

MDT/MCA Meeting Summary Montana Department of Transportation Commission Chambers

Date: April 25, 2022, 10:30 am to 12:00 pm

Subject: CM/GC Alternative Delivery Process
Program Modifications & Benefits Received

Following is the meeting discussion summary. Attendees of the meeting included:

David Smith, MCA (remote)
Tony Ewalt, Sletten
Bob Warren, Schillinger (remote)
Cale Fisher, Riverside (remote)
Allan Frankl, DAC (remote)
Mack Long, MDT
Dwane Kailey, MDT
Jake Goettle, MDT
Carol Grell Morris, MDT
Dustin Rouse, MDT
Ryan Dahlke, MDT
Darin Reynolds, MDT
John Pavsek, MDT

- Two MDT white papers distributed via Email and handed out. One paper summarized the CM/GC program status, lessons learned, and proposed modifications. The second paper addressed MDT's proposed Progressive Design Build (PDB) process. Copies are attached.
- Jake opened meeting with meeting goals to
 1. Summarize the March 25, 2022, meeting with MCA,
 2. Discuss the CM/GC program lessons learned and proposed modifications (Attachment A),
 3. Discuss a proposed new alternative delivery process – PDB (Attachment B), and
 4. Solicit MCA support for MDT's proposed CM/GC and PDB programs. MDT plans to request the 2023 Legislature approve four new pilot projects (sunset in 2030) and implementation of Progressive Design Build as a new alternative contracting delivery tool.

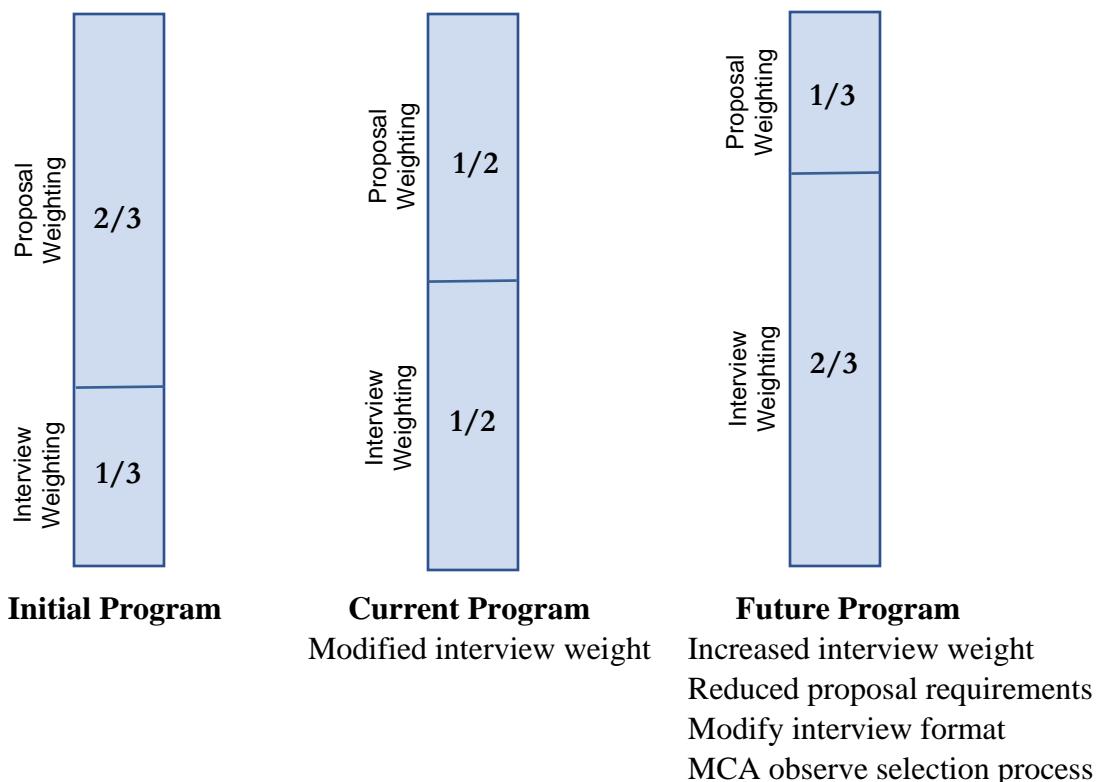
CM/GC White Paper Review:

- MDT discussed the progression of the CM/GC selection process beginning with the 1st pilot project (Trout Creek) thru the 4th project (MT 200 Bridge Bundling).
- Provided that the 2023 Legislature approves four additional pilot projects, MDT has committed to increase the weight of the interview and reduce the written proposal requirements.
- The future pilot projects interview format would be changed to remove the canned questions and allow contractors to prepare their own presentation; 15-to-20-minute presentation followed by open Q&A between MDT and the CM/GC team.
- MDT offered for MCA's consideration the ability for an MCA member to observe MDT technical

review process.

