Metrics for Public-Private Partnerships: Case Studies

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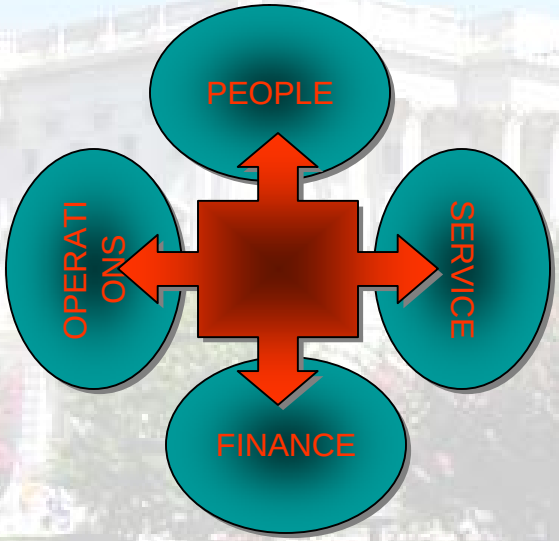
Graphic Systems, Inc.

Background

- Why PPP metrics
  - A transparent process that will withstand public scrutiny
  - PPPs should have shared vision, common objectives, commitment to collaborative approach to measure, monitor, document and report on progress/results
  - To articulate expectations and goals
  - What gets measured gets performed

Balanced Scorecard Methodology

- BSC refers to the Balanced Score Card performance methodology that ensures a focus on all areas of the business rather than improving one area at the expense of others.
- Therefore BSC groups metrics into four areas
  - **CUSTOMER SERVICE**
    - How well are you serving the interests of the customer – given that IFMA ranks this as the most important category for a Facilities Department – it should receive significant attention.
  - **OPERATIONS**
    - What processes accomplish the functions of the project
  - **FINANCIAL**
    - Are we providing the best possible service for the lowest possible cost?
  - **PERSONNEL**
    - Do we have the right people, enough people, do they perform to the best of their abilities



Balanced Scorecard Institute: http://www.balancedscorecard.org/

- George Washington University Certificate Program
- Developing Meaningful Performance Measures for Balanced Scorecards , Sept 11-13, Washington, DC

IFMA FOUNDATION
Research • Scholarships • Education

2007 - 2008 BALANCED SCORECARD

Updated August 2007

Perspective	Strategic Objectives	Measures	Targets	Accountability	Initiatives
STAKEHOLDER **END USER/ CUSTOMER**	1. Provide scholarships/grants to meet career-development needs of practitioners potential FMers and to advance the profession	1.1 Number of annual scholarships and grants given 1.2 Total monetary value of scholarships and grants given 1.3 Number of annual scholarship and grant applications	1.1 Award +/- 25 scholarships and +/- 10 grants annually 1.2 Award +/- $62,500 in scholarships and +/- $10,000 in grants annually 1.3 Receive +/- 60 scholarship applications and +/- 20 grant applications annually	Foundation Trustees IFMA President/CEO Foundation Executive Director Foundation KM Chair	1. 1.1, 1.2, 1.3 Develop and implement a plan to put Foundation scholarship information in the hands of every student pursuing a degree in FM 2. 1.1, 1.2 Actively seek global diversity among Foundation scholarship and grant recipients 3. 1.1,1.2 Expand publicity for those receiving Foundation scholarships by working closer with sponsoring companies 4. 1.1, 1.2 Increase dollar value of individual scholarships

AOC Balanced Scorecard
Critical Success Factors
for Personnel (Management)

Financial Performance	Internal Process	Customer Service	Organizational Learning
Projects on Budget Asset Preservation Recycling (savings, volume, ?) Project Quality (financial performance) (Non-project) Budget Execution	Employee Safety Clean Audit Project Approval Process Working from Defined Workflows Accurate and complete work classification	Client Satisfaction Recycling (stewardship) Project Quality (usability, appearance) Projects on-time	Employee Satisfaction (pay, employment security, health/safety, advancement, ?) Asset History & Significance Value of Proactive Approaches Value of Shared Processes and Standards (work classification, asset conditions, process status, etc.)

Establishing Metrics

- Prerequisites
  - What are most important indicators
  - How are they measured
  - What is base line for indicator
  - Where is data to support indicators
  - How is data collected
  - How often is data collected
  - How is data measured
  - How is progress measured
  - Do metrics change over time (trend analysis?)
  - How are metrics communicated to stakeholders
  - How is data relevant to strategic goals
  - Can feedback from metrics be used for continuous improvement

Collecting Metrics/Targets

- R+D (relevant metrics from other organizations)?
- Best Practices/KPIs
- Legal or regulatory requirements
- Diverse multi-stakeholder representation (management, line staff, end user)
- Brainstorming/problem solving
- Expert advice
- Publications

Case Study #1: Wiltshire Police Authority (1999 to 2005, $40M, Vinci PLC)

Project Background: United Kingdom PPP Example -

http://www.wiltshire.police.uk

Gablecross Police Station, Swindon

The new building is 10,114m^2 at South Marston by Swindon. The building comprises a three-story main administration and operations block, a single storey 40 cell custody suite, garages and vehicle workshops and a two storey dedicated Vulnerable Persons Unit, together with a 200 plus space car park.

