discussed

DB Project Development	
Project Development Activities	<ul style="list-style-type: none"> • Project team finalizes project goals, subject to the approval of district and central office executive leadership • Goals are prioritized to provide a basis for tradeoff decisions during preparation of solicitation documents, development of selection criteria, etc.
Use of Performance Requirements	<ul style="list-style-type: none"> • Focus on the desired end result to provide the greatest opportunity for flexibility and innovation, which increases the likelihood the project will be delivered within the available funds and timeline
Lessons Learned	Balance standardization of processes with flexibility given to the Project Director

Procurement Process	
Delivery Options	<ul style="list-style-type: none"> • Two-Phase Best Value • Two-Phase Fixed Price-Best Design <ul style="list-style-type: none"> - Used on the New I-64 project - Delivering the project for a fixed price of \$410 million was stipulated as being the #1 project goal - Proposers submitted a Price Allocation form that the DOT evaluated on a pass/fail basis for reasonableness of allocation of prices to the WBS elements
Procurement Steps	<ol style="list-style-type: none"> 1. RFQ issued (Phase 1) 2. Industry meeting (may be one-on-one) 3. SOQs scored by an Executive Selection Committee in accordance with the SOQ Evaluation Document prepared for the project 4. Short-list of 2 to 5 teams is established and presented to the Project Director <ul style="list-style-type: none"> - shortlist is limited to a maximum of 5 by statute - statute also requires re-advertisement of projects that fail to receive at least two responsive submissions from qualified proposers 5. Release of draft RFP (optional – used on very large projects or those with atypical risk profiles) 6. RFP released to short-list (Phase 2) 7. One-on-one confidential meetings with shortlisted firms 8. Proposal evaluation
Selection Method	Weighted criteria (project teams establish weights based on goals established for the project)
Bundling DB Projects	<p>MoDOT has successfully bundled small bridge projects (e.g., Safe and Sound)</p> <ul style="list-style-type: none"> • Accelerated overall delivery – any one of the projects would have been too small to let on its own • Efficiencies achieved in maintenance of traffic

<p>Use of Alternative Technical Concepts (ATC)</p>	<p>MoDOT uses three types of ATCs:</p> <p><i>Standard ATCs</i></p> <ul style="list-style-type: none"> • Most, if not all, project aspects are open to the ATC process • DB Teams provide confidential feedback on design concepts through a 2-tier approval process • The initial step entails submitting Conceptual ATCs (CATC) for the agency’s review on a pass/fail basis • If the CATC receives a pass decision, the DB Team may choose to develop the concept further for final approval • For final ATC submittal, the DB Team must submit the original approved CATC and enough supportive documentation for MoDOT to evaluate whether or not (1) the ATC meets all appropriate contract requirements, (2) all potential impacts have been considered and are acceptable, (3) the resulting benefit/cost ratio is acceptable <p><i>Specific Item ATCs</i></p> <ul style="list-style-type: none"> • ATCs applied to less complex projects with unique circumstances or to projects with specific area or work feature limitations addressable by multiple solutions • Generally more restrictive of what scope elements can be altered than the Standard ATC process • The review and approval process itself is similar to that used for the Standard ATC <p><i>Pre-Approved Alternative Design ATCs</i></p> <ul style="list-style-type: none"> • Proposal to use an alternative design (instead of that shown on the contract plans) that is developed using an established and accepted design method • Consideration of such ATCs will generally be expressly allowed under the applicable job special provision <p>MoDOT also allows proposers to submit for consideration <i>Additional Applicable Standards</i> (AAS) – manuals, specifications, standards etc. that have already been reviewed by the FHWA (e.g., standards from other DOTs) that the DB Team proposes to use instead of the standard MoDOT design</p> <ul style="list-style-type: none"> • DB Team must provide justification as to why the AAS should be used and the benefits of the AAS versus the standard design • MoDOT has seen great innovation through this process • Some AAS have become MoDOT standards
<p>Stipends</p>	<ul style="list-style-type: none"> • Because MoDOT leaves much of the design open, willing to pay a higher stipend (generally ranges from 0.2 to 0.6%) • Because the ideas of unsuccessful proposers can subsequently be used by MoDOT, they see a value to paying stipends to a long short-list
<p>Other Comments</p>	<ul style="list-style-type: none"> • Release of draft solicitation comments for industry comment <ul style="list-style-type: none"> - On the I-64 project, provided the opportunity for industry to comment on the RFP before letting the project - Would use this approach again in the future, particularly for complex projects • Evaluation criteria: <ul style="list-style-type: none"> - Should be deliberately crafted to allow for differentiation among proposers - Should not only define how the proposals are going to be evaluated but also provide insight about the relative importance of various elements and the project goals