- MCA members expressed concerns that the current request for proposals (written document) requires considerable time and expense. MDT has looked at the RFP requirements and will provide MCA with proposed changes. MDT has reviewed the current requirements and has developed RFQ and RFP modifications that would reduce approximately 60-percent of the Contractor's proposal effort (Reference Attachment C)
- Discussion about reducing/eliminating consideration of past CMGC project experience. MCA really appreciated this approach.

CM/GC PROGRAM MODIFICATION SUMMARY



- MDT outlined the process for reviewing and approving the CM/GC final construction price. The approach to price requires that all contractors, both in-state and out-of-state, approach the project using available local labor, materials, and equipment. The independent cost estimator researches the regional construction market to establish their blind estimate. The contractor's bid must be within 10-percent of the ICE estimate.
- MDT reviewed the benefits of having contractor's input to the four CM/GC projects; design enhancements and efficiencies have resulted to date in a 10-percent reduction in scope and cost.
- MDT suggested that we only prequalify the top 3 CM/GC teams. If the 4 and 5th placed teams score close to the third-place team, MDT could potentially prequalify these teams.

- MCA indicated they appreciate the changes proposed with a future CM/GC pilot program extension at the 2023 Legislature. The general consensus at the meeting is there is support for the program extension.

Progressive Design Build White Paper Review:

- The Progressive Design Build (PDB) program is being proposed to the 2023 Legislature. MDT reviewed the benefits and challenges of PDB.
- PDB would fit a variety of future projects of medium to high complexity. Projects that provide opportunity for innovation and value-added concepts are good candidates for PDB
- One of the overwhelming benefits of PDB (and CM/GC) is that risk to the contractors, engineers, and MDT is reduced and/or mitigated in the design process.
- MCA members expressed support of PDB; the process would fit well with local contractor and consultant strengths.

ACTION ITEMS:

1. MDT will prepare a summary of proposed CM/GC SOQ and RFP changes (Attachment C herein),
2. MCA will consider conducting a meeting with their membership on these two programs. MDT offered to assist if requested.

To: Jake Goettle, Construction Engineer
From: John Pavsek, MDT Alternative Contracting Section Supervisor
Date: April 25, 2022
Subject: CM/GC Alternative Delivery Process
Program Modifications & Benefits Received

PURPOSE

The purpose of this memo is to provide MCA membership with a brief summary of MDT's CM/GC pilot program. Included herein is a summary of changes made to the procurement process through the four-project pilot program. The memo summarizes benefits of the CM/GC delivery process resulting from contractor input into the design phase.

CM/GC SELECTION CRITERIA

Original CM/GC Program Requirements – Following are the key components of the written proposal and interview procedures:

- Current legislation requires a two-part selection: 1) Request for Qualifications, 2) Request for Proposals/Bids. Past CM/GC experience is not being considered as part of the final CM selection process.
- The written technical proposal requirements had a 20-page limit that included sections on proposed team qualifications, approach to collaboration, and proposed innovations.
- In accordance with the MDT CM/GC Guidance document developed in 2018, the best-value selection process included two primary elements, and their weighting are listed as follows:
 - Technical Proposal = 80%
 - Price Component = 20%

The first pilot project weighted the written technical proposal at 66% and the interview at 33% of the overall Technical Proposal score.

- In the interview, MDT provided three questions when the Contractors arrived. They had 15-minutes to review the questions and develop how they would respond. The Contractors have an hour to address the three questions. Note that this format did not promote an open dialog discussion.

