Shire of Kojonup

ASSET MANAGEMENT PLAN

2017

Shire of Kojonup

Asset Management Plan 2017

DOCUMENT CONTROL		
Core Business Australia PO Box 797 Busselton WA 6280 Ph: +61 8 9754 1117 Mobile: +61 418 931 067 Email: bruce@corebusiness.net.au	**Document:**	Asset Management Plan
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	Date:	25 June 2017
	Synopsis:	This document is a 1st Cut, Core Asset Management Plan for the Shire of Kojonup. The plan is aligned with the WA Department of Local Government Asset Management Framework and the IPWEA International Infrastructure Management Manual. The AM Plan sets out how the local government will manage service delivery, provision, maintenance and disposal of infrastructure assets over their lifecycle.

DISTRIBUTION SCHEDULE			
Version No.	**Date**	**Distribution**	**Reference**
Version 1	16 June 2017	Shire of Kojonup MCS and Council for review and feedback	Kojonup Asset Management Plan (Ver 1.1)
Version 2	25 June 2017	Shire of Kojonup MCS. This version incorporates feedback following briefing of Council	Kojonup Asset Management Plan (Ver 2)
Version 3			
Version 4			

Cover images:

Brigadier A.W. Potts memorial – *photo credit: 'Bustout' online blog*

The "Big Wool Wagon", Albany Highway – *photo credit: Kojonup Caravan Park online*

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1.0   Executive Summary

The Shire of Kojonup (Shire) is responsible for the provision of many community services and, in doing so, must ensure that the infrastructure assets that facilitate these services are maintained and replaced at optimum levels in accordance with well-developed asset management planning. This planning ensures that the Shire:

- Understand the policy framework which supports Asset Management decisions;
- Knows what assets it owns;
- Understands the condition and expected life of each asset;
- Knows where funding is spent;
- Understands and documents the 'Levels of service' needed by and agreed with the community;
- Has a process to establish priorities and allocate funds;
- Knows the long-term funding requirements; and
- Has asset & services management plans in place.

1.1   Shire of Kojonup

The Shire of Kojonup covers an area of nearly 3,000km^2 in the Great Southern region of Western Australia, situated approximately 260kms south-east of Perth. The name 'Kojonup' is derived from the Noongar word "kodja", which is the name for a stone axe made by the local indigenous people. In 2016, the revised estimated resident population of the Shire was listed as 1,980 (Australian Bureau of Statistics)

The Shire is responsible for the provision of many local government and delivery services to the communities and visitors within its boundaries.

Figure 1: The Shire of Kojonup, Great Southern region, Western Australia

1.2   Asset Network

The Shire of Kojonup has care control and responsibility for over **$215.8m** of assets, with **$142.3m** of depreciable assets. The assets are documented within this plan.

1.3   Level of Service

The Shire operates with a level of service regime in place, however this is not fully documented for all asset classes. The current service levels for renewal, expansion, maintenance and operational works involving infrastructure assets, are based on technical service levels set by service managers. These technical service levels have been designed to optimise asset condition within available budgets.

1.4　　Future Demand

The Shire of Kojonup's estimated resident population* has experienced minor decline from 2,308 people in 2001, to 1,980 people in 2016 (Australian Bureau of Statistics revised data). The biggest decrease in population was recorded in 2007, with 2,181 people recorded – a 4.01% change from 2,272 people recorded in 2006.

The Shire will need to carefully analyse the demand for planned or proposed future infrastructure/ assets and the ability to fund projected capital and renewal costs. This analysis should be undertaken in conjunction with a structured 'Capital Evaluation Process'.

1.5　　Risk Management

The Shire has an adopted 'Risk Management Plan'. The plan specifically references risk management relating to Assets.

The plan is available on the Shire's website:
(http://www.kojonup.wa.gov.au/council/documents/integrated-planning/)

1.6　　Life Cycle Management

The Shire does not currently have 'Operations & Maintenance' plans, 'Renewal & Replacement' plans or 'New, Upgrade & Disposal (Capital Investment)' plans in place for all assets. The Shire would benefit from implementing these plans.

The Shire has a 'network level' understanding of the quantity, value and condition of assets and would benefit from undertaking detailed inspection/condition assessment of all assets.

1.7　　Financial Projections

The Shire is currently spending $3.213m/annum on asset renewal and $862k/annum to fund asset maintenance. This gives a combined total of $4.075m/annum to look after a $90.21m portfolio of depreciable assets.

From the modelling undertaken, it appears the Shire is currently funding significantly more (av. $3.213m/annum) than is required ($2.611m/annum) for asset renewal across all asset classes. The Shire appears to be underfunding maintenance across all asset classes by $50k/annum.

Despite this, Councils reported spending shows 'over spending' on renewal for some asset classes (i.e. Seal, Kerbing, Bridges, Parks, Pathways and Misc.) and under expending on others (i.e. Buildings and Drainage).
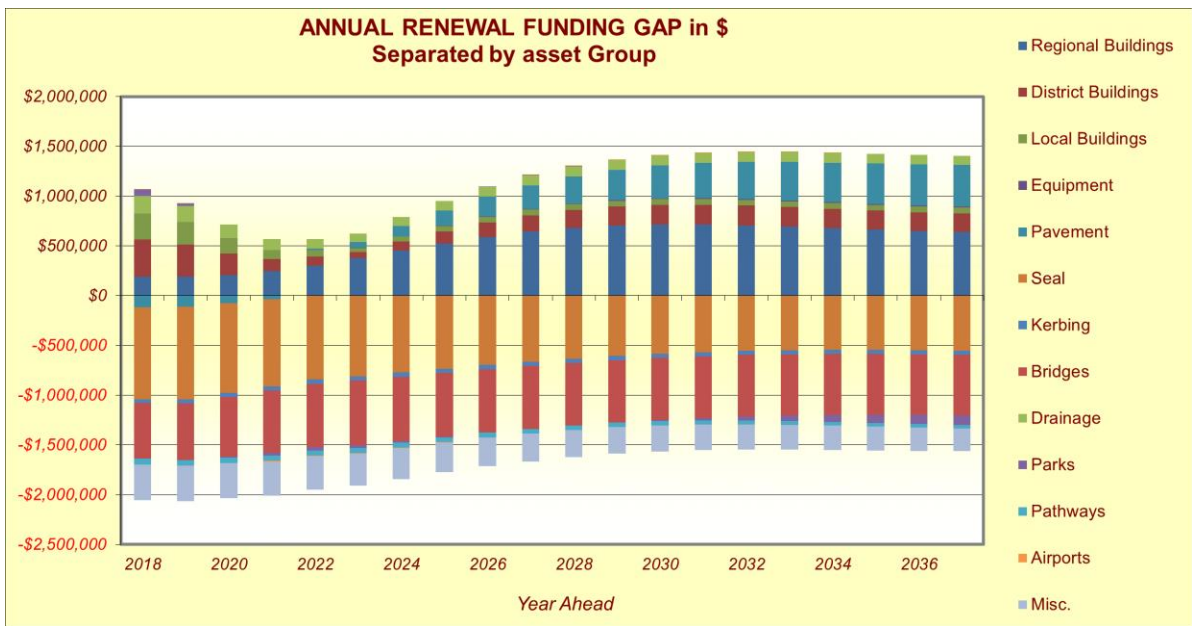
Figure 2: Annual Renewal Funding Gap (+)/ Surplus (-) Split by Asset Groups

This predicted result of the underfunding of renewal for given assets is that the Shire's proportion of assets outside of intervention level will rise from the current 2.0 % to 18 % over 20 years.
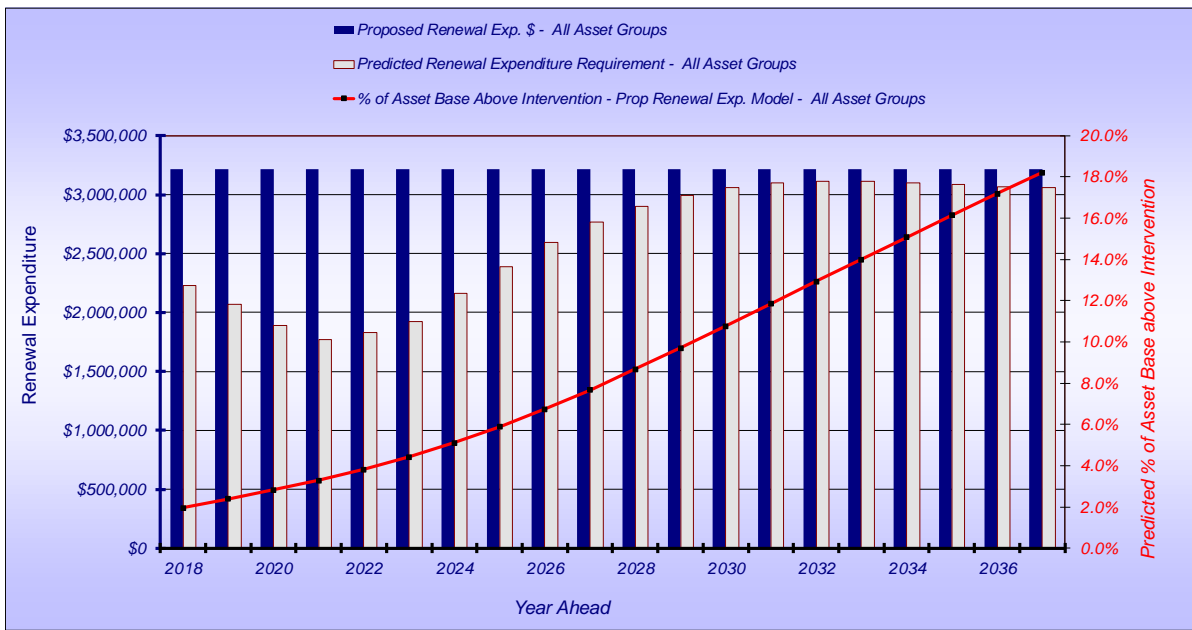
Figure 3: Predicted Renewal Demand vs. Current Renewal Expenditure and Showing % of Asset Base beyond Intervention

1.8 Conclusion and Recommendations

The Shire could use the renewal requirements identified in 'Figure 20: Modelled 20-Year Renewal and Maintenance Expenditure Required', and the requirements identified for each asset class in the 'Financial Projections' section of this plan, as a guide for adjusting Long-Term Financial Plan allocations and expenditure for each asset class. In this instance, the Shire would reduce spending on asset classes where 'overspending' is identified and increase spending where 'underspending' occurs. This solution can be implemented within the current total funding allocation by the Shire for 'Asset Renewal'.

However, to ensure that:

- the Shire has the most accurate up to date information possible on assets and expenditure;
- has an appropriate level of service and performance measurement system in place; and
- maximises the return for its investment in assets to provide services to the community;

it is recommended that the Shire implements a consolidated program to imbed sound asset management practice within culture and activities at all levels of the organisation.

Section 10.0 on page 52, contains a summary of the Shire's current position relating to asset management. Section 11.0 on page 53 contains recommendations to implement a consolidated program to imbed sound asset management practice within culture and activities at all levels of the organisation.

2.0   Introduction

The Asset Management Plan (AMP) has been prepared by the Shire of Kojonup (the Shire) to show how our infrastructure assets are managed and to ensure service delivery continues in line with the aspirations of the Council's Strategic Community Plan (SCP) and Corporate Business Plan (CBP).
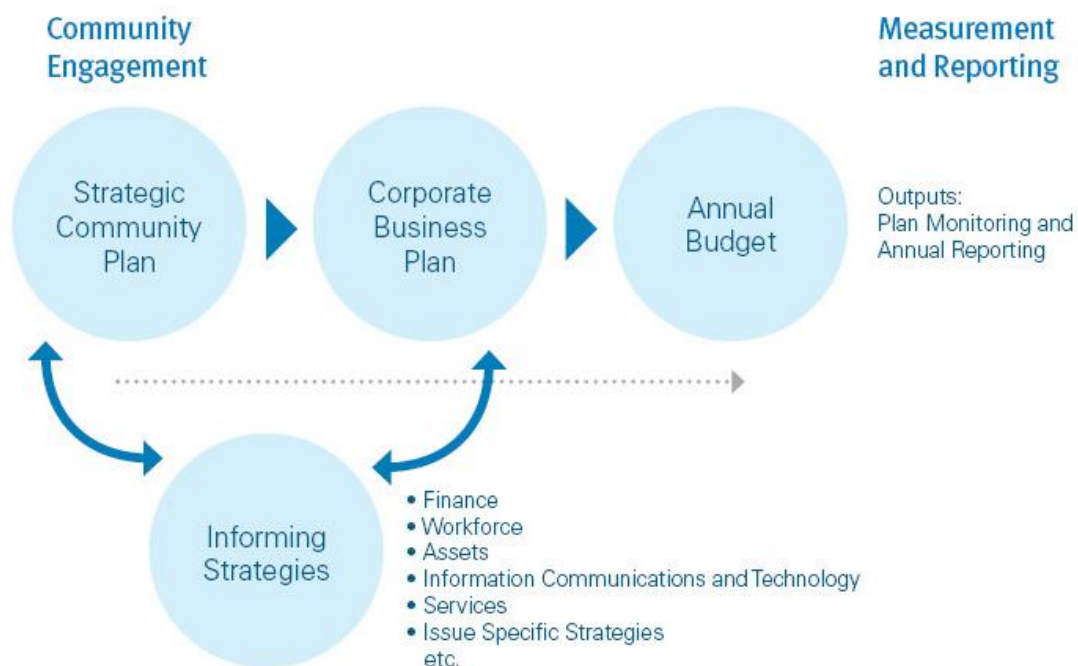
Figure 4: Element of the Integrated Planning and Reporting Framework

The AMP contains the basic tools to allow the Shire to make informed decisions on the allocation of resources, to maintain all major infrastructure assets under the care, control and responsibility of the Shire to a standard reflective of the community's desires and affordability.

The AMP will ultimately provide guidance on the long-term (10 years) allocation of financial and physical resources required to ensure operational performance of the Shire's infrastructure assets continues. This is a compilation of the Shire's current identifiable knowledge about how infrastructure assets are currently managed.

Asset Management Plans form one of the core components of the Shire's Integrated Strategic Planning and Reporting Framework (IPR), (see Figure 1). The aim of an Asset Management

Plan is to set out how the council delivers service to the community on a long-term sustainable basis and the infrastructure required to underpin service delivery

The AMP captures and documents corporate knowledge about assets and importantly, the required service levels to support service delivery. Figure 2 shows the inputs required that relate to a particular asset class and how it influences the future Operational and Maintenance Strategy, Renewal and Replacement Strategy and Capital Investment (New, Upgrade and Disposal) Strategy which, in turn influences and comprises the Service Delivery model.

Asset management is a practical and financially responsible means of managing the Shire's assets. This is achieved by ensuring the assets continue to provide a specified level of service delivery to defined standards over the entire life of the asset. An asset management strategy also guarantees that there is sufficient resource allocation made to replace the asset at the end of its life, should the Council wish to continue the service being delivered by that asset.

Figure 5: Asset Management Plan Relationship to the IPR Framework
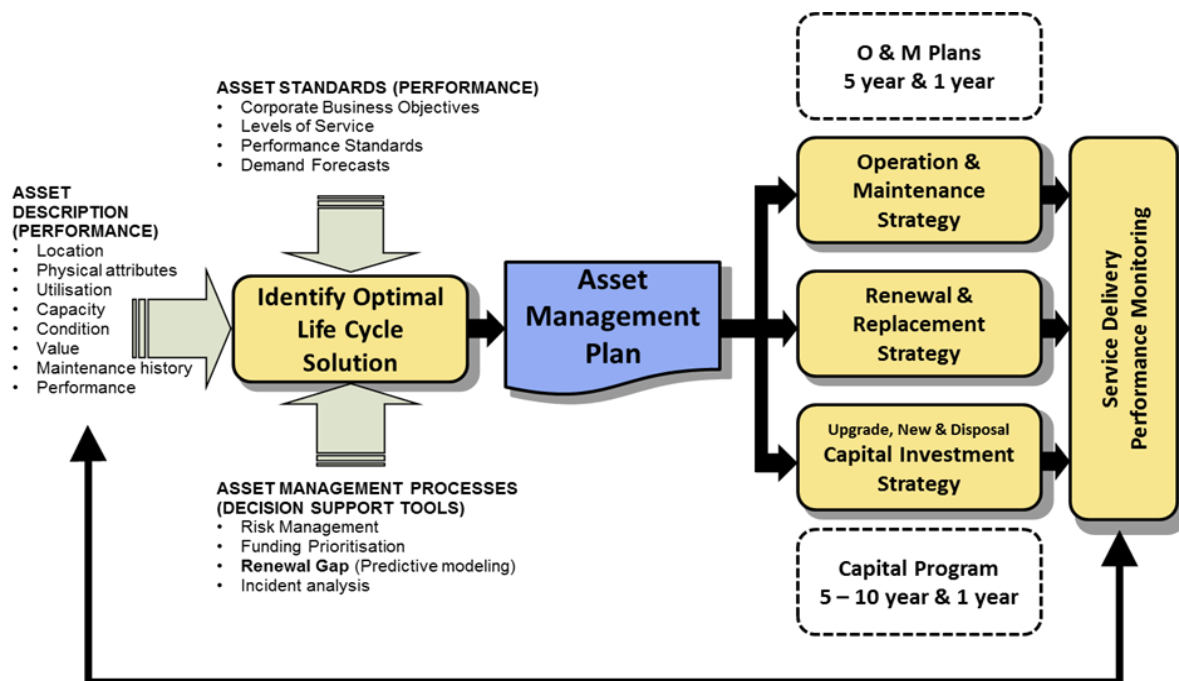
Figure 6: Asset Management Plan Framework

3.0   The Shire of Kojonup

The Shire of Kojonup covers an area of nearly 3,000km^2 in the Great Southern region of Western Australia, situated approximately 260kms south-east of Perth. The name 'Kojonup' is derived from the Noongar word "kodja", which is the name for a stone axe made by the local indigenous people. In 2016, the revised estimated resident population of the Shire was listed as 1,980 (Australian Bureau of Statistics).

The town of Kojonup itself had its beginnings from a military outpost back in 1837. By the late 1860's, the military had left the region and the remaining barracks became the site for the community's meetings and gatherings. Sheep and wool farming became the main industry of the region, with many ex-soldiers given settlement grants and sizeable acreage to

Figure 7: The Shire of Kojonup, Great Southern region, Western Australia

work with. By 1989, Kojonup became the first Shire with more than 1 million sheep to be shorn. This feat has been commemorated in the form of the "Big Wool Wagon", a giant monument along the town's main street (Albany Highway) that was unveiled Australia Day in 2001.

The Shire is responsible for the provision of many local government and delivery services to the communities and visitors within its boundaries. These services include:

Figure 8: Kojonup main streetscape (Albany Highway, facing south)

- Aged Care;
- Community Development and Tourism;
- Corporate and Regulatory Services;
- Works and Services;
- Rubbish and Recycling Services;
- Planning Services; and
- Various Registration/ Licence and Administration Services.

4.0   Assets Covered by This Plan

The Shire of Kojonup has care control and responsibility for over **$215.8m** of assets, with **$142.3m** of depreciable assets. The assets documented within this plan are summarised as follows.

Asset Summary by Class	Estimated Renewal Value ($)	%	Annual Average Renewal Expenditure	%	Annual Average Maintenance Expenditure	%
Land	0	0.0%	0	0.0%	0	0.0%
Investment Property	0	0.0%	0	0.0%	0	0.0%
Buildings	46,262,002	21.4%	90,931	2.8%	17,972	2.1%
Furniture & Equipment	0	0.0%	0	0.0%	0	0.0%
Plant & Equipment	221,100	0.1%	0	0.0%	3,880	0.5%
Infrastructure - Roads (Formation)	72,548,471	33.6%	0	0.0%	0	0.0%
Infrastructure - Roads (Pavement)	46,552,464	21.6%	472,767	14.7%	478,000	55.5%
Infrastructure - Roads (Seal)	13,420,989	6.2%	1,092,317	34.0%	63,500	7.4%
Infrastructure - Roads (Kerb)	781,550	0.4%	56,000	1.7%	3,000	0.3%
Infrastructure - Roads (Unbuilt, Unformed)	0	0.0%	0	0.0%	0	0.0%
Infrastructure - Bridges	6,947,640	3.2%	740,000	23.0%	40,000	4.6%
Infrastructure - Drainage	6,094,350	2.8%	44,112	1.4%	172,209	20.0%
Infrastructure - Parks, Gardens & Reserves	6,734,505	3.1%	250,500	7.8%	73,780	8.6%
Infrastructure - Footpaths & Cycleways	1,267,950	0.6%	61,000	1.9%	9,600	1.1%
Infrastructure - Airports	2,052,198	1.0%	30,000	0.9%	0	0.0%
Infrastructure - Sewerage	0	0.0%	0	0.0%	0	0.0%
Infrastructure - Other	13,015,755	6.0%	376,000	11.7%	0	0.0%
Total Estimated Renewal Value of All Assets	**215,898,974**	**100.0%**	**3,213,627**	**100.0%**	**861,941**	**100.0%**

Total Estimated Renewal Value of Depreciable Assets	142,337,913

Table 1: Assets currently under the control of the Shire
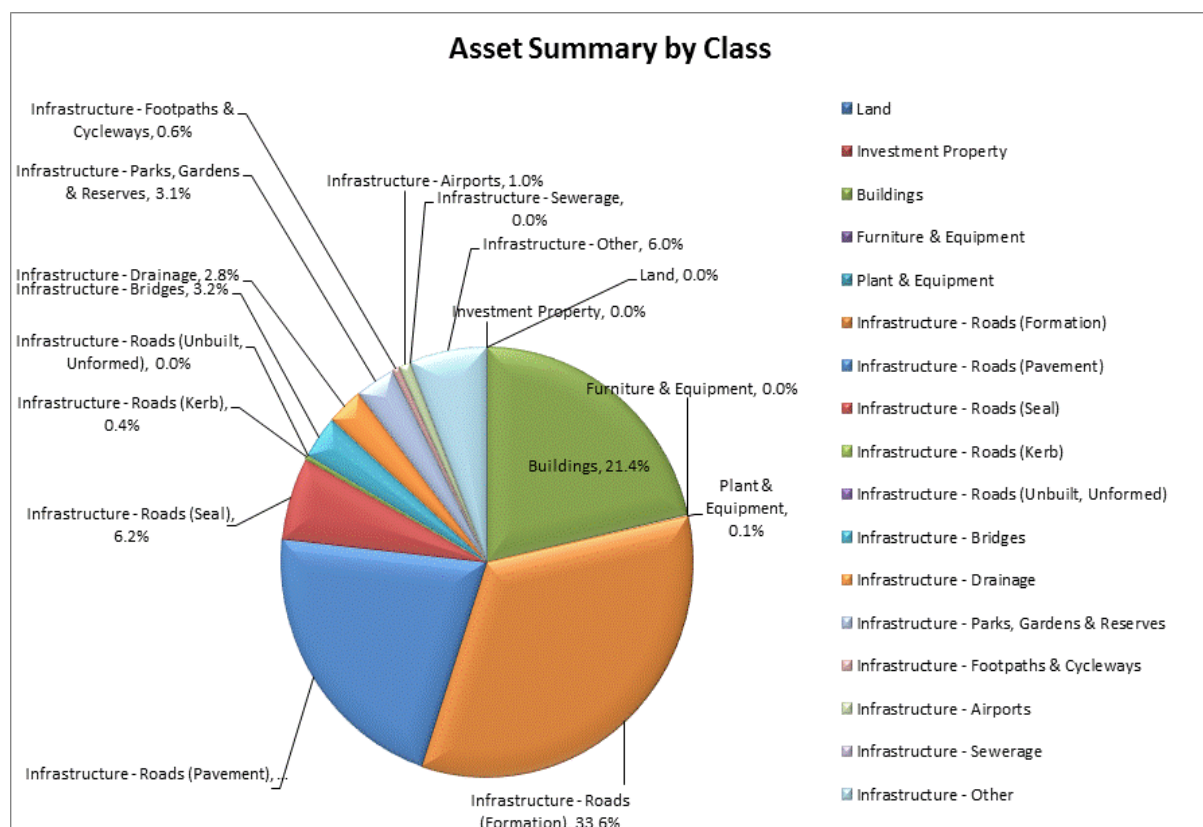
Figure 9: Asset Summary

5.0 Level of Service

Levels of Service are defined as the specified and agreed defined as the service quality for a given activity. They are often documented as a commitment to carry out a given action or actions within a specified time frame in response to an event or asset condition data.

There are two (2) types of levels of service:

Community – how the community relates to the service provided.

Community levels of service may include things such as style, appearance, level of cleanliness, maintenance responsiveness, quality and type of consumables, safety and accessibility.

Technical – how the organisation provides the service.

Community Level of Service and Technical Level of Service can often mean the same thing, but the two can also be interpreted differently. For example, a stormwater pipe network can be designed to meet identified technical requirements and have sufficient hydraulic capacity to take water from Point A to Point B, and in doing so, protect property. However, if the design results in an unacceptable visual addition to the streetscape it would not be meeting the community criteria in terms of appearance.

The first step is to document community levels of service via community engagement and the technical levels of service based on asset policy and strategy. This is then followed up by creating targeted levels of service based on community and technical requirements and then develop strategies to bridge the gap.

An example could be where the local government has an adopted a rural road hierarchy as follows:

- Regional Distributors;
- Local Distributors; and
- Local Access.

In this instance, after consultation with key stakeholders such as road users and the transport industry, the Council has decided that the design standard for all Regional Distributors is a 7m wide seal with 1.5m unsealed gravel shoulders. The local government would then undertake a gap analysis between the current standard of the Regional Distributor network and desired standard and put a strategy in place to bring the network up to the desired standard. This would involve developing key performance indicators, such as widening a given length of road over a given time horizon, followed by monitoring and reporting against whether this is being achieved.

A generic example of Levels of Service is as follows (these have not been adopted for and are not currently specifically applicable to Kojonup):

	All Buildings	**Municipal Buildings**
Strategic Level of Service	To provide a range of community buildings that are fit for purpose, appropriately designed, well maintained, safe and functional	To provide a range of municipal buildings that are fit for purpose, appropriately designed, well maintained, safe and functional.
Service Standards	**Customer**	**Technical**
Design		
Building Design	Buildings will be designed to: - Meet appropriate standards for safety and environmental efficiency - Be fit for purpose - Ensure the 'whole of life' cost is considered for all elements of the asset when determining design	Buildings are designed and constructed in accordance with the Building Code of Australia, Building Act 2011 and associated Regulations.
Planned Maintenance	Shire will implement a scheduled maintenance program for all building assets	Maintenance programs will be implemented based upon condition assessment, annual budgets and long term financial plan.
Reactive Maintenance	Emergencies will be responded to immediately (this may include relocation of staff or services and the area made safe until repairs can be effected). - All non-emergency related requests for maintenance will be assessed based on the Shires risk assessment process within 4 hrs of receiving the request - repairs will be effected as soon as possible on a prioritised basis subject to availability of resources	Maintenance (reactive) will be commissioned based upon customer requests and technical advice. Emergency maintenance will be addressed immediately, whilst non emergency maintenance will be addressed in accordance with scheduled maintenance, annual budgets and long term financial plans.

Table 2: Example/ Sample Levels of Service for Buildings Assets

Defining and adopting Levels of Service allows the Shire to engage with the community and reach agreement on the standard of service to be provided for all assets then measure performance against the agreed outcomes. During financial planning/ budgeting the Shire can analyse the effect of changes to various Levels of Service (increasing or decreasing service) and modify the mix of service provision to best meet community needs within available resources. The Shire can also use information relating to the cost of levels of service when planning for and seeking funding.

5.1   Current Levels of Service

The Shire currently has 'intervention levels' documented for all asset classes. This refers to the 'Asset condition' (on a scale of 0-10) at which works are planned to be undertaken to upgrade refurbish or replace existing facilities with facilities of equivalent capacity or performance capacity (Renewal). The intervention levels for each asset class are documented in Section 8.6 Asset Life and on page 34.

The Shire currently has informal Levels of Service in place for some assets, these are generally retained within corporate knowledge (the understanding of individual or groups of officers and/ or Council) or documented separately within various publications. For example, 'library opening hours' are documented on the Shire's website, however opening hours and the cost of provision of library services (compared to other Shire Levels of Service) is not documented within a central Shire database alongside similar information for all other services.

5.2 Future Levels of Service

There are significant benefits available to the Shire as a result of adopting 'Levels of Service', and it is recommended that the Shire undertakes a project to define, document and implement Levels of Service for all assets and services.

5.2 Future Levels of Service

6.0   Future Demand

The Shire of Kojonup's estimated resident population* has experienced minor decline from 2,308 people in 2001, to 1,980 people in 2016 (Australian Bureau of Statistics revised data). The biggest decrease in population was recorded in 2007, with 2,181 people recorded – a 4.01% change from 2,272 people recorded in 2006.

Year	Population	Change (#)	Change (%)
2001	2308		
2002	2291	-17	-0.74
2003	2300	9	0.39
2004	2288	-12	-0.52
2005	2260	-28	-1.22
2006	2272	12	0.53
2007	2181	-91	-4.01
2008	2134	-47	-2.15
2009	2069	-65	-3.05
2010	2034	-35	-1.69
2011	2030	-4	-0.20
2012	2022	-8	-0.39
2013	2019	-3	-0.15
2014	2000	-19	-0.94
2015	1997	-3	-0.15
2016	1980	-17	-0.85

*Estimated resident population: The Australian Bureau of Statistic's estimate figure, based on adjusted Census counts of usual residents, to account for usual residents missed in the Census. These quarterly estimates are revised each time a population census is conducted.

Table 3: Population change of the Shire of Kojonup from 2001 to 2016
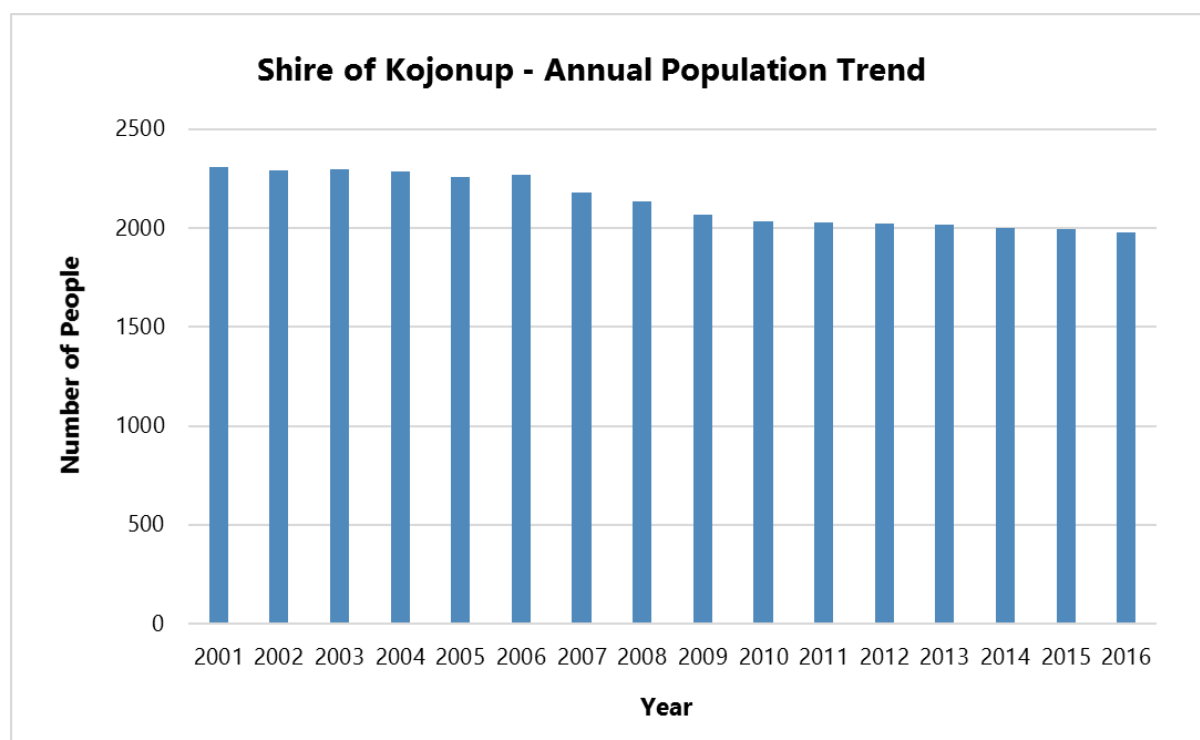
Figure 10: Shire of Kojonup – Population Trend 2001 to 2016

As can be seen from the above graph, the population of the Shire of Kojonup has been subject to decline over the past 10 years. Despite this no data has been found that would indicate future significant decline is likely. The Shire is also investing in economic development initiatives and partnerships to stabilise and increase population.

The Shire will need to carefully analyse the demand for planned or proposed future infrastructure/ assets and the ability to fund projected capital and renewal costs. This analysis should be undertaken in conjunction with a structured 'Capital Evaluation Process'.

It is recommended that the Shire gathers additional data; completes a formal demand analysis as part of its economic development planning; and updates the Asset Management Plan with the results.

7.0   Risk Management

Risk management is used as a decision-making tool to help focus on priority areas requiring a response to mitigate risks or realise potential benefits for communities and appropriately assign levels of service to different levels of the functional hierarchy.

