Project Customization Guideline

July, 2017

Procedures are subject to change without notice.
Check the Capital Project Delivery website
to ensure this is the current version.

Table of Contents

Introduction

Project customization is the process of tailoring the overall project delivery process to meet the requirements of a capital project based on its specific scope and complexity. Project customization is a key feature of the Department's new Capital Project Delivery process. The purpose of this document is to provide general guidelines related to the implementation of project customization under the new delivery process.

Unlike the Department's prior project delivery process, the new process does not include pipeline designations; rather, there are Phase Network Diagrams that outline all of the major activities needed for project delivery. The new process consists of the following five phases, from start to finish: Problem Screening (PS), Concept Development (CD), Preliminary Engineering (PE), Final Design (FD) and Construction (CON). Instead of assigning a project to a given pipeline, the Project Manager assigned to a given project will *customize* the Phase Network Diagram to produce a project-specific schedule.

Phase Network Diagram customization efforts can range from tailoring activity and logic adjustments, to adjusting the work efforts associated within specific activities. For instance, certain work products or work packages may not be required for certain capital projects. Therefore, those products or packages do not have to be reflected in the project'plans scope. Furthermore, certain activities within the Phase Network Diagrams may not be required for a particular project. The specific amount of work within an activity may need to be increased or decreased, based on the specific project's scope and complexity. Examples of such customization efforts are provided in Section I of the guideline.

While project customization is a major focus of the new process, there are other aspects of the new process that will be required for every project. With the exception of Limited Scope projects, every capital project regardless of funding must go through all five phases of the Project Delivery Process. The level of effort and the amount of time a project remains in any phase will be customized on a project-specific basis. Also, there are key deliverables associated with each of the five phases that must be produced regardless of customization. A more detailed discussion of key deliverables is provided in Section II of this guideline.

In addition, the new process includes a number of approvals and controls that aid in the project customization effort, such as a Project Charter and Scope Statements. Once a project-specific schedule is established for a phase, key project control deliverables can be produced, schedule, budget, and a Public Involvement Action Plan (PIAP). These deliverables require input from the Department's Subject Matter Experts (SMEs) and approvals from Department managers. Once approved, these deliverables will serve to manage and control the project's development.

A more detailed discussion of the approvals and controls associated with project customization are provided in Section III of this guideline.

Section I: Project Customization General Overview and Examples

Project customization begins with the development of the Scope Statement. After the PS Phase, the CD Scope Statement will be utilized in customizing the CD scope, schedule and budget. Towards the end of CD, the PE Scope Statement will be utilized to customize the PE scope, schedule and budget. Towards the end of PE, the FD Scope Statement will be utilized in customizing the FD scope, schedule and budget.

To illustrate the use of customization under the new process, three examples are provided below. These include (1) customizing a Phase Network Diagram to reflect the anticipated environmental document; (2) the use of logic adjustments to reflect the actual logic anticipated for a project's delivery; and (3) tailoring specific activities to meet project-specific requirements. As shown by these examples, customization can be applied throughout the different layers of the new project delivery process, from the Phase Network Diagram level to the scope of work associated with specific activities.

The example of customizing the Phase Network Diagram to reflect a project's anticipated environmental document is useful, since every capital project will need some type of environmental document (i.e., Categorical Exclusion (CE), Environmental Assessment (EA), Executive Order (EO) 215 or Environmental Impact Statement (EIS)). More specifically, when developing a project-specific schedule for the PE phase, the type of environmental document will have been identified during the CD Phase. If it has been determined that the project will require a CE document, all the corresponding EA, EO 215 and EIS activities will be removed from the PE Phase Network Diagram to produce an accurate project-specific schedule. Furthermore, based on the Scope Statement that was developed during the CD Phase, the specific CD activities and descriptions will be customized based on the project's characteristics. The same kind of customization process is to be applied to all elements of the project, such as right of way and access, utilities, structures and roadway engineering.

