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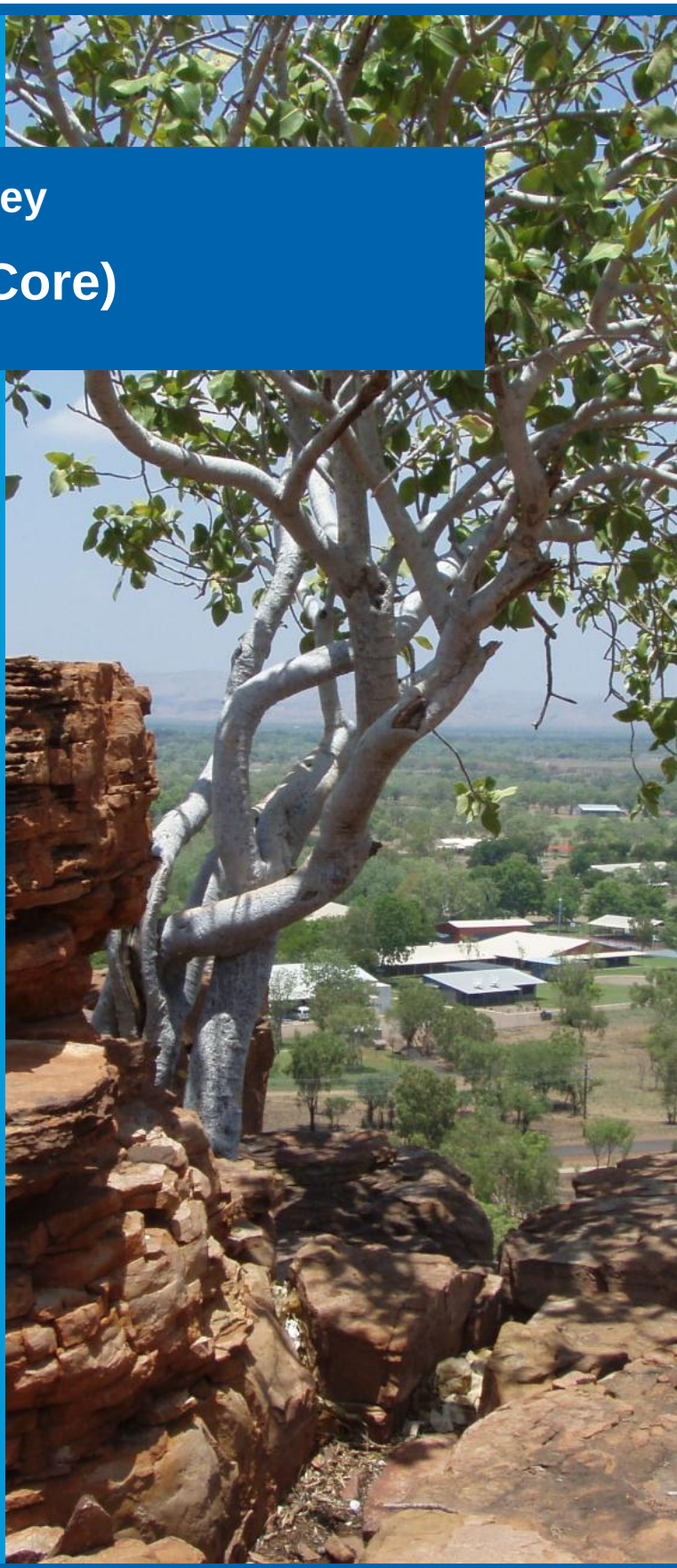
Shire of Wyndham-East Kimberley

Asset Management Plan (Core)



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Core Business Australia Pty Ltd PO Box 797 BUSSELTON WA 6280 Office: +61 8 9754 1117 Mobile: +61 418 931 067 Email: bruce@corebusiness.net.au Web: corebusiness.net.au	**Document:**	Shire of Wyndham – East Kimberley Asset Management Plan
	Client:	Shire of Wyndham – East Kimberley
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	Date:	September 25 2012
	Synopsis:	This document is a 1st Cut, Core Asset Management Plan for the Shire of Wyndham – East Kimberley. 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.

CONSULTANTS DISTRIBUTION SCHEDULE

Version No.	Date	Distribution	Reference
Version 1	August 31 2012	Draft issued to the client for review	4 SWEK Asset Management Plan (Ver 1).docx
Version 2	September 25 2012	Minor amendment to typographical errors.	4 SWEK Asset Management Plan (Ver 2).docx

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Cover: Kununurra from Kelly's Knob

1.0 Executive Summary

The Shire of Wyndham – East Kimberley (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 in accordance with well-developed asset management programs.

1.1 Shire of Wyndham – East Kimberley

The Shire of Wyndham – East Kimberley covers over 121 .000 square kilometres within the north-eastern portion of the State. Geographically, the Shire is the northernmost local government area within the State, bound by the Northern Territory border to the east, the Timor Sea to the north and Indian Ocean to the north west, the Shire of Halls Creek to the south and the Shire of Derby-West Kimberley to the south west.

The Shire has a diverse and frequently spectacular landscape featuring rugged ranges, gorges, wetlands and a unique and remarkable coastline. The Shire has a diverse and dynamic economy, primarily driven by mining, agriculture and tourism. Significant and largely untapped mineral resources, the massive agricultural potential presented with the development of Stage 2 of the Ord River Irrigation Area (ORIA), and the increasing visitors to this physically unique corner of the world requires a sustainable and strategic approach that maximises its economic base, protects its environmental values and enhances the social conditions and quality of life for its indigenous and non-indigenous populations..

1.2 Asset Network

The Shire holds a portfolio of over **$629.6m** of infrastructure assets.

Infrastructure Summary	Renewal Estimate ($)	%
Roads	$488,550,938	77.59%
Pathways	$2,955,395	0.47%
Buildings	$66,136,318	10.50%
Storm Water	$30,042,000	4.77%
Parks & Reserves	$11,150,533	1.77%
Miscellaneous	$30,807,410	4.89%
Total Infrastructure	**$629,149,614**	**100.00%**

Total Infrastructure (ex Formation)	**$269,149,634**	

Table 1: Asset Summary

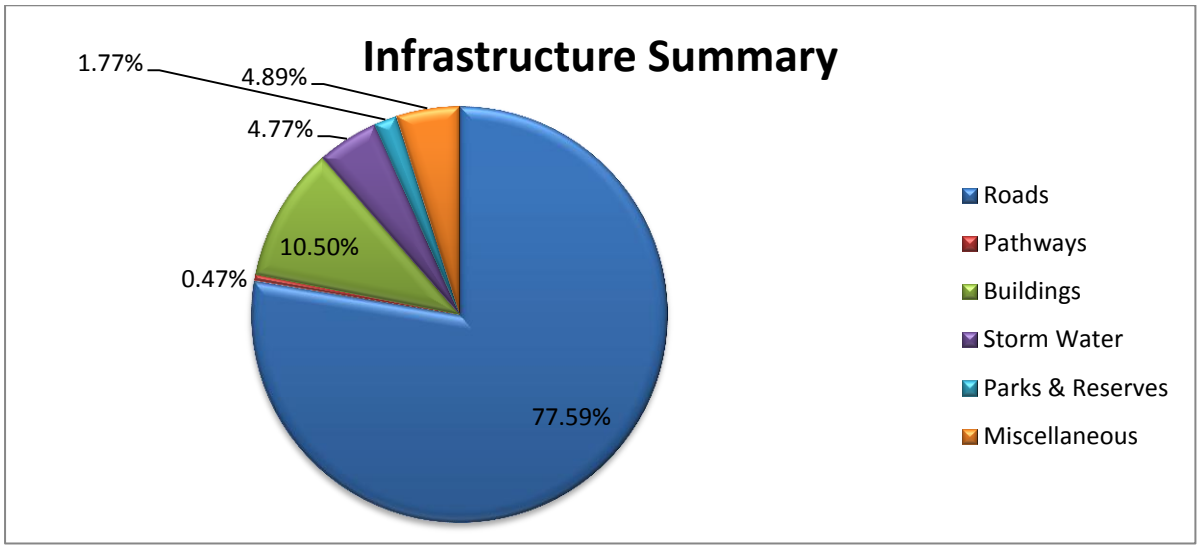


Figure 1: Asset Summary

1.3 Level of Service

The AMP recommends a hierarchy for road assets, where the hierarchy is based on the State Rural Road Hierarchy adopted by Main Roads Western Australia.

Further work is required to develop customer (the demands required by asset users) and technical (demands required by legislation, technical standards, etc) levels of service (LOS) that relate to each level of the functional hierarchy.

The development of LOS will be included in future revisions of the plan.

1.4 Future Demand

The population of the Shire is estimated to have increased by 14% over the period 2006 to 2011.

1.5 Risk Management

Risk management is used as a decision making tool to help assign levels of service to different levels of the functional hierarchy. The Shire is in the very early stages of developing a Risk Management Framework and is yet to apply it to specific assets.

1.6 Life Cycle Management

The Shire has a good understanding of the composition, location and extent of the asset portfolio and has an up-to-date road asset database however condition information is required for all asset groups.

1.6.1 Operation and Maintenance Strategy

The Shire does not have a current documented Operation and Maintenance Strategy. This Strategy will be developed as part of future revisions of the Plan.

1.6.2 Renewal and Replacement Strategy

One of the reasons that AMP's are needed is to enable the Shire to undertake long term financial planning and to understand whether or not 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.

The Shire has commenced developing a long term financial plan linked to asset renewal.

1.6.3 New, Upgrade and Disposal Strategy (Capital Investment)

The Shire does not have a current documented Capital Investment Strategy. This Strategy will be developed as part of future revisions of the Plan.

1.7 Financial Projections

The Shire is currently spending $1.899m/annum on asset renewal and $1.623m/annum to fund asset maintenance, a combined total of $3.522m/annum to look after a **$629.6m** asset profolio.

Infrastructure Summary	Renewal Estimate ($)	Renewal Expenditure	Maintenance Expenditure
Roads	$488,550,938	$1,678,625	$1,198,000
Pathways	$2,955,395	$0	$0
Buildings	$66,136,318	$170,000	$344,250
Storm Water	$30,042,000	$0	$0
Parks & Reserves	$11,150,553	$0	$51,000
Miscellaneous	$30,807,410	$49,950	$30,000
Total Infrastructure (inc Formation)	**$629,642,614**	**$1,898,575**	**$1,623,250**
Total Infrastructure (ex Formation)	**$269,149,634**		

Table 2: Current Infrastructure Renewal Estimate and Annual Expenditure

A rule of thumb in asset management is that between 2% - 4% of the infrastructure value is needed for asset renewal and maintenance combined. The more prescriptive renewal that can be funded, the lower the maintenance cost. Based on an asset portfolio of $269m (excluding the road and airport formation which is not modelled or depreciated), the Shire would need to be spending between $5.3m (2%) and $10.8m (4%), depending on the age and condition of the asset base.

The Shire does not presently have a good understanding of overall asset condition as asset condition survey have not been undertaken or are out of date or are not in the format (Condition scale or 0-10) that is ideal for modelling purposes. Therefore for the purposes of modelling, informed assumption on overall asset condition has been made. Up-to-date condition surveys will improve the precision of the modelling.

From the modelling it is predicted that Councils has a 20 year annual average renewal demand of $10.129m/annum and if were fully funded, the annual consequential maintenance demand would be in the order of $1.335m/annum (Combined maintenance and renewal of $11.464m/annum). As noted

above, the Shire is currently only spending $1.899m/annum on asset renewal providing a funding gap of the order of $8.230m/annum.

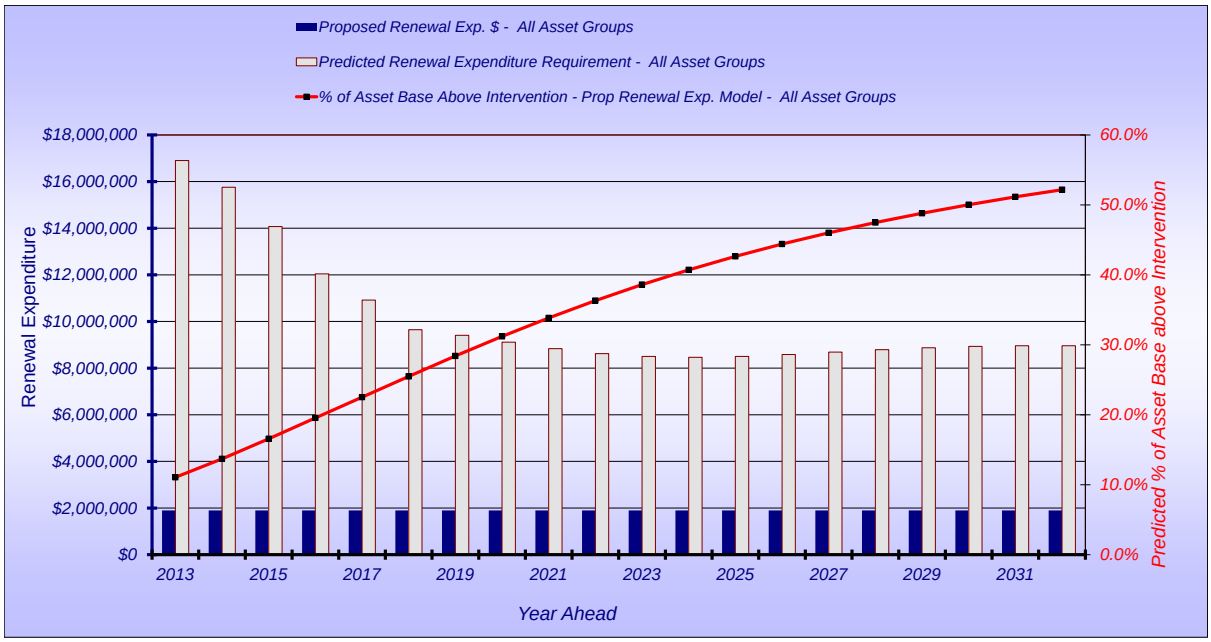


Figure 2: Predicted Asset Renewal Demand vs Current Asset Renewal Expenditure and % of Asset Base outside of Intervention

To close the funding gap, the Shire should ideally embark on an exercise of;

- Rationalising assets where possible.
- Setting hierarchies across all asset groups and defining levels of service across each level of the hierarchy.
- Targeting funding opportunities and developing a long term funding strategy to fund the remaining renewal gap.

1.8 Conclusions

This document is a "1st Cut" asset management plan that meets Core requirements and that is based on a compilation of existing information from across the organisation. There are a number of information and process gaps that need to be filled over time to produce a more comprehensive plan. The following recommendations cover the identified gaps and the outcome of the financial modelling.