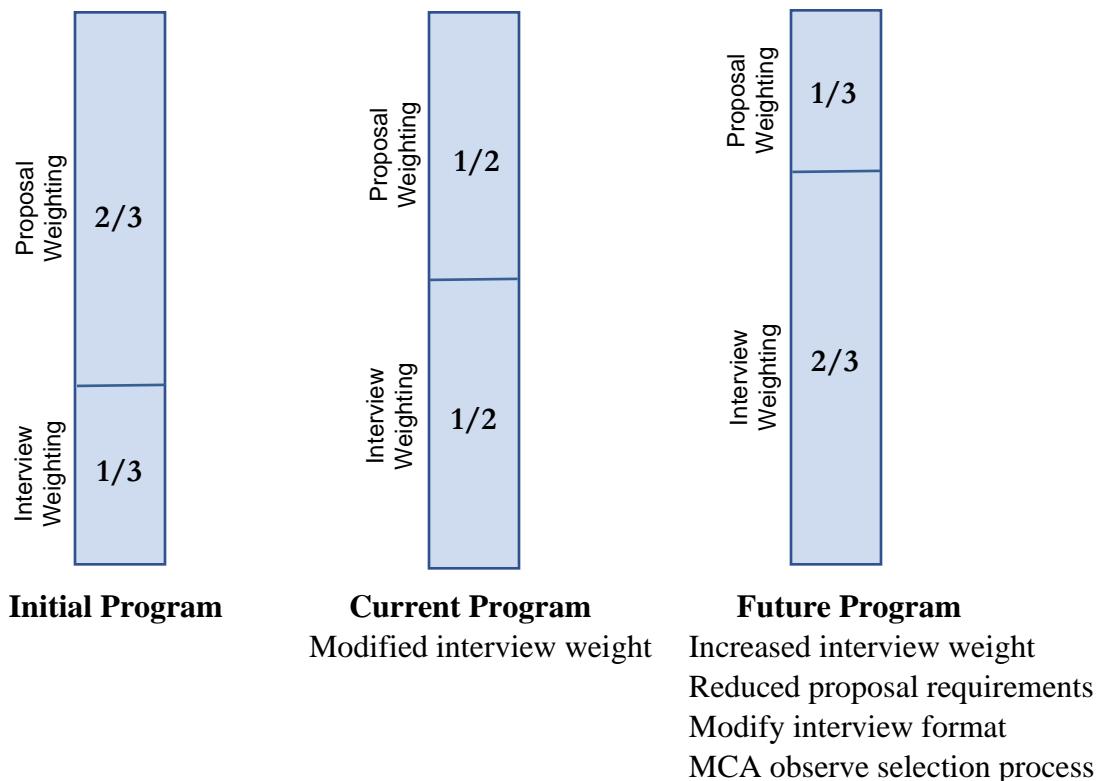
Progression of Program Modifications

- *Modified interview weighting* - In response to input from MCA representatives following the first pilot, for future projects, the interview weighting was increased to match the written proposal weighting (50-50). This scoring criteria was implemented for the 2nd, 3rd, and final CM/GC pilot project selection.
- *Commitment to future interview weighting* - At the March 15, 2022 meeting with MCA membership, for future CM/GC pilot projects, MDT has committed to further modifying the

Technical Proposal phase to decrease the written proposal weight to 33% and increase the interview weighting to 66%. Future interview requirements will do away with the three canned questions and allow an open discussion venue. Contractors will be allowed a 15–20-minute presentation followed by 45-minutes of open discussion between MDT reviewers and the Contractor team members.

- *Reduced written proposal requirements* - The effort to produce the future written technical proposal can be streamlined to a 12-page document. MDT will reduce the content requirements that should result in an approximate 50% reduction on effort. More credit will be given to project knowledge, and how the Contractors propose to collaborate with MDT and the design engineers during the design.
- *MCA observation of selection process* – In order to promote selection process transparency to MCA membership, consider including an unbiased representative from MCA executive board or membership in the proposal and interview review process.