Risk Allocation	
Risk Management Philosophy	<ul style="list-style-type: none"> • In-depth risk assessment is conducted to ensure that risks are appropriately allocated, with the understanding that risk = \$ • Need to understand as an organization what you do well and what industry does well
Differing Site Conditions	<ul style="list-style-type: none"> • Contractor bears the burden of proving that a DSC exists and that it could not reasonably have worked around the DSC so as to avoid additional cost • Change order requests relating to a DSC must: <ul style="list-style-type: none"> - Identify all relevant assumptions made by the Contractor with respect to the condition of the Site - Justify the basis for such assumptions - Explain how the existing conditions are eligible for a Change Order under the terms of the contract - State the efforts undertaken by the Contractor to find alternative design or construction solutions to eliminate or minimize the problem and the associated costs
Permitting	<ul style="list-style-type: none"> • Strive to have an EIS in place before best-value selection <ul style="list-style-type: none"> - Want to give DB Teams a clear footprint - Proposers can open it up from there
Utilities	<p>Have used a utility reserve account</p> <ul style="list-style-type: none"> • Defined how much money MoDOT had set aside for utility relocation work • If the DB Team came in under that amount, they could take the savings
Right-of-Way	<p>Usually handled by MoDOT, but have put ROW acquisition on the DB Team for one project</p> <ul style="list-style-type: none"> • DB Team identified what was needed and included acquisition costs in their bid
Third Parties	

DB Contract Administration	
Design Oversight	<p>DB Teams informs MoDOT when they would like a review</p> <p>MoDOT also audits the Designer on a periodic basis to ensure the Design Quality Management Plan is being implemented</p>
Construction Oversight and Quality Management	<ul style="list-style-type: none"> • Contractor is responsible for developing and implementing a Construction Quality Management Plan • MoDOT uses an audit approach to assess the Contractor's performance <ul style="list-style-type: none"> - Focus of audits is on items with greater perceived risk based on engineering judgment (i.e., items and activities that often fail to meet specifications or that have greater consequences of failure are audited more intensely) • MoDOT also performs verification testing and independent assurance <ul style="list-style-type: none"> - Quantities necessary for sampling and testing frequencies are tracked by the Contractor and reported monthly - MoDOT generally holds weekly Risk Assessment Meetings to ensure that all minimum frequencies are being met and to help determine if any work items require additional testing and oversight - Quarterly meetings are held between all parties to review the quality program, ensure minimum sampling and testing frequencies are being met, and that all material is being properly accepted in accordance with the Contractor's Quality Management Plan • MoDOT monitors DBE goals; can apply liquidated damages if DB Team doesn't meet goal

Payment	<ul style="list-style-type: none"> • Progress payments are to be based on an estimate of the physical percent complete of the work, not on measured quantities • No real standard process with regard to reviewing invoices • Traditional quality adjustments are not used <ul style="list-style-type: none"> - Contractor proposes and commits to quality targets - If targets are not achieved, can resort to DBB tools (price adjustments based on percent within limits) or remedial action (e.g., diamond grinding) • Fuel adjustments are not used
Best Practices and/or Lessons Learned	<ul style="list-style-type: none"> • Need to standardize best practices and lessons learned • MoDOT is currently experimenting with DOT staff taking QA responsibility back over based on industry feedback that quality may be better managed by the owner • Have had great success with co-location; co-location of MoDOT staff with contractor and consultant staff allows for easier collaboration and problem solving throughout the project and facilitates partnering • Partnering charters and processes help achieve successful projects

Performance Outcomes	
Tracking of Metrics	Trying to analyze DB performance now
Success Factors	<p><i>Primary Success Factors</i></p> <ul style="list-style-type: none"> • Interaction of the DB Team • Equitable risk allocation • Communication and coordination (co-location has been very successful) • Use of performance specifications • ATCs (opportunity for innovation) <p><i>Secondary Success Factors</i></p> <ul style="list-style-type: none"> • DB Team qualifications (rated lower because the learning curve is not insurmountable)