**Reducing Construction Duration and Minimizing User Impacts and Delays**

The purpose of this bulletin is to emphasize the importance of minimizing construction duration and minimizing construction delay impacts to the traveling public. While most projects already accomplish this and the tools identified are familiar to most, CDOT is constantly being questioned on whether we are doing everything we can to reduce construction duration and minimize construction delay impacts. The timely completion of highway construction projects is an important CDOT objective. This design bulletin is intended to ensure that every CDOT project gives appropriate consideration to the use of innovative contracting measures to accelerate project completion, as appropriate, that will aid in reducing the impacts of construction to the traveling public.

It is understood that these measures are likely to further increase the costs of our already increasing bid prices, but are outweighed by the benefits to the traveling public. It is also understood that many of these measures will have an impact to our staffing of projects and efforts are underway to address those resource needs. Again, the benefits of accomplishing this are to reduce impacts to our customers, but these measures will also result in safety benefits for those who are exposed to the dangers of heavy highway construction and working in live traffic.

**Background**

CDOT has been using innovative contracting methods since as early as 1996. CDOT has developed several specifications for innovative contracting provisions which can be found on the CDOT Specifications webpage. More information on innovative contracting techniques including contract provisions as well as project delivery methods is included in the *CDOT Innovative Contracting Guidelines* which can be found at the following link:

<https://www.codot.gov/business/designsupport/innovative-contracting-and-design-build>

In a continuing effort to reduce contract time duration and minimize delays to the traveling public, all Project Managers in consultation with their Resident Engineers will consider the use of innovative contracting provisions to accelerate key construction work on their projects. The consideration to use innovative contracting provisions should be determined as early in the project scoping/design process as possible. A+B bidding, incentive/disincentive specifications, and lane rental type provisions, milestones, and floating start dates are intended to encourage Contractors to more actively manage their work schedule and when necessary, to adopt innovative and aggressive scheduling and construction management processes that will shorten the construction duration and reduce inconvenience to the public.

Region Program Engineers will have the final responsibility for reviewing and approving the application of this bulletin either before or at the time of Form 859 or Form 1180 (i.e. PS&E) review. Region Program Engineers will have final decision-making authority within their Program on the exact application of this bulletin to individual projects.

In addition, the Area Engineers in the Division of Project Support are available for assistance in case the Regions would like to have their project CPM Schedule/Form 859 reviewed.

Project Managers should consider holding Constructability Review meetings with Contractors to engage with the industry as early as possible for input on project sequencing and pre-ordering long lead items when appropriate, especially for large and complex projects. Performing Constructability reviews allows the Project Manager to incorporate Contractor feedback into a more realistic contract time providing a more reliable Critical Path to the project, thus potentially reducing overall contract time. The Area Engineers are available to provide guidance for setting up a Constructability Review. Project Managers should also consult with Region Traffic personnel for allowances, when appropriate, for variances to the Region Lane Closure Strategies to see if start and end times for lane closures can be adjusted or if road closures can be considered to expedite the work.

The CDOT Form 1180 in SAP is where the Regions already select if innovative contracting is being used on the project – the Project Manager marks the box as to which method is being used (if applicable). This information will be tracked in the future to be able to report on how CDOT is implementing innovative contracting methods.

Examples of the more widely used innovative contracting provisions and supporting information are summarized below from the CDOT Innovative Contracting Guidelines.

* Determining the Appropriate Amount of Contract Time
* Floating Start Date Contracts
* Cost Plus Time (A+B) Contracts
* Incentive/Disincentive
* Project Milestones
* Lane Rentals

**Determining the Appropriate Amount of Contract Time**

The amount of time specified to complete a project or project phase may have an impact on cost and other factors. If contract time is too short, bid prices may be higher, quality and safety requirements may be more difficult to enforce, and time-related disputes or claims may increase. If the contract time is too long, the public may be subject to additional user-delay costs, businesses may be affected, and costs for inspection may increase due to lower Contractor productivity. Contractors may also bid more work than they can handle and would not be under sufficient pressure to develop innovative ways to expedite the work. Guidance for developing contract time durations can be found in the CDOT Construction Manual, Section 108.8 Determination and Extension of Contract Time and Appendix B, Form 859 – Project Control Data Completion Instructions.

