



## VALUE ENGINEERING

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## Code of Virginia

§ 33.1-190.1. Value engineering required in certain projects. The Department shall employ value engineering in conjunction with any project on any highway system using criteria established by the Department and including but not limited to all projects costing more than \$5 million. For the purposes of this section, "value engineering" shall mean a systematic process of review and analysis of an engineering project by a team of persons not originally involved in the project. Such team may offer suggestions which would improve project quality and reduce total project cost, ranging from combination or elimination of inefficient or expensive parts or steps in the original proposal to total redesign of the project using different technologies, materials, or methods. After a review, the Commissioner of Highways may waive the requirements of this section for any project for compelling reasons. Any such waiver shall be in writing, state the reasons for the waiver, and apply only to a single project.

# VDOT

## Value Engineering Administration Manual

EXEMPTION CLAUSE: Projects/contracts repetitive in nature, such as plant mix overlays, sign overlays, bridge painting, surface treatments, slurry seals, guardrail maintenance, pavement repairs, pavement markings, and epoxy or latex overlays do not lend themselves to VE study as the costs of such contracts are multiples of the same project. Projects of this repetitive nature will only be Value Engineered as components of the VDOT Standards studies and VDOT Policies and Procedures studies.

# Federal Requirement

TITLE 23--HIGHWAYS CHAPTER I--FEDERAL HIGHWAY ADMINISTRATION,  
DEPARTMENT OF TRANSPORTATION PART 627--VALUE  
ENGINEERING

**Sec. 627.1 Purpose and applicability. (a) This regulation will establish a program to improve project quality, reduce project costs, foster innovation, eliminate unnecessary and costly design elements, and ensure efficient investments by requiring the application of value engineering (VE) to all Federal-aid highway projects on the National Highway System (NHS) with an estimated cost of \$25 million or more.**

# Value Engineering Goals & Objectives

## Financial Benefits

- Cost Avoidance/Savings
- Eliminate inefficient or expensive parts or steps
- Reduce Overall Life Cycle Costs

## Functional Benefits

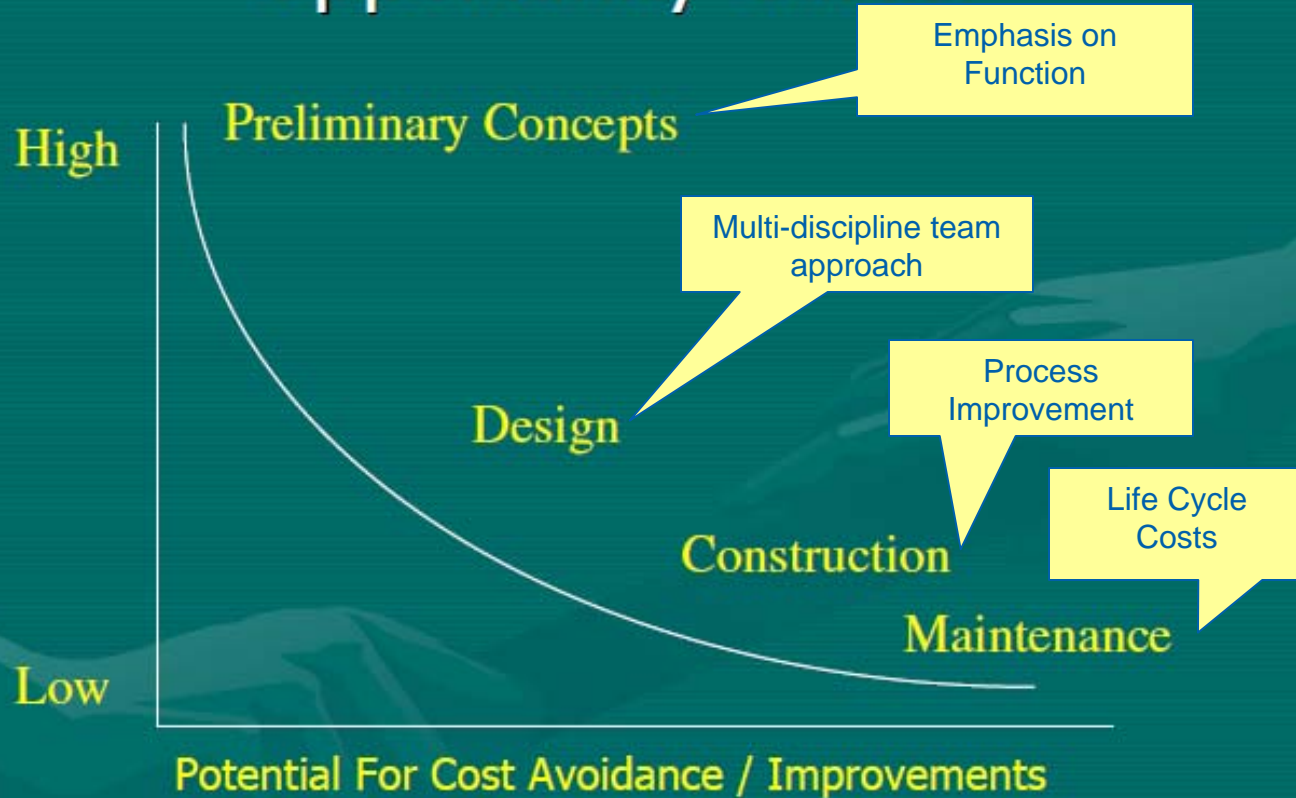
- Improve Project Quality
- Promote Innovation
- Improve functionality
- Total redesign of the project using different technologies, materials, or methods