Consultants offered advice and project management services at the procurement stages including the PPP **Public Sector Comparator Case**, identifying and setting the brief, preparation of Employers Requirements, Technical Adviser for the Police Authority, and as Independent Certifiers, checking for compliance with specifications and reviewing design data.

Metric Objectives and Description

UK Public Sector Comparator Guidelines

United Kingdom Treasury Department has developed a spreadsheet tool to assist Procuring Authorities undertake a quantitative analysis to support the Value for Money (VfM) decision as to whether to use PPP or conventional procurement. One key aspect of this is lifecycle costing.

"…Lifecycle Costs should be invested at a rate and frequency that enables an asset to be maintained to the same standard as that achieved on its construction, refurbishment and/or procurement…".

HM Treasury - Quantitative Assessment User Guide

In the calculation, Lifecycle Costs are incurred with effect from the first year following the end of the construction period.

Information for Determining Lifecycle Assumptions

Similar Projects

Expert Advice

Publications

Full "PFI-Type" Lifecycle Costs	Data Collection	Periodic Lifecycle Costs	Data Collection
Analysis of cost experience from bodily similar PFI projects, completed either by the Procuring Authority or by the sponsoring Department or its associated Estates Agency.	Interrogation of databases maintained either by sponsoring Departments or by professional advisers	Traditional level and timing of investment in assets in the sector on the basis of records maintained by, for example, Departmental Estates Agencies (such as NHS Estates and Defence Estates Agency)	Interrogation of databases maintained either by sponsoring Departments or by professional advisers.
Advice provided by external experts relating to the optimum lifecycles and associated costs for particular classes of assets.	Dissemination by sponsoring Departments of lifecycle cost norms achieved in PFI projects.	Traditional level and timing of investment in assets by the Procuring Authority on the basis of records maintained by it.	Judgements of Procuring Authority made on the basis of experience of availability of funding for lifecycle investment for broadly similar categories of assets when conventionally procured.
Particularly for equipment, guidelines published either by manufacturers of by relevant professional or trade associations		Traditional level and timing of investment in assets in the sector on the basis of past experience	

www.hm-treasury.gov.uk

UK Public Sector Comparator Input Data

General				
Timings	*(Yrs)*	***Rates - Escalators & Discount***	*Rates (%)*	*Base Year*
Contract period	30	CapEx escalator	5.0%	1
Initial CapEx period	3	OpEx (non employment) escalator	2.5%	1
Year when OpEx is first incurred	4	OpEx (employment) escalator	3.5%	1

Lifecycle Number Goes Here

Costs						
Whole Life	*PSC*	*OB Pre (%)*	*OB Post (%)*		*PFI*	*OB Pre (%)*
Initial CapEx (£'000)	40,000	15%	17%		50,000	15%
Lifecycle costs at each LC date (£'000)	1,150	15%	14%		1,100	15%
Lifecycle intervals (yrs)			NA		1	NA
OpEx (non employment)(p.a.) (£'000)	23,		3%		22,425	11%
OpEx (employment per person) (p.a.) (£'000)			NA		0	NA
OpEx (employee number)			NA		0	NA
Transaction						
Public sector (£'000)	1,200	15%	17%		1,200	15%
Private sector (£'000)	0	0%	0%		750	0%

Value should be expressed in £'000 terms

See Section A86 of the User Guide

Third Party Income	*PSC*	*OB Pre (%)*	*OB Post (%)*		*PFI*	*OB Pre (%)*
Income (p.a.) (£'000)	0	0%	0%		0	0%

Flexibility	*PSC*	*PFI*
Scope change year	10	10
Probability factor (%)	50%	50%
Level of scope change (%)	10%	10%
Premium flexibility factor (%)	0	0%

Indirect VfM Factors	*PSC*	*PFI*
Amount (Npv)(£'000)	0	0

Tax	*PSC*	*PFI*
PSC adjustment factor (%)	3%	NA

Lifecycle Related Adjustments	
PSC lifecycle VfM adjustment	40%
Residual cost benchmark	50%
PSC residual cost factor if lower than benchmark	70%
PSC residual cost factor if higher than benchmark	35%

PFI Funding	
Gearing (%)	90%
Sterling swap rate (%)	5.00%
Credit spread (bps)	12
Bank margin (bps)	93
Tail for bank debt (yrs)	2
Commitment fee (bps)	50
Upfront fee (bps)	90
Grace period (yrs)	1