CM/GC PROGRAM MODIFICATION SUMMARY



CONSTRUCTION COST DEVELOPMENT PROCESS

In the CM/GC process, an independent cost estimator (ICE) is hired by MDT to provide production-based estimates and schedules. The role of the ICE is to ensure that the contractor's bid prices are competitive and that the construction schedule illustrates logical construction phasing and is performed as efficiently as possible. Following is a summary of the key services that the ICE is responsible for:

- *Approach to Price* - The ICE and contractor review and agree on the cost estimate organization and approach to break-down of construction items.
- *Regional Construction Market* – The contractors pricing must be fair market value consistent with similar projects in Montana. In accordance with the RFP and CM/GC Guidance Document, the contractor is required to price the project as if they are mobilizing their staff, equipment, and materials from local sources.
- *Construction Schedule Development* – Under the terms of the contract, the ICE prepares an independent production-based schedule to be compared with the contractor's construction schedule.
- *Competitive Pricing Approach* – The ICE estimate is compared with the Contractor's cost proposal and Engineer's Estimate to determine if the agreed upon Guaranteed Maximum Price (GMP) or Early Work Package GMP amounts are fair and reasonable.
- *Estimate Reconciliation* - The CM/GC process compares the contractor's estimate with the ICE and engineer's estimate. The ICE reviews all construction work items with the contractor and MDT to determine the reasonableness of the GMP.

MDT's Guidance document states that the contractor's GMP must be within 10% of the ICE estimate. Nationally, the best-practice goal is that the ICE and contractor estimates are within 4%.

SUMMARY OF PROGRAM BENEFITS

Since the initiation of the CM/GC pilot program, one project has been completed (Trout Creek Bridge), two projects are nearing design completion (Salmon Lake Reconstruction and Johnson Lane Interchange), and the final pilot project (MT-200 Bridges) is just starting design. Following are documented benefits that MDT and taxpayers have received from the MDT/Engineer/Contractor collaboration efforts:

- Trout Creek (construction completed)
 - *Agency/Public participation effort reduced bridge closure time (6-weeks) by at least 50% compared with conventional approach (12-16 weeks). Equates to approximately \$2.5 million savings in reduced effort and user costs.*
 - *Construction means and method recommendations by the CM resulted in an additional \$850K savings.*
 - *At project completion, Contractor's final construction cost \$200K under GMP. The savings were risk based contingency items that were not encountered during construction.*
 - *Project team collaboration resulted in the design being completed in 18-months, which was over a year ahead of a traditional delivery schedule.*

- Salmon Lake (at 90-percent complete design)
 - *Contractor constructability review design recommendations to implement innovative rock catchment concepts will save \$180K.*
 - *Geotechnical analysis based on input from the Contractor will save \$800K on slope attenuator design.*
- Johnson Lane IC (approaching 90-percent complete design)
 - *Contractor constructability review input will save \$540K on reduction of the interchange footprint and reduction in bridge spans and length.*
 - *Contractor constructability review will save \$2.1M on maintaining the Interstate profile and lowering Johnson Lane profile.*
- MT 200 Bridge Bundling (approaching 30-percent complete design)
 - *Constructability reviews have resulted in structure type modifications, i.e., use of culverts in lieu of bridges. This process resulted in modifying 5 structures from bridges to culverts, resulting a \$4.0 M scope reduction savings.*

The approximate total CM/GC program savings based on reduced scope generated by the CM = \$9.2M. The total estimated cost of all four projects is approximately \$91.5M. Overall, MDT is realizing a 10% cost reduction associated with use of the CM/GC delivery.



MONTANA

Department of Transportation

ATTACHMENT B

Malcolm "Mack" Long, Director

2701 Prospect • PO Box 201001
Helena MT 59620-1001

To: Jake Goettle, Construction Engineer
From: John Pavsek, MDT Alternative Contracting Section Supervisor
Date: April 25, 2022
Subject: Progressive Design-Build Delivery Process
Benefits and Challenges

WHAT IS PROGRESSIVE DESIGN-BUILD?

Progressive Design-Build (PDB) is an emerging variation of the Design-Build (D-B) delivery process in the highway construction industry. It is currently being utilized by the following state DOTs: Arkansas, Utah, Colorado, Washington, Maryland, and California.

Project delivery research indicates that early contractor involvement consistently reaps benefits for the project owner by producing a more constructible design, which often translates into early cost and schedule certainty. PDB facilitates involvement of the D-B Team during the earliest stages of the project development. PDB promotes the greatest amount of collaboration between the three key players in a construction contract – the owner, the designer, and the contractor.