1.9 Recommendations

Recommendation No.	Recommendation	Page No.
Recommendation 1	Develop a Stakeholder Engagement methodology and detail in a future version of the AMP.	22
Recommendation 2	Update to clearly link the asset management plan to the Strategic Community Plan	26
Recommendation 3	Once the Corporate Business Plan has been developed,	26

Recommendation No.	Recommendation	Page No.
	update this section to show clear linkage to the CBP.	
Recommendation 4	That the Shire of Wyndham-East Kimberley determine and document current Technical and Customer Levels of Service.	30
Recommendation 5	That the Shire of Wyndham – East Kimberley develops targeted criteria to consult the community on in relation to each asset group.	35
Recommendation 6	Develop demand forecasts and detail their implication for each major asset group	41
Recommendation 7	That the Shire of Wyndham - East Kimberley establish a Risk Management Committee with the task of developing a Risk Management Framework and a Risk Management Plan.	52
Recommendation 8	The Shire of Wyndham – East Kimberley develops and maintains a comprehensive record of asset responsibilities.	60
Recommendation 9	That the Shire of Wyndham – East Kimberley develops an Operations and Maintenance Strategy	71
Recommendation 10	That the Shire of Wyndham – East Kimberley develop an asset inspection process and procedure.	73
Recommendation 11	That the Shire of Wyndham – East Kimberley develops an Asset Renewal and Replacement Strategy.	74
Recommendation 12	That the Shire of Wyndham – East Kimberley develops a Capital Evaluation Process.	75
Recommendation 13	That the Shire of Wyndham – East Kimberley updates the 2009 Draft Roles and Responsibilities Matrix and documents this in the AMP and cross reference individual Position Descriptions.	95
Recommendation 14	That the Shire of Wyndham – East Kimberley undertakes a data and systems audit of all software and data used across the organisation and document thin in the AMP.	96
Recommendation 15	That the Shire of Wyndham – East Kimberley develops monitoring criteria against which performance monitoring of the effectiveness of the AMP can be measured and reported.	97

Table 3: Summary of Recommendations

2.0 Introduction

The Shire of Wyndham – East Kimberley (Shire) is responsible for the provision of a number of services to the community. So that services can be delivered on an ongoing basis, the Shire will ensure that infrastructure assets used to deliver the services are maintained and replaced at optimum time intervals.

The State Government of Western Australia requires all local governments to plan for the future. Part of this planning involves considering how our Shire will continue to deliver services to the community on a long term basis.

In the majority of cases service delivery is underpinned by assets, for example to deliver library services, a building is needed to function as a library. If the building fails, e.g. the roof leaks, it threatens the delivery of the service.

Asset Management is about our Shire having the necessary plans in place to ensure that funds and resources are on hand at the optimum time to replace the building roof before it starts to leak and threaten the ongoing delivery of the service.

What complicates this issue is that we have care, control and responsibility for vast network of differing assets. Extensive asset networks and competing demands for new services in addition to demand to renew/refurbish/replace existing assets with our finite resources is a complex issue.

To address this issue, we are developing informing strategies that will help in planning for the future. This document is one such strategy and sets out how we will implement and improve asset management practices and processes with the key outcome being the development of credible asset management plans which link to a long term financial plan setting out what resources we intend to allocate in the coming years.

2.1 Purpose & Scope

The Asset Management Plan (AMP) has been prepared to show how we will manage our infrastructure assets and ensure service delivery continues in line with the aspirations of the community, set out in Council's Strategic Community Plan (SCP) and Corporate Business Plan (CBP).

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

The AMP will ultimately provide guidance on the long-term (20 years) allocation of financial and physical resources required to ensure operational performance of our infrastructure assets continues. This version of the AMP is a 1st Cut (Core) compilation of the Shire's current identifiable knowledge about how we currently manage our infrastructure assets.

There are some significant gaps in knowledge, systems and processes and some of the information is out of date, incomplete or needs to be developed further. This is normal for a 1st Cut plan.

The AMP aligns with the Western Australian Local Government Association (WALGA), Western Australian Asset Management Improvement (WAAMI) Program. The WAAMI Program is aimed at raising awareness of the need for asset management and assists Councils to achieve a Nationally consistent standard for asset management.

A key aim of the WAAMI Program is to assist local governments to identify the funding gap between what is currently being spent on renewing and maintaining assets and what realistically needs to be spent in order to retain assets at a level of service needed by the community.

Asset Management Plans form the centrepiece of Council's business planning framework, (see Figure 3). The aim of an asset management plan is to set out how the local government delivers service to the community on a long term sustainable basis and the infrastructure required to underpin service delivery.

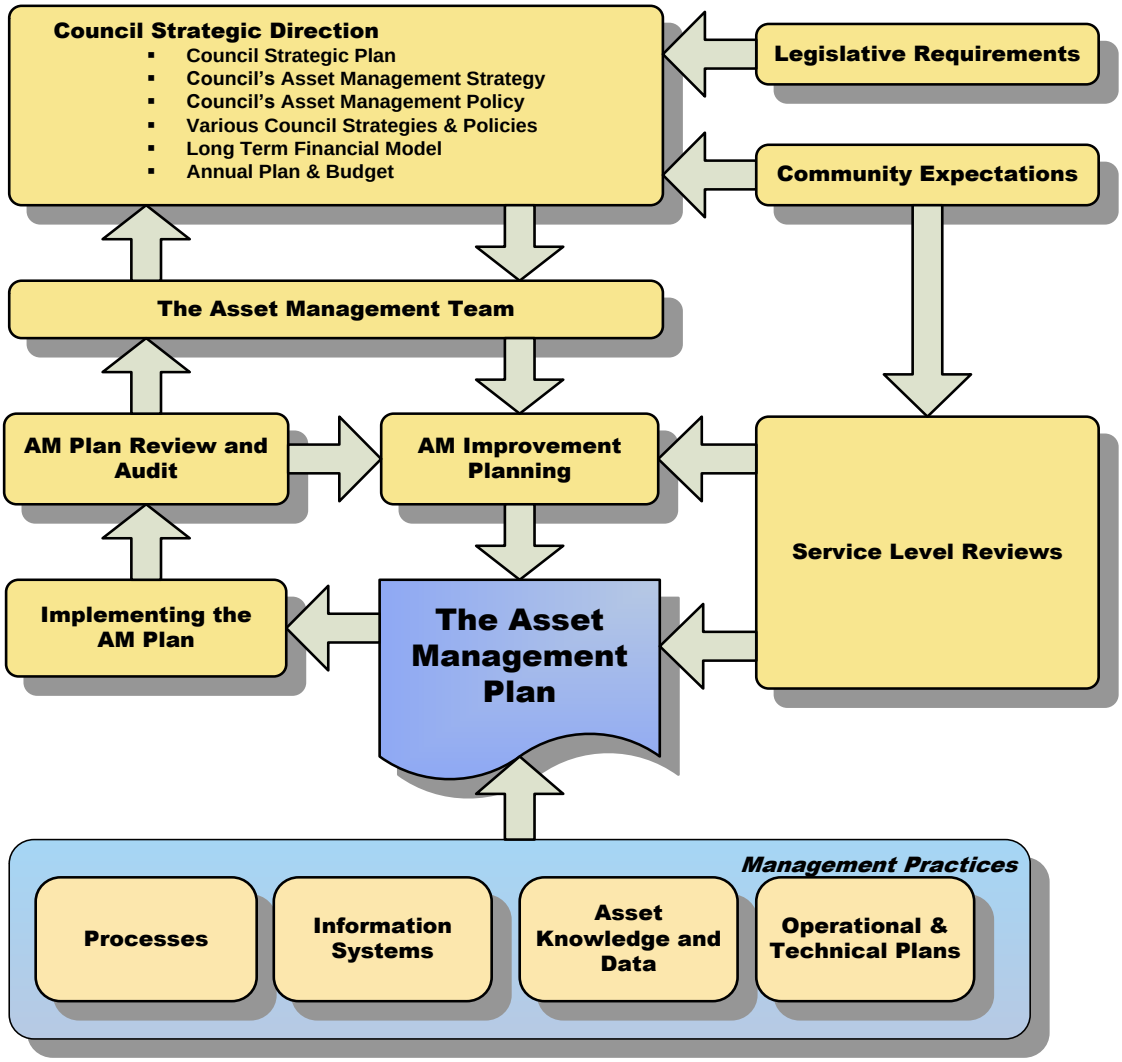


Figure 3: Asset Management Plan Relationship to the Business Planning Framework

The AMP is the best place to capture and document corporate knowledge about assets and importantly, service delivery. Figure 4 shows the inputs required that relate to a particular asset group 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, then influences and comprises the Service Delivery model.

Asset management is seen as a practical and financially responsible means of managing our assets by ensuring that the assets continue to provide a specified level of service delivery to defined standards over the entire life of the asset and that there is sufficient resource allocation made to replace the asset at the end of its life if the community still wishes to continue the service being delivered by that asset.

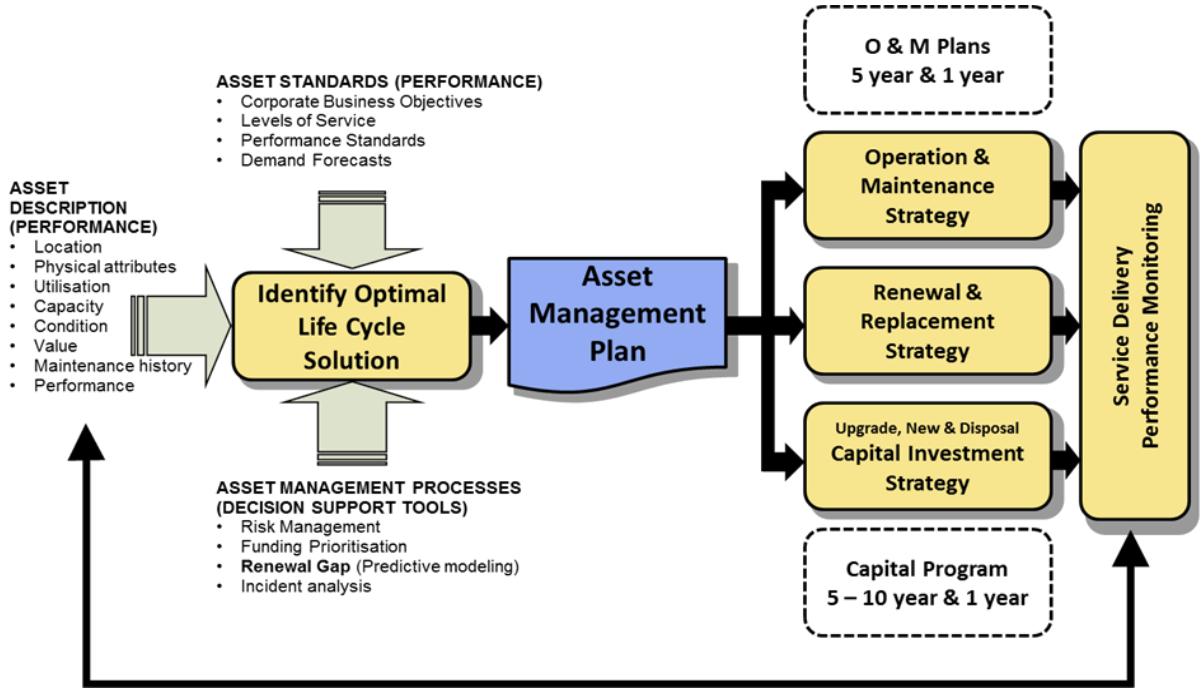


Figure 4: Asset Management Plan Framework

2.2 Need for Asset Management

In October 2010, the WA Department of Local Government (DLG) released the Integrated Planning and Reporting Framework (IP&R Framework). Details of the IP&R Framework can be found on the Integrated Planning web site at integratedplanning.dlg.wa.gov.au .

The Local Government Act 1995 requires each local government to prepare a Plan for the Future. Amendments to the Local Government (Administration) Regulations 1996 came into effect in August 2011 and now define what comprises the Plan for Future, which is the preparation of an Integrated Strategic Plan (ISP) comprising a Strategic Community Plan (SCP) and Corporate Business Plan (CBP).

The SCP has a planning horizon of 10 years, needs to be reviewed every two years (desk top review following local government elections) and updated (full review) every 4 years. It needs to be developed through engagement of the community and sets out the high level aspirations of the Community.

The CBP has a planning horizon of 4 years with a desktop review, following local government elections, every two years. Preparation of the CBP needs to align with development of the SCP. The CBP is not necessarily one document and can be the combination of several documents. The main thing is that the CBP ties together all of the informing strategies and links them to the SCP.

The diagram at Figure 5 sets out how the various documents required by the IP&R Framework fit together. It also shows the combination of the SCP & CBP comprising the ISP. The ISP Framework needs to be in place by June 30 2013.

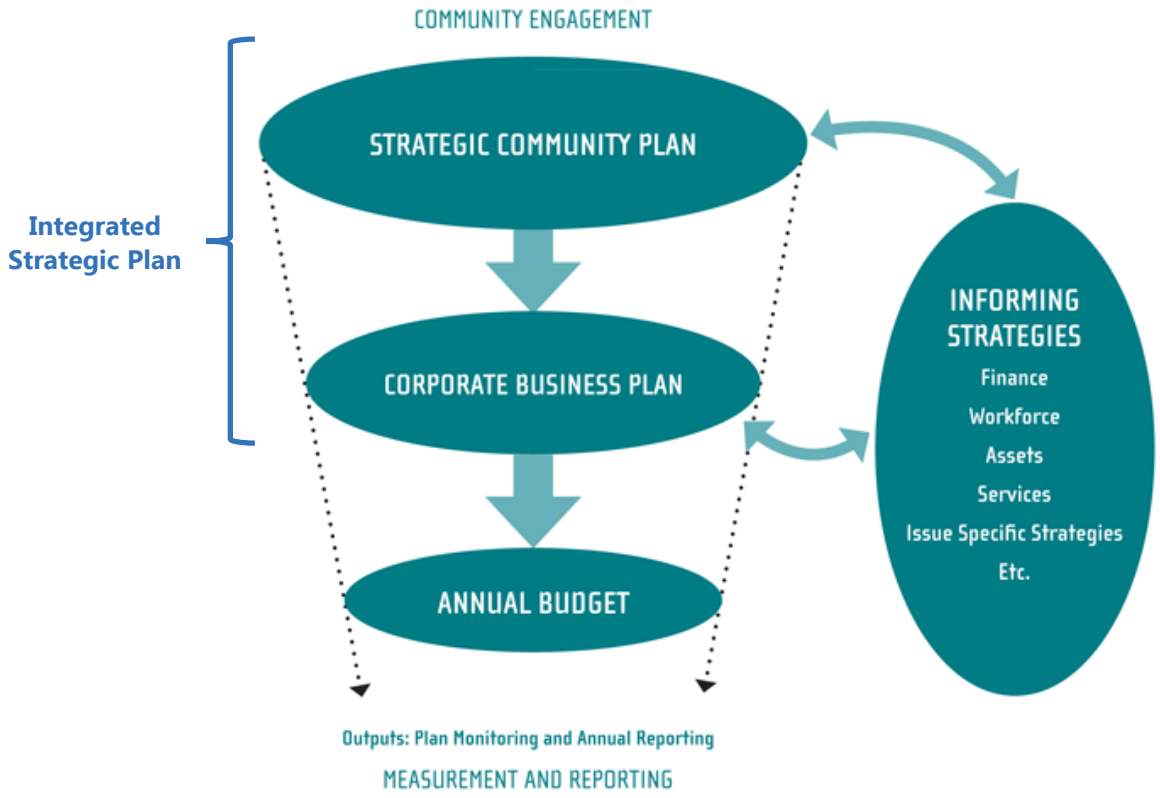


Figure 5: Integrated Planning and Reporting Framework

From Figure 5 it can be seen that asset management is an informing strategy to the ISP. The DLG has also prepared an Asset Management Framework that defines what local governments should strive to develop in order to have sufficient information to inform the ISP. The Asset Management Framework is set out in Figure 6.