Unitary Charge	
Initial CapEx period payment (%)	0%

Pre Tax IRR Targets	
High	18%
Medium	15%
Low	13%

bps	Basis Points
CapEx	Capital Expenditure
LC	Lifecycle Costs
NA	Not Applicable - ***no input required***
OB Pre	Pre-FBC Optimism Bias
OB Post	Post-FBC Optimism Bias (for PSC only)
OpEx	Operational Expenditure
PSC	Public Sector Comparator (i.e. conventional procurement)
	Input required
	Hard-wired Assumption - ***no input required***

#END

http://www.hm-treasury.gov.uk

UK Public Sector Comparator Output Data

Positive Value = Go With PPP/PFI

Switches

IRR

13% Pre Tax Target IRR

15% Pre Tax Target IRR

18% Pre Tax Target IRR

IRR Stabiliser

Indifference

CapEx IP

OpEx Non Employ IP

OpEx Employ IP

Transaction IP

Unitary Charge IP

IP Stabiliser

Running the indifference switch gives the percentage increase/decrease in the variable required to give the point of indifference

Stash Outputs

Clear Stash

Copy Output Sheet

NA Not applicable

Inputs for running sensitivities

No input required

Default value of 30%

Output Box

Scenario No	6
Scenario name	18% IRR Target
Pre Tax Equity IRR	**18.01%**
Pre Tax Project IRR	8.71%
"Crude" PFI VfM	**9.69%**
Indifference Points	
PSC	
1 Initial CapEx	0%
2 OpEx (Non Employment)	0%
3 OpEx (Employment)	0%
4 Transaction Costs	0%
PFI	
5 Unitary Charge	0%
Other Values	
PSC Costs (NPV)	-526
PFI Costs (NPV)	-475
Unadjusted Annual Unitary Charge	31.0

Check

Senior Debt Fully Repaid?	TRUE
Pre Tax IRR = Target?	TRUE
Total Cashflows = Zero?	TRUE

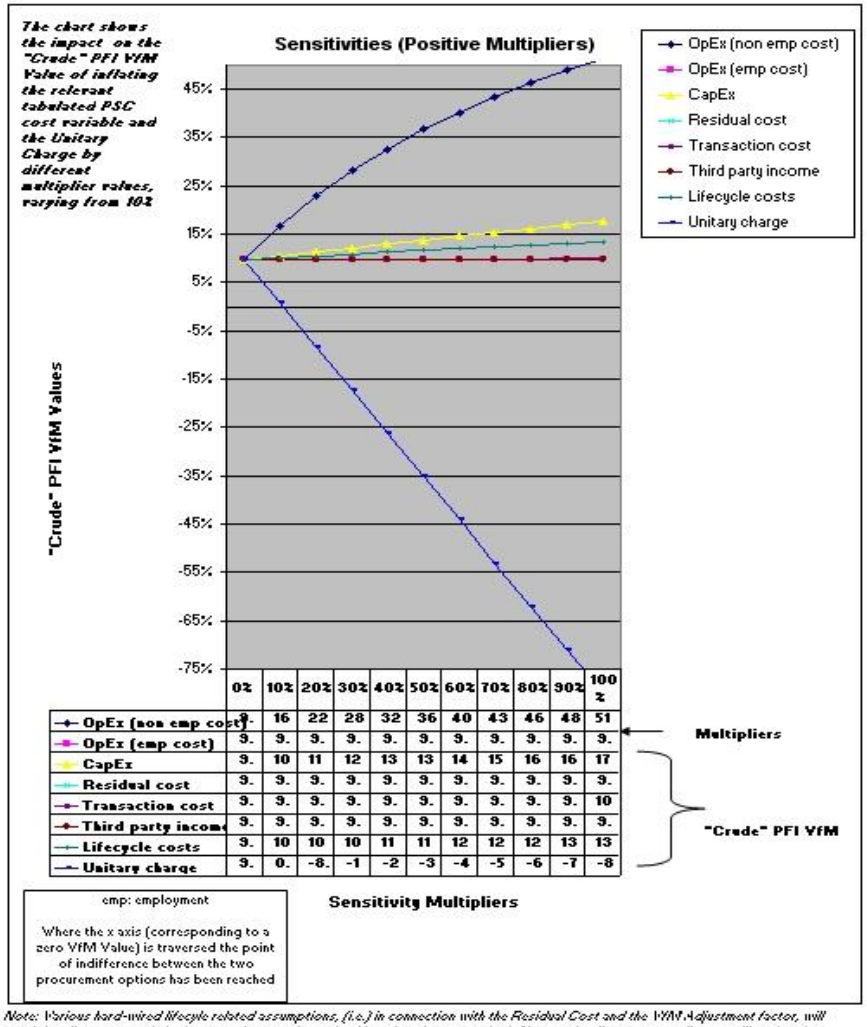
PSC Sensitivity Multipliers

CapEx(%)	0%
Lifecycle (%)	0%
OpEx (non employment) (%)	0%
OpEx (employment) (%)	0%
Transaction (%)	0%
Residual cost (%)	0%
Third party income (%)	0%

