Portland City

Asset Management Presentation October 2009



Agenda

- 1. Thank you
- 2. Bureaus and Needs
- 3. Report Cards
- 4. Investment Profiles
- 5. 25 Year Plan

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6. Levels of Service





Thank You

- Like our Prime Minister, I agree that New Zealand likes America
- Thank you sharing your resources and innovations with the world and making the world a better place to live
- Thank you for being prepared to put your sons and daughters in harms way to make the world a safer place to live
- Thank you for inviting me to share experiences with you

Introduction W. ideas analysis solutions 5

AM and Organizations

5 Stages of Grief

- Denial
- Anger
- Bargaining
- Depression
- Acceptance

- 5 Phases of Project Management
- Initial Enthusiasm
- Inevitable problems
- Search for blame
- Punish the innocent
- Praise and reward
 non-participants



Organizations and AM Planning

- 20% Embedded, resourced, good progress and results
- 60% Keeping up with requirements but still plenty of work to do
- 20% Compliance only still in denial after 10 years



2008/09 Issues

- All the costs are on the table for next 10 yr
- Huge community debate (2 years) around affordability of services – commissions, hearings, Council elections
- Populist politicians still do their stuff
- BUT debate is informed by facts communities can wrestle with trade-offs



John Howard, JRA Challenge – AMP on 7 Slides

- 1. What are the drivers?
- 2. What is the target?
- 3. What are various ways to get there?
- 4. What are the obstacles, issues?
- 5. How do we measure progress?
- 6. How do we get over the obstacles?
- 7. What don't we know?



7 Key Points for AMPs



AM - No Lone Rangers, No Silver Bullets





The Onion Scene

- All smelly
- Make people cry
- LAYERS





Bureaus and Needs



NZ Experiences

- Significant Assets
- Regulatory Service Levels
- Off Balance Sheet Caution
- SWDC AMIP Team Example
- Across Portfolio considerations



Risk Management



Risk Management

- Business Risks
- Organization wide risks
- Asset criticality analysis
- Emergency risks
- Use ISO Standards for risk management



What is Risk and Why Assess It?

The consequences of an asset failing can be measured against the four well-beings:

- Economic
- Environmental
- Social
- Cultural

The probability of failure can be expressed in words e.g.

- Almost certain to occur (score = 1, one)
- Likely to occur
- Moderate
- Unlikely to occur
- Rare to occur (score = 0, zero)



Calculation of Criticality

Well-beings	Effect	Weighting	Weighted Well-being			
	Public image	5%				
Social	Service Availability	20%	45%			
	Public Health and Safety	20%				
	Difficulty/Cost repair	10%	25%			
Economic	Financial loss to customer	10%				
	Financial loss to Council	5%				
Cultural	Offensive to Culture	10%	10%			
Environmental	Pollution/ Contamination/ Scouring	20%	20%			



Calculation of Criticality

SAMPLE: Water Criteria

Well- being	Effect	Items to Consider	Severity	Score
	Public Image	Loss in Public Confidence	No Result	0
			Council looks bad	1
Social			Council makes paper	2
			Council make National TV	3
			Council Lawsuit	4
	Service Availability	Number of People	1 Connection	0
		Affected	2-20 Connections (half block)	1
		(schools, elderly, hospitals, industry as	21-40 Connections (Block)	2
			41-500 Connections	3
		domestic connections')	>500 Connections	4
	Public Health and		No problem	0
	Safety		Damage to property	1
			People become sick for a short period	2
			Injury to people	3
			Loss of life	4



Calculation of Criticality

	Assessment of Effects (Criticality Scoring							
Weighting	Social 5	20	20	Economic 10	10	5	Cultural 10	Environmental 20					
Criteria	Public Image	Service Availability	Public Health and Safety	Difficulty/Cost of Repair	Financial Loss to Customer	Financial Loss to Council (insurance, fines)	Offensive to Culture	Pollution Contamination Scouring	Total Score = Weighting x Level	Highest individual weighted point Score	Criticality Assessed from Total Score	Criticality Assessed from Highest Point	Overall Criticality
Backflow preventer (4 found in AMS)	3	3	4	4	2	3	2	3	310	80	High	Medium	High
Facilities- SCADA, Repeaters, Bores/Pumps, Disinfection Plant. ('High' criticality, manage separately)	3	4	3	4	2	2	2	3	305	80	High	Medium	High