The Asset Management Improvement Strategy is a key component of the informing strategies that comprise the Asset Management Framework and sets out the following;

- Where are we now with asset management?
- Where do we want to be in 5 years time?
- What are the tasks that we need to undertake to fill the gap?
- What are the timeframes over which each task will be carried out?
- Who will be responsible for each task?
- What resources do we need ($ and/or Officer time) to achieve each task in the selected timeframe.

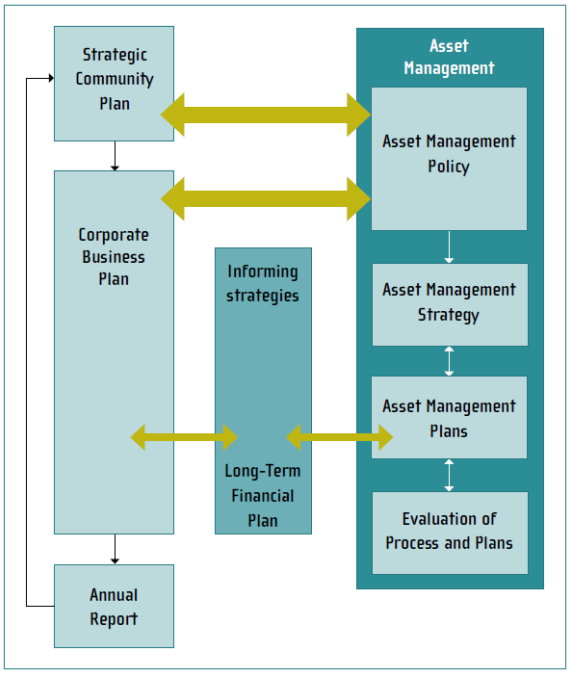


Figure 6: IP&R Asset Management Framework

This Asset Management Improvement Strategy attempts to answer all of the above questions. The first version (1st Cut) of the strategy may not be fully complete as it may rely on a task/s identified in the Improvement Task List to be completed before the information in the strategy can considered

robust. Nonetheless it is a first step on the Shire's asset management journey and will be regularly updated by the Asset Management Working Group (AMWG).

2.3 Plan Format

This Plan aligns with the Asset Management Plan format set out in the Institute of Public Works Engineering Australia's (IPWEA) International Infrastructure Management Manual (IIMM).

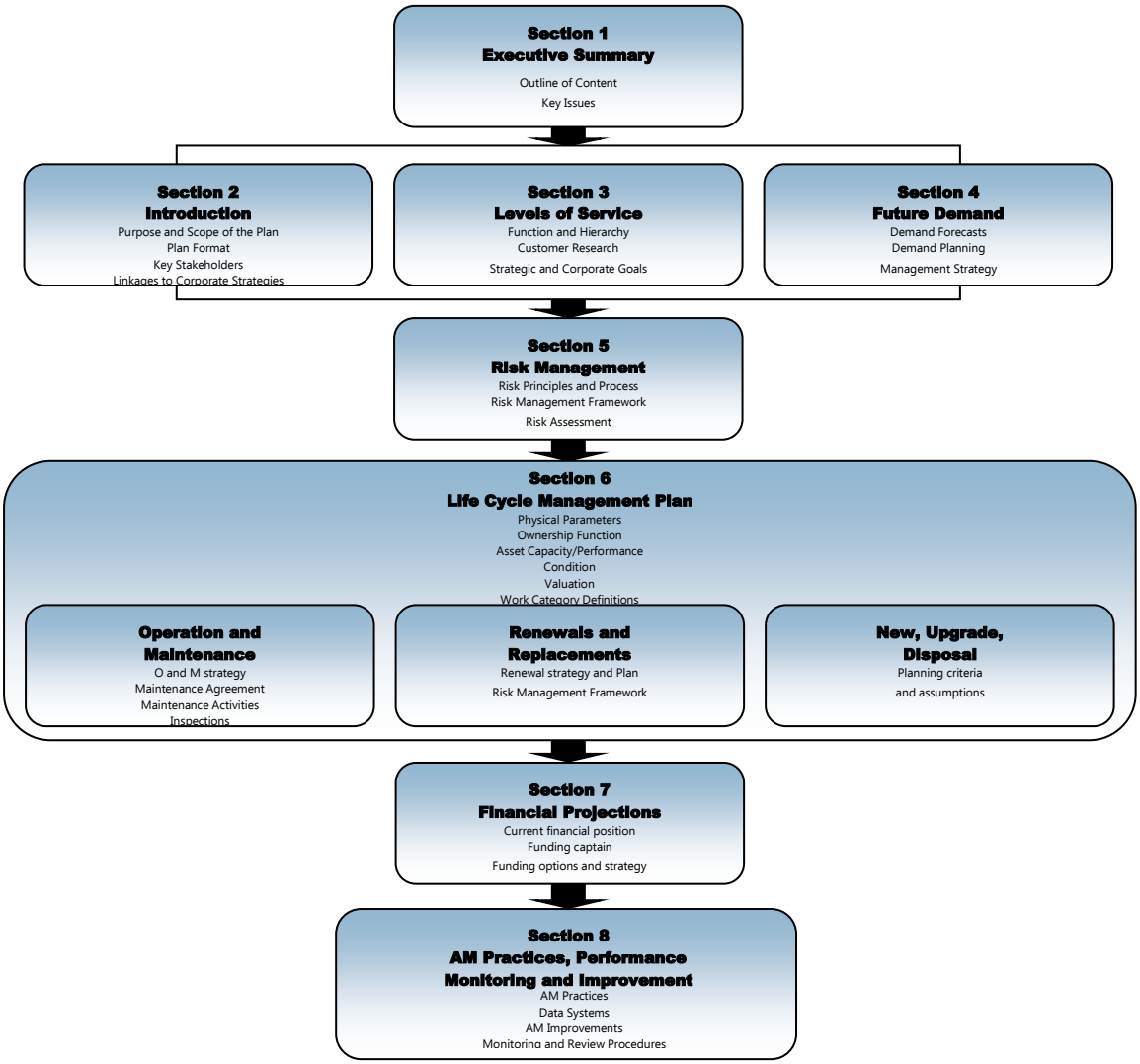


Figure 7: Format of the AMP

2.4 The Shire of Wyndham – East Kimberley

The Shire of Wyndham-East Kimberley covers over 121 .000 square kilometres within the north-eastern portion of the State. Geographically, the Shire is the northernmost local government area within the State, bound by the Northern Territory border to the east, the Timor Sea to the north and Indian Ocean to the North West, the Shire of Halls Creek to the south and the Shire of Derby-West Kimberley to the south west.

The Shire has a diverse and frequently spectacular landscape featuring rugged ranges, gorges, wetlands and a unique and remarkable coastline. The Shire has a diverse and dynamic economy, primarily driven by mining, agriculture and tourism. Significant and largely untapped mineral resources, the massive agricultural potential presented with the development of Stage 2 of the Ord River Irrigation Area (ORIA), and the increasing visitors to this physically unique corner of the world requires a sustainable and strategic approach that maximises its economic base, protects its environmental values and enhances the social conditions and quality of life for its indigenous and non-indigenous populations.

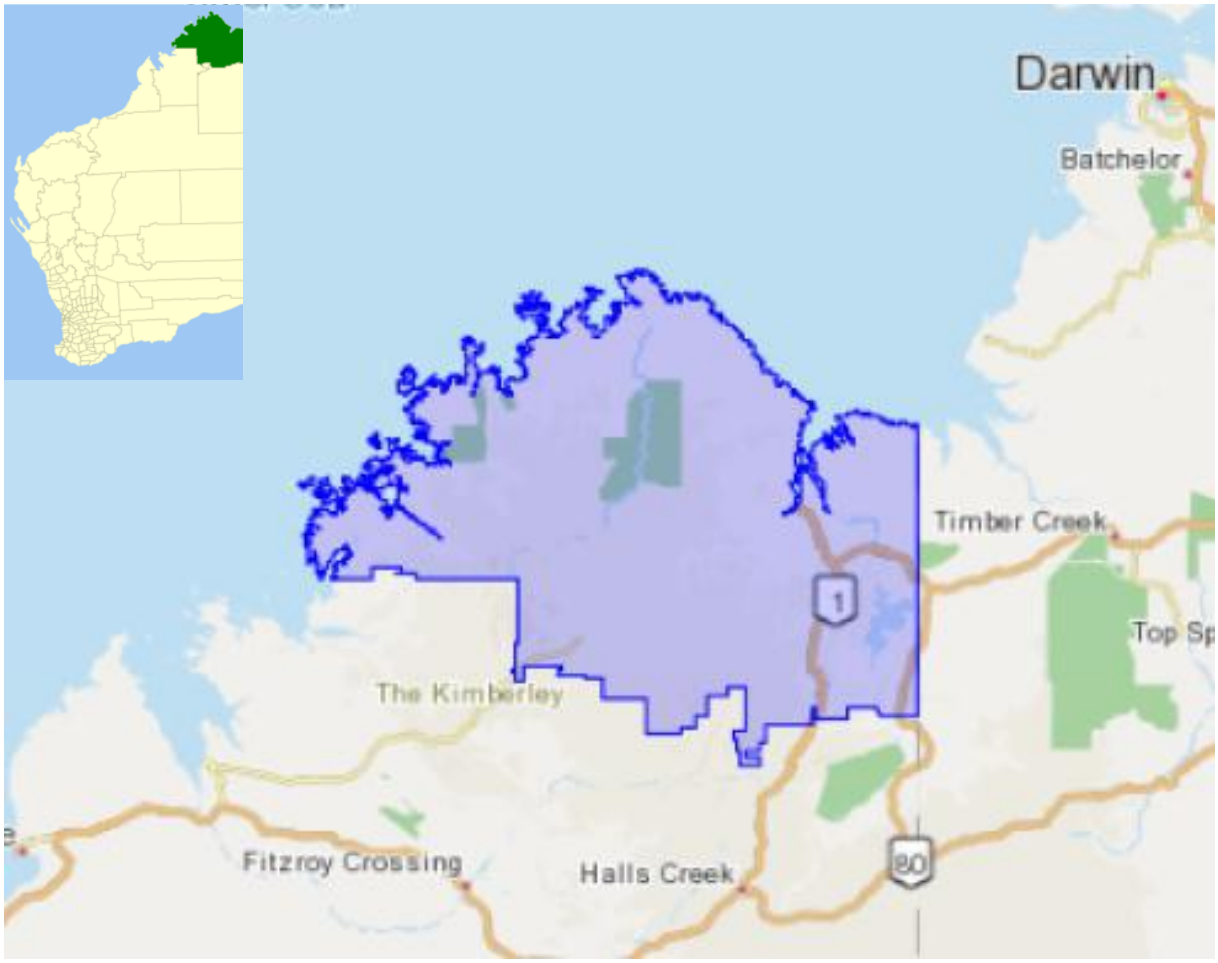


Figure 8: Location of the Shire of Wyndham – East Kimberley

2.5 Key Stakeholders

A key aspect of the Integrated Planning Framework is community engagement to develop the SCP. The aim of the AMP is to set out the level of service that the Shire proposes to deliver assets to in order to achieve the communities services delivery aspirations.

To develop the SCP, the Shire proposes to use the LOS set out in this AMP as the basis of the community engagement process. That is, the ultimate aim of the AMP is document the current LOS and the cost to deliver the LOS. The Shire will then develop the plan further to identify the unit cost to increase the LOS or the unit cost saving to decrease the LOS.

This will then form the basis of discussion with the key stakeholders identified in this plan when the SCP is next revised.

This plan covers all assets groups and there will be different stakeholders for each asset group. There will also be common stakeholders across all asset groups.

Stakeholders have been divided into four stakeholder categories - Internal / External and Primary / Secondary Stakeholders as follows;

	Internal	External
Primary	Stakeholders that are internal to the local government and have a direct interest in the Service. e.g. A Recreation Manager that looks after community clubs	Stakeholders that are external to the local government and have a direct interest in the service. e.g. a football club that leases a building
Secondary	Stakeholders that are internal to the local government and have an indirect interest in the service e.g. Community Services Manager that may look after community wellbeing	Stakeholders that are external to the local government and may have an indirect interest in the service. e.g. a football league

Figure 9: Example of the Classification of Stakeholders

Each stakeholder category will be engaged in a different way. The Shire is yet to identify how each stakeholder category will be engaged; this will be a task for a future revision of the AMP.

Recommendation 1. ***Develop a Stakeholder Engagement methodology and detail in a future version of the AMP.***

2.5.1 Key Stakeholders in relation to Roads

The following stakeholders apply to the Road Asset Group.

Road Asset Group	Internal	External
Primary	• Elected Members. • Technical Services Department. • Works Department.	• School Bus Operators. • Heavy Vehicle Operators. • Motor vehicle drivers.
Secondary	• Planning Department. • Other Shire departments. • Bush Fire Committee. • School Bus Committee. • Roadwise Committee.	• Wider Community. • Main Roads Western Australia. • Regional Road Group. • Shire of Derby – West Kimberley. • Shire of Hall Creek. • Department of Planning. • Department of Transport. • WA Police. • St John Ambulance. • Fire and Emergency Services. • TransWA Buses. • Department of Regional Development & Lands. • Department of Conservation and Environment.

Table 4: Key Stakeholders related to Roads Asset Group

2.5.2 Key Stakeholders in relation to Pathways

The following stakeholders apply to the Pathway Asset Group.

Pathway Asset Group	Internal	External
Primary	• Elected Members. • Technical Services Department. • Works Department	• Schools. • Pedestrian groups
Secondary	• Planning Department. • Other Shire departments. • Roadwise Committee.	• Wider community • Main Roads Western Australia. • Department of Planning • Department of Transport • Department of Regional Development & Lands • Department of Conservation and Environment (Trails).

Table 5: Key Stakeholders related to Pathway Asset Group

2.5.3 Key Stakeholders in relation to Pathways

The following stakeholders apply to the Pathway Asset Group.

Pathway Asset Group	Internal	External
Primary	• Elected Members. • Technical Services Department. • Works Department	• Schools. • Pedestrian groups
Secondary	• Planning Department. • Other Shire departments. • Roadwise Committee.	• Wider community. • Main Roads Western Australia. • Department of Planning • Department of Transport • Department of Regional Development & Lands • Department of Conservation and Environment (Trails).

Table 6: Key Stakeholders related to Pathway Asset Group

2.5.4 Key Stakeholders in relation to Buildings

The following stakeholders apply to the Building Asset Group.

