WFLHD SUPPLEMENT 9.6.2-1

9.6.2   ALTERNATIVE PS&E DEVELOPMENT AND CONTRACTING OPTIONS

This supplement describes the process for implementing the A+B Bidding contracting method in WFLHD. This process involves developing both a maximum and minimum Critical Path Method (CPM) schedule for contract time, the determination of daily rates for the Road User/Administrative Cost portion of the bid, and using the applicable specifications.

Add the following subsection:

9.6.2.1   A+B Bidding (Price + Time)

A+B bidding is an Alternative Contracting Method where the low bidder is determined based on the combination of two elements: the Construction Price (Part A), and the value of time expressed through a Road User/Administrative Cost (Part B).

The basic formula for A+B bidding is:

(Construction Price) + (<u>number of calendar days</u> × <u>daily rate</u>) = total bid amount

where <u>daily rate</u> = Daily Road User Cost + Daily Administrative Cost

The successful bidder will be awarded the pay items listed in the Construction Price (Part A).

The number of calendar days bid in the Road User/Administrative Cost (Part B) is the basis for determining the fixed completion date of the project.

To incorporate A+B bidding into a project, the designer must complete the following tasks:

- Develop CPM schedules for contract time
- Calculate the daily rate for use in Part B of the bid contract
- Include the applicable A+B specifications

9.6.2.1.1   Develop Critical Path Method Schedules

The project designer develops two CPM schedules: a maximum calendar day schedule, and a minimum calendar day schedule.

Develop the maximum calendar day schedule based on current traditional assumptions and methodologies (i.e. as if this were not an A+B project.)

Develop the minimum calendar day schedule based on an accelerated schedule (i.e. multiple crews, night work, etc.).

In both cases make assumptions based on what would be reasonable and possible for a contractor to achieve. Take into account all contract requirements. (Example: It would not be reasonable to assume night work or work though holidays if the specifications do not allow work during these times.)

Provide both the maximum and minimum construction CPM schedules at the QA Review and Acquisitions PS&E Hand-off. Both CPM schedules must be reviewed, approved, and signed by the Construction Operations Engineer (COE).

Store documentation showing assumptions for producing both CPM schedules with the [project files](#).

9.6.2.1.2   Calculating the Daily Rate

The daily rate is comprised of the sum of following elements:

- Administrative Cost daily rate
- Road User Cost (RUC) daily rate

Combine both costs and round to the nearest hundred dollar amount to create the final daily rate. This daily rate is used to determine the overall lowest bidder. The Administrative Cost portion of the daily rate is used to determine the project's liquidated damage amount.

a. Administrative Cost

The Administrative Cost daily cost is the cost needed to administer the construction phase of the project. This daily rate consists of the Government's cost for inspection staff, per diem, vehicles, office lease, and other project oversight costs associated with retaining resources on projects for additional time. It also includes additional operating cost for work elements such as temporary traffic control or other items of work that might occur on a project specific basis, i.e. watering for dust control, and labor and equipment costs (these examples are not all inclusive). The administrative costs do not include testing and final review costs.

The COE provides the Administrative Cost daily rate to the PM and the designer. The designer ensures that:

- the daily rate (combined Administrative Cost daily rate and the RUC daily rate) is included in SCR Subsection 102.02

- the liquidated damages amount (Administrative Cost daily rate) is included in SCR Subsection 108.04. Do not use RUC in the liquidated damages calculation.

b. Road User Cost Calculation

The Road User Cost daily rate is based on the **daily travel delay cost**, the **change in daily vehicle operating cost**, and when applicable, off-site components such as **business and local community impacts**.   Businesses along or near the project route are often economically impacted by the project. If this becomes apparent during the public involvement process, FHWA or the client agency may recommend that a **business impact study** be conducted to quantify those losses. The PM and designer will need to coordinate this effort. Where Park concessionaires are involved, the study must define the elements of the concessionaire's contract that affect costs.

The Excel-based [Road User Cost (RUC) calculator](#) assists the designer in determining road user cost during the construction phase. The RUC calculator generates a road user cost per day, utilizing data obtained from various federal databases and designer inputs. In general, the federal database information generates data during a non-construction scenario. Design inputs, on the other hand, supplies project specific data that represents what is likely to occur during the a proposed construction work.

Once the design inputs are entered, the RUC calculator automatically generates the road user cost per day (both the **daily travel delay cost** and the **change in daily vehicle operating cost**). The designer enters project specific data in the two highlighted sections of the *RUC Calculator* tab:

Project Information:

- Project ID
- Project Name
- Project Year
- Route Type

Data Input:

- ADT through Workzone
- Workzone Length (Miles)
- Original Posted Speed (MPH)
- Workzone Speed (MPH)
- Stopped Time in Workzone (minutes)
- Length of Normal Route (Miles)
- Length of Detour (Miles)
- Average Speed on Detour Route (MPH)
- Percentage of ADT using Detour

Use the total RUC amount in all cases. DO NOT adjust the RUC per day amount.

For more information on Road User Costs calculations, refer to [Work Zone User Costs Concepts and Applications](), Publication: FHWA-HOP-12-005.

9.6.2.1.3   Specifications for A+B Bidding

Use the specifications for A+B Bidding included in the WFLHD Library of Specifications (LOS).