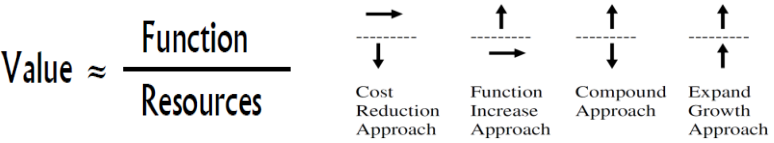
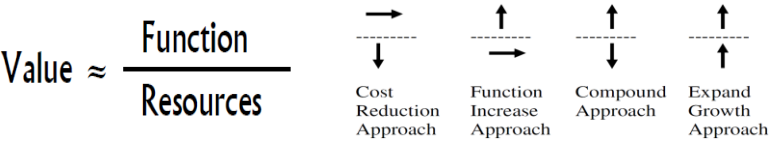


Summary and Outcome of City of Calgary Value Management (VM) Studies (2009-2014)



Year	Name of Study	Sponsoring BU	Est. Investment at the time of this VM (C\$)	Phase of Project	# of Days (hours)	# of Participants	Cost of Study (C\$)	% Cost of VM of Est. Investment	Number of New Ideas Generated	Capital/ Operating Cost Avoidance/ Increase (C\$)	Total Cost Avoidance	ROI (Benefit: Cost)	Value Summary
2009	Nose Creek Sanitary Sewer Management	Water Resources	77.0M	Preliminary Design	5 days (40 hrs)	15	118,500.00	0.15%	New ideas: 83	Capital cost avoidance: 13.5M	11%	72:1	V = $\frac{\updownarrow}{\updownarrow}$
									Accepted ideas: 17 (21%) for implementation	O&M cost increased: 5.0M LCC decreased: 8.5M			
										Life cycle increased from year 2035 to 2075			
2009	NW LRT Extension (Crowfoot-Tuscany)	Transportation Infrastructure	56.0M	30% Detailed Design	4 days (32 hrs)	8	65,000.00	0.11%	New ideas: 60	Capital cost avoidance: 6.1M	13%	112:1	V = $\frac{\updownarrow}{\updownarrow}$
			(Station area and park n' ride)						Accepted ideas: 18 (30%)	O&M cost avoidance: 1.15M			
										LCC decreased: 7.25M			
2010	Automation Strategy	Water Resources	7.0M	Strategic Planning	3 days (24 hrs)	24	72,500.00	1.03%	New ideas: 154	Strategic direction, stakeholder alignment, clarified scope	N/A	N/A	Creation of Automation Master Plan
2011	Biosolids Management Strategy (3 year short term)	Water Resources	10.0M/ year	Operational Program	3 days (24 hrs)	18	90,000.00	0.30%	New ideas: 103	3 year operational cost avoidance: 5.8M	19.33%	64:1	V = $\frac{\rightarrow}{\downarrow}$
									Accepted ideas: 25 (24%)				
2012	Organics Solid Waste Site Location Selection and Risk Analysis	Waste & Recycling Services	150.0 M (program)	Strategic Planning	3.5 days (28 hrs)	17	90,000.00	0.06%	Site location reviewed: 38	Capital investment: 3.26M	Reduced Ops. Cost and Risk	N/A	V = $\frac{\updownarrow}{\updownarrow}$
									Developed: 3	O& M cost: 10.0 M			
									Selected: 1	LCC: 13.26M (lowest of all the three developed from cost and risk perspective)			
2012	Organics Site Development Study	Waste & Recycling Services	150.0M (program)	Site Planning (Functional Design)	3 days (24 hrs)	14	79,000.00	0.17%	New ideas: 24	Capital cost avoidance: 7.24M	16%	92:1	V = $\frac{\rightarrow}{\downarrow}$
			45.6M (project)						Accepted ideas: 14 (58%)				
2012	East Calgary Landfill Cell Design	Waste & Recycling Services	6.0M	Preliminary Design	3.5 days (28 hrs)	12	63,000.00	1.05%	New ideas: 105	Capital cost avoidance: 1.73M	29%	28:1	V = $\frac{\updownarrow}{\updownarrow}$
									Accepted ideas: 20 (19%)				
2013	Organics Composting Facility	Waste & Recycling Services	166.0M	Functional Design	5 days (40 hrs)	16	87,000.00	0.05%	New ideas: 60	LCC avoidance: 21.0M	12.65%	241:1	V = $\frac{\updownarrow}{\updownarrow}$
									Accepted ideas: 30 (50%)				
2013	Biosolids Dewatering Facility	Water Resources	60.0M	Preliminary Design	4.5 days (35 hrs)	18	95,000.00	0.16%	New ideas: 50 Accepted ideas: 11 (22%), for implementation	Capital cost increased: 4.1M O&M Cost decreased: 3.6M LCC increased: 500K + Rework by consultant: 100K	(1.36%) Marginal increase in LCC	(6):1; Significant functional improvement was achieved in the project	V = $\frac{\uparrow}{\uparrow}$

Summary and Outcome of City of Calgary Value Management (VM) Studies (2009-2014)



Year	Name of Study	Sponsoring BU	Est. Investment at the time of this VM (C\$)	Phase of Project	# of Days (hours)	# of Participants	Cost of Study (C\$)	% Cost of VM of Est. Investment	Number of New Ideas Generated	Capital/ Operating Cost Avoidance/ Increase (C\$)	Total Cost Avoidance	ROI (Benefit: Cost)	Value Summary
2013	Quarry Park Rec. Centre	CNS	47.0M	Preliminary Design	5 days (40 hrs)	10	53,000.00	0.11%	New Ideas: 48 Accepted Ideas: 22 (46%)	Capital Cost Avoidance: 7.0M	15%	132:1	$V = \frac{\rightarrow}{\downarrow}$
2013	Rocky Ridge Rec. Centre	CNS	135.0M	Preliminary Design	5 days (40 hrs)	10	53,000.00	0.04%	New Ideas: 98 Accepted Ideas: 72 (73.5%)	Capital Cost Avoidance: 10.0M	7.40%	189:1	$V = \frac{\rightarrow}{\downarrow}$
2013	Rocky Ridge Rec. Centre	CNS	135.0M	Detailed Design (80%)	5 days (40 hrs)	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2013	Great Plains Rec. Centre	CNS	33.0M	Preliminary Design	3 days (24 hrs)	14	10,000.00	0.03%	New Ideas: 25 Accepted Ideas: 25 (100%)	Capital Cost Avoidance: 8.0M	24%	800:1	$V = \frac{\rightarrow}{\downarrow}$
2014	Seton Rec. Centre	CNS	154.0M	Preliminary Design	4 days (32 hrs)	14	35,000.00	0.02%	New Ideas: 78 Accepted Ideas: 53 (68%)	Capital Cost Avoidance: 19.9M	13%	569:1	$V = \frac{\rightarrow}{\downarrow}$
2014	Glenmore Dam Infrastructure Improvements	Water Resources	65.0M	Preliminary Design (30%)	4 days (32 hrs)	19	120,000.00	0.18%	New Ideas: 180 Accepted ideas: 22 (12%)	Capital cost avoidance: 15.0M (approx.) Significant reduction in schedule and service disruption	23%	125:1	$V = \frac{\updownarrow}{\downarrow}$
2014	Bonnybrook WWT Plant D Expansion	Water Resources	523.0M	Preliminary Design (15%)	5 days (40 hrs)	18	130,000.00	0.02%	New Ideas:201 Accepted ideas:40 (20%)	Capital cost avoidance: 36.5M LCC avoidance 45.0M	7%	280:1	$V = \frac{\updownarrow}{\downarrow}$