



Florida Department of Transportation

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ANANTH PRASAD
SECRETARY

STRUCTURES DESIGN BULLETIN 12-07

ROADWAY DESIGN BULLETIN 12-10

DATE: April 25, 2012

TO: District Directors of Operations, District Directors of Production, District Design Engineers, District Construction Engineers, District Geotechnical Engineers, District Structures Design Engineers

FROM: Robert V. Robertson, P.E., State Structures Design Engineer
David O'Hagan, P.E., State Roadway Design Engineer

COPIES: Brian Blanchard, Tom Byron, Duane Brautigam, David Sadler, Charles Boyd, Jeffrey Ger (FHWA), Derek Soden (FHWA), Rafiq Darji (FHWA)

SUBJECT: Every Day Counts (EDC) Training Website
<http://www.dot.state.fl.us/structures/edc/>

REQUIREMENTS

1. Add the following two paragraphs to *Plans Preparation Manual, Volume 1*, Section 26.9.2.9 Paragraph D, before the Commentary:

The Structures Design Office has developed several training videos for the purpose of educating designers on factors for consideration related to use of Prefabricated Bridge Elements and Systems (PBES) for Accelerated Bridge Construction (ABC). The main emphasis of the training videos is to demonstrate the sort of factors and project constraints that influence whether bridge components should be prefabricated. Also discussed are overall prefabricated ABC strategies and implications, including examples showing how labor, material, and equipment costs are considered.

These training videos have been posted on a website along with notification of upcoming developments and helpful links to related external websites. The Department's Structures Design Office website for Every Day Counts can be viewed at:

<http://www.dot.state.fl.us/structures/edc/>.

2. Replace *Structures Design Guidelines*, Section 9.1 with the following:
 - A. The purpose of the Bridge Development Report (BDR) is to select the most cost efficient and appropriate structure type for the site under consideration. This chapter describes a three-step process to estimate bridge costs for conventional alternates based on FDOT historical bid data. The first step is to utilize the average unit material costs to develop an estimate based on the completed preliminary design. The second step is to adjust the total bridge cost for the unique site conditions by use of the site adjustment factors. The third and final step is to review the computed total bridge cost on a cost per square foot basis and compare this cost against the historical cost range for similar structure types. This process should produce a reasonably accurate cost estimate. However, if a site has a set of odd circumstances, which will affect the bridge cost, account for these unique site conditions in the estimate. If the estimated cost is outside the cost range in step three, provide documentation supporting the variance in cost.
 - B. The three-step process described in this chapter for conventional alternates is not suitable for cost estimating structure types without repeatable bid history. Estimates for unique structures such as movable, cable stayed, cast-in-place on form travelers, arches and tunnels should be based on construction time, labor, materials, and equipment.
 - C. Click to view or download a [BDR bridge cost estimate spreadsheet](#) for conventional alternates.
 - D. When prefabricated alternates are required to be investigated during the BDR phase per the feasibility questions and assessment matrix of *PPM*, Volume 1, Section 26.9.2.9, both direct costs (hard dollars) and indirect costs (soft dollars) are required to be reported for each alternate. An assessment matrix methodology allows for alternate selection based on less than perfect knowledge.
 - E. To date, the FDOT does not have sufficient historical bid data for prefabricated bridge alternates in order to develop reasonable cost estimates from average unit material costs. To fill this gap, the Structures Design Office has developed several training videos for the purpose of educating designers on factors for consideration related to use of Prefabricated Bridge Elements and Systems (PBES) for Accelerated Bridge Construction (ABC). Sample contractor estimates are provided to show how project costs may be developed to compare conventional construction methods versus a prefabricated ABC approach.
 - F. These training videos have been posted on a website along with notification of upcoming developments and helpful links to related external websites. The Department's Structures Design Office website for Every Day Counts can be viewed at: <http://www.dot.state.fl.us/structures/edc/>.

COMMENTARY

The Every Day Counts website is intended to guide designers in evaluating the use of PBES, considering the balance between direct cost (hard dollars) and user impact costs (soft dollars).

BACKGROUND

On April 5, 2011, Structures Design Bulletin C11-04 was issued which provided expanded direction for investigating prefabricated bridge alternates during the Bridge Development Report (BDR) phase of design. Structures Design Bulletin C11-04 formalized the process for evaluating whether prefabricated options should be considered based on a feasibility assessment, then, when warranted, how to develop and facilitate selection of prefabricated options through an evaluation matrix. Structures Design Bulletin C11-04 required that both direct and indirect costs for prefabricated and conventional options be reported in the BDR. These requirements are now included in the *Plans Preparation Manual, Volume 1* Section 26.9.2.9.

This bulletin is intended to provide design guidance for developing prefabricated bridge alternates and gives examples on how to estimate both direct and indirect costs.

IMPLEMENTATION

This bulletin supplements current policy. There is no additional action required for ongoing projects.

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