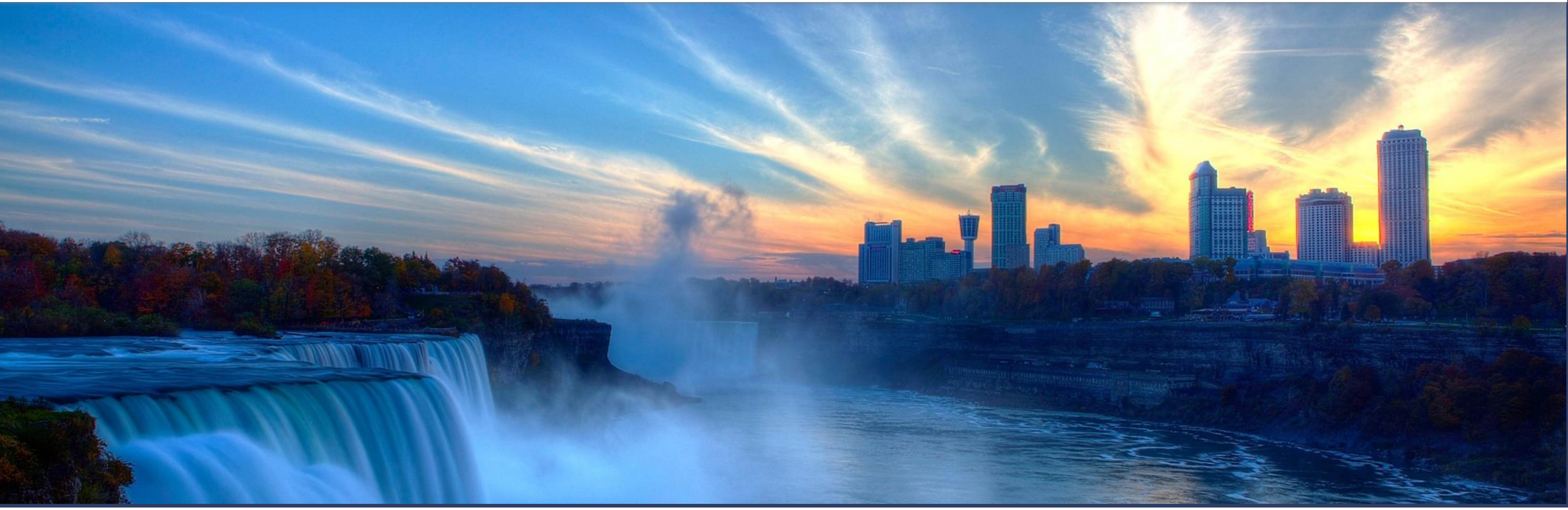
Defining User Requirements for IT Solutions using Value Analysis (Functional Performance Specifications)

Laura Kingston, *Land Information Coordinator*
Ministry of Transportation Ontario



2016 Value Summit | June 5-7, 2016

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PRESENTATION OVERVIEW

Presentation Objectives:

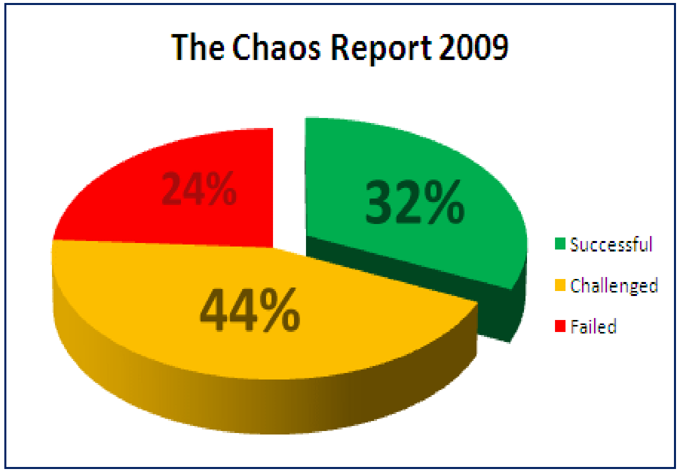
- Benefits of using VA for IT projects
  - Used Functional Performance Specification (FPS) to identify business requirements for IT projects
- What VA does NOT do
- Provide some tips and suggestions for using VA in IT projects

- VA after the IT project is done

MANY IT PROJECTS FAIL ...

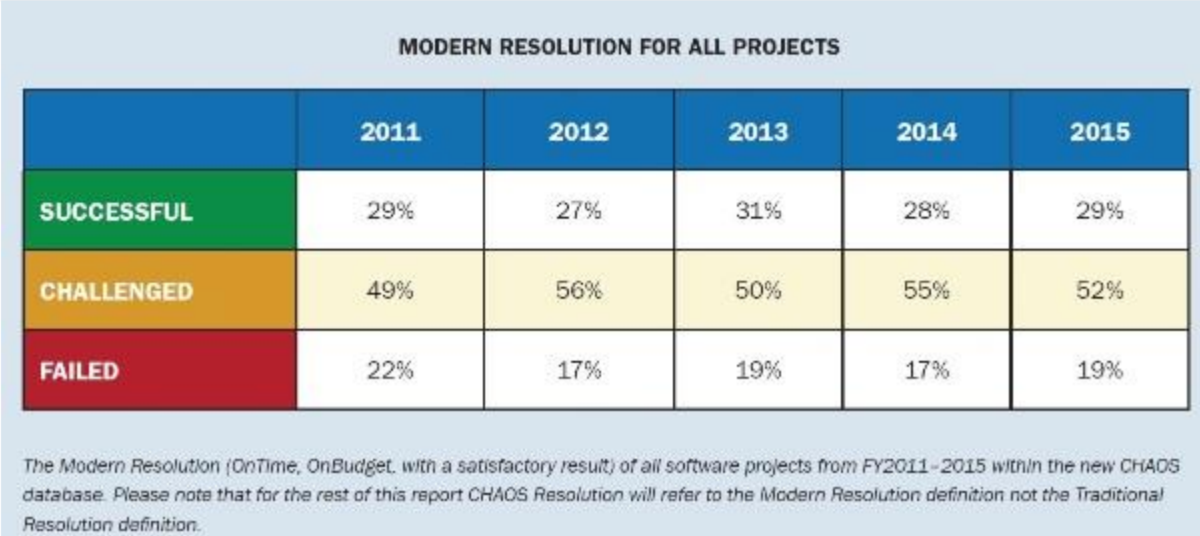
“Success in 68% of IT projects is improbable.”

- ○ *Poor requirements analysis causes many of these failures, meaning projects are doomed right from the start.*



Successful :on-time, on-budget, and with all features and functions as defined in the initial scope;
Challenged: late, over budget, and/or with less features and functions than defined in the initial scope
Failed: cancelled prior to completion, or delivered but never used

CHAOS REPORT 2015



MODERN RESOLUTION FOR ALL PROJECTS

	2011	2012	2013	2014	2015
SUCCESSFUL	29%	27%	31%	28%	29%
CHALLENGED	49%	56%	50%	55%	52%
FAILED	22%	17%	19%	17%	19%

The Modern Resolution (OnTime, OnBudget, with a satisfactory result) of all software projects from FY2011–2015 within the new CHAOS database. Please note that for the rest of this report CHAOS Resolution will refer to the Modern Resolution definition not the Traditional Resolution definition.

Emotional maturity … how people work together…

User Involvement: … information-gathering process… requirements review…other consensus-building tools.

CHAOS FACTORS OF SUCCESS

FACTORS OF SUCCESS	POINTS
Executive Sponsorship	15
Emotional Maturity	15
User Involvement	15
Optimization	15
Skilled Resources	10
Standard Architecture	8
Agile Process	7
Modest Execution	6
Project Management Expertise	5
Clear Business Objectives	4

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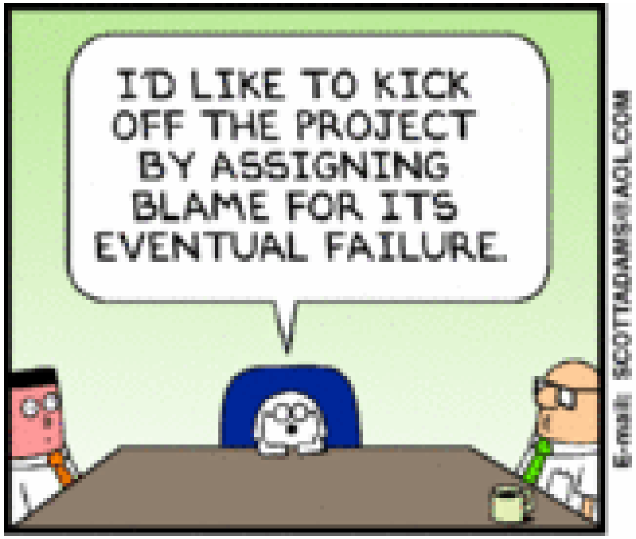
IT PROJECT TEAMS ANTICIPATE FAILURE ...

75% of project participants lack confidence that their projects will succeed

- “Fuzzy business objectives, out-of-sync stakeholders, and excessive rework”.

