

Doing more with Less in the Ontario Government with Value Analysis

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Montreal
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MoV®

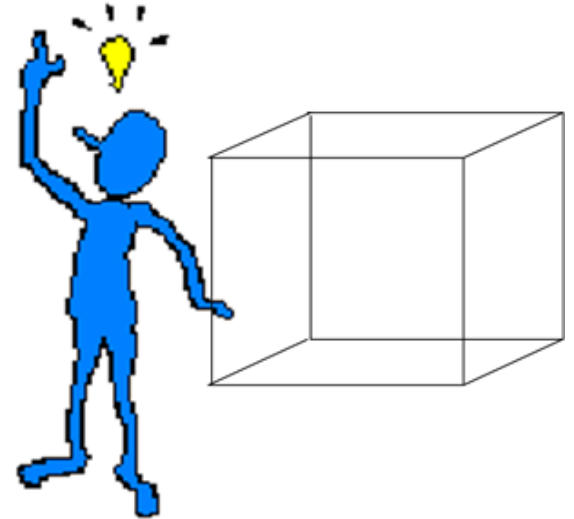
Topic Overview

- *Ontario's record*
 - *Do more with less*
 - *Stimulate Innovation*
 - *Understand Business Needs*
 - *Openness to Change*
- *How to sustain a VA program*
- *How to succeed at VA*

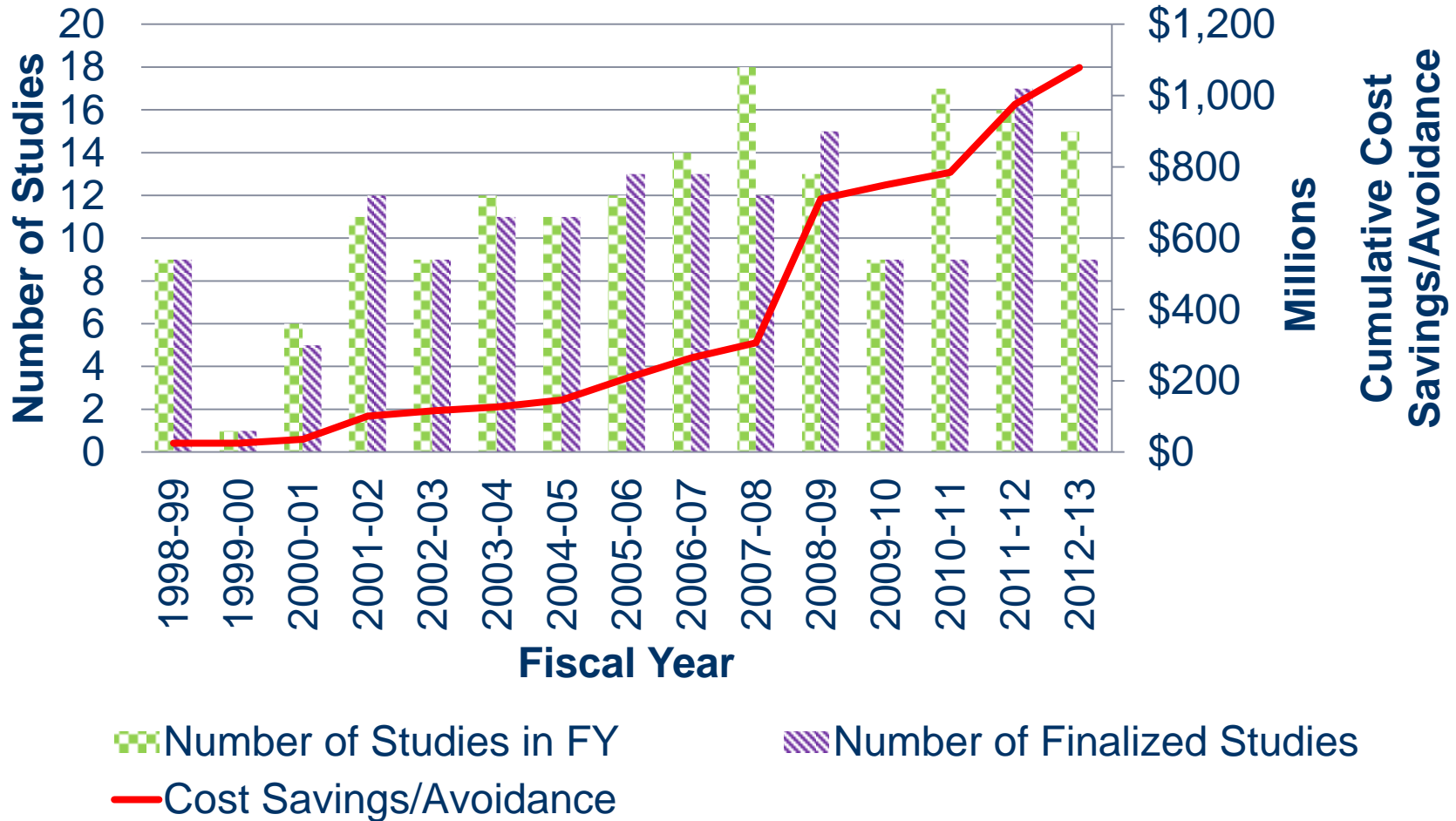
Why VA?

$$\text{Value} \propto \frac{\text{Satisfaction of Needs}}{\text{Use of Resources}}$$

- Reduce Cost
- Return on Investment >60:1
- Stimulate innovation
- Satisfy customers
- Engage stakeholders



Reduce Project Costs



\$ 1 Billion in Cost Avoidance

Return on Investment

	Fiscal Year Study Finalized			Grand Total
	2010-11	2011-12	2012-13	
Service Provider Fees – Capital Projects	\$735,799	\$1,594,004	\$916,474	\$3,246,278
Cost Savings/ Avoidance	\$35,226,000	\$190,758,175	\$62,706,000	\$288,690,175
Value Added	\$6,108,000	\$23,660,616	\$22,306,089	\$52,070,705
Net Cost Savings	\$29,118,000	\$167,097,559	\$40,399,911	\$236,615,470
Return on Investment	40	105	44	73
Percentage of Project Costs Saved	4.6%	11.8%	4.6%	7.7%