# Value Engineering Team

**“...shall mean a systematic process of review and analysis of an engineering project by a team of persons not originally involved in the project.”**

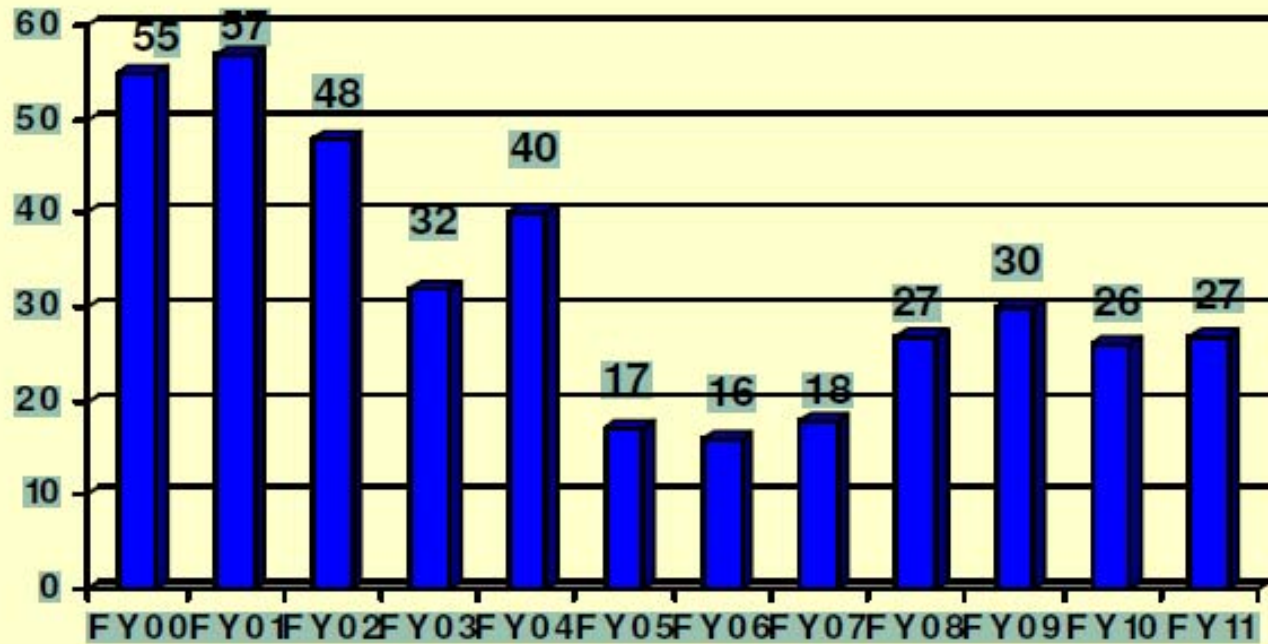
- A small group of experts in required disciplines : roadway design, bridge design, construction, environmental, hydraulics, geotechnical, operations, maintenance, traffic engineering.
- Other Stakeholders : FHWA, cities, counties, other agencies, outside funding sources, permitting agencies.