78% of respondents reported that:

- “Business is usually or always out of sync with project requirements”



Lack of input from users

Lack of fact-based analysis

Unclear expectations

Poor communication between business and IT

Internal politics

Inadequate skills for project completion

Schedule overruns

Changes in key personnel

Changes in project size, budget, and scope

Lack of governance

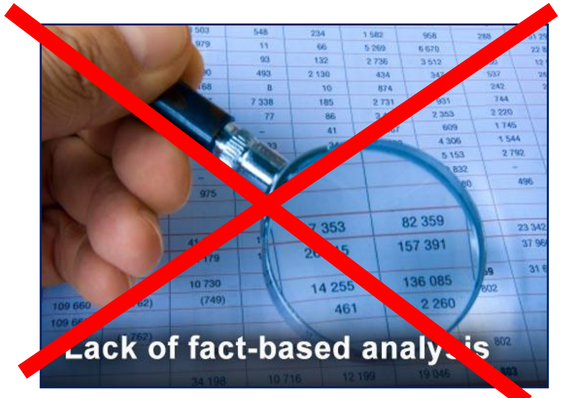
VA IMPROVES UNDERSTANDING NEEDS IN IT PROJECTS

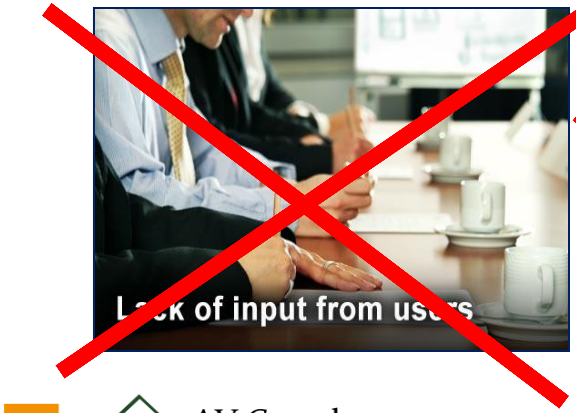
Gather **meaningful** input from users …

… In Business Language

Establishes Clear Expectations

Fact-based assessment





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USING VA TO DETERMINE USER NEEDS AND DEVELOP RFP

www.dilbert.com scottadams@aol.com

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PROBLEM STATEMENT

Needed to procure two **enterprise-wide** software solutions that support a broad spectrum of users.

- Different business histories and challenges

What **requirements** should be included in a RFP?

What **evaluation criteria** will we use?

What **weighting** should be used in the evaluation?

- What is mandatory versus rated?

PROBLEM STATEMENT CONTINUED…

How do you efficiently gather requirements?

How do we get buy-in

How do you keep users happy and spend budget on the most beneficial functionality?

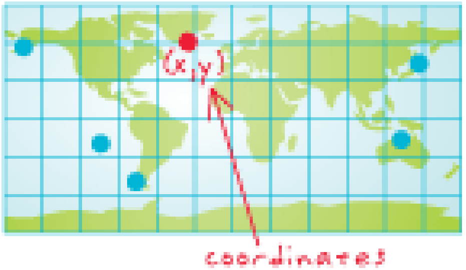
How to educate users on trade-offs to meet varying needs?

FIRST I.T. PROJECT: LOCATION REFERENCING

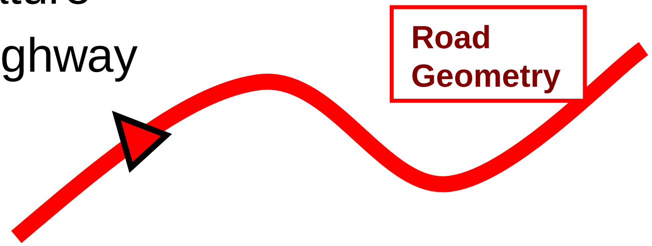
What is it?

- Location, Location, Location

Location Referencing Methods



1. Geographic Location
   - Location with respect to the earth
   - Eg. Latitude, longitude; GPS
2. Indirect
   - Location with respect to a feature whose location is already known
   - Eg. Address, lot and concession, region, parcel
3. Linear Referencing
   - Location along a linear feature
   - Eg . common version of highway



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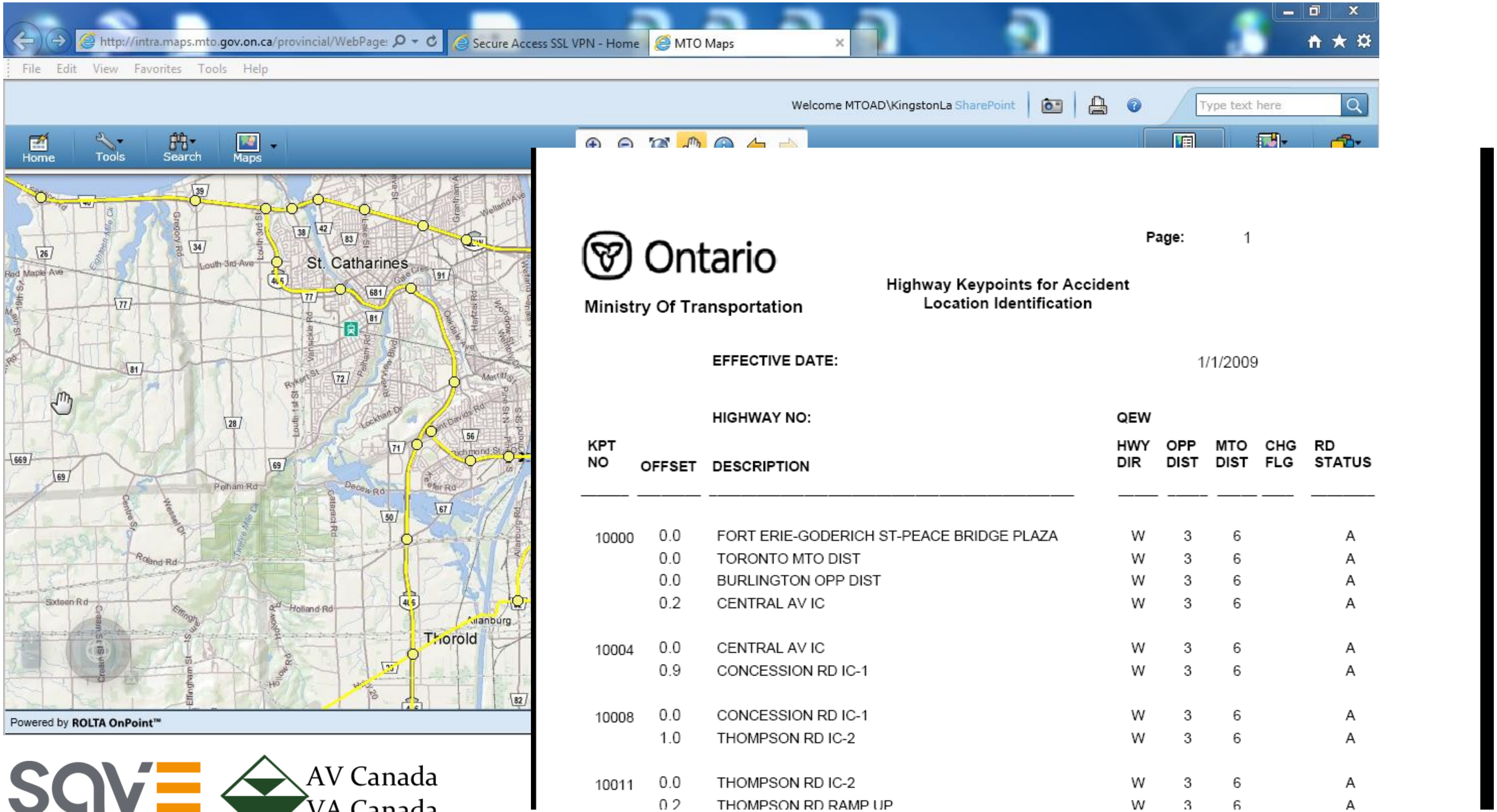
LINEAR REFERENCING



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Highway Keypoints for Accident Location Identification

EFFECTIVE DATE: 1/1/2009

HIGHWAY NO: QEW

KPT NO	OFFSET	DESCRIPTION	HWY DIR	OPP DIST	MTO DIST	CHG FLG	RD STATUS
10000	0.0	FORT ERIE-GODERICH ST-PEACE BRIDGE PLAZA	W	3	6		A
	0.0	TORONTO MTO DIST	W	3	6		A
	0.0	BURLINGTON OPP DIST	W	3	6		A
	0.2	CENTRAL AV IC	W	3	6		A
10004	0.0	CENTRAL AV IC	W	3	6		A
	0.9	CONCESSION RD IC-1	W	3	6		A
10008	0.0	CONCESSION RD IC-1	W	3	6		A
	1.0	THOMPSON RD IC-2	W	3	6		A
10011	0.0	THOMPSON RD IC-2	W	3	6		A
	0.2	THOMPSON RD RAMP UP	W	3	6		A

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LINEAR REFERENCING (LR) – A QUICK HISTORY

Old database tools (20 years ++)

Functional areas had diverged from common approach to meet specific needs

Newer GIS-based approaches

Disjointed and not always timely maintenance of information

Responsibility for linear referencing recently moved to Geomatics Office

LR – STATE OF MIND

"There is nothing wrong with our current approach !"

"LR is not meeting our needs ?@!"