Risk management is a core element for setting business planning priorities and managing assets.

The Shire has an adopted 'Risk Management Plan'. The plan specifically references risk management relating to Assets.

The plan is available on the Shire's website:
(http://www.kojonup.wa.gov.au/council/documents/integrated-planning/)

Please refer to the 'Shire of Kojonup Risk Management Plan for further information.

8.0 Lifecycle Management

One of the goals of Asset Management is to predict the whole-of-life costs of assets over a long-term period (20 years), so that renewal demand can be incorporated into Council's long-term financial planning.

Costs are incurred from the inception to disposal of an asset. These costs include construction, operations, maintenance, renewal, capital upgrades and finally disposal.

Long-term asset renewal and maintenance costs are determined by modelling the lifecycle of the asset, using a predictive model such as the Moloney Renewal model, which has been utilised for this plan.

Assets are modelled at network level, that is, the analysis is performed on groups of like assets, not on an individual asset basis.

Assets are modelled on the assumption that they have finite lifespans. For modelling purposes, the asset is broken down into two or more components according to the lifespan of the component. The overall asset lifespan is taken to be the lifespan of the most durable component. Each component has a different life span.

The modelling inputs are a range of variables that influence the predicted renewal & maintenance costs. These include: the quantities, asset component lifespan, the component condition, the component deterioration curve, component replacement cost, current maintenance costs and intervention condition rating.

The output from the model is a predicted cash flow of costs to renew and maintain the asset class to a desired level of service.

A range of strategies can be applied to the management of the operations, maintenance and capital expenditure.

This section discusses the Shire's 'Operations & Maintenance Plan', 'Renewal & Maintenance Plan' and 'New, Upgrade & Disposal Plan'. This section also documents information relating to the physical parameters, life and intervention level, asset renewal modelling, renewal demand and future funding strategy for Shire assets.

Note: the figures used in this document are in 2017 $. There are no allowances for future inflation.

8.1 Operation and Maintenance Plan

The Shire manages operations and maintenance on a day to day basis with some documented scheduling and planning in place for some assets (i.e. for plant and vehicle maintenance) and an ad-hoc system of identification and implementation of maintenance for others (i.e. building maintenance). The Shire does not have a consolidated long-term plan for the ongoing operation and maintenance of all its assets. The Shire also does not have a consolidated register/ schedule of planned vs actual maintenance works. This has resulted in inefficiencies

occurring for maintenance for some asset classes with some assets not receiving the maintenance required for them to achieve their intended useful life. This is particularly, but not exclusively related to buildings assets.

The Shire has a Long-Term Financial Plan in place. The plan includes a section forecasting operational expenses and revenue. The plan does not specifically reference planned expenditure and funding for asset maintenance.

It is recommended that a long-term operation and maintenance plan is developed and implemented. An Operation & Maintenance Plan will:

- Define which activities are operational activities and which are maintenance activities;

- Describe the systems and procedures to be used to plan and manage operation and maintenance activities on the network;

- Specify the types of operation and maintenance to be carried out;

- Establish the order of priority for operation and maintenance activities;

- Nominate the cost and means of resourcing and implementing operation and maintenance in a format allowing linkage to the Long-Term Financial Plan; and

- Include a consolidated 'living' register/ schedule of planned and actual maintenance as a tool for ensuring all required maintenance is carried out.

8.2 'Renewal and Replacement Plan' and 'New, Upgrade and Disposal Plan (Capital Investment)'

One of the reasons that AMP's are needed is to enable the Shire to undertake long term financial planning and to understand whether it is sustainably managing its infrastructure assets. A key component of understanding sustainability is modelling the Shire's long-term renewal demand, that is, the cost to refurbish or replace an asset at some point in its life, bringing its condition back-to-new.

In addition, the Shire needs to model the impact of developing new assets, upgrading existing assets and disposing of assets.

This Asset Management Plan models the financial requirements for renewal (and Maintenance) of current assets. The plan does not include scenario analysis relating to 'New, Upgrade' or 'Disposal' of assets.

The Shire's Long-Term Financial Plan includes a forecast of planned expenditure and funding for asset renewal/ capital works.

The Shire is currently undertaking a project to assess all buildings and consider disposal of building assets that do not contribute sufficiently to meeting community objectives and/or cannot continue to be retained while ensuring future sustainability/ ability to provide future services.

To make sound future decisions and ensure sustainable funding is in place for asset renewal and replacement it is recommended that the Shire:

- Reviews renewal expenditure requirements identified in this plan based on current assets;

- Undertakes the planned 'Buildings Assessment Framework' project and disposes of surplus/ unsustainable building assets;

- Considers assessment and disposal of other unsustainable assets in a similar process to the 'Buildings Assessment Framework';

- Implements a 'Capital Evaluation Framework' to assess the benefits and costs of future asset capital projects;

- Utilises the results of the above to prepare a sustainable 'Renewal and Replacement Plan' and 'Capital Project Plan'. This should involve scenario analysis including running comparative asset renewal models to identify the cost implications of each decision/ proposed mix of projects; and

- Updates the Asset Management Plan and Long Term Financial Plan with the results.

8.3   Physical Parameters

The Shire of Kojonup has care control and responsibility for over **$215.8m** of assets, with **$142.3m** of depreciable assets. This information is compiled from existing databases and asset registers with an onsite evaluation conducted during preparation of this plan to view a representative sample of assets and asset conditions for validation purposes. As data pickup information was undertaken at 'network level' (rather than through a detailed inspection/ condition assessment) some information may be incomplete, inaccurate or unknown. This is normal for a first cut plan and will be resolved when detailed data pick-up and condition assessment of all assets is undertaken in a future version of this AMP. Please note that Assets have been arranged by Asset Classes recommended by the Department of Local Government & Communities, WA Accounting Guideline.

8.3.1   Buildings

Asset Group	Buildings	Depreciable Y/N	Modelled Y/N	Number	Length (m)	Area (m²)	Estimated Renewal Value ($)	Data Rating	Capital Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Regional Buildings	R - Long Life Structures	Yes	Yes	27			18,824,798	B	37,206	E	9,395	E
Regional Buildings	R - Short Life Structures	Yes	Yes	44			2,853,813	B	5,391	E	1,361	E
Regional Buildings	R - Roof Cladding	Yes	Yes	71			1,667,585	B	3,277	E	827	E
Regional Buildings	R - Mechanical Services	Yes	Yes	22			1,449,683	B	2,865	E	723	E
Regional Buildings	R - Fit Out	Yes	Yes	31			7,452,015	B	14,729	E	3,719	E
District Buildings	D - Long Life Structures	Yes	Yes	27			5,102,715	B	15,067	E	994	E
District Buildings	D - Short Life Structures	Yes	Yes	15			1,999,795	B	3,053	E	201	E
District Buildings	D - Roof Cladding	Yes	Yes	42			546,347	B	1,394	E	92	E
District Buildings	D - Mechanical Services	Yes	Yes	28			465,415	B	1,078	E	71	E
District Buildings	D - Fit Out	Yes	Yes	31			2,498,261	B	6,163	E	407	E
Local Buildings	L - Long Life Structures	Yes	Yes	5			1,918,292	B	404	E	104	E
Local Buildings	L - Short Life Structures	Yes	Yes	7			648,871	B	128	E	33	E
Local Buildings	L - Roof Cladding	Yes	Yes	12			197,474	B	41	E	10	E
Local Buildings	L - Mechanical Services	Yes	Yes	4			145,150	B	31	E	8	E
Local Buildings	L - Fit Out	Yes	Yes	4			491,788	B	104	E	27	E
	Total Buildings			**125**			**46,262,002**		**90,931**		**17,972**	

Table 4: Summary of Building Assets

8.3.2　Plant & Equipment

Asset Group	Plant & Equipment Type	Depreciable Y/N	Modelled Y/N	No.	Length (m)	Area (m²)	Estimated Renewal Value ($)	Data Rating	Capital Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Equipment	Play Equipment	Yes	Yes	12			162,810	B	0	A	2,300	A
Equipment	Nav Aids	Yes	Yes	2			25,125	B	0	A	1,580	A
Equipment	Other	Yes	Yes	2			33,165	B	0	A	0	A
	Total Plant & Equipment Type			**16**	**0**	**0**	**221,100**		**0**		**3,880**	

Table 5: Summary of Plant & Equipment

8.3.3　Infrastructure – Roads (Formation)

Asset Group	Infrastructure - Roads (Formation)	Depreciable Y/N	Modelled Y/N	No.	Length (m)	Area (m²)	Estimated Renewal Value ($)	Data Rating	Capital Renewal Expenditure	E/A	Maintenance Expenditure	E/A
	Sealed Road Formation Regional Distributor	No	No		74,390	456,479	13,694,370	B	0	E	0	E
	Sealed Road Formation Local Distributor - Level 1	No	No		146,260	803,910	24,117,300	B	0	E	0	E
	Sealed Road Formation Access Road - Level 1	No	No		34,850	222,173	6,665,190	B	0	E	0	E
	Unsealed Road Formation Regional Distributor - Level 1	No	No		1,180	6,726	134,520	B	0	E	0	E
	Unsealed Road Formation Local Distributor - Level 1	No	No		105,940	541,862	10,837,240	B	0	E	0	E
	Unsealed Road Formation Access Road - Level 1	No	No		773,120	3,419,970	17,099,851	B	0	E	0	E
	Total Infrastructure - Roads (Formation)			**0**	**1,135,740**	**5,451,120**	**72,548,471**		**0**		**0**	

Table 6: Summary of Infrastructure – Roads (Formation) Assets

Please note: No 'Asset Group' is assigned to 'Formation' as these assets are not depreciable and are not modelled.

8.3.4 Infrastructure – Roads (Pavement)

Asset Group	Infrastructure - Roads (Pavement)	Depreciable Y/N	Modelled Y/N	No.	Length (m)	Area (m²)	Estimated Renewal Value ($)	Data Rating	Capital Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Pavement	Sealed Road Pavement Regional Distributor - Level 1	Yes	Yes		74,390	456,479	9,129,580	B	0	E	0	E
Pavement	Sealed Road Pavement Local Distributor - Level 1	Yes	Yes		146,260	803,910	16,078,200	B	0	E	0	E
Pavement	Sealed Road Pavement Local Access - Level 1	Yes	Yes		34,850	222,173	4,443,460	B	0	E	0	E
Pavement	Unsealed Road Pavement Regional Distributor - Level 1	Yes	Yes		1,180	6,726	33,630	B	941	E	951	E
Pavement	Unsealed Road Pavement Local Distributor - Level 1	Yes	Yes		103,800	530,916	2,654,582	B	74,255	E	75,077	E
Pavement	Unsealed Road Pavement Local Access Level - Level 1	Yes	Yes		642,600	2,842,602	14,213,012	B	397,571	E	401,972	E
	Total Infrastructure - Roads (Pavement)			**0**	**1,003,080**	**4,862,807**	**46,552,464**		**472,767**		**478,000**	

Table 7: Summary of Infrastructure – Roads (Pavement) Assets

8.3.5 Infrastructure – Roads (Seal)

Asset Group	Infrastructure - Roads (Seal)	Depreciable Y/N	Modelled Y/N	No.	Length (m)	Area (m²)	Estimated Renewal Value ($)	Data Rating	Capital Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Seal	Sprayed Seal Regional Distributor - Level 1	Yes	Yes		74,390	456,479	4,108,311	B	337,167	E	19,601	E
Seal	Sprayed Seal Local Distributor - Level 1	Yes	Yes		146,200	803,442	7,230,978	B	593,443	E	34,499	E
Seal	Sprayed Seal Access Road - Level 1	Yes	Yes		34,360	218,930	1,970,370	B	161,707	E	9,401	E
Seal	Asphalt Seal Local Distributor - Level 1	Yes	Yes		60	468	14,040	B	0	E	0	E
Seal	Asphalt Seal Access Road - Level 1	Yes	Yes		490	3,243	97,290	B	0	E	0	E
	Total Infrastructure - Roads (Seal)			**0**	**255,500**	**1,482,562**	**13,420,989**		**1,092,317**		**63,500**	

Table 8: Summary of Infrastructure – Roads (Seal) Assets

8.3.6 Infrastructure – Roads (Kerb)

Asset Group	Infrastructure - Roads (Kerb)	Depreciable Y/N	Modelled Y/N	No.	Length (m)	Area (m²)	Estimated Renewal Value ($)	Data Rating	Capital Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Kerbing	Sealed Road Kerb	Yes	Yes		22,330		781,550	B	56,000	A	3,000	A
	Total Infrastructure - Roads (Kerb)			**0**	**22,330**	**0**	**781,550**		**56,000**		**3,000**	

Table 9: Summary of Infrastructure – Roads (Kerb)

8.3.7 Infrastructure – Bridges

Asset Group	Infrastructure - Bridges	Depreciable Y/N	Modelled Y/N	No.	Length (m)	Area (m²)	Estimated Renewal Value ($)	Data Rating	Capital Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Bridges	Long Life Bridges	Yes	Yes	2	25	175	735,000	B	78,286	E	4,232	E
Bridges	Short Life Bridges	Yes	Yes	12	279	1,479	6,212,640	B	661,714	E	35,768	E
	Total Infrastructure - Bridges			**14**	**304**	**1,654**	**6,947,640**		**740,000**		**40,000**	

Table 10: Summary of Infrastructure – Bridges

8.3.8 Infrastructure – Drainage

Asset Group	Infrastructure - Drainage	Depreciable Y/N	Modelled Y/N	No.	Length (m)	Area (m²)	Estimated Renewal Value ($)	Data Rating	Capital Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Drainage	Culverts	Yes	Yes	2,378	20,315		6,094,350	B	44,112	A	172,209	A
	Total Infrastructure - Drainage			**2,378**	**20,315**	**0**	**6,094,350**		**44,112**		**172,209**	

Table 11: Summary of Infrastructure – Drainage

8.3.9 Infrastructure – Parks, Gardens & Reserves

Asset Group	Infrastructure - Parks, Gardens & Reserves	Depreciable Y/N	Modelled Y/N	No.	Length (m)	Area (m²)	Estimated Renewal Value ($)	Data Rating	Capital Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Parks	Courts/ Synthetic Surfaces & Hardstands	Yes	Yes	10			1,092,435	B	35,000	A	0	A
Parks	Fencing, Bollards, Seating & Street Furniture	Yes	Yes	58			393,960	B	40,500	A	0	A
Parks	Reticulation and Water Tanks	Yes	Yes	15			309,540	B	0	A	0	A
Parks	Swimming Pools	Yes	Yes	2			3,884,325	B	60,000	A	9,730	A
Parks	Lighting	Yes	Yes	10			276,375	B	0	A	0	A
Parks	Miscellaneous - Parks	Yes	Yes	46			777,870	B	115,000	A	64,050	A
	Total Infrastructure - Parks, Gardens & Reserves			**141**	**0**	**0**	**6,734,505**		**250,500**		**73,780**	

Table 12: Summary of Infrastructure – Parks, Gardens & Reserves

8.3.10 Infrastructure – Footpaths & Cycleways

Asset Group	Infrastructure - Footpaths & Cycleways	Depreciable Y/N	Modelled Y/N	No.	Length (m)	Area (m²)	Estimated Renewal Value ($)	Data Rating	Capital Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Pathways	DUP Concrete Slab	Yes	Yes		280	348	27,840	B	61,000	A	9,600	A
Pathways	Brick Paved	Yes	Yes		1,370	4,590	298,350	B	0	A	0	A
Pathways	Cement Concrete (obsolete)	Yes	Yes		6,220	11,772	941,760	B	0	A	0	A
	Total Infrastructure - Footpaths & Cycleways			**0**	**7,870**	**16,710**	**1,267,950**		**61,000**		**9,600**	

Table 13: Summary of Infrastructure – Footpaths & Cycleways

8.3.11 Infrastructure – Airports

Asset Group	Infrastructure - Airports	Depreciable Y/N	Modelled Y/N	No.	Length (m)	Area (m²)	Estimated Renewal Value ($)	Data Rating	Capital Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Airports	Runway Formation	No	No			30,157	904,710	B	0	A	0	A
Airports	Runway Pavement	Yes	Yes			30,157	603,140	B	0	A	0	A
Airports	Runway Seal	Yes	Yes			1,176	10,584	B	0	A	0	A
Airports	Apron Formation	No	No			3,596	107,880	B	0	A	0	A
Airports	Apron Pavement	Yes	Yes			3,596	71,920	B	30,000	A	0	A
Airports	Apron Seal	Yes	Yes			3,596	32,364	B	0	A	0	A
Airports	Runway Lighting	Yes	Yes	1			321,600	B	0	A	0	A
	Total Infrastructure - Airports			**1**	**0**	**72,278**	**2,052,198**		**30,000**		**0**	

Table 14: Summary of Infrastructure – Airports

8.3.12 Infrastructure – Other

Asset Group	Infrastructure - Other	Depreciable Y/N	Modelled Y/N	No.	Length (m)	Area (m²)	Estimated Renewal Value ($)	Data Rating	Capital Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Misc.	Fencing/ Other	Yes	Yes	6			277,380	B	355,000	A	0	A
Misc.	Communication & Solar Infrastructure	Yes	Yes	6			359,790	B	0	A	0	A
Misc.	Refuse Site & Transfer Station	Yes	Yes	6			139,695	B	5,000	A	0	A
Misc.	Depot Infrastructure	Yes	Yes	6			178,890	B	16,000	A	0	A
Misc.	Railway line	Yes	Yes	1			12,060,000	B	0	A	0	A
	Total Infrastructure - Other			**25**	**0**	**0**	**13,015,755**		**376,000**		**0**	

Table 15: Summary of Infrastructure – Other

8.3.13 Summary of Infrastructure Assets Including Renewal and Maintenance Expenditure

Asset Summary by Class	Estimated Renewal Value ($)	%	Annual Average Renewal Expenditure	%	Annual Average Maintenance Expenditure	%
Land	0	0.0%	0	0.0%	0	0.0%
Investment Property	0	0.0%	0	0.0%	0	0.0%
Buildings	46,262,002	21.4%	90,931	2.8%	17,972	2.1%
Furniture & Equipment	0	0.0%	0	0.0%	0	0.0%
Plant & Equipment	221,100	0.1%	0	0.0%	3,880	0.5%
Infrastructure - Roads (Formation)	72,548,471	33.6%	0	0.0%	0	0.0%
Infrastructure - Roads (Pavement)	46,552,464	21.6%	472,767	14.7%	478,000	55.5%
Infrastructure - Roads (Seal)	13,420,989	6.2%	1,092,317	34.0%	63,500	7.4%
Infrastructure - Roads (Kerb)	781,550	0.4%	56,000	1.7%	3,000	0.3%
Infrastructure - Roads (Unbuilt, Unformed)	0	0.0%	0	0.0%	0	0.0%
Infrastructure - Bridges	6,947,640	3.2%	740,000	23.0%	40,000	4.6%
Infrastructure - Drainage	6,094,350	2.8%	44,112	1.4%	172,209	20.0%
Infrastructure - Parks, Gardens & Reserves	6,734,505	3.1%	250,500	7.8%	73,780	8.6%
Infrastructure - Footpaths & Cycleways	1,267,950	0.6%	61,000	1.9%	9,600	1.1%
Infrastructure - Airports	2,052,198	1.0%	30,000	0.9%	0	0.0%
Infrastructure - Sewerage	0	0.0%	0	0.0%	0	0.0%
Infrastructure - Other	13,015,755	6.0%	376,000	11.7%	0	0.0%
Total Estimated Renewal Value of All Assets	**215,898,974**	**100.0%**	**3,213,627**	**100.0%**	**861,941**	**100.0%**

Total Estimated Renewal Value of Depreciable Assets	142,337,913

Table 16: Summary of the Shire's Infrastructure Asset by Asset Class showing Average Renewal & Maintenance Expenditure
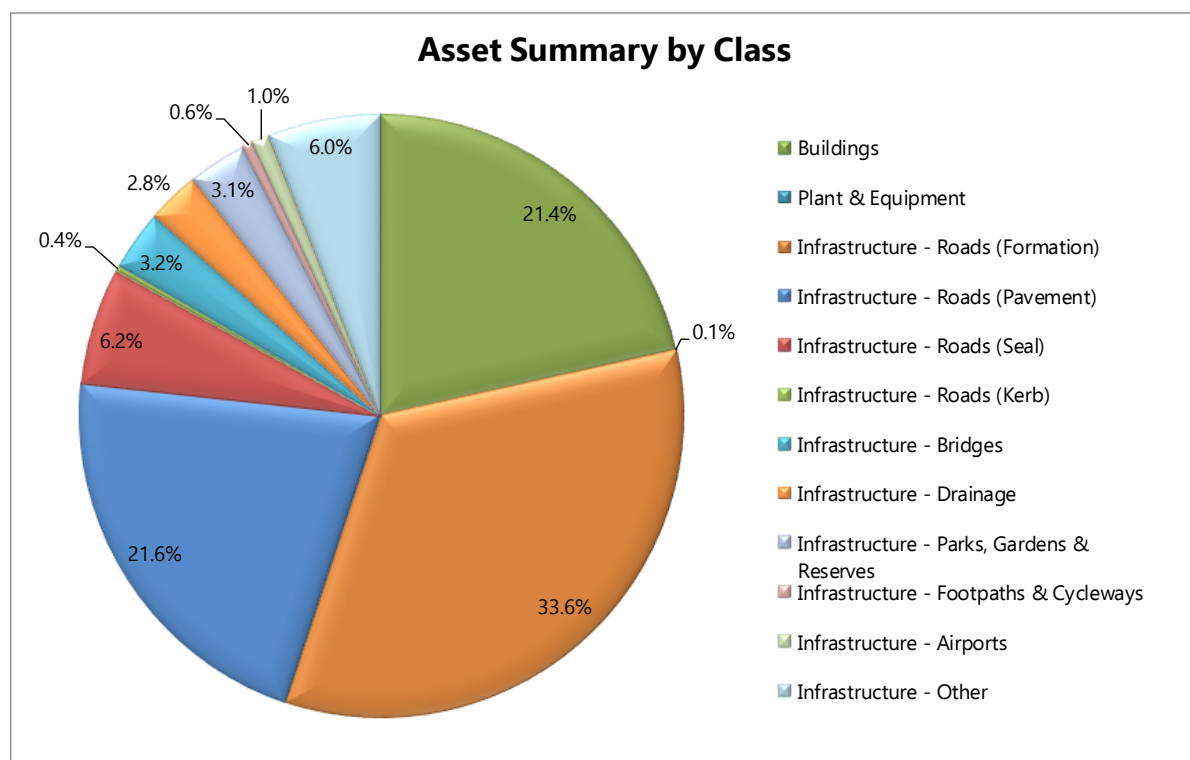

Figure 11: Summary of All Asset Classes

8.4 Ownership Function

The Shire of Kojonup, having care, control and responsibility for an extensive network of assets, is responsible for a number of functions. The ownership functions include:

- Maintenance;

- Operations;

- Renewal/Refurbishment;

- Upgrade/Improvements;

- Provision of New Assets; and

- Rationalisation and Disposal of Assets.

Like most local governments, the Shire of Kojonup approaches the funding of assets in several different ways. For example, buildings are usually located on either freehold land owned by the Shire or reserve land vested in the Shire (land controlled by the local authority).

It is common practice for local government to have a core group of buildings that are included on the financial asset register and which the operating, maintenance and renewal of the building is funded 100% by the Council.

Then there are other buildings which are located on land controlled by the local authority, however funding of operation, maintenance and renewal is often the responsibility (to varying degrees) of third-party organisations, such community or sporting groups and lessees.

Nonetheless, if a building is located on land controlled by the local government, ultimate ownership rests with the local government unless there is a lease in place that sets out that any leaseholder improvement to the land remains the property of the lease holder and is to be removed at the leaseholder's expense at the end of the lease.

It is recommended that the Shire collects data and classifies assets into areas of responsibility, then details those responsibilities in the Operation & Maintenance Plan and the Renewal & Replacement Plan. An example format for buildings is shown below. This format can be adapted for all asset classes.

Council – Full Responsibility

The following buildings and structures are located on land controlled by the Shire of Kojonup and are the responsibility of the Shire to fund Operation, Maintenance, Renewal and Upgrade.

Build ID	Building Name	Location	Responsibility
			100%

Table 17: Buildings 100% Funded by the Shire

Council – Partial Responsibility

The following buildings and structures are located on land controlled by the Shire, and the Shire has partial responsibility to fund Operation, Maintenance, Renewal and Upgrade with the remainder the responsibility of third parties. The following table lists the percentage of activities that are the responsibility of the third-party organisation, the remainder (if any) is the responsibility of Council to fund. Please refer to the Life Cycle strategies.

Build ID	Building Name	Location	O	M	R	U	Responsibility
	Example 1		90%	100%	100%	100%	Example 1 Community
	Example 2		100%	50%	25%	0%	Example 2 Sporting Club

Table 18: Buildings Partially Funded by the Shire

Council – No Responsibility

The following buildings and structures are located on land controlled by Shire, and the Shire has no responsibility to fund Operation, Maintenance, Renewal and Upgrade, the responsibility for which lies with third parties.

Build ID	Building Name	Location	Responsibility

Table 19: Buildings that are not the Responsibility of the Shire

8.5   Asset Capacity / Performance

Measuring the capacity/performance of an asset means to objectively evaluate policy and strategic objectives and outcomes against the required level of service. Performance management that is based on reliable and timely performance information provides a foundation for informed decision-making, planning, implementation and review.

Performance assessment will assist in ensuring that assets effectively support service delivery requirements and are used in a cost effective and sustainable manner.

Performance criteria and measurement tools influence the following asset management processes and decisions:

- Asset strategic planning to meet whole-of-Government requirements and the Shire's priorities;

- Planning decisions prior to procurement and investment, including the development of business cases for funding bids;

- Disposal and rationalisation decisions;

- Replacement and maintenance decisions;

- Renewal/refurbishment decisions; and

- Benchmarking and continuous improvement.

The Shire does not currently measure the performance of its assets. Performance criteria need to be developed to enable objective assessment of each asset, against criteria that meets the Shire's strategic objectives and outcomes, and the required technical and community level of service set for each (i.e. against level of service).

The following key principles underpin the effective asset performance information of each building asset:

Purpose – Identify end users of the information and how the information will be used prior to commencing any data collection. This will ensure that performance information is relevant and targeted at the appropriate areas so that the benefits of performance measurement are optimised.

Context of performance information – Asset performance information should be complemented with other appropriate qualitative and statistical contextual information relevant to service delivery objectives and operating environments to ensure that valid and reliable conclusions are drawn from the analysis of the performance information. Asset performance information used in isolation from other contextual information may lead to incorrect or misleading conclusions.

Quality of performance data – The quality of data from which performance information is derived will determine the quality of outcomes obtained through performance measurement and analysis. Therefore, performance data should be:

- Valid (actual measures or is an acceptable assessment of the designated performance indicator);

- Reliable (does not vary significantly under set conditions);

- Accurate (provides a true representation of the unit of measure);

- Timely (available when required); and

- Current (up-to-date for the purpose).

Cost and value of performance information – The cost to collect, analyse and report on performance information can be significant. The value and benefits of collecting and pursuing optimum levels of reliable and accurate performance information should be carefully weighed against the cost of doing so. In instances where the costs outweigh the benefits, applying alternative performance information within appropriate cost-benefit parameters may need to be considered.

Continuity and consistency of performance measurement – Continuity is an important aspect of performance measurement as the performance of a physical asset changes over its life cycle. While 'snapshots' of performance for specific purposes are useful, the monitoring of trends over time is equally important, especially for assessing the performance of assets overall as opposed to individual components (which may have shorter life spans). Maintaining the continuity of performance information through trend monitoring enables assessment of the outcomes of asset decisions. The consistency of data is critical to the effective evaluation of performance information. Inconsistencies may lead to misleading interpretations and loss of credibility in the results of any analysis.

8.6 Asset Life and Retreatment Intervention Condition Rating (RICL)

A key component of asset performance is asset life, the greater the performance of an asset component, the longer the life. A key aspect of asset management is determining optimum life for lowest lifecycle cost.

In the Moloney Renewal Model, the intervention point is known as the Retreatment Intervention Condition Level (RICL). The RICL is the point at which the asset component has deteriorated to such a condition that it is economically prudent to initiate restoration works to bring the condition of that component back to new (condition zero (0)).

The RICL range in the Moloney model is 0 to 10.

The lives of each asset sub-class and the RICL utilised in the financial modelling undertaken in developing the AMP are as follows:

8.6.1 Buildings

Buildings	Life	RICL
R - Long Life Structures	80	7
R - Short Life Structures	60	7
R - Roof Cladding	40	7
R - Mechanical Services	25	7
R - Fit Out	30	7
D - Long Life Structures	80	7
D - Short Life Structures	60	7
D - Roof Cladding	40	7
D - Mechanical Services	25	7
D - Fit Out	30	7
L - Long Life Structures	80	7
L - Short Life Structures	60	7
L - Roof Cladding	40	7
L - Mechanical Services	25	7
L - Fit Out	30	7

Table 20: Buildings Modelling Parameters

8.6.2   Plant & Equipment

Plant & Equipment Type	Life	RICL
Play Equipment	40	7
Nav Aids	25	7
Other	20	7

Table 21: Plant & Equipment Modelling Parameters

8.6.3   Infrastructure – Roads (Formation)

Infrastructure - Roads (Formation)	Life	RICL
Sealed Road Formation Regional Distributor		
Sealed Road Formation Local Distributor - Level 1		
Sealed Road Formation Access Road - Level 1		
Unsealed Road Formation Regional Distributor - Level 1		
Unsealed Road Formation Local Distributor - Level 1		
Unsealed Road Formation Access Road - Level 1		

Table 22: Infrastructure – Roads (Formation) Modelling Parameters

Note: 'Infrastructure – Roads (Formation)' is not depreciable and is not modelled.

8.6.4   Infrastructure – Roads (Pavement)

Infrastructure - Roads (Pavement)	Life	RICL
Sealed Road Pavement Regional Distributor - Level 1	80	7
Sealed Road Pavement Local Distributor - Level 1	80	7
Sealed Road Pavement Local Access - Level 1	80	7
Unsealed Road Pavement Regional Distributor - Level 1	40	7
Unsealed Road Pavement Local Distributor - Level 1	40	7
Unsealed Road Pavement Local Access Level - Level 1	40	8

Table 23: Infrastructure – Roads (Pavement) Modelling Parameters

8.6.5   Infrastructure – Roads (Seal)

Infrastructure - Roads (Seal)	Life	RICL
Sprayed Seal Regional Distributor - Level 1	30	7
Sprayed Seal Local Distributor - Level 1	30	7
Sprayed Seal Access Road - Level 1	30	7
Asphalt Seal Local Distributor - Level 1	35	7
Asphalt Seal Access Road - Level 1	35	7

Table 24: Infrastructure – Roads (Seal) Modelling Parameters

8.6.6 Infrastructure – Roads (Kerb)

Infrastructure - Roads (Kerb)	Life	RICL
Sealed Road Kerb	50	7

Table 25: Infrastructure – Roads (Kerb) Modelling Parameters

8.6.7 Infrastructure – Bridges

Infrastructure - Bridges	Life	RICL
Long Life Bridges	80	7
Short Life Bridges	60	7

Table 26: Infrastructure – Bridges Modelling Parameters

8.6.8 Infrastructure – Drainage

Infrastructure - Drainage	Life	RICL
Culverts	70	7

Table 27: Infrastructure – Drainage Modelling Parameters

8.6.9 Infrastructure – Parks, Gardens & Reserves

Infrastructure - Parks, Gardens & Reserves	Life	RICL
Courts/ Synthetic Surfaces & Hardstands	25	7
Fencing, Bollards, Seating & Street Furniture	25	7
Reticulation and Water Tanks	35	7
Swimming Pools	60	7
Lighting	25	7
Miscellaneous - Parks	25	7

Table 28: Infrastructure – Parks, Gardens & Reserves Modelling Parameters

8.6.10 Infrastructure – Footpaths & Cycleways

Infrastructure - Footpaths & Cycleways	Life	RICL
DUP Concrete Slab	40	7
Brick Paved	35	7
Cement Concrete (obsolete)	55	7

Table 29: Infrastructure – Footpaths & Cycleways Modelling Parameters

8.6.11 Infrastructure – Airports

Infrastructure - Airports	Life	RICL
Runway Formation	80	7
Runway Pavement	60	6.5
Runway Seal	30	6.5
Apron Formation	80	7
Apron Pavement	60	6.5
Apron Seal	30	6.5
Runway Lighting	30	7

Table 30: Infrastructure – Airports Modelling Parameters

8.6.12 Infrastructure – Other

Infrastructure - Other	Life	RICL
Fencing/ Other	30	7
Communication & Solar Infrastructure	25	7
Refuse Site & Transfer Station	40	7
Depot Infrastructure	40	7
Railway line	80	7

Table 31: Infrastructure – Other Modelling Parameters

8.7 Asset Condition

8.7.1 Condition Rating Scale Utilised

Assets have a range of factors that influence their usability. From an asset management perspective, the various factors fall into one of the following groups:

- Fitness for Use; and/or
- Fitness for Purpose.

Fitness for Use is a measure of the asset's physical condition relative to its condition when first constructed or refurbished. This measurement takes account of the current condition of the physical integrity of the building asset. Future condition assessments should be based on Fitness for Use.