Building Asset Group	Internal	External
Primary	• Elected Members. • Building Department. • Health Department. • Planning Department. • Recreation Department. • Community Services Department. • Works Department	• Community Groups. • Sporting Clubs.
Secondary	• Other Shire departments	• Wider community. • State sporting Associations. • State Associations of community groups. • Department of Planning • Department of Sport & Recreation. • Department of Regional Development & Lands.

Table 7: Key Stakeholders related to Building Asset Group

2.5.5 Key Stakeholders in relation to Storm Water

The following stakeholders apply to the Strom Water Asset Group.

Storm Water Asset Group	Internal	External
Primary	• Elected Members. • Health Department. • Works Department	• Property owners • Main Roads Western Australia • Department of Water • Catchment Groups • Local Environment Groups
Secondary	• Other Shire departments	• Wider community. • Department of Conservation & Environment. • State Environment Groups and Catchment Council • Department of Regional Development & Lands.

Table 8: Key Stakeholders related to Strom Water Asset Group

2.5.6 Key Stakeholders in relation to Parks & Recreation

The following stakeholders apply to the Parks & Recreation Asset Group.

Parks & Recreation Asset Group	Internal	External
Primary	• Elected Members. • Building Department. • Planning Department. • Recreation Department. • Community Services Department. • Works Department	• Community Groups. • Sporting Clubs.
Secondary	• Other Shire departments	• Wider community. • State sporting Associations. • State Associations of community groups. • Department of Planning • Department of Regional Development & Lands.

Table 9: Key Stakeholders related to Parks & Recreation Asset Group

2.6 Linkages to Corporate Strategy

2.6.1 Strategic Community Plan

The Shire is in the process of developing its Strategic Community Plan SCP. Work carried out to date includes the identification of 5 Key Themes being:

- Look and Feel of Towns
- Our economic future
- Our educational future
- Environment and Lifestyle
- Shire facilities and services

This asset management plan will be a key document that underpins the goals and actions flowing from the SCP.

Recommendation 2. ***Update to clearly link the asset management plan to the Strategic Community Plan***

2.6.2 Corporate Business Plan

The Shire is yet to develop a Corporate Business Plan

Recommendation 3. ***Once the Corporate Business Plan has been developed, update this section to show clear linkage to the CBP.***

2.6.3 Asset Management Policy

The Shire's policy F21 covers asset management, was adopted, August 18 2009 and can be viewed at the following location http://www.swek.wa.gov.au/publications/shire_policies/Finance/

The Shire has drafted a revised asset management policy which is currently contained within the Asset Management Improvement Strategy.

2.6.4 Asset Management Improvement Strategy

The Shire has developed an Asset Management Improvement Strategy that sets out where the Shire currently sits with Asset Management, where it would like to be in 5 years time, the steps needed to move forward, who will be responsible for project managing each of those steps and importantly the Officer time and external resource requirement (out of pocket expense) to undertake each task.

The Asset Management Improvement Strategy has identified the following need in terms of financial resource to assist with the improvement tasks.

Year	2012/13	2013/14	2014/15	2015/16	2016/17	Total
Amount	$103,500	$337,500	$335,000	$290,000	$175,000	$1,241,000

Table 10: Annual Resource Requirement Identified for Asset Management Improvement

3.0 Level of Service

3.1 Introduction

Level of Service (LOS) provides the basis for the life cycle management strategies and works programmes identified within the AMP. LOS supports the organisation's strategic goals and is based on customer expectations, statutory requirements, standards and financial capacity of the Shire to deliver those levels of service.

The levels of service will be refined over a period of time to match the expectation of customers.

This requires a clear understanding of customer needs, expectations, preferences and their willingness to pay for any increase in the levels of service.

Levels of Service are used:

- to inform customers of the proposed type and quality/quantity of service to be offered;
- to identify the costs and benefits of the services offered;
- to enable customers to asses suitability, affordability and equity of the services offered;

The levels of service are based on:

- Community Expectations
- Strategic and Corporate Goals
- Legislative Requirements
- Legislation, Regulations, Environmental Standards and Industry and Australian Standards that impact on the way assets are managed.
- Design Standards and Codes of Practice

The Shire operates with a level of service regime in place, albeit not fully documented for all asset classes.

The current service levels for renewal, expansion, maintenance and operational works involving infrastructure assets are the outcome of some feedback from the community, tradition and the balancing act undertaken by the organisation in matching activities to budgets.

The development of levels- of -service is a major task. The IIMM provides a systematic process to achieve this (see IIMM section 3). This involves a sequence of:

- Understanding your customers
- Developing levels of services
- Developing performance measures
- Consulting with customers
- Communicating the outcomes.

A relevant comment in the Manual for the Shire is that:

*"Levels -of -Service need to be manageable by **current staff** and appropriate to the quality of existing, available financial and service level data."*

3.2 Customer and Technical Service Standards

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

Customer - how the customer relates to the service provided.

Customer 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.

Customer and Technical Level of service can often mean the same thing but 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 so doing protect property. However if the design results in an ugly addition to the streetscape it would not be meeting the Customer (i.e. community) criteria in terms of appearance.

Service Standards	Description
Function	The purpose of the asset/service.
Design	The requirements/provisions of the assets/services.
Performance/ Amenity	The effectiveness of the provision of the service. The efficiency of service delivery. The presentation of the asset/program/activity.

Table 11: Service Standards Categorisation

The Service Standards may contain both strategic and operational objectives based on:

- Historical information gathered from customers on expected quality and cost of services;
- Strategic and corporate goals;
- Legislative requirements;
- Legislation, Regulations, Environmental Standards and Industry and Australian Standards that impact on the way assets are managed; and
- Design Standards and Codes of Practice.

The Service Standards provide guidance for the scope of current and future services and the manner of service delivery to be applied across the network to achieve consistency. The Customer Service Standards need to have regarded to:

- Community views and values;
- Best appropriate practice industry standards;
- The need to provide a building network that is safe for all users; and
- Ability of Council to fund maintenance and operational activities.

It is recommended that a hierarchy is to be used as the basis for determining the various standards across the asset portfolio in line with relevant risk factors, while having regard to the significance of the asset to the community.

The Technical Service Standards are aligned with:

• Quality	• Aesthetics
• Quantity	• Reliability
• Safety	• Responsiveness
• Capacity	• Environmental acceptability
• Fitness for purpose	• Costs

Table 12: Technical Standards

The Technical Service Standards describe asset usage, renewal, maintenance and operational criteria under the categories of function, design and presentation/amenity.

Asset design criteria is addressed on an individual basis dependent upon the intended use of the asset and surrounding planning requirements, utilising relevant engineering design guidelines. It is recommended that the Shire develop minimum design criteria. An example for buildings is as follows;

- All buildings to have inbuilt energy efficiency.
- All buildings to incorporate solar design principles.
- All buildings to have disabled access.

The intention is that building assets not currently meeting the target specification will be reconstructed to the target level where practicable.

Where there are specific needs or funding opportunities, the Council may deem it important to exceed the standard specifications to improve such things as functionality, safety, accessibility, providing that funding can be sourced for that change.

It is important to understand that there may be differences between the specified Service Standards and the Service Standards delivered. There are many reasons for the difference and, until that factor is quantified, it will be impossible to determine the affordability factor. This Plan begins the quest to determine those matters cognisant of the fact that it will take some time to gather the financial information to support the calculations.

It is also important for the Shire to achieve an understanding of the current liabilities for asset and service management, within the specified Levels of Service framework. From that point, it will be possible to project the financial and operational requirements for the growth phases, firstly due to internal strategies, and secondly, the potentially extraordinary growth due to external strategies.

The Shire will need this information to substantiate its position as competent administrator/ manager of its asset network and to be able to make the case for funding to support the growth. The Levels of Service information will also provide an important demonstration of the degree of Council control and influence over the factors which will help determine outcomes.

It is fair to conclude that the evolution of the asset network and current Levels of Service are closely aligned and consistent with community needs (albeit they are not recorded and have not been recently tested with the community). It is also fair to conclude that in the absence of major community requests for new and upgraded asset, that the current and desired Levels of Service are also relatively closely aligned.

Before setting levels of service, the Shire will need to determine and document the current levels provided and document these in the AMP. As further information on customer expectations becomes available, AMP should be updated to reflect those findings.

Recommendation 4. ***That the Shire of Wyndham-East Kimberley determine and document current Technical and Customer Levels of Service.***

As noted above, Levels of Service have yet to be formally defined for the Shire's asset portfolio. The service provided to date have largely been determined by the funds available (based on historical cost) and not necessarily by need.

This has meant that maintenance and renewal activities in any given financial year have traditionally been limited to the amount spent in previous years. This is not the most desirable situation. Rather expenditure should be set on an "as-needs" basis to guarantee a minimum level of service and optimum performance of each asset, and ensure a maintenance backlog and renewal gap is not created in the long term.

3.3 Strategic Levels of Service

This section covers the provision of services in terms of key customer outcomes, including:

- Appropriateness of service;
- Accessibility of service – within reasonable hours;
- Affordability – acknowledging that assets and services may need to perform to different levels across the community to accord with demographic profiles;
- Relevance of the services provided – in terms of demand characteristics, future demographics and renewal profiles; and
- Ensuring that quality processes and risk management principles are appropriate and applied as required.

Typical standards are recorded in the table below.

Service Criteria	Council Action	Performance Measure
Legislative Compliance	To ensure that all buildings comply with all relevant legislative provisions.	Annual audit based on periodical inspections / records. 100% compliance with all Legislative Acts, Regulations and Codes.
Cost effectiveness	To provide the Levels of Service in the most cost-effective manner.	Current cost apportionment project will provide valuable data to understand costs of services, costs of adjustments to services, effectiveness of services, (compared with best appropriate practice), and the best way(s) to allocate available funding. This information will be used to support the development of 'productivity ratios'

Service Criteria	Council Action	Performance Measure
		for various activities.
Customer satisfaction	To ensure that levels of service align with customer needs.	Customer surveys indicate that current alignment of services is well received by community – there is a need to better tailor the questions for the survey to confirm their relevance. Performance measures should align with current industry standards.
Asset conditions	Monitoring asset condition profiles to ensure that assets do not degrade unmanageably during the reporting period.	Set standards for average asset condition profiles based on Levels of Service (not budget).
Maintenance and Operational/Risk Responsiveness	Maintain Risk Register for all maintenance and operational activities and monitor effectiveness of risk treatments.	Risk will be managed by maintenance and operational activities – success indicators are aligned with effectiveness and efficiency of the treatments.

Table 13: Strategic Levels of Service

3.4 Function & Hierarchy

Asset function decides its strategic importance within the network.

Local Governments do not have the resources to maintain every asset to the same level of service. Placing the asset within a hierarchy and assigning different levels of service to each level of the hierarchy (based upon importance in terms of such things as risk, social benefit, function, etc) enables the Local Government to optimise the allocation of resources.

This means that the higher order assets attract greater resource because they carry greater risk and are of greater importance to the community. They may have shorter lead times to intervention to repair, maintain or renew the asset. Whereas assets that sit further down the asset hierarchy, do not carry the same level of importance. Lead time to intervention may be greater.

The recommended Functional Building Hierarchy for an asset group such as buildings (FBH) is as follows;

Category 1 – National/State Significance: Public facilities utilised to deliver services of significance to the State or Nation. An example would be the State Library, State Hockey Stadium, Subiaco Oval, HMAS Sydney War memorial, a nationally important environmental centre or facility of State or National historical significance. Generally only one facility of this nature would exist in the state. A facility of this nature would have a high frequency of usage and could be expected to be multi-purpose or be specific to the purpose. These types of facilities are generally under the control of the

State or Federal Government or private enterprise however can often be located on land under the control of local government.

Category 2 – Regional Significance: These types of facilities provide for functions that are of regional significance, i.e. a large proportion of users come from outside of the district. An example would be a regional recreation centre. Generally only one facility of this nature would exist within the region. A facility of this nature would have a high usage rate and could be expected to be multi-purpose or single purpose.

Category 3 – District Significance: These types of facilities provide for functions that are of significance to the district. They are used mainly by people living within the local authority and from across the local authority. Examples would be the local authority administration building, district library or skate park. Facilities of this nature would have high frequency of use and could be multipurpose or single purpose.

Category 4 – Local Area Significance: These types of facilities provide for functions that are of local significance. They are used mainly by people living within a suburb, town, ward or local area. Examples would be a toilet block at a local park or a local fishing jetty.

Category 5 – Neighbourhood Significance: These types of facilities provide for functions that are of immediate neighbourhood significance. They are mainly used by people within a block or two of where they live or equivalent to the 400m Pedestrian catchment identified in Liveable Neighbourhoods.

3.4.1 Rural Road Hierarchy

The Shire's Roads have been classified on the basis of the State Rural Road Hierarchy adopted by Main Roads Western Australia. Main Roads details the following in relation to the State Road Hierarchy;

Main Roads Western Australia (Main Roads), in co-operation with local government, manage Western Australia's road network.

Roads vary considerably in their role across the State. The roles include providing for:

- efficient mobility on high volume, fast moving urban and rural roads such as highways;
- low traffic volume, pedestrian and cyclist friendly access throughout residential areas;
- linkages between towns in rural areas; and
- access to properties in agricultural and remote pastoral areas.

The ability of roads to perform their role can be improved significantly by using suitable traffic management treatments. Obviously traffic calming devices are not appropriate on a freeway and interchanges are not appropriate for residential streets or minor rural roads. It is therefore important that the right category be allocated to all roads to ensure relevant traffic management treatments are provided.

To promote effective and efficient traffic management, Main Roads, in consultation with local governments in the early 1990s, developed a Road Hierarchy to designate the role of all roads and to encourage uniform traffic management of roads of the same type. The hierarchy was based on the "separate functions" principle set out in the (then) State Planning Commission's policy statement on road classification for urban planning purposes. The Hierarchy system was subsequently extended to cover all roads in Western Australia, with an additional category created to accommodate important distributor type roads in rural areas.

The Western Australian Road Hierarchy covers approximately 149 000 kilometres of State and local government roads. A total of 139 local governments manage some 131 000 kilometres of that network.

Main Roads directly manages approximately 18 000 kilometres of roads. These are 'freeways', 'highways' and 'main roads', collectively known as State Roads, and are designated as "Primary Distributor" roads in the hierarchy. All have a similar role, to provide for the efficient mobility of people and goods. They carry relatively high traffic volumes of fast moving traffic to meet the primary road transport needs of the State.

Hierarchy Categories

The Road Hierarchy consists of six types of roads:

- Primary Distributor; (built up and rural areas)
- Regional Distributor; (rural areas)
- District Distributor A; (built up areas)
- District Distributor B; (built up areas)
- Local Distributor; (built up and rural areas)
- Access Road. (built up and rural areas)

Note: The classification of "Primary Distributor" is reserved for State Roads.

Road Types

Road Hierarchy types are briefly described below. Specific criteria for each category are provided in the Road Hierarchy Table link.