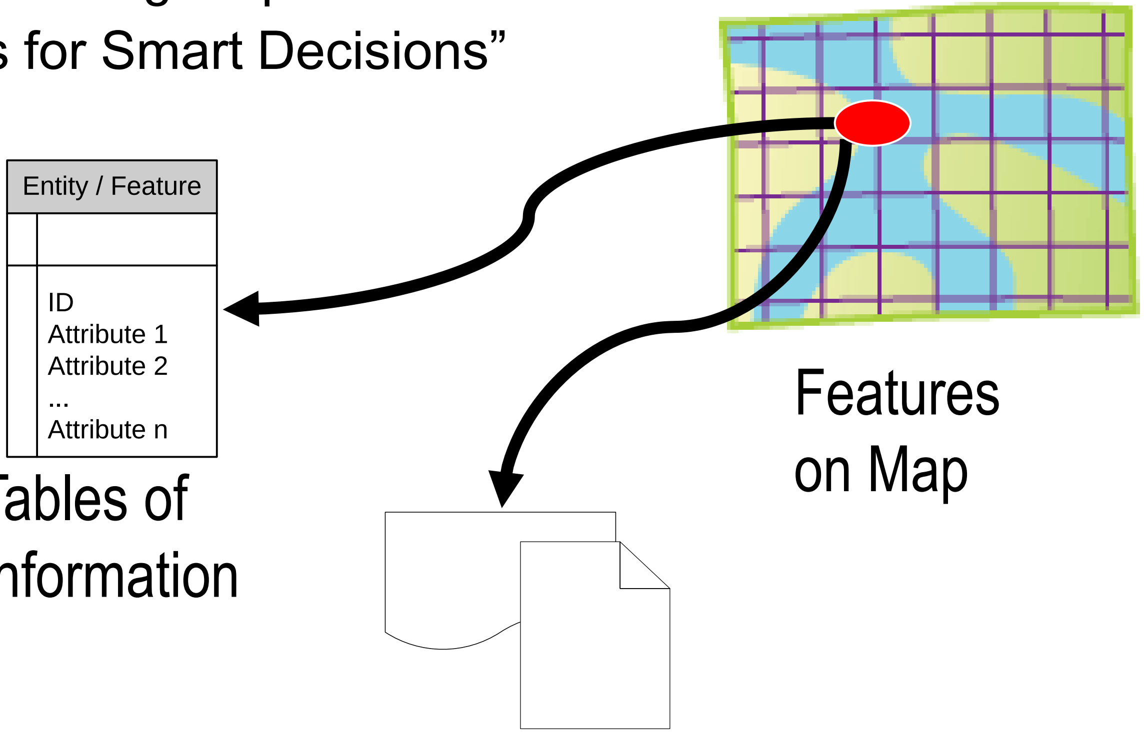
"Why do we need LR anyhow – can't we just use GPS ???"

"LR is a foundational system and high priority to replace."

SECOND I.T. PROJECT: MAPPING SERVICES

What is it?

- Google Maps / Bing Maps with MTO data
- “Smart Maps for Smart Decisions”



Entity / Feature

ID
Attribute 1
Attribute 2
...
Attribute n

Tables of Information

Features on Map

Documents, images, drawing etc.

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MAPPING SERVICES – STATE OF MIND

February 2005

Google Maps

"Our existing technology is old – it pre-dates Google Maps

"We need better GIS tools now"

"I want GIS …
With my data
Fast, like Google
As easy to use as Google"

"What's happening?"

"No IT resources available"

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WHY I DECIDED TO USE VA - FPS?

“Ever consider doing a FPS?”

Opportunity –Traffic needed LR and Mapping Services

Recommended by Traffic … used for TVIS II

- Identify needs and why you need it
- Prioritize functionality
- Document it
- Bring a group of people together … helps to gather consensus

WHY I DECIDED TO USE VA - FPS?

"15 days of IT time …"

Prioritize and justify

Users define needs and priority – not me!

Efficiency

- Broad user group
- Enterprise solution

THE APPROACH

Facilitated development of a Functional Performance Specification (**FPS**)

Facilitated requirements gathering

- Bring selected group together from broad spectrum of users
- Focus input to “What is needed?” AND “Why is it needed?”
  - NOT focused on what is wrong now
  - NOT focused on end solution
- Discuss performance criteria and level – How do you know when the need is meet?
- Discuss the flexibility in meeting the need – How important is the need?
- Facilitate discussion

Formal documentation as FPS

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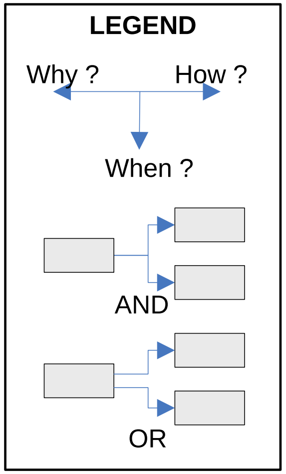
FPS: FUNCTIONAL TREE

1. Identify Functions
2. Clarified mission
3. Organized functions in a tree



LEGEND

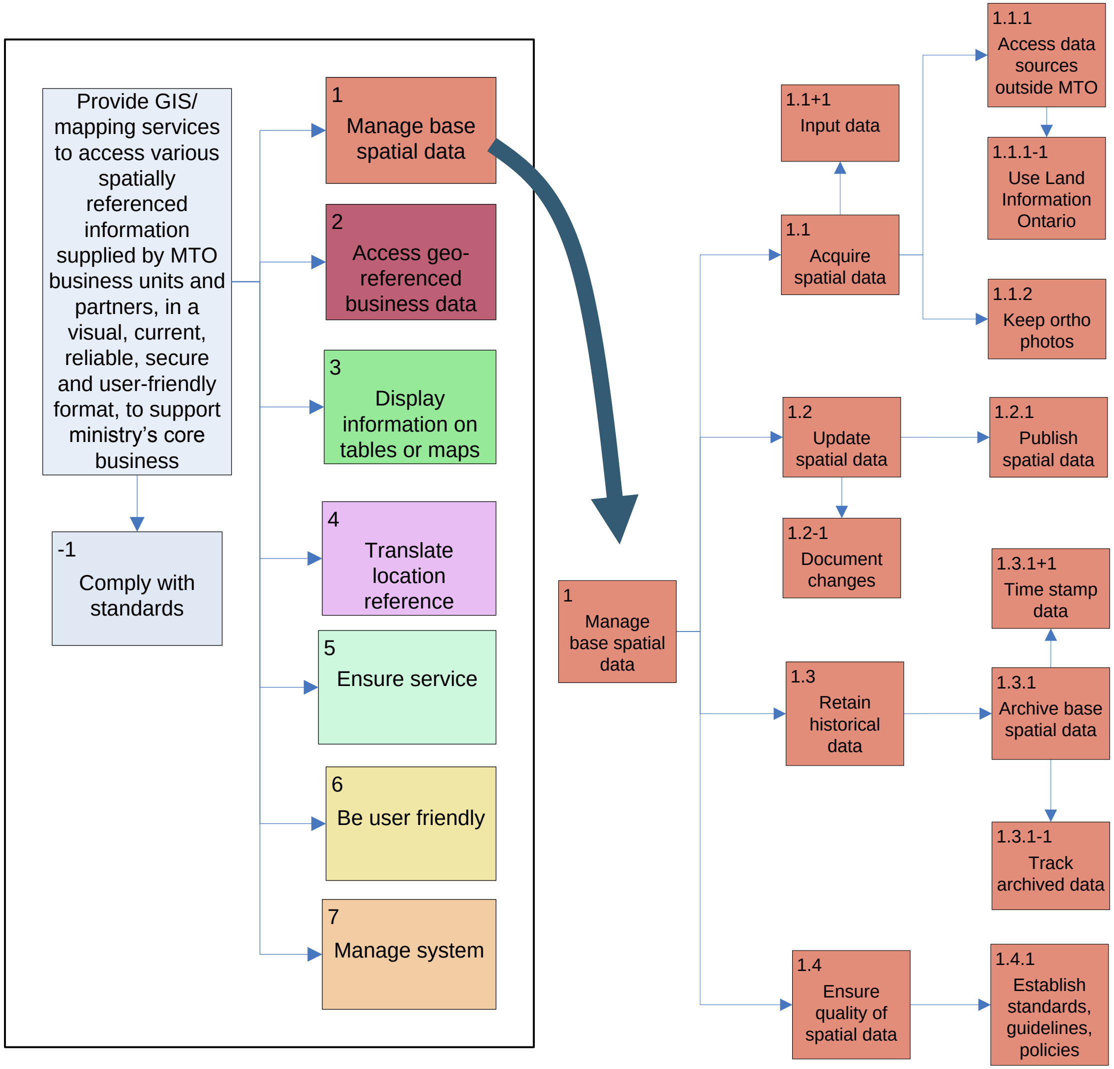
Why ?

How ?

When ?