Common to all asset classes is the condition rating system used. The system used in this plan is a standard scale of 0-10, where 0 = new and 10 = total deterioration.

Condition Rating	Definition
0	New asset or component recently rehabilitated to new condition.
1	As New Condition, no visible signs of wear and tear or defects.
2	In excellent condition with only very slight condition decline (obvious no longer new).
3	In very good condition with some early signs of wear and tear commensurate with age and use.
4	In good condition with some obvious signs of wear and tear but no evidence of deterioration.
5	In fair condition, minor evidence of deterioration of the element which could potentially shorten life.
6	In fair to poor condition with significant evidence of deterioration of the element which could lead to failure.
7	In poor condition with evidence of minor isolated failure which will reduce future life, maintenance costs high.
8	In very poor condition with evidence of multiple failures and the inability to continue to satisfactorily provide the original intended purpose.
9	In extremely poor condition with significant evidence of failure of the element and failure to provide design purpose.
10	Total failure, extreme risk in leaving asset in service.

Table 32: Condition Rating Definitions

The following photographs are not the Shire's assets but are examples of condition ratings.

Condition 6

The following photographs show deterioration that is now becoming quite obvious. They are at a stage where their serviceability is starting to become limited with increasing maintenance costs.
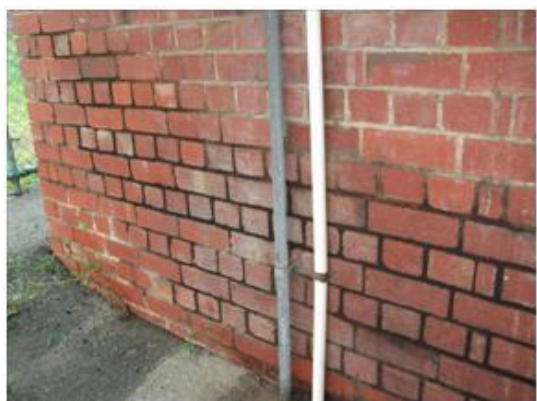
Condition 7

The following photographs show significant problems that are at the point where intervention is required otherwise injury could be caused due to hazards. This deterioration would be starting to limit the serviceability of the asset with maintenance costs becoming high.

Condition 8

The examples below are affected by age or poor conditions. They are in very poor overall condition with their serviceability being heavily impacted and structural integrity being compromised. Maintenance costs would be very high. The asset would be at a point where its complete renewal would be considered.

Condition 9

Age and neglect of maintenance has heavily impacted on the buildings below. They are in extremely poor condition with severe serviceability problems. They need renewal immediately.

Fitness for Purpose is a measure of an assets match to its current or intended use. It considers the minimum feature set required and additional features desirable to enhance the usability of an asset. Fitness for Purpose is tied to the **use** of the asset, rather than the asset itself and takes account of changing requirements for different features over time.

In terms of Fitness for Purpose, an asset initially fit for its intended purpose may cease to be so as standards and expectations change. Determination of an asset's fitness for purpose has not currently been considered, but will be developed in future revisions of this plan.

8.7.2   Current Condition

For the purposes of this 1st Cut Plan, informed assumption has been made by staff in relation of the Condition of Assets based on their working knowledge of the asset portfolio and the default condition distribution profiles contained within the Moloney Model. Future versions of the AMP will include the results of actual condition surveys. Where condition data exists, a Custom profile is noted. The specific condition profile for each asset is documented within the Shire's 'Asset Data Request' for which was utilised to gather information that was subsequently inputted into the Shire's 'Moloney Model'.

To allow for asset modelling to be refined using more accurate, up-to-date data, it is recommended that the Shire completes a detailed data pick-up and condition assessment of all assets, updates asset renewal modelling and includes the results in a future version of this AMP.

9.0   Financial Projections

Financial forecast models assist in predicting the future financial requirements. The forecasts are based upon the presumption that assets continue to be utilised indefinitely and so the asset will be replaced when its condition reaches the intervention condition.

Preceding the use of such a model for accurate future forecasting, discussion needs to be held about what conditions will be acceptable, and for what classes or uses of assets will the condition ratings, and intervention levels differ. Also, decisions will need to be made about affordable levels of service to use the predictive model of financial requirements with a better degree of accuracy.

This section presents a forecast financial summary for the next 20 years based on identified assumptions and trends and actual capital and maintenance expenditure figures from 2012/13 budget. It is anticipated that the financial summary will be reviewed annually and continue to be refined as planning studies, strategies and increased financial analysis are completed.

The Moloney Renewal Model contains a financial modelling tool that provides Council with the opportunity and ability to predict (at network level) future expenditure requirements and asset conditions based on adopted asset deterioration or consumption curves.

The AMP considers current expenditures, both maintenance and capital, and existing levels of service, and using generic asset deterioration curves, models the consumption or deterioration of the asset. Two modelling outcomes are available to Council from the asset management modelling software. The outcomes are:

- Given a fixed, or pre-determined, expenditure level the model predicts the overall average asset condition rating at a future date, and plots a bar graph of asset condition versus asset amount; and

- A desired minimum asset condition level is established, and the model determines the required annual expenditure to achieve the pre-determined asset condition level.

This plan makes a comparison between the budget-based expenditure approach (i.e. here is $200,000 – do what you can with it!) and the asset-based approach (i.e. the resources that are needed to replace the consumed or ageing asset).

To determine how much money needs to be spent on an asset to keep it in functional order, a decision is required regarding when to intervene to undertake works to renew the asset. Ideally this indicator will be derived from the community consultation carried out in Section 3, when determining Levels of Service. However, in the absence of that information, this plan has utilised the Officer's knowledge and current practice to determine 1st Cut intervention levels.

9.1   Modelling Parameters

Key modelling parameters utilised to develop the financial forecasts detailed below and their location within this plan is as follows:

Asset Physical Parameters

Asset physical parameters are detailed in section 8.3 beginning on page 24.

Asset Life

Asset life is detailed in section 8.6, beginning on page 34.

Asset Condition

The specific condition profile for each asset is not documented in this plan as the level of detail of information is too high. Condition information and profiles are documented within the Shire's 'Asset Data Request' for which was utilised to gather information that was subsequently inputted into the Shire's 'Moloney Model'.

Retreatment Intervention Condition Rating (RICL)

RICL is detailed in section 8.6, beginning on page 34.

Annual Average Renewal and Maintenance expenditure

Current renewal and maintenance expenditure is detailed in 'Table 16: Summary of the Shire's Infrastructure Asset by Asset Class showing Average Renewal & Maintenance Expenditure', on page 29.

When compiling current renewal and maintenance expenditure it is usual for Shires to average expenditure over a period of three or more years. In this instance due to lack of availability of data and the time required for officers to compile information, only one year of data was used (2015/16). This has the potential to result in distortion of indicated current expenditure. The reason for this is the potential for high expenditure on 'one-off' annual projects in given asset classes in 2015/16, and lower expenditure in that year on other asset classes where a major project was completed the year before.

To increase the accuracy of Modelling, it is recommended that the Shire compiles historical expenditure information for a three-year period and utilises this for modelling purposes when updating the next version of the Asset Management Plan.

9.2   Renewal Demand

The Renewal Modelling tool provides two different models. The first model is the predicted renewal demand based on the asset life, condition and nominated intervention.
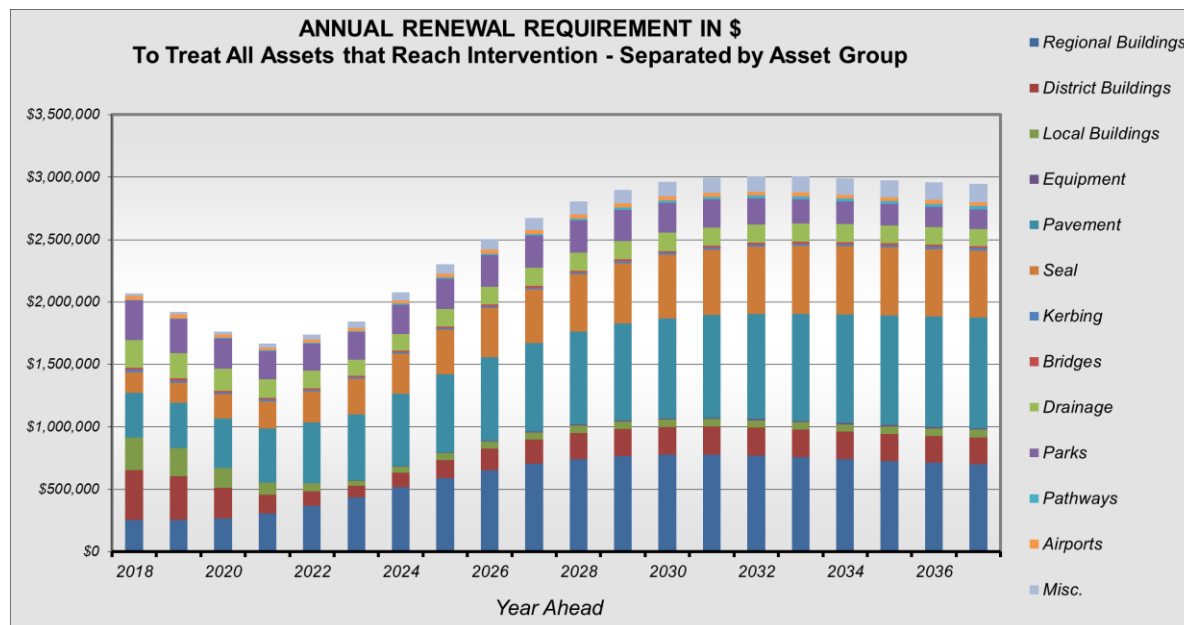

Figure 12: Predicted Renewal Demand, Split by Asset Group

The above graph demonstrates the renewal funding requirements for the retention of assets at current level of service for the next 20 years. The graph shows the high demand for funds to renew existing assets if they are all to be retained in the long term with the nominated renewal intervention value. The average calculated annual Renewal demand over 20 years is $2.611m/annum.

9.3   Current Renewal Expenditure

The second model provided by the renewal modelling tool sets out what the Shire currently spends on renewal. This is currently $3.213m/annum.

In this instance, the Shire appears to be spending an average of $0.62m/annum more than is required on renewal across all asset classes. There are several potential reasons for this which are considered in section 9.4 'Renewal Funding Gap/ Surplus' on page 44 and section 10.0 Summary/ Funding Strategy on page 52.
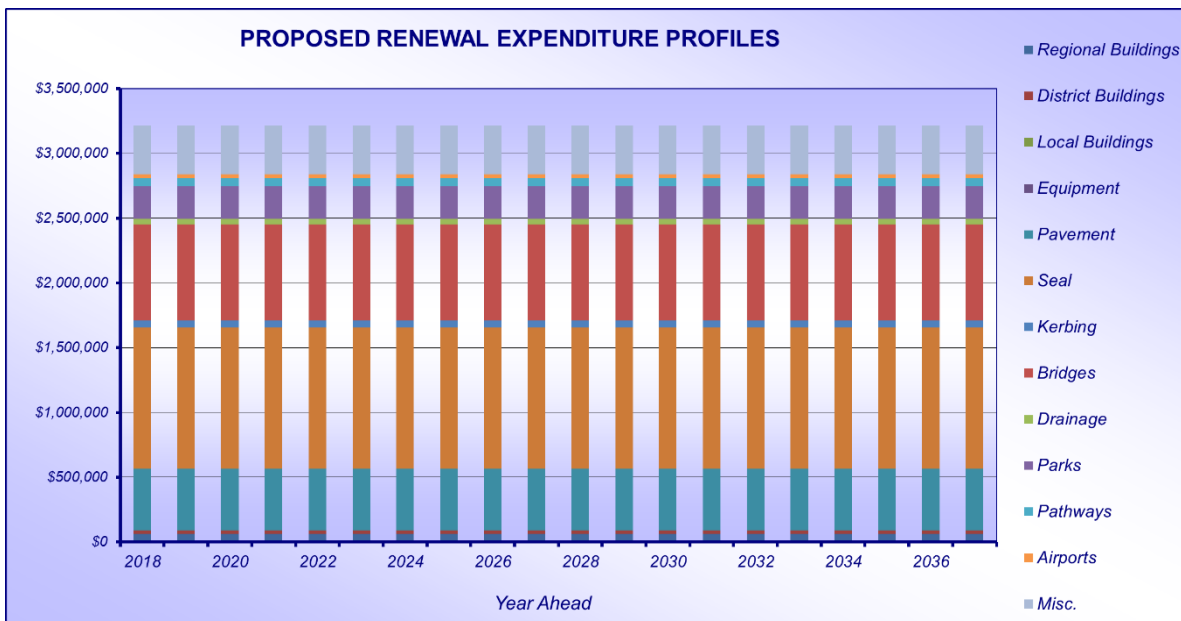
Figure 13: Current Renewal Expenditure, Split by Asset Group

9.4   Renewal Funding Gap/ Surplus

The modelling tool then subtracts the second model from the first to identify the overall average annual funding gap (shortfall in renewal expenditure indicated by a positive [+] number) or surplus (indicated by a negative [-] number) in the event of potential over-expenditure.

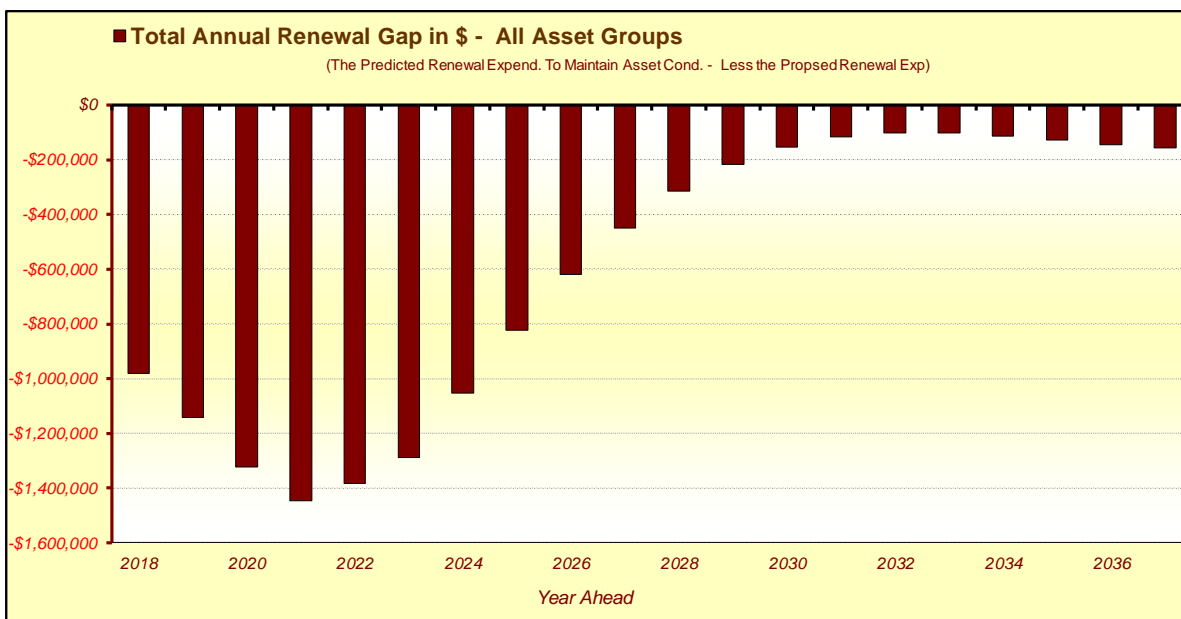The graph shows there is a predicted total surplus of funding when considering all asset classes together.

Figure 14: Annual Renewal Funding Gap

Figure 15 shows the annual renewal funding gap (positive [+] number)/ surplus (negative [-] number) separated by asset group. This shows that there appears to be 'over expenditure' on some asset classes (i.e. Seal, Kerbing, Bridges, Parks, Pathways and Misc.) and under expenditure on others (i.e. Buildings and Drainage).
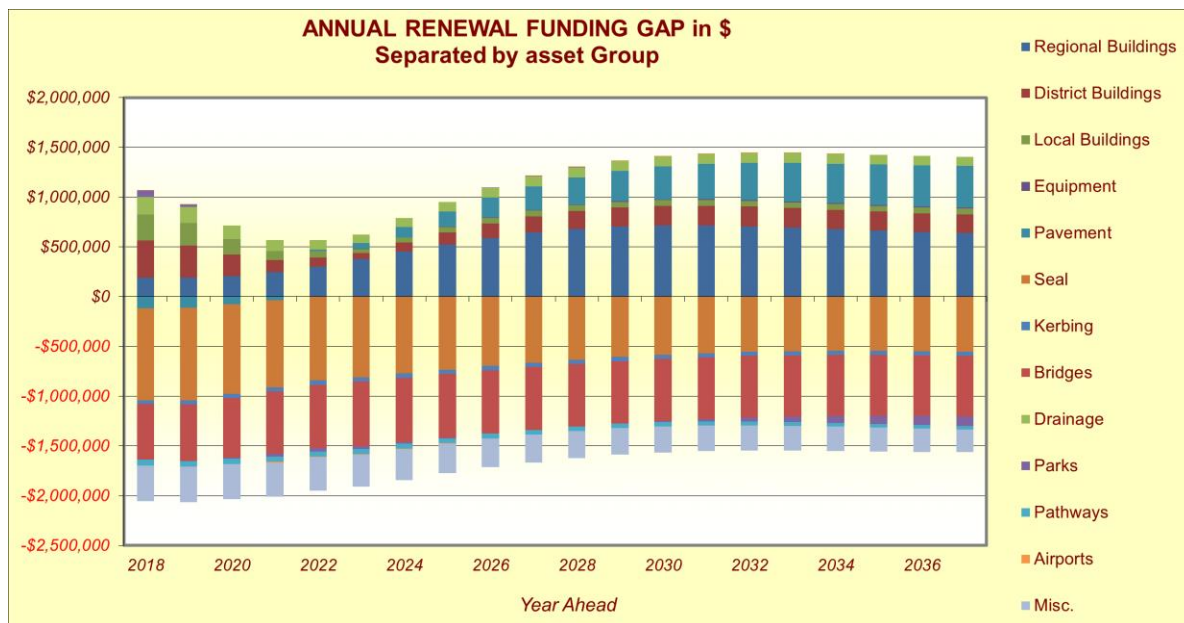
Figure 15: Annual Renewal Funding Gap (+)/ Surplus (-) Split by Asset Groups

9.5   Cumulative Renewal Gap/ Surplus

The following graph demonstrates the long term cumulative funding impact if council continues to fund asset renewal at current levels. This graph shows that there is a predicted significant surplus of funding available when considered across all asset classes.
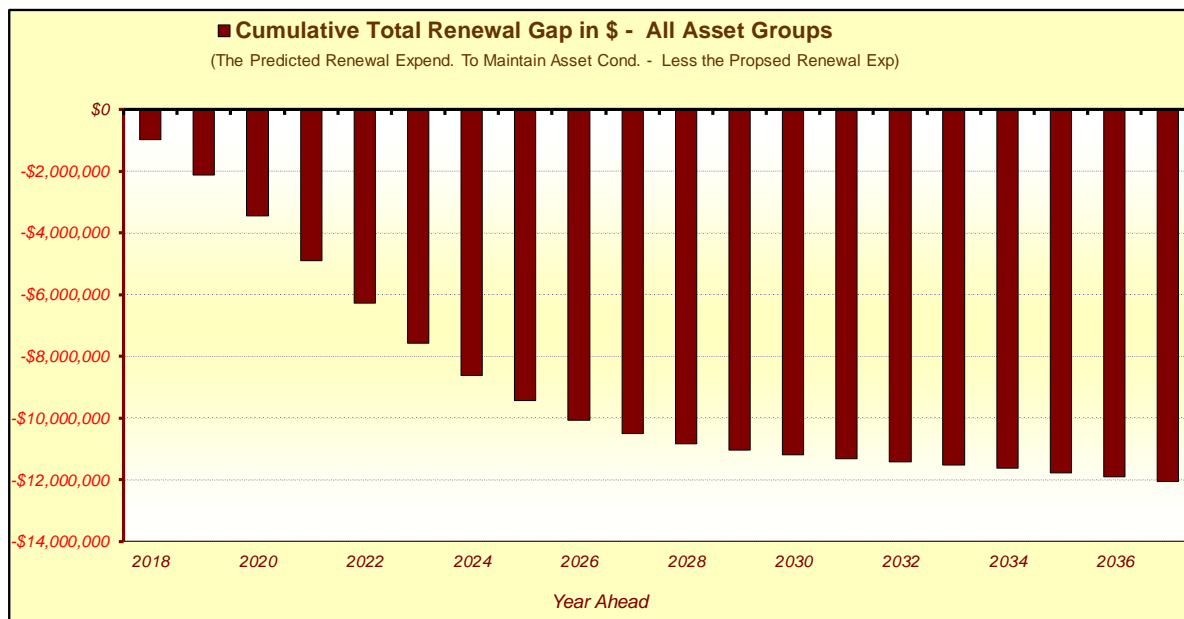
Figure 16: Cumulative Renewal Gap

9.6 Asset Base Outside of Intervention

As detailed above it appears that despite a high amount of total funding per year the Shire may be over-expending on renewal for some asset classes and underspending on others.

As detailed in the graph below, there are currently approximately 2.0% of assets outside of intervention.

However, if renewal underspending continues for some asset classes in the long term after 2038, in 20 years, 18.00% of assets will be exceeding intervention. This would no doubt affect the Shire's ability to deliver on its Level of Service commitments and be an unacceptable situation to the community.
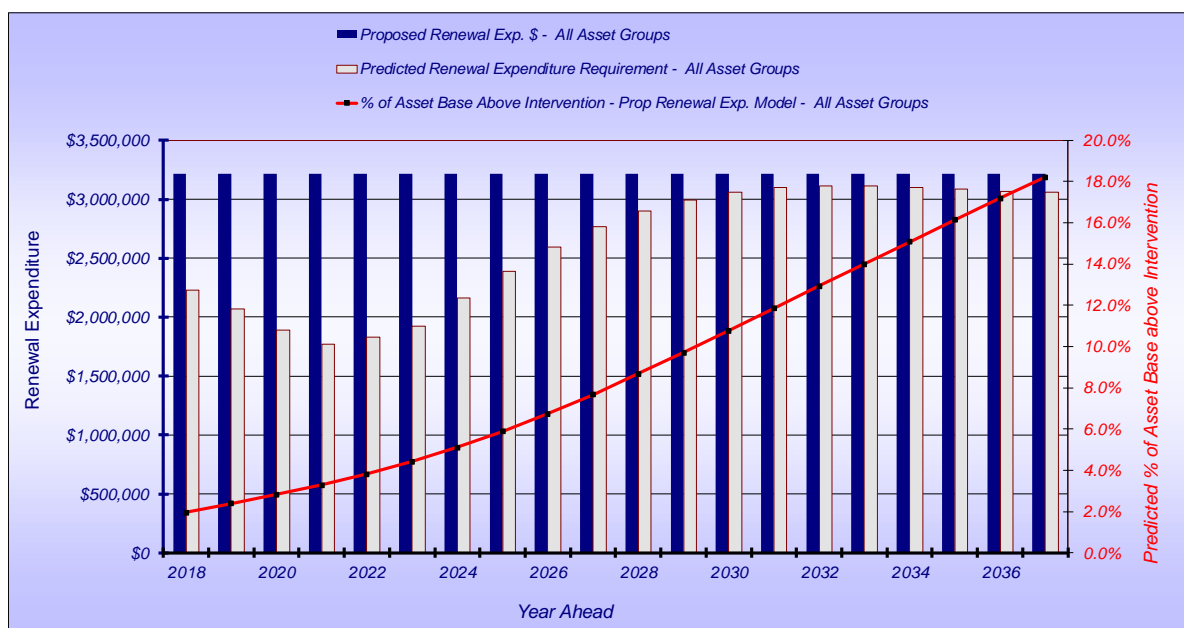
Figure 17: Predicted Renewal Demand vs. Current Renewal Expenditure and Showing % of Asset Base beyond Intervention

9.7 Predicted Consequential Maintenance Based on Renewal Demand

If Council funded the predicted average long-term renewal demand of $2.611m/annum, the predicted consequential maintenance would be of the order of $913 k/annum. The Shire is currently spending $862k/annum on asset maintenance. Based on modelling, Council needs to spend an additional $50k/annum on asset maintenance.
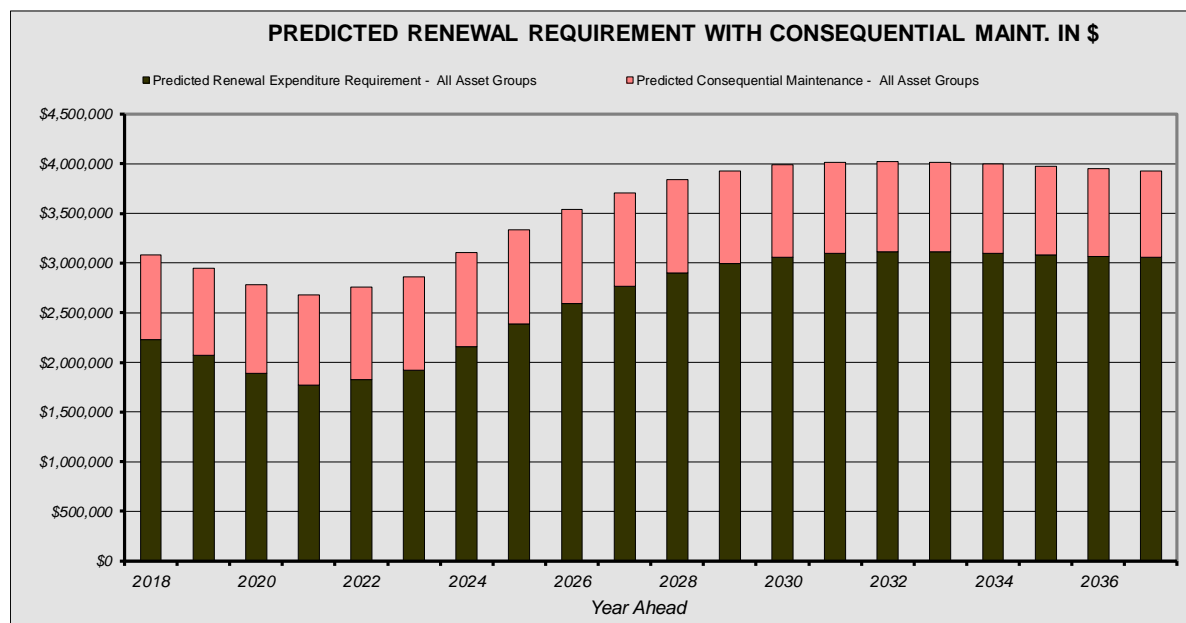

Figure 18: Predicted Renewal Demand and Predicted Consequential Maintenance

9.8 Implications of the Renewal Model

The following graph shows the implications of continuing current/predicted expenditure/practice. If Council is not able to adjust practices to fund asset renewal and maintenance where underspending is occurring, the combined current renewal expenditure and predicted consequential maintenance will begin to escalate and will eventually outstrip the combined predicted renewal and consequential maintenance expenditure. Because of the under investment in asset renewal for given assets, assets that are beyond intervention are predicted to continue to increase from the present 2.00% to 18.00% by 2038.

Failure to review the proposed Renewal and Maintenance expenditure levels of funding, will result in a progressive significant deterioration of asset condition and consequently level of service.

Subsequently, Council's capacity to provide and ensure an acceptable functional level of service of all its assets will be restricted by a shortfall of funds.
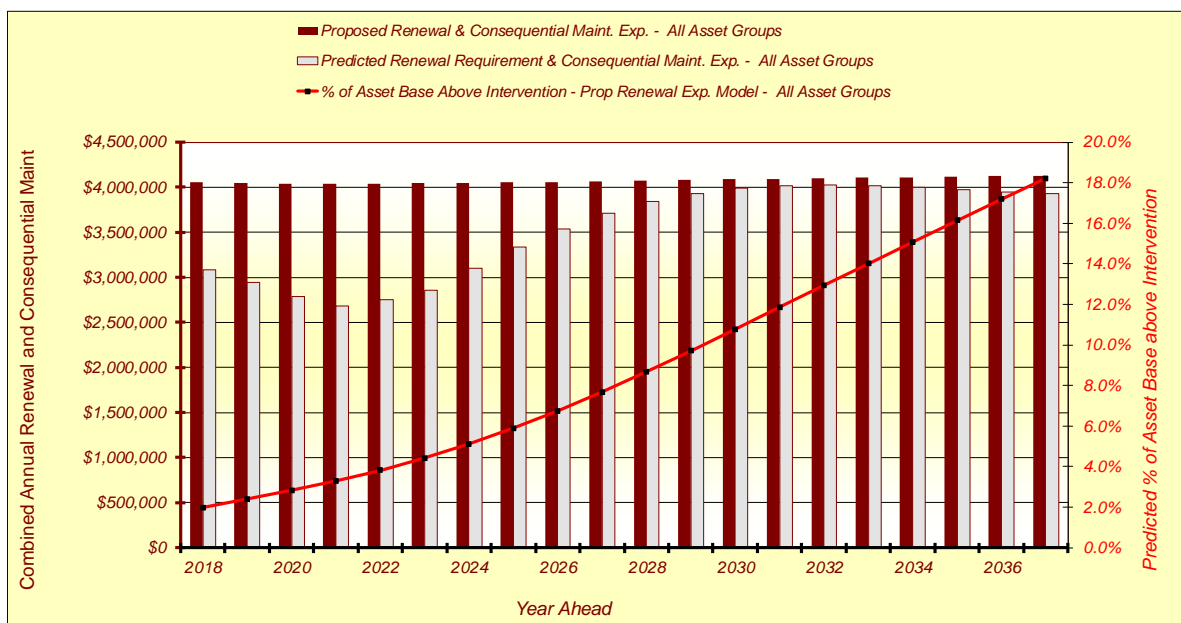
Figure 19: Existing Expenditure and Consequential Maintenance vs. Predicted Expenditure and Consequential Maintenance

In the event the Shire chose to adjust future funding to meet requirements, the following modelled expenditure would be required per year based on current assets and identified Level of Service.

Asset Group	Year	Year	Year	Year	Year
Description	1	2	3	4	5
	2018	2019	2020	2021	2022
Predicted Renewal Expenditure Requirement -	2,232,190	2,072,396	1,889,855	1,768,336	1,830,159
Predicted Consequential Maintenance -	848,939	873,159	894,453	912,256	926,335
Predicted Renewal Requirement & Consequential Maint. Ex	3,081,129	2,945,555	2,784,308	2,680,592	2,756,493

Asset Group	Year	Year	Year	Year	Year
Description	6	7	8	9	10
	2023	2024	2025	2026	2027
Predicted Renewal Expenditure Requirement -	1,924,226	2,161,557	2,389,604	2,593,524	2,764,301
Predicted Consequential Maintenance -	936,686	943,475	946,980	947,562	945,632
Predicted Renewal Requirement & Consequential Maint. Ex	2,860,913	3,105,032	3,336,584	3,541,086	3,709,934

Asset Group	Year	Year	Year	Year	Year
Description	11	12	13	14	15
	2028	2029	2030	2031	2032
Predicted Renewal Expenditure Requirement -	2,898,231	2,995,774	3,060,293	3,096,927	3,111,685
Predicted Consequential Maintenance -	941,627	935,984	929,127	921,448	913,297
Predicted Renewal Requirement & Consequential Maint. Ex	3,839,858	3,931,758	3,989,421	4,018,375	4,024,982

Asset Group	Year	Year	Year	Year	Year
Description	16	17	18	19	20
	2033	2034	2035	2036	2037
Predicted Renewal Expenditure Requirement -	3,110,767	3,100,070	3,084,845	3,069,474	3,057,350
Predicted Consequential Maintenance -	904,978	896,746	888,809	881,328	874,424
Predicted Renewal Requirement & Consequential Maint. Ex|	4,015,744	3,996,816	3,973,654	3,950,802	3,931,774

Figure 20: Modelled 20-Year Renewal and Maintenance Expenditure Required

9.9 Budget Structure

The Renewal Gap process includes a modelling process that provides the Council with the opportunity and ability to predict future expenditure requirements and asset conditions based on adopted asset degradation curves.

The modelling relies on realistic expenditure profiles for renewal and maintenance of the assets and asset condition profiles for the network.

The traditional local government method for determining annual recurrent budget allocations is to take the previous years' actual expenditure and add a small percentage, which would hopefully cover inflation and scope expansion and be sufficient to maintain the same level of service. There is typically no recognition that recurrent expenditure includes both non-discretionary activities (maintenance) and discretionary activities (operations).

Capital expenditure is generally treated as 'discretionary' expenditure, with little or no distinction between renewal, replacement and new projects, or the whole of life consequences of the types of projects or programs. The following illustrates the traditional budgetary framework:

Operating Budget (Recurrent Expenditure)	Capital Budget (one-off Expenditure)
Maintenance and Operations (Often combined)	**Refurbishment, Renewal, Upgrade and New**
Pit maintenance	Drainage development
Pipe replacement	New drainage systems
Sump maintenance	Atlantis cell replacement
'Non-Discretionary' Funding	**'Discretionary' Funding**

Table 33: Tradition Local Government Budget Structure

This traditional methodology does nothing to recognise the level of expenditure required to renew, maintain and operate assets and services, over the whole-of-life of the assets and services. These costs are included in broader activity statements and not discernible for the asset owner and service provider without considerable additional work.