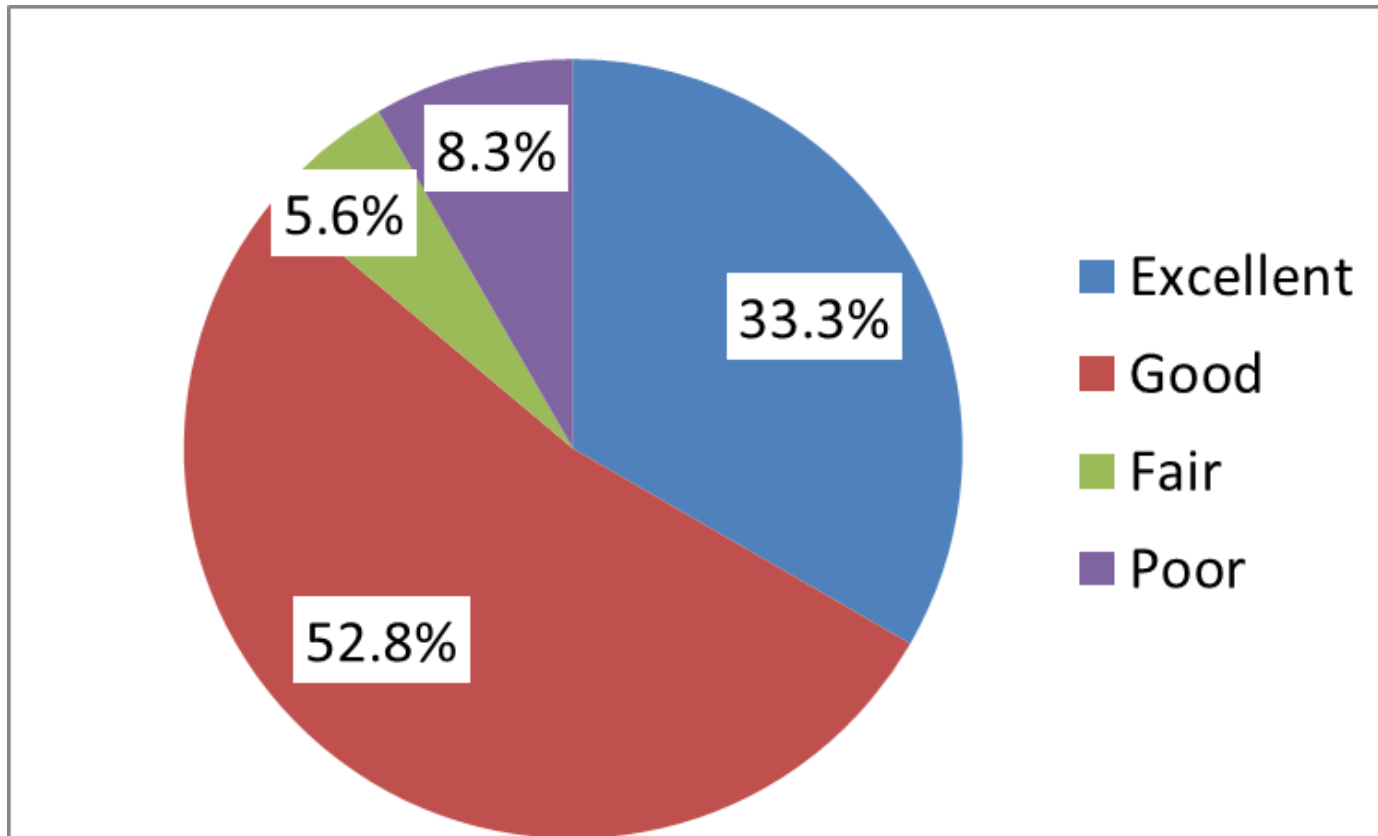
Do More with Less



Stimulate New Ideas

Finalized Fiscal Year	FY 2010-11	FY 2011-12	FY 2012-13	Total
	Number of Recommendations			
Recommendations Submitted	138	241	123	502
Accepted with Modifications	2	14	4	20
Accepted Recommendations	23	57	21	101
Further Study (not accepted or rejected)	37	23	38	98
Rejected (Mutually Exclusive Recommendations)	6	13	7	26
VE Recommendation Acceptance Rate	25%	41%	30%	34%

86 % of VE studies rated as Good or Excellent



Satisfied Customers 86% of the time!

Engaged Stakeholders



Project Description	Develop design concept and standards for a new style of commercial vehicle inspection facilities.
VE Objectives	Optimize the building design & security features. Design to be multi-functional for other enforcement agencies.
VE Results	Fast process, strong buy-in to building concept, very few changes in design and construction.

A Win-Win Recommendation

Sharing Values with First Nations through Value Engineering, Road Talk, Winter 2012

The Ontario Ministry of Transportation (MTO) recently embarked on a modified Value Engineering Study with the full participation of the Red Rock Indian Band. The Red Rock Indian Band community had reached development capacity at its Lake Helen land base on Highway 11 just east of Nipigon, Ontario. The First Nation's land base was bounded by Lake Helen on the west and constrained to the north and east by a high rocky ledge. Lot 14, government-owned land in the Township of Nipigon, appeared to be the only opportunity for contiguous expansion but was protected by the ministry for future use. The Band expressed interest in acquiring all or a portion of Lot 14 from the ministry.

Value Engineering (VE) is a systematic, organized method of investigation led by a trained facilitator. During the process, multi-disciplinary teams investigate and analyze the functional requirements of a project to achieve the essential functions at the lowest total cost (capital, operating, maintenance and societal) over the life of the project. VE teams identify alternatives to reduce overall risk and to improve project effectiveness and sustainability, and/or reduce total project costs using a combination of creative and analytical techniques by seeking optimal value, defined as the ratio of stakeholder needs over resources. Resulting resolutions are built on consensus, transparency and respect.

