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Title: Value Engineering (VE)		

**1.0 PURPOSE:**

- 1.1 The purpose of this procedure is to define the process for conducting value engineering exercises and the requirements to conduct this activity. All NTTA projects shall comply with the procedures established herein.
- 1.2 VE activities shall be conducted during or after schematic design, but before PS&E activities.
- 1.3 For projects under \$25 million, an informal (2-3 days) VE process shall be conducted by the CM/Project Manager and appropriate NTTA/PD staff.
- 1.4 For projects greater than \$25 million, a formal (5-10 days) VE process workshop shall be conducted in compliance with FHWA recommended procedures. (Reference [www.fhwa.dot.gov/VE/](http://www.fhwa.dot.gov/VE/).)

**2.0 RESPONSIBILITIES:**

- 2.1 Director of Project Delivery (DPD) – The DPD shall be responsible for approving/rejecting all changes resulting from the VE process.
- 2.2 NTTA Design Manager – The NTTA Design Manager shall be responsible for reviewing the results of the VE study and recommending any changes for approval by the DPD.
- 2.3 Corridor Manager (CM)/Project Manager – The CM/Project Manager shall be responsible for preparing a recommendation to conduct formal VE workshops which shall be presented to the NTTA Design Manager and DPD prior to the commencement of formal VE workshops. The CM/Project Manager shall be responsible for conducting a formal VE study for projects greater than \$25 million and an informal VE study for projects less than \$25 million. The CM/Project Manager shall be responsible for coordinating the VE workshop and inviting the stakeholders listed in this procedure to the VE workshop. The CM shall submit the results and recommendations of the VE study to the NTTA Design Manager.

**3.0 SCOPE/APPLICABILITY:**

This procedure shall apply to NTTA projects and corridors within the Project Delivery Department.

**4.0 REFERENCES:**

- TxDOT Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges
- TxDOT Project Development Process Manual
- [PC-02](#) Cost Estimates procedure
- Value Engineering Guidelines, Wilson Associates VE, Inc.

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## 5.0 DEFINITIONS & ACRONYMS

## 6.0 PROCEDURES:

- 6.1 VE Goal Setting** – Prior to making a presentation to the NTTA Design Manager and DPD for approval of the VE workshop, the CM/Project Manager and NTTA representatives shall establish goals for the VE workshop. Once appropriate goals for the VE workshop have been established, the CM/Project Manager shall prepare a presentation for the NTTA Design Manager and DPD to express these goals and obtain approval to conduct the VE workshop.
- 6.2 VE Workshop Preparation** – The CM/Project Manager shall conduct an informal or formal VE workshop based on project cost. The CM/Project Manager shall coordinate the VE workshop by inviting the following key stakeholders:
- TxDOT staff
  - NTTA staff
  - Applicable local municipality staff (City Manager, City Engineer, City Planner etc.)
  - Utilities and Transportation Agencies
  - DSE
  - NTTA/PD Resource Staff such as Design, Maintenance, ROW, IT, etc.

The CM/Project Manager shall also coordinate the gathering of all appropriate data, studies and related information to be studied during the VE workshop

- 6.3 Conducting the VE Workshop** – The VE workshop shall be conducted in six phases:
- 6.3.1 Information Gathering Phase** – Participants shall review known facts such as: estimates, T&R studies, environmental studies, permitting and approval status. The participants shall develop a decision matrix for the project and shall evaluate various models.
- 6.3.2 Function Analysis Phase** – Participants shall review details related to the necessary functions of the project at a high level and then shall drive these high-level functions down into more detailed requirements.
- 6.3.3 Creative Phase** – Participants shall exercise their creative expertise and shall provide a myriad of design alternatives to meet the required functions of the project. All ideas are considered.
- 6.3.4 Analysis Phase** – Participants shall apply analysis techniques to the design alternatives. The result shall be a quantitative resolution based upon evaluating the alternatives against weighted design criteria for the project.
- 6.3.5 Development Phase** – Participants shall select the alternatives to be developed by majority vote. The selected alternatives are then developed with the intent to gain stakeholder support.
- 6.3.6 Presentation Phase** – Participants shall develop a high-level presentation of the selected alternatives for presentation to the NTTA Design Manager and DPD.
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**6.4 Presentation of Recommendations** – Once the VE workshop is complete, the CM shall present the VE recommendations to the NTTA Design Manager and the DPD for approval.

**6.5 Implementation** – Upon approval, the CM/Project Manager shall implement the VE recommendations into the PS&E and construction phases of the project.

**7.0 REGULATORY REQUIREMENTS:**

- FAR, Part 48- Value Engineering, Subpart 48.2-Contract Clauses
- FAR, Part 52.248.1-Value Engineering Provisions and Clauses

**8.0 RELATED BOARD POLICY:**

N/A

**9.0 COMPONENT DOCUMENTS:**

N/A

**10.0 FLOWCHART:**

N/A

**11.0 REVISION HISTORY:**

Revision	Revised by:	Date Issued	DRN	Reason for Revision
0	Dave Clarke	06/05/2008		Original Issue
1	Peter Claypool	12/31/2008		Document number was FD-02
2	Darla Payberah	04/28/2011	<a href="#">10290</a>	Updated roles new/replaced roles and provided minor revisions for clarity