An example of customization involving logic adjustments consists of revising finish-to-start tasks so that they are performed concurrently. That type of logic adjustment may be encountered with some of the longer processes, such as utility accommodations, right of way acquisitions, and access design. For instance, the FD Phase Network Diagram shows the activity, *Prepare Utility Modifications*, as a finish-to-start relationship with *Revise & Submit Utility Plans*. However, for a given project that involves many utility companies *Prepare Utility Modifications* may get underway for several companies, while *Revise & Submit Utility Plans* is still underway for the remaining companies. If that scenario occurs for a given project, or if it is anticipated for a given project, the project's schedule can be customized to show that both activities are, or will be, underway concurrently. In summary, the logic shown in the Phase Network Diagram represents a global view of the new project development process, serving as a guide for the preparation of a project's schedule. Logic adjustments should be made, when appropriate, to reflect either the anticipated interrelationship of project delivery activities, or to reflect their actual interrelationships as the project's development advances.

The final example of project customization involves tailoring the scope of specific activities to meet a given project's requirements. While many activities included in the new project delivery process could be used to illustrate this aspect of project customization, the following two activities are presented below: *Prepare CD Public Involvement Action Plan* and *Prepare Preliminary Drainage Design*. Prepare *CD Public Involvement Action Plan* (PIAP) is an activity that is completed during the Concept Development Phase. The PIAP is tailored to the project's scope and complexity so that for simpler projects, the plan may only consist of an officials briefing and a public information center to inform the general public and solicit their feedback; whereas, for more complex projects, the plan could include such measures as a project-specific web page, notices in foreign language newspapers, the use of interpreters at public meetings and the creation of a community advisory committee. The new process calls for the plan to be developed in coordination with the

Department's Division of Community and Constituent Relations, with that office's approval of the final PIAP. *Prepare Preliminary Drainage Design* is an activity that is to be completed, when a project's scope includes drainage improvements, during the Preliminary Engineering Phase. As with all engineering activities associated with the Preliminary Engineering Phase, *Prepare Preliminary Drainage Design* is to consist of only that engineering necessary to complete the project's environmental document and, if required, a Design Exception Report. To meet that objective, the engineering effort for *Prepare Preliminary Drainage Design* is directed at identifying the footprint of the drainage design system anticipated for the project. In general, that footprint will consist of the size, shape and location of proposed inlets, manholes, pipes and stormwater management best management practices (e.g., mechanical treatment devices and stormwater basins).

Section II: Required Aspects of Project Delivery Process

As outlined above, project customization involves tailoring the delivery process to meet a given project's scope and complexity. Although customization is associated with removing those activities not needed for a project, its purpose is not to cut corners or avoid necessary work; rather, it is to be undertaken to promote the effective and efficient delivery of the Department's capital projects. With that understanding in mind, there are certain aspects of the project delivery process that are required which, in essence, represent the basic skeleton of the process. For instance, as noted above, all projects must advance through all five phases of the delivery process. Likewise, within each one of those phases, there are key deliverables that must always be completed. For example, a Charter must be completed for every project during the Problem Screening Phase. Many of the deliverables required for Concept Development, Preliminary Engineering, and Final Design are listed below:

Key Deliverables required for the Concept Development Phase:

- CD Scope Statement
- CD Public Involvement Action Plan
- Concept Development Schedule
- Concept Development Budget
- Design Communications Report
- Environmental Screening Report
- Purpose and Need Statement
- Preliminary Preferred Alternative
- PE Scope Statement
- PE Public Involvement Action Plan
- Concept Development Report
- CD Quality Certification
- Preliminary E*ngineering* Schedule
- Preliminary Engineering Budget
- Preliminary Engineering Authorization
- Executed Consultant Agreement for Preliminary Engineering Phase, with option of using same agreement for Final Design Phase if so desired by the Department

Key Deliverables required for the Preliminary Engineering Phase:

- Environmental Document (i.e., Categorical Exclusion, Environmental Assessment, EO 215, or Environmental Impact Statement)
- Design Communications Report
- Final Design Scope Statement
- FD Public Involvement Action Plan