Primary Distributor:

Provide for major regional and inter-regional traffic movement and carry large volumes of generally fast moving traffic. Some are strategic freight routes and all are State Roads. They are managed by Main Roads Western Australia.

Regional Distributor:

Roads that are not Primary Distributors, but which link significant destinations and are designed for efficient movement of people and goods within and beyond regional areas. They are managed by local government.

District Distributors:

District Distributor A and B roads run between built up area land-use cells and generally not through them, forming a grid which would ideally space them about 1.5 kilometres apart. They are managed by local government.

District Distributor A:

Carry traffic between industrial, commercial and residential areas and generally connect to Primary Distributors. These are likely to be truck routes and provide only limited access to adjoining property.

District Distributor B:

Perform a similar function to type A District Distributors, but with reduced capacity due to flow restrictions caused by frequent property accesses and roadside parking in many instances. These are often older roads with a traffic demand in excess of that originally intended.

Local Distributor:

Local Distributor roads are managed by local government. Their role is similar in both built up areas and rural areas, but traffic volumes and thus traffic management requirements differ significantly:

Built Up Area

Roads that carry traffic within a cell and link District Distributors or Primary Distributors at the boundary, to access roads. The route of Local Distributors should discourage through traffic so that the cell formed by the grid of higher order distributor roads, only carries traffic belonging to, or serving the area. Local Distributors should accommodate buses, but discourage trucks.

Rural

Connect to other Rural Distributors and to Rural Access Roads. They are not Regional Distributors, but are designed for the efficient movement of people and goods within regional areas.

Access Road:

Provide access to abutting properties with safety aspects having priority over the vehicle movement function. In urban areas, these roads are bicycle and pedestrian friendly, with aesthetics and amenity also important. Access Roads are managed by local government.

3.5 Customer Research

Specific community consultation is required to understand what the community values in terms of service delivery from assets.

Historically, interpretation of community need with respect to assets has been based on community comment and the knowledge of key staff members who manage the asset on a day to day basis. Community consultation has also occurred on a project specific basis.

In the past, customer feedback has predominantly determined the ongoing level of service delivered on a particular asset, but not through any quantified and formalised process

As targets for levels of service provide the basis for lifecycle management strategies and capital programs, community consultation specific to the Shire's assets need to be undertaken to determine community expectation and to set levels of service required for each asset classification.

The level of service of each of those classifications needs to be reviewed and revised as appropriate.

The current level of service strives to provide, but is not limited to the following:

- Assets that provide adequate services;
- All assets are to be maintained in a clean, safe, workable condition; and

- Aesthetically pleasing and easily maintainable assets.

More targeted customer research will be required in order to determine "Customer" Level of Service. For example Zincalume Roof Cladding is cheaper than Colourbond Roof Cladding which is cheaper than clay tiles. However the community may demand that building roofs are clad in clay tiles rather than Colourbond or Zincalume to ensure they are in keeping with buildings of the surrounding district. From a "Technical" Level of Service point of view, all three perform the same task, i.e. keep the building weather proof.

Recommendation 5. ***That the Shire of Wyndham – East Kimberley develops targeted criteria to consult the community on in relation to each asset group.***

3.6 Strategic & Corporate Goals

The Shire has recently adopted a new Strategic Plan that includes an objective committing to maintain public infrastructure. Like many local government authorities, the Shire has historically managed its assets on a day to day basis utilising the in-house technical knowledge retained by key staff members.

Whilst this approach has served the organisation and the community to date, the Shire recognises the need to take a more businesslike and organisation wide approach to asset management and one which involves the community on a wider basis.

Essentially the corporate goal is to have a "whole of life cost" approach to the provision and maintenance of assets and to consider the ongoing costs of existing assets when making decisions on the renewal/replacement of existing assets or acquisition of new assets. To achieve this goal, the Shire has committed to participating in the processes undertaken under the Western Australian Asset Management Improvement (WAAMI) Program.

The WAAMI Program focuses on assisting local governments to implement a standardised strategic framework for asset management. The framework is set out in the Institute of Public Works Engineering Australia's International Infrastructure Management Manual as indicated below:

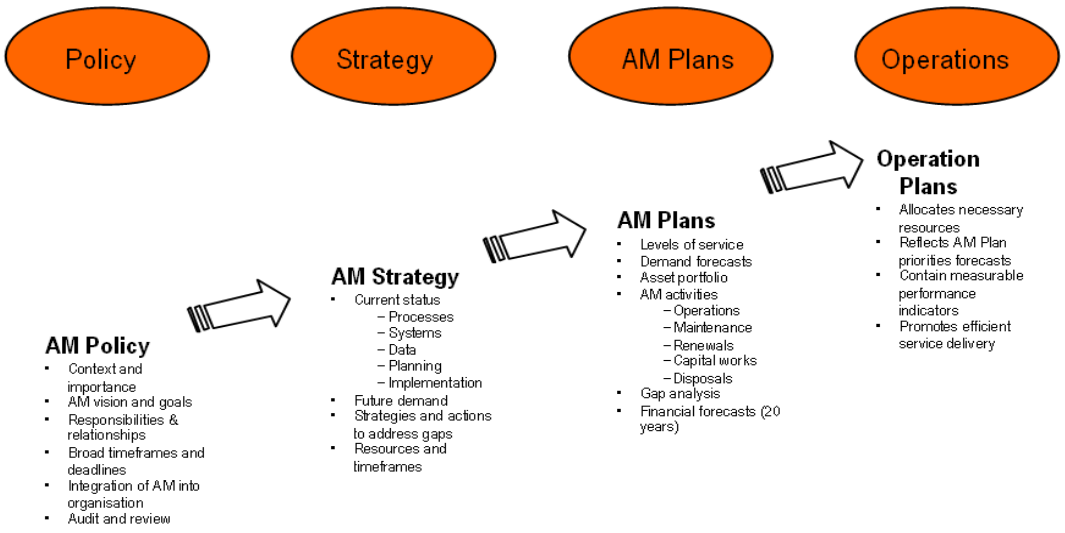


Figure 10: Linking Policy to Operations

The WAAMI Program is now aligned with the National Asset Management and Financial Planning Assessment Framework (NAMAF). This is in response to the introduction of the Federal Government's National Local Government Sustainability Framework (Sustainability Framework).

The new assessment framework allows local governments to assess their maturity against the Sustainability Framework and provides comparison between themselves, their immediate neighbours, other local governments across the state and across the nation.

The Assessment Framework helps local government understand the linkages and integration of asset management across their whole business planning and service delivery framework from:

Strategic Planning > Asset and Service management Plan > Long-Term Financial Plan > Resource Plan > Forward Capital Works Plan > Budget.

3.7 Legislative Requirements

Key legislation relating to the management of assets includes:

- Road Traffic Act 1974
- Main Roads Act 1930
- Environment Protection Act 1986
- Occupational Safety and Health Act 1984
- Local Government Act 1995
- Native Title Act 1999
- Planning and Development Act 2005
- Heritage of Western Australia Act 1990
- Conservation and Land Management Act 1984
- Land Administration Act 1997 and
- Aboriginal Heritage Act 1972
- Building Code of Australia

4.0 Future Demand

The population of the Shire is estimated to have increased by 14% over the period 2006 to 2011.

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Pop	7,211	7,280	7,344	7,290	7,257	7,159	7,310	7,682	7,861	7,971	8,164

Table 14: Population increase within the Shire since 1986 (Source ABS)

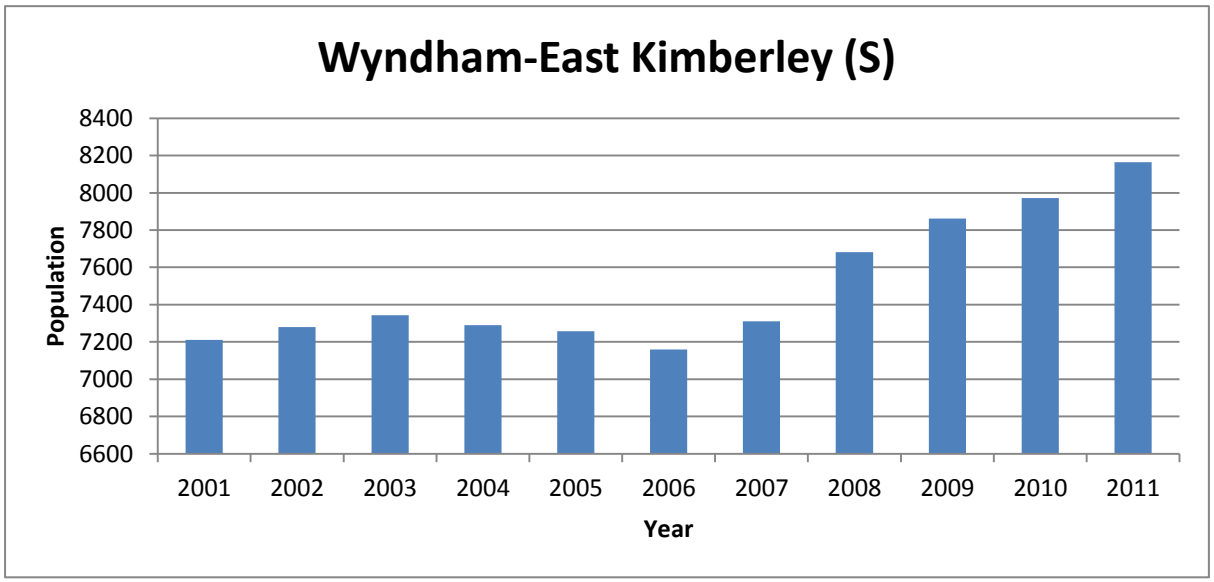


Table 15: Estimated resident population within the Shire 2001 - 2011 (source ABS)

4.1.1 Local Planning Strategy[1]

The Shire is characterised by a diverse and dynamic economy that is primarily driven by mining, agriculture and tourism. A key feature of the Shire is the Ord River Irrigation Area (ORIA), created in the 1960's from a vision of the then government to have a large, vibrant and economically viable irrigation district in the north of the state. At 14,000ha and producing some $57 million dollars in value annually, this vision is now a reality.

Although the population of Shire is relatively small, the rate of growth is among the strongest within the State and is placing demands on the main population centres in terms of land supply, infrastructure and the requirements of the commercial sector.

The current estimated resident population (ERP) of the Shire is about 8,100. This represents about one-fifth of the total Kimberley region and less than 0.5% of the entire State population. It is estimated that between 35-45% of the population is Aboriginal.

[1] This extract has been take form the Shire of Wyndham-East Kimberley Local Planning Strategy (LPS), which was endorsed by the WA Planning Commission (WAPC) on September 4 2006. It is now somewhat out of date however a number of key elements are still relevant. The full LPS can be viewed at www.planning.wa.gov.au

Despite its isolation, the population has grown at nearly twice the rate of the rest of regional WA over the last 5 years. This can in part be attributed to the relatively high birth rates among Aboriginal women. Since 1981, the population has grown more than 48%, with an annual average growth rate of about 2.4%.

Of the entire Shire population, most people live within the two towns of Kununurra (about 4,850) and Wyndham (about 750). It is estimated that more than 2,100 people live in Aboriginal communities located throughout the Shire.

The population trends over the last decade show that Kununurra is experiencing a much faster rate of growth than Wyndham and is absorbing most of the population moving into the Shire.

Since 1996, Kununurra has grown at a rate of 2.5% per annum compared with Wyndham, which has been declining at about 1.8% over the same period.

The towns of Kununurra and Wyndham also have relatively large numbers of persons per dwelling. While in Perth the average household size is 2.6 persons per dwelling, in Kununurra this figure is 3.8 and Wyndham 4.8.

Of the more than 80 Aboriginal communities recognised within the Shire, about half are permanently inhabited. While population sizes vary throughout the year, the largest of these communities outside of the two main towns are Kalumburu, located at the end of the Gibb River - Kalumburu Road (pop: about 500) and Oombulgarri (pop: about 300), located on the Forrest River north-west of Wyndham. Smaller significant centres are Bow River (about 100), Woolah (about 80) and Glen Hill (about 60). Some of these communities are not appropriately serviced with infrastructure and social programs and most of them do not have any form of planning control in the form of a CLP.

The higher than normal annual population growth of the indigenous population (3.3%) suggests that some movement of indigenous population into the area has occurred over the last two decades. There is also a marked variation in rates of growth between different localities within the region.

There is a significant variation in median ages between the indigenous population (20 years) and the non-indigenous population (33 years). Further, the life expectancy of the indigenous population is about 25% less than for the nonindigenous population of the Shire. The fertility rate for the indigenous population is relatively high.

Within the non-indigenous population the age distribution reflects a community that is subject to selective inter-regional migration. The overall impact is net additions among working individuals and their associated children, and net losses in teen and retiree age brackets. A high rate of population turnover underpins this pattern of population distribution. In addition, stability in the age pyramid over time reflects the on-going function of the Shire as an area of selective migration tied to short-term employment opportunities.

Transport and Access

The Shire is the most remote region of WA. The Accessibility Remoteness Index of Australia" which considers measures of 9.08 to be 'Very Remote', gives Kununurra a score of 12.0. This means that the population is considered to be relatively disadvantaged, with very little accessibility to goods, services and opportunities for social interaction. It is an accurate indictment on the difficulties of accessing the Shire and the implications this has for commerce and lifestyle.

This situation is even more severe for the numerous Aboriginal communities located throughout the Shire.

Roads

The National Highway network passes through the Shire from the south, linking Kununurra to Halls Creek, and Katherine and the Northern Territory to the east. As part of the strategic road link between Western Australia and the Northern Territory, the Shire, and Kununurra in particular, receives traffic associated with freight and tourism that is critical to the economy of the Shire.

The Shire has responsibility for a local road network (excluding roads under Main Roads Western Australia control) that consists of 1,100km of unsealed roads, and 230km of sealed roads.

The Victoria and Great Northern Highways, and the Gibb River Road, are controlled by Main Roads Western Australia (MRWA).

The Shire relies on a quality road system to transport national and international freight. With the advent of ORIA Stage 2 more than 30,000 hectares within Weaber, Keep River and Knox Creek Plains may be irrigated, with a further 14,000 hectares (approximately) planned for Green Swamp, Ord West and East banks, Mantinea Flats and Canton Plains areas.

The product of these developments will either be exported to South-East Asian markets through the Wyndham Port or road freighted to the rest of the country. It is therefore critical to maintain this physical access.

As major agricultural and mining projects eventuate, coupled with the accessibility spin-offs arising from the Darwin to Adelaide rail link, road freight movements within the Shire will increase in the medium to longer term.

