Policy: 2450-1- Value Engineering
Section: Value Engineering
Office/Department: Engineering Services

Reports To: Chief Engineer
Contact: 404-631-1000

Code of Federal Regulations Title 23 Part 627 Value Engineering defines Value Engineering (VE) as: "The systematic application of recognized techniques by a multi-disciplined 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." For the Federal Highway Administration's (FHWA) VE policy see: http://www.fhwa/dot.gov/ve/index.cfm

NOTE: FHWA's definition of a "Project" is: "A portion of a highway that a State proposes to construct, reconstruct, or improve as described in the Preliminary Design Report or applicable Environmental Document."

At GDOT, Value Engineering Studies shall be performed for all projects with a total Programmed Cost including PE, Right of Way, Construction and Reimbursable Utilities of $50,000,000 or greater in accordance with Chapter 2 of Title 32 of the Official Code of Georgia, Annotated as revised under subsection (d) of Code Section "32-2-41.2" except for any project procured in accordance with Code Sections 32-2-79, 32-2-80 and 32-2-81.

The optimal time to hold a VE Study is in conjunction with the Concept approval. The Project Manager shall identify whether or not a project meets the criteria for a VE Study during Concept development and will be responsible for ensuring that the Study is requested. VE Study requests are submitted to GDOT Engineering Services. The Project Manager shall also request a VE Study for projects that do not meet the project cost threshold of $50,000,000 if the project has been selected to have a VE Study performed by: State Program Delivery Administrator, Division Director of Engineering, Division Director of Program Delivery, Chief Engineer, or Commissioner.

Project Managers shall:

- As part of Concept development determine the need for VE Study.
- Provide VE Study request submittal to Engineering Services.
- Provide VE Study materials.
- Provide a Designer who is familiar with the project to be available to assist the VE Team for the duration of the VE Study.
- Participate in the VE Team's presentation on the first and last day of the VE Study.
- Manage the incorporation of implemented VE Study recommendations into the Concept and other plan development.

VE Study request submittals shall:

- Be made a minimum of 60 working days prior to anticipated date of study.
- Include the following information in the request letter:
    - Project number, County and PI number.
    - A detailed project description, including references to all bridges and major structures.
    - Names of all Consultants involved in the project design, including contact person and phone number.

- The proposed let date of the project.
- The current status of the project design. For example, has the concept been approved, are preliminary bridge layouts complete, has a PFPR or FFPR been held? Also indicate the approximate plan completion percentage.
- The Design Phase Leader and GDOT Design Project Manager and phone number and the names of anyone from GDOT Design who will attend the VE Study.
- Any significant information that may affect the VE Study.
- Agency or Local Government who will pay for the VE Study.

- Include the most recent Concept. The Concept must match the proposed design.
- Include an up-to-date Cost Estimate for Construction, Right of Way, and Reimbursable Utilities (if applicable). The Cost Estimate must match the proposed design and must have been updated within three (3) months of the VE Study Request.

Value Engineering Study Materials Provided by the Project Manager:

A review package for each VE Team member. This package will consist of:

- A portion of half sized set of plans if applicable as directed by Engineering Services.
- The current Concept.
- An up-to-date Construction Cost Estimate.
- An up-to-date Right of Way Cost Estimate.
- An up-to-date Utility Relocation (reimbursable and non-reimbursable) Cost Estimate.

Additional information should be provided for use by the VE Team during the VE Study including, but not limited to:

- A display of the project layout including applicable typical sections.
- Traffic information utilized in the conceptual decisions.
- Accident data for any area with significant accidents.
- Aerial photo coverage of the project depicting corridors or interchange layouts.
- Information on current right of way values, consisting of such items as square foot or square meter market values for areas which will be affected by the project.
- Estimated right of way costs for each project based on actual real estate values in the area, including relocation costs.
- Existing Bridge Plans and Preliminary Bridge Layout (Draft is acceptable).
- A CD or flash drive containing the Design files for the project
- Earthwork files
- Utility Relocations/Reimbursable Utilities

Engineering Services Role Before and During a VE Study:

- Assemble the VE Study Team and Facilitator.
- Schedule times and location of the VE Study.
- Identify personnel from GDOT Offices (Bridge, G.O. Construction, Environmental Services, Right of Way, District Construction, Traffic Safety and Design) to serve as advisors to the VE Team for the duration of the VE Study.
- Ensure the VE Study is performed according to accepted procedures.
- Distribute VE Study Reports to Project Manager, VE Study Team Members and appropriate offices within two (2) weeks of VE Study.

Project Manager Role After a VE Study is Held:

- Manage the completion of written responses by the Design Phase Leader for each of the VE recommendations contained in the VE Study Report.
- Provide a cover letter of concurrence from their Office attached to the written responses for each of the VE recommendations contained in the VE Study Report transmitted to the State Project Review Engineer. These responses shall contain sufficient engineering documentation to help make the decision to "implement, not implement or implement with modifications" for each VE recommendation. These written responses should be submitted within four (4) weeks after distribution of the VE Study Report.
- Provide any additional information to Senior Management if requested during the approval process.

Engineering Services Role After a VE Study is Held

- Coordinate with the Project Manager and other offices as appropriate to obtain feedback and consensus on each of the VE Report recommendations.
- Provide implement, not implement, or implement with modifications recommendations with supporting documentation to the Chief Engineer and FHWA Georgia Division (if it is a Project Division Interest (PoDI) where the Project's PoDI Plan includes FHWA involvement in the VE Study).
- Obtain implement, not implement, or implement with modifications approval of the Chief Engineer and FHWA (if required by the Project's PoDI Plan).
- Distribute results to Design Project Manager, VE Study Team Members and appropriate offices.
- Post VE Study and approved implementation document to applicable Department electronic locations.

Changes in Approval to Implement, Not Implement, or Implement With Modifications VE Recommendations:

- If after the VE Study is held and during Preliminary or Final Plan Development activities it is determined that any of the VE Recommendations previously approved for implementation or implementation with modifications are not feasible from an engineering or practical standpoint, additional supporting documentation shall be provided to the State Project Review Engineer to justify "reversing" the previous decision to implement. This documentation shall include design related facts on why the previous decision to implement needs to be "reversed" along with a revised cost savings for the project. This will be submitted by the State Project Review Engineer to the Chief Engineer and FHWA (if required by the Project's PoDI Plan) for approval.
- If after the VE Study is held and during Preliminary or Final Plan Development activities, it is determined that one of the previously VE Recommendations not implemented should be implemented either in part or in whole, additional supporting documentation shall be provided to the State Project Review Engineer to justify "reversing" the previous decision to not implement. This will be submitted by the State Project Review Engineer to the Chief Engineer and FHWA (if required by the Project's PoDI Plan) for approval.

In order to meet FHWA requirements, Engineering Services will compile and submit the results of VE Studies to FHWA on a yearly basis. This report typically includes:

- The number of VE Studies performed.
- Costs for performing the VE Studies.
- Estimated Total Costs (Preliminary Engineering, Right of Way, Reimbursable Utilities, Construction, and Construction Engineering) of projects studied.

- The total number of recommendations from VE Reports.
- The total dollar value of recommendations from VE Reports.
- The total number of recommendations implemented.
- The total dollar value of all recommendations implemented.

References:

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History:

annual review: 03/03/22;
added to TOPPS: 10/6/98
Reviewed: 3/3/2022