Unitary Charge Balancer(£'mn)	31.03
Default UC Factor	30%

*Note: The "Default UC Factor" value may be changed from the dummy value of 50% **ONLY** in the event that #DIV/0 or other error values appear and these are NOT cleared by the IRR and IP stabiliser switches, having checked that all inputs in the input sheet are correct. See section A32 of the User Guide for further details.*

The chart shows the impact on the "Crude" PFI VfM Value of inflating the relevant tabulated PSC cost variable and the Unitary Charge by different multiplier values, varying from 10%



	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
OpEx (non emp cost)	9.	16	22	28	32	36	40	43	46	48	51
OpEx (emp cost)	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
CapEx	9.	10	11	12	13	13	14	15	16	16	17
Residual cost	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
Transaction cost	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	10
Third party income	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
Lifecycle costs	9.	10	10	10	11	11	12	12	12	13	13
Unitary charge	9.	0.	-8.	-1	-2	-3	-4	-5	-6	-7	-8

Multipliers

"Crude" PFI VfM

Sensitivity Multipliers

emp: employment

Where the x axis (corresponding to a zero VfM Value) is traversed the point of indifference between the two procurement options has been reached

Note: Various hard-wired lifecycle related assumptions, (i.e.) in connection with the Residual Cost and the WAM Adjustment factor, will result in adjustments only in the event that pre-determined benchmarks are reached. Since such adjustments are "stepped", rather than gradual, it is likely that the lifecycle cost line will be skewed. For further information, please refer to sections A69-91, Table A15, A100-102, and Table A106 of the user guide

http://www.hm-treasury.gov.uk

Case Study #2:

Partnerships Victoria - Spencer Street Station

Public Sector Comparator (PSC)

http://www.partnerships.vic.gov.au/CA25708500035EB6/0/0FB129CD8B4D8742CA2570D900188615

Project Information	Details
Project name	[illegible]
Value	[illegible]
Status	[illegible]
Department or agency	[illegible]
Private sector partner	[illegible]
Description	[illegible]

PSC Benchmark

1. ***Paw PSC***
2. ***Competitive Neutrality Adjustment***
3. ***Transferable Risk:***
4. ***Retained Risk***

Case Study #3:

Project Background: Highways Agency, London

http://www.highways.gov.uk

UK Roads Project
http://www.highways.gov.uk

- Road Privatization
- Contracts
  - Managing agent
  - Term maintenance
  - Private Financing
- KPIs
- Communication of Metrics
  - Local press
  - Leaflets
  - Call center
  - Signage
  - Stakeholder meetings

Metrics Used

Key Performance Indicator	Description	Target Type	Target Value	Data Source
Ministerial Indicators These standards cover: • Maintenance • Making Better Use of Network • Safety • Environment http://www.highways.gov.uk/info/corpdocs/annrep/12.htm http://www.highways.gov.uk/info/corpdocs/busplan/17a.htm http://www.highways.gov.uk/info/corpdocs/busplan/18a.htm	In order to deliver best value for money, maintain the network so that the proportion requiring maintenance within the next year is held between 7% and 8%.	Network Target (max) Network Target (min)	8% 7%	State of Network (SON)
Whitehall Standards These standards cover Customer Service and are available at: http://www.highways.gov.uk/info/corpdocs/busplan/2a.htm	Aim to provide the Information Line service with a satisfaction rating of 75%, as measured by the 1998 Road Users Satisfaction Survey. This figure will combine the percentage of callers satisfied and percentage of callers partially satisfied with the service they receive.	Network Target (min)	75%	HAIL database

		each road type.			
4. Winter Maintenance	MAC	Time to carry out precautionary treatment	Area Target (max)	[ ] minutes	RMMS database
		Number of confirmed adverse personal injury accidents reported where ice is a factor	Area Target (max)	[ ] number	STATS 19

PERFORMANCE SPECIFICATION FOR ROUTINE & WINTER MAINTENANCE

CONTENTS

Life Cycle Model Metrics - Buildings

$$\text{Condition Index} = 1 - \frac{\$ \text{ repair needs}}{\$ \text{ Replacement Value}} \times 100\%$$

Federal Real Property Council (2005)