**Floating Start Dates**

Fixed or Floating start dates are used in combination with Working Day and Calendar Day Contracts. Fixed Start Date Contracts identify a date on which Contract Time charges shall begin, and the Contractor is expected to start work. Floating Start Date Contracts allow the Contractor to select the date that contract time begins within the specified range of dates. . Specified Completion Date Contracts identify a date on which Contract time ends and lets the Contractor select the date that work begins. Project Managers should consider the use of floating start dates and specified completion dates to maximize flexibility to the Contractors in being able to start the work and still complete it on time within the contract time.

As an example, a 35 working day resurfacing project could start as early as May 1st or as late as August 1st.

**Cost Plus Time (or A+B)**

Cost Plus Time, or A+B, is a selection method for procuring construction services where the “A” or cost portion is the bid amount and the “B” or time portion is the proposed project duration for the work. The “B” portion is multiplied by a value per day, also referred to as Road User Cost (RUC), which is established by CDOT prior to reviewing the proposals. Road User Costs (RUC) are calculated based on the traffic volumes of the roadway and the computed delay to the traffic caused by the roadway construction. CDOT then awards the contract to the bidder whose proposal has the lowest sum of “A”+“B”.

Cost Plus Time procurement often reduces overall project time. When using Cost Plus Time, the project is typically completed earlier than initially estimated by the contractor. *Cost-Plus-Time or A+B* bidding should be considered for use on any project that has high road-user delay impacts, when there is an urgent need to “get in and get out” as quickly as possible, or where there may be significant impacts to adjacent property owners or businesses. In addition, Cost Plus Time procurement encourages bidders to consider the time the project construction will require and how to incorporate innovative means and methods to reduce this time.

For further information on calculating Road User Costs (RUC), when to use A+B, limitations, as well as other considerations please refer to the CDOT Innovative Contracting Guidelines.

**Incentives/Disincentives**

Incentives provisions provide daily incentives to the Contractor for each calendar day that a specified milestone or salient feature is completed ahead of a prescribed schedule. The prescribed schedule may specify a specific date, a milestone, or an allowed duration of days to complete the work. Failure to complete the work as specified shall result in the Contractor being assessed a daily Disincentive. The daily Disincentive amount shall be equal to the Incentive amount, and applied for each calendar day by which the specified date or duration is exceeded. Similar to the incentive/disincentives for A+B Contracting, all incentive/disincentive amounts are based on calculated Road User Costs. This method is budget-sensitive and funding requirements should be carefully considered before utilizing this alternative.

**Project Milestones**

Applying an incentive/disincentive to a discrete portion of work like an event/date/milestone is another application of incentive/disincentive payments. These key discrete segments of the work must be completed before the contract time allowed for the entire project expires. This approach allows more flexibility for the project manager to include some sort of incentive/disincentive clause to complete the work for each project milestone by the specified completion date described in the project special provisions. This method also uses RUC for incentives/disincentives and is also budget-sensitive and funding requirements should be carefully considered before utilizing this alternative.

**Lane Rentals**

Lane rental is a concept used to encourage contractors to efficiently plan, utilize, and minimize the number and duration of lane closures. The contractor will be required to pay a Lane Rental Fee for occupying or obstructing any travel lane (through lanes, acceleration lane, deceleration lane, or turn lane), or closure of a facility to perform any element of work. The lane rental fee is based on the estimated cost of delay or inconvenience to the user (Road User Costs) during the rental period.

For further information, please contact the Innovative Contracting Program Manager (303-757-9104), or refer to the CDOT Innovative Contracting Guidelines.

<https://www.codot.gov/business/designsupport/innovative-contracting-and-design-build>