§ 627.5 Value Engineering (VE) analysis. The systematic process of reviewing and assessing a project by a multidisciplinary team not directly involved in the planning and development phases of a specific project that follows the VE Job Plan and is conducted to provide recommendations for:

(1) Providing the needed functions, considering community and environmental commitments, safety, reliability, efficiency, and overall life-cycle cost (as defined in 23 U.S.C. 106(h)(2));

(2) Improving the value and quality of the project; and

(3) Reducing the time to develop and deliver the project.

Value Engineering (VE) Job Plan. A systematic and structured action plan for conducting and documenting the results of the VE analysis. While each VE analysis shall address each phase in the VE Job Plan, the level of analysis conducted and effort expended for each phase should be scaled to meet the needs of each individual project. The VE Job Plan shall include and document the following seven phases:

(1) Information Phase: Gather project information including project commitments and constraints.

(2) Function Analysis Phase: Analyze the project to understand the required functions.

(3) Creative Phase: Generate ideas on ways to accomplish the required functions which improve the project’s performance, enhance its quality, and lower project costs.

(4) Evaluation Phase: Evaluate and select feasible ideas for development.

(5) Development Phase: Develop the selected alternatives into fully supported recommendations.

(6) Presentation Phase: Present the VE recommendation to the project stakeholders.

(7) Resolution Phase: Evaluate, resolve, document and implement all approved recommendations.

(g) Value Engineering Change Proposal (VECP). A construction contract change proposal submitted by the construction contractor based on a VECP provision in the contract. These proposals may improve the project’s performance, value and/or quality, lower construction costs, or shorten the delivery time, while considering their impacts on the project’s overall life-cycle cost and other applicable factors.

§ 627.5 Applicable projects.

(a) A VE analysis shall be conducted prior to the completion of final design on each applicable project that utilizes Federal-aid highway funding, and all approved recommendations shall be included in the project’s plans, specifications and estimates.

(b) Applicable projects shall include the following:

(1) Each project located on the National Highway System (NHS) (as specified in 23 U.S.C. 103) where the estimated total project cost is $25 million or more that utilizes Federal-aid highway funding;

(2) Each bridge project located on or off of the NHS where the estimated total project cost is $20 million or more that utilizes Federal-aid highway funding;

(3) Any major project (as defined in 23 U.S.C. 106(h)), on or off of the NHS, that utilizes Federal-aid highway funding in any contract or phase comprising the major project;

(4) Any project for which a VE analysis has not been conducted and a change is made to the project’s scope or design between the final design and the letting which results in an increase in the project’s total cost exceeding the thresholds identified in paragraphs (b)(1), (2) or (3) of this section; and

(5) Any other Federal-aid project the FHWA determines to be appropriate.

(c) An additional VE analysis is not required if, after conducting the VE analysis required under this part for any project meeting the criteria of paragraph (b) of this section, the project is subsequently split into smaller projects in the design phase or if the project is programmed to be completed by the letting of multiple construction projects. However, the STA may not avoid the requirement to conduct a VE analysis on an applicable project by splitting the project into smaller projects, or multiple construction projects.

(d) The STA’s VE Program’s policies and procedures shall identify when any additional VE analysis should be considered or conducted in the planning
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and development of transportation projects.

(e) For projects utilizing design-build and other alternative project delivery methods for which final design is not complete prior to the release of the final request for proposals or other applicable solicitation documents, the estimated total cost for purposes of the thresholds identified in paragraphs (b)(1) and (2) of this section, shall be based on the best estimate of the cost to construct the project.

§ 627.7 VE programs.

(a) The STA shall establish and sustain a VE program under which VE analyses are conducted for all applicable projects. The STA’s VE program shall:

(1) Establish and document VE program policies and procedures that ensure the required VE analysis is conducted on all applicable projects, and encourage conducting VE analyses on other projects that have the potential to benefit from this analysis;

(2) Ensure the VE analysis is conducted and all approved recommendations are implemented and documented in a final VE report prior to the project being authorized to proceed to a construction letting;

(3) Monitor and assess the VE Program, and disseminate an annual report to the FHWA consisting of a summary of all approved recommendations implemented on applicable projects requiring a VE analysis, the accepted VECPs, and VE program functions and activities;

(4) Establish and document policies, procedures, and contract provisions that identify when VECP’s may be used; identify the analysis, documentation, basis, and process for evaluating and accepting a VECP; and determine how the net savings of each VECP may be shared between the agency and contractor;

(5) Establish and document policies, procedures, and controls to ensure a VE analysis is conducted and all approved recommendations are implemented for all applicable projects administered by local public agencies; and ensure the results of these analyses are included in the VE program monitoring and reporting; and

(6) Provide for the review of any project where a delay occurs between when the final plans are completed and the project advances to a letting for construction to determine if a change has occurred to the project’s scope or design where a VE analysis would be required to be conducted (as specified in 23 CFR 627.5(b)).

(b) STAs shall ensure the required VE analysis has been performed on each applicable project including those administered by subrecipients, and shall ensure approved recommendations are implemented into the project’s plans, specifications, and estimate.

(c) STAs shall designate a VE Program Coordinator to promote and advance VE program activities and functions. The VE Coordinator’s responsibilities should include establishing and maintaining the STA’s VE policies and procedures; facilitating VE training; ensuring VE analyses are conducted on applicable projects; monitoring, assessing, and reporting on the VE analyses conducted and VE program; participating in periodic VE program and project reviews; submitting the required annual VE report to the FHWA; and supporting the other elements of the VE program.

§ 627.9 Conducting a VE analysis.

(a) A VE analysis should be conducted as early as practicable in the planning or development of a project, preferably before the completion of the project’s preliminary design. At a minimum, the VE analysis shall be conducted prior to completing the project’s final design.

(b) The VE analysis should be closely coordinated with other project development activities to minimize the impact approved recommendations might have on previous agency, community, or environmental commitments; the project’s scope; and the use of innovative technologies, materials, methods, plans or construction provisions.

(c) For projects utilizing design-build and other alternative project delivery methods that will be advertised prior to the completion of final design, the STA or local public agency shall conduct a VE analysis prior to the release of the final Request for Proposals or