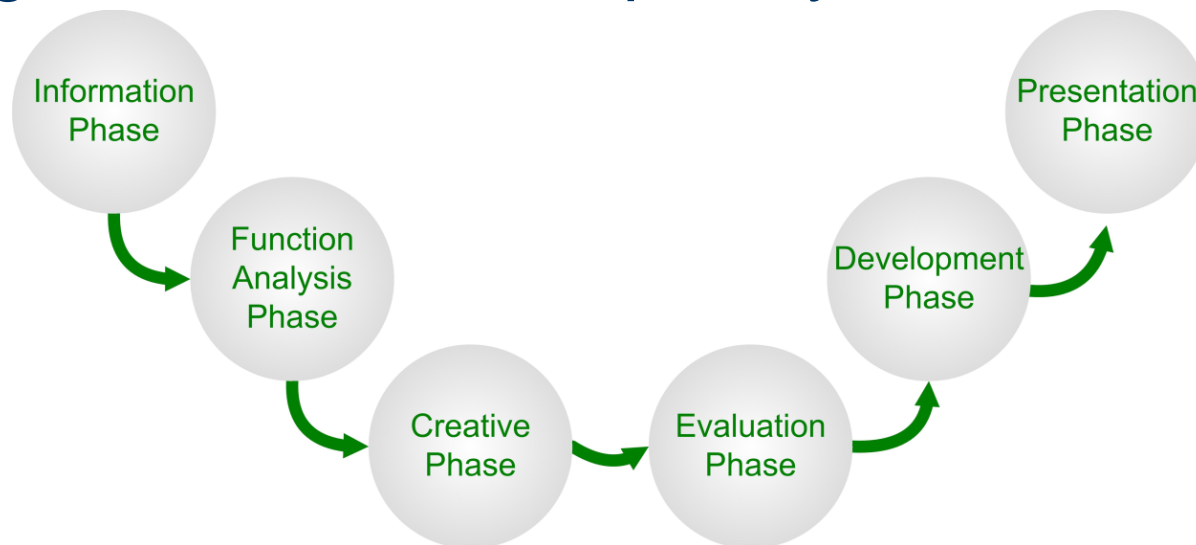


For this workshop in Thunder Bay, the VE Team included four participants from MTO, two from Red Rock Indian Band, and three consultants from MMM Group, a VE consultant group.



How does it work?

- **VA** is a structured 6 step methodology that uses a combination of creative and analytical techniques to identify alternative ways to achieve objectives.
- A VA study is undertaken in a workshop setting, with an interdisciplinary team.



The VA Workshop Helps Teams

- Agree upon key needs
- Improve Performance
- Maximize use of Resources
- Manage Risk
- Generate Solutions