Impact of Criticality on Expected Life



Impact of Criticality & other factors on Interventions





Risk Aversion





Individual Pipe Analysis



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Critical Asset Analysis







Canterbury University Risk Course (Associate professor Piet Beukman)





Risk model cont'd

- Decision criteria to focus effort
 - Larger the box, greater the effort needed
 - Increasing knowledge requirement More development required
 - Increasing complexity More formal method required
 - Increasing time pressure More individual autonomy required
 - Increasing novelty More understanding required

Report Cards



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AM Practice and Scorecards

Source: Don Vincent, GHD Australia

100% 90% 80%	Sector	Australia 2001	NZ 2004
	National Roads	С	All Roads D-
50% 40% 30%	State Roads	C-	Bridges C+
20%	Local Roads	D	
0% 1 - Corporate 2 - Asset 6 - Asset 7 - Business Policy and Capability 3 - Asset 4 - Asset 5 - Asset Replacement Business Forward Acquisition Operation Maintenance and Support Blancing Plancing Systems	Railways	D-	D-
Aquamark Function	Airports	В	C+
	Ports	В	C+



Aust. Scorecard

Table 3 2001 Australian Infrastructure ratings by sector

Sector	Rating
Transport	
National Roads	С
State Roads	C-
Local Roads	D
Railways	D-
Aviation and Airports	В
Ports	В
Water	
Water – potable	С
Water – wastewater	C-
Stormwater and Flood control systems	D
Irrigation	D-
Energy	
Electricity	В-
Gas	С
Telecommunications	
Telecommunications	В



NZ Scorecard

Table 4 2004 New Zealand Infrastructure Ratings by ACENZ

Sector	Rating
Transport	
Roads	D-
Railways	D-
Air and sea ports	C+
Bridges	D
Water	-
Water – potable	С
Water – wastewater and stormwater	D
Energy	
All energy combined (Electricity and Gas not rated separately)	E
Telecommunications	
Telecommunications	В



City of Hamilton Example CAMG Recommended Actions Short Term

Action: Report Card

Definition: A way to clearly display the current and projected status of assets.

Example: The City of Hamilton, Alberta uses an infrastructure report card to rate and describe trends for its major assets.

City of Hamilton 2006 Infrastructure Report Card						
Asset Group	Rating 2006	Comments	Trend 2020			
Public Transit Services	в	The hand system appears to be sufficiently funded at this time, in a fundy-decouple table, reado of tables to substand to currently odd 11.1 and is projected to increase to substand indexhip increases. Putter growth of the City, as well as parts to improve and expansioner and an incluste annual measures in the Thereit backging of 2% pixel inflation.				
Central Fleet Services	с	Plead Gentices insincer on a full-coat recovery basis with Ma representation unalged to the user organization the, polytic increases in reserve fund coatifications can be seed in organization to an other and a second be implemented as soon any possible.	-			
Waste Management Services	с	Wate biancoment Services are replay growing. This will create a two first or access the win regist investigation and exposure it is a similar short true tops in the states where growin at the city will also get temanatese preserve on this service. The Wate Management Matter Points currently being developed. However, failance develop and implement the recessary measurcate environment posters in the short-kern will cause the fature trend to deteriorate report.	-			
Forestry Services	F	Towary Services too the target neuros gap of all R-bits Veron 2 acids, or approximations with a surrow two, Towary assets offer applications income to tarvella, and nearing experiments of any exception that the problem, and the operating out 47%. Doubling the two concepts offer any formation to allow near the problem, outmakely frequencing out 47%. Doubling the two concept outmakely frequencing out 47%. The output of the concept output of the second and the property associal need to be considered.	Ţ			
Traffic Services	с	Traffic Services are under funded by all read 510 million 1 year. Growth of the City will introduc associal. Some current association approaching the and of their vestfall the and physitem introduction of signappe are not up to standard.	1			
Cemetery Services	в	Canadory Services 24 crighty units 3,4000. However, analysis induces contributions to mean west for model before of footbills. 24 out in 24 or generation of those controls. Two must that should be addressed those in future analysis and policy involved function in the bask factor regular annual contribution of adapt from the way one private considering bandwood to the City should be addressed.				
Facilities – Communal & Corporate	F	Pacifies back a significant shortfall in revenue. Lade of opporting one uniformation having request a consectation distribution. Facilities are more capital internative than most additionation. Facilities are more capital internative than most additionation and the state of the additionation and states and preservation. Survive and water and not necessarily on search preservation. Survive and water and not necessarily on search preservation. Survive and water and not necessarily on the associated association for an opportunity of the associated associations are observed thread, with patient targets and on using time, and the associated association and associated and and and threads and an appear opportunity of the inframeworks fragment of the most of more-wealt backets a State of the inframeworks fragment and the first future.	ł			