If asset management practices are to ensure the ability to sustain Council's infrastructure assets and services into the future, which is the basis of Long-Term Financial Planning, then a new perspective and strategy must be applied.

The first phase of a revised budget structure strategy which should apply to all future budgets utilises four rather than the traditional two key funding areas.

The revised structure recommends that capital expenditure is separated into two components. The first non-discretionary component is to fund the ongoing asset refurbishment and renewal requirements to ensure sustainability of Council's assets. The second component provides the discretionary funding for the Council to undertake new projects and programs (again based on whole-of-life costing).

Recurrent Expenditure		Non Recurrent Expenditure	
Operations	**Maintenance**	**Renewal**	**New/Upgrade**
Gully cleaning Pipe cleaning Litter collection	Pit maintenance Pipe replacement Sump maintenance	Pipe replacement Pit Replacement Sump rehabilitation	New swale development New side entry pits Increased drain capacity Drainage extensions New pipes
'Discretionary'	**'Non- Discretionary**	**'Non-Discretionary'**	**'Discretionary' Capital Funding**

Table 34: New Paradigm in Budget Structure

The budget structure also recognises the consequential whole of life costs as recurrent, non-discretionary, (maintenance and operational), which are increased or decreased with the addition of or improved management of assets. The second phase of budget structure refinement is shown below.

This structure better represents the distribution of recurrent costs as maintenance and operational costs. It recognises the importance of separately identifying expenditure on maintenance of assets for whole-of-life costing, and the cost of provision of operations or services.

This revised structure suggests that maintenance expenditure remains non-discretionary as provided for in the AMP. Operational expenditure can be related to the quality of services, but remains non-discretionary (unless the quality of service is changed).

Recurrent Expenditure		Non Recurrent Expenditure		
Operations	**Maintenance**	**Renewal**	**New/Upgrade**	**Net Impact**
Gully cleaning Pipe cleaning Litter collection	Pit maintenance Pipe replacement Sump maintenance	Pipe replacement Pit Replacement Sump rehabilitation	New swale development New side entry pits Increased drain capacity Drainage extensions New pipes	Additional Operation and Maintenance Activities resulting from the decision to build new and / or upgraded assets
'Discretionary'	**'Non-Discretionary**	**'Non-Discretionary'**	**'Discretionary' Capital Funding**	**'Non-Discretionary'**

Table 35: Net impact of Decisions to commit expenditure to New / or Upgraded Assets.

Note: 'Operational' funding includes a discretionary component only if Service Standards are reviewed and changed based on customer service trends or improved efficiencies.

The introduction of this budget structure uniformly to all asset classes provides a greater appreciation of the whole-of-life costs and 'operating' costs for service provision as well as total asset management. The exercise will need to be planned so that financial data complements the implementation of asset and services management improvements.

This AMP considers current expenditure – both maintenance and capital – as well as existing levels of service, and uses generic asset degradation curves to model the consumption or degradation of the asset.

To determine how much money needs to be spent on an asset to maintain it, a decision is required regarding when to intervene and undertake works to rehabilitate the asset.

Useful lives for drainage asset should be tested according to local criteria and industry standards. Regional uniformity would be desirable but will be dependent upon other local factors. The current depreciation standards are valid according to industry standards and should remain in place until a more detailed review can be completed as a subsequent part of this study.

The modelling parameters used in this AMP are very much preliminary. Ideally, the Shire's Executive/Asset Management Working Group will critically review the inputs and where necessary, refine and validate the model. Once this is complete, the Shire will then be in a strong position to review Levels of Service to implement options and strategies to close the funding gap, and put the Shire on a long-term sustainable footing.

10.0   Summary/ Funding Strategy

As identified above, the Shire:

- has care control and responsibility for over $215.8m of assets, with $142.3m of depreciable assets;

- has informal 'Levels of Service' in place for some assets, but does not have documented 'Levels of Service' in place for all assets;

- has suffered a small decline in population in recent years and could benefit from completion of a formal 'demand analysis', as part of its economic development and asset demand planning;

- does not currently have 'Operations & Maintenance' plans, 'Renewal & Replacement' plans, or 'New, Upgrade & Disposal (Capital Investment)' plans in place for all assets; and would benefit from these;

- is implementing a 'Buildings Assessment Framework' for buildings assets and could consider implementing a similar framework to this for all assets as part of a 'Capital Evaluation Framework';

- has a 'network level' understanding of the quantity, value and condition of assets and would benefit from undertaking detailed inspection/condition assessment of all assets;

- has asset renewal and maintenance expenditure data accessible for the past year (separated by asset class), but does not have easily accessible data for average expenditure (separated by asset class) for the past three years, and would benefit from gathering this for asset modelling purposes;

- appears to be funding significantly more (av. $3.213m/annum) than is required ($2.611m/annum) for asset renewal across all asset classes;

- reports 'overspending' on renewal for some asset classes (i.e. Seal, Kerbing, Bridges, Parks, Pathways and Misc.) and underspending on others (i.e. Buildings and Drainage). This predicted result is that the Shire's proportion of assets outside of intervention level will rise from the current 2.0% to 18.0% over 20 years.

The Shire could use the renewal requirements identified in 'Figure 20: Modelled 20-Year Renewal and Maintenance Expenditure Required', and the requirements identified for each asset class in the 'Financial Projections' section of this plan as a guide for adjusting Long-Term Financial plan allocations and expenditure for each asset class.

However, to ensure: the Shire has the most accurate up to date information possible on assets and expenditure; has appropriate Levels of Service and performance measurement systems in place; and maximises the return for its investment in assets to provide services to the community; it is recommended that the Shire implements a consolidated program to imbed sound asset management practice within culture and activities at all levels of the organisation.

The following recommendations are designed to allow the Shire to achieve the above.

11.0　Recommendations

It is recommended that the Shire designs and implements a consolidated program to imbed sound Asset Management practice its culture and activities at all levels of the organisation. As part of this project the Shire will complete the following recommendations:

Recommendation 1: (Most urgent priority): Implement a 'Capital Evaluation' policy and procedure to ensure all potential future projects are evaluated appropriately; and only the projects most aligned to achievement of council's objectives and long-term sustainability are selected for implementation. This will include:

- *Development and adoption of a 'Capital Evaluation Policy;*
- *Development and adoption of a 'Capital Evaluation Procedure' including:,*
  - o *Identification of 'Capital Evaluation' assessment processes with different intensity/ thoroughness of assessment for individual projects based on 'thresholds' for assessment;*
  - o *A description of 'thresholds' for assessment (The level of risk, financial value or other indicators at which a project undergoes a given level of assessment);*
  - o *Identification of assessment criteria, criteria weighting and methodology for 'multi-criteria' analysis;*
  - o *Templates to be used during assessment and flow-charts to assist with keeping the process on track; and*
  - o *Documentation of the timing for assessment to be undertaken (for example prior to consideration of each budget for annual projects and at given times during the year for special projects, in special circumstances).*

Recommendation 2: Design a program of activities to imbed sound asset management practice its culture and activities at all levels of the organisation. This will include (but not be limited to):

- *Confirming key performance indicators of the program – How will we measure that we have achieved our intended results?;*
- *Documenting all projects/ actions to be undertaken (Please note: Completion of all recommendations within this Asset Management Plan will form part of the identified program).*
- *Identification of resources required and available;*
- *Prioritising activities to be undertaken, including confirming the timing for their implementation;*
- *Identifying training to be delivered to ensure all staff involved have a sound understanding of their role and requirements;*

Recommendation 3: Define, document and implement 'Levels of Service' for all assets and services;

Recommendation 4: Complete a formal assessment of future demand for assets. This will be undertaken as part of economic development planning and consider factors such as potential population growth and changes in demographics. Once complete, update the Asset Management Plan with the results;

Recommendation 5: Adapt the current 'Buildings Assessment Framework' project to include review of other asset classes; and dispose of surplus/ unsustainable assets as required;

Recommendation 6: Identify the requirements to ensure finance data and information is matched to asset management data (i.e. the same/ integrated classification, storage and reporting systems are utilised). Implement changes as needed;

Recommendation 7: Compile expenditure information for the past three years, separated by asset class. Utilise this information for modelling purposes when updating the next version of the Asset Management Plan;

Recommendation 8: Determine responsibilities for all assets and review and update lease conditions where other entities have partial or full responsibility for assets on Council managed land. This will include (but not be limited to):

- *Classifying all assets into areas of responsibility (i.e. Council 'full responsibility', 'partial responsibility' and 'no responsibility';*
- *Conducting a review of the responsibilities documented in all leases;*
- *Implementing a program over time to include the following provisions in all leases:*
  - *That where a Lessee has responsibility for maintenance or renewal activities for an asset on land owned by Council, the Lessee submits a program of works each year and Council conducts inspections at appropriate time intervals to confirm required work has been completed by the Lessee; and*
  - *In the event required work is not undertaken by the Lessee, Council can either direct the Lessee to undertake the work; or Council can undertake the work and bill the lessee for the cost.*

The purpose of this recommendation is to ensure that council does not have responsibility for a large future backlog of maintenance/ renewal for assets, particularly buildings, as a result of leases not being aware of or undertaking their responsibilities.

Recommendation 9: Ensure the Shire has an appropriate database for storage of asset information and complete a detailed data pick-up and condition assessment of all assets;

Recommendation 10: Utilise the results of implementation of the above recommendations to prepare a sustainable 'operations and maintenance' plan, 'renewal and replacement' plan and 'new, upgrade and disposal (capital investment)' plan. This should involve scenario analysis involving running comparative asset renewal models to identify the cost implications of each decision/ proposed mix of projects;

Recommendation 11: Once recommendations above are complete, update the Shire's 'Asset Data Request', re-run the Shire's renewal model and update the Asset Management Plan with the results;

Recommendation 12: _Update the Long-Term Financial Plan utilising the results of Recommendation 11. Ensure there is a mechanism in place to continuously link Asset Management to the Long-Term Financial Plan update cycle._

12.0   Glossary

The following terms are used in this plan.

(Definitions from the International Infrastructure Management Manual, International Edition 2006)

Asset
A physical component of a facility, which has value, provides service or enables services to be provided and has an economic life of greater than 12 months.

Asset Management
The combination of management, financial, economic, and engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost-effective manner.

Asset Management Plan
A plan developed for the management of one or more infrastructure assets that combines multi-disciplinary management techniques over the lifecycle of the asset in the most cost-effective manner to provide a specified level of service.

Asset Management Strategy
A strategy for asset management covering the development and implementation of plans and programmes for asset creation, operation, maintenance, rehabilitation/replacement, disposal and performance monitoring to ensure that the desired levels of service and other operational objectives AM achieved at optimum cost.

Current Replacement Cost
The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.

Depreciation
The wearing out, consumption or other loss of value of an asset whether arising from use, passing of time or obsolescence through technological and market changes. It is accounted for by the allocation of the cost (or revalued amount) of the asset less its residual value over its useful life.

Gap Analysis
A method of assessing the gap between a business's current asset management practices and the future desirable asset management practices. Also called needs analysis.

Geographic Information System (GIS)
Software, which provides a means of spatially viewing, searching, manipulating, and analysing an electronic database.

Infrastructure Assets
Stationary systems forming a network and serving whole communities, where the system is intended to be maintained indefinitely at a particular level of service potential by the

continuing replacement and refurbishment of its components. The network may include normally recognised ordinary assets as components.

Key Performance Indicator (KPI)

A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.

Level of Service

The defined service quality for a particular activity (i.e. roads) or service area (i.e. street lighting) against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental acceptability and cost.

Life

A measure of the anticipated life of an asset or component; such as time, number of cycles, distance intervals, etc.

Lifecycle Cost

The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, and rehabilitation and disposal costs.

Maintenance

All actions necessary for retaining an asset as near as practicable to its original condition, but excluding rehabilitation or renewal.

Renewal

Works to upgrade refurbish or replace existing facilities with facilities of equivalent capacity or performance capacity.

Replacement

The complete replacement of an asset that has reached the end of its life, to provide a similar or agreed alternative, level of service.

Replacement Cost

The cost of replacing an existing asset with an identical new asset.

Strategic Plan

A plan containing the long-term goals and strategies of an organisation. Strategic plans have a strong external focus, cover major portions of the organisation and identify major targets, actions and resource allocations relating to the long-term survival, value and growth of the organisation

13.0   Abbreviations

AC – Asset Coordinator

AM – Asset Management

AMWG – Asset Management working group

IIMM – International Infrastructure Management Manual

LOS - Level of Service

LTFP – Long Term Financial Plan

NAMAF - the National Asset Management and Financial Planning Assessment Framework

NFSF – National Financial Sustainability Framework

O & M - Operations and Maintenance

14.0   Individual Asset Summaries
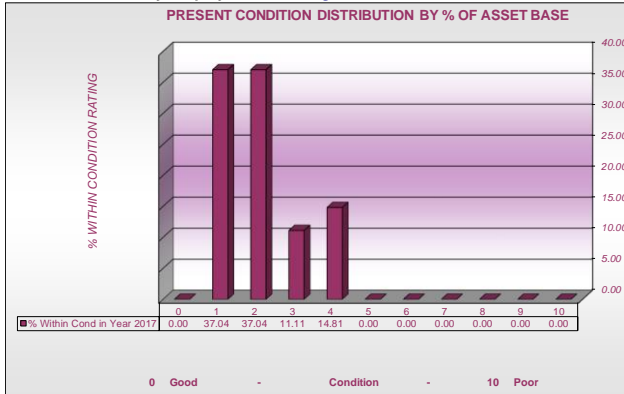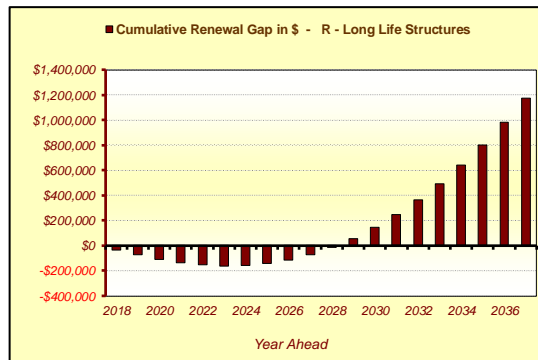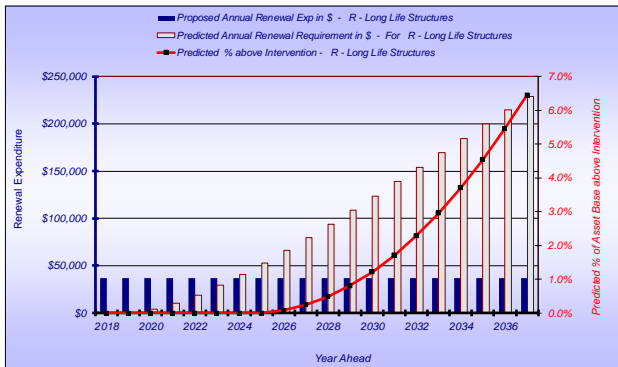
Asset Set Presently Displayed   *R - Long Life Structures*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	37.04	37.04	11.11	14.81	0.00	0.00	0.00	0.00	0.00	0.00

0 Good   -   Condition   -   10 Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$37,206	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	27	Av Annual Renewal Demand (Long Term)	$235,310
Units	No	Av Unit Renewal Cost in $/Unit	697,214.73
Total Cost to Renew the Whole Asset Group in $	$18,824,798	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$9,395	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.74
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.37
Life to Condition 10 in Years	80.0	St Dev of Condition Distribution	14.76
Life in years to Intervention Level	65.6	Condition Distribution Accuracy Indicator	5.47
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	15.81%

Asset Set Presently Displayed   *R - Short Life Structures*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	4.55	36.36	4.55	11.36	6.82	36.36	0.00	0.00	0.00	0.00

0 Good   -   Condition   -   10 Poor
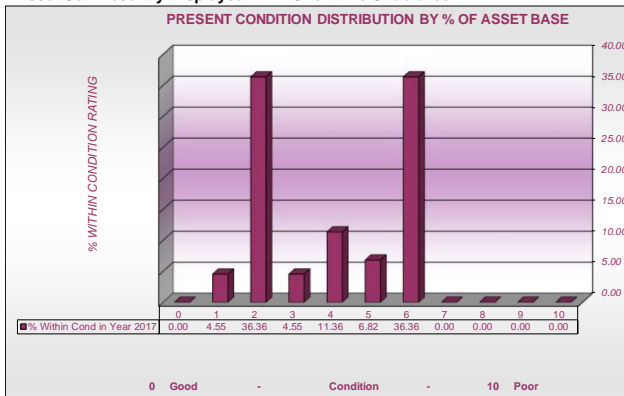
Table of Key Indicators

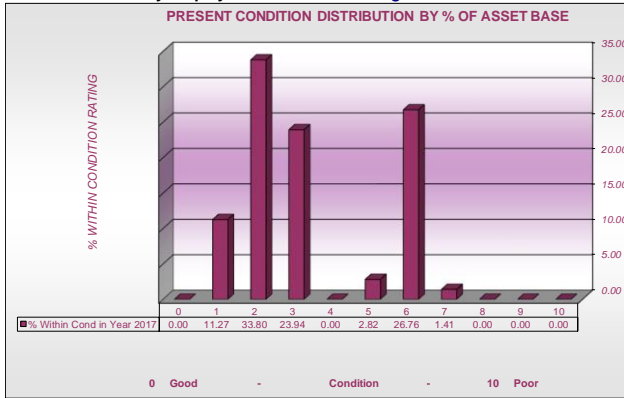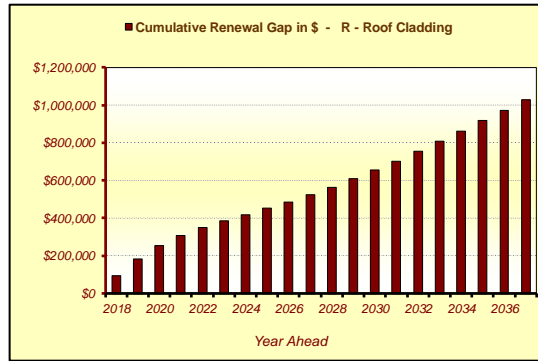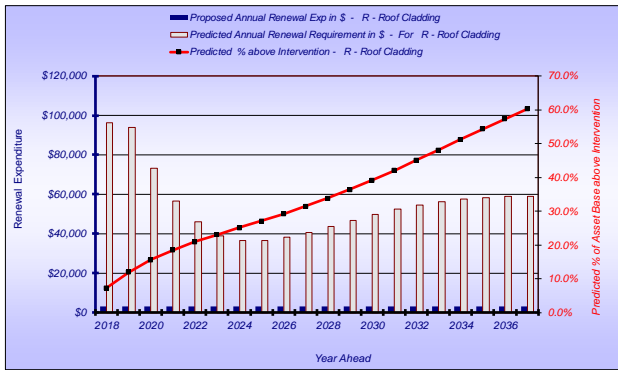|			
Present Annual Renewal Expenditure	$5,391	Present Annual Renewal Demand From Modelling	$157,235
Total Asset Group Quantity	44	Av Annual Renewal Demand (Long Term)	$47,564
Units	No	Av Unit Renewal Cost in $/Unit	64,859.39
Total Cost to Renew the Whole Asset Group in $	$2,853,813	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$1,361	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.41
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.36
Life to Condition 10 in Years	60.0	St Dev of Condition Distribution	13.97
Life in years to Intervention Level	49.2	Condition Distribution Accuracy Indicator	5.08
% of Present Demand being Met	3.43%	% Long Term Average Demand being Met	11.33%
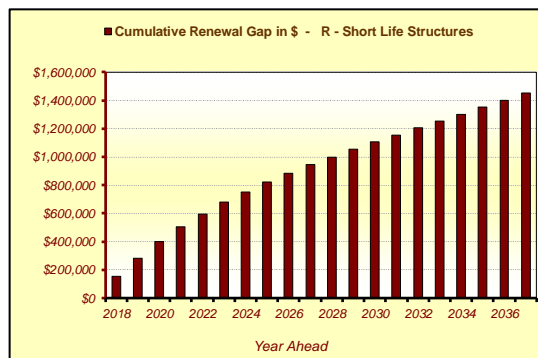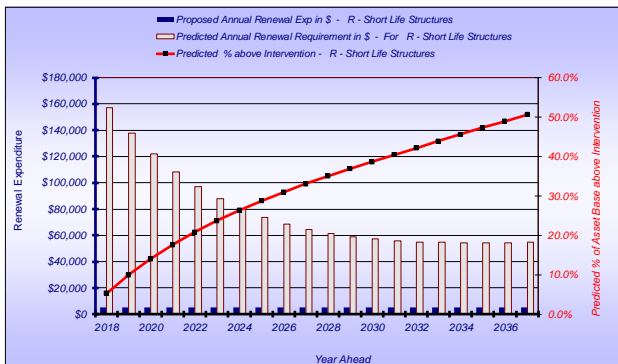
Asset Set Presently Displayed *R - Roof Cladding*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	11.27	33.80	23.94	0.00	2.82	26.76	1.41	0.00	0.00	0.00

0 Good - Condition - 10 Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$3,277	Present Annual Renewal Demand From Modelling	$96,237
Total Asset Group Quantity	71	Av Annual Renewal Demand (Long Term)	$41,690
Units	No	Av Unit Renewal Cost in $/Unit	23,487.12
Total Cost to Renew the Whole Asset Group in $	$1,667,585	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$827	Present Value of assets above Intervention	$23,487
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.45
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.34
Life to Condition 10 in Years	40.0	St Dev of Condition Distribution	12.88
Life in years to Intervention Level	32.8	Condition Distribution Accuracy Indicator	4.35
% of Present Demand being Met	3.40%	% Long Term Average Demand being Met	7.86%

Asset Set Presently Displayed *R - Mechanical Services*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	13.64	63.64	18.18	4.55	0.00	0.00	0.00	0.00	0.00	0.00

0 Good - Condition - 10 Poor
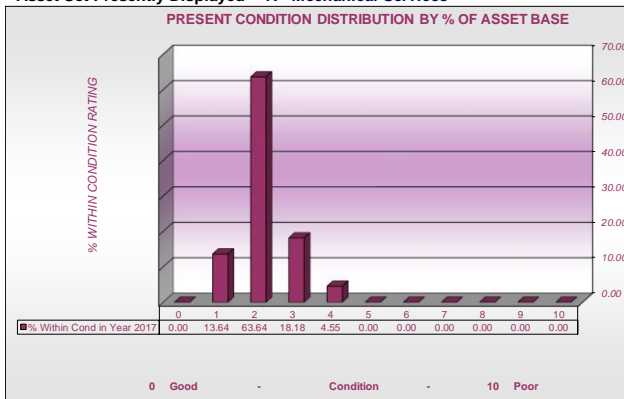
Table of Key Indicators

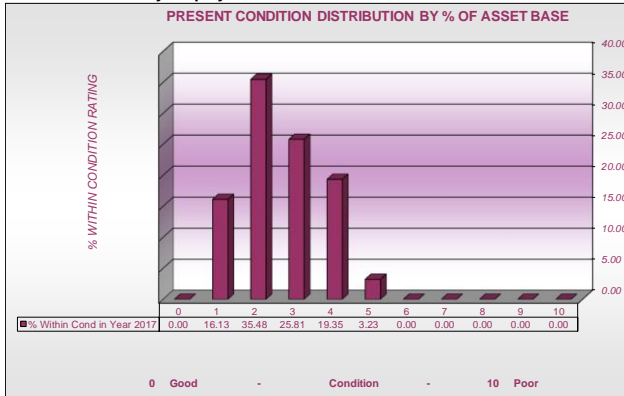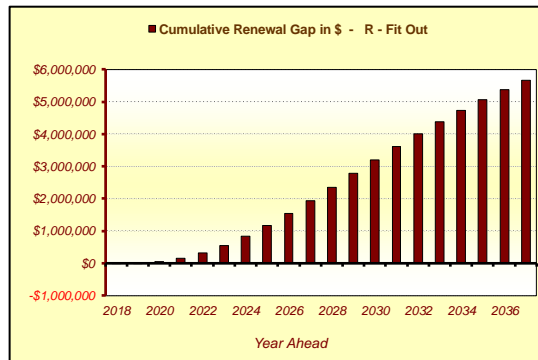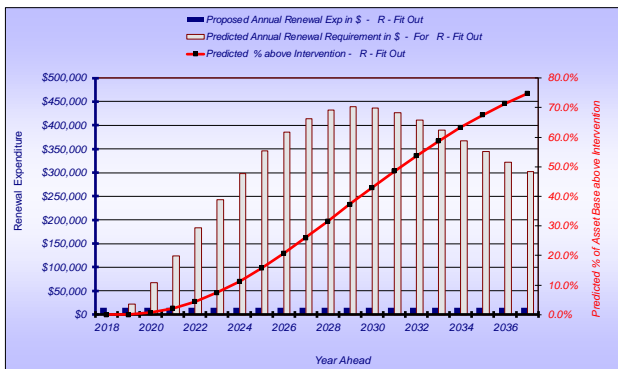|			
Present Annual Renewal Expenditure	$2,865	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	22	Av Annual Renewal Demand (Long Term)	$57,987
Units	No	Av Unit Renewal Cost in $/Unit	65,894.68
Total Cost to Renew the Whole Asset Group in $	$1,449,683	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$723	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.77
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.64
Life to Condition 10 in Years	25.0	St Dev of Condition Distribution	19.18
Life in years to Intervention Level	20.5	Condition Distribution Accuracy Indicator	12.20
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	4.94%
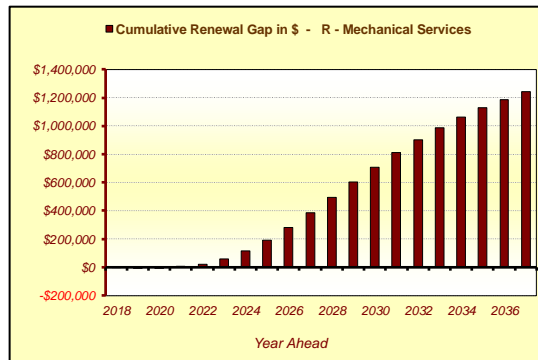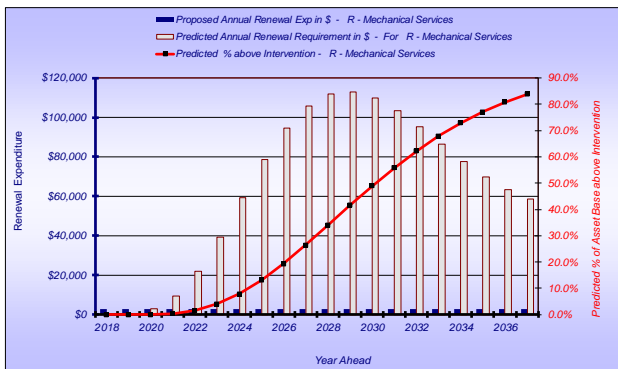
Asset Set Presently Displayed   *R - Fit Out*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

Condition	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	16.13	35.48	25.81	19.35	3.23	0.00	0.00	0.00	0.00	0.00

0 Good   -   Condition   -   10 Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$14,729	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	31	Av Annual Renewal Demand (Long Term)	$248,400
Units	No	Av Unit Renewal Cost in $/Unit	240,387.56
Total Cost to Renew the Whole Asset Group in $	$7,452,015	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$3,719	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.52
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.35
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	12.89
Life in years to Intervention Level	24.6	Condition Distribution Accuracy Indicator	4.57
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	5.93%

Asset Set Presently Displayed   *D - Long Life Structures*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

Condition	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	55.56	40.74	3.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0 Good   -   Condition   -   10 Poor
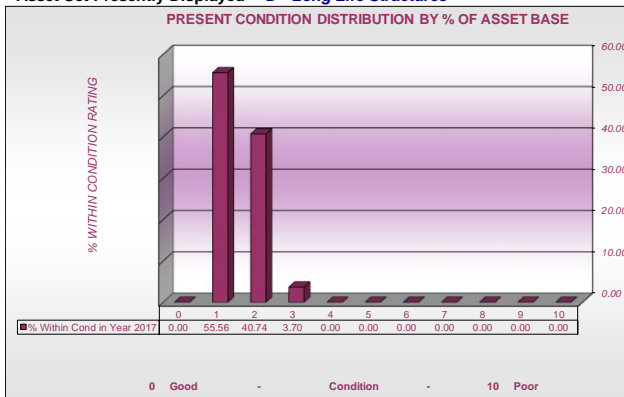
Table of Key Indicators

Present Annual Renewal Expenditure	$15,067	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	27	Av Annual Renewal Demand (Long Term)	$63,784
Units	No	Av Unit Renewal Cost in $/Unit	188,989.46
Total Cost to Renew the Whole Asset Group in $	$5,102,715	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$994	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.96
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.56
Life to Condition 10 in Years	80.0	St Dev of Condition Distribution	19.62
Life in years to Intervention Level	65.6	Condition Distribution Accuracy Indicator	10.90
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	23.62%
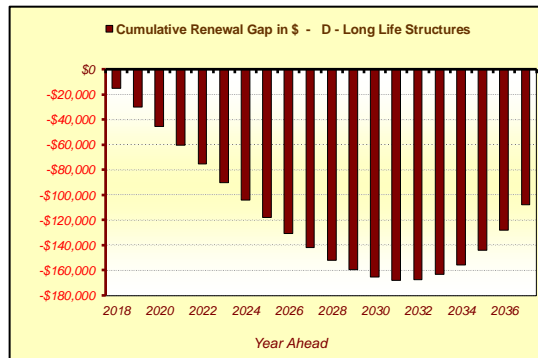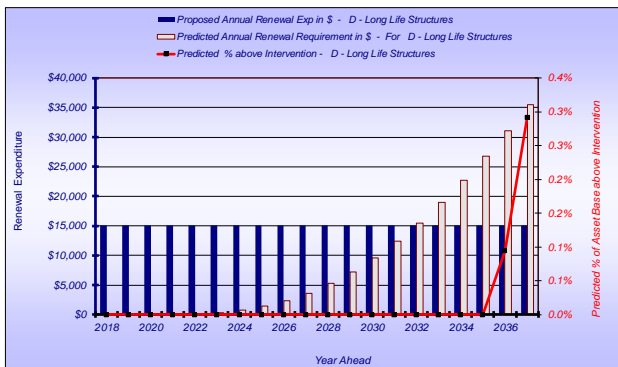
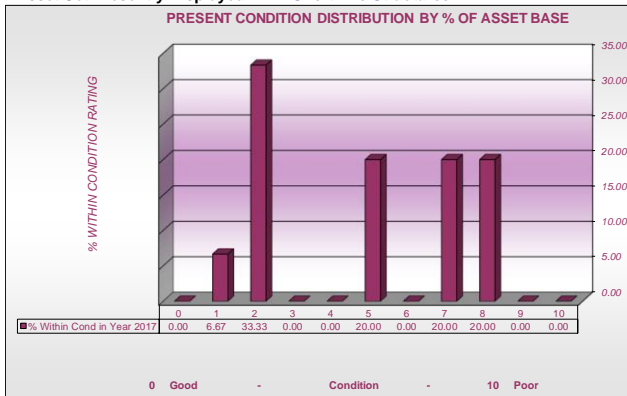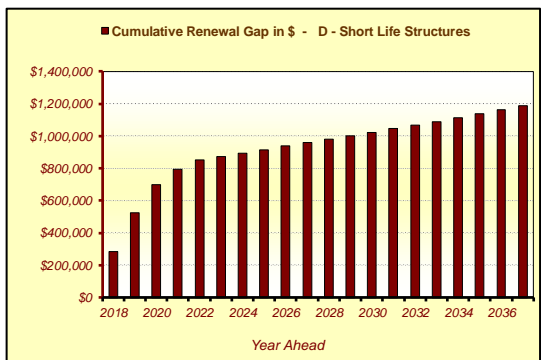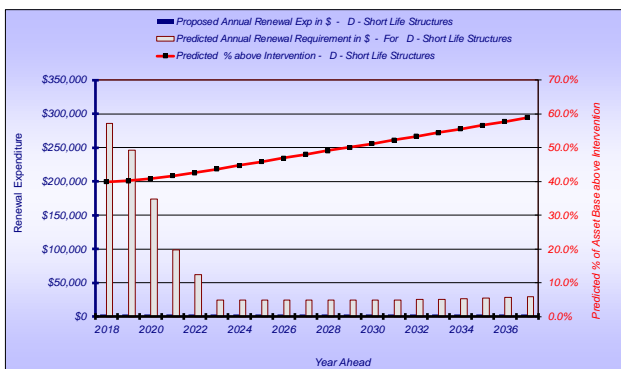**Asset Set Presently Displayed   *D - Short Life Structures***

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	6.67	33.33	0.00	0.00	20.00	0.00	20.00	20.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$3,053	Present Annual Renewal Demand From Modelling	$285,940
Total Asset Group Quantity	15	Av Annual Renewal Demand (Long Term)	$33,330
Units	No	Av Unit Renewal Cost in $/Unit	133,319.69
Total Cost to Renew the Whole Asset Group in $	$1,999,795	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$201	Present Value of assets above Intervention	$799,918
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.40
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.33
Life to Condition 10 in Years	60.0	St Dev of Condition Distribution	12.03
Life in years to Intervention Level	49.2	Condition Distribution Accuracy Indicator	4.01
% of Present Demand being Met	1.07%	% Long Term Average Demand being Met	9.16%