1. Full Visual Assessment
2. Parametric Estimating
3. Asset Inventory Based
4. Questionnaire Based
5. Scalable Modeling

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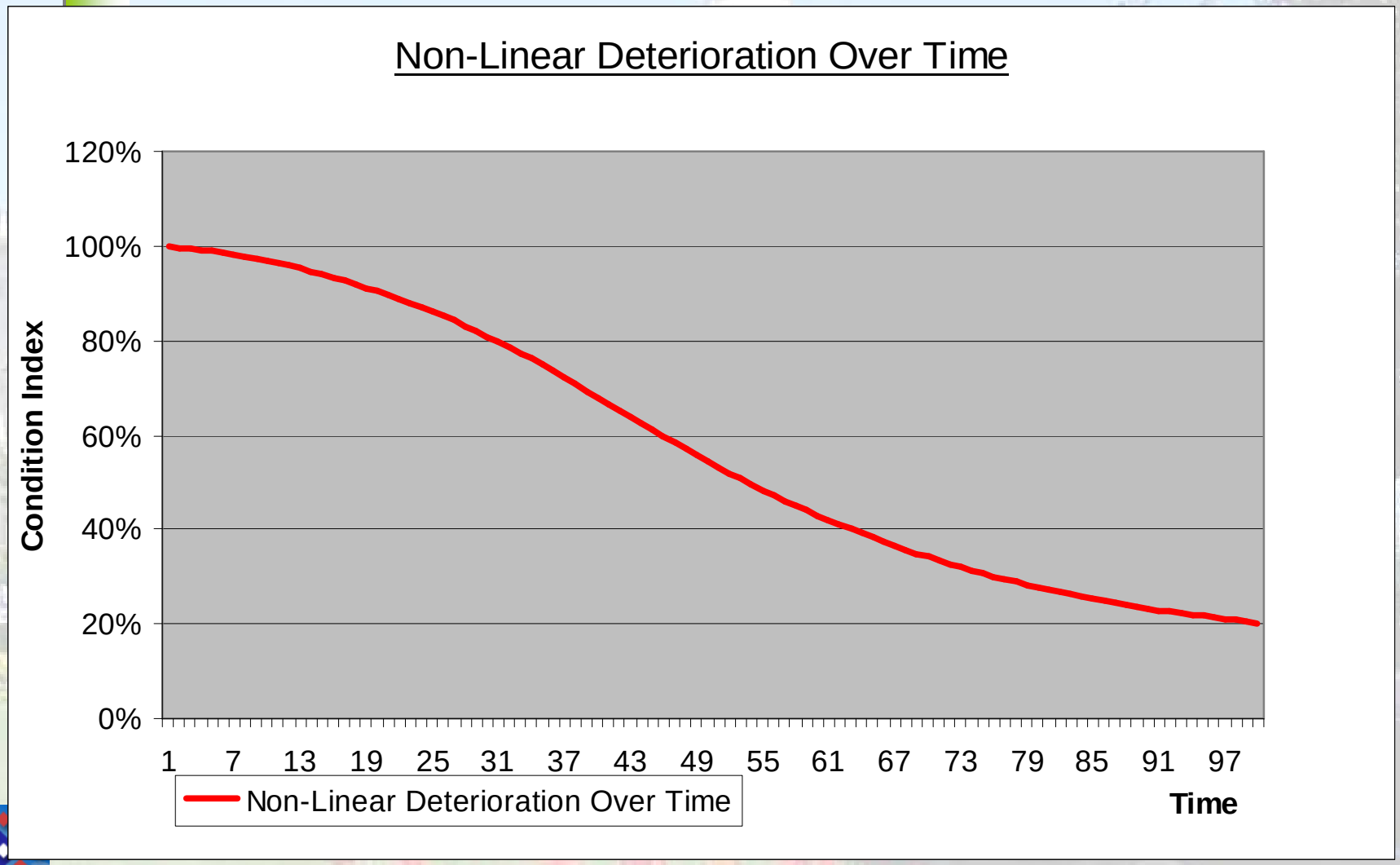
Ref: July, IMFA's FMJ, "Condition Indices and Strategic Planning" or GSA, Office of Governmentwise Policy (OGP)

UK PPP Example – Wiltshire Police Authority



Theoretical condition assessment

you need the following minimum information:

- Age of the building,
- the type of building it is,
- the component breakdown for that type of building,
- the expected useful life of each system type.
- use more info if known…