Selecting the Appropriate Level of Asset Management

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Context of Policy – LGA 2002

Subpart 2-Reporting

98	Annual report	82
99	Audit of information in annual report and summary	83
	Subpart 3—Financial management	
100	Balanced budget requirement	83
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102	Funding and financial policies	85
103	Revenue and financing policy	85
104	Liability management policy	86
105	Investment policy	86
106	Policy on development contributions or financial contributions	87
107	Policy on partnerships with private sector	88
108	Policy on remission and postponement of rates on Maori freehold land	89
109	Rates remission policy	90
110	Rates postponement policy	90
111	Information to be prepared in accordance with generally accepted accounting practice	91

ideas analysis solutions

Compulsory Policies

- a) a revenue and financing policy; and
- b) a liability management policy; and
- c) an investment policy; and
- d) a policy on development contributions or financial contributions; and
- e) a policy on partnerships between the local authority and the private sector; and
- f) a policy on the remission and postponement of rates on Maori freehold land.



Asset Management Policies

The objective of an Asset Management Policy for an Activity is to ensure that Council's service delivery is optimised to deliver agreed community outcomes and levels of service, manage related risks, and optimise expenditure over the entire life cycle of the service delivery, using appropriate assets as required.

An AM Policy requires that the management of assets be in a systematic process to guide planning, acquisition, operation and maintenance, renewal and disposal of the required assets.

Delivery of service is required to be sustainable in the long term and deliver on Council's economic,

Asset Management Policies

Key Issue - Selecting the Appropriate Level of Asset Management

Authorities that manage assets on behalf of their communities need to define an appropriate level of asset management for the asset or activity being managed.



For some authorities and asset / activity groups this may not necessarily be fully comprehensive (advanced) practices.


'Core' asset management practice is basic technical asset management planning undertaken at a level designed to meet minimum legislative and organisational requirements for financial planning and reporting.

'Core' practice provides technical management outputs for current levels of service, demand management, asset lifecycles, asset forward replacement programmes, new capital expenditure and associated cash flow projections.



'Core Plus' asset management practice is undertaken at a level between 'Core' and 'Comprehensive' practice.

The focus is to build on the basic technical asset management planning of 'Core' practice by introducing improved maintenance management and more advanced asset management techniques (as appropriate).

Further use is made of risk management, asset lifecycle management, and service standard optimisation techniques.

(Previously undefined)



'Comprehensive' asset management practice is system optimisation planning undertaken to optimise activities and programmes to meet agreed current and future service standards.

This is achieved through the development of management tactics based on the collection and analysis of key information on asset condition, performance, demand for service, lifecycle costs, risk costs and asset lifecycle treatment options.