Asset Set Presently Displayed   *D - Roof Cladding*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	33.33	42.86	4.76	0.00	2.38	2.38	7.14	7.14	0.00	0.00

0   Good   -   Condition   -   10   Poor
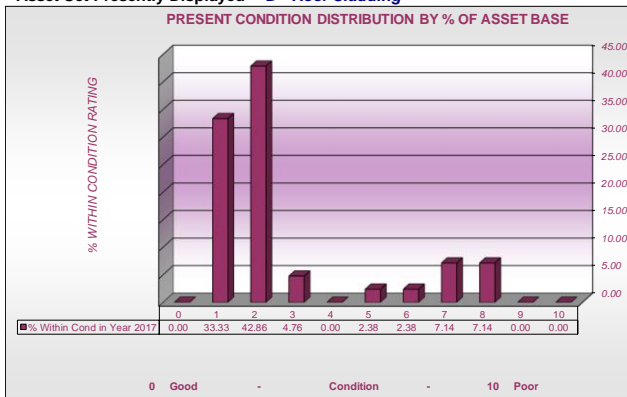
Table of Key Indicators

Present Annual Renewal Expenditure	$1,394	Present Annual Renewal Demand From Modelling	$30,274
Total Asset Group Quantity	42	Av Annual Renewal Demand (Long Term)	$13,659
Units	No	Av Unit Renewal Cost in $/Unit	13,008.26
Total Cost to Renew the Whole Asset Group in $	$546,347	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$92	Present Value of assets above Intervention	$78,050
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.76
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.43
Life to Condition 10 in Years	40.0	St Dev of Condition Distribution	14.75
Life in years to Intervention Level	32.8	Condition Distribution Accuracy Indicator	6.32
% of Present Demand being Met	4.60%	% Long Term Average Demand being Met	10.21%
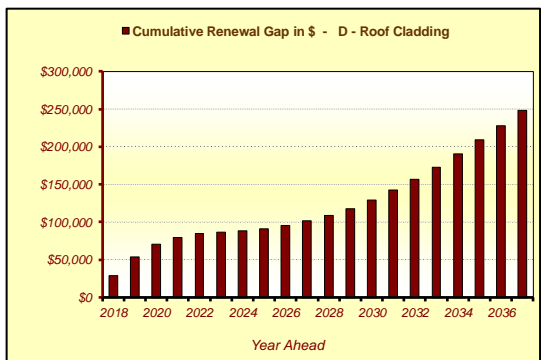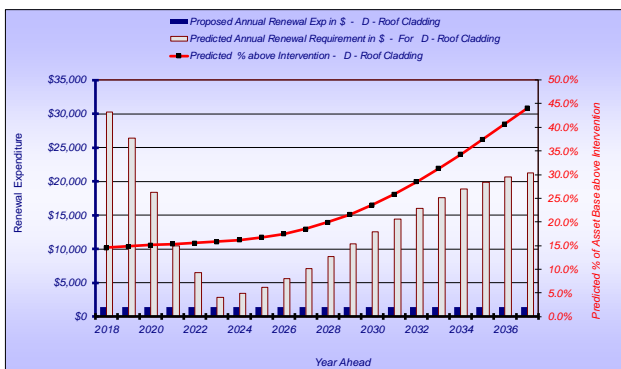
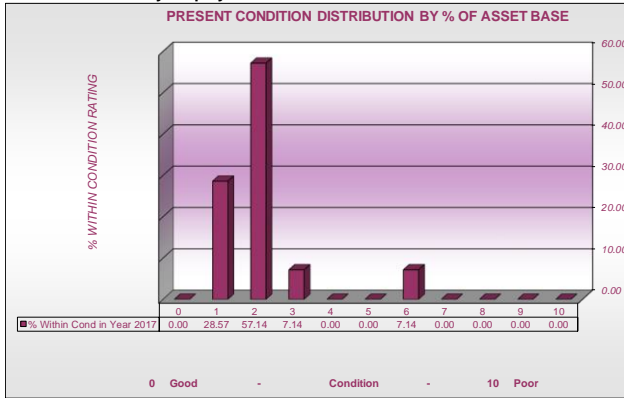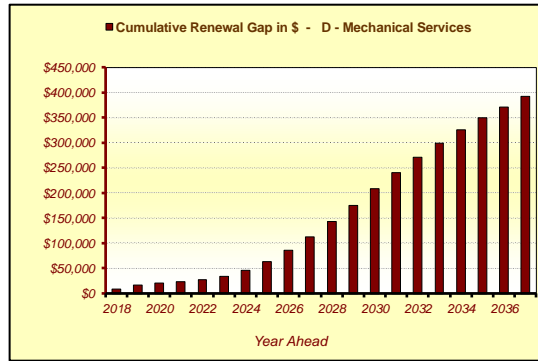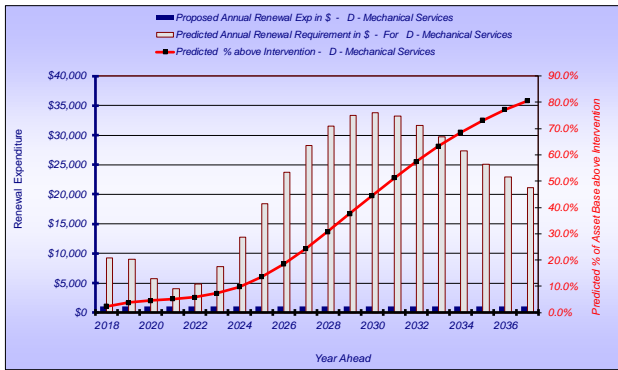**Asset Set Presently Displayed   *D - Mechanical Services***

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

0   Good   -   Condition   -   10   Poor

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	28.57	57.14	7.14	0.00	0.00	7.14	0.00	0.00	0.00	0.00

Table of Key Indicators

Present Annual Renewal Expenditure	$1,078	Present Annual Renewal Demand From Modelling	$9,231
Total Asset Group Quantity	28	Av Annual Renewal Demand (Long Term)	$18,617
Units	No	Av Unit Renewal Cost in $/Unit	16,621.98
Total Cost to Renew the Whole Asset Group in $	$465,415	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$71	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.86
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.57
Life to Condition 10 in Years	25.0	St Dev of Condition Distribution	18.10
Life in years to Intervention Level	20.5	Condition Distribution Accuracy Indicator	10.34
% of Present Demand being Met	11.67%	% Long Term Average Demand being Met	5.79%

Asset Set Presently Displayed   *D - Fit Out*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

0   Good   -   Condition   -   10   Poor

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	25.81	9.68	54.84	0.00	0.00	3.23	6.45	0.00	0.00	0.00
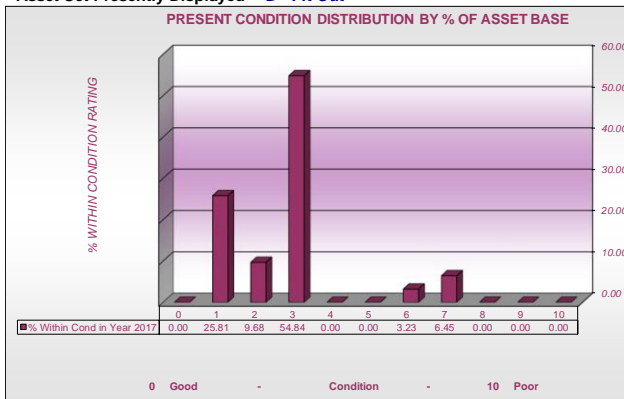
Table of Key Indicators

Present Annual Renewal Expenditure	$6,163	Present Annual Renewal Demand From Modelling	$76,023
Total Asset Group Quantity	31	Av Annual Renewal Demand (Long Term)	$83,275
Units	No	Av Unit Renewal Cost in $/Unit	80,589.08
Total Cost to Renew the Whole Asset Group in $	$2,498,261	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$407	Present Value of assets above Intervention	$161,178
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.35
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.55
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	17.06
Life in years to Intervention Level	24.6	Condition Distribution Accuracy Indicator	9.35
% of Present Demand being Met	8.11%	% Long Term Average Demand being Met	7.40%

L - Long Life Structures
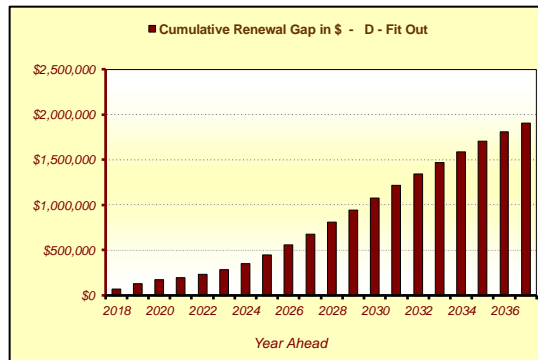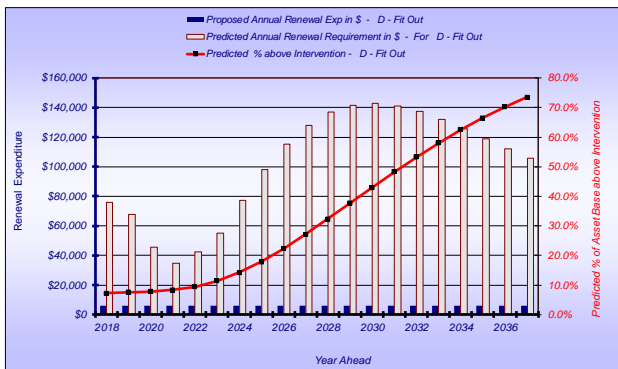
Asset Set Presently Displayed *L - Long Life Structures*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	0.00	60.00	20.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00

0   Good   -   Condition   -   10   Poor
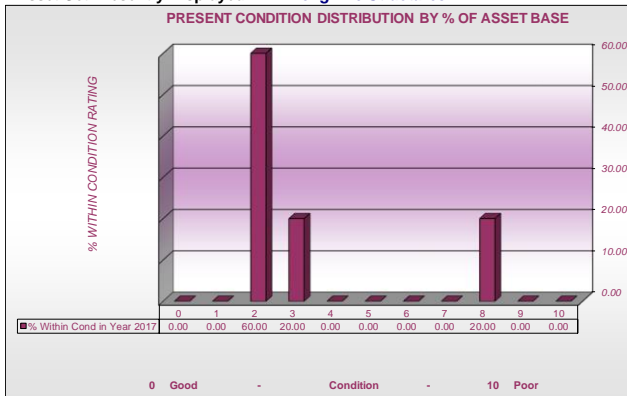
Table of Key Indicators

Present Annual Renewal Expenditure	$404	Present Annual Renewal Demand From Modelling	$134,280
Total Asset Group Quantity	5	Av Annual Renewal Demand (Long Term)	$23,979
Units	No	Av Unit Renewal Cost in $/Unit	383,658.30
Total Cost to Renew the Whole Asset Group in $	$1,918,292	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$104	Present Value of assets above Intervention	$383,658
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.60
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.60
Life to Condition 10 in Years	80.0	St Dev of Condition Distribution	18.68
Life in years to Intervention Level	65.6	Condition Distribution Accuracy Indicator	11.21
% of Present Demand being Met	0.30%	% Long Term Average Demand being Met	1.69%

Cumulative Renewal Gap in $ - L - Long Life Structures

L - Short Life Structures
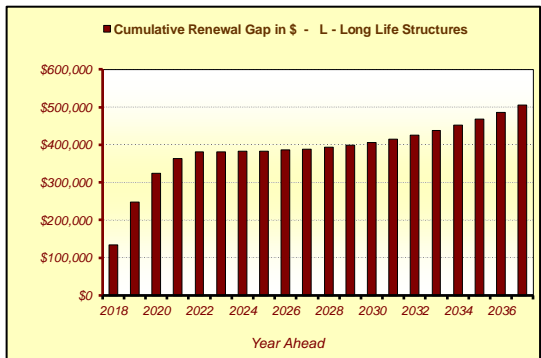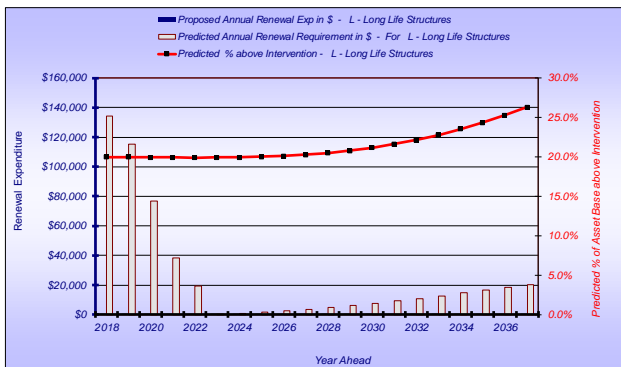
Asset Set Presently Displayed *L - Short Life Structures*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	0.00	42.86	0.00	14.29	14.29	0.00	14.29	14.29	0.00	0.00

0   Good   -   Condition   -   10   Poor
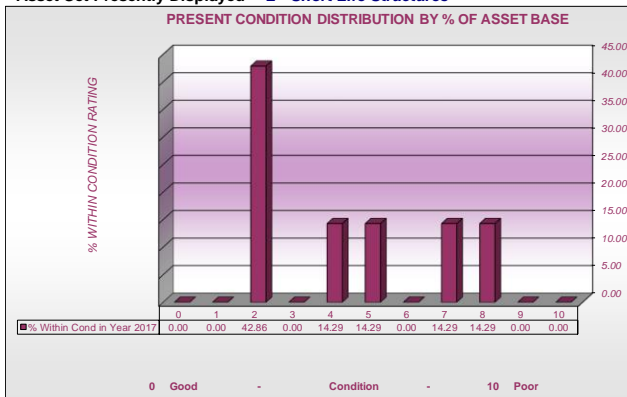
Table of Key Indicators

Present Annual Renewal Expenditure	$128	Present Annual Renewal Demand From Modelling	$66,270
Total Asset Group Quantity	7	Av Annual Renewal Demand (Long Term)	$10,815
Units	No	Av Unit Renewal Cost in $/Unit	92,695.80
Total Cost to Renew the Whole Asset Group in $	$648,871	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$33	Present Value of assets above Intervention	$185,392
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.43
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.43
Life to Condition 10 in Years	60.0	St Dev of Condition Distribution	13.21
Life in years to Intervention Level	49.2	Condition Distribution Accuracy Indicator	5.66
% of Present Demand being Met	0.19%	% Long Term Average Demand being Met	1.18%

Cumulative Renewal Gap in $ - L - Short Life Structures
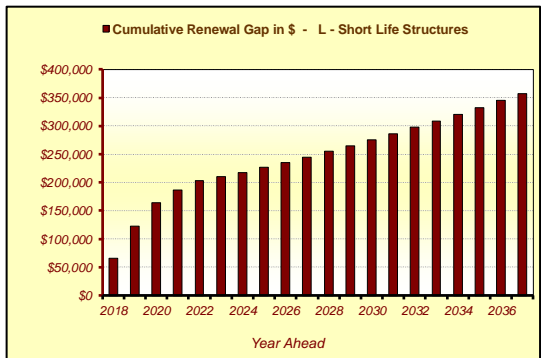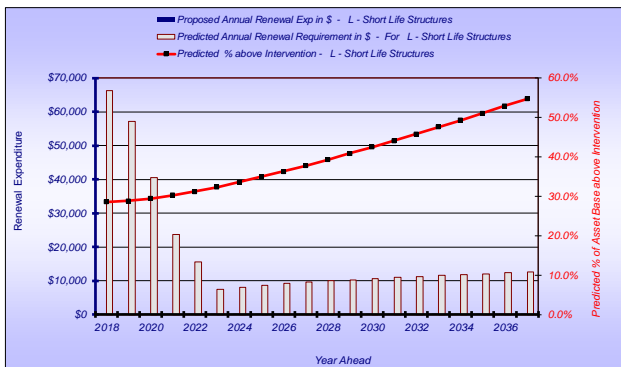
Asset Set Presently Displayed   L - Roof Cladding

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	8.33	25.00	0.00	16.67	16.67	16.67	0.00	16.67	0.00	0.00

0   Good   -   Condition   -   10   Poor
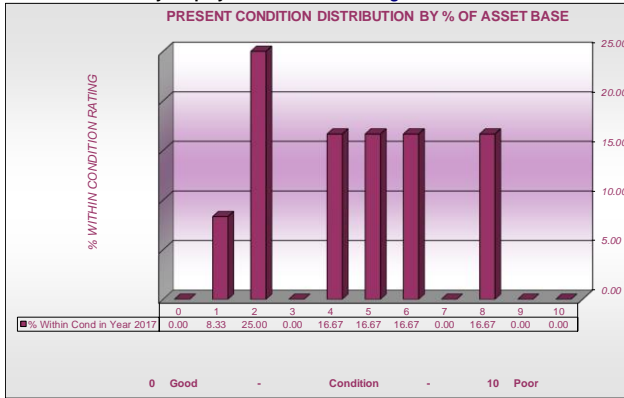
Table of Key Indicators

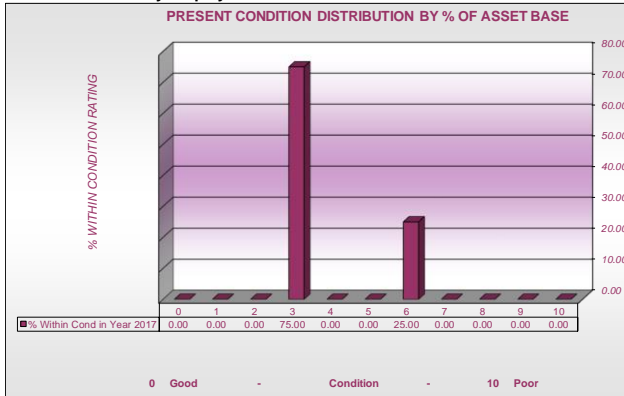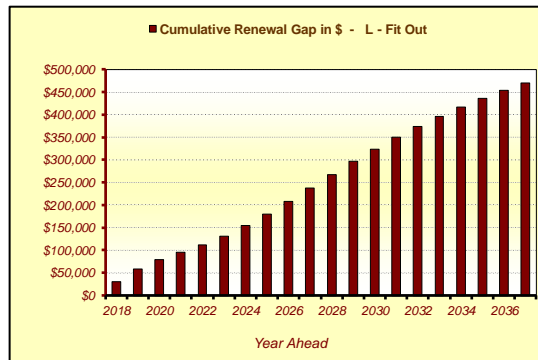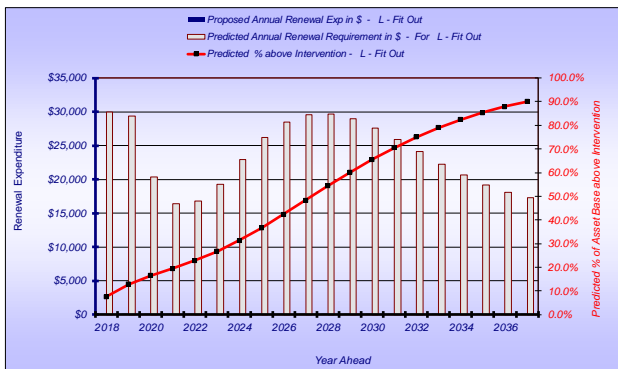|			
Present Annual Renewal Expenditure	$41	Present Annual Renewal Demand From Modelling	$18,999
Total Asset Group Quantity	12	Av Annual Renewal Demand (Long Term)	$4,937
Units	No	Av Unit Renewal Cost in $/Unit	16,456.17
Total Cost to Renew the Whole Asset Group in $	$197,474	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$10	Present Value of assets above Intervention	$32,912
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.33
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	40.0	St Dev of Condition Distribution	9.47
Life in years to Intervention Level	32.8	Condition Distribution Accuracy Indicator	2.37
% of Present Demand being Met	0.22%	% Long Term Average Demand being Met	0.83%
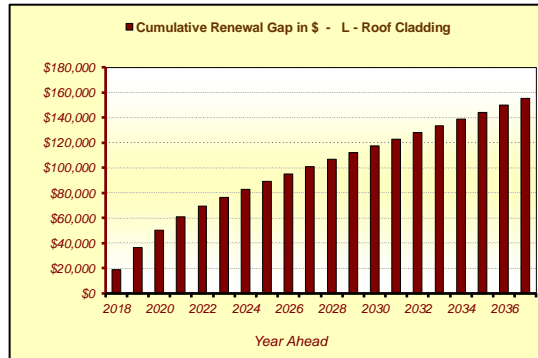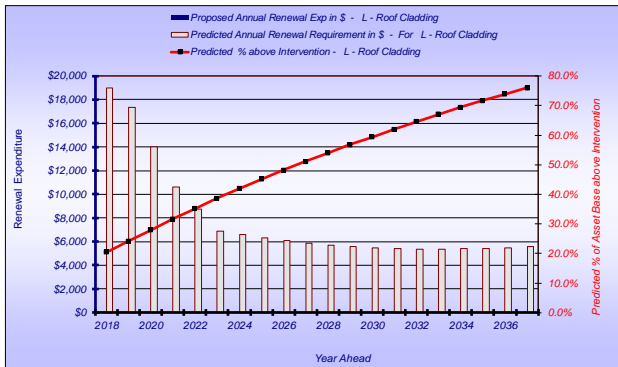
Asset Set Presently Displayed   L - Mechanical Services

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	0.00	0.00	75.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00

0   Good   -   Condition   -   10   Poor
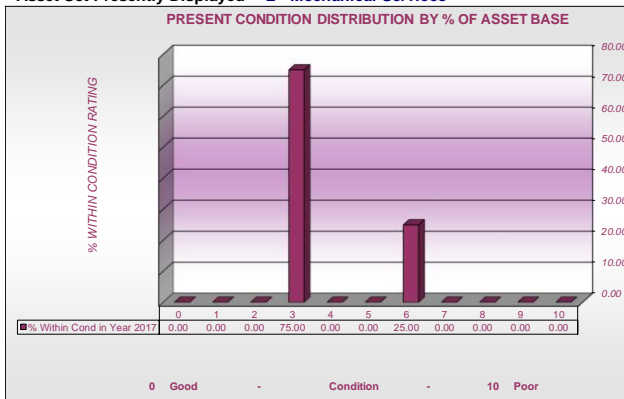
Table of Key Indicators

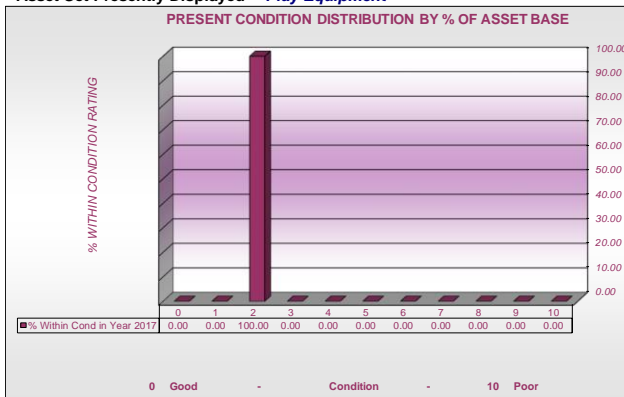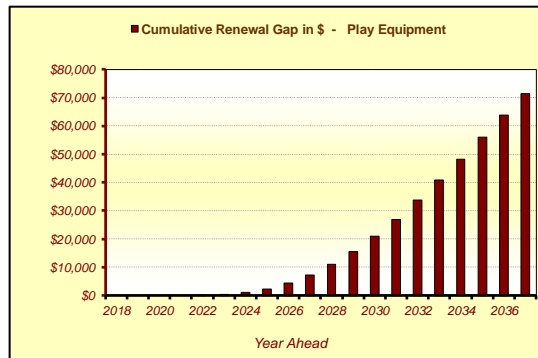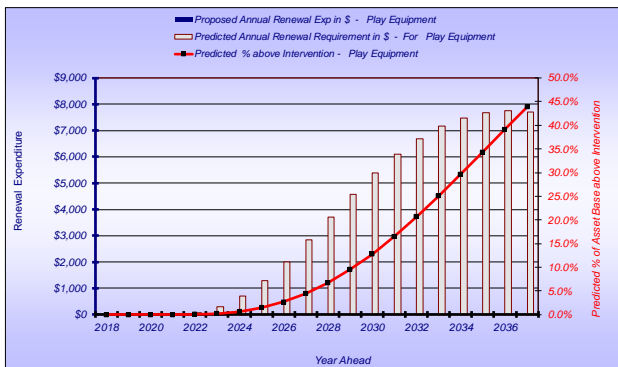|			
Present Annual Renewal Expenditure	$31	Present Annual Renewal Demand From Modelling	$10,077
Total Asset Group Quantity	4	Av Annual Renewal Demand (Long Term)	$5,806
Units	No	Av Unit Renewal Cost in $/Unit	36,287.46
Total Cost to Renew the Whole Asset Group in $	$145,150	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$8	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.00
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.75
Life to Condition 10 in Years	25.0	St Dev of Condition Distribution	23.11
Life in years to Intervention Level	20.5	Condition Distribution Accuracy Indicator	17.33
% of Present Demand being Met	0.30%	% Long Term Average Demand being Met	0.53%

Asset Set Presently Displayed   *L - Fit Out*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	0.00	0.00	75.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$104	Present Annual Renewal Demand From Modelling	$29,918
Total Asset Group Quantity	4	Av Annual Renewal Demand (Long Term)	$16,393
Units	No	Av Unit Renewal Cost in $/Unit	122,946.94
Total Cost to Renew the Whole Asset Group in $	$491,788	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$27	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.00
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.75
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	23.11
Life in years to Intervention Level	24.6	Condition Distribution Accuracy Indicator	17.33
% of Present Demand being Met	0.35%	% Long Term Average Demand being Met	0.63%

Asset Set Presently Displayed   *Play Equipment*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

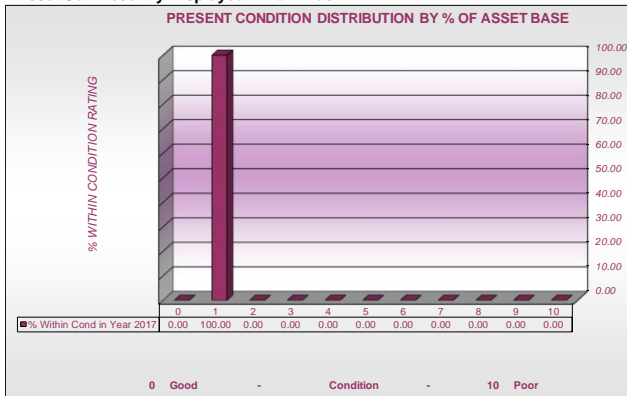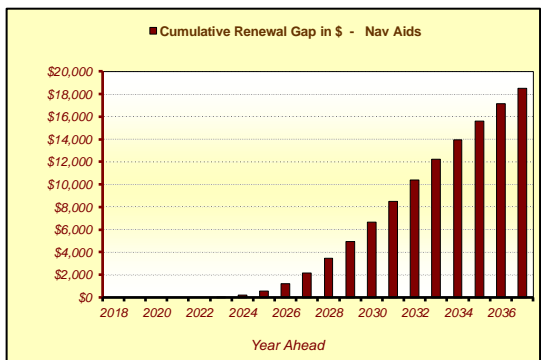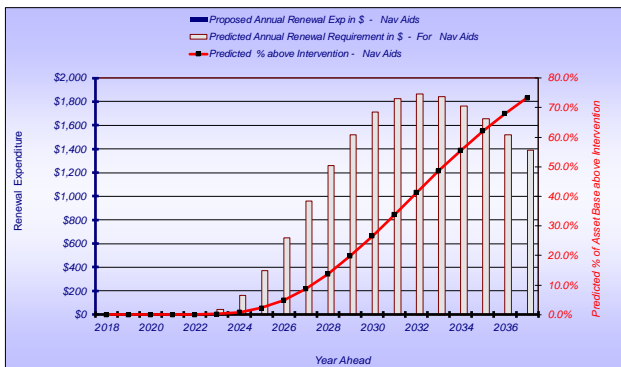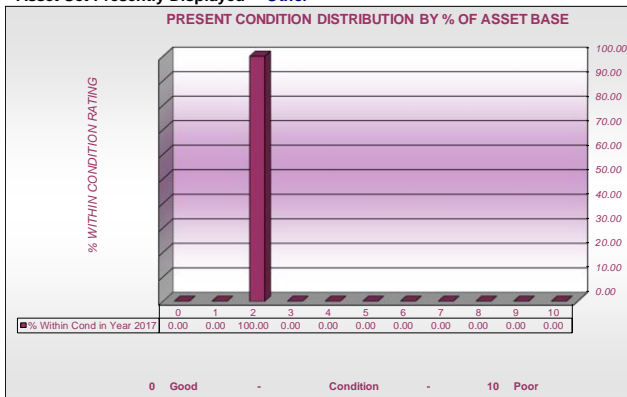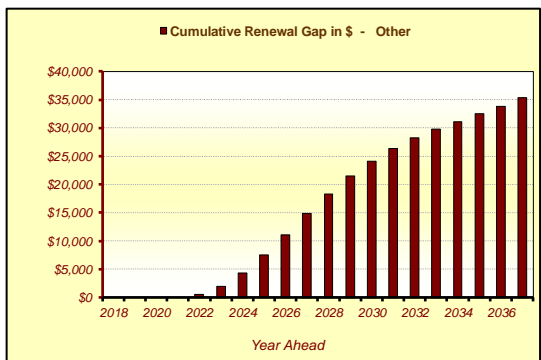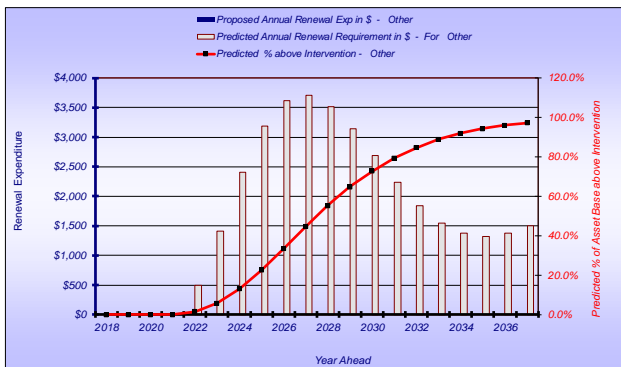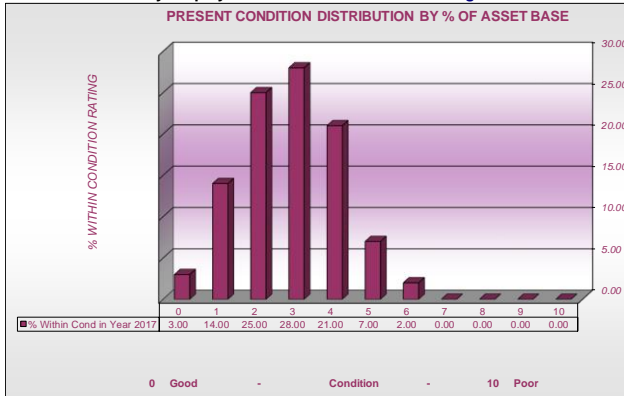|			
Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	12	Av Annual Renewal Demand (Long Term)	$4,070
Units	No	Av Unit Renewal Cost in $/Unit	13,567.50
Total Cost to Renew the Whole Asset Group in $	$162,810	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$2,300	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	1.00
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	1.00
Life to Condition 10 in Years	40.0	St Dev of Condition Distribution	30.15
Life in years to Intervention Level	32.8	Condition Distribution Accuracy Indicator	30.15
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	0.00%

Asset Set Presently Displayed   *Nav Aids*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

0   Good   -   Condition   -   10   Poor

| % Within Cond in Year 2017 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

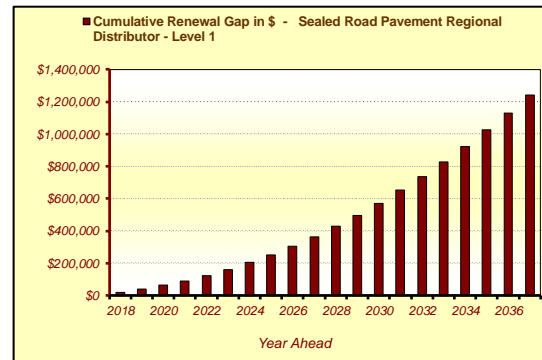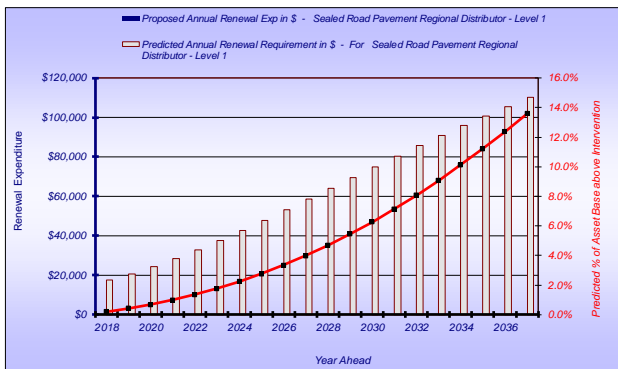**Table of Key Indicators**