- Preliminary Engineering Report
- Preliminary Engineering Quality Certification

Key Deliverables required for the Final Design Phase:

- Final Design Schedule
- Final Design Budget
- Final Design Agreement Addendum or New Design Agreement
- Final Design Submission
- Designer's PS&E
- PS&E Submission
- PS&E Certification
- Consultant Agreement Addendum for Construction Engineering
- Authorization to Advertise

Section III: Approvals and Controls for Project Customization

Under the project delivery process, project customization is not implemented in a vacuum, but rather involves a collaborative process which includes various approvals and controls throughout the project delivery process. Control of a project's scope begins with development and customization of the CD Scope Statement. Utilizing the project-specific Problem Statement, Problem Screening Report information, stakeholder input, and the CD Scope Statement template, the Project Manager develops the project-specific CD Scope Statement. The Scope Statement outlines the project-specific work activities to be completed during the CD Phase. The Scope Statement is circulated for SME input, Executive Regional Manager concurrence and Director approval. By approving the project-specific CD Scope Statement, the DPM Director provides ultimate approval of the project customization. Upon approval, the CD Scope Statement is provided to the Designer to develop a scope of work and fee proposal.

During the CD Phase, there are a number of activities that require collaboration and coordination with project stakeholders, such as *Obtain Stakeholder Input, Hold Local Officials Briefings* and *Public Information Centers, Scope* and *Core Group Meetings, Coordination with Permitting Agencies,* and *Obtain SME Input*. Input obtained through these activities help to further define the project's scope as the project's development progresses, which in turn helps to guide and control customization of the project's delivery. Various approvals are also required during the CD Phase, which are associated with project customization and include, but are not necessarily limited to:

- The PE Scope Statement, which is completed during CD, requires approval from Managers of the Department's various SME Offices, for those portions of the scope statement related to their areas of expertise. FHWA reviews and approves the CD Report, which contains the PE Scope Statement.
- The CD Quality Certification, in which the designer certifies that the project's development has been completed in accordance with the approved CD Scope Statement, requires approval by the Project Manager.
- The project's Preliminary Engineering Baseline Schedule, which is completed during the CD Phase, must be approved by the Executive Regional Manager.
- The project's Preliminary Engineering Budget, which is completed during the CD Phase, must be approved by the Division of Project Management Director.

As with the CD Phase, the project delivery process includes various controls and approvals, related to project customization, in the other delivery phases. This includes the use of project scope statements, project management plans, public involvement action plans, baseline schedules and budgets for each phase of project delivery, and associated Senior Management and FHWA approvals.

The Design Communications Report (DCR) provides another means of control and approval for project customization. The DCR, a major feature of the project delivery process, is initiated during the CD Phase and is continually updated for the project through the remaining phases of project development (i.e., Preliminary Engineering, Final Design, and Construction). Since the DCR documents major project decisions, and makes them available for review by project stakeholders, it serves as a tool to define and manage a project's scope, which in turn influences how a project's delivery is customized. Individual DCR entries are prepared by the project's designer for review and approval by the Project Manager. Upon receipt of the Project Manager's approval, the designer uploads the entries to the proper location on the Department's intranet site, making them readily available for review by internal stakeholders.

Section IV: Review of Project Customization

In review, project customization is a fundamental feature of the Department's project delivery process, replacing the more rigid framework associated with the pipeline designations used under the former process. Using project customization, a project's delivery is closely tailored to its scope and complexity. As shown in Section I of this guideline, customization can be applied throughout the different layers of the new project delivery process, from the network diagram level to the scope of work associated with specific activities. Although this approach places a focus on customizing a project's delivery, as outlined in Section II, there are certain aspects of the delivery process that must be completed for every capital project. Those aspects form the skeleton of the project delivery process and must be completed for every project to conform to the project delivery goals and objectives shared by the Department and Federal Highway Administration. Lastly, as was outlined in Section III, the new project delivery process includes various controls and approvals for project customization to help insure the effective and efficient delivery of the Department's capital projects.