National Value Engineering Honorable Mention

Most
Value Added
Proposal



Pre-Construction
Engineering less
than \$25 million

Ontario Ministry of Transportation
With MMM Group Limited

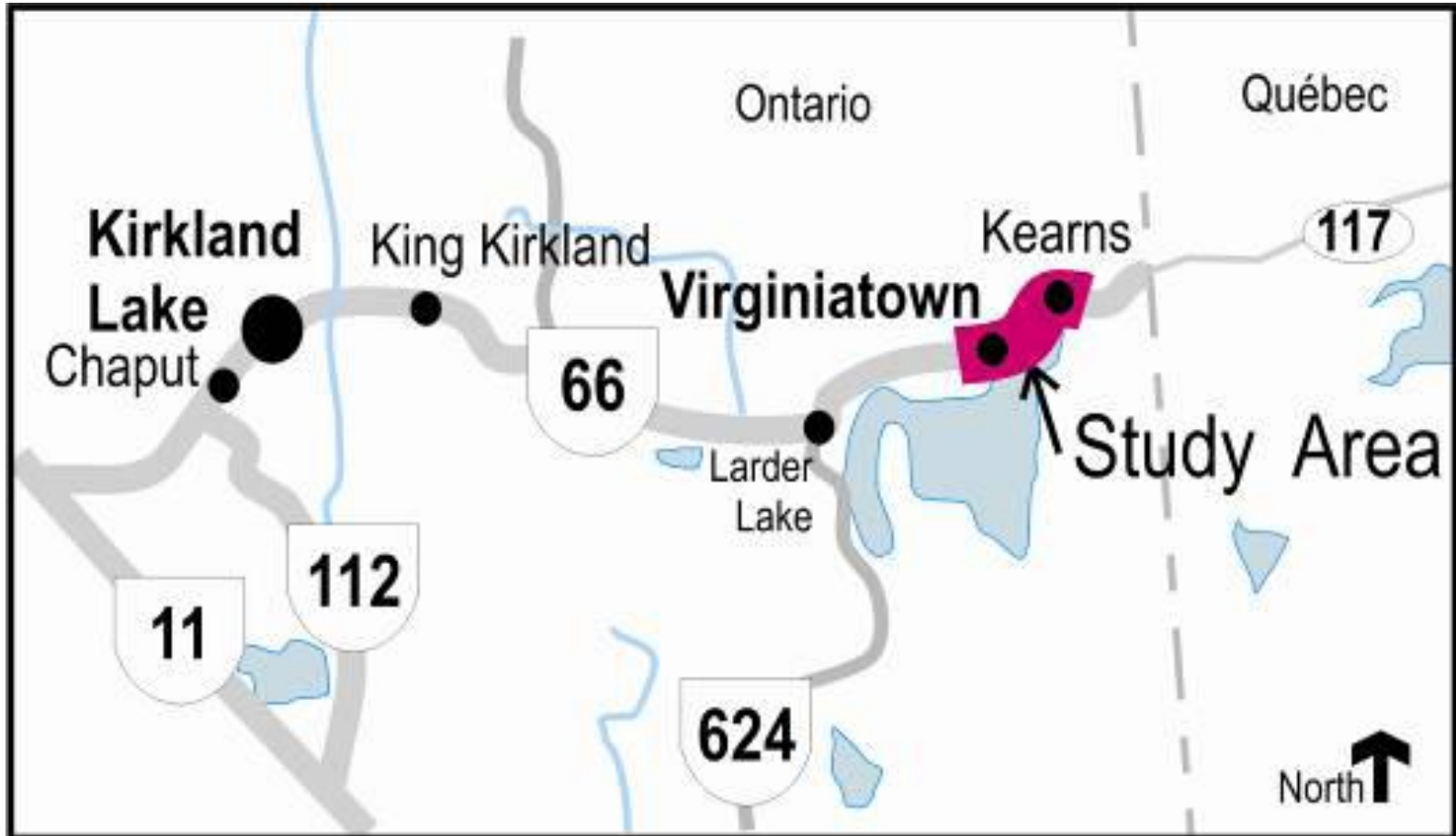
Highway 66 Realignment at Virginiatown

*For Demonstrating Outstanding Value Engineering Achievements
in Cost & Schedule Savings, Innovation, Enhanced Performance, and Constructability
that resulted in an Overall Improved Project*

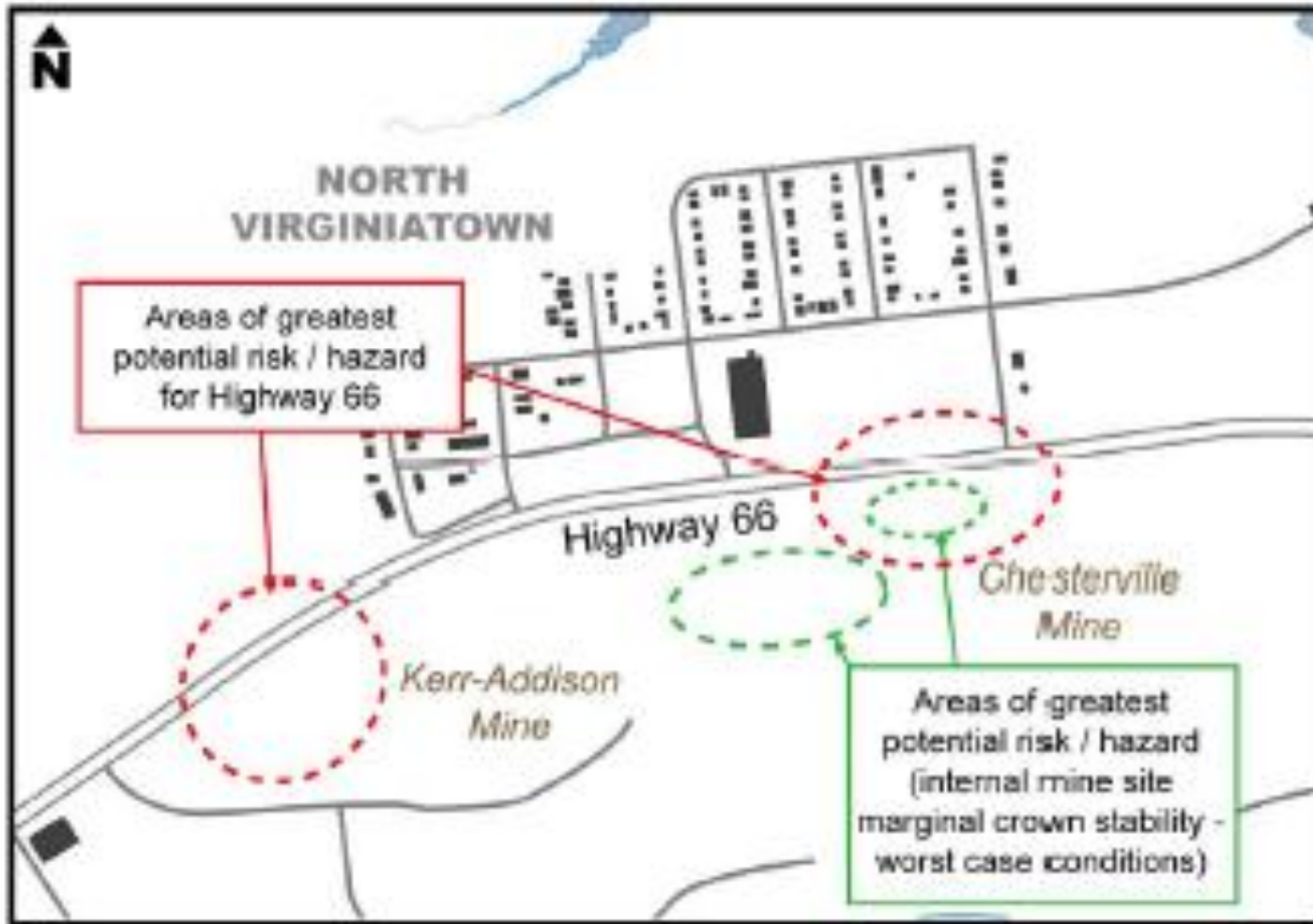
Presented by the AASHTO Value Engineering Technical Committee
July 9, 2013



Study Location



Project Background



Highway 66 is at risk due to subsidence of the abandoned Kerr-Addison and Chesterville Mines.



Evidence of on-going progressive hanging wall failure in the West Glory Hole. (ICCI, 2007.)

