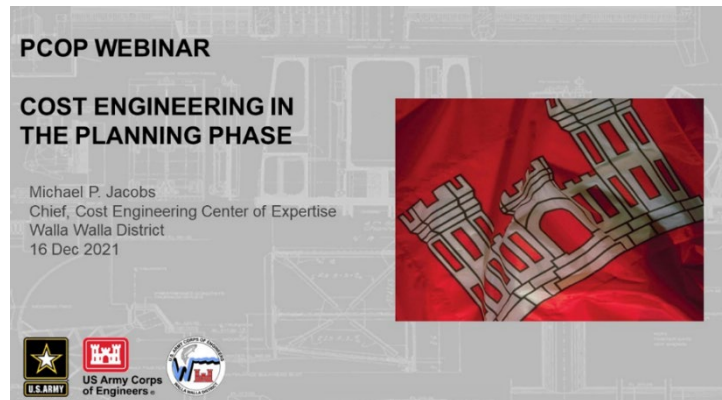


Cost Engineering in The Planning Phase
16 December 2021
Q&A Session

This PCoP webinar provided an overview of cost engineering requirements throughout the feasibility phase of project development. Presenter Mike Jacobs (Chief, USACE Cost Engineering Mandatory Center of Expertise, Walla Walla District) addressed timing and level of detail of cost engineering products, cost estimate classification, cost certification requirements, and updates required across the project lifecycle.



This summary of the Question / Answer session of the webinar is not a transcription; questions and responses have been edited and reordered for clarity.

Cost Engineering Basics

How can "Parametric Cost" be defined in a way that is easy to understand and communicate?

Parametric cost estimating is a method for estimating future proceedings based on analysis of past events and trends. Parameters, or conditions, that appear to have driven past actions and events are identified and connected to past experiences through mathematical relationships. These mathematical relationships are based on a "feature" level as opposed to diving into the details that make up the feature.

Total Project Cost, Fully Funded Cost, and Project First Cost

Should planners use the Total Project Cost or Project First Cost in the draft and final feasibility report?

Project First Cost and Fully Funded Cost are both considered Total Project Cost and are both documented on the Total Project Cost summary sheet. Total Project Cost includes all the project costs including pre-construction engineering and Design (PED), Supervision & Administration (S&A), Real Estate, etc.

The Project Partnership Agreement (PPA) and the economic evaluation should list the Fully Funded Cost.

The Project First Cost is reported in the Chief's Report and used for project authorization. In addition, by policy, the benefit cost ratio (BCR) is based on Project First Cost.

Is the final report required to include the Fully Funded Cost or the Total Project Cost?

The Fully Funded Cost should be included in the final feasibility report as described in regulation [ER 1110-2-1302](#): Civil Works Cost Engineering. It is highly recommended that planners use the verbiage outlined by business line in the [2011 memorandum for reporting of costs in Chiefs Reports](#) within the feasibility report itself, as this will make it clear which costs will be moved forward into the Chiefs Report.

Why does ER 1110-2-1302 differentiate between Project First Cost and Fully Funded Cost?

Project First Cost and Fully Funded Cost are both Total Project Cost figures, but are represented differently. The Project First Cost is what is included in the project's authorization language. This sum

then becomes the basis of the project's 902 limit calculation. The Fully Funded Cost is calculated using the Office of Management and Budget (OMB) mandated inflation factor to show an estimate of the final cost of the project for the sponsor's and Congress' benefit. However, it is worth noting the value of the Fully Funded Cost is often understated due to the use of the OMB mandated inflation factor; however, this model does capture the effects of the time value of money on the project cost.

Is the Fully Funded Cost required at the Alternatives Milestone?

The Fully Funded Cost is not required at the Alternatives Milestone; however, it may be useful to include it for comparison and future expectations management.

Class 3 Level of Detail Requirements

What level of detail should be shown in feasibility reports to facilitate developing Class 3 estimates and quantities?

For Ecosystem Restoration or Mitigation projects, planners are required to complete a Cost Effectiveness (CE)/Incremental Cost Analysis (ICA) to compare alternatives, which necessitates having a complete cost figure. Additional guidance on Class 3 estimates can be found in [ER 1110-2-1302](#).

Miscellaneous

Is the detailed semi-drawing plan used in cost estimates required to be included in the feasibility report itself?

Yes, these semi-drawing plans should be included as part of the basis for design documentation of the project. The more information included in the report about the basis of the project design and scope, the better. Often, projects sit on the shelf for years, which subsequently makes it is very difficult to determine what was included in the scoping assumptions and cost estimate.

Why have there been several recent requests to update certified costs, some of which are not yet two years old?

Updating certified costs that are less than two years old is due to the rapid changes in materials and labor costs seen during the COVID-19 pandemic and the need to have accurate (and consistent) cost estimates for potentially funded projects.

How much labor funding, on average, does the Cost Engineering Mandatory Center of Expertise need for the Cost Agency Technical Review (ATR)?

Average ATR costs are dependent on the size of the project. The labor funding cost for ATR of a Continuing Authorities Program (CA)P project is generally around \$3,000. ATR of the draft report costs on average between \$3,000 and \$5,000. ATR of the final report (and final cost certification) averages between \$3,000 and \$6,000. Study project managers should reach out to the Cost Engineering Mandatory Center of Expertise for specific ATR cost estimates early in the study process.