AND

OR



Provide GIS/ mapping services to access various spatially referenced information supplied by MTO business units and partners, in a visual, current, reliable, secure and user-friendly format, to support ministry's core business

-1 Comply with standards

1 Manage base spatial data

2 Access geo-referenced business data

3 Display information on tables or maps

4 Translate location reference

5 Ensure service

6 Be user friendly

7 Manage system

1 Manage base spatial data

1.1 Acquire spatial data

1.1+1 Input data

1.1.1 Access data sources outside MTO

1.1.1-1 Use Land Information Ontario

1.1.2 Keep ortho photos

1.2 Update spatial data

1.2.1 Publish spatial data

1.2-1 Document changes

1.3 Retain historical data

1.3.1 Archive base spatial data

1.3.1+1 Time stamp data

1.3.1-1 Track archived data

1.4 Ensure quality of spatial data

1.4.1 Establish standards, guidelines, policies

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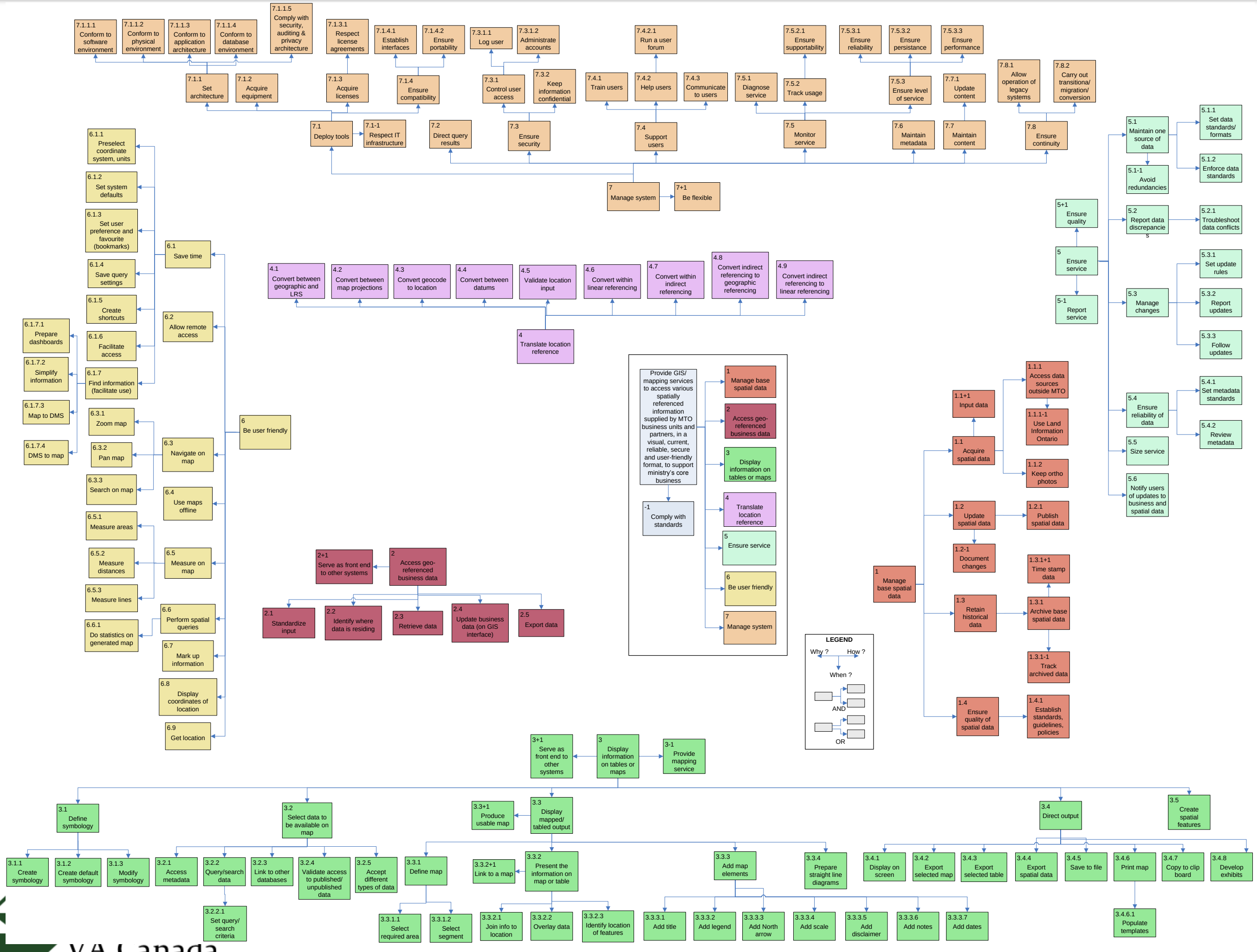
MAPPING SERVICES FUNCTIONAL TREE



- 7 Manage system
  - 7+1 Be flexible
  - 7.1 Deploy tools
    - 7.1-1 Respect IT infrastructure
    - 7.1.1 Set architecture
      - 7.1.1.1 Conform to software environment
      - 7.1.1.2 Conform to physical environment
      - 7.1.1.3 Conform to application architecture
      - 7.1.1.4 Conform to database environment
      - 7.1.1.5 Comply with security, auditing & privacy architecture
    - 7.1.2 Acquire equipment
    - 7.1.3 Acquire licenses
      - 7.1.3.1 Respect license agreements
    - 7.1.4 Ensure compatibility
      - 7.1.4.1 Establish interfaces
      - 7.1.4.2 Ensure portability
  - 7.2 Direct query results
  - 7.3 Ensure security
    - 7.3.1 Control user access
      - 7.3.1.1 Log user
      - 7.3.1.2 Administrate accounts
    - 7.3.2 Keep information confidential
  - 7.4 Support users
    - 7.4.1 Train users
    - 7.4.2 Help users
      - 7.4.2.1 Run a user forum
    - 7.4.3 Communicate to users
  - 7.5 Monitor service
    - 7.5.1 Diagnose service
    - 7.5.2 Track usage
      - 7.5.2.1 Ensure supportability
    - 7.5.3 Ensure level of service
      - 7.5.3.1 Ensure reliability
      - 7.5.3.2 Ensure persistance
      - 7.5.3.3 Ensure performance
  - 7.6 Maintain metadata
  - 7.7 Maintain content
    - 7.7.1 Update content
  - 7.8 Ensure continuity
    - 7.8.1 Allow operation of legacy systems
    - 7.8.2 Carry out transitional/ migration/ conversion

- 6 Be user friendly
  - 6.1 Save time
    - 6.1.1 Preselect coordinate system, units
    - 6.1.2 Set system defaults
    - 6.1.3 Set user preference and favourite (bookmarks)
    - 6.1.4 Save query settings
    - 6.1.5 Create shortcuts
    - 6.1.6 Facilitate access
    - 6.1.7 Find information (facilitate use)
      - 6.1.7.1 Prepare dashboards
      - 6.1.7.2 Simplify information
      - 6.1.7.3 Map to DMS
      - 6.1.7.4 DMS to map
  - 6.2 Allow remote access
  - 6.3 Navigate on map
    - 6.3.1 Zoom map
    - 6.3.2 Pan map
    - 6.3.3 Search on map
  - 6.4 Use maps offline
  - 6.5 Measure on map
    - 6.5.1 Measure areas
    - 6.5.2 Measure distances
    - 6.5.3 Measure lines
  - 6.6 Perform spatial queries
    - 6.6.1 Do statistics on generated map
  - 6.7 Mark up information
  - 6.8 Display coordinates of location
  - 6.9 Get location

- 4 Translate location reference
  - 4.1 Convert between geographic and LRS
  - 4.2 Convert between map projections
  - 4.3 Convert geocode to location
  - 4.4 Convert between datums
  - 4.5 Validate location input
  - 4.6 Convert within linear referencing
  - 4.7 Convert within indirect referencing
  - 4.8 Convert indirect referencing to geographic referencing
  - 4.9 Convert indirect referencing to linear referencing

- 2 Access geo-referenced business data
  - 2+1 Serve as front end to other systems
  - 2.1 Standardize input
  - 2.2 Identify where data is residing
  - 2.3 Retrieve data
  - 2.4 Update business data (on GIS interface)
  - 2.5 Export data

- Provide GIS/ mapping services to access various spatially referenced information supplied by MTO business units and partners, in a visual, current, reliable, secure and user-friendly format, to support ministry's core business
  - -1 Comply with standards
  - 1 Manage base spatial data
  - 2 Access geo-referenced business data
  - 3 Display information on tables or maps
  - 4 Translate location reference
  - 5 Ensure service
  - 6 Be user friendly
  - 7 Manage system

- 5 Ensure service
  - 5+1 Ensure quality
  - 5-1 Report service
  - 5.1 Maintain one source of data
    - 5.1-1 Avoid redundancies
    - 5.1.1 Set data standards/ formats
    - 5.1.2 Enforce data standards
  - 5.2 Report data discrepancies
    - 5.2.1 Troubleshoot data conflicts
  - 5.3 Manage changes
    - 5.3.1 Set update rules
    - 5.3.2 Report updates
    - 5.3.3 Follow updates
  - 5.4 Ensure reliability of data
    - 5.4.1 Set metadata standards
    - 5.4.2 Review metadata
  - 5.5 Size service
  - 5.6 Notify users of updates to business and spatial data

- 1 Manage base spatial data
  - 1.1 Acquire spatial data
    - 1.1+1 Input data
    - 1.1.1 Access data sources outside MTO
      - 1.1.1-1 Use Land Information Ontario
    - 1.1.2 Keep ortho photos
  - 1.2 Update spatial data
    - 1.2-1 Document changes
    - 1.2.1 Publish spatial data
  - 1.3 Retain historical data
    - 1.3.1 Archive base spatial data
      - 1.3.1+1 Time stamp data
      - 1.3.1-1 Track archived data
  - 1.4 Ensure quality of spatial data
    - 1.4.1 Establish standards, guidelines, policies

LEGEND

Why ? How ?