Base Case Design

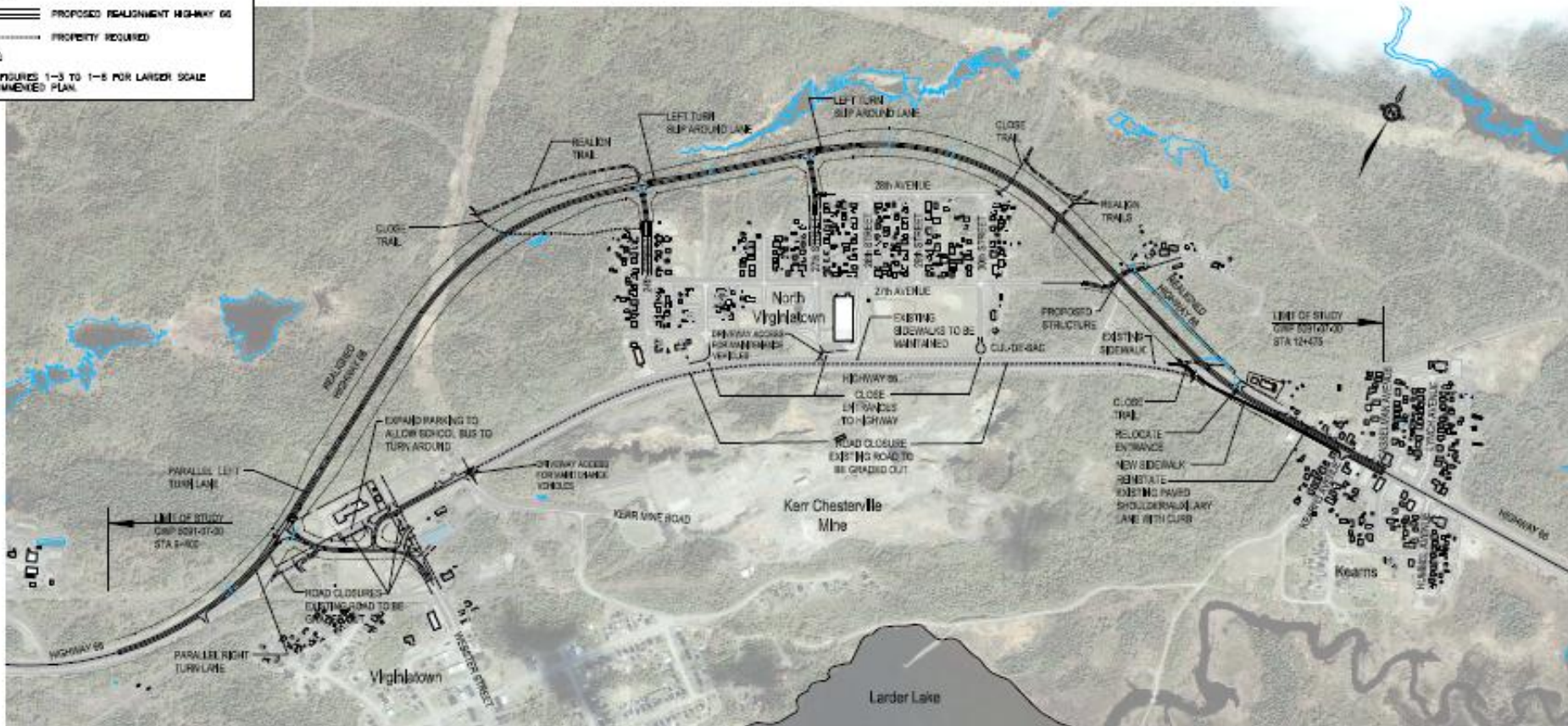
LEGEND

===== PROPOSED REALIGNMENT HIGHWAY 66

----- PROPERTY REQUIRED

NOTE

SEE FIGURES 1-3 TO 1-8 FOR LARGER SCALE RECOMMENDED PLAN

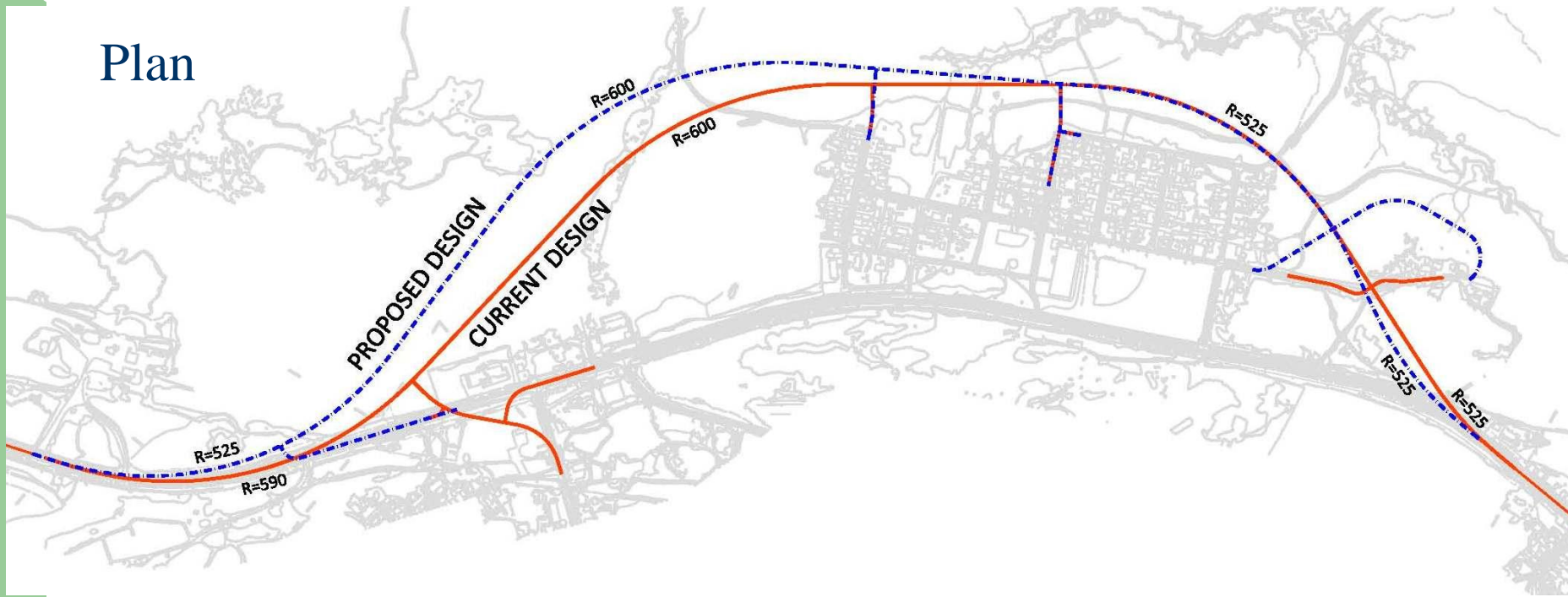


Site Visit

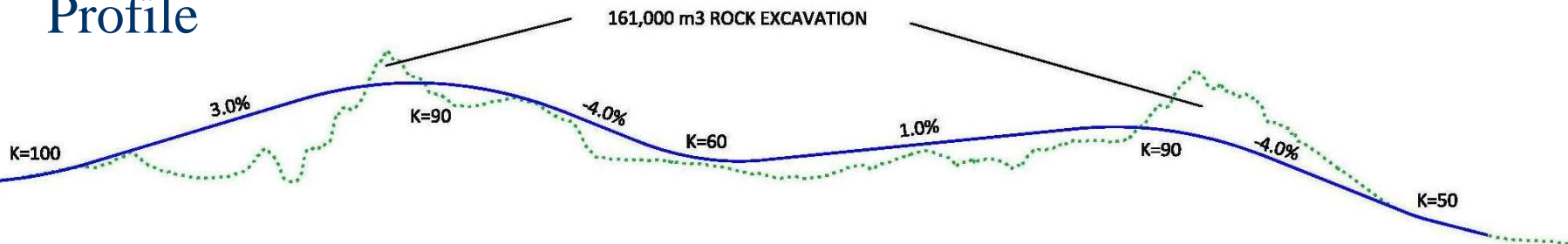


Scenario 2

Plan



Profile



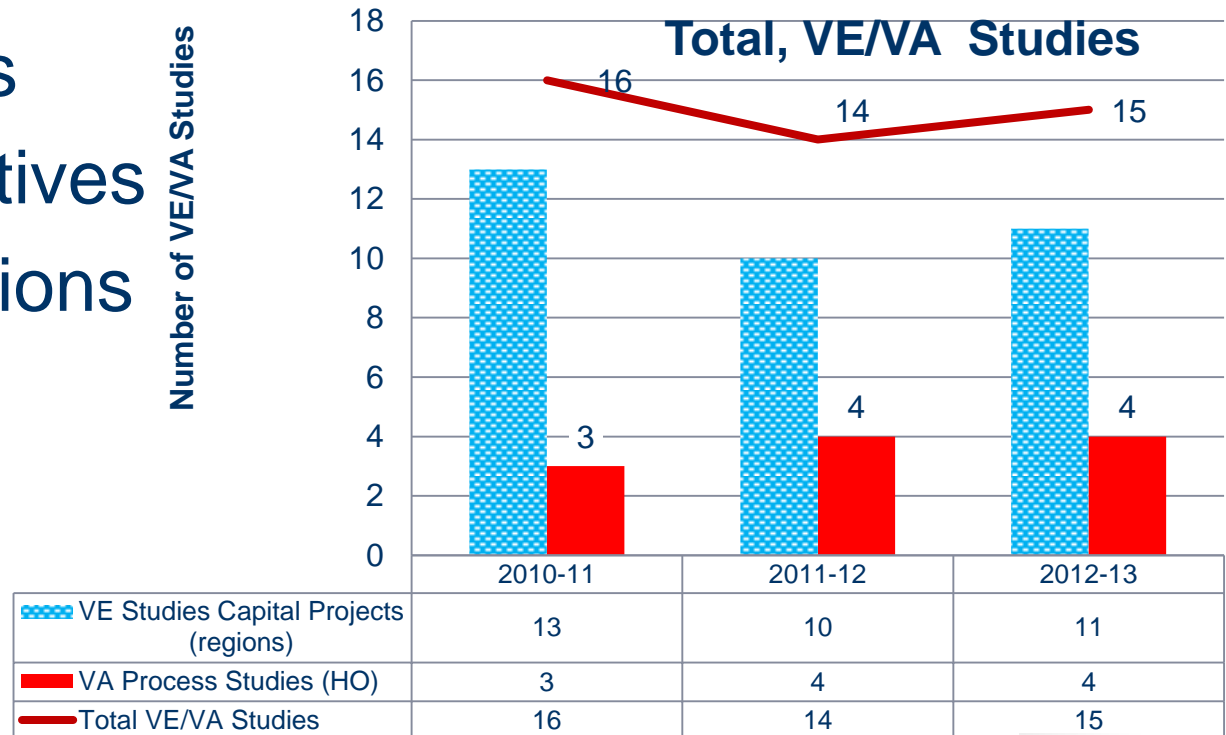
Virginiatown Summary

- VE study saved \$7.1 M or 37% of project costs
- Reduced rock excavation by 60% from from 408,000 m³ to 161,000 m³. This reduced environmental impacts and simplified construction by avoiding a large rock cut.

Increasing use of VA to Improve Service Delivery

VA is used on business processes, and services to:

- Define Needs
- Clarify Objectives
- Identify Solutions



Vehicle Fleet Management Study



Project Description	Identify the business requirements & service delivery requirements for the Ministry of Transportation to provide fleet management services for the Ontario government.
VE Objectives	Use the VA process to define the business requirements of the Fleet Management Centre and the services that will be provided to MTO and other ministries.
VA Results	Reached a common understanding of the business mission, strategies and tactics, identified issues with major clients, helped allocate resources to meet the needs of the new business model and grow the business wisely.

A common understanding of business needs

- The VA program supports the Senior Management Team in achieving their strategic directions. At MTO these directions include:
 - A business delivered in innovative and improved ways
 - Policies and plans developed in collaboration with other divisions
 - A workforce poised to meet changing business directions

Business Delivered in innovative and improved ways

- The VE Program supported Provincial Highways Management Team in the strategic direction of *the business delivered in innovative and improved ways*. The VE process eliminated systemic barriers to innovation and foster opportunities for staff and service providers to bring forth innovation.
- Over the past 3 years the VA process has stimulated over 500 ideas, with 34% of the ideas being accepted.