# Opportunity Curve



# Value Engineering Program Studies Conducted FY 00 – FY 11

Value Engineering Program  
Studies Conducted FY 00 – FY 11





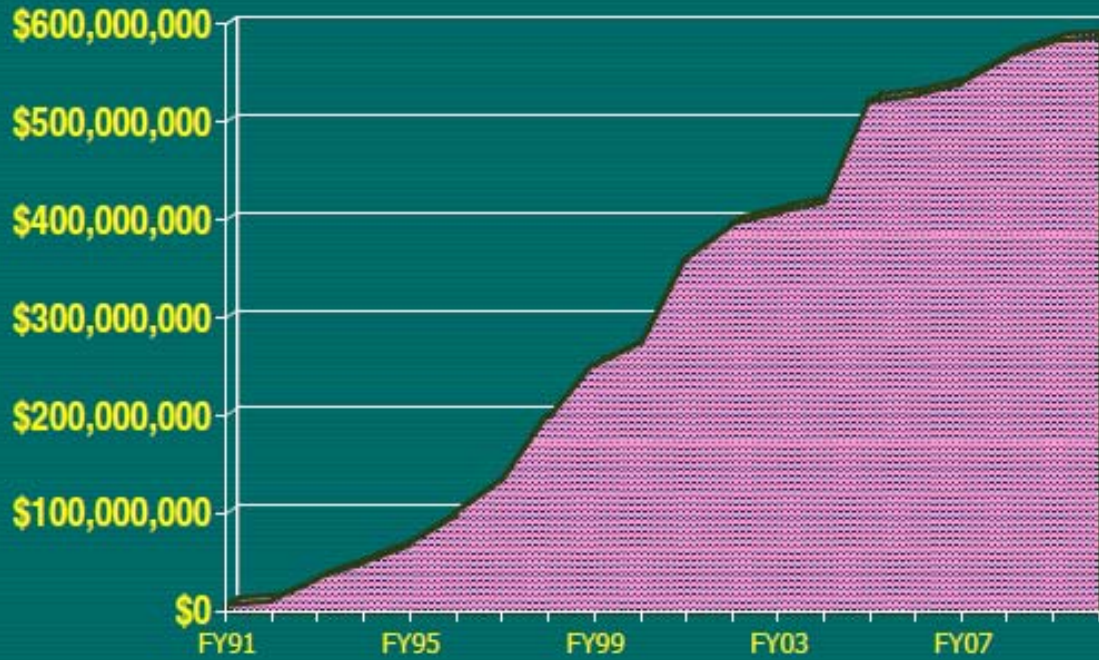
## FY 00 – FY 11

### Savings/Cost Avoidance

(Chart in Millions)



# Accumulated Cost Avoidance



Additional Information:  
<http://www.virginiadot.org/projects/VE-default.asp>

**Value Engineering**

[VE Welcome](#) | [VE Studies](#) | [VE Process](#) | [Assistance to DOTs](#) | [Highlights and awards](#) | [Training](#)  
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Value Engineering (VE) is a systematic, creative study process conducted by engineers and technicians to obtain optimum value for every dollar spent.

The Code of Virginia requires VDOT to employ value engineering in conjunction with any project on any highway system using criteria established by the Department and including but not limited to all projects costing more than \$5 million.

In 2001, the Virginia Department of Transportation (VDOT) was named one of the largest and most effective users of the value engineering methodology in the country by a Federal Highway Administration report.

Since the VE program was established in the Management Services Division in 1990, 956 studies have been conducted and 4,503 recommendations have been made.