IIMM Section 2.2.4 states:

- Selecting the appropriate asset management level for an organisation, which for some organisations or asset types may not need to progress beyond a core approach, will depend on a number of factors, including:
- The costs and benefits to the organisation
- Legislative requirements
- The size, condition and complexity of the assets
- The risk associated with failures
- The skills and resources available to the organisation -

ideas analysis solutions

• Customer expectations

Proposed Methodology

METHODOLOGY FOR DETERMINING APPROPRIATE ASSET MANAGEMENT LEVEL





Initial Assessment: Population Analysis - NZ 2006 Census Main and Secondary Urban Areas (Usually Resident Population Count)

Total New Zealand Total Main Urban Areas Total Secondary Urban Areas 4,027,947 2,892,831 243,081



Number Towns	Population	Suggested Initial AM Level (Waugh Infrastructure Mgmt Ltd)	Notes		
10	90,000 and above	Comprehensive (Advanced)	Auckland split by Councils		
34	10,000 - 90,000	Core Plus			
31	5,000 - 10,000	Core			
559	Less than 5,000	Core			

www.drinkingwater.org.nz



Recap: Asset Management Policy

- Develop 2 page (approx policy) for each asset group
- Summarise the results of the practice analysis
- Outline overall objectives of service delivery for that asset group
- Insert into introduction of AMP
- Council adopts as policy
- Sets appropriate practice for that asset group
- Allows management of AM practice sophistication



Asset Management a journey

- 1998 LTFS 1st AMP, Renewals
- 2001 First AMP revisions
- 2005 LTCCP 2nd AMP, CAPEX
- 2008 LTCCP 3rd AMP

AMP a 20 year plan, improving information each cycle





Comprehensive Asset Management





Asset Management Plans

- Required to support 10 year financial and community plans
- Look out 20 years or longer if required
- Collate relevant information regarding service delivery and assets in one place
- Sit within planning frameworks (see example)



Investment Profiles



Investment Constraints

- Investment Drivers
- Investment Constraints
- Underfunding Investment \$136M pa
- The UK investment experience
- The 136M Challenge
- Smoothing the investment profile



LTCCP Progress 2002 - 2008

- The right debate: too much technical detail
- Still signs of 3 year budgeting
- Many AMP's not sufficiently robust
- Systems and process issues
- Resource shortages in planning
- Resource shortages in delivery (40 50% carryover's)



LTCCP Progress 2002 - 2008

Figure 13

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Comparison of capital expenditure in the 2004-14 and 2006-16 LTCCPs





NZ Forecast Operating Expenditure

Figure 3

Forecast operating expenditure from 2006 to 2016





Note: The 2006 amount comes from 2005/06 annual plans.

NZ Forecast Operating Revenues

Figure 4

Forecast operating revenues from 2006 to 2016



Note: User-pays charges are included as "other revenue". The 2006 amount comes from 2005/06 annual plans.



