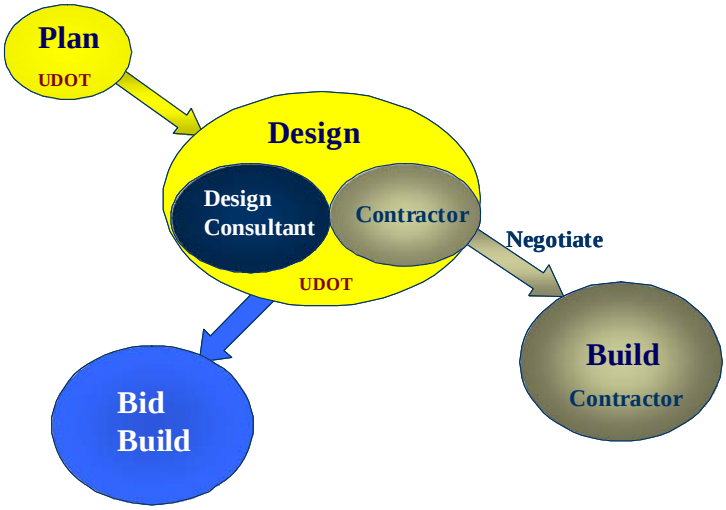
Benefits of Contract Manager/ General Contractor (CMGC)

CMGC or Construction Manager General Contractor is a modified Design Build process in which the owner holds the contract for both the design consultant and the contractor. There is an option to go Bid Build at the end of design if the negotiated price is not acceptable to the owner. This puts the owner in charge of project decisions and keeps the cost savings with the owner. The chief benefits of this process are speed of delivery, reduced risk, and flexibility.

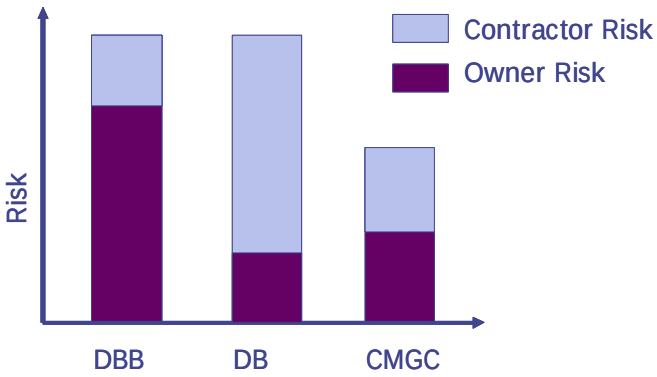


Comparing CMGC projects to Traditional projects shows timesavings in four primary areas. CMGC is able to begin the project earlier, the design takes less time, the construction takes less time and overlapping design and construction reduces project time.

We are able to begin the project earlier because we do not need a design to advertise and the selection process is simpler. A typical RFP for a Design Build process is over 500 pages and averages 250 days. A typical RFP for CMGC is 30 pages and can be shorted to less than 90 days. It is possible to start the RFP development during the environmental process and reduce the selection time to about 70 days. Using this process we are also able to purchase select items early. Items like steal girders have a long lead-time and the cost frequently increases over time. With these benefits many CMGC projects have been able to save a construction season and reduce inflation costs because they could get started early.

Some projects report a cost savings of 40% in design cost for a 25% or more reduction in time. This savings is attributed to the improved communication that occurs between the contractor and the designer in the design process. The contractor helps to select constructible solutions that save the designer time in analyzing alternatives. This communication also reduces the level of detail required for traditional design packages. In addition design flaws or deficiencies, are discovered through a continuous peer review process that reduces total design effort.

Involving the contractor in design reduces risk and improves constructability. Contractors are encouraged to identify, track, and eliminate risk. If there is something unknown the project



manager will task the contractor to investigate and resolve the risk or at least be better prepared to meet a risk that has become an event.

The designer is also able to tailor the design to the contractor's capabilities and the contractor has time during the design process to better plan his approach to construction and remove design options that effect constructability. Utility risks in particular are minimized because the contractor is on board to schedule utility work and create a more effective construction sequencing and schedule. Some project managers see a 20% savings in construction time.

Project time is not only shortened by reduced design time and construction time but also by the overlapping of construction and design. Projects are able to order long lead items to reduce or eliminate wait time. In addition early demolition work, utility work, site preparation, mobilization, etc, can occur before full construction begins. This represents another 20% savings in project duration and when combined with other savings may result in a 30% timesaving to the overall project time.

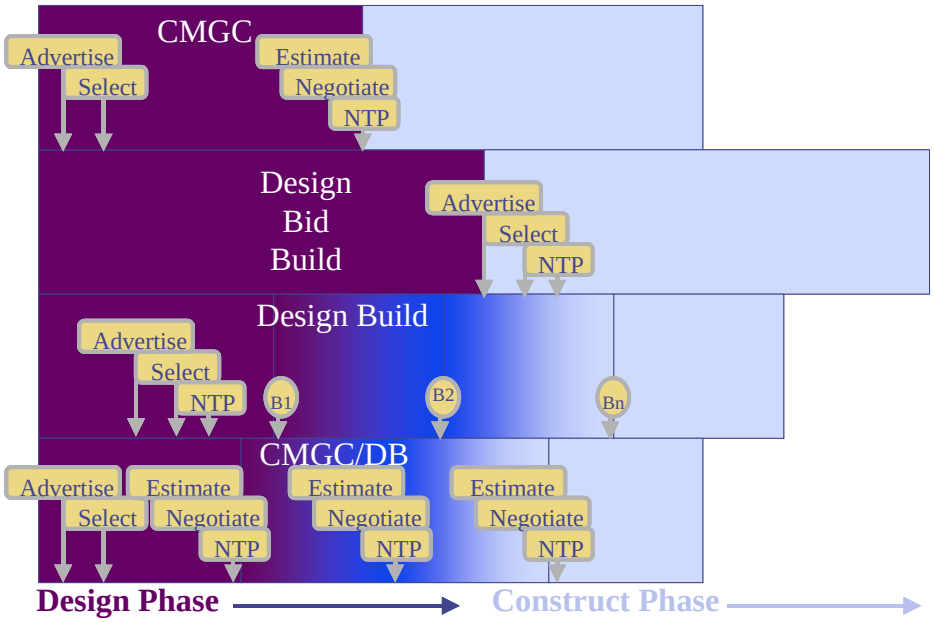
When innovation is added to the process a dramatic reduction in public impact is also achieved. The 4500 South bridge replacement over I-215 reduced the impact on the public from months to days. This was possible because UDOT selected the innovation and controlled the design. The contractor assisted in the design, resolved constructability issues, and learned what needed to be done before the work was performed.

Flexibility is another key ingredient. 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 gives us the flexibility to deal with risk in real time. Not everything has to be known before we began. In addition the contractor is able to meet the public early and become committed to the public's needs, the project goals, and the design. The contractor is 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 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 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. We can delay our decisions until we have the best information possible.

Additional information is available on our UDOT web page at
http://www.udot.utah.gov/main/f?p=100:pg:1888230868006718:::T,V:1869,