Highway Expansion Prioritization



Project Description	Develop prioritization criteria to achieve strategic direction <i>a provincial expansion plan developed in collaboration with Policy and Planning Division</i>
VE Objectives	Work with 2 Divisions to develop a new methodology/framework to prioritize highway expansion projects. Facilitate agreement on expansion definition.
VA Results	Study Rating – Excellent – the workshop led to prioritization criteria. An interaction diagram was used to identify how expansion projects interact with communities, the economy, and the transportation network. The workshop team used the interaction diagram to identify 21 functions to further characterize post workshop. The workshop helped develop the prioritization method and achieve buy in for the new method.

A workforce poised to meet our changing business needs

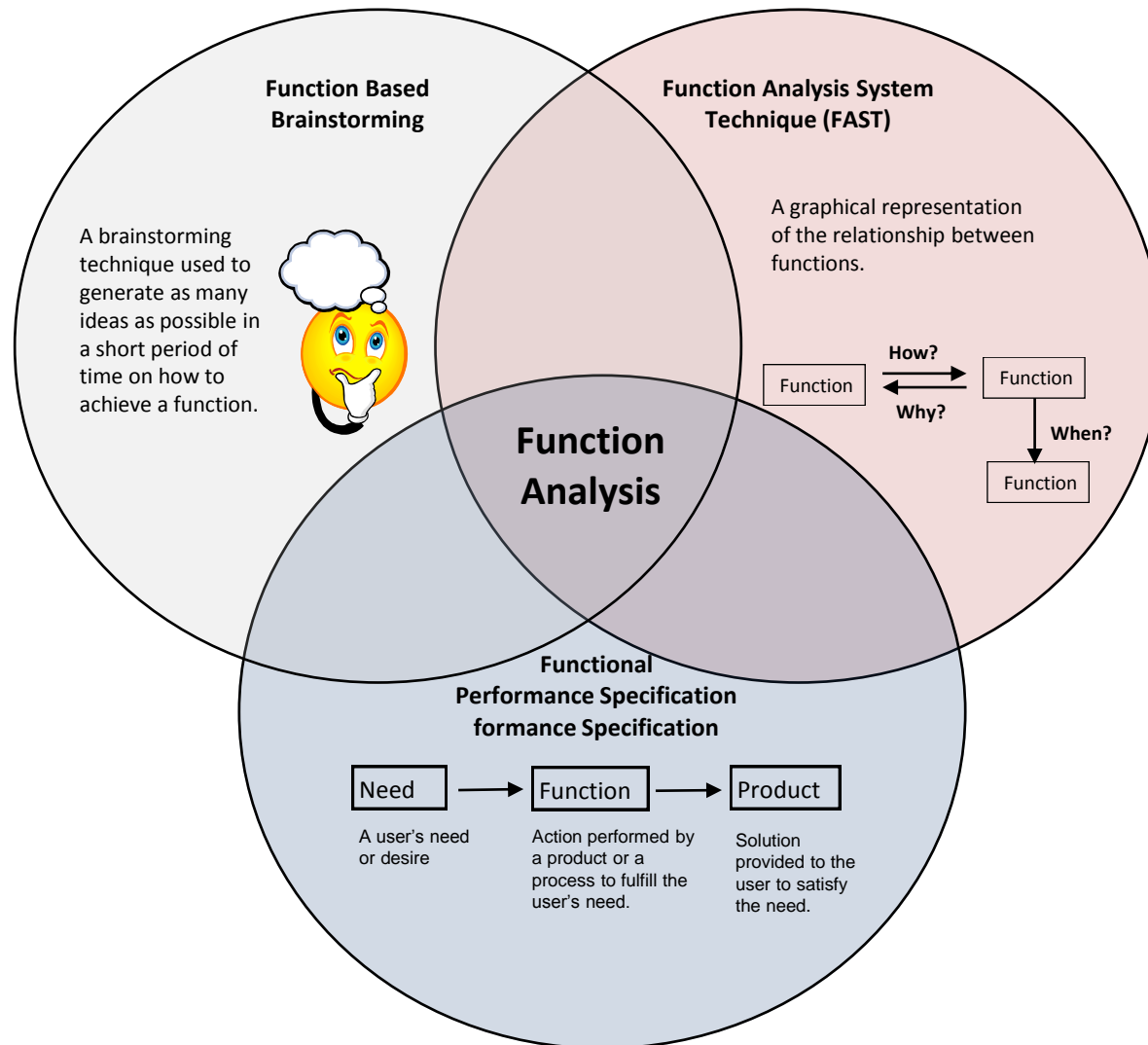
MTO trains staff in VA to:

- Participate in workshops
- Use VA principles day to day

Staff rate learning VA concepts as excellent

Usefulness	Satisfaction	Motivation	Recommend course
5.9	6.6	6.6	96%
6.1	6.3	5.9	94%
5.9	5.8	5.8	85%
5.9	5.8	5.8	100%
5.2	5.6	5.6	94%