ACC SW 10 year financial forecast

SUMMARY	(\$*000)													
	Current	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2025/26	Totals
OPERATIONAL					-								-	
Management	1,193	1,243	1,193	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	982	982	21,798
Planning	870	895	770	770	770	770	770	770	770	770	770	-	•	7,825
Environmental	600	800	800	800	800	800	800	800	800	800	800	1.2		8,000
Other Maintenance	250	160	280	396	509	621	749	882	1,014	1,146	1,280	5,786	5,786	64,899
Sub-Total	2,913	3,098	3,043	3,158	3,271	3,383	3,511	3,644	3,776	3,908	4,042	6,769	6,769	102,522
MAINTENANCE			20110000			1.00000000000					1.127 (1117-111)			51-513 - 514-51
Planned	2,255	2,255	2,255	2,255	2,255	2,255	2,255	2,255	2,255	2,255	2,255	3,265	3,571	56,730
Unplanned	165	165	165	165	165	165	165	165	165	165	165	34	34	1,990
Consequential	200	200	200	200	200	200	200	200	200	200	200		-	2,000
Sub-Total	2,620	2,620	2,620	2,620	2,620	2,620	2,620	2,620	2,620	2,620	2,620	3,299	3,605	60,720
Total Opertnal & Mtnce	5,533	5,718	5,663	5,778	5,891	6,003	6,131	6,264	6,396	6,528	6,662	10,068	10,374	163,242
			-						_					¥.
RATES & INSURANCE	1,267	3,371	3,371	3,371	3,371	3,371	3,371	3,371	3,371	3,371	3,371	-	-	33,712
DEPRECIATION	10,534	12,751	13,163	13,626	13,955	14,351	14,112	15,441	14,883	14,456	13,902	13,959	14,472	282,793
				1000000										
Total OPEX	17,333	21,840	22,198	22,776	23,218	23,725	23,615	25,076	24,651	24,355	23,935	24,025	24,545	4/9,/4/
CAPITAL EXPENDITURE														
Ensure sustainability	3,500	6,053	5,979	5,410	3,320	3,320	3,320	3,320	3,320	3,320	3,320	3,320	3,320	73,881
Flood reduction	16,541	18,868	24,230	22,211	25,996	26,035	28,960	28,940	29,030	29,006	28,941	26,941	26,941	531,633
Overflow/Sediment reduction	2,555	4,455	4,640	5,366	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	48,461
Total CAPEX	22,596	29,375	34,849	32,986	31,316	31,355	34,280	34,250	34,350	34,326	34,261	32,261	32,261	653,975
Infrastructure Auckland Funding	2 0 2 0	3 582	2 867	1 191										7.640
and the second s	2,020	0,002	2,001	1,101										1,040
CAPEX less Infrastructure Auckland														
Funding	20,576	25,793	31,982	31,795	31,316	31,355	34,280	34,260	34,350	34,326	34,261	32,261	32,261	646,335
Total Utility Planning Expenditure	37,909	47,633	54,180	54,572	54,534	55,081	57,894	59,336	59,001	58,682	58,197	56,288	57,107	1,126,082
Total Stormwater Expenditure	39,929	51,215	57,047	55,762	54,534	55,081	57,894	59,336	59,001	58,682	58,197	56,288	57,107	1,133,722

Table 7-2: Financial Forecast

MCC Roads – 20 year expenditure



Figure K: 20 Year Financial Forecast

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ideas analysis solutions

Asset Lifecycle Management

- Asset creation
- Asset operation and maintenance
- Asset renewal
- Capital expenditure requirements
- Asset disposal and aftercare



Renewal Forecasts - NSCC





Economic renewals





Total Capital Expenditure





Renewals vs. Depreciation





Depreciation Calculations

Table 7.6 Fair Value of WS Assets as of 30 June 2004								
Asset Class	Quantit Y	Unit	Optimised Replacement cost \$ 000	Depreciated Replacement Cost \$ 000	Annual Depreciation \$000			
Pipes	1,276,	km	142,155	101,562	1,633			
Valves	13,012	no	20,803	13,648	383			
Fire Hydrants	6,918	no	7,774	4,764	140			
Pump Stations	10	no	1,794	1,507	53			
Reservoirs	3	no	4,353	795	44			
Other Facilities	37	no	680	420	16			
Service Connections	73,251	no	21,023	15,866	199			
Water Meters	73,367	no	21,764	13,222	856			
		Total	220,346	151,784	3,324			



Expenditure Forecasts





Remaining useful life, pipe length and material type





An Integrated Approach

Consider Infrastructure Interdependencies!

- Still not handling this well
 - Contract
 Separation
 - Integrated Planning



Financial Management

- 10 year financials
- Generally supported by 20 years asset analysis
- Must state significant assumptions
- Feed into LTCCP financials



NSCC WS Confidence Ratings





25 Year Plan





Demand Management

- Planning and managing future demand
- Use of demand models
- Monitoring technological changes
- Population shifts
- Demographic shifts
- Water resources



Social – Age changes

(source Dr Natalie Jackson, Infrastructure Management Summit, Rotorua, 2005)





Social – Age change by TLA

(source Dr Natalie Jackson, Infrastructure Management Summit, Rotorua, 2005)





Demographic changes




Portland 1959

- Dwight Eisenhower President
- Interstate started 1956
 - I5 October 1966, 308 mile
 - 184 July 1980, 375 mile
- Alsaka and Hawaii join the Union
- Oregon Centenial Exposition
- Gas 25c / gallon



Portland 1959









FIRE SCULPTURE at entrance of Exposition is 50-foot tower rising from circular pool of water with gas flame 40 feet high to burn the entire 100 days of the Exposition.