While a project's design is usually 30-percent complete (or more) by the time a design-builder is procured in the traditional D-B process, PDB incorporates the design-builder in the owner's team at the very beginning of the design phase. Under PDB, when the design is between 75 and 100 percent complete, the design-builder provides a price proposal to reach a Guaranteed Maximum Price (GMP) for constructing the project. MDT will incorporate an Independent Cost Estimator (ICE) to review and validate the design-builder's pricing.

Another major feature of PDB is that the design-builder is selected mostly on the team's qualifications. By state statute, Montana is required to include a price element in the selection process. Since there is minimal design to develop a bid price, MDT has the option to base the pricing comparison on the PDB team's construction markup, similar to the pricing component currently utilized in MDT's Construction Manager/General Contractor (CM/GC) selection process.

BEST-FIT PDB PROJECTS

PDB is suited for a variety of project types including:

- *Bridge bundling*
- *Stand-alone bridge reconstruction projects*
- *Urban reconstruction projects*
- *Unique safety projects, e.g., High tension barrier rail*
- *Slide mitigation/repair projects*
- *Road reconstruction projects with significant right-of-way and utility relocations*

PDB fits those projects that generally require extensive preliminary analysis (i.e., Phase 1) not required for simpler design-build projects. Conversely, on highly complex, controversial projects, the longer duration CM/GC delivery method is better suited to ensure stakeholder needs can be addressed.

PDB BENEFITS AND CHALLENGES

The following is a summary to the benefits, challenges, and risks that need to be considered when using the PDB alternative contracting delivery method:

Benefits:

- ***Reduced effort in project pursuit*** – PDB does not require a detailed design be developed by the DB Firms with the technical proposal. The PDB selection process would include a statement of qualifications to short-list teams. The short-listed design-build teams would prepare a brief technical proposal, interview, and price proposal. As noted herein, the price component utilizes the proposed construction markup.
- ***Local knowledge impacts selection*** – The PDB selection process will include an interview component. Contactors can demonstrate their familiarity with the site conditions, challenges, and understanding of MDT's goals to win the project during this interview.
- ***D-B team*** - The PDB process allows the contractor to select the engineer as an integral part of their team.
- ***Risk management*** – A key element of the PDB delivery process is the ability to carefully define project risks throughout the design phase and work together as a team to develop mitigation strategies. In traditional D-B, the majority of project risk is allocated to the contractor in developing a lump-sum price proposal to design and construct the project. With PDB, project risks are allocated to the party who is most capable of mitigating the risk. MDT has instituted a risk-management approach that estimates the cost of the risks and justification for incorporation of risk in the Guaranteed Maximum Price (GMP). Effective risk management during the preconstruction phase will result in fewer “surprises” during the construction phase. Fewer “surprises” will result in better cost certainty and reduced conflicts during construction.
- ***Undefined scope*** – PDB is a good delivery method for projects that do not have a well-defined scope. Bridge bundling projects are a good example as the structure type can vary based on hydraulic requirements, stock pass usage and wildlife connectivity needs. MDT and the PDB team have the ability to work together to define the final scope, with contractor risk all but eliminated under this scenario.
- ***Contractor/Engineer collaboration*** – PDB allows the contractor to tap into the collective experiences of the engineer. Similar to the traditional D-B process, engineering consultants have become very skilled at determining critical project challenges/risks and recommended solutions.
- ***Reduced change orders*** – Since the Contractor/Engineering team are involved from the start of the design and project risks are being actively mitigated through the design phase, the potential for change orders due to design deficiencies/errors is reduced with PDB.
- ***Improved owner/contractor collaboration*** - MDT functional managers and subject matter experts are heavily invested throughout the design phase. PDB provides MDT and the

contractor more control of the design. The PDB contractor/engineer are compensated for the effort necessary to deliver the design phase services.

- ***Cost certainty*** – Implementation of PDB delivery results in early cost certainty. MDT and the contractor have the ability to assess probable construction costs and determine if scope changes or budget adjustments are required.
- ***Overall project cost reduction*** – The project benefits from constructability reviews and contractor recommendations to reduce cost without compromising the design. Contractor input will produce efficient design solutions and reduced project costs.
- ***Early work packages*** – Contractor input is useful for identifying early work packages that have the potential to reduce overall project duration resulting in reduced potential for cost escalation.
- ***Reduced design submittals*** – Depending on the complexity of the project, frequency of design deliverables can be reduced with PDB. The assumed design period for PDB projects can range from 18 months to three years, which is significantly less than the standard D-B-B delivery process, which usually takes more than 4 years. Beginning construction earlier with PDB can eliminate escalation costs that would be realized if the project were delivered using D-B-B.

