COLORADO
Department of Transportation

DATE: 12/15/25

TO: Keith Stefanik, P.E. Chief Engineer

FROM: Jocelyn Higashide, PE, Region 1 Traffic & Safety Resident Engineer

SUBJECT: Alternative Project Delivery Method Recommendation for Chief Engineer Approval
Project: Region 1 Traffic & Safety Signal Replacement Project

As stated in the Project Delivery Selection Guidelines, Chief Engineer approval is required for a project to be delivered using any Alternative Delivery Method. Industry Review Meeting and Transportation Commission (TC) presentation review and approval are not required for this project due to the estimated cost of this project being estimated at roughly $20 million dollars. The required minimum cost for TC review is $75 million dollars.

On Tuesday, June 23, 2025, Region 1's Traffic and Safety Program held a Project Delivery Selection Matrix (PDSM) workshop facilitated by Casey Valentinelli, to analyze the potential benefits of using an Alternative Delivery Method to deliver a Traffic Signal Replacements project. Alternative Delivery allows for collaboration between the designer and contactor which helps reduce overall project delivery and construction time and duplicate work. The additional communication and feedback between all parties streamlines a more efficient project delivery and construction process.

Region 1 Signal Replacements Project includes the rebuilding of assorted signals prioritized by structural severity, operations, and safety improvement opportunities.

ANALYSIS:

Highlights from the PDSM

Project Complexity and Innovation

Through the Project Delivery Selection Matrix workshop, there were multiple areas identified for improvement with an alternative delivery process for a signal replacement package project. The Construction Manager / General Contractor (CM/GC) has input from construction and a contractor that would assist with phasing and field observations to improve the construction process of signal replacements for Region 1. For example, the ability to bring construction contractors in earlier in the project can help to avoid rework in the design afterward. One frequent case is having to create new one-line diagrams when conduit runs vary from the design due to unforeseen circumstances. Additionally, reducing the timeline for designing and building signals through earlier procurement of the materials at an earlier stage of design was a significant driving factor for pursuing alternative delivery. One specific obstacle identified with CM/GC for this project is that signal contractors could lack the alternative delivery experience as a prime, however, there are a few opportunities for the contractor to bring innovative ideas for the phasing of the design of the signals.

Design Bid Build is currently the standard process for signal replacement packages in Region 1. This is a comfortable process for "how it's always been done." Traditionally, when a complex problem comes up in the field (after the project has been fully designed and awarded), with Design Bid Build, the contractor must submit a request for information to the design engineer and then wait to hear the engineer's solution. In a CM/GC project, the solution is one that is worked towards congruently, inspiring teamwork and collaboration.

Project Cost

In CM/GC, the Contractor is involved during the design phase, which allows them to provide constructability reviews, cost estimates, possible design innovations, and schedule input with fewer to no change orders. Collaboration during design and shared risks help to minimize possible cost increases and unforeseen CMOs. This method does not handle scope creep well, and cost certainty comes once the final package is decided on.

Design Bid Build allows for minimal scope changes after AD through change orders, which can be costly and directly impact the construction schedule.

No significant benefit to cost was found for the Design-Build alternative, as signal and safety money are not fiscally constrained by a timeline, like a grant. This alternative would benefit from a scope that might expand significantly, but this risk is seen as low for a signal rebuild project.

Level of Design

Design and construction phases can overlap during a CM/GC project delivery method, allowing parts of the project to start construction before the entire design is completed. Close coordination between CDOT, the designer, and the contractor improves decision making, especially in urban environments with multiple stakeholders. We did not have any obstacles for the level of design.

Design Bid Build doesn't allow contractor collaboration for construction or phasing.

Risk Assessment

CM/GC includes collaboration between the Contractor and CDOT with identifying risks to the project. A risk register allocates and shares the risk between the Contractor and CDOT for unknown items that could occur in the field. This is a benefit for the signal replacement project, as most unknowns could be evaluated during design with pre-determined decisions for how to handle unplanned design. No obstacles for the risk assessment were identified.

Design-Bid-Build delivery has CDOT carrying all the risk for unforeseen circumstances.

Design Build could be more difficult for a signal contractor to hold the majority of the risk.

Secondary Factor Assessment

Region 1 Traffic staff have years of experience following the standard Design Bid Build process. With CM/GC, the design process would be similar, following the standard project delivery milestones, but including review and input from a contractor and construction management team. The design phase and construction management will be similar to what the project members are currently used to designing and building a signal replacement project. Project staff does not currently have experience with CM/GC, so there will be a bit of a learning curve in some aspects of the process. The team does, however, have experience with specific elements related to the alternative delivery process.

The level of oversight and control will have dedicated team members from both design and construction to review design, control the means and methods of construction, while collaborating with the different members of the signal replacement project. The knowledge of how to build signals is all under the Traffic Program, allowing collaboration to be easier between design and construction groups for a CM/GC delivery method. Design Build has limited opportunities for design innovation due to design standards and specific equipment requirements for this project.

Alternative delivery methods could include a learning curve for smaller signal contractors to learn a new process for designing and building a signal project. However, CDOT can benefit with Contractor qualifications selection for the building and installation of the signals, like having contractors that are International Municipal Signal Association (IMSA) certified, which is generally not verified until after the Award.

RECOMMENDATION:

Based upon the findings of the Project Delivery Selection Matrix Workshop summarized above, and in consultation with the CDOT Alternative Delivery Program, it is recommended that the most appropriate delivery method for this project is **CM/GC.** This would be the first Alternative Delivery method to deliver a signal replacement project within Region 1 Traffic.

Overall, collaboration between the Contractor and CDOT will expedite the general timeline for design and construction of a signal rebuild project. With a design consultant and construction staff, the opportunity to improve the process through risk assessment and reducing chances for field changes offers innovation with constructability opportunities.

The Project Management Team is requesting concurrence and approval to proceed with our recommendation to use **CM/GC** to deliver the Signal Replacements Project.

ATTACHMENTS:

- Completed Project Delivery Selection Matrix

Signed

Digitally signed by Jocelyn Higashide
Reason: I am approving this document
Date: 2025.12.15 17:30:18-07'00'

Jocelyn Higashide, PE

Traffic & Safety Resident Engineer

I concur:

Digitally signed by Jessica Myklebust
Date: 2025.12.29 13:07:08 -07'00'

Jessica Myklebust
Region 1 Transportation Director

I concur:

Casey Valentinelli

Digitally signed by Casey Valentinelli
Date: 2026.02.10 14:03:32 -07'00'

Casey Valentinelli, P.E.
Alternative Delivery Program Manager

COLORADO
Department of Transportation

I approve:

Digitally signed by Keith J Stefanik
Date: 2026.02.11 06:51:29 -07'00'

Keith Stefanik, P.E.
Chief Engineer

Cc: Angie Drumm, Region 1 Deputy Director of Traffic and Safety
Alazar Tesfaye, PE, PTOE, Program Engineer
Brad Wood, PE, Resident Engineer
Sara Constantine, Project Manager
Bill Schiebel, FHWA Area Engineer