BASIC Age and Building-Type Data

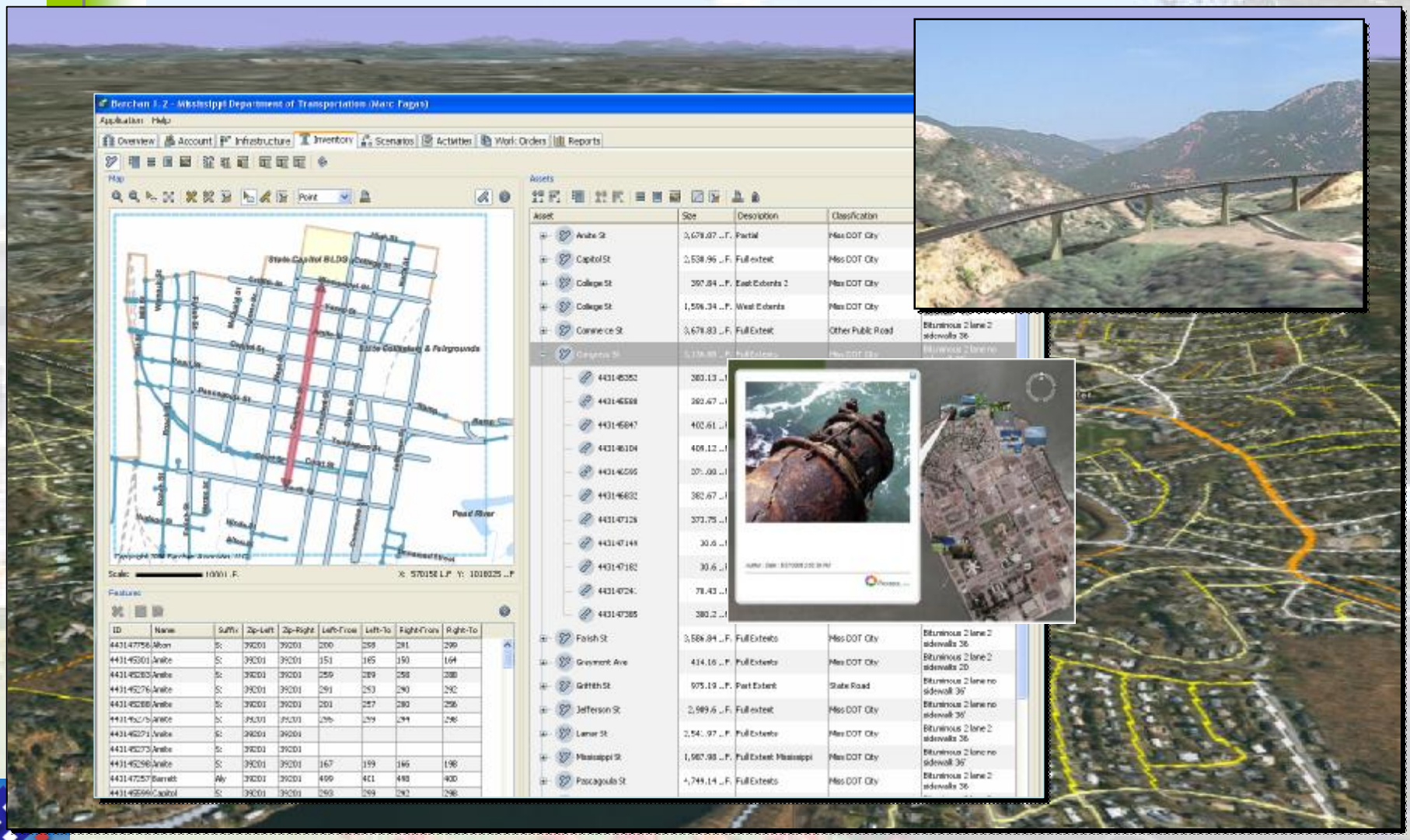
Condition Index Accuracy	<10 YRS	<25 YRS	<30 YRS	<35 YRS	<40 YRS	<45 YRS	<50 YRS	OVERALL TOTAL
<25% Variance	93.36%	90.89%	89.44%	89.49%	88.92%	86.93%	84.94%	80.15%
<20% Variance	91.60%	87.25%	85.80%	85.73%	84.88%	82.28%	79.87%	75.18%
<15% Variance	88.28%	83.60%	81.90%	81.56%	80.39%	77.25%	74.63%	68.71%
<10% Variance	82.23%	76.01%	72.90%	71.45%	70.21%	66.99%	63.61%	58.06%
<5% Variance	72.07%	62.55%	58.35%	56.54%	55.09%	51.82%	48.77%	42.35%
<2% Variance	60.94%	44.94%	41.39%	39.53%	37.87%	35.44%	33.01%	25.96%
<1% Variance	51.56%	35.93%	32.81%	30.95%	29.42%	27.41%	24.82%	18.23%
<1% Variance	31.68%	20.58%	19.09%	16.79%	14.31%	11.67%	10.16%	5.72%

Life Cycle Model Metrics - Infrastructure

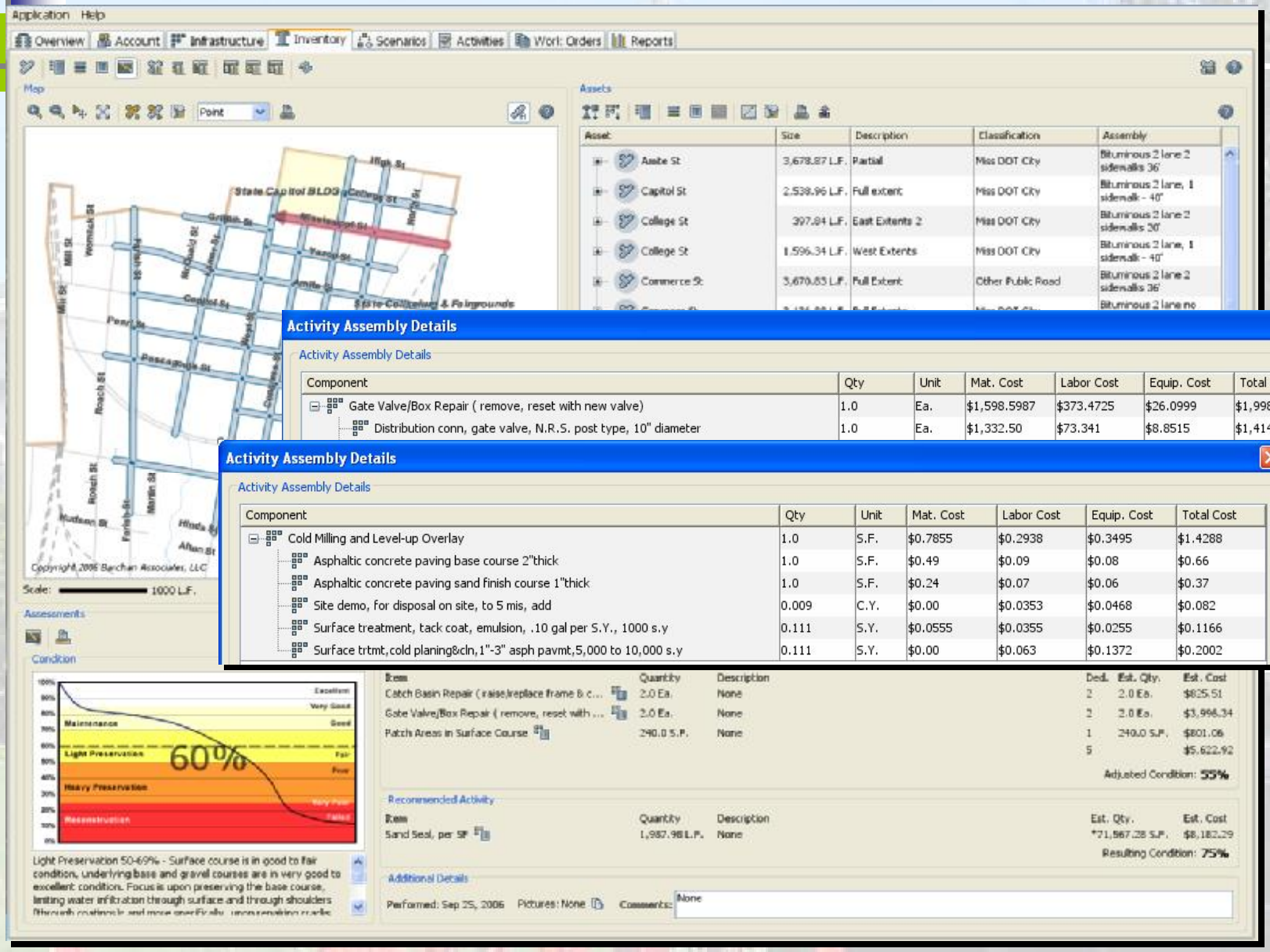
envista *http://www.envistasoftware.com/*

- **Real-time infrastructure asset modeling, simulation and management application**
- **Integrates data from GIS, costing, mapping and enterprise asset management systems**
- **Financial modeling for infrastructure assets for consistent and accurate decisions.**
  - **Capital Inventory and Valuation**
  - **Full Life –Cycle Cost Analysis**
  - **Capital Asset Management Planning**