When ?

AND

OR

- 3 Display information on tables or maps
  - 3+1 Serve as front end to other systems
  - 3-1 Provide mapping service
  - 3.1 Define symbology
    - 3.1.1 Create symbology
    - 3.1.2 Create default symbology
    - 3.1.3 Modify symbology
  - 3.2 Select data to be available on map
    - 3.2.1 Access metadata
    - 3.2.2 Query/search data
      - 3.2.2.1 Set query/ search criteria
    - 3.2.3 Link to other databases
    - 3.2.4 Validate access to published/ unpublished data
    - 3.2.5 Accept different types of data
  - 3.3 Display mapped/ tabled output
    - 3.3+1 Produce usable map
    - 3.3.1 Define map
      - 3.3.1.1 Select required area
      - 3.3.1.2 Select segment
    - 3.3.2 Present the information on map or table
      - 3.3.2+1 Link to a map
      - 3.3.2.1 Join info to location
      - 3.3.2.2 Overlay data
      - 3.3.2.3 Identify location of features
    - 3.3.3 Add map elements
      - 3.3.3.1 Add title
      - 3.3.3.2 Add legend
      - 3.3.3.3 Add North arrow
      - 3.3.3.4 Add scale
      - 3.3.3.5 Add disclaimer
      - 3.3.3.6 Add notes
      - 3.3.3.7 Add dates
    - 3.3.4 Prepare straight line diagrams
  - 3.4 Direct output
    - 3.4.1 Display on screen
    - 3.4.2 Export selected map
    - 3.4.3 Export selected table
    - 3.4.4 Export spatial data
    - 3.4.5 Save to file
    - 3.4.6 Print map
      - 3.4.6.1 Populate templates
    - 3.4.7 Copy to clip board
    - 3.4.8 Develop exhibits
  - 3.5 Create spatial features

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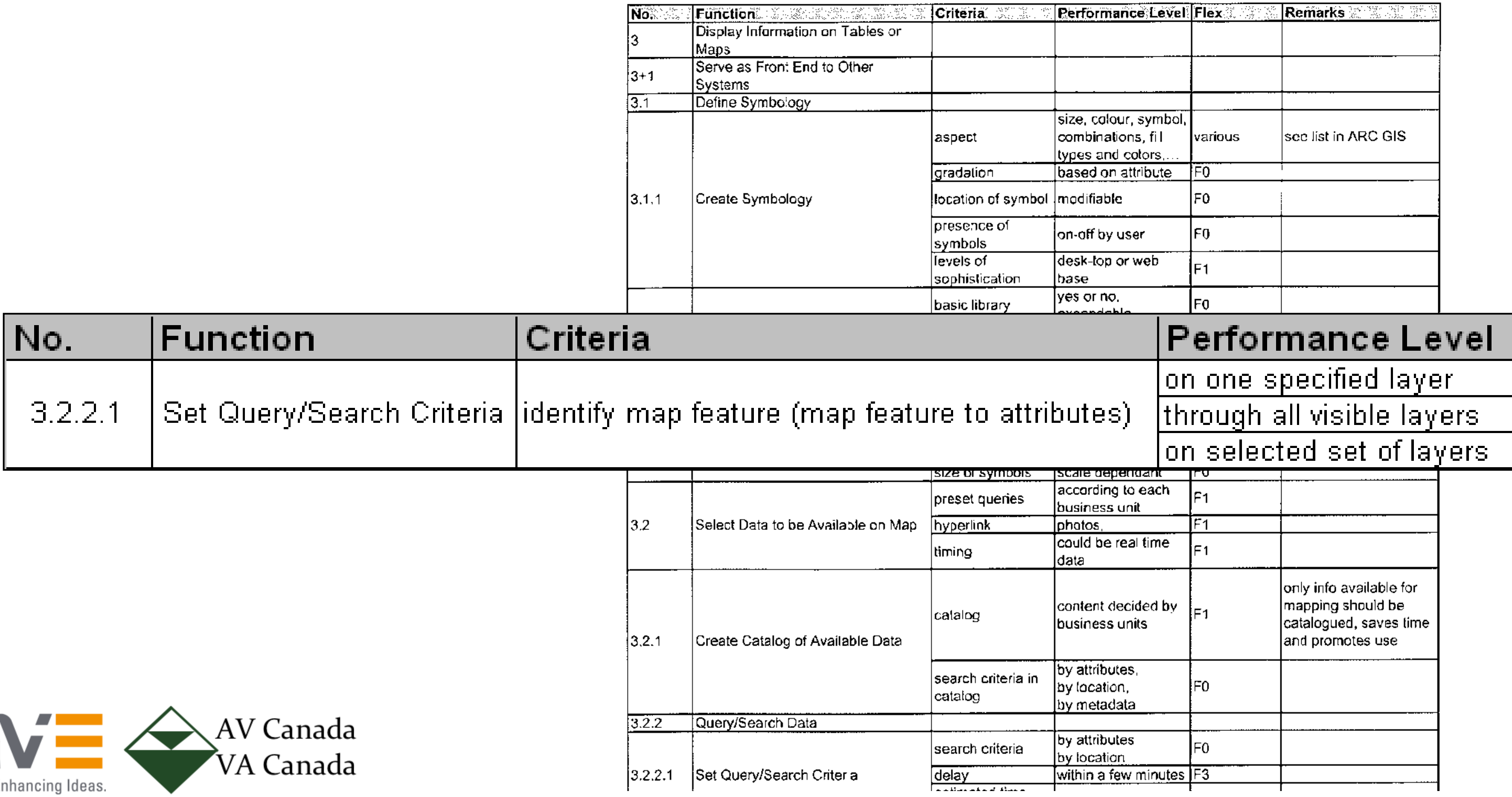
FPS: CHARACTERIZATION OF FUNCTIONS

Criteria and **Performance level** of function



No.	Function	Criteria	Performance Level	Flex	Remarks
3	Display Information on Tables or Maps				
3+1	Serve as Front End to Other Systems				
3.1	Define Symbology				
3.1.1	Create Symbology	aspect	size, colour, symbol, combinations, fill types and colors,…	various	see list in ARC GIS
		gradation	based on attribute	F0	
		location of symbol	modifiable	F0	
		presence of symbols	on-off by user	F0	
		levels of sophistication	desk-top or web base	F1	
		basic library	yes or no,	F0	
		size of symbols	scale dependant	F0	
3.2	Select Data to be Available on Map	preset queries	according to each business unit	F1	
		hyperlink	photos,	F1	
		timing	could be real time data	F1	
3.2.1	Create Catalog of Available Data	catalog	content decided by business units	F1	only info available for mapping should be catalogued, saves time and promotes use
		search criteria in catalog	by attributes, by location, by metadata	F0	
3.2.2	Query/Search Data				
3.2.2.1	Set Query/Search Criteria	search criteria	by attributes by location	F0	
		delay	within a few minutes	F3	

No.	Function	Criteria	Performance Level
3.2.2.1	Set Query/Search Criteria	identify map feature (map feature to attributes)	on one specified layer
			through all visible layers
			on selected set of layers

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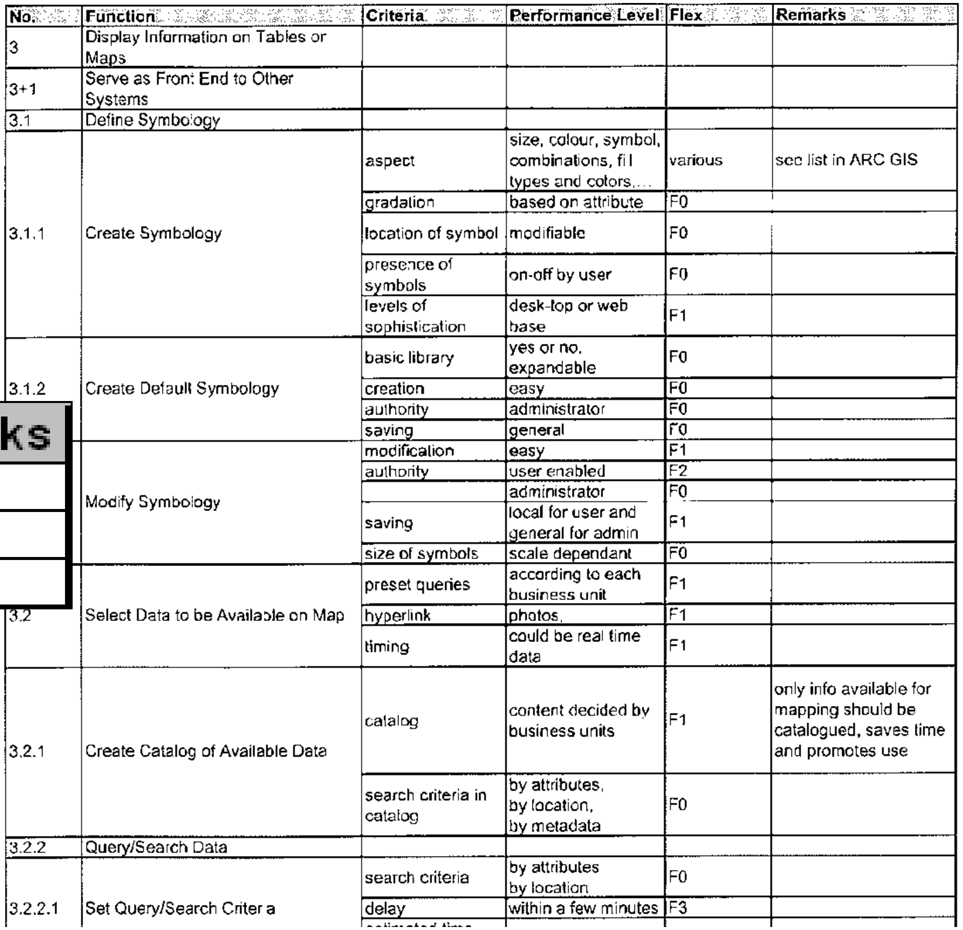
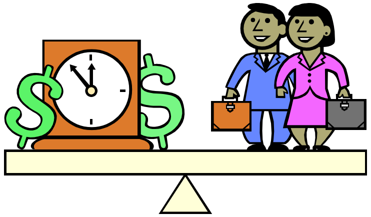
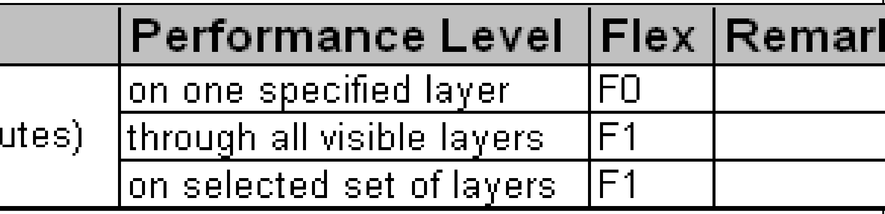
FPS: CHARACTERIZATION OF FUNCTIONS