A number of roads have been established as priority projects based on servicing potential mining and agricultural projects within the Shire. Foremost of these are the following:

- A Heavy Haulage Route around Kununurra to relieve the impact of heavy vehicle movement through the town and over the diversion dam bridge. The need for this concept was first identified in 1969 and a preferred alignment to the north of the town has been identified.
- Construction of Parry Creek and Weaber Plain roads to service future agricultural development at Mantinea Flats, Cartton Plains and the M2 channel area.
- Heavy haulage route options around Wyndham to better accommodate heavy traffic associated with movement to and from the port. There are five current heavy haulage route options, comprising the two Port Town site routes, Port Industrial Area route, and two Wyndham 3 Mile routes. A sixth alternative Port Access route (north of the Bastion Range) has recently been proposed consisting of a route around the Bastion Range to the north of the range. This proposal would provide a bypass of the entire town, and would result in fewer traffic conflicts, however, as a longer proposal than the five smaller town site bypasses

Kununurra is central to road movement and accessibility in the Shire and traffic is expected to grow in this locality by 3 – 4% per annum. This equates to a rise in movement since 1994 from 2,000 vehicle trips per day (vpd) to about 5,000 vpd by the year 2021. Within Kununurra the following roads are considered to be most important to the functioning of the town:

- Ivanhoe Road, which provides access to farming properties and Ivanhoe Crossing. This is the designated road for all freight vehicles accessing the ORIA.

- Weaber Plain Road, which provides access to farming properties in Weaber Plains and future farming areas in Keep River and Knox Creek Plains. This road will require a major upgrade in the development of ORIA Stage 2.
- Mills Road link provides a connection between Ivanhoe and Weaber Plain roads and is intended to form part of the future Heavy Haulage Route.
- Packsaddle Road, which provides access to the farming properties along the Packsaddle Plain.

The Shire also has numerous unsealed roads that are used by the growing self-drive and 4WD tourist markets, including the Gibb River, Duncan and Kalumburu roads. While there is an attraction to keep these roads unsealed to satisfy this commercial market, there are pressing needs to ensure access is also viable to the numerous populations they service, such as the Aboriginal communities of Kalumburu, Jimbilum and Yirrallelem.

Some of the access roads, particularly those associated with Aboriginal communities, are not controlled by the Shire and are either privately held or held by agencies such as tile Aboriginal Lands Trust. Most of these settlements are accessed via gravel roads or unmade tracks and are therefore subject to severe scouring during times of inclement weather. The problems are exacerbated with daily use and costly maintenance is required. Roads are frequently closed therefore denying access for school children, supplies and medical assistance.

Air Transport

The principal airport for the SWEK is located in Kununurra, owned and operated by the Shire. Air traffic is increasing and an extension of the only runway may be required to accommodate larger aircraft which are likely to be flying more frequently to Kununurra from Perth, Broome, Darwin and possibly Alice Springs.

This has required the expansion of airport land to the west to accommodate the additional runway length. The type of activities occurring within the airport and the number of operators is likely to increase in the short to medium term. Smaller independent carriers have their own hangars and maintenance areas. Areas and sheds are also set aside for other uses, fuel storage, Department of Defence communications and a manager's residence. A part of the site is used for the cultivation of sugar cane.

The Shire also owns and operates the Wyndham airport. This smaller facility has two runways: one gravel and one sealed. These can only accommodate smaller aircraft - a small Lear jet at most - but is extremely important in servicing the numerous remote Aboriginal communities in the western portion of the Shire.

There are also numerous private airstrips scattered throughout the Shire. As well as servicing pastoral leases and Aboriginal communities, light aircraft are used in the fly-in/fly-out operations for mining, helicopters are used for mustering and there is a growing demand for scenic and tourism nights to such areas as the Bungle Bungles, Faraway Bay and El Questro Resort.

Port Transport

Wyndham Port is the only port in the Shire. The facility is privately run by the Ord River District Co-operative Ltd which, like several other ports in WA, has been formed under an agreement with the Department or Transport. The port forms part of a regular coastal shipping service between Fremantle, Broome and Darwin exporting live cattle and outputs from mining and agricultural operations as well as general cargo, fuel, and naval and recreational docking. The port can accommodate vessels up to 26,000 tonnes, and also has barge and small craft landing facilities.

The port is located in a calm and well protected natural inlet. Activity within the port is seasonal, largely for six to eight months a year where is receives about 90 ship movements. Workforce associated with the port consists of a handful of full time staff and a dozen or so regularly engaged casual employees.

Generally, however, the facility is underutilised and upgrading the port to accommodate expanding mining and agricultural development will be required in the foreseeable future. There is potential within the locality for this expansion.

The Wyndham Port is a vital piece of infrastructure to maintain and enhance choice in the movement of freight to and from the Kimberley.

4.2 Demand Forecast

As the AMP is a Core AMP, no demand forecasting has been done at this point in time. This will be carried out as part of future reviews of the AMP.

Recommendation 6. ***Develop demand forecasts and detail their implication for each major asset group***

4.3 Demand Planning

The objective of demand management is to actively seek to modify customer demands for services in order to:

- Optimise the utilisation / performance of existing assets;
- Reduce or defer the need for new assets;
- Meet the organisation's strategic objectives;
- Deliver a more sustainable service; and
- Respond to customer needs.

It is vital to the success of the Asset Management Plan that demand factors be analysed comprehensively, and their impact quantified in terms of the following:

- The effect of the growth of the asset network;
- Any possible future need to increase or decrease infrastructure; and
- The implementation of non-asset solutions, such as managing demand.

In addition to the factors mentioned above, risk affects demand for services and consequently the following must be taken into account:

The methodology and accuracy of forecasts;

- The currency of forecasts;
- The uncertainty of forecasts; and
- Any unforeseen natural factors.

As this is a "1st Cut" Core Asset Management Plan, Demand Planning cannot be addressed at this stage without the gathering of the above information.

4.4 Management Strategy

Demand management strategies provide alternative to the creation of new assets through modifying customer demands. A key long term strategy is to manage demand so that future services can be provided at a reasonable cost without a negative impact on delivery. It is expected that proper demand management strategies will allow for the deferral of the construction of key infrastructure.

Effective strategies maximise the utilisation of existing assets through consolidating services or disposing of assets that are surplus to requirements, and are based on the following principles:

- Assets should be retained where it supports the delivery of Council's core services. If Council has a particular asset that is more aligned to the responsibility of another tier of government, the private sector or a particular community group, then opportunities to transfer the responsibility to the relevant entity should be considered.
- The use of existing assets should be optimised to provide ratepayers with a value for money service.
- Demolition or disposal should be considered for assets that have no demonstrated ongoing need and that are in a poor condition and/or are unsafe.

The following outlines the process of developing a demand management strategy for the building and facility assets:

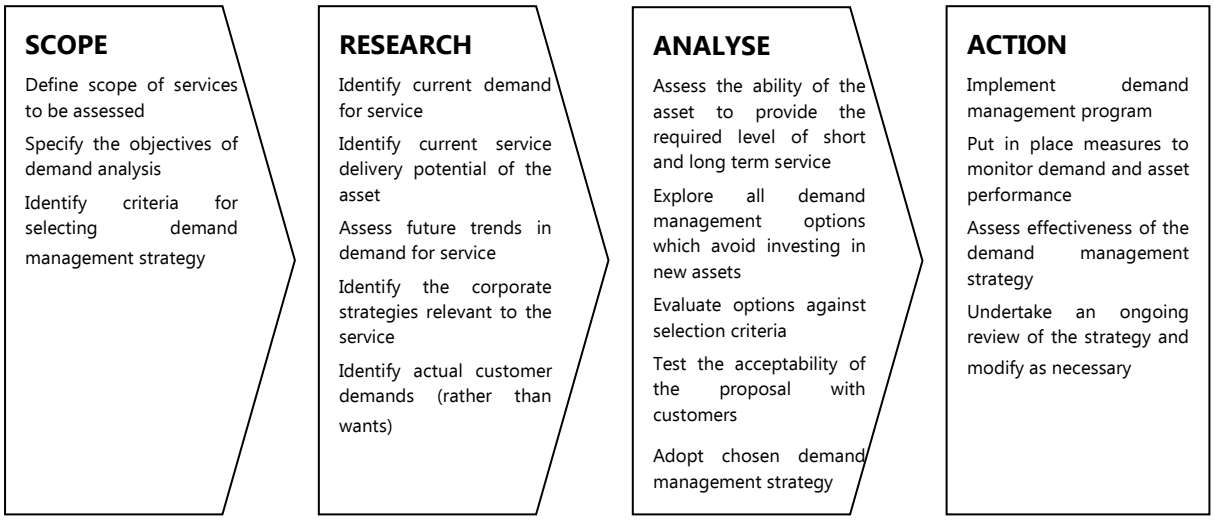


Figure 11: Demand Management Options Flowchart

The challenge for the Shire will be to now tie this information to demand for existing and future services which in turn will drive the demand for specific assets. For example, if the data related to future demand is indicating an aging population, then future service need may be centred on services for the aged.

This could result in greater resources directed toward ensuring that Council controlled buildings cater better for an older population. Facilities such as Senior Citizens Centres, Bowling Clubs and the like and importantly that these facilities provide for easy access by sight and mobility impaired users.

5.0 Risk Management

Asset Management involves making decisions regarding the future of assets in all aspects - operations, maintenance, renewal, replacement and new capital works. These decisions are rarely risk free.

The Shire has acknowledged that Risk Management is an integral part of its future organisational activities, practices and processes. The Shire is currently moving to develop its Risk Management Framework but does not currently have the required Framework in place.

A component of this framework will be a Risk Management Plan (Risk Plan). This Risk Plan is a statement of commitment to ensure that the interests of the community, its employees and contractors are protected by minimising loss arising from Council's activities and services.

Like most local authorities, the Shire doesn't have unlimited resources to manage its assets. Therefore the Shire must develop systems that ensure its resources are directed to the areas of most need and with the greatest benefit in order to ensure that resources are allocated wisely. Adverse consequences of poor management practices in relation to the Building network can range from insignificant to catastrophic.

In the absence of a formalised Risk Management Framework, the information in this section is strongly recommended for consideration and inclusion into the (required) future Risk Management Plan.

5.1 Current Risk Management Practices

The Shire is yet to address management of risk, particularly in the following areas:

- A comprehensive Governance Framework;
- Limits on the approval of operational and capital expenditures;
- Reliable internal controls built into financial systems and processes;
- A robust and thorough policy framework;
- Comprehensive insurance cover supported by appropriate insurance practices;
- Responsible guidelines and practices relating to occupational health and safety, equal opportunity employment and sexual harassment;
- Independent audit and access to external legal advice; and
- Fundamental technology and data management controls.

It is suggested that risk management initiatives be developed and introduced. Whilst it must be recognised that it is not possible to eliminate all risk from the Shire's operations, the Shire must identify and prioritise the major risks. It can then determine an acceptable level of risk and then manage that risk accordingly. Such an approach is consistent with the thrust of the Risk Management Standard AS/NZS ISO 31000:2009.

Traditionally, local governments have viewed risk management from a very narrow perspective with the emphasis on 'incident management' (fires, building evacuations, etc), personnel issues (occupational health and safety, injury management, etc) or insurances to mitigate the impact of law suits. Other matters such as 'business risks', 'regulatory risk' and 'environmental risk' have been accorded a lesser priority despite there being a far greater likelihood of the occurrence of such events than say a fire or bomb threat in a facility.

Timely identification and proactive management of business risk is essential to the success of an organisation and is no less relevant in local government than in any other sector. The key to effective

risk management lies in having in place mechanisms to allow for the identification and responsible management of those risks. The risk management process applied should be similar to the Risk Management Standard - a more detailed discussion of the steps in the process is contained in the standard.

5.2 Risk Principles and Process

Risk assessment must be one of the key drivers important to managing the Building network. Ideally, the greater the risk of a detrimental occurrence, the greater proportion of resources that will be directed to addressing that issue. Implementation of risk management will also help reduce the incidence of knock-on effects and therefore spread the Shire's limited resources further.

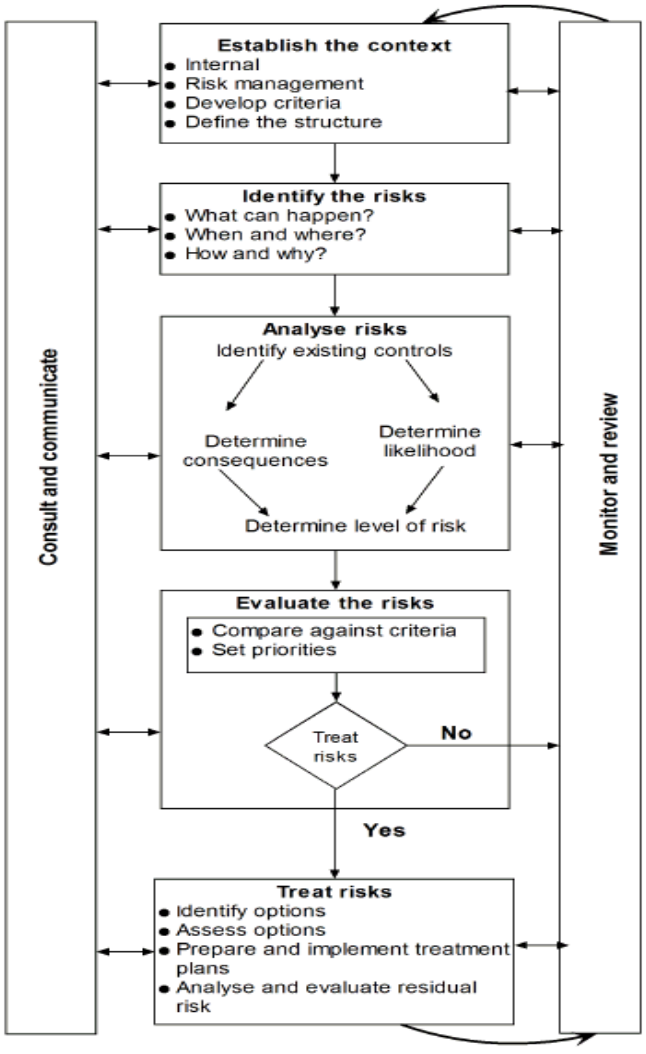


Figure 12: Risk Management Framework

An example could be ensuring that a building roof is repaired at the appropriate time, as to do so too soon will divert resources from other (drainage, parks, road) assets that need attention. Repairing the damaged roof too late may mean other components of the asset network start to deteriorate (internal plaster, carpet, wiring in buildings) and need more costly work done to rectify the situation.

Importantly, the community consultation that forms part of the asset management planning process will help set the framework to determine what issues are important to the community and what are less important. Physical factors associated with risk such as the potential for asset failure leading to cost, inconvenience, property damage and even risk to life in the case of catastrophic failure will also be considered.

The Shire does not currently have a formalised strategy or commitment for the development of this Plan. Post development, it is recommended that this outcome is included in the Strategic Plan ("Plan for the Future") to ensure the development of a structured organisational approach to identifying risks or potential risks, with a view to implementing suitable treatments to responsibly control risks or exposure to risks.

It is recommended that the process outlined within the Australian Standard AS/NZS ISO 31000:2009 is to be utilised in order for Council to achieve the risk management objective, as detailed above.

The major elements of the risk process are:

- Risk context – establishes the criteria to assess risk;

- Risk identification – identifies the risk Council may identify and helps explain the impacts of the risks on the business;
- Risk analysis/evaluation – establishes a risk rating for all assets or asset groups, and identifies the assets that constitute the greatest business risk;
- Risk treatment – identifies which actions are available to reduce risk to an acceptable level, and identifies the most cost effective treatment option; and
- Monitor and review – the ongoing process to ensure risk levels remain at an acceptable level.