Function Analysis Builds a Common Understanding of Needs



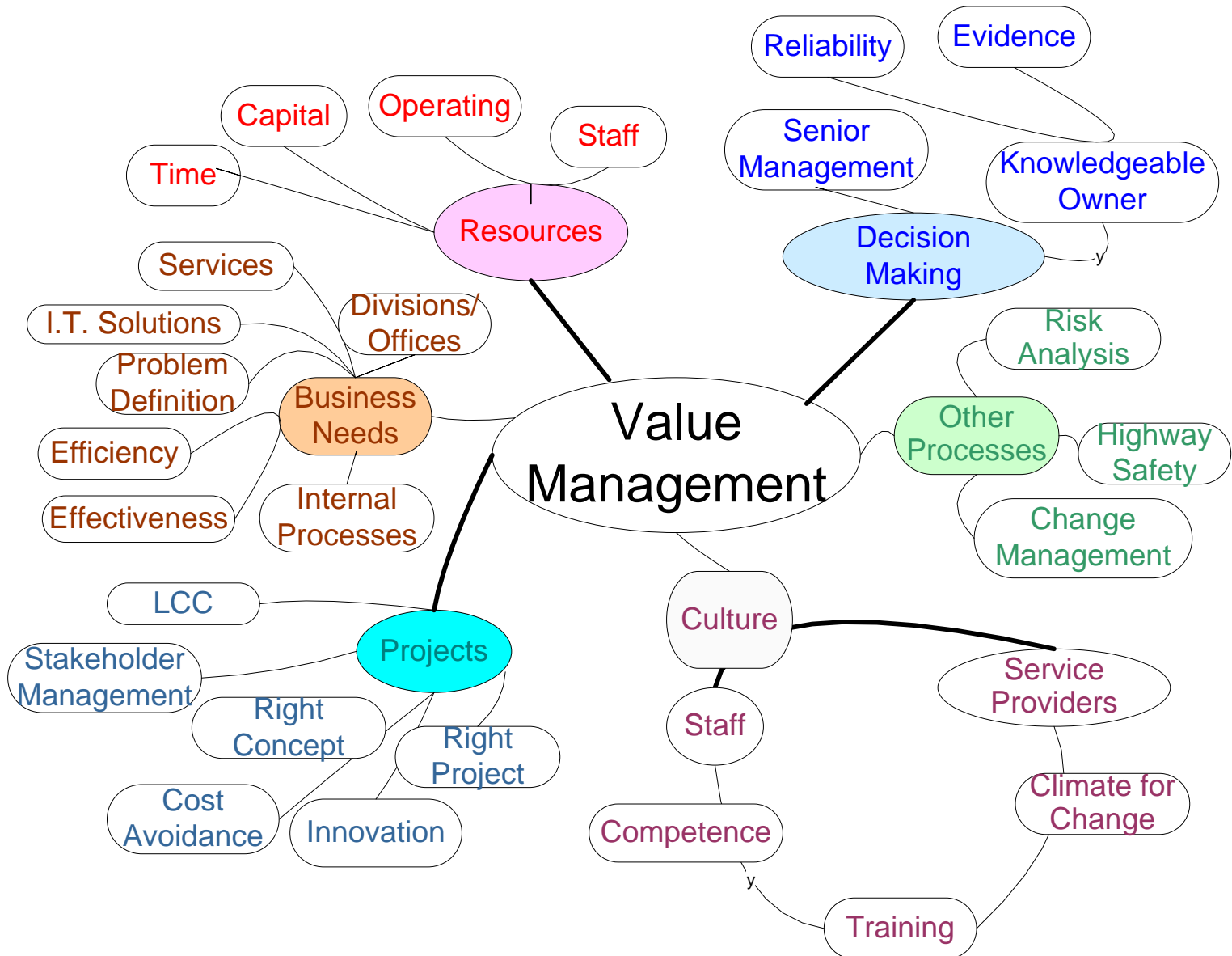
Common Understanding of Needs

Openness to Change



Project Description	Highway 17/417 Twinning from Lanark Road 29 to Division St, including New Interchanges and Service Roads
VE Objectives	Construction staging, constructability, value (cost)
VE Results	Service Road relocated to reflect local values - improve security for Boeing and enable expansion of major employer, generate surplus land for sale, achieve same service road functions, \$330,000 savings on Service Road, (2.4 M savings/cost avoidance for total study)

An Openness to Change

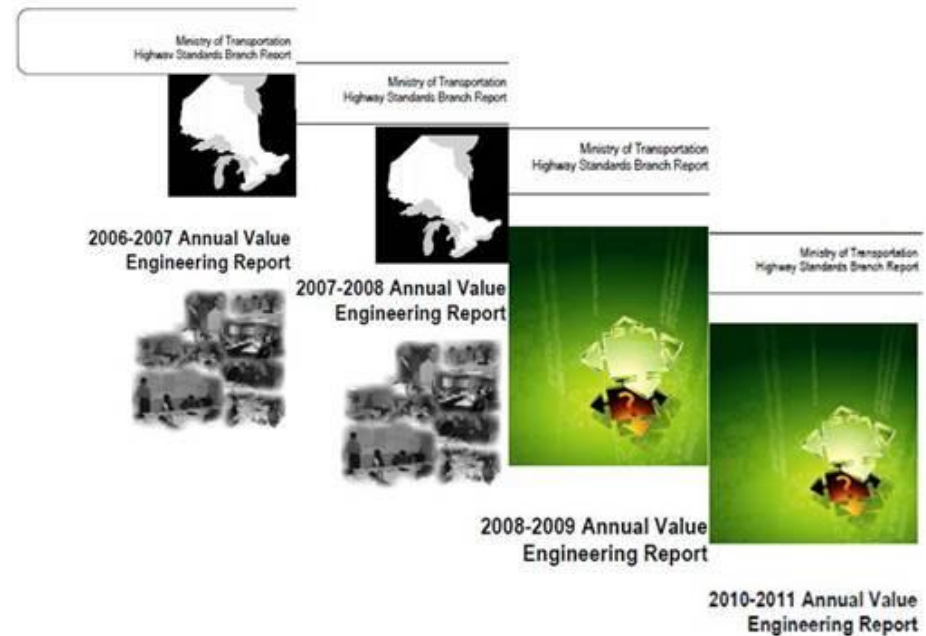


Sustaining the Program

- ***Do more with less***
 - *Return on Investment 60:1*
 - *\$1 Billion in Cost Avoidance*
- ***Stimulate Innovation***
 - *34% of VA Ideas are approved*
- ***Common Understanding of Business Needs***
 - *Function Analysis*
 - *Function Performance Specification*
 - *Function Based Brainstorming*
- ***Openness to Change***
 - *VA is used in Business Process studies to support change.*

How to success at VA

- Document Results
- Increase use of VA in new areas
- Marketing and Outreach
- CSVA/SAVE
- Study Coordination
- Innovate within VA
- New Tools
- Believe



Contact Info

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**Save Money, Add Value,
Be More Efficient**