Flexibility: F0: Must have no matter the cost …. F3: Nice to Have



No.	Function	Criteria	Performance Level	Flex	Remarks
3	Display Information on Tables or Maps				
3+1	Serve as Front End to Other Systems				
3.1	Define Symbology				
3.1.1	Create Symbology	aspect	size, colour, symbol, combinations, fil types and colors,…	various	see list in ARC GIS
		gradation	based on attribute	F0	
		location of symbol	modifiable	F0	
		presence of symbols	on-off by user	F0	
		levels of sophistication	desk-top or web base	F1	
3.1.2	Create Default Symbology	basic library	yes or no, expandable	F0	
		creation	easy	F0	
		authority	administrator	F0	
		saving	general	F0	
	Modify Symbology	modification	easy	F1	
		authority	user enabled	F2	
			administrator	F0	
		saving	local for user and general for admin	F1	
		size of symbols	scale dependant	F0	
3.2	Select Data to be Available on Map	preset queries	according to each business unit	F1	
		hyperlink	photos,	F1	
		timing	could be real time data	F1	
3.2.1	Create Catalog of Available Data	catalog	content decided by business units	F1	only info available for mapping should be catalogued, saves time and promotes use
		search criteria in catalog	by attributes, by location, by metadata	F0	
3.2.2	Query/Search Data				
3.2.2.1	Set Query/Search Criteria	search criteria	by attributes by location	F0	
		delay	within a few minutes	F3	





	Performance Level	Flex	Remarks
	on one specified layer	F0	
utes)	through all visible layers	F1	
	on selected set of layers	F1	

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LR SERVICES FPS

Questionnaire

Value Engineering Consultant

Workshop with **End Users**

- Identify and characterize functions/needs
  - Participants:
    - Key functional areas
    - Across Regions
    - **Keen and capable**

Invited LR Subject Matter Expert

MAPPING SERVICES USER NEEDS AND FPS

1. **User Needs Interviews**
   - Internally by MTO (GIS Support)
   - Traditional user needs approach
   - Used as input to FPS

2. **Functional Performance Specification (FPS)**
   - Value Engineering Consultant
   - Workshop with **End Users**
     - Identify and characterize GIS user functions
       - Participants: Across functional areas & Across Regions
   - Workshop with **GIS Support**
     - Add more detail and further characterizes GIS user functions, especially for complex functions
     - Add GIS support functions

FPS RESULTS

Mapping Services

- Validated functions and documented their importance
- Verified desire to have reliable data in Ministry
- Ready to prepare RFP

Location Referencing

- Moved toward better understanding of everyone’s needs
- Identified need to better define what the new location referencing world would look like
- Location Referencing Standards Project
  - Hired LR Subject Matter Expert
  - Developed and obtained agreement of Location Referencing Standards

SOME TIPS:

- Choose participants wisely
  - Keen and capable
  - Cross-section of roles, different perspectives
- Manage number of participants
- Need a good facilitator
  - Focus on needs; FPS structure assists
  - Avoid whining
  - Stay away from “This is how things are done now”
  - Stay away from “That is not possible”
    - Even though looking for IT software – application may not be entire solution
  - Ensure full participation and safe environment

MORE TIPS:

- Kick start thinking prior to workshops
  - Questionnaire / interview
- Off-site location
- Consider including external expertise
- Invite IT (application and architecture) as observers only
- Business custodian – listen, patience, don’t tell people your answer

FPS – MORE SUGGESTIONS

FPS documentation is very concise

- Take “notes” trying to capture richness of conversation

Functional tree

- Do not ‘fret’ over organization of functions in tree

Improved understanding more important than completely filling out FPS

- Details can be filled in later

It is hard work for participants

- Provide chocolate, social breaks, comfortable room …

RELATIONSHIP OF FPS TO RFP

FPS	RFP
Identify Functions	Functional Needs
Clarified Mission	RFP scope
Organized functions in a tree	Functional needs and justification
Criteria and Performance Level	Evaluation Criteria
Flexibility	Evaluation Weighting

WAS FPS THE "EASY BUTTON" FOR RFP?

Did we take FPS and directly list out functionality?

- No; however provided strong basis for development of RFP

Why?

- Terminology and grouping of functions
  - End-user vs. business vs. COTS terminology
- Procurement requirements
  - More words
  - Mandatory, rated and business requirements
- Needed more than functional requirements
  - Software maintenance, vendor experience & capability, services, IT technical requirements …
- In reality, the technology available does impact solution or scope of RFP

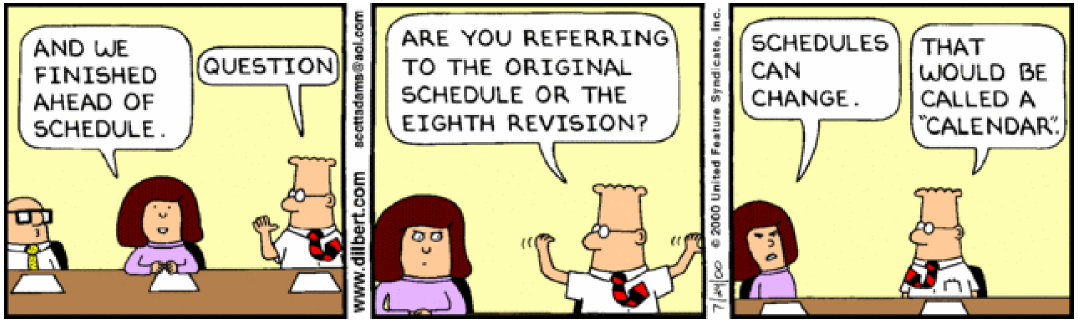
FPS BENEFITS – PEOPLE PERSPECTIVE

- Effectively moved towards common understanding of basic needs
- Improved understanding of others needs
  - More the same the different
- Constructive conversation
  - Facilitated
  - Focused on reasonable solution
- Efficient and effective method to gather needs
  - Broad input; focused workshop
  - Leads towards buy-in and trust
- Documented needs / justification
  - IT standard versus business need

WERE THE IT PROJECTS SUCCESSFUL?

Location Referencing challenged

- Behind schedule
- Full mission/vision will take more time and effort to achieve



Mapping Services successful

- Implemented March 2014
- Regions are using
- Usage continues to expand

AFTER THE IT PROJECT IS DONE ...

… Principles of VA are still useful

What is the business value of an enhancement requested?