It is suggested that the Shire develop a "top-down" process with the development of a policy and strategy that identifies corporate commitment to risk management.

5.3 Risk Management Framework

Within the Risk Management Plan, the Shire needs to develop an organisational wide approach to risk management. The Plan usually consists of a Risk Management Framework, a Risk Management Committee responsible for monitoring the ongoing progression and implementation of the agreed program, Schedule of Identified Priority Risk Exposures, a Risk Register and is to be supported by an Action Plan.

This framework is designed to ensure that:

- All significant operational and organisational risks are understood and identified;
- The highest risks are identified and addressed;
- Risk reduction treatments are implemented which best meet business needs; and
- Responsibilities for implementing, evaluating and managing risks are allocated to specific staff and reporting regimes adopted

5.4 Risk Assessment

The Risk Management Plan needs to consider a diverse range of potential risks faced by the Shire, all of which may have some impact on the Shire's asset portfolio in some way, including:

- Financial Risk (lack of funding or fraudulent application of funds);
- Policy Risk (inadequate policy formulation);
- Legislative Risk (failure to comply with relevant legislative requirements);
- Regulatory Change (dynamic nature of the legislative environment);
- Physical Risk (damage to or loss of Shire assets including building infrastructure);
- Insurance Risk (failure to hold adequate and appropriate insurances);
- Environmental Risk (risk of damage to the Shire's natural environment);
- Planning Risk (inappropriate or indefensible Planning decisions);
- Personnel Risk (injury risk to employees, contractors or visitors);
- Business Interruption (inability to continue to deliver expected services);
- Technology Risk (loss of corporate knowledge and systems failure);
- Events Risk (risks associated with holding events);
- Public Liability (risk of litigation for public liability matters);
- Professional Risk (litigation risk arising from the action/statements of professional officers / members); and
- Infrastructure Risk (risk of major infrastructure failing due to insufficient maintenance).

There are five generic steps to be undertaken in Risk Management and they are as follows:

- Step 1 - Risk Context - Risk Criteria and Consequence of Risk;
- Step 2 - Risk Identification;
- Step 3 - Risk Analysis;
- Step 4 - Risk Evaluation; and
- Step 5 - Risk Treatment.

Acknowledging that the Shire has yet to formalise this requirement, typical steps are quoted below for future consideration by the Shire.

Step 1: Context – Risk Criteria and Consequences of Risk

Across most Local Government Councils within Western Australia, several "key" risk criteria have been identified as being relevant to the management of asset networks.

Criteria	Criteria Name	Criteria Definition
C1.	Personal Injury	Refers to injurious effect upon a person as a consequence of a risk event occurring - ranging from minor (requiring no first aid treatment) through to loss of life at its most extreme.
C2.	Financial Loss	Relates to an adverse monetary impact on the Shire as a consequence of a risk event occurring. A grading is assigned to different levels of potential loss relative to the significance of the impact on the Shire's ongoing operations and its ability to deliver expected services.
C3.	Environmental Damage	Includes any detrimental impact upon the natural environment within the Shire. This includes pollutant spillages and leakages, failure to maintain or enhance the natural environment within the Shire or its connections with its natural or municipal neighbours.
C4.	Legislative Breach	Refers to failure to comply with statutory obligations in the manner in which the Shire, its officers and Elected Members conduct its business and make its decisions and determinations. This embraces the full gamut of legal, ethical and social obligations and responsibilities across all service areas and decision making bodies within the collective organisation.
C5.	Business Interruption	Incorporates the impact of events which impinge upon the Shire's capacity to deliver expected services to the community. These interruptions can range from minor inconvenience requiring n alternative method of service delivery being employed through to forced loss of ability to provide multiple services to all or some of the community. Knowledge loss, technological failure and property damage will also contribute to this outcome.

Criteria	Criteria Name	Criteria Definition
C6.	Damage to Reputation	Deals with adverse impact upon the professional reputation and integrity of the Shire and its representatives whether those persons be appointed or elected to represent the Shire. The outcome can range from a letter of complaint through to a sustained and co-ordinated representation against the Shire and or sustained adverse comment in the media.

Table 16: Risk Criteria Table

The establishment of risk management criteria is one of the most important steps in the risk management process as it sets the framework for consistent risk decision-making. The above criteria are able to be used to determine the "consequence" of the risk in the "Risk Consequence Ratings Table".

Step 2: Risk Identification

To establish organisational buy-in prior to the first Committee meeting, a list of unique identified risks should be developed to advise of potential consequences of each risk, in conjunction with the nominated Risk Coordinator. This identification will assist the Shire in determining existing controls and provide comment as to their effectiveness (i.e. Effective or Ineffective).

It was not expected that all risks to the Shire would be identified as part of this process, but is considered that it would provide the Committee with a catalogue of risks from which to structure a viable and 'user friendly' framework for Risk Management, now and in the future.

The initial framework for identifying risks should highlight the need to address risks other than those relating to incidents of emergency or disaster. This is specifically emphasised to ensure that the focus of the Committee is to be based more on strategic issues with an organisational impact such as knowledge risk, business risk, planning risks, environmental risks, technological risks, etc.

The Shire currently has in place a detailed Emergency and Disaster Plan, which is conveyed to all staff at the point of induction. Ongoing training and 'mock' drills are required to be conducted on a periodic basis to ensure awareness of the Shire's Emergency procedures. The Emergency and Disaster Plans exist as discrete processes outside the Shire's Risk Management processes and are subject to ongoing review.

Risk Reviews are currently required to be undertaken by all Departmental work groups. Once compiled by the responsible Managers, the Departmental Risk Reviews are to be consolidated into a single document. The Committee is to review each of the suggested risk exposures and determine which risks were relevant to the task. Duplications are to be identified and consolidated into more generic groupings. Accordingly, this dimension is to be quarantined from other risks in the process.

Consistently recurring themes of 'Risk Event Outcomes' are to be established and it is considered that these could be utilised as an easy means of grouping, as part of the Analysis and Evaluation process. The 'Risk Event Outcomes' generically identified within Local Government are:

- Business Interruption
- Fatality
- Personal Injury
- Financial Loss

- Reputation
- Social Loss
- Property Damage
- Knowledge Loss
- Legislative Risk

Step 3: Risk Analysis

After a draft list of Identified Risks has been established, the Committee is required to develop a structure by which each identified risk could be assessed, based on the consequences (impact) to the organisation 'should' an incident occur and the 'likelihood' of that incident occurring.

The criteria chosen needs to be relevant to the organisation, cover a variety of key issues, be easily measurable and easily comparable to each other. The wording of the criteria also has to be sufficient to allow all levels of the organisation to relate to each of these aspects.

The Committee is required to draft a set of criteria based on the model identified in the Risk Management Standard. The established criteria indicated below focuses on six (indicative) event outcomes which may potentially be experienced across the Organisation, these being Personal Injury, Financial Loss, Environmental Impact, Legislative Breach, Business Interruption and Reputation.

Further consideration must be given to the likelihood of these events occurring within the Shire's working environment.

The final stage of this process is to develop a matrix with which to determine the level of each risk occurring. The level of risk is calculated by cross-referencing the most relevant consequence and likelihood of a risk and assessing whether a risk exposure is Extreme, High, Medium or Low. The Committee is to consider if the Risk Matrix shown in the Standard requires customisation to reflect the needs of the Shire in assessing risks, as demonstrated below:

Risk No.	Risk Name	Risk Definition
R1.	Asset Identification	This is the risk associated with failing to identify all building assets under the care control and management of the Shire.
R2.	Financial Management	This is the risk associated with failing to accurately identify the financial resources required to manage the building network.
R3.	Achievement	This is the risk associated with failure to achieve the objectives of the long term financial Plan and annual Plan aimed at managing the building network.
R4.	Loss of Service	This is the risk associated with loss of service to the community through the failure of any link in the building network.
R5.	Legislative Compliance	This is the risk associated with failure to meet minimum standards of legislative compliance in relation to provision of building infrastructure.
R6.	Grant Qualification	This is the risk associated with failure to be in position to make best use of available State and Federal Government grants associated with

Risk No.	Risk Name	Risk Definition
		the provision and maintenance of building infrastructure.
R7.	Design and Construct Criteria	This is the risk associated with a failure to design and/or construct any Building (or component) to meet the required level of service objectives for that building infrastructure.

Table 17: Risk Identification Table

Step 4: Risk Evaluation

The risk analysis considers both the likelihood and consequence of events and asset risks. The probability that a risk could occur can be considered using the "Risk Likelihood Ratings Table" below:

Code	Likelihood of Occurrence	Current Probability of Condition Based Occurrence	Equivalent Statistical Probability
A	Almost Certain	Within 1 year	0.9
B	Likely	Within 2 years	0.7
C	Moderate	Within 3 - 10 years	0.2
D	Unlikely	Within 10 - 20 years	0.05
E	Rare	> 20 years	0.02

Table 18: Risk Code Table 1

	C1 Direct Repair Costs	C2 Environmental Impact	C3 Safety and Health	C4 Public Standing	C5 Property Damage	C6 Third Party Service Provision	C7 Loss of Service
1. Insignificant	<$5,000	Small reversible environmental harm, permitted by development approval.	No safety or health impact. Injury managed by first aid.	No media attention of damage to reputation.	<$5,000	<20 Customer hours. Very localised. Little disruptive effect.	<20 Customer hours. Very localised. Little disruptive effect.
2. Minor	$5,000 To $20,000	Localised, non-persistent flooding which dissipates or disperses. Localised damage.	Minor safety or health impact on small number of people. Injury dealt with by Doctor, no hospitalisation .	Minimal media attention but minor damage to image in the eyes of a small group of people. May be some local coverage but not front page.	$5,000 To $20,000	20 – 500 customer hours. Inconvenience to a small group of residents.	20 – 500 customer hours. Inconvenience to a small group of residents.
3. Moderate	$20,000 To $50,000	Serious damage or flooding. Loss of assets.	Serious safety or health impact on small number of people. Injuries require	Negative local media coverage. Community concerned about Council	$20,000 To $50,000	500 to 20,000 customer hours. Small disruption to a wider group.	500 to 20,000 customer hours. Small disruption to a wider group.

	C1 Direct Repair Costs	C2 Environmental Impact	C3 Safety and Health	C4 Public Standing	C5 Property Damage	C6 Third Party Service Provision	C7 Loss of Service
			hospitalisation. Minor impact on large number of people.	performance.			
4. Major	$50,000 To $100,000	Damage to or loss of a regionally or nationally important asset. Large scale local loss of assets.	Extensive injuries or significant health or safety impacts, single fatality.	Negative national media coverage. Major decrease in community support. Loss of key staff.	$50,000 To $100,000	20,000 to 50,000 customer hours. Significant effect on large group. Political involvement.	20,000 to 50,000 customer hours. Significant effect on large group. Political involvement.
5. Catastrophic	> $100,000	Loss of a nationally significant asset.	Widespread safety or health impacts, multiple fatalities.	Negative international media coverage, loss of community support. External enquiry. Appointment of Commissioner.	>$100,000	More than 50,000 customer hours. Significant effect to community at large. Community alienation.	More than 50,000 customer hours. Significant effect to community at large. Community alienation.

Table 19: Risk Code Table 2

The results of considering the probability and consequence of the risk provide a risk rating of 'low' (green), 'moderate' (yellow), 'high' (light blue), or 'extreme' (red), as a result occurring, are shown in the table below:

LIKELIHOOD	CONSEQUENCES				
	1	2	3	4	5
	Insignificant	Minor	Moderate	Major	Catastrophic
A. Almost Certain	H	H	E	E	E
B. Likely	M	H	H	E	E
C. Moderate	L	M	H	E	E
D. Unlikely	L	L	M	H	E
E. Rare	L	L	M	H	H

Table 20: Risk Probability Table

In completing an initial evaluation of the identified risks, it should be recognised that each risk could have more than one outcome and that each outcome could generate a different level of risk. This highlights the need to evaluate each event outcome separately.

The Committee is required to draft a set of event outcomes that are to be aligned with the established criteria as part of the analytical process. The indicative established criteria below focuses on six

(indicative) event outcomes which may potentially be experienced across the Organisation, these being:

- Personal Injury (Personal Injury/Fatality);
- Financial Loss (Financial Loss/Property Damage);
- Environmental Impact (Environmental);
- Legislative Breach (Failure to comply with relevant legislation);
- Business Interruption (Business Interruption/Knowledge Loss); and
- Reputation (Damage to the Shire's reputation).

The only outcome which does not comfortably slot into this consolidated listing is Social Loss. Although a valid risk event outcome, it applies only to a very small number of risks and it has proven very difficult to objectively quantify. Accordingly, the Committee may consider that it still had to be further analysed to determine its merits within the framework.

This phase of the project requires the Committee to re-evaluate the identified risks in this context and complete a review of the level of risk assigned to each event, to determine whether appropriate.

Following this review, the data is to be compiled onto a Draft Risk Register aligned to the Strategic Plan. The highest ranked risk exposures then identified using a classification hierarchy as detailed below are:

- Controls identified as ineffective;
- Extreme or High Level of Risk;
- Major Level of Consequence; and
- At least 'Possible Level of Event Likelihood'.

Using this hierarchy, the highest ranked items are determined to be the risks to be recommended for resourcing in the short term. Recognising the limitations of finite resources and the effectiveness of the existing practices and controls, it is considered that other levels of risks are acceptable to the organisation in the present term. Regular re-assessment of the risks will be conducted to ensure the suitability of the existing controls.

Step 5: Risk Treatment

Once the risks have been assessed and rated, the most significant risks (e.g. those of extreme or high risk) are to be isolated for treatment or control.

Risk Rating	Risk Rating Score	Control
Extreme Risk	>15	Respond within one hour. Immediate action required.
High Risk	10 - 15	Respond within one hour. Priority action required.
Moderate Risk	5 - 10	Respond within one hour. Make safe and programme remedial action as soon as possible.
Low Risk	1 - 3	Respond within one hour Make safe and remediate as part of routine maintenance.

Table 21: Risk Rating Table 2

The Shire's staff have commenced but are yet to formalise a Schedule of Potential Treatments for each prioritised risk based upon the framework for Risk Treatment included in the Risk Management Standard.

When formed, the Committee's role is not to make any final determinations as to the required treatments but to make recommendations to EMT as to possible treatments to be applied. This decision is to be based on recognition that the treatment options are dependent on funding, viability and resources available across the organisation. Accordingly, they must be considered in conjunction with other competing priorities.

It is proposed that, through EMT, suitable treatments are to be endorsed and resourced for implementation. Responsibility for the implementation of the treatment will be determined by EMT, based on the (future) Risk Management Committee recommendations. Suitable timeframes for implementation are to be allocated and resourcing incorporated in the Annual Organisational Plan and included in the individual business units' Departmental Plans.