Portland 1959



PACIFIC TELEPHONE'S DISPLAY will give visitors an opportunity to win free long distance calls to any place in the U.S. and Hawaii. This big board will show how calls are automatically routed.



Portland 1959 – Paul Bunyan







Not in Portland 1959

- Interstate
- Internet
- Light Rail
- Street Cars??
- Aerial Tram to College
- Color TV
- iPhones, Cell Phones



Population Changes

- Portland City 1960 = 372,676
- Portland City 2009 = 529,121 (+42%)
- Portland Metro 1960 = 1M
- Portland Metro 2009 = 2.1M
- Portland Metro 2059 = 3.85M (+83%)



Expected Asset Lives

- Bridge, 50 100 years
- Interstate, 50 years
- Water Pipe, 80 100 years
- Road, 25 years
- Rail, 50 years
- Building, 50 years
- Other Structures, 50 years



Levels of Service



Levels of Service

- Align to deliver community outcomes
- Community and Technical levels of service
- Management and public reporting
- Community consultation on levels of service (see example)
- Presentation of costed options
- Community agreed service levels set tariffs, charges, rates



Importance verses Satisfaction





Community Consultation



We need your belp!

The point control counts control early whether the services are provide right (point expectation). Fields this we are posifing excellmentation to environ extension in the Diskits annihing toeddack as the limit of Sensing provides by council for

Possible - Naker - Waterweiter - Store water
Solid waste - Parks and reserves - Constructly Tablese

Your headback will help Council plan for the future provision of sensions in the District

COMPLETED QUESTICHEMBERS MUST BE RETURNED TO COUNCIL BY MAX 1 2005 SEE INSIDE MICE FOR DESIGN Important Information for Taupo/Kaingaroa-Mangaking Poukanul ward (T/K-M/P) rategayers





Level of Service Questionnaire We need your help!

Terpit Dithin Council wants to find out whether the services we provide meet your expectations. To de fills we are possing quantitarinaires to every ratioancer in the District seaking feedback on the Level of Service protocode by Council Ser

• Reading + Violar + Vascowerter + Stern water • Solid watta + Parks and reserves + Community facilities