- Need structured approach to discuss
- Need key people to participate in discussion:
    - Provide input
    - Understand the trade-offs
    - Be part of developing the solution
- Need a simple way of presenting information

APPROACH USED TO ASSESS BUSINESS VALUE

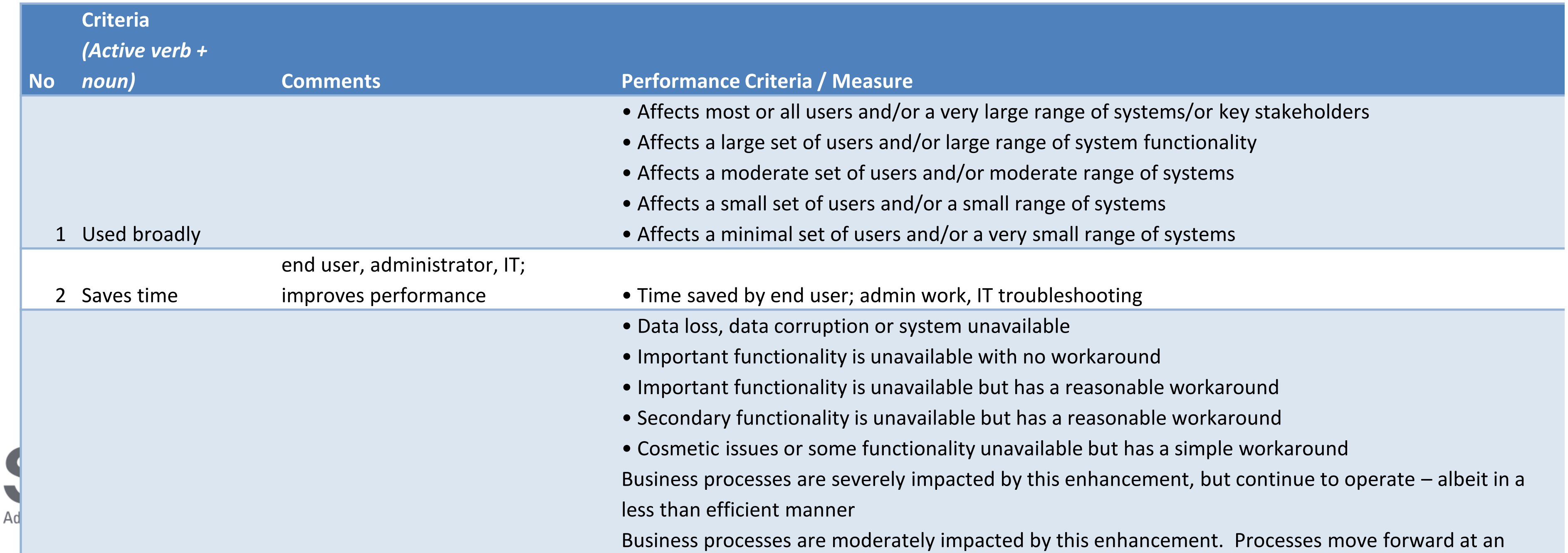
1. Determine what **criteria** should be used to determine the benefit of an enhancement
2. Assess the **relative weight** among the different benefits criteria
3. Define how the **costs** will be ranked (on a scale of 1-9)
4. For each enhancement, select (on a scale of 1-9) the ranking for each benefit **criteria**
5. Calculate the overall benefit, and **benefit over cost ratio**

1. CRITERIA

Identify criteria and it’s performance measure

Eg.

- Criteria: Saves Time
- Performance Measure: Time saved by end user; administrator; IT troubleshooting



No	Criteria *(Active verb + noun)*	Comments	Performance Criteria / Measure
1	Used broadly		• Affects most or all users and/or a very large range of systems/or key stakeholders • Affects a large set of users and/or large range of system functionality • Affects a moderate set of users and/or moderate range of systems • Affects a small set of users and/or a small range of systems • Affects a minimal set of users and/or a very small range of systems
2	Saves time	end user, administrator, IT; improves performance	• Time saved by end user; admin work, IT troubleshooting
			• Data loss, data corruption or system unavailable • Important functionality is unavailable with no workaround • Important functionality is unavailable but has a reasonable workaround • Secondary functionality is unavailable but has a reasonable workaround • Cosmetic issues or some functionality unavailable but has a simple workaround Business processes are severely impacted by this enhancement, but continue to operate – albeit in a less than efficient manner Business processes are moderately impacted by this enhancement. Processes move forward at an

2. RELATIVE WEIGHTING OF CRITERIA

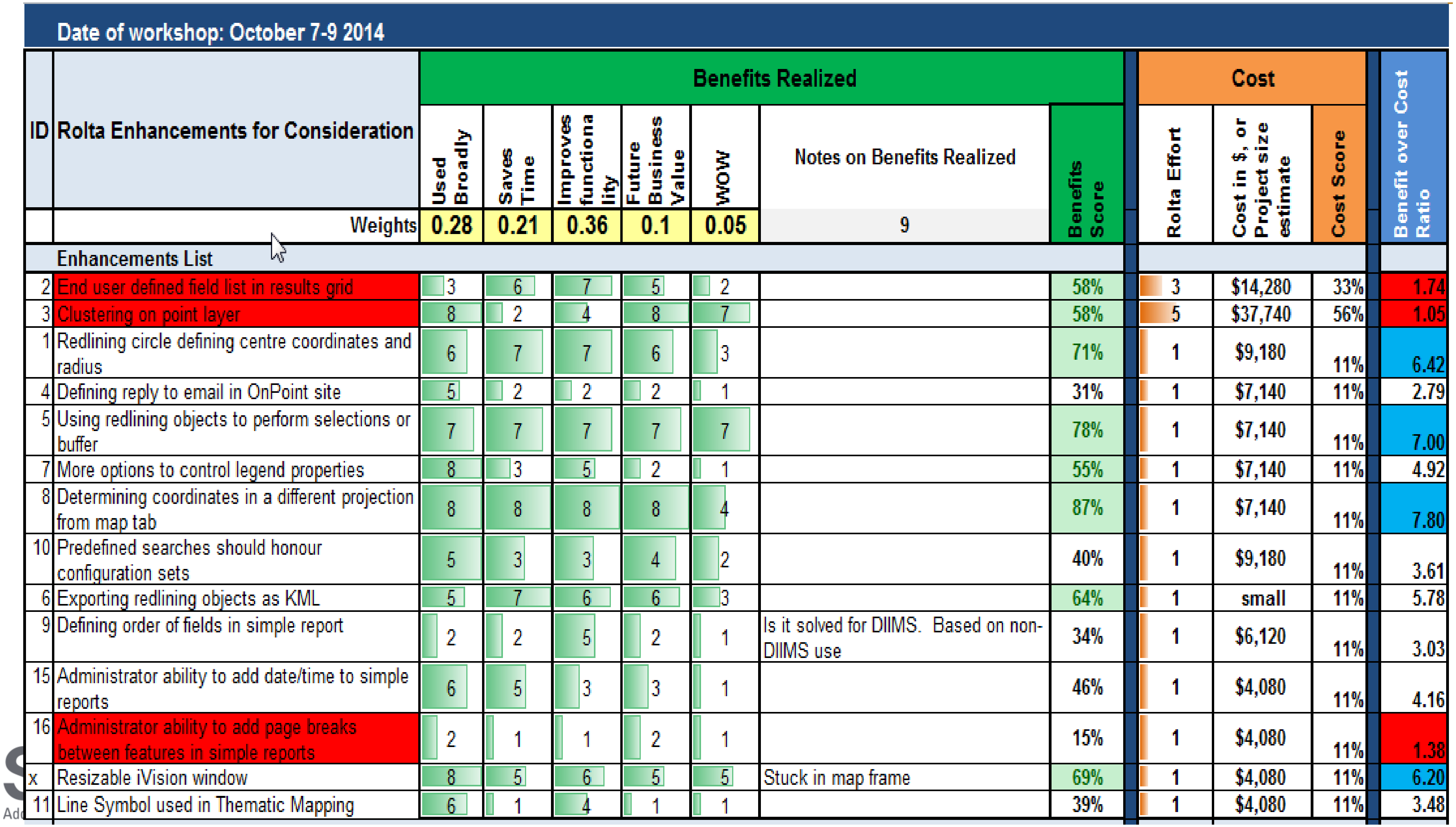
Pairwise Comparison

No	Criteria	Final Weights from Pairwise
A	Used broadly	28%
B	Saves time	21%
C	Improves/repairs existing functionality	36%
D	Has future business value	10%
E	Attractive to end user (WOW)	5%

3. COST RANKING

Rank	Project Size
1	< $ 10K
2	
3	$ 10 - $ 20K
4	
5	$ 20 - $ 50 K
6	$ 50 - $100K
7	$ 100 - $ 125 K
8	
9	> $ 125K

