

**South Carolina Department of Transportation**  
**Engineering Directive Memorandum**

Number: 34

Primary Department: Preconstruction

Referrals: None

Subject: Value Engineering

The Federal Highway Administration defines value engineering (VE) as the systematic application of recognized techniques by a multidisciplined team to identify the function of a product or service; establish a worth for that function; generate alternatives through the use of creative thinking; and provide the needed functions to accomplish the original purpose of the project, reliably and at the lowest life cycle cost without sacrificing safety, necessary quality, and environmental attributes of the project. The goal of a VE study is to achieve design excellence. Its objectives are to improve quality, minimize total ownership costs, reduce construction time, make the project easier to construct, ensure safe operations, and ensure environmental and ecological goals. The VE team is looking for the optimum blend of scheduling, performance, constructability, maintainability, environmental awareness, safety, and cost consciousness.

The director of preconstruction will ensure that a VE study is performed on all federally funded projects with a total estimated cost of \$25 million or more for roadway projects and \$20 million or more for bridge projects. The estimated total cost includes preliminary engineering, right-of-way, utility, and construction costs. For projects following the standard development process, the VE study should be conducted prior to completion of the project's environmental documents. However, to be in compliance with federal regulations on design-build projects, the VE study must be conducted prior to release of the request for proposal document. The VE study will be performed by a multidisciplinary team composed of appropriate representatives from various sections within SCDOT, the Federal Highway Administration, and others as required. If deemed appropriate, the director of preconstruction may require a VE study to be performed on any project regardless of its estimated cost.

The VE team will follow AASHTO design value engineering guidelines when performing the studies in order to develop recommendations for improving the quality of the project, as well as identify areas for potential cost savings. Recommendations from the study will be detailed in a report and furnished to the members of the Value Engineering Study Approval Committee. The committee will be comprised of the following:

- Director of Preconstruction (Chairperson)
- Director of Construction
- Director of Maintenance
- Director of Traffic Engineering

District Engineering Administrator (for the area in which the project is located)  
Materials and Research Engineer  
Preconstruction Support Engineer  
Regional Production Engineer (for the RPG assigned the project).

Upon reviewing the recommendations, the approval committee will meet and decide which recommendations should be accepted for implementation. If the approval committee is unable to reach a consensus on a recommendation, the deputy secretary for engineering will be provided the VE study and asked by the director of preconstruction to provide a final decision. The deputy secretary for engineering may delegate decision authority to the chief engineer for the department developing the project. Once it has been determined which recommendations have been accepted, a memorandum indicating this will be sent by the director of preconstruction to the various sections involved in development of the project. It will be the responsibility of the project's regional production engineer to ensure the recommendations are implemented and to provide a memorandum to the value engineering coordinator confirming the implementation of the approved recommendations.

Submitted by: Robert I. Pratt  
Director of Preconstruction

Submitted by: D. R. Shealy  
Director of Construction

Recommended by: John V. Walsh  
Chief Engineer for Planning, Location, and Design

Submitted by: James J. Feda, Jr.  
Director of Maintenance

Submitted by: Richard B. Werts  
Director of Traffic Engineering

Recommended by: J. C. Watson  
Chief Engineer for Operations

Approved by: Tony L. Chapman  
Deputy Secretary for Engineering

Effective Date: March 5, 2009

Original signed by Deputy Secretary for Engineering Tony L. Chapman, P.E. March 5, 2009.  
All original engineering directives maintained by the Office of the Deputy Secretary for Engineering.