Conclusion

Despite a challenging timeframe necessary to integrate with other Corporate Planning processes, the Risk Management Committee must be established to conduct a thorough and objective assessment of the Shire's risk exposures resulting in a clearly documented process and Risk Management Plan as a matter of urgency.

The process set in place is clear, precise and will assist all staff with determining how best to handle risks throughout the organisation, whilst minimising losses to the Shire.

Post completion of an initial assessment, the Committee is to be responsible for monitoring the ongoing progression and implementation of the agreed program. Departmental Managers need to be assigned agreed risk priorities relevant to their area and asked to incorporate these initiatives into their Departmental Business Plans.

The Risk Management Committee should provide guidance and mentoring to the business units in implementing the necessary controls/risk treatments. Following implementation of the treatments, a review of the controls should be undertaken and the risk exposure reassessed in light of these controls.

It is strongly recommended that the Council consider the following requirements within the context of the (outstanding) Risk Management Plan:

a) The Risk Register be developed and endorsed;
b) The Schedule of Identified Priority Risk Exposures be developed and endorsed;
c) The Identified Risks be assigned to the responsible Officers; and
d) That appropriate resourcing to permit the successful implementation of the suggested Risk Treatments be developed and included in departmental budgets.

Recommendation 7. ***That the Shire of Wyndham - East Kimberley establish a Risk Management Committee with the task of developing a Risk Management Framework and a Risk Management Plan.***

6.0 Lifecycle Management

One of the goals of Asset Management is to predict the whole- of -life costs of assets over a tong term period (20 years), so that renewal demand can be incorporated into Councils 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. Where available these are included in this plan.

Note: the figures used in this document are in 2011 $. There are no allowances for inflation.

Details of each of the five main asset classes – Roads, Footpaths, Drains, Parks and Buildings are examined in this section.

6.1 Physical Parameters

The Shire has care control and responsibility for over **$659.8m** of Infrastructure Assets ($302.6m in depreciable assets). This information is compiled from existing databases and asset registers. Some of this information is incomplete and/or out of date or not known.

6.1.1 Roads

Road - Formation	Length (m)	Area (m^2)	Renewal Estimate ($)	Data Rating
Sealed Road Formation Regional Dist.	0	0	0	C
Sealed Road Formation Local Dist.	211,374	2,536,488	76,094,640	C
Sealed Road Formation Access	18,210	218,520	6,555,600	C
Unsealed Road Formation Regional Dist.	58,620	879,300	17,586,000	C
Unsealed Road Formation Local Dist.	318,820	3,825,840	76,516,800	C
Unsealed Road Formation Access	713,400	8,560,800	171,216,000	C
Total Road - Formation	**1,320,424**	**16,020,948**	**347,969,040**	

Road - Pavement	Length (m)	Area (m^2)	Renewal Estimate ($)	Data Rating
Sealed Road Pavement Regional Dist.	0	0	0	C
Sealed Road Pavement Local Dist.	211,374	2,113,740	42,274,800	C
Sealed Road Pavement Access	18,210	182,100	3,642,000	C
Unsealed Road Pavement District Dist.	58,620	586,200	2,931,000	C
Unsealed Road Pavement Local Dist.	318,820	3,188,200	15,941,000	C
Unsealed Road Pavement Access	713,400	7,134,000	35,670,000	C
Total Road - Pavement	**1,320,424**	**13,204,240**	**100,458,800**	

Road - Seal	Length (m)	Area (m^2)	Renewal Estimate ($)	Data Rating
Spray Seal District Distributor	0	0	0	C
Spray Seal Local Distributor	211,374	1,479,618	8,877,708	C
Spray Seal Access	713,400	4,993,800	29,962,800	C
Asphalt Seal District Distributor	0	0	0	C
Asphalt Seal Local Distributor	0	0	0	C
Asphalt Seal Access	0	0	0	C
Total Road - Seal	**924,774**	**6,473,418**	**38,840,508**	

Road - Kerb	Length (m)	Area (m^2)	Renewal Estimate ($)	Data Rating
Kerb Seal Access	42,753		1,282,590	C
Total Road - Kerb	**42,753**		**1,282,590**	
Total Roads	**3,608,375**	**35,698,606**	**488,550,938**	

Table 22: Road Infrastructure Summary

Structural Component	Renewal Estimate ($)	%
Road - Formation	347,969,040	71.22%
Road - Pavement	100,458,800	20.56%
Road - Seal	38,840,508	7.95%
Road - Kerb	1,282,590	0.26%
Total	**488,550,938**	**100.00%**

Table 23: Road Values by Structural Component

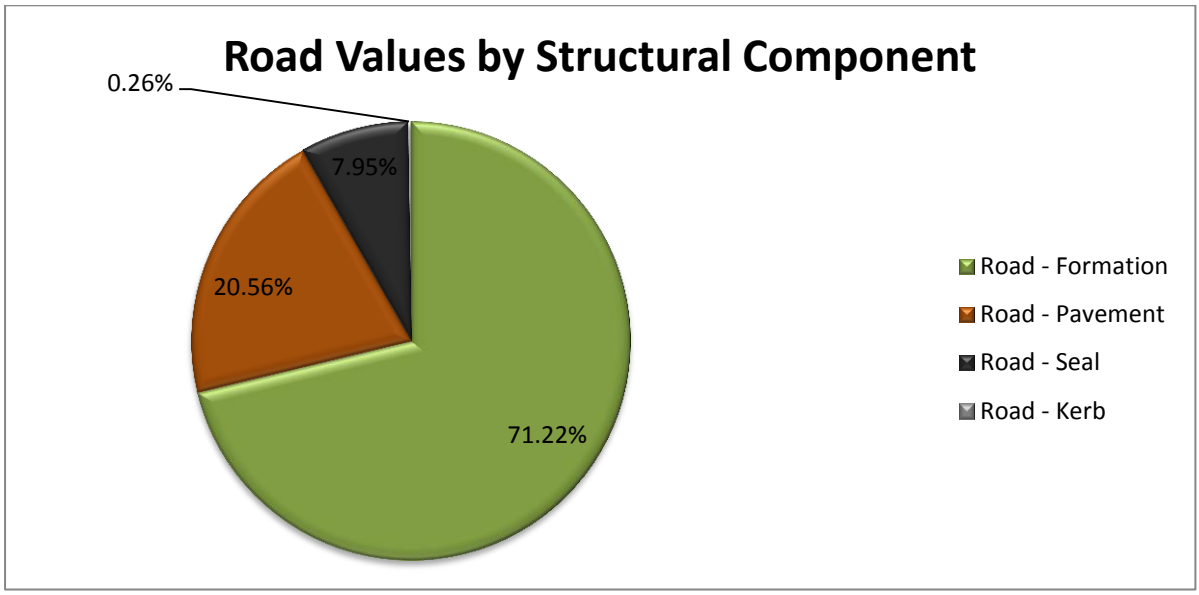


Figure 13: Road Renewal Estimate by Structural Component

Seal Type	Area (m^2)	Renewal Estimate ($)	%
Spray Seal	6,473,418	45,916,800	100.00%
Asphalt Seal	0	0	0.00%
Total	**6,473,418**	**45,916,800**	**100.00%**

Table 24: Seal Type

Road Values by Hierarchy	Renewal Estimate ($)	%
Regional Distributor	20,517,000	4.20%
Local Distributor	219,704,948	44.97%
Access	248,328,990	50.83%
Total	**488,550,938**	**100.00%**

Table 25: Road Values by Road Hierarchy

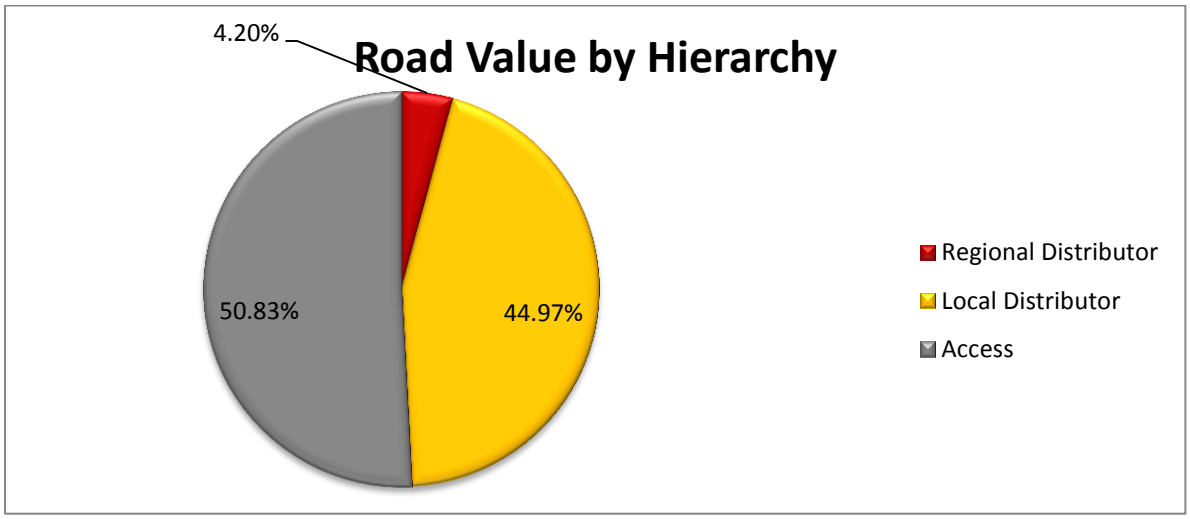


Figure 14: Road Renewal Estimate by Hierarchy

6.1.2 Pathways

Pathways	Length (m)	Area (m^2)	Renewal Estimate ($)	Data Rating
Unclassified surface type	5,850	11,700	585,000	C
Spray Seal	494	665	9,975	C
Concrete Slab	480	804	40,200	C
Insitu Concrete	16,430	28,453	2,276,240	C
Brick Paving	260	733	43,980	C
Total Pathways	**23,514**	**42,355**	**2,955,395**	

Table 26: Pathway Infrastructure Summary

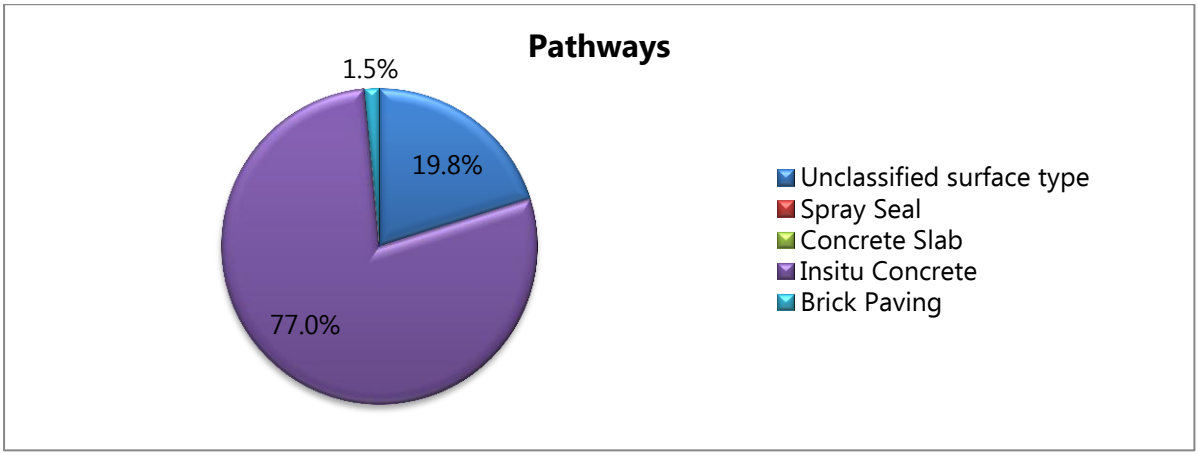


Figure 15: Pathways by Construction Type

6.1.3 Storm Water

Storm Water	Number	Length	Area	Renewal Estimate ($)	Data Rating
Bridges	11	301	1,896	18,960,000	C
Culverts	446			3,122,000	C
Pits	700			1,960,000	D
Pipes		15,000		6,000,000	D
Total Storm Water				**30,042,000**	

Table 27: Strom Water Infrastructure Summary

6.1.4 Buildings

Buildings	Number	Renewal Estimate ($)	Data Rating
Residential Dwellings	21	10,241,896	C
Amenities Blocks	8	929,513	C
Community Facilities	6	15,655,676	C
Halls	2	3,579,519	C
Heritage Buildings	0	0	C
Municipal Buildings	11	32,484,205	C
Sporting Facilities	2	3,245,509	C
Total Buildings	**50**	**66,136,318**	C

Table 28: Building Infrastructure Summary Classified by Type

Buildings	Long Life Structure	Short Life Structure	Roof	Mechanical Services	Fit out
Residential Dwellings	0	6,657,232	512,095	512,095	2,560,474
Amenities Blocks	0	604,183	46,476	46,476	232,378
Community Facilities	0	10,176,189	782,784	779,059	3,895,294
Halls	0	2,326,687	178,976	178,976	894,880
Heritage Buildings	0	0	0	0	0
Municipal Buildings	0	18,621,731	1,197,922	1,432,441	7,162,204
Sporting Facilities	0	2,109,581	152,345	152,345	761,727
Total Buildings	**0**	**40,495,605**	**2,870,598**	**3,101,392**	**15,506,958**

Table 29: Building Infrastructure Summary Classified by Major Component

6.1.5 Parks & Reserves

Parks & Reserves	Number	Length	Area	Renewal Estimate ($)	Data Rating
Play Equipment	5			311,537	C
Active Playing Fields			53,438	2,671,916	B
Passive Recreation Areas			213,130	4,262,600	B
Fencing		5,000		1,250,000	D
Reticulation Pipes		25,000		2,000,000	D
Reticulation Solenoids	50			22,500	D
Reticulation Pumps	4			32,000	A
Lighting	40			600,000	D
Total Parks & Reserves				**11,150,553**	

Table 30: Parks Infrastructure Summary

6.1.6 Miscellaneous

Miscellaneous	Number	Length	Area	Renewal Estimate ($)	Data Rating
Runway Formation			91,928	9,192,800	B
Runway Pavement			91,928	2,757,840	B
Runway Seal			91,928	1,378,920	B
Taxiway Formation			47,155	4,715,500	B
Taxiway Pavement			47,155	1,414,650	B
Taxiway Seal			47,155	707,325	B
Apron Formation			63,883	6,388,300	B
Apron Pavement			63,883	1,916,490	B
Apron Seal			63,883	958,245	B
Runway Lighting	2			1,500,000	D
Boatramps	5			1,250,000	B
Jetties			1,600	6,400,000	B
Total Miscellaneous				**30,807,410**	

Table 31: Miscellaneous Infrastructure Summary

6.1.7 Infrastructure Summary

Infrastructure Summary	Renewal Estimate ($)	%
Roads	488,550,938	77.59%
Pathways	2,955,395	0.47%
Buildings	66,136,318	10.50%
Storm Water	30,402,000	4.77%
Parks & Reserves	11,150,553	1.77%
Miscellaneous	30,807,410	4.89%
Total Infrastructure	**629,642,614**	