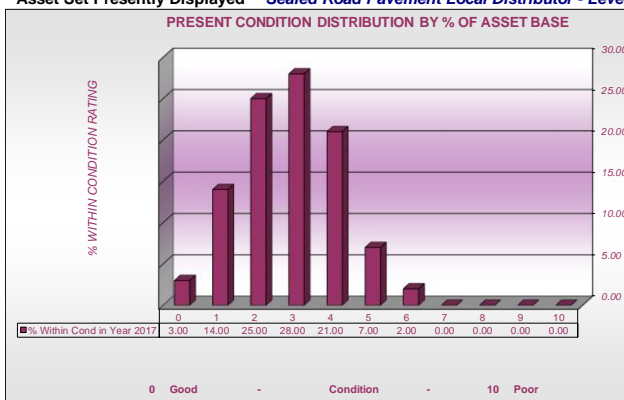|			
Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	2	Av Annual Renewal Demand (Long Term)	$1,005
Units	No	Av Unit Renewal Cost in $/Unit	12,562.50
Total Cost to Renew the Whole Asset Group in $	$25,125	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$1,580	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	1.00
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	1.00
Life to Condition 10 in Years	25.0	St Dev of Condition Distribution	30.15
Life in years to Intervention Level	20.5	Condition Distribution Accuracy Indicator	30.15
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	0.00%

Asset Set Presently Displayed   *Other*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

0   Good   -   Condition   -   10   Poor

| % Within Cond in Year 2017 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Table of Key Indicators

Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	2	Av Annual Renewal Demand (Long Term)	$1,658
Units	No	Av Unit Renewal Cost in $/Unit	16,582.50
Total Cost to Renew the Whole Asset Group in $	$33,165	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	1.00
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	1.00
Life to Condition 10 in Years	20.0	St Dev of Condition Distribution	30.15
Life in years to Intervention Level	16.4	Condition Distribution Accuracy Indicator	30.15
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	0.00%

Asset Set Presently Displayed   *Sealed Road Pavement Regional Distributor - Level* | **Table of Key Indicators**
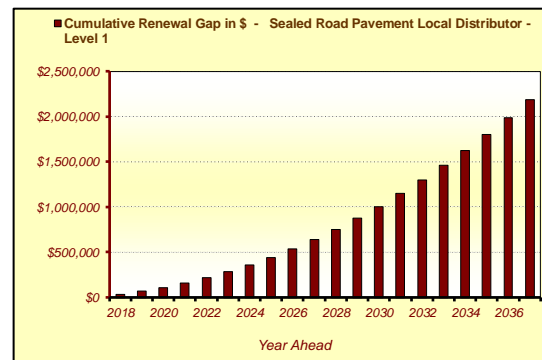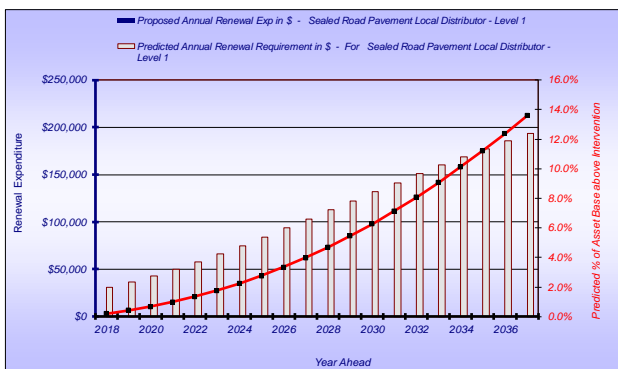
PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
■ % Within Cond in Year 2017	3.00	14.00	25.00	28.00	21.00	7.00	2.00	0.00	0.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$17,557
Total Asset Group Quantity	456,479	Av Annual Renewal Demand (Long Term)	$114,120
Units	sqm	Av Unit Renewal Cost in $/Unit	20.00
Total Cost to Renew the Whole Asset Group in $	$9,129,580	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.42
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.28
Life to Condition 10 in Years	80.0	St Dev of Condition Distribution	10.95
Life in years to Intervention Level	69.6	Condition Distribution Accuracy Indicator	3.07
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%

Asset Set Presently Displayed   *Sealed Road Pavement Local Distributor - Level 1* | **Table of Key Indicators**
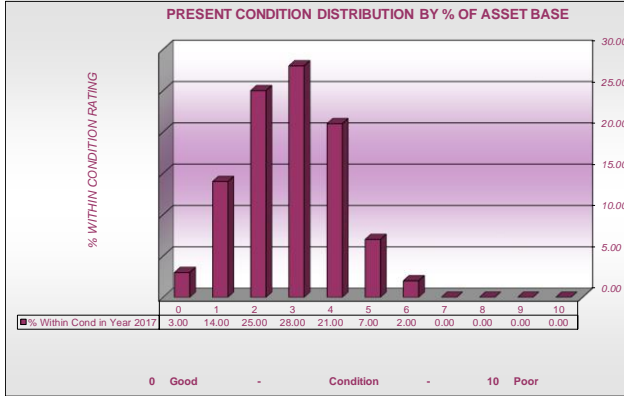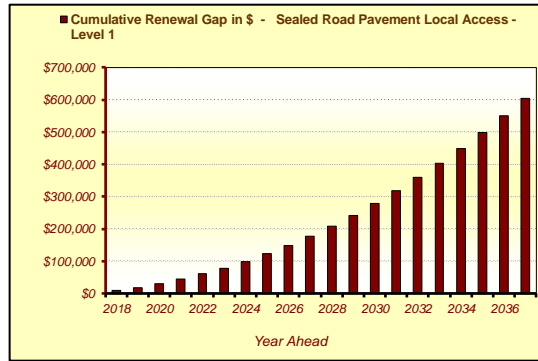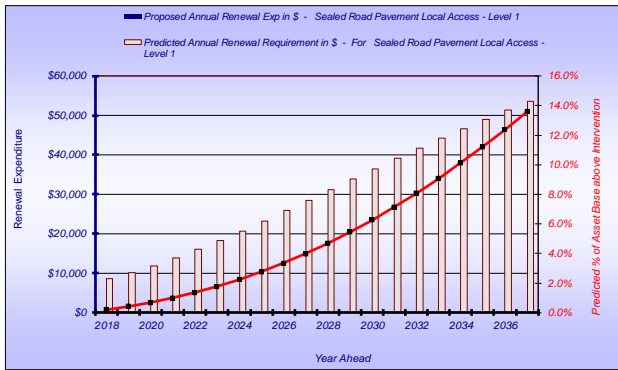
PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
■ % Within Cond in Year 2017	3.00	14.00	25.00	28.00	21.00	7.00	2.00	0.00	0.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$30,920
Total Asset Group Quantity	803,910	Av Annual Renewal Demand (Long Term)	$200,978
Units	sqm	Av Unit Renewal Cost in $/Unit	20.00
Total Cost to Renew the Whole Asset Group in $	$16,078,200	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.42
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.28
Life to Condition 10 in Years	80.0	St Dev of Condition Distribution	10.95
Life in years to Intervention Level	69.6	Condition Distribution Accuracy Indicator	3.07
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%

Asset Set Presently Displayed *Sealed Road Pavement Local Access - Level 1*
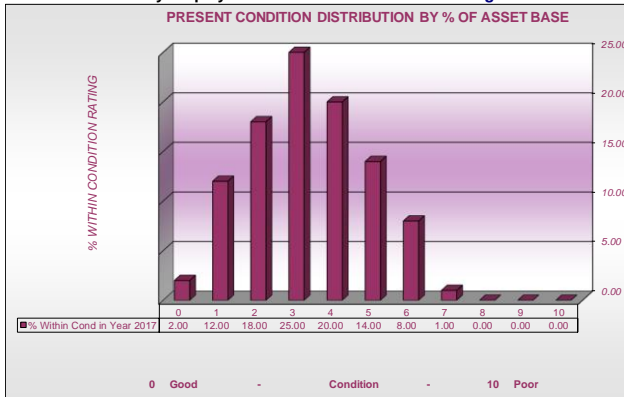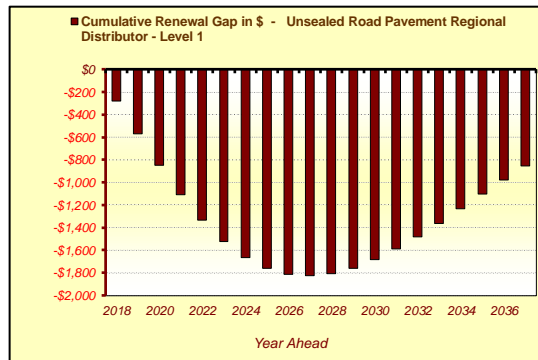
PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	3.00	14.00	25.00	28.00	21.00	7.00	2.00	0.00	0.00	0.00	0.00

0 Good - Condition - 10 Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$8,545
Total Asset Group Quantity	222,173	Av Annual Renewal Demand (Long Term)	$55,543
Units	sqm	Av Unit Renewal Cost in $/Unit	20.00
Total Cost to Renew the Whole Asset Group in $	$4,443,460	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.42
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.28
Life to Condition 10 in Years	80.0	St Dev of Condition Distribution	10.95
Life in years to Intervention Level	69.6	Condition Distribution Accuracy Indicator	3.07
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%

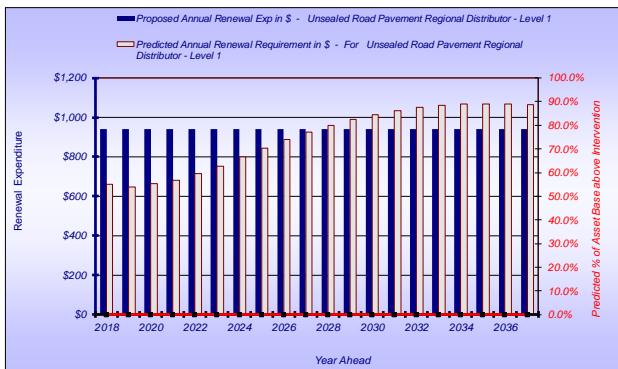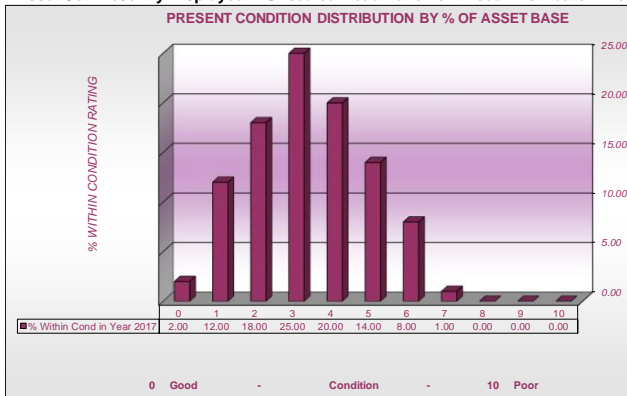## Asset Set Presently Displayed *Unsealed Road Pavement Regional Distributor - Le*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	2.00	12.00	18.00	25.00	20.00	14.00	8.00	1.00	0.00	0.00	0.00

0 Good - Condition - 10 Poor

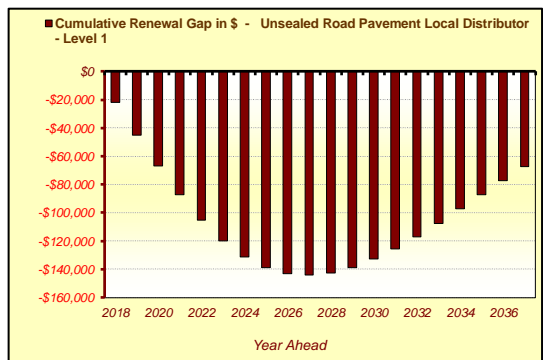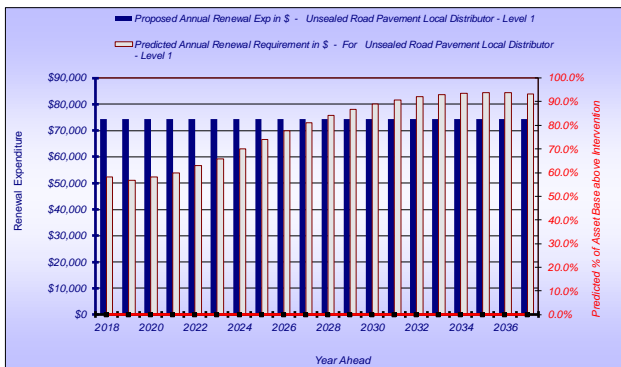### Table of Key Indicators

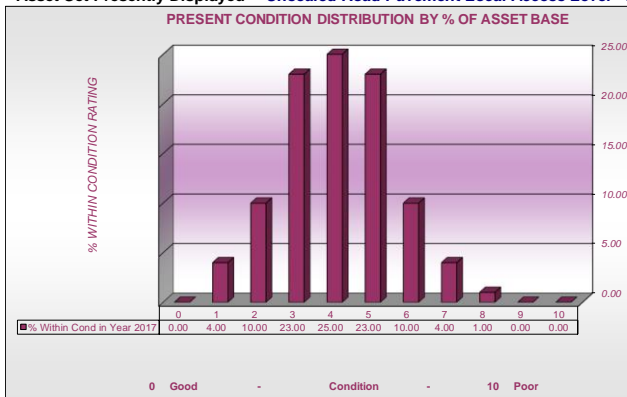|			
Present Annual Renewal Expenditure	$941	Present Annual Renewal Demand From Modelling	$662
Total Asset Group Quantity	6,726	Av Annual Renewal Demand (Long Term)	$841
Units	sqm	Av Unit Renewal Cost in $/Unit	5.00
Total Cost to Renew the Whole Asset Group in $	$33,630	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$951	Present Value of assets above Intervention	$336
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.32
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	40.0	St Dev of Condition Distribution	9.21
Life in years to Intervention Level	34.8	Condition Distribution Accuracy Indicator	2.30
% of Present Demand being Met	142.02%	% Long Term Average Demand being Met	111.89%

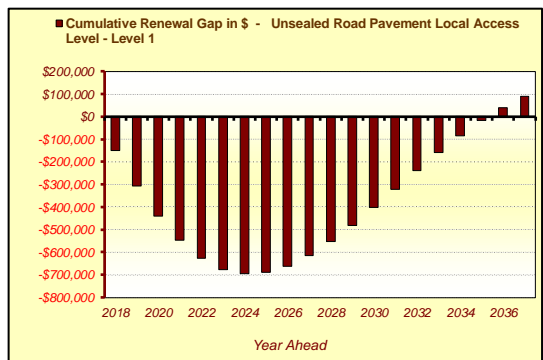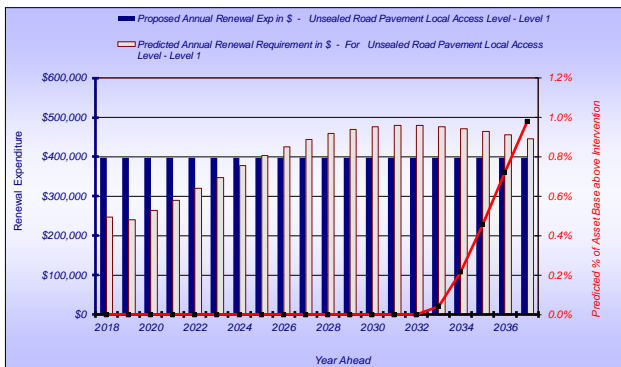## Asset Set Presently Displayed — *Unsealed Road Pavement Local Distributor - Level 1*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	2.00	12.00	18.00	25.00	20.00	14.00	8.00	1.00	0.00	0.00	0.00

0 Good - Condition - 10 Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$74,255	Present Annual Renewal Demand From Modelling	$52,284
Total Asset Group Quantity	530,916	Av Annual Renewal Demand (Long Term)	$66,365
Units	sqm	Av Unit Renewal Cost in $/Unit	5.00
Total Cost to Renew the Whole Asset Group in $	$2,654,582	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$75,077	Present Value of assets above Intervention	$26,546
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.32
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	40.0	St Dev of Condition Distribution	9.21
Life in years to Intervention Level	34.8	Condition Distribution Accuracy Indicator	2.30
% of Present Demand being Met	142.02%	% Long Term Average Demand being Met	111.89%

Asset Set Presently Displayed — *Unsealed Road Pavement Local Access Level - Level 1*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	4.00	10.00	23.00	25.00	23.00	10.00	4.00	1.00	0.00	0.00

0 Good - Condition - 10 Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$397,571	Present Annual Renewal Demand From Modelling	$246,840
Total Asset Group Quantity	2,842,602	Av Annual Renewal Demand (Long Term)	$355,325
Units	sqm	Av Unit Renewal Cost in $/Unit	5.00
Total Cost to Renew the Whole Asset Group in $	$14,213,012	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$401,972	Present Value of assets above Intervention	$142,130
Retreatment Intervention Condition Level	8	% at & Under Cond 2 (%In Excellent Cond)	0.14
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	40.0	St Dev of Condition Distribution	10.03
Life in years to Intervention Level	38.0	Condition Distribution Accuracy Indicator	2.51
% of Present Demand being Met	161.06%	% Long Term Average Demand being Met	111.89%

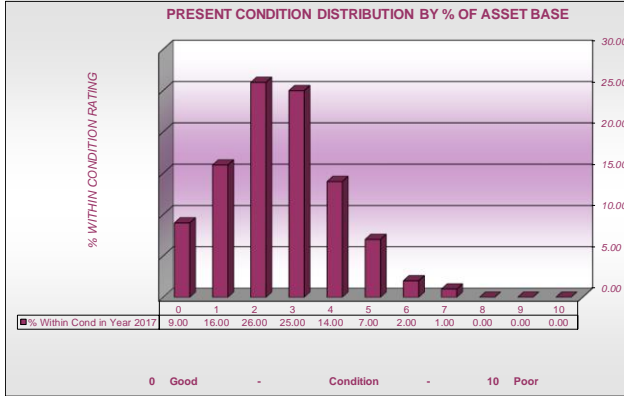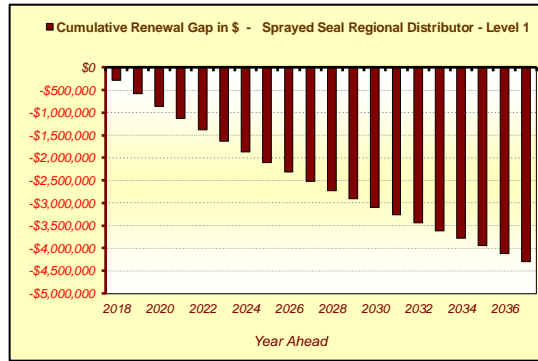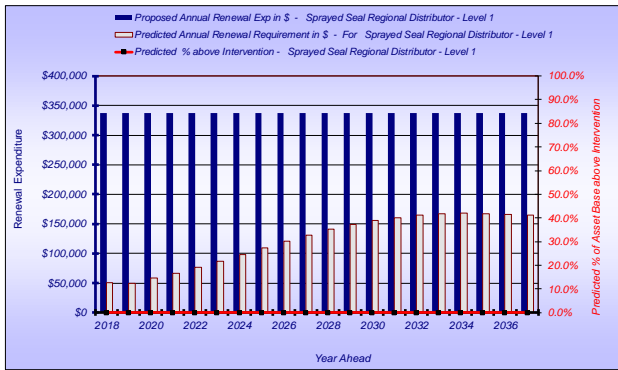**Asset Set Presently Displayed**   *Sprayed Seal Regional Distributor - Level 1*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	9.00	16.00	26.00	25.00	14.00	7.00	2.00	1.00	0.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$337,167	Present Annual Renewal Demand From Modelling	$50,669
Total Asset Group Quantity	456,479	Av Annual Renewal Demand (Long Term)	$136,944
Units	sqm	Av Unit Renewal Cost in $/Unit	9.00
Total Cost to Renew the Whole Asset Group in $	$4,108,311	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$19,601	Present Value of assets above Intervention	$41,083
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.51
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.26
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	9.89
Life in years to Intervention Level	28.2	Condition Distribution Accuracy Indicator	2.57
% of Present Demand being Met	665.43%	% Long Term Average Demand being Met	246.21%

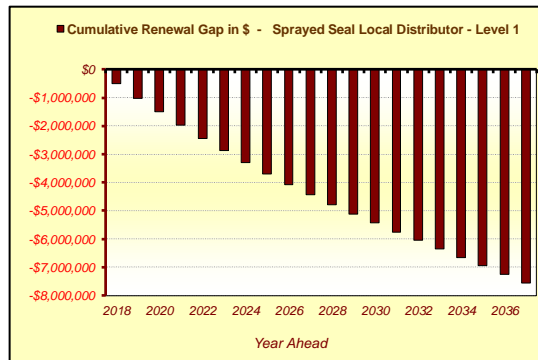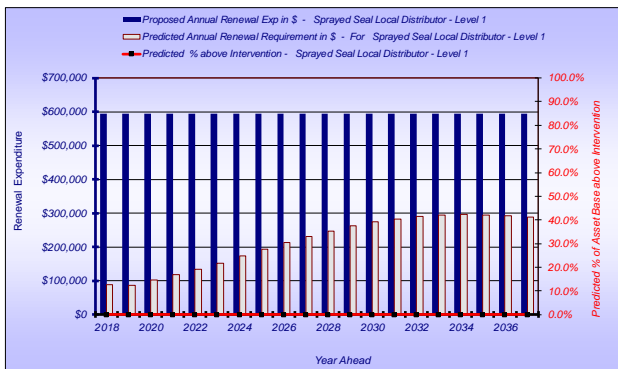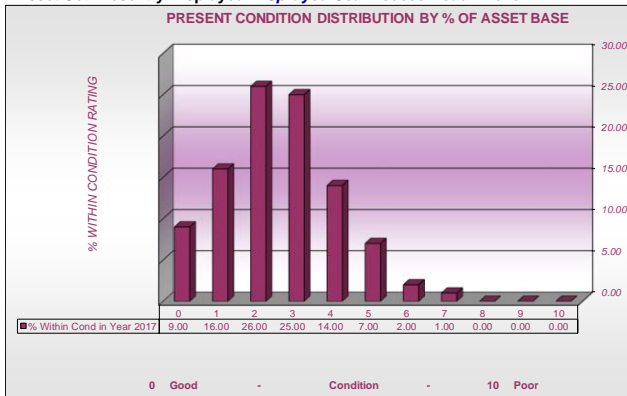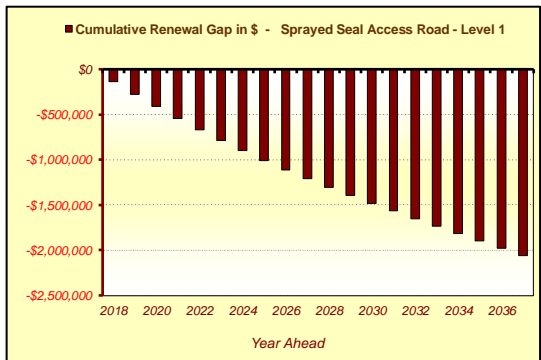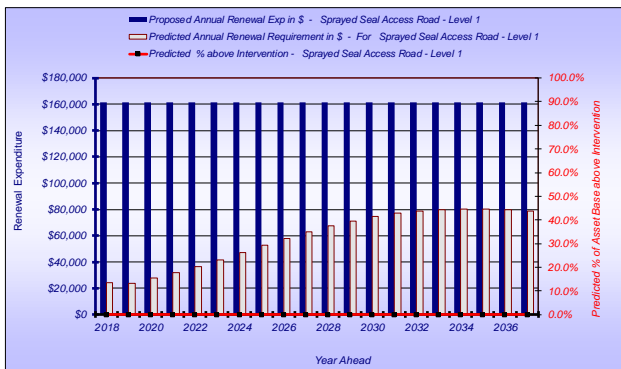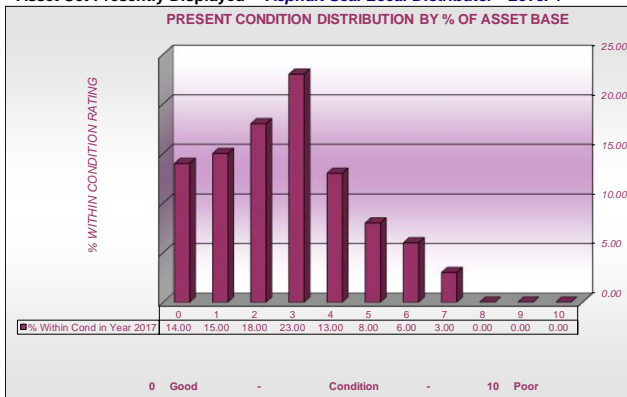**Asset Set Presently Displayed**   *Sprayed Seal Local Distributor - Level 1*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	9.00	16.00	26.00	25.00	14.00	7.00	2.00	1.00	0.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$593,443	Present Annual Renewal Demand From Modelling	$89,182
Total Asset Group Quantity	803,442	Av Annual Renewal Demand (Long Term)	$241,033
Units	sqm	Av Unit Renewal Cost in $/Unit	9.00
Total Cost to Renew the Whole Asset Group in $	$7,230,978	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$34,499	Present Value of assets above Intervention	$72,310
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.51
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.26
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	9.89
Life in years to Intervention Level	28.2	Condition Distribution Accuracy Indicator	2.57
% of Present Demand being Met	665.43%	% Long Term Average Demand being Met	246.21%

Asset Set Presently Displayed *Sprayed Seal Access Road - Level 1*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	9.00	16.00	26.00	25.00	14.00	7.00	2.00	1.00	0.00	0.00	0.00

0 Good - Condition - 10 Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$161,707	Present Annual Renewal Demand From Modelling	$24,301
Total Asset Group Quantity	218,930	Av Annual Renewal Demand (Long Term)	$65,679
Units	sqm	Av Unit Renewal Cost in $/Unit	9.00
Total Cost to Renew the Whole Asset Group in $	$1,970,370	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$9,401	Present Value of assets above Intervention	$19,704
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.51
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.26
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	9.89
Life in years to Intervention Level	28.2	Condition Distribution Accuracy Indicator	2.57
% of Present Demand being Met	665.43%	% Long Term Average Demand being Met	246.21%

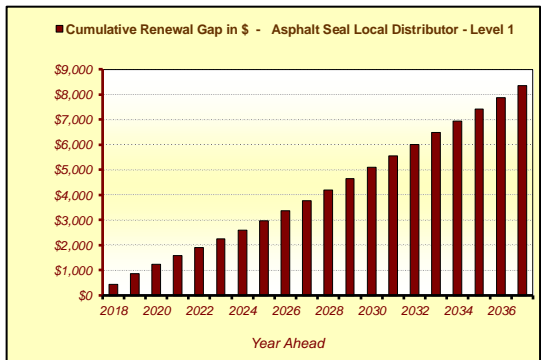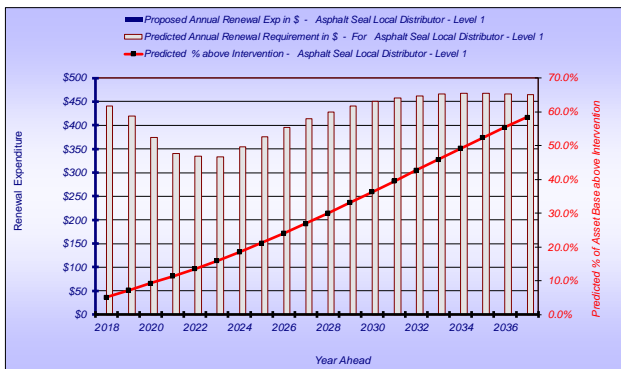**Asset Set Presently Displayed** *Asphalt Seal Local Distributor - Level 1*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	14.00	15.00	18.00	23.00	13.00	8.00	6.00	3.00	0.00	0.00	0.00

0 Good - Condition - 10 Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$441
Total Asset Group Quantity	468	Av Annual Renewal Demand (Long Term)	$401
Units	sqm	Av Unit Renewal Cost in $/Unit	30.00
Total Cost to Renew the Whole Asset Group in $	$14,040	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$421
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.47
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.23
Life to Condition 10 in Years	35.0	St Dev of Condition Distribution	8.02
Life in years to Intervention Level	32.2	Condition Distribution Accuracy Indicator	1.84
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%

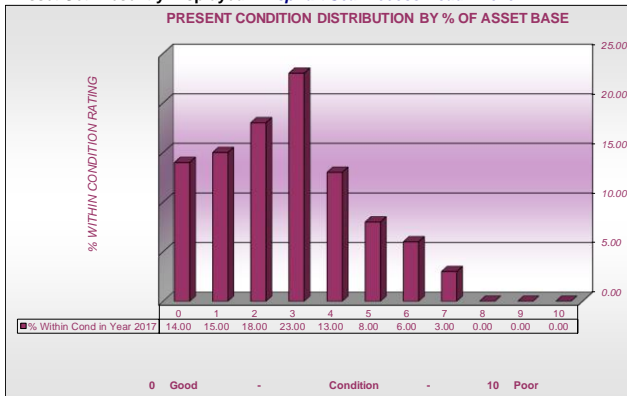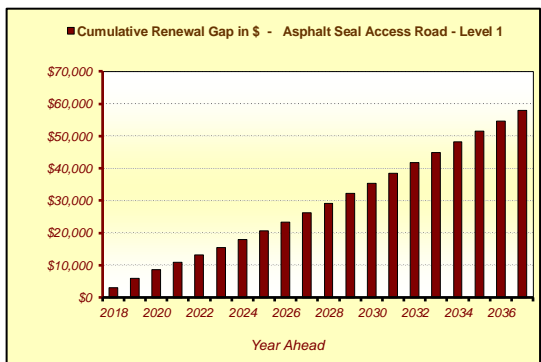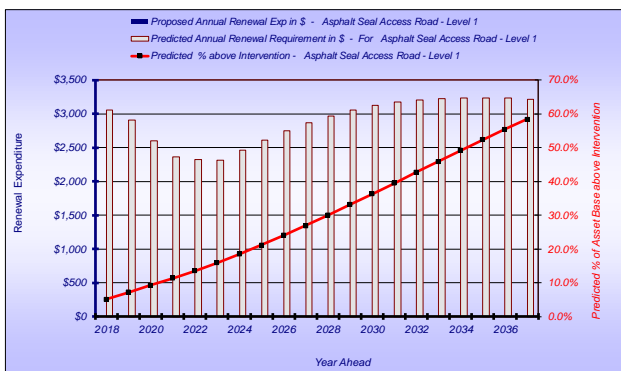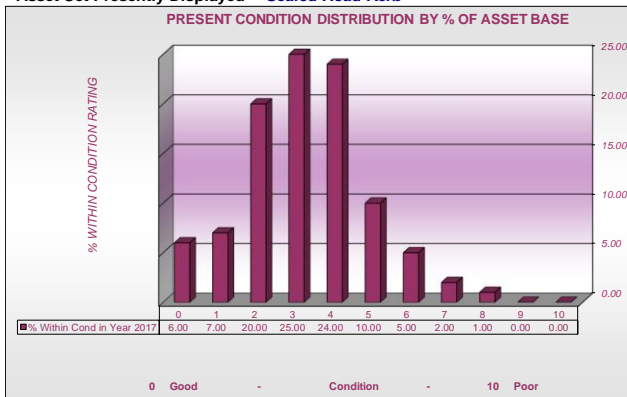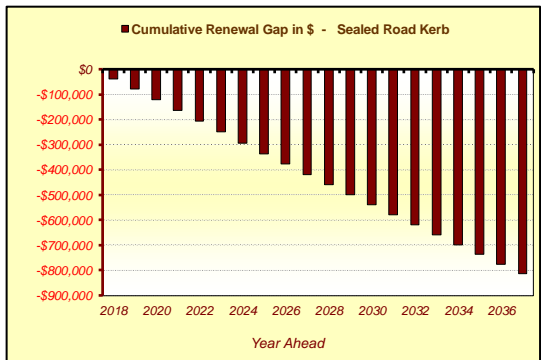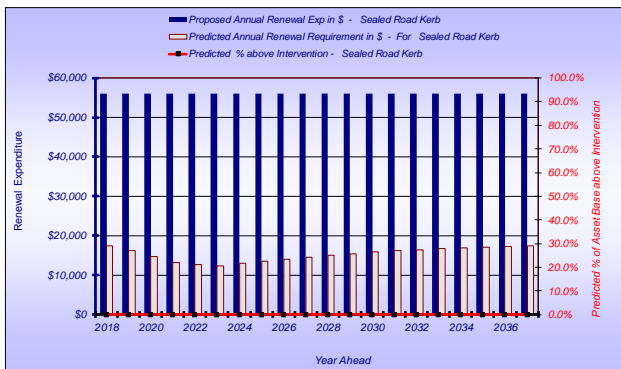**Asset Set Presently Displayed**   *Asphalt Seal Access Road - Level 1*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

% Within Cond in Year 2017	0	1	2	3	4	5	6	7	8	9	10
	14.00	15.00	18.00	23.00	13.00	8.00	6.00	3.00	0.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$3,053
Total Asset Group Quantity	3,243	Av Annual Renewal Demand (Long Term)	$2,780
Units	sqm	Av Unit Renewal Cost in $/Unit	30.00
Total Cost to Renew the Whole Asset Group in $	$97,290	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$2,919
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.47
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.23
Life to Condition 10 in Years	35.0	St Dev of Condition Distribution	8.02
Life in years to Intervention Level	32.2	Condition Distribution Accuracy Indicator	1.84
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%