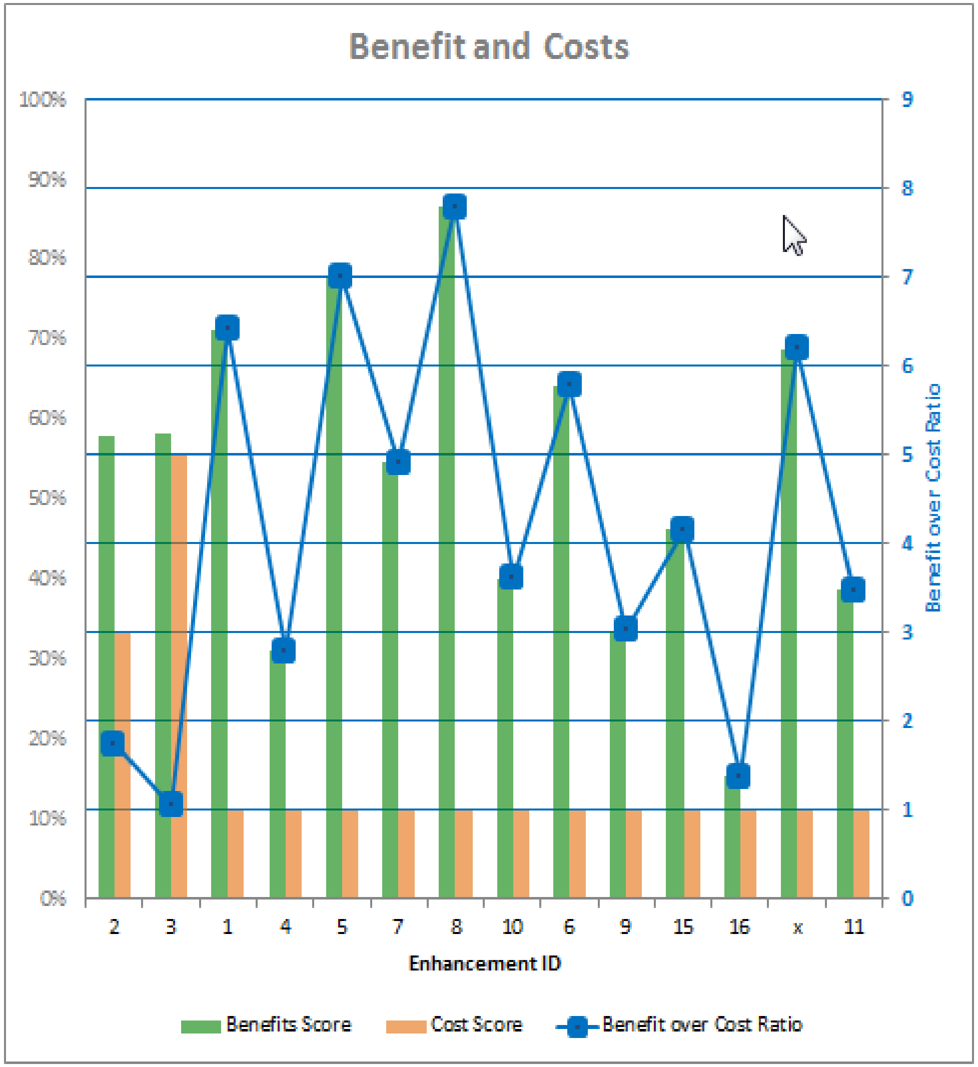
4. RANK BENEFIT OF EACH ENHANCEMENT

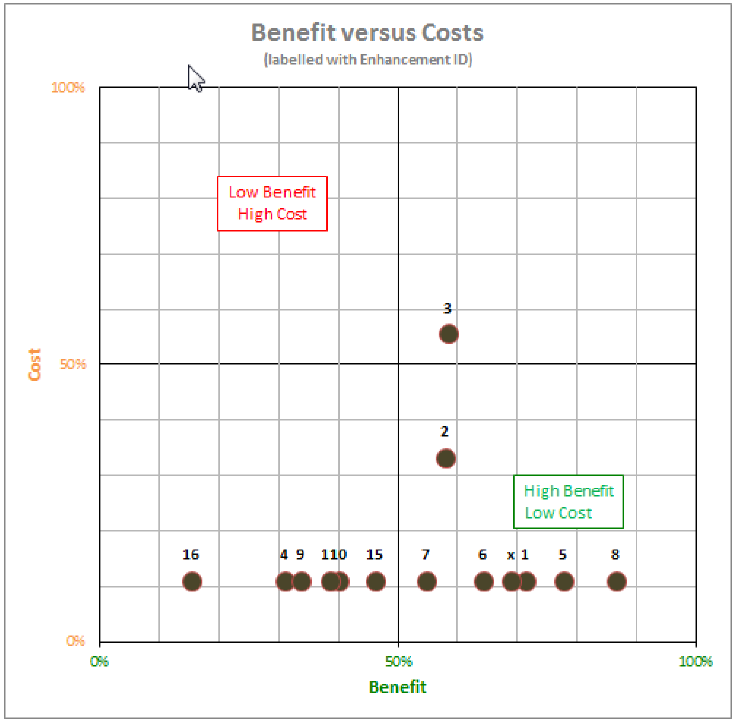


Date of workshop: October 7-9 2014

ID	Rolta Enhancements for Consideration	Benefits Realized							Cost			
		Used Broadly	Saves Time	Improves functionality	Future Business Value	WOW	Notes on Benefits Realized	Benefits Score	Rolta Effort	Cost in $, or Project size estimate	Cost Score	Benefit over Cost Ratio
	Weights	0.28	0.21	0.36	0.1	0.05	9					
	Enhancements List											
2	End user defined field list in results grid	3	6	7	5	2		58%	3	$14,280	33%	1.74
3	Clustering on point layer	8	2	4	8	7		58%	5	$37,740	56%	1.05
1	Redlining circle defining centre coordinates and radius	6	7	7	6	3		71%	1	$9,180	11%	6.42
4	Defining reply to email in OnPoint site	5	2	2	2	1		31%	1	$7,140	11%	2.79
5	Using redlining objects to perform selections or buffer	7	7	7	7	7		78%	1	$7,140	11%	7.00
7	More options to control legend properties	8	3	5	2	1		55%	1	$7,140	11%	4.92
8	Determining coordinates in a different projection from map tab	8	8	8	8	4		87%	1	$7,140	11%	7.80
10	Predefined searches should honour configuration sets	5	3	3	4	2		40%	1	$9,180	11%	3.61
6	Exporting redlining objects as KML	5	7	6	6	3		64%	1	small	11%	5.78
9	Defining order of fields in simple report	2	2	5	2	1	Is it solved for DIIMS. Based on non-DIIMS use	34%	1	$6,120	11%	3.03
15	Administrator ability to add date/time to simple reports	6	5	3	3	1		46%	1	$4,080	11%	4.16
16	Administrator ability to add page breaks between features in simple reports	2	1	1	2	1		15%	1	$4,080	11%	1.38
x	Resizable iVision window	8	5	6	5	5	Stuck in map frame	69%	1	$4,080	11%	6.20
11	Line Symbol used in Thematic Mapping	6	1	4	1	1		39%	1	$4,080	11%	3.48

5. CALCULATE BENEFIT OVER COST RATIO





Select enhancements where:

Benefit over cost > 2

RESULTS OF BUSINESS VALUE WORKSHOP

Workshop: 3-4 hours held during Geomatics Learning Event

- Preparation – list of potential criteria

Decided which enhancements had business value.

Agreement and buy-in from all workshop participants

- Good use of time
- Can re-use approach

Vendor added functionality to their core product

CLOSING STATEMENT

- FPS leads toward identifying clear business needs
- The better the understanding of needs the better the IT solution
- Provides structured efficient approach to gathering needs
- Educates and informs people on trade-offs and other peoples needs
- Provides information to make better decisions
- But … not a magic bullet … just part of the work that needs to be done

Adding Value. Enhancing Ideas.

AV Canada
VA Canada

CONTACT INFORMATION

Laura Kingston

Geomatics Office

Highways Standards Branch

Provincial Highways Management Division

Ministry of Transportation Ontario

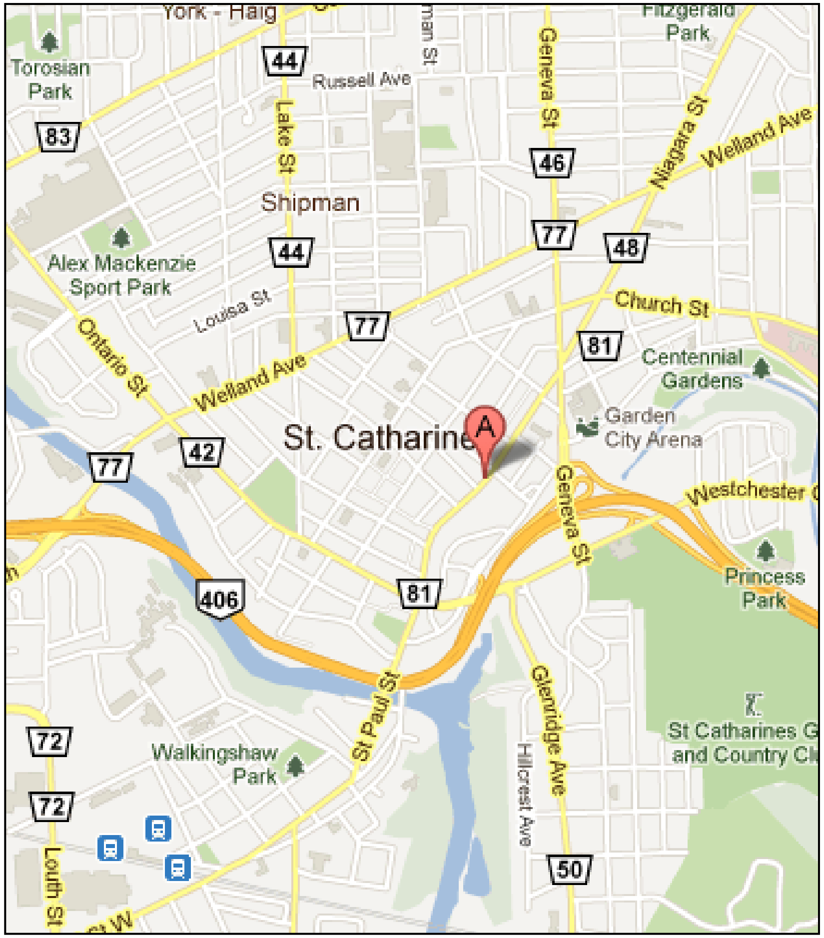
301 St. Paul Street

St. Catharines, Ontario

L2R 6P7

905-704-2331

Laura.Kingston@ontario.ca



(43.15886 °, -79.24327 °)
or (43° 9’ 31.52”, -79° 14’ 35.48”)

SAVE Adding Value. Enhancing Ideas.

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THANK YOU – QUESTIONS?

Location, Location, Location

A picture is worth a thousand words …

A map is worth a thousand pictures …

An interactive map is worth a thousand maps

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