Value Engineering Team Member Guide

Value Engineering is a function-oriented, structured team approach used to analyze and improve **Value** in a project. It is a powerful methodology for solving problems and improving performance and quality. Reducing cost may be a by-product of Value Engineering, improving value is the objective.

$$Value = \frac{Performance}{CO\$T}$$

How Long is a Workshop?

Value Engineering workshops will vary depending on project type, size and complexity. Most workshops can be completed in 2 to 5 days, typical workshops at ODOT last **5 days.**

All Team Members are expected to participate for the entire duration of the Value Engineering workshop. *Commitment and dedication are critical.* Results are directly related to the teams level of commitment to the process.
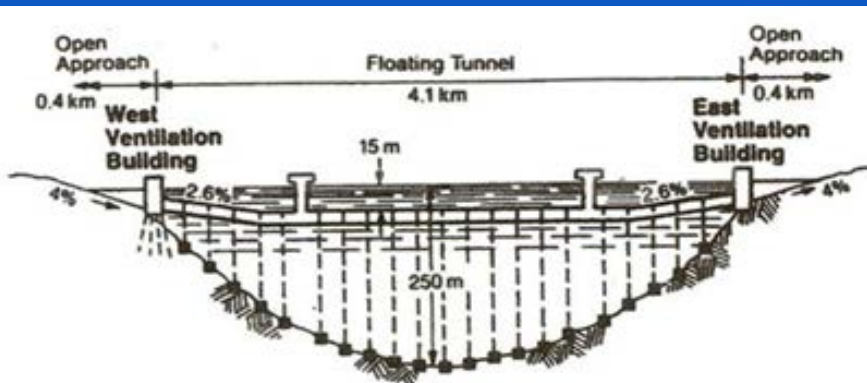
Thinking Outside the Box

Value Engineering employs an independent team of multi- disciplinary subject matter experts offering a broad perspective of ideas to solve difficult engineering problems.

The challenge is to be innovative. The Value Engineering forum provides an environment to enable the team to think with an open mind and "outside the box". Only with this unbiased, objective attitude can the team achieve significant, meaningful results.

Your Responsibilities as a Team Member

You were selected to assist on this team because of your experience & expertise.

- Be **Committed** to the success of the workshop!

- Be **Open-minded**, leave preconceived ideas of what will and won't work behind.

- **Review** the materials provided by the ProjectTeam prior to the workshop.

- **Be Prepared** to contribute.
    - Bring your laptop for researching topics, taking notes and developing concepts.

- **Communicate**
    - Be a good listener – allow people to say what they are thinking.
    - Contribute to discussions – Share your ideas.
    - Ask for clarification when needed.

- **Be Present**
    - Turn your cell phone to vibrate.
    - Wait until breaks to check emails.
    - Refrain from side discussions during team time.
    - Dress comfortably.

Bold and Visionary Thinking
Charles Andrew – WSDOT 1940
Puget Sound Floating Tunnel Proposal

What to Expect in the Workshop

The Value Engineering workshop employs a structured 6-step job plan that guides the VE team through the process of identifying and focusing on key project functions. Each phase of the job plan is critical in creating an understanding of the project needs and developing the best ways to meet performance objectives.

Outlined in the table below are the phases of the Job Plan, what activities the team may participate in for that phase and the expected product of the work done by the team during that phase.

Phase	Team Activities	Product
Information Phase	• Project Kickoff with Project Manager, Design Team, stakeholders, VE team members, and facilitator. • Design Team Presentation of current project. • VE Team defines project performance attributes/metrics. • Site Visit | Discuss site visit observations and problems the project must solve | Identify issues design may not address. • Discuss project risks	• Brings all team members to a common understanding of the project, including its challenges and constraints. • Establishes the benchmark for which to identify alternatives. • Gains "real-world" perspective of the project and builds foundation for function analysis.
Function Analysis Phase	• Identify and classify project functions. • Identify functional relationship of the project elements. • Identify high cost functions. • Select specific functions for study.	• Provides a comprehensive project understanding by focusing on what the project does, rather than what it is. • Identifies what the project must do to satisfy needs and objectives. • Identifies and focuses on functions with the greatest opportunity for project improvement.
Creative Phase	• Brainstorm to generate performance-focused ideas for alternative ways to perform functions. • Discuss, build-on, and clarify ideas.	• VE team draws on their experience to put forth ideas that provide a wide variety of possible alternatives or methods to improve the value of the project.
Evaluation Phase	• Eliminate obvious ideas that just won't work - "fatal flaws". • Rank ideas based on performance criteria and goals of the study. • Discuss conflicts in rankings, further clarify ideas, and agree on final rankings. • Discuss ideas with the Project Manager and Design Team.	• Prioritizes ideas for development—focusing on those with the highest potential performance improvement and cost savings. • Determine best value ideas: performance/cost. • Focuses the team's effort to develop alternative ideas that best meet the performance needs of the project.
Development Phase	• Validate and refine idea concepts. • Compare to original design concept. • Develop alternative recommendations and define what is needed for implementation of the alternative.	• Alternative Recommendation workbook provides side-by-side comparison of baseline and alternative— Includes concept, initial costs, life cycle costs, drawings, and performance metrics.
Presentation Phase	• VE Team Presents key developed ideas to Project Manager, Design Team, and stakeholders.	• Ensures management and other key stakeholders understand the reasoning behind the proposed value alternatives and design suggestions. • Draft report

For more information on Value Engineering, call Zach Davis at 503-986-7168 or Peter Kennedy at 503-986-7133

Oregon Department of Transportation