Asset Set Presently Displayed   *Sealed Road Kerb*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

% Within Cond in Year 2017	0	1	2	3	4	5	6	7	8	9	10
	6.00	7.00	20.00	25.00	24.00	10.00	5.00	2.00	1.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$56,000	Present Annual Renewal Demand From Modelling	$17,373
Total Asset Group Quantity	22,330	Av Annual Renewal Demand (Long Term)	$15,631
Units	Metres	Av Unit Renewal Cost in $/Unit	35.00
Total Cost to Renew the Whole Asset Group in $	$781,550	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$3,000	Present Value of assets above Intervention	$23,447
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.33
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	50.0	St Dev of Condition Distribution	9.52
Life in years to Intervention Level	47.0	Condition Distribution Accuracy Indicator	2.38
% of Present Demand being Met	322.35%	% Long Term Average Demand being Met	358.26%

Asset Set Presently Displayed *Long Life Bridges*
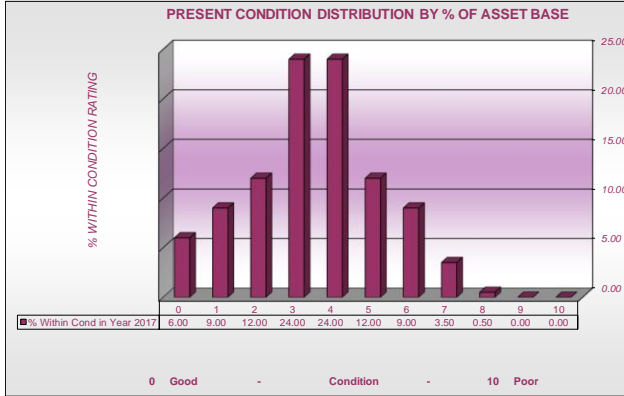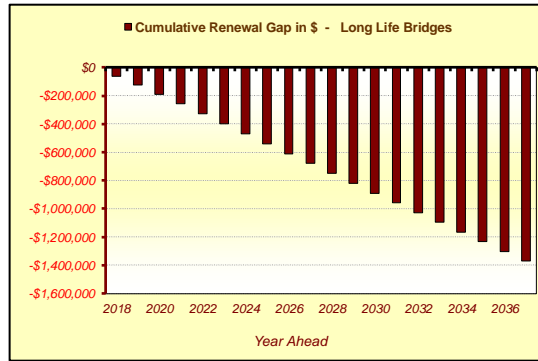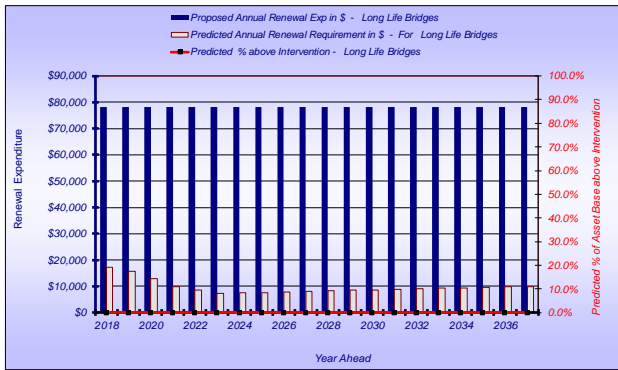
PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

% WITHIN CONDITION RATING

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	6.00	9.00	12.00	24.00	24.00	12.00	9.00	3.50	0.50	0.00	0.00

0 Good - Condition - 10 Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$78,286	Present Annual Renewal Demand From Modelling	$17,181
Total Asset Group Quantity	175	Av Annual Renewal Demand (Long Term)	$9,188
Units	sqm	Av Unit Renewal Cost in $/Unit	4,200.00
Total Cost to Renew the Whole Asset Group in $	$735,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$4,232	Present Value of assets above Intervention	$29,400
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.27
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.24
Life to Condition 10 in Years	80.0	St Dev of Condition Distribution	8.61
Life in years to Intervention Level	71.2	Condition Distribution Accuracy Indicator	2.07
% of Present Demand being Met	455.66%	% Long Term Average Demand being Met	852.09%

Proposed Annual Renewal Exp in $ - Long Life Bridges
Predicted Annual Renewal Requirement in $ - For Long Life Bridges
Predicted % above Intervention - Long Life Bridges

Cumulative Renewal Gap in $ - Long Life Bridges

Asset Set Presently Displayed *Short Life Bridges*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

% WITHIN CONDITION RATING

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	6.00	9.00	12.00	24.00	24.00	12.00	9.00	3.50	0.50	0.00	0.00

0 Good - Condition - 10 Poor
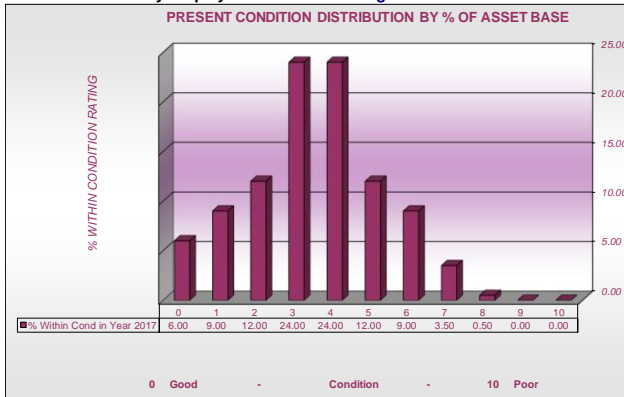
Table of Key Indicators

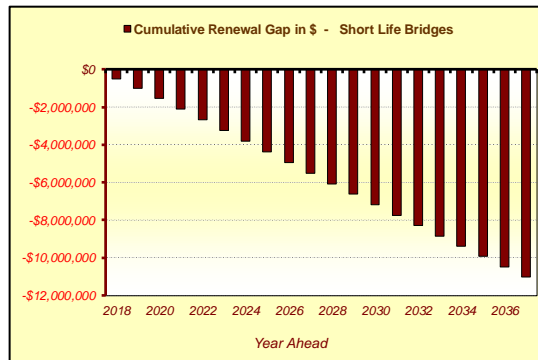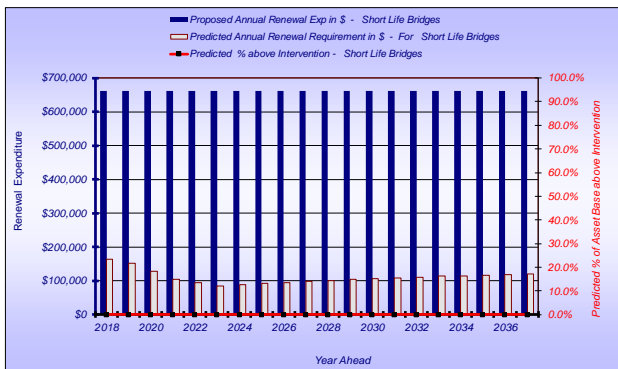|			
Present Annual Renewal Expenditure	$661,714	Present Annual Renewal Demand From Modelling	$164,635
Total Asset Group Quantity	1,479	Av Annual Renewal Demand (Long Term)	$103,544
Units	sqm	Av Unit Renewal Cost in $/Unit	4,200.00
Total Cost to Renew the Whole Asset Group in $	$6,212,640	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$35,768	Present Value of assets above Intervention	$248,506
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.27
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.24
Life to Condition 10 in Years	60.0	St Dev of Condition Distribution	8.61
Life in years to Intervention Level	53.4	Condition Distribution Accuracy Indicator	2.07
% of Present Demand being Met	401.93%	% Long Term Average Demand being Met	639.07%

Proposed Annual Renewal Exp in $ - Short Life Bridges
Predicted Annual Renewal Requirement in $ - For Short Life Bridges
Predicted % above Intervention - Short Life Bridges

Cumulative Renewal Gap in $ - Short Life Bridges

Asset Set Presently Displayed *Culverts*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	1.00	6.00	12.00	18.00	25.00	21.00	11.00	4.00	2.00	0.00	0.00

0 Good - Condition - 10 Poor
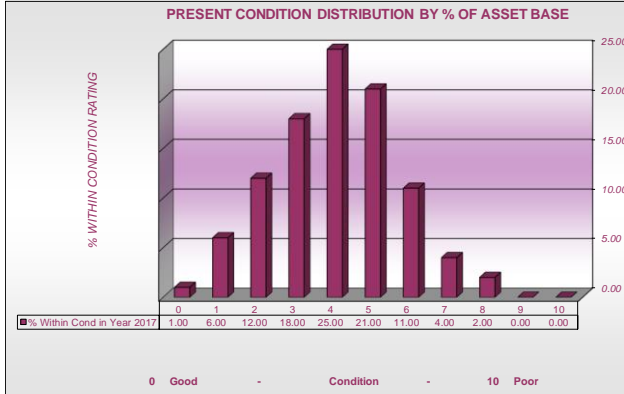
Table of Key Indicators

Present Annual Renewal Expenditure	$44,112	Present Annual Renewal Demand From Modelling	$221,725
Total Asset Group Quantity	20,315	Av Annual Renewal Demand (Long Term)	$87,062
Units	Metres	Av Unit Renewal Cost in $/Unit	300.00
Total Cost to Renew the Whole Asset Group in $	$6,094,350	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$172,209	Present Value of assets above Intervention	$365,661
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.19
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	70.0	St Dev of Condition Distribution	8.96
Life in years to Intervention Level	57.4	Condition Distribution Accuracy Indicator	2.24
% of Present Demand being Met	19.89%	% Long Term Average Demand being Met	50.67%
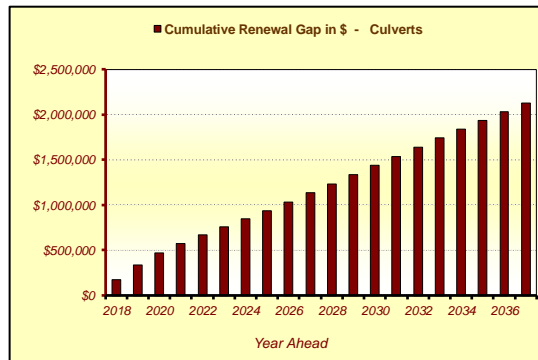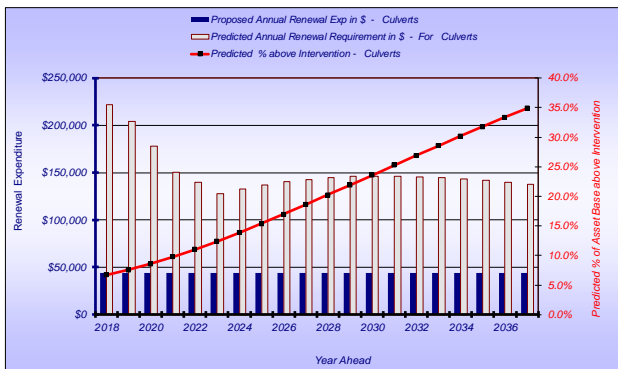
Asset Set Presently Displayed *Courts/ Synthetic Surfaces & Hardstands*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	10.00	90.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0 Good - Condition - 10 Poor
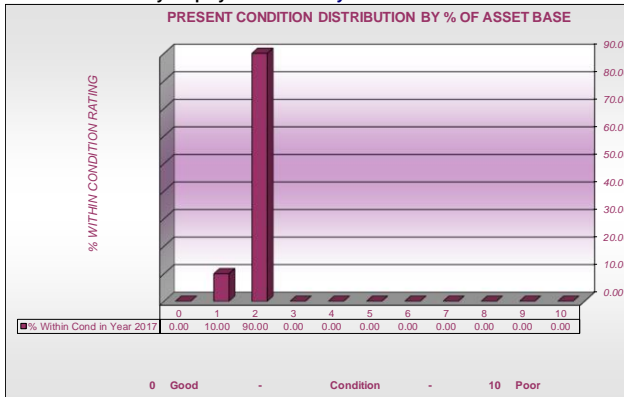
Table of Key Indicators

Present Annual Renewal Expenditure	$35,000	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	10	Av Annual Renewal Demand (Long Term)	$43,697
Units	No	Av Unit Renewal Cost in $/Unit	109,243.50
Total Cost to Renew the Whole Asset Group in $	$1,092,435	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	1.00
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.90
Life to Condition 10 in Years	25.0	St Dev of Condition Distribution	27.00
Life in years to Intervention Level	20.5	Condition Distribution Accuracy Indicator	24.30
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	80.10%
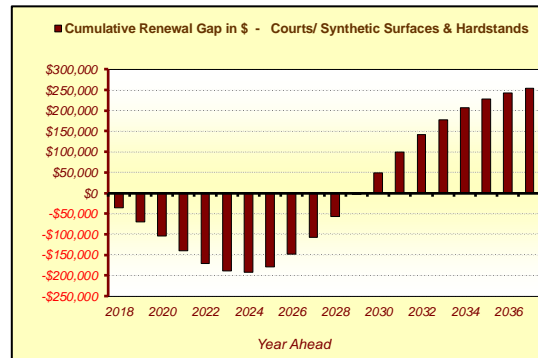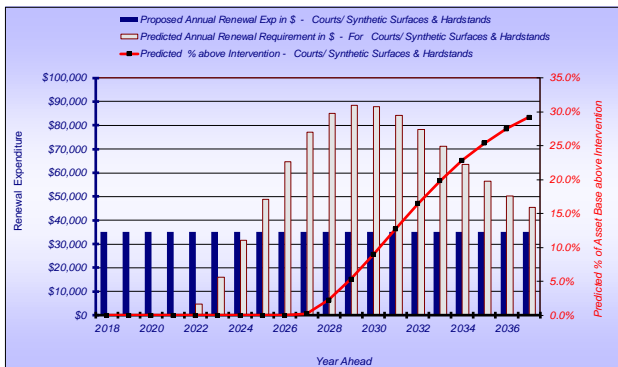
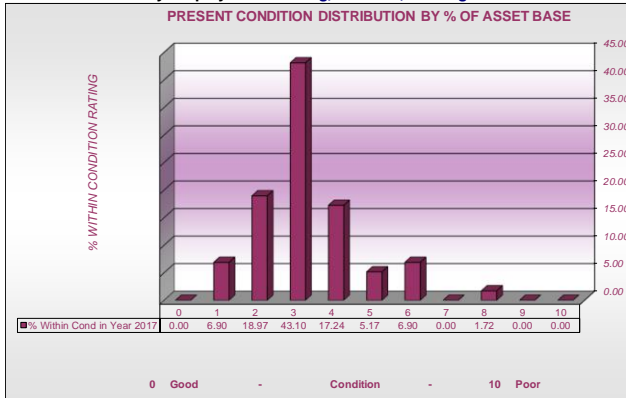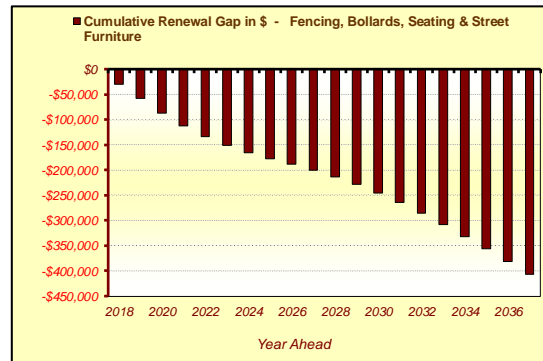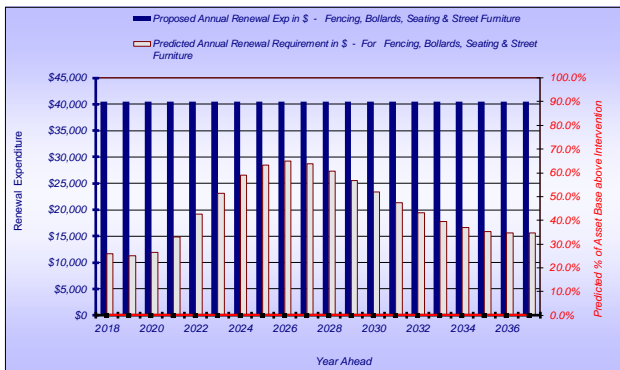**Asset Set Presently Displayed** *Fencing, Bollards, Seating & Street Furniture*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

0	1	2	3	4	5	6	7	8	9	10
■% Within Cond in Year 2017	0.00	6.90	18.97	43.10	17.24	5.17	6.90	0.00	1.72	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$40,500	Present Annual Renewal Demand From Modelling	$11,673
Total Asset Group Quantity	58	Av Annual Renewal Demand (Long Term)	$15,758
Units	No	Av Unit Renewal Cost in $/Unit	6,792.41
Total Cost to Renew the Whole Asset Group in $	$393,960	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$6,792
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (% In Excellent Cond)	0.26
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.43
Life to Condition 10 in Years	25.0	St Dev of Condition Distribution	13.16
Life in years to Intervention Level	20.5	Condition Distribution Accuracy Indicator	5.67
% of Present Demand being Met	346.94%	% Long Term Average Demand being Met	257.01%

Asset Set Presently Displayed *Reticulation and Water Tanks*
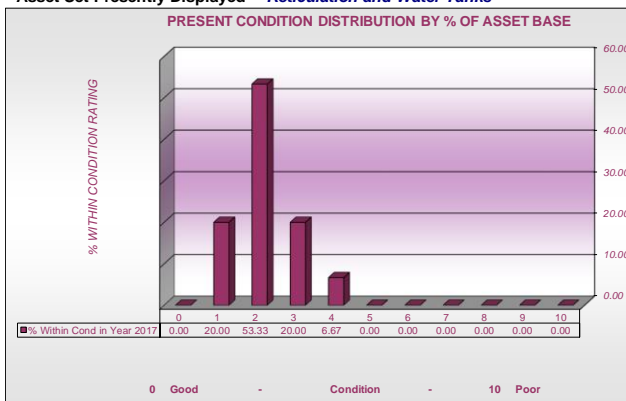
PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

0	1	2	3	4	5	6	7	8	9	10
■% Within Cond in Year 2017	0.00	20.00	53.33	20.00	6.67	0.00	0.00	0.00	0.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	15	Av Annual Renewal Demand (Long Term)	$8,844
Units	No	Av Unit Renewal Cost in $/Unit	20,636.00
Total Cost to Renew the Whole Asset Group in $	$309,540	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (% In Excellent Cond)	0.73
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.53
Life to Condition 10 in Years	35.0	St Dev of Condition Distribution	16.67
Life in years to Intervention Level	28.7	Condition Distribution Accuracy Indicator	8.89
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	0.00%
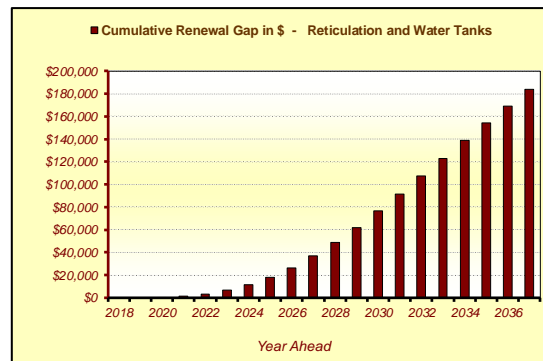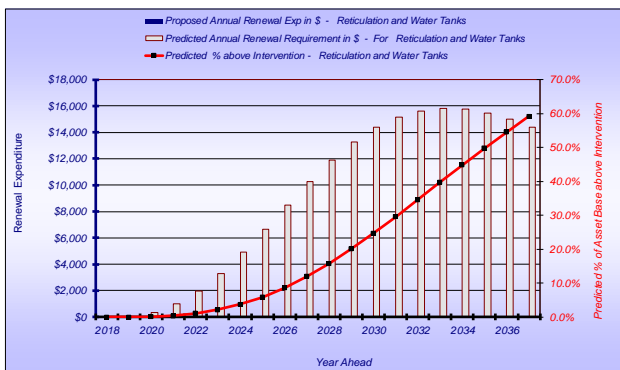
Asset Set Presently Displayed *Swimming Pools*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

0   Good   -   Condition   -   10   Poor
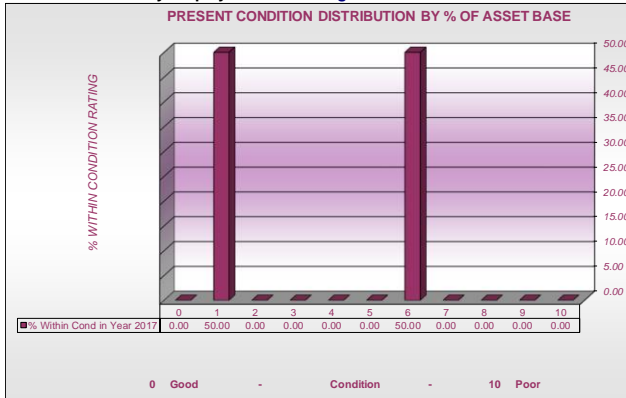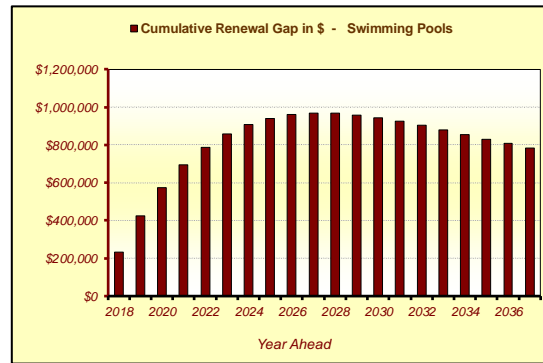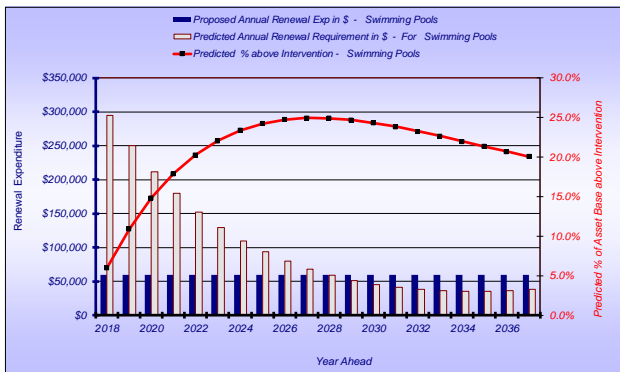
Table of Key Indicators

Present Annual Renewal Expenditure	$60,000	Present Annual Renewal Demand From Modelling	$294,267
Total Asset Group Quantity	2	Av Annual Renewal Demand (Long Term)	$64,739
Units	No	Av Unit Renewal Cost in $/Unit	1,942,162.50
Total Cost to Renew the Whole Asset Group in $	$3,884,325	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$9,730	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.50
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.50
Life to Condition 10 in Years	60.0	St Dev of Condition Distribution	20.23
Life in years to Intervention Level	49.2	Condition Distribution Accuracy Indicator	10.11
% of Present Demand being Met	20.39%	% Long Term Average Demand being Met	92.68%

Asset Set Presently Displayed *Lighting*
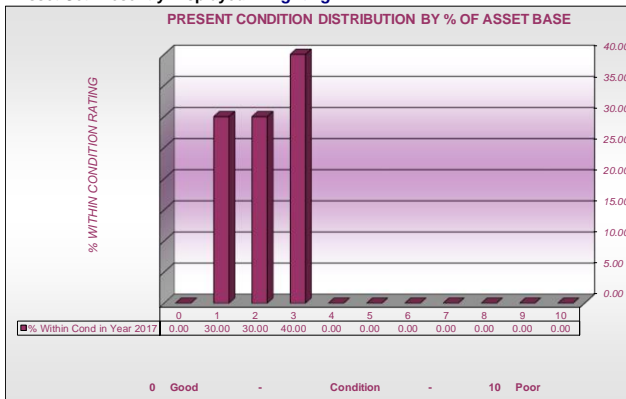
PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	10	Av Annual Renewal Demand (Long Term)	$11,055
Units	No	Av Unit Renewal Cost in $/Unit	27,637.50
Total Cost to Renew the Whole Asset Group in $	$276,375	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.60
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.40
Life to Condition 10 in Years	25.0	St Dev of Condition Distribution	15.78
Life in years to Intervention Level	20.5	Condition Distribution Accuracy Indicator	6.31
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	0.00%
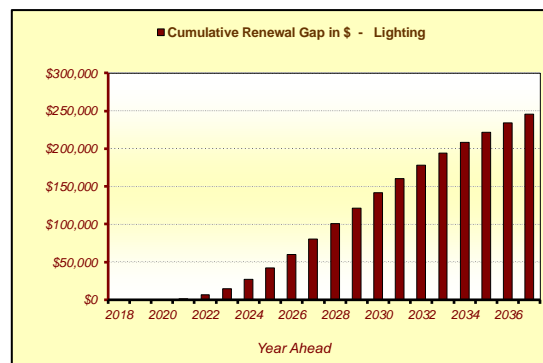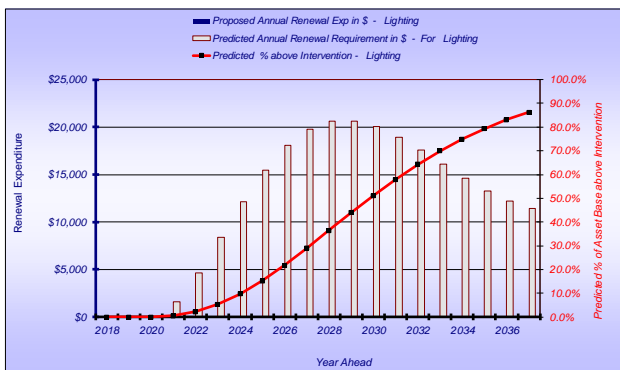
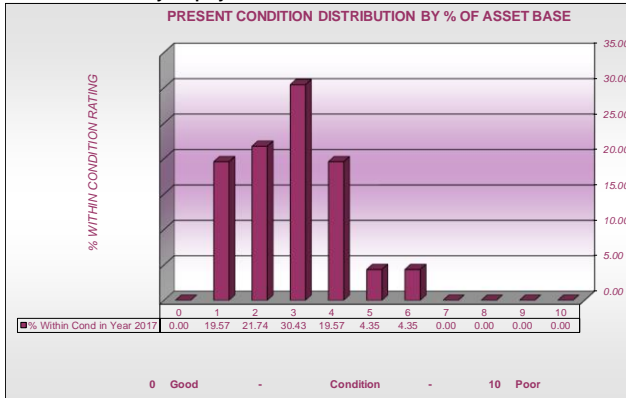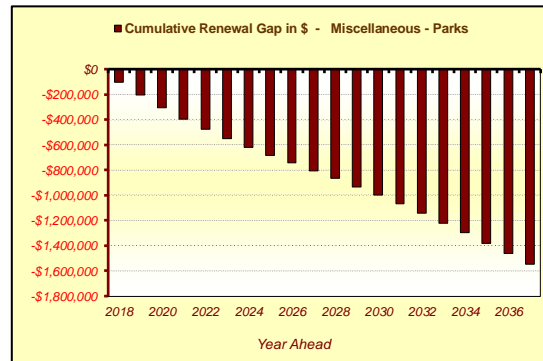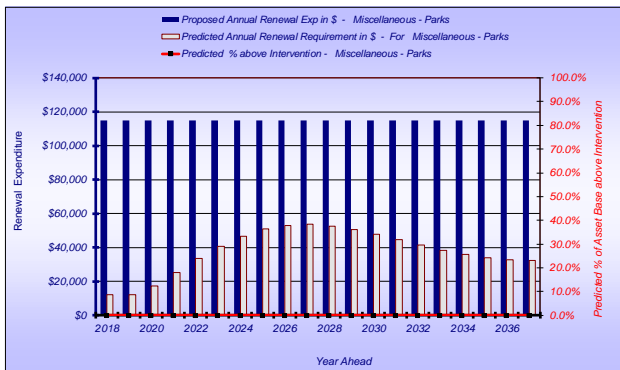**Asset Set Presently Displayed** *Miscellaneous - Parks*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
■% Within Cond in Year 2017	0.00	19.57	21.74	30.43	19.57	4.35	4.35	0.00	0.00	0.00	0.00

0 Good - Condition - 10 Poor

Table of Key Indicators

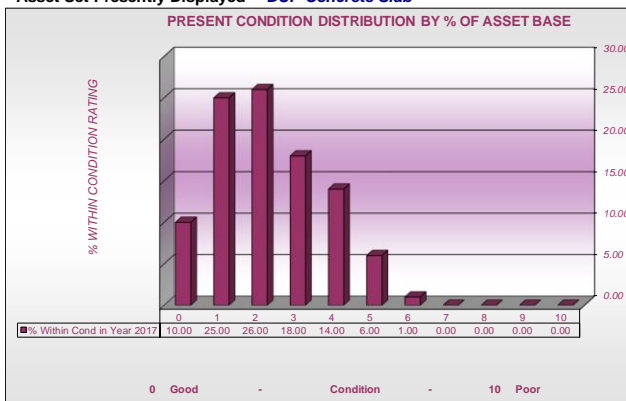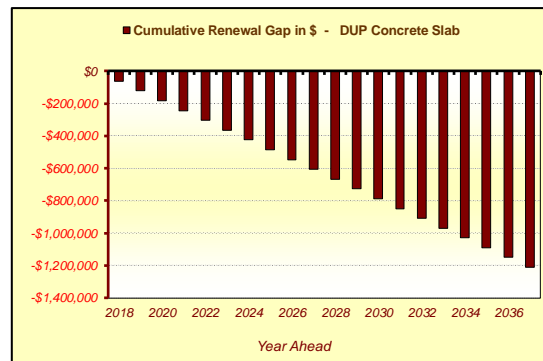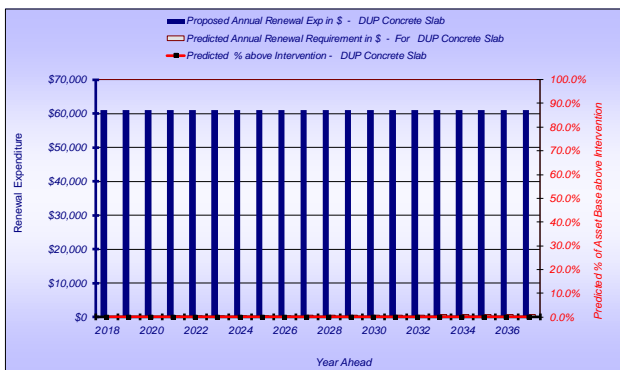|			
Present Annual Renewal Expenditure	$115,000	Present Annual Renewal Demand From Modelling	$12,298
Total Asset Group Quantity	46	Av Annual Renewal Demand (Long Term)	$31,115
Units	No	Av Unit Renewal Cost in $/Unit	16,910.22
Total Cost to Renew the Whole Asset Group in $	$777,870	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$64,050	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.41
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.30
Life to Condition 10 in Years	25.0	St Dev of Condition Distribution	11.37
Life in years to Intervention Level	20.5	Condition Distribution Accuracy Indicator	3.46
% of Present Demand being Met	935.09%	% Long Term Average Demand being Met	369.60%

Asset Set Presently Displayed *DUP Concrete Slab*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
■% Within Cond in Year 2017	10.00	25.00	26.00	18.00	14.00	6.00	1.00	0.00	0.00	0.00	0.00

0 Good - Condition - 10 Poor

Table of Key Indicators

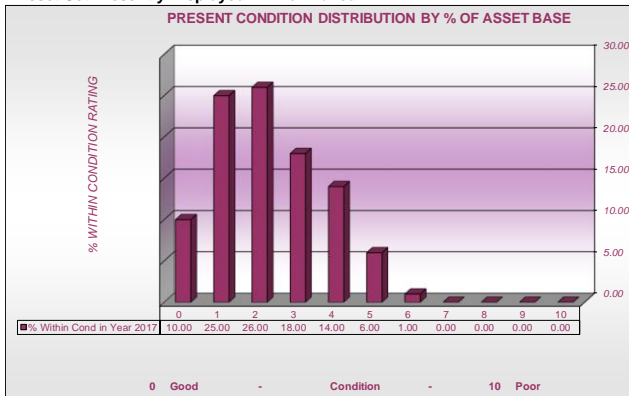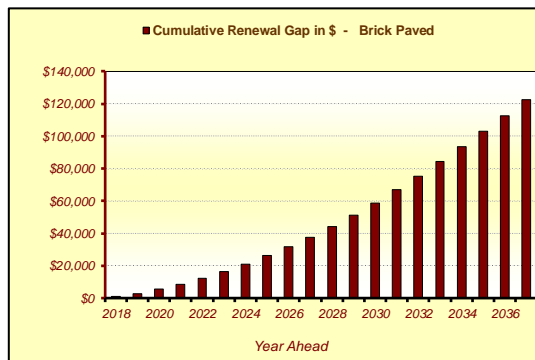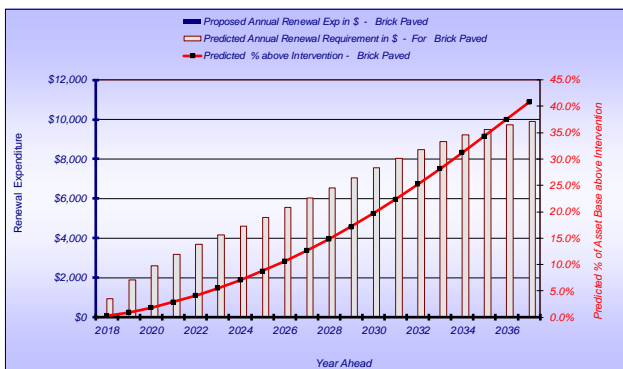|			
Present Annual Renewal Expenditure	$61,000	Present Annual Renewal Demand From Modelling	$77
Total Asset Group Quantity	348	Av Annual Renewal Demand (Long Term)	$696
Units	sqm	Av Unit Renewal Cost in $/Unit	80.00
Total Cost to Renew the Whole Asset Group in $	$27,840	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$9,600	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.61
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.26
Life to Condition 10 in Years	40.0	St Dev of Condition Distribution	10.24
Life in years to Intervention Level	37.6	Condition Distribution Accuracy Indicator	2.66
% of Present Demand being Met	78879.31%	% Long Term Average Demand being Met	8764.37%

