

Innovation Profile: Construction Manager/General Contractor Method

Using Innovative Finance Techniques to Support Transportation Projects in the Pawnee Nation



In 2018, the Pawnee Nation pursued the CM/GC method to improve current planning and project delivery methods. Using CM/GC, agencies are able to package the planning, design, and construction of eligible infrastructure projects together under a single contract to accelerate project delivery while reducing project cost. This method enables agencies to reduce risk, improve design quality, control project cost, and optimize construction schedules to deliver a number of quality projects simultaneously.

The Pawnee Nation used the CM/GC method to bundle 13 projects and various funding sources under a single contract. Without this method, each of the proposed projects may have been managed individually, which had the potential to delay project delivery and increase overall costs. The 13 projects, with an estimated total cost of \$6.1 million, include the repair, restoration, and new construction of roads, bridges, and horizontal and vertical infrastructure.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) authorizes Tribal, State and local agencies to use the **Construction Manager/General Contractor (CM/GC)** project delivery method to advance transportation projects. The CM/GC method is an alternative contracting method to design-bid-build or design-build projects.

Program Highlights

- Agencies can consider the CM/GC method for complex projects that require innovation or “out of the box” thinking. Via this method, agencies can use the expertise of the general contractor for feedback on complex projects with challenging schedules, that require new or multiple funding techniques, involve third parties such as utilities, or face other constraints.
- This is only the third time a Tribal government has used the CM/GC method. The Pawnee Nation learned of CM/GC from a Federal Highway Administration (FHWA) event where the Pueblo of Acoma shared their success in utilizing CM/GC. The CM/GC method was featured in Round II of the Every day Counts (EDC) program, a Federal State-based model that identifies and deploys proven, yet underutilized innovations to shorten the project delivery process, enhance roadway safety, reduce traffic congestion, and/or integrate automation.

Project Financing

With the passage of the CM/GC resolution, the Pawnee Nation added language about CM/GC to new and existing planning documents, including their Long Range Transportation Plan (LRTP). By prioritizing this method in the planning phase of projects, the Pawnee Nation was able to implement it immediately upon approval of the suite of 13 transportation and safety projects. They identified projects in their Transportation Improvement Program (TIP) that would work well under CM/GC, also using results from a community survey to help prioritize projects. Project funds included a combination of Federal (U.S. Department of Transportation and Department of Housing and Urban Development) and Tribal funds, and included grant awards such as a 2020 \$500,000 Accelerated Innovation Deployment (AID) Demonstration grant, specifically awarded to the Pawnee Nation to employ the CM/GC process. They have a direct agreement with FHWA and receives funds from the FHWA Tribal Transportation Program (TTP).



In 2018, the Pawnee Nation issued a call for a general contractor for a series of improvements to a high traffic intersection called the 1st Street Safety Project. The project consisted of safety improvements, realignment, and surfacing of 1st Street and across the State Highway 18 (SH18)/U.S. Route 64 (US64) intersection; introduction of sustainable elements like storm water drainage; and other safety elements including improvements to grading, intersection eliminations, Light Emitting Diode (LED) roadway lights, pedestrian on-demand crossing signals, and sidewalks from the Pawnee Nation Housing Authority across SH18/US64 into the Pawnee Nation Complex. This project required partnerships with multiple project stakeholders, including the City of Pawnee and the local school board. Absent a local planning organization, they worked directly with the mayor and school board to make final project decisions. In addition, due to the project falling under the CM/GC contract, Pawnee Nation was able to add an independent cost estimator (ICE) to the team, which helped in justifying the realistic cost of the project.



Figure 1: New Intersection of 1st street at State Highway 18/U.S. Route 64. Image courtesy of Pawnee Nation of Oklahoma.

Introducing the CM/GC method into consideration during the planning phase can help agencies employ new innovative practices to advance project delivery and construction. The earlier these options are considered in the process, the more options an agency may have for design, funding, and construction of a project. For example, by bundling a campground improvement project with construction of a new pedestrian bridge under CM/GC, the Pawnee Nation had more ownership of the projects and was able to identify resources outside of the norm. This flexibility enabled them to choose a company that was able to construct their pedestrian bridge in a single day, instead of going through a complex engineering and construction process, thereby saving project time and budget.

Challenges and Lessons Learned

- **Agencies can identify potential projects for CM/GC during early in the planning phase.** By identifying projects that may be good candidates for a CM/GC contracting method during the planning phase, agencies can potentially help foster innovation, allow flexibility, and optimize schedules during the design and construction phases. Working with a general contractor from the beginning of a project may help agencies proactively identify project risk and decrease the likelihood of costly change orders.
- **Agencies can consider bundling projects under the CM/GC method to decrease project costs and accelerate project delivery.** Even in organized, long-term planning, projects are often planned and constructed individually with multiple project teams. The CM/GC method enables agencies to potentially bundle projects together under one delivery team and create reliability from design through to construction. It is a tool planners can use to foster innovation, reduce risk, improve design quality and cost control, and optimize construction schedules through streamlined project management and delivery.
- **The CM/GC method gives agencies access to the expertise of experienced contractors and can help introduce new and innovative ideas into existing processes.** Including a CM from the beginning of a project can help create a reliable relationship between agencies and the CM/GC team. A reliable relationship and regular communication between planners and the CM can encourage flexible and innovative project delivery methods and potentially stretch available funding due to decreased project timelines. A good relationship may also enable agencies to react quickly when encountering a time or budget constraint, and adjust projects accordingly.

