

Value Engineering (VE) Checklist for CMGC Projects

1. VE Analysis Requirement

- ☐ Determine if the project meets the thresholds for mandatory VE analysis as per [TDOT Roadway Design Guidelines-PDN.pdf](#).
- ☐ the VE analysis is conducted early in the project development phase and maximize value improvements.

2. VE Team Composition

- ☐ Assemble a multidisciplinary VE team that includes:
 - Project Manager
 - Design Engineers
 - Construction Manager/General Contractor (CMGC) Representative
 - Subject Matter Experts (SMEs)
 - Facilitator
- ☐ the team has diverse expertise to evaluate all aspects of the project.

3. VE Job Plan Development

- ☐ Develop a VE Job Plan that outlines
 - Objectives of the VE study
 - Scope of the analysis
 - Methodology to be used
 - Schedule and milestones
 - Roles and responsibilities of team members

4. Function Analysis

- ☐ Conduct a Function Analysis and identify and prioritize the essential functions of the project.
- ☐ Use techniques such as FAST (Function Analysis System Technique) to map and evaluate functions.

5. Alternative Development

- ☐ Develop alternative solutions that meet the project's functions at a reduced cost or with improved performance.

- ☐ Evaluate alternatives based on criteria such as cost, feasibility, impact on schedule, and quality.

6. Evaluation of Alternatives

- ☐ Assess each alternative for:
 - Technical feasibility
 - Cost-effectiveness
 - Risk implications
 - Impact on project schedule
 - Compliance with regulatory requirements

7. Implementation Plan

- ☐ Develop an Implementation Plan for approved alternatives, including:
 - Detailed description of the alternative
 - Changes to design, construction methods, or materials
 - Cost savings and benefits
 - Timeline for implementation
 - Responsible parties for execution

8. Documentation and Reporting

- ☐ Document all VE activities, including:
 - Meeting minutes
 - Alternative proposals
 - Evaluation matrices
 - Implementation plans
- ☐ Prepare a VE Report (Workbook) summarizing the process, findings, and recommendations.

9. Approval and Follow-up

- ☐ Submit the VE Report to the appropriate authorities for approval.
- ☐ Monitor the implementation of approved alternatives to ensure they are executed as planned.
- ☐ Perform follow-up evaluations to assess the effectiveness of implemented alternatives.