Team debriefing comments on Riverdale Road

Public involvement

- Contractor helped to set public expectations
- Contractor involvement with the public enabled coordination in construction that helped with construction efforts while preserving the interests of the public.
- CMGC allows the contractor to be selected early enough to get them more involved in public meetings and commitments.
- Contractor is better able to plan how to meet the public's needs

Design

- Started in late June. The real design began in early September and ended in early May or about 8 months. The design team put in a lot of overtime
- Measurements and Payments was a lot of time and work
- There was not sufficient time for review of design documents on early construction packages
- The design was more challenging than I-15 NOW due to the complexity of the urban design, the compressed schedule, preparation of the GMP package and two biddable early contracts, and the contracts needed to be structured and formatted as bid-build. This is extra work above and beyond what Design Build requires.
- Contractor understands the intent of the design
- Contractor buys into the design and gains a sense of ownership
- Having the contractor in the design helped the designers know how construction would occur and helped the designer prioritize his work to include the sequence of utility and Right of Way work.
- The team was very capable and proactive with regard to utility and Right of Way work. This was essential to meeting a tight schedule

Bid items in selection process

- Items used in the selection process change by the time we got to negotiations and were no longer valid.
- The cost model approach used in later CMGC projects is a better way to evaluate project costs (Granite)
- The early delivery of the project saved the time value of funding for one year.

Utilities

- Because the schedule was compressed we paid a higher cost

- Utilities are a nightmare for construction in DB, but can be more effectively coordinated in CMGC.
- Contractor and Designer worked together to avoid utility conflicts
- Partnering with utility companies occurred. They did their utility upgrades while we did construction. They took advantage of our traffic control
- The contractor's attitude toward Utility companies was key to our success.

Right of Way

- The flexibility of the CMGC process helped with Right of Way issues by prioritizing parcels based on how the project would be built, coordinating access concerns with property owners, and coordinating the restorative work on the properties such as signing, landscaping, and paving.

Change Orders

- There were 5% change orders compared to 12% on traditional projects
- Most of the change orders were anticipated and planned for. The contract set up contingent items to cover these potential risks, such as replacing unsuitable subgrade. The amount of unsuitable subgrade we encountered surprised everyone and accounted for 3% of the total 5%.
- When the team identified the project risks, UDOT elected to carry much of the risk and cost for unknown items. This way UDOT did not have to pay for what was not needed. We only paid for what occurred.

Obstacles unique to Riverdale

- We designed for the whole project and then due to limited funds we only constructed 1/3 the project

Contractor suggestions implemented

- Thin up the pavement section to stay out of the utilities
- Avoid the old roadway
- Avoid a Questar relocation
- The team had to do a lot of redesign. The team preferred to redesign instead of rework during construction.

Construction

- Latitude in subcontractor selection enabled quality work to complete on schedule and allowed the selection of quality subcontractors.
- The contractors abilities covered our own weaknesses and contributed to our success in design and construction

Summary Comments

In any project we are always concerned about cost, schedule, and quality. We want cost and schedule minimized and quality maximized but when we focus on one of these concerns we compromise the other two. There will be a first, second, and third priority weather we admit it or not. Quality includes our impact on the public and our responsiveness to their needs as well as the characteristics of the roadway and structures. If we put a high priority on quality and hold to a tight schedule then cost will rise. CMGC gives us a delivery method that provides flexibility in responding to the priorities of cost, schedule, and quality.

CMGC was chosen as the delivery method for Riverdale road over Design Build because of the need for speed and to manage risk. CMGC gave us the flexibility to deal with risk in real time. Not everything had to be known before we began. In addition the contractor was able to meet the public early and become committed to the publics needs, the project goals, and the design. The contractor was able to adjust the construction approach because he was not tethered to a hard bid price. In a traditional approach the contractor will resist any change the public needs that is not captured in the initial proposal.

When a project is hard bid we loose flexibility. We have to know the public's expectations and capture them in the design and RFP before the project is bid. Any errors in our understanding of the public's needs or any changes to those needs can and will affect cost. In a hard bid contract the contractor has a production schedule to meet to stay on schedule and stay profitable. CMGC enables flexibility because we do not have to know everything going into the project and we can change our approach to accommodate the public. We know this flexibility has a cost but we balance the cost against quality and public satisfaction. In doing this we avoid costly change orders. Riverdale had 5% change orders as opposed to 12% change orders on traditional complex urban projects. In addition almost all of these change orders were anticipated and planed for.

If we want the absolute lowest price we must capture absolutely the public needs in our design and approach to the project. If all risks are known and understood and all public concerns are known and understood then the traditional approach will provide the lowest cost; however, CMGC can also be executed in a traditional mode and provide the best cost. But if risk cannot be reduced or eliminated and we are constructing in a publicly sensitive location CMGC is the best approach because it provides us the flexibility to respond to uncertainty.