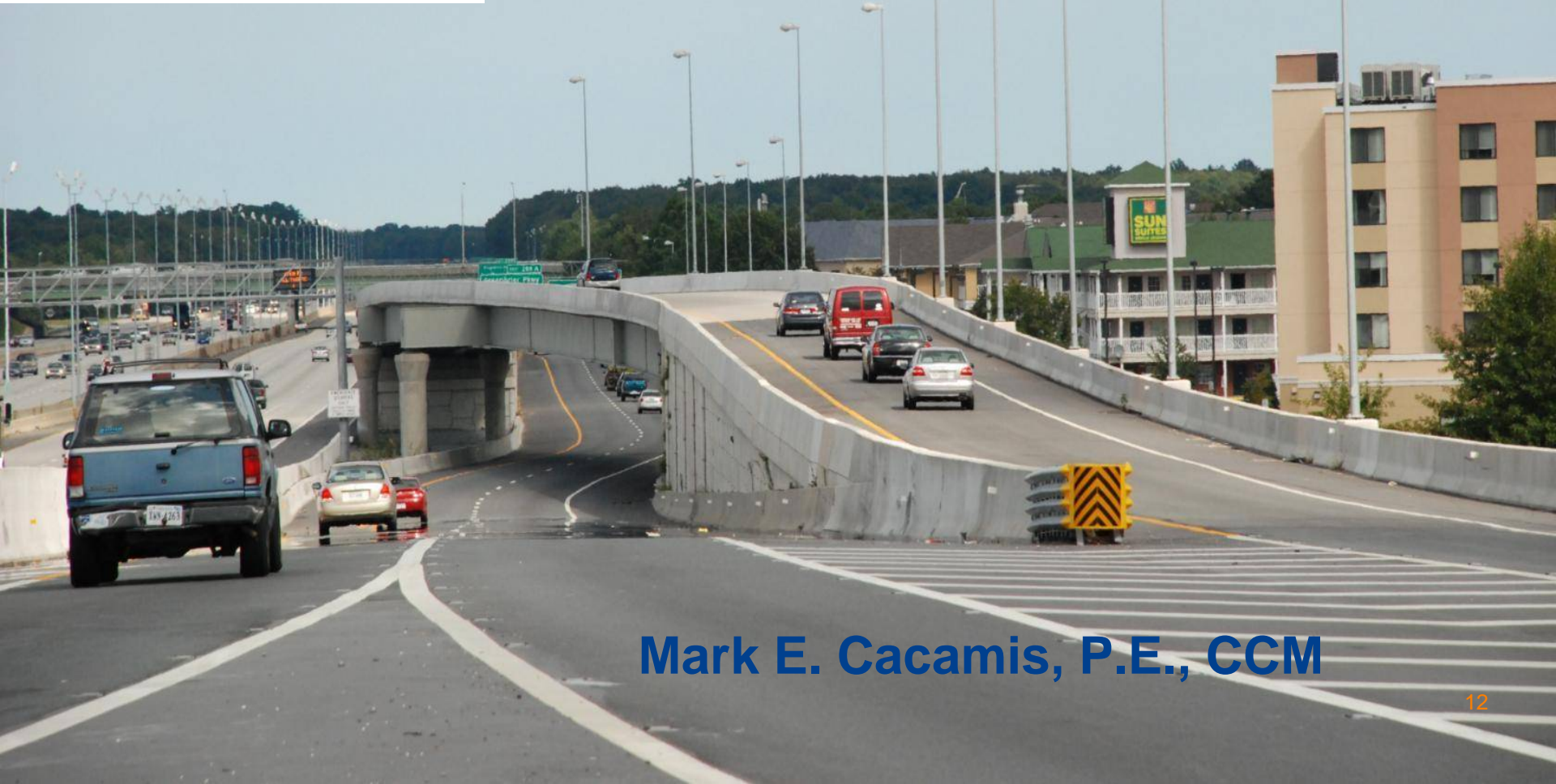
Of those, 2,510 (56 percent) have been accepted, totaling more than \$583 million in savings.

Since 1990, VE at VDOT has produced a return on investment of 43:1.

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# Questions?



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