COMPLETED QUESTIONINAIRES MUST BE KETURNED TO COUNCIL BY JULY 1 200



Response Analysis





Levels of Service Linkages

	Wastewater					
•	Community Outcomes	How the Wastewater Activity Contributes	Measurement (Level of Service)	Measurement Procedure	Current Level of Service	Target Level of Service
	High standards of public and environmental health	Protecting the communities from wastewater related health issues by providing community reticulated systems in agreed areas	Adoption of a Sanitary assessment for the district as required by the LGA, update every 12 years.	Resolution of Council	Adopted June 2006	Adopted and updated every 12 years
	Sustainable, sate and healthy infrastructure	Long term planning through Asset Management Plans will provide confidence of a sustainable infrastructure	Adoption of an approved Asset Management Plan	Resolution of Council	Adopted and updated every 3 years	Adopted and updated every 3 years
		Managing appropriately the discharges to air, water and land from the wastewater system ensures a healthy and safe infrastructure.	Discharges from treatment plants meet standards set by Environment Waikato	Wastewater testing carried out as per EW requirements	Full compliance with Resource Consent conditions in TA	Full compliance at both treatment plants
					Non-compliance for nitrogen and phosphorous in Cambridge	Full compliance at both treatment plants
			Number of Pump station overflow	Review Failure information sheets	Not currently measured	No more than x dry weather overflows from pump stations per year
					Not currently measured	No more than y overflows from pump stations per rainfall event
			Customer complaints of odour events	Quarterly audit of odour events (EW and INFRA)	9 complaints per annum	<= 5 odour events per year
	Efficient and effective utility services	Long term planning of maintenance, renewals and provision for growth will provide assurance for a sustainable and efficient utility service	Adoption of an approved Asset Management Plan	Resolution of Council	Not adopted	Adopted
		Satisfaction with Councils services/facilities reflects how effective the utility service is to the community	Percentage of satisfied residents with the overall performance of the wastewater systems	Annual NRB Survey	63% residents are satisfied with the services	70% satisfied residents
	Affordable services	Plan for future growth	A Development Contribution Policy has been adopted	Resolution of Council	Adopted	Adopted
		Monitor the Customer Satisfaction Level of the overall wastewater service provided to reticulated areas	Percentage of satisfied residents with the overall performance of the wastewater systems	Annual NRB Survey	63% residents are satisfied with the services	70% satisfied residents
	High standards of infrastructure	Ensure appropriate response times to the public requests for service are maintained and the wastewater system that directly affects the use of the system is operating correctly.	Percentage of satisfied residents with the overall performance of the wastewater systems	Annual NRB Survey	63% residents are satisfied with the services	70% satisfied residents



New Zealand Overview



New Zealand Overview

- 1. Geology and Geography
- 2. Development History
- 3. Asset Management Commences
- 4. Renewals and Backlogs
- 5. Local Government Act 2002
- 6. Long Term Council Community Plans
- 7. Progress 2002 2008



Geography - New Zealand Regions





Geography South Island -Timaru





Geology - Alpine Fault







Geology Alpine Fault (2)





Geology - Wellington Fault





Geology - Volcanoes





Geology – Auckland Volcanoes







Infrastructure Development History

- 1840 European Settlement
- 1840 1900 breaking in
- 1900 1930 infrastructure build phase 1
- 1946 1975 infrastructure build phase 2
- 1984 1994 maintain
- 1995 2005 infrastructure build phase 3



Infrastructure development

- Settlement Early 1900's Initial infrastructure build. Loans from UK.
- 1950's/1960's wealth effect and next infrastructure build. Govt subsidy.
- 1980's/1990's relatively poor = maintain
- 2000's-2020's relatively wealthy = replace and build
- 2030 onwards less new build? Maintain?



Infrastructure 1800's - 1900's

Rakaia River Bridge, Bollman Truss, completed 1882





Infrastructure 1960's

Benmore Dam commissioned 1965





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Infrastructure Now

Mangere WWTP commissioned 2003





Future Infrastructure?

Waitakere CC Massey Leisure Centre





NZ History and Possible Trends









Crown Core Debt 1984 - 1996

Net Core Crown Debt as % of GDP



Infrastructure possible trends

- Approx. 20 year window of wealth and willingness to pay to replace and build new infrastructure
- Funding mechanisms is cash funding the most logical way?
- Basics taken care of more emphasis on community infrastructure



Asset Management Begins

Major Infrastructure Failures in Australia and New Zealand, 1998-2001





NZ Auditor General – Importance of Infrastructure

- Auditor General concerned with Council balance sheets
- Value of infrastructure loss of service potential (depreciation) not shown
- What were the costs
- 1996 National law changed 10 year financial plans required supported by AMP's



1998 AMP's – Renewal Focus

- Collection of data and building of asset registers
- Analysis of information to support 10 year financial plans
- Infrastructure effects of 1984 1994 recession become apparent
- Major asset renewal and maintenance backlogs are recorded



Local Government Act 2002

- Previous Act 1974
- Provides power of general competence
- Requires extensive community consultation
- Requires 10 year financial plans that must be formally updated and audited every 3 yrs
- Requires 10 year plans supported by asset or activity management plans UGH

ideas analysis solution
Long Term Council Community Plans (LTCCP)