Challenges:

- ***Design-build team structure*** – In order for contractors to be successful in procuring PDB projects, the contractor must carefully select a qualified engineering consultant partner. A successful team includes a consultant who understands MDT's design delivery process, is familiar with their MDT counterparts, is experienced with the MDT D-B delivery program, and has the depth of resources to deliver large, complex projects.
- ***Selection based on team qualifications*** – Design-builders are selected based on their ability to work with MDT to develop efficient, cost-effective solutions. Solid performance with the written proposal and interview is vital to being successful with this delivery method.
- ***Cost competitiveness*** – Fair market, production-based estimating is implemented with the PDB process. In PDB, the owner retains an independent cost estimator to review the contractor pricing. The process includes steps to establish an approach to pricing, pricing of risk, estimate comparison and estimate reconciliation. The design-builder's final construction cost needs to be within 10% of the ICE's estimate. If MDT and the contractor cannot agree on a price, the contract can be terminated and MDT can put the project out to advertisement for D-B-B delivery.

ATTACHMENT C

POTENTIAL MODIFICATIONS TO REDUCE CM/GC STATEMENT OF QUALIFICATION & WRITTEN PROPOSAL REQUIREMENTS

1. SOQ

- a. Current requirements (10-page maximum):
 - o Section 1 - Staffing and Coordination Plan (4-page max, 40% weighted)
 - o Section 2 – CM/GC and/or Similar Experience (2-page max, 20% weighted)
 - Experience can be drawn off of projects the contractor was involved with issue resolution, design changes, constructability solutions, etc.
 - o Section 3 - Project Approach (4-page max, 40% weighted)

- b. Proposed Changes (6-page maximum):
 - o Section 1 - Staffing and Coordination Plan: *Maintain this section (Maintain 4-page maximum and increase the weight to 60% of prequalification). Include a statement that "Past CM/GC Experience is not Necessary". Credit will be given to "similar Experience" wherein the contractor was a key to issue mitigation or construction period design solutions.*
 - o Section 2 – CM/GC and/or Similar Experience: *Maintain this section (Maintain 2-page maximum and increase to 40% of prequalification weight)*
 - o Section 3 Project Approach – *Eliminate this section as it is not a necessary metric for selection of a qualified contractor.*

2. Technical Proposal

- a. Current requirements (20-page maximum):
 - o Section 1 - Project Team & Capacity of the Contractor (4-page max, 20% weighted)
 - o Section 2 - Strategic Project Approach, CM and GC Services (8-page max, 40% weighted)
 - Quality, collaboration procedures, constructability, risk management, anticipated project challenges, etc.
 - o Section 3 - Approach to CM/GC Project Delivery Process (6-page max, 30% weighted)
 - Collaboration, risk management, decision analysis.
 - o Section 4 - Project Innovations and Resources (2-page max, 10% weighted)
 - Innovative ideas, means and method improvements.

- b. Proposed Changes (12-page maximum):
 - o Section 1 - Project Team & Capacity of Contractor. *Carry over the score from the SOQ to eliminate contractor effort to recreate this section. (Increase weight to 30% of selection).*
 - o Section 2 - Strategic Project Approach, CM and GC Services. *Information in this section is relevant to CM selection. Modify this section to include some criteria from Section 3. (Maintain 8-page max count and increase weight to 50% of selection).*
 - o Section 3 - Approach to CM/GC Project Delivery Process. *Eliminate this section as it duplicates much of Section 2.*
 - o Section 4 - Project Innovations and Resources. *This section allows contractors to share their unique ideas. (Maintain 4-page max count and increase weight to 20% of selection).*

*** MDT will reduce the submittal requirements commensurate with the page reduction proposed above.

*** Future requests for proposals will be structured to discourage “flash” in the technical proposals.

*** The changes should result in an approximate 50-percent reduction in overall contractor pursuit cost. The reduced documents still provide enough information for the TRC/Selection Committee while not compromising the selection process.

*** Note that in the current Technical Proposal scoring process, the written proposal is weighted 50% and the interview is weighted 50%. Under the proposed selection proves, the written proposal would be weighted 33% and the interview scored at 66%.