Asset Set Presently Displayed *Brick Paved*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

| 0 Good | - | Condition | - | 10 Poor |

Table of Key Indicators

Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$947
Total Asset Group Quantity	4,590	Av Annual Renewal Demand (Long Term)	$8,524
Units	sqm	Av Unit Renewal Cost in $/Unit	65.00
Total Cost to Renew the Whole Asset Group in $	$298,350	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.61
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.26
Life to Condition 10 in Years	35.0	St Dev of Condition Distribution	10.24
Life in years to Intervention Level	32.9	Condition Distribution Accuracy Indicator	2.66
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%

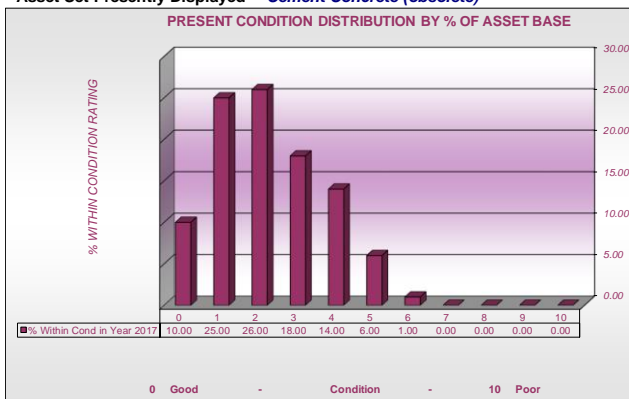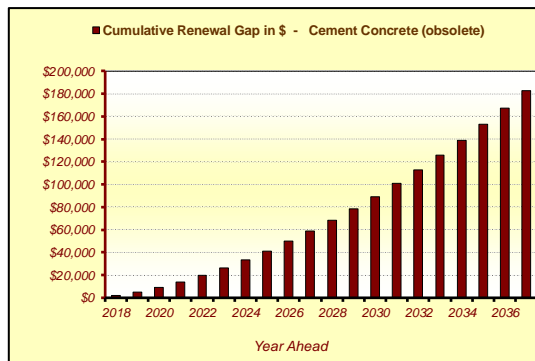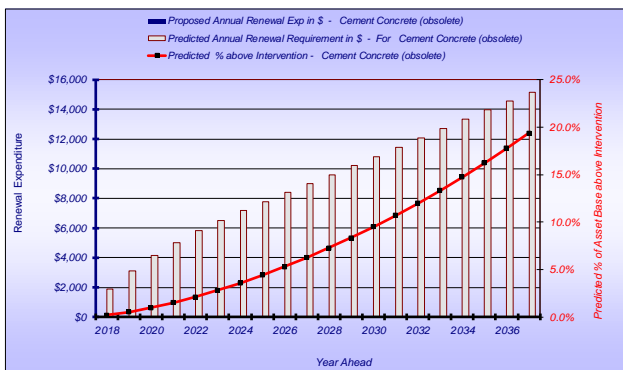**Asset Set Presently Displayed** *Cement Concrete (obsolete)*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

| 0 Good | - | Condition | - | 10 Poor |

Table of Key Indicators

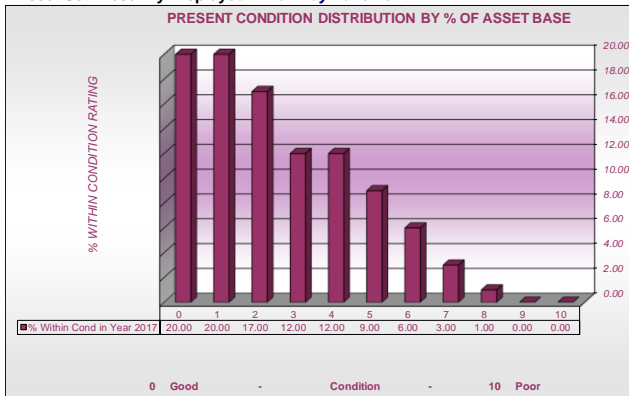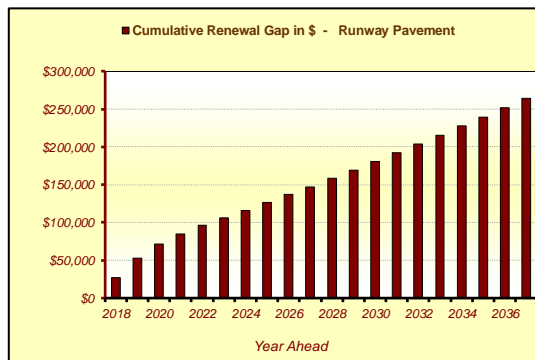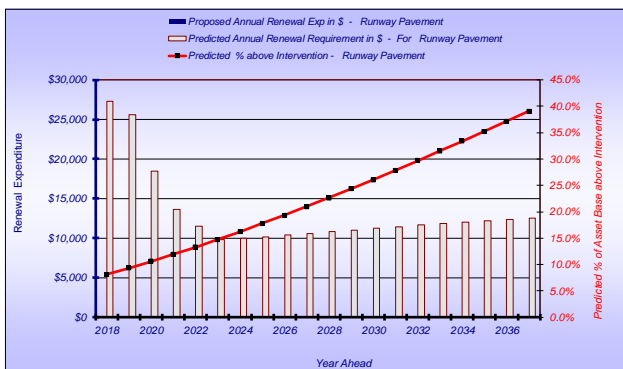| Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$1,903
Total Asset Group Quantity	11,772	Av Annual Renewal Demand (Long Term)	$17,123
Units	sqm	Av Unit Renewal Cost in $/Unit	80.00
Total Cost to Renew the Whole Asset Group in $	$941,760	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.61
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.26
Life to Condition 10 in Years	55.0	St Dev of Condition Distribution	10.24
Life in years to Intervention Level	51.7	Condition Distribution Accuracy Indicator	2.66
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%

Asset Set Presently Displayed   *Runway Pavement*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

| 0 Good | - | Condition | - | 10 Poor |

%Within Cond in Year 2017	0	1	2	3	4	5	6	7	8	9	10
	20.00	20.00	17.00	12.00	12.00	9.00	6.00	3.00	1.00	0.00	0.00

Table of Key Indicators

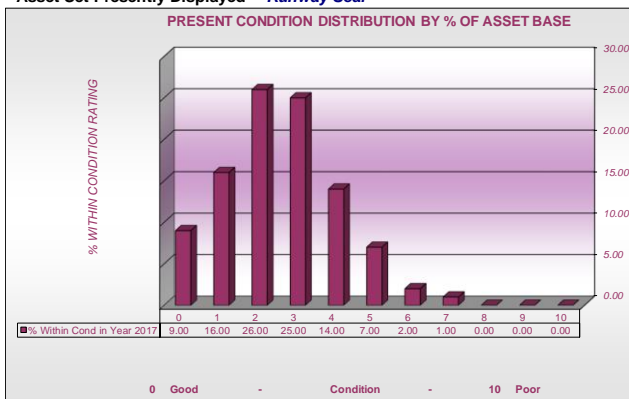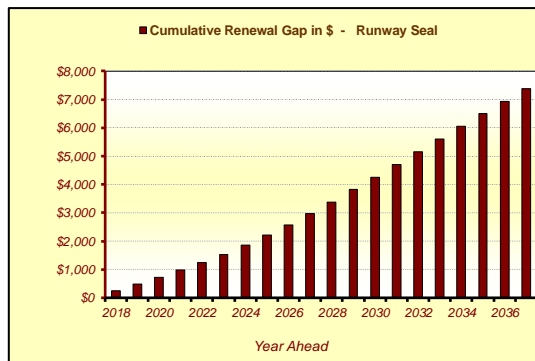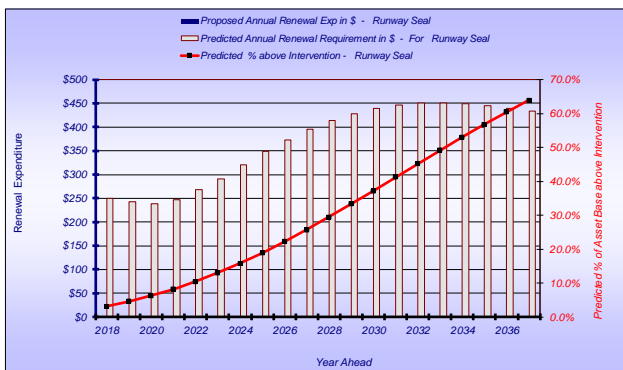|			
Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$27,268
Total Asset Group Quantity	30,157	Av Annual Renewal Demand (Long Term)	$10,052
Units	sqm	Av Unit Renewal Cost in $/Unit	20.00
Total Cost to Renew the Whole Asset Group in $	$603,140	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$42,220
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.57
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.20
Life to Condition 10 in Years	60.0	St Dev of Condition Distribution	7.71
Life in years to Intervention Level	48.3	Condition Distribution Accuracy Indicator	1.54
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%

Asset Set Presently Displayed   *Runway Seal*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

| 0 Good | - | Condition | - | 10 Poor |

%Within Cond in Year 2017	0	1	2	3	4	5	6	7	8	9	10
	9.00	16.00	26.00	25.00	14.00	7.00	2.00	1.00	0.00	0.00	0.00

Table of Key Indicators

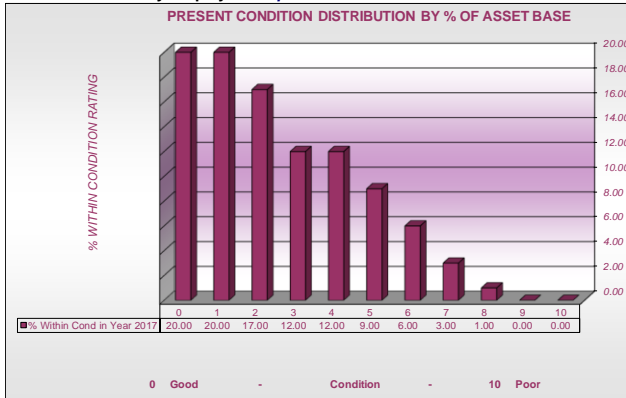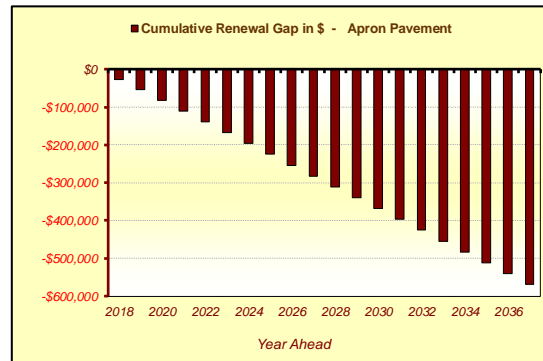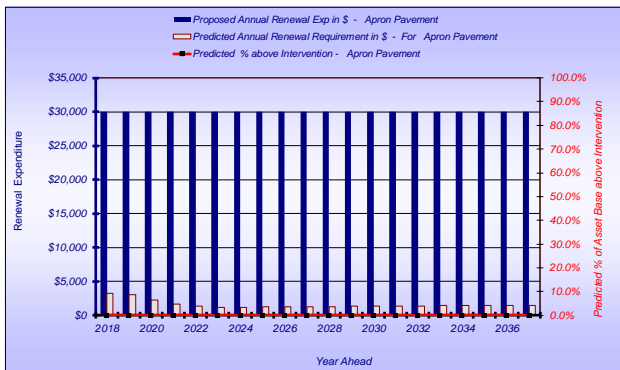|			
Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$250
Total Asset Group Quantity	1,176	Av Annual Renewal Demand (Long Term)	$353
Units	sqm	Av Unit Renewal Cost in $/Unit	9.00
Total Cost to Renew the Whole Asset Group in $	$10,584	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$212
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.51
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.26
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	9.89
Life in years to Intervention Level	26.7	Condition Distribution Accuracy Indicator	2.57
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%

Asset Set Presently Displayed   *Apron Pavement*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	20.00	20.00	17.00	12.00	12.00	9.00	6.00	3.00	1.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

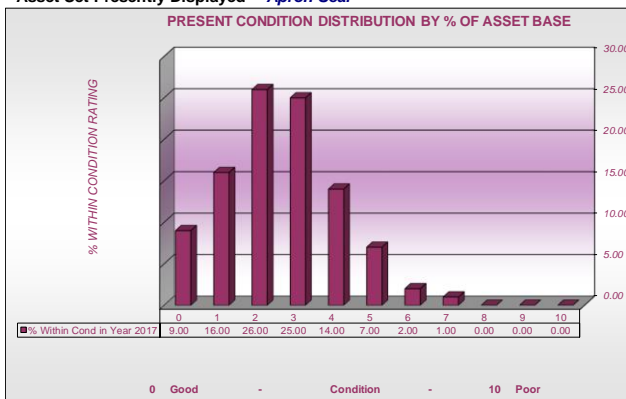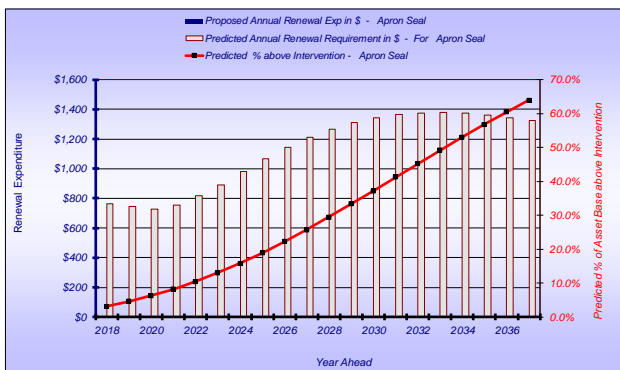|			
Present Annual Renewal Expenditure	$30,000	Present Annual Renewal Demand From Modelling	$3,252
Total Asset Group Quantity	3,596	Av Annual Renewal Demand (Long Term)	$1,199
Units	sqm	Av Unit Renewal Cost in $/Unit	20.00
Total Cost to Renew the Whole Asset Group in $	$71,920	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$5,034
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (% In Excellent Cond)	0.57
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.20
Life to Condition 10 in Years	60.0	St Dev of Condition Distribution	7.71
Life in years to Intervention Level	48.3	Condition Distribution Accuracy Indicator	1.54
% of Present Demand being Met	922.63%	% Long Term Average Demand being Met	2502.78%

Asset Set Presently Displayed   *Apron Seal*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	9.00	16.00	26.00	25.00	14.00	7.00	2.00	1.00	0.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

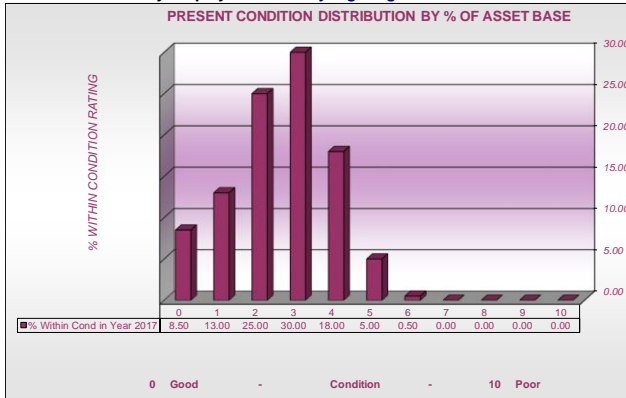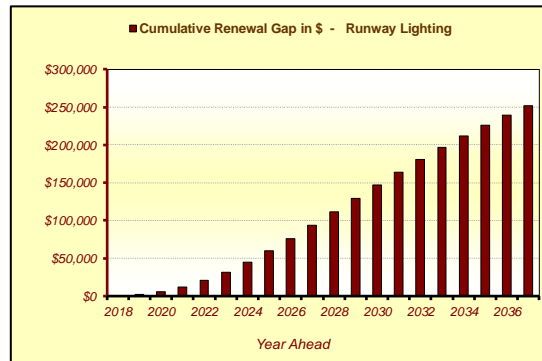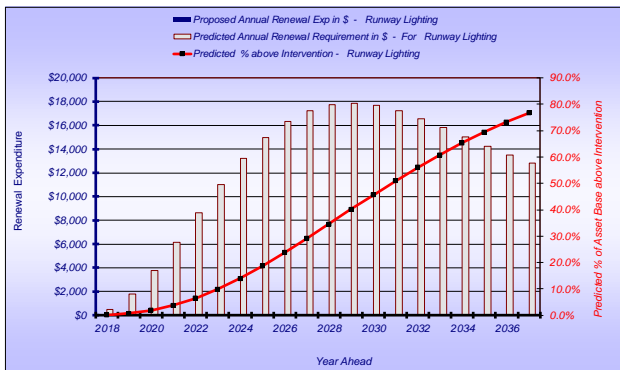|			
Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$764
Total Asset Group Quantity	3,596	Av Annual Renewal Demand (Long Term)	$1,079
Units	sqm	Av Unit Renewal Cost in $/Unit	9.00
Total Cost to Renew the Whole Asset Group in $	$32,364	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$647
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (% In Excellent Cond)	0.51
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.26
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	9.89
Life in years to Intervention Level	26.7	Condition Distribution Accuracy Indicator	2.57
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%

Asset Set Presently Displayed *Runway Lighting*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	8.50	13.00	25.00	30.00	18.00	5.00	0.50	0.00	0.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$487
Total Asset Group Quantity	1	Av Annual Renewal Demand (Long Term)	$10,720
Units	No	Av Unit Renewal Cost in $/Unit	321,600.00
Total Cost to Renew the Whole Asset Group in $	$321,600	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.47
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.30
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	10.98
Life in years to Intervention Level	24.6	Condition Distribution Accuracy Indicator	3.30
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%

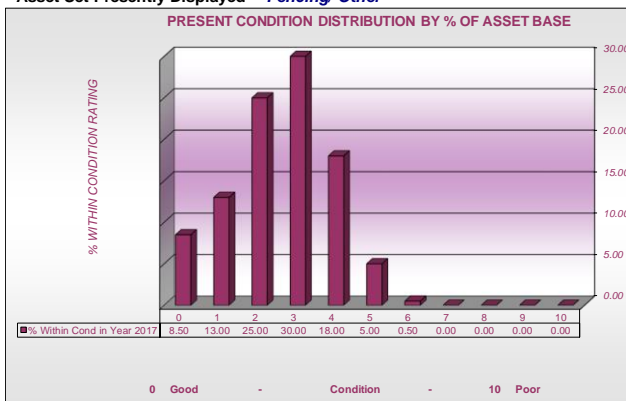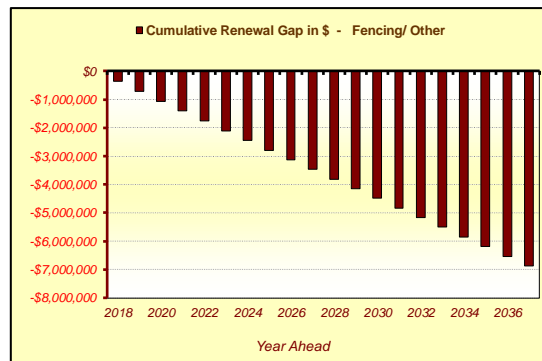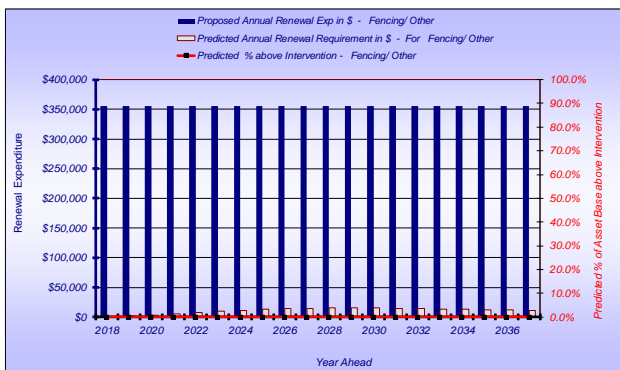**Asset Set Presently Displayed** *Fencing/ Other*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	8.50	13.00	25.00	30.00	18.00	5.00	0.50	0.00	0.00	0.00	0.00

0   Good   -   Condition   -   10   Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$355,000	Present Annual Renewal Demand From Modelling	$420
Total Asset Group Quantity	6	Av Annual Renewal Demand (Long Term)	$9,246
Units	No	Av Unit Renewal Cost in $/Unit	46,230.00
Total Cost to Renew the Whole Asset Group in $	$277,380	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.47
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.30
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	10.98
Life in years to Intervention Level	24.6	Condition Distribution Accuracy Indicator	3.30
% of Present Demand being Met	84468.96%	% Long Term Average Demand being Met	3839.50%

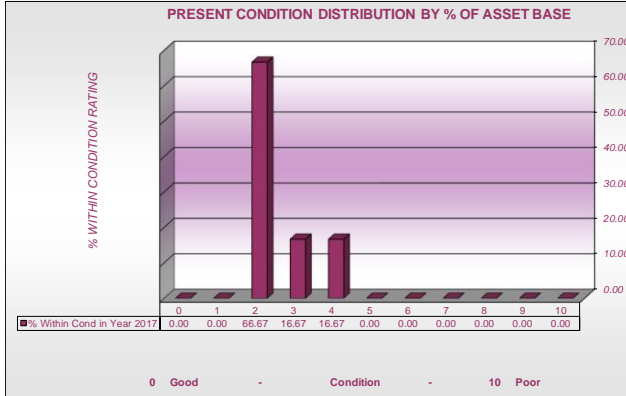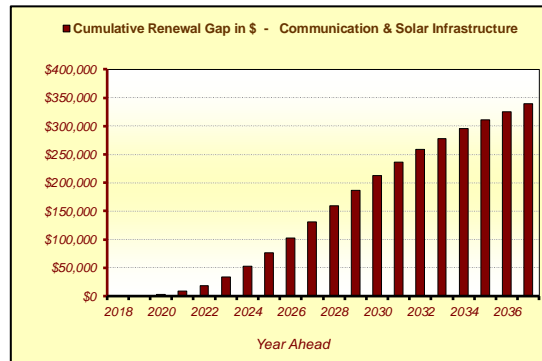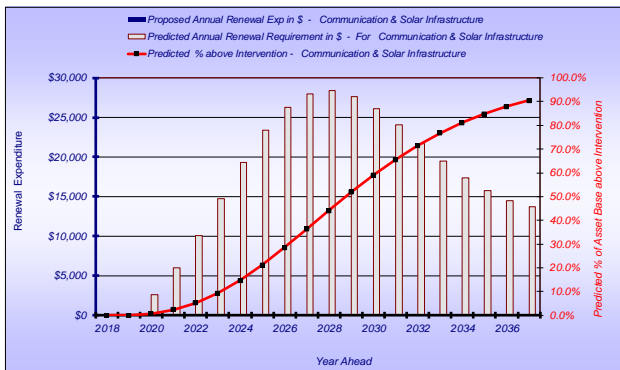**Asset Set Presently Displayed** *Communication & Solar Infrastructure*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	0.00	66.67	16.67	16.67	0.00	0.00	0.00	0.00	0.00	0.00

0 Good - Condition - 10 Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	6	Av Annual Renewal Demand (Long Term)	$14,392
Units	No	Av Unit Renewal Cost in $/Unit	59,965.00
Total Cost to Renew the Whole Asset Group in $	$359,790	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.67
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.67
Life to Condition 10 in Years	25.0	St Dev of Condition Distribution	20.23
Life in years to Intervention Level	20.5	Condition Distribution Accuracy Indicator	13.48
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	0.00%

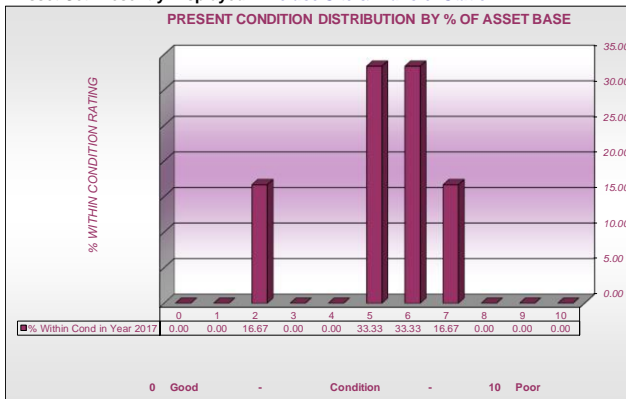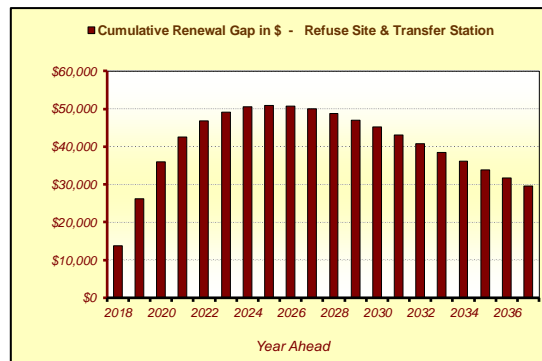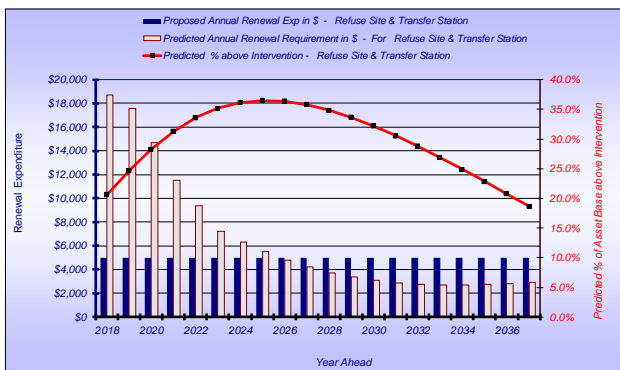**Asset Set Presently Displayed** *Refuse Site & Transfer Station*

PRESENT CONDITION DISTRIBUTION BY % OF ASSET BASE

	0	1	2	3	4	5	6	7	8	9	10
% Within Cond in Year 2017	0.00	0.00	16.67	0.00	0.00	33.33	33.33	16.67	0.00	0.00	0.00

0 Good - Condition - 10 Poor

Table of Key Indicators

Present Annual Renewal Expenditure	$5,000	Present Annual Renewal Demand From Modelling	$18,732
Total Asset Group Quantity	6	Av Annual Renewal Demand (Long Term)	$3,492
Units	No	Av Unit Renewal Cost in $/Unit	23,282.50
Total Cost to Renew the Whole Asset Group in $	$139,695	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$23,283
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.17
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.33
Life to Condition 10 in Years	40.0	St Dev of Condition Distribution	13.67
Life in years to Intervention Level	32.8	Condition Distribution Accuracy Indicator	4.56
% of Present Demand being Met	26.69%	% Long Term Average Demand being Met	143.17%

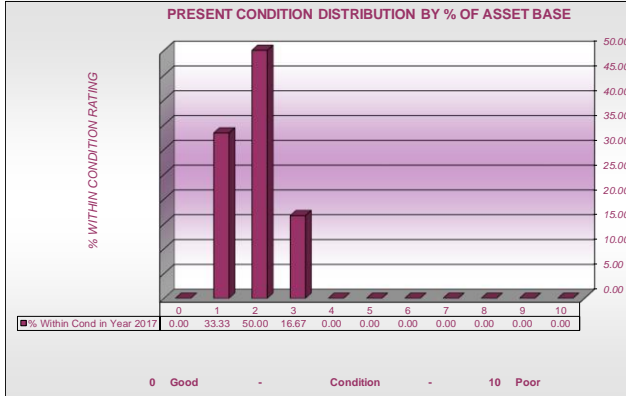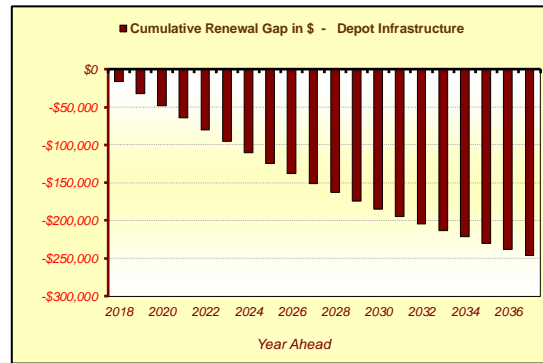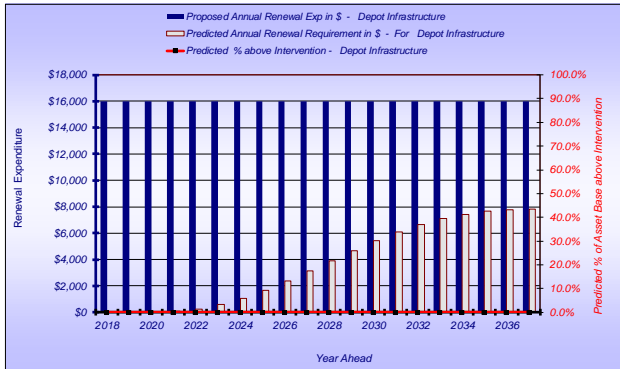**Asset Set Presently Displayed** *Depot Infrastructure*

Table of Key Indicators

Present Annual Renewal Expenditure	$16,000	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	6	Av Annual Renewal Demand (Long Term)	$4,472
Units	No	Av Unit Renewal Cost in $/Unit	29,815.00
Total Cost to Renew the Whole Asset Group in $	$178,890	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.83
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.50
Life to Condition 10 in Years	40.0	St Dev of Condition Distribution	17.26
Life in years to Intervention Level	32.8	Condition Distribution Accuracy Indicator	8.63
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	357.76%

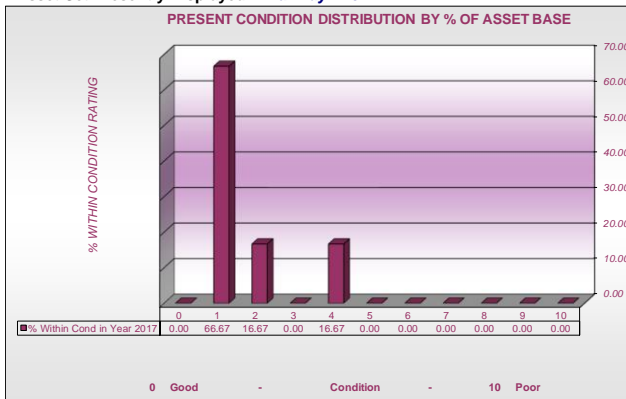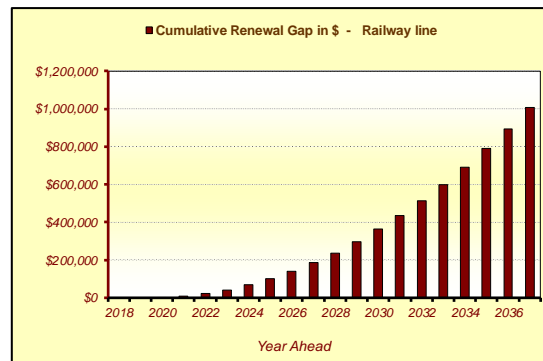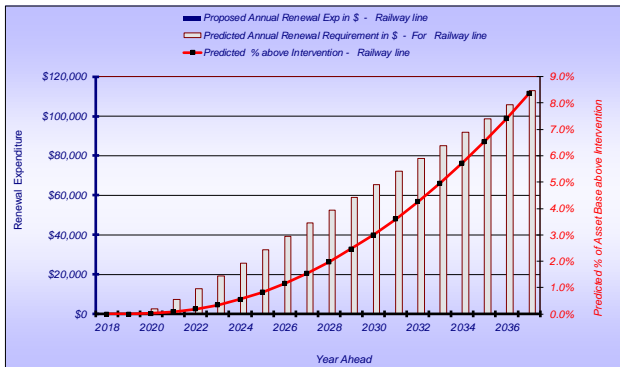

Asset Set Presently Displayed *Railway line*

Table of Key Indicators

Present Annual Renewal Expenditure	$0	Present Annual Renewal Demand From Modelling	$0
Total Asset Group Quantity	1	Av Annual Renewal Demand (Long Term)	$150,750
Units	No	Av Unit Renewal Cost in $/Unit	12,060,000.00
Total Cost to Renew the Whole Asset Group in $	$12,060,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$0	Present Value of assets above Intervention	$0
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.83
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.67
Life to Condition 10 in Years	80.0	St Dev of Condition Distribution	20.23
Life in years to Intervention Level	65.6	Condition Distribution Accuracy Indicator	13.48
% of Present Demand being Met	100.00%	% Long Term Average Demand being Met	0.00%