- 10 year plan, updated 3 yearly
- Community Outcomes healthy, wealthy and wise
- 4 well-beings: Economic, Environmental, Social and Cultural
- Delivering agreed levels of service to the community



1C

Long Term Council Community Plans (LTCCP)

Figure 1

The LTCCP development process



LTCCP Reporting

Figure 16

Feedback flow of performance In the Local Government Act 2002



1[.] 1

Asset Management Practice - NZ



Asset Management Practice NZ

- 1. NAMS and Manuals
- 2. Asset Management Plans
- 3. Levels of Service
- 4. Demand Management
- 5. Risk Management
- 6. Asset Lifecycle Management
- 7. Financial Management
- 8. Systems and Processes
- 9. Improvement Planning



National Asset Management Steering Committee (NAMS)

Member Organisations

- INGENIUM- The Association of Local Government Engineering in New Zealand <u>http://www.ingenium.org.nz/</u>
- SOLGM Society of Local Government Managers New Zealand <u>www.solgm.org.nz</u>
- LGNZ Local Government New Zealand www.lgnz.co.nz
- Office of the Auditor General NZ <u>http://www.oag.govt.nz/</u>
- NZWWA- New Zealand Water and Waste Association <u>http://www.nzwwa.org.nz/</u>
- NZRA- New Zealand Recreation Association. http://www.nzrecreation.org.nz/
- ALGIM- Association of Local Government Information Managers <u>www.algim.org.nz</u>
- LAPA- Local Authority Property Association



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NAMS Manuals



New Zealand Infrastructure Asset Valuation and Depreciation

GUIDELINES



Edition 1.0, 2006









Intrastructure Asset Management – What is it?

"The goal of infrastructure asset management is to meet a required level of service, in the most cost effective manner, through the management of assets for present and future customers."

International Infrastructure Management Manual (IIMM) 2006



Infrastructure Asset Management – What is it?

- A lifecycle approach
- Cost effective management strategies
- For the long term
- Defined Levels of Service
- Monitoring performance
- Managing the impact of growth
- Managing Risk
- Suctainahility



Infrastructure Asset Management

- Why do it?

- Improve governance and accountability
- Enhance Service Management and customer satisfaction
- Improve Risk Management
- Improve financial efficiency
- Make sustainable decisions
 Be proactive not reactive



AM – Applied Common Sense

- Most of the building blocks are already there
- Multi-discipline: engineering, accounting, economics, planning
- Integration across organizations
- Breaks down silo's
- NZ started because we had no money and needed to make the \$ go further and WAUGH smarter

Systems and Processes

- Systems and processes support AM
- Critical to success
- NZ RAMM/DTims for Roading
- Multiple different systems for utilities, parks, property
- Business process integration vital
- Audit look for reliability of systems and processes





Council Size – AMIS Selection

Category	2006 Pop. Band	# Councils	Typical AMIS Type	Typical AMIS
Large City	405,000 – 104,000	9	ERP Propriety	SAP Hansen
City – Prov. District	100,000 — 40,000	24	Propriety	Confirm Hansen
District	40,000 – 20,000	15	Small Propriety or Simple/GIS	Huefner BizeAsset
Small District	Less than 20,000	24	Simple/GIS	BizeAsset



Resource Succession

- Additional resources no longer easily available
- Experienced asset managers difficult to find
- Effective succession planning needed to resource AM programmes
- Some initiatives now underway in NZ (but 5 - 10 year lag)
- Cadet initiatives



Resources

- AM programmes must be adequately resourced
- Adding AM to a large job description is not going to work
- A good operational/project engineer is not necessarily a good asset manager

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- On-going AM budget is required (additional to historic budgets)
- Small Councils have difficulty attracting and retaining experienced Asset Managers



Improvement Planning

- Cover the gaps in practice
- 3 years forward programme
- Must be funded and resourced
- Delivery of programme is audited
- Best results monthly improvement team meeting





Asset Management

- A journey
- Multi-disciplinary
- Long Term benefits
- Co-ordinates effort
- Improves planning across municipality
- Part of a planning framework