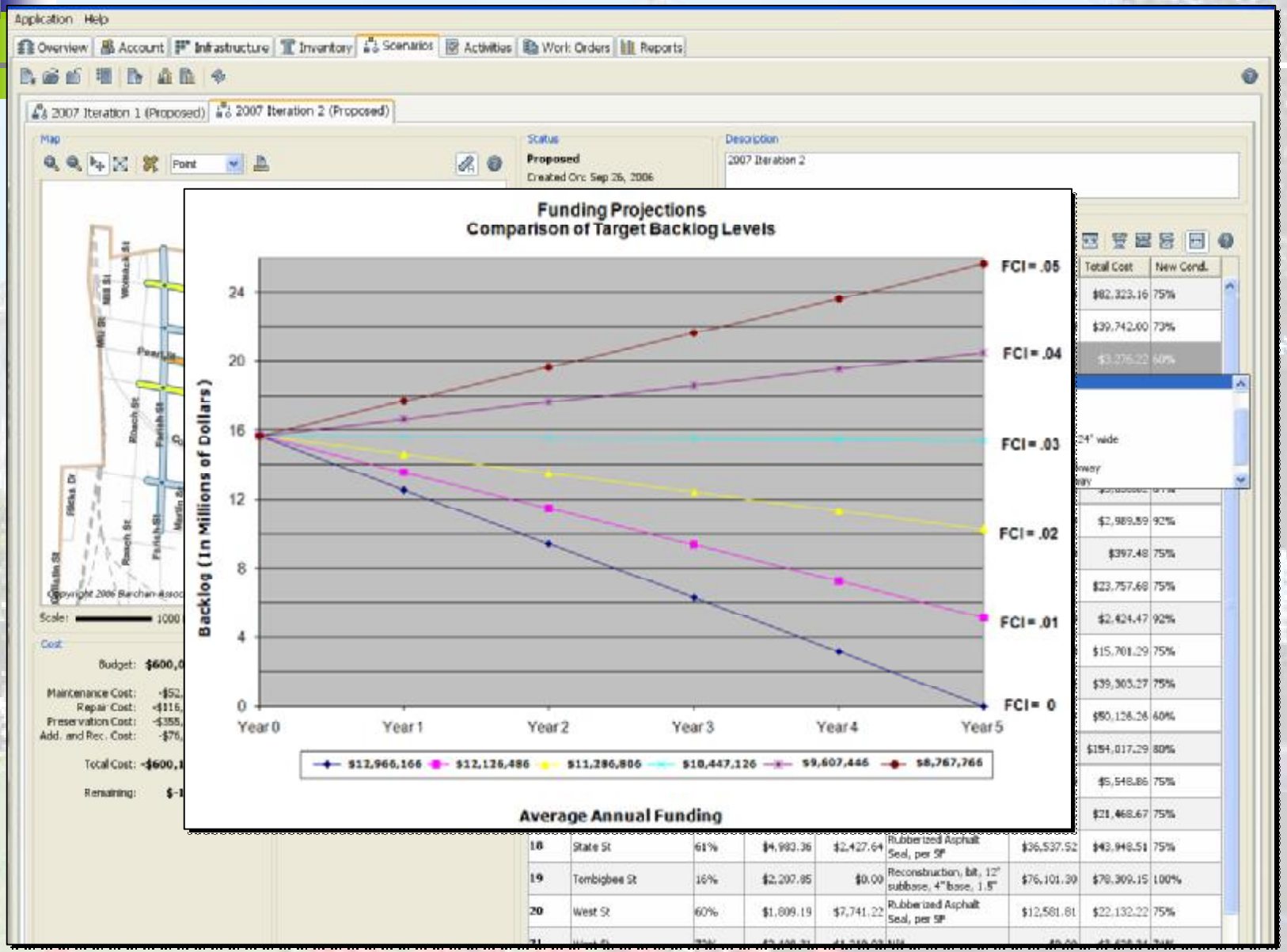
Inventory and Valuation



Full Life-Cycle Cost Analysis



Asset Management Planning



Resources

- http://www.reason.org/commentaries/balaker_20060601.shtml (REASON FOUNDATION)
- www.FOSonline.org
- http://community.wr.org/NETCOMMUNITY/Document.Doc?&id=174
- http://www.edc.org/INT/CapDev/dosafile/dosintr.htm
- http://www.iris.umd.edu/adass/proj/soccappubs.asp
- http://www.info.usaid.gov/pubs/isp
- http://www.gemi.org/MET_101.pdf
- http://www.info.usaid.gov/pubs/npi/corerept/npi-mas.htm
- http://www.muninetguide.com/articles/PublicPrivate-Partnerships-Allow-188.php
- http://www.pwblf.org/csr/csrwebassist.nsf/content/f1d2a3b4c5.html
- www.socialresearchmethods.net
- http://www.corporate-citizenship.co.uk/resources/articles.asp
- http://www.bpd-waterandsanitation.org/english/index.asp
- http://www.undp.org/ppp/gln/resources.htm
- http://www.un.org/esa/coordination/Alliance/PPPInfrastructure.pdf (Spencer Street Station, Victoria)
- http://www.partnerships.vic.gov.au/CA25708500035EB6/0/0FB129CD8B4D8742CA2570D900188615 (Spencer Street Station, Australia)
- http://rru.worldbank.org/Documents/Toolkits/Highways/2_carac/23/23_.htm (World Bank).

Partial Ref: White Water to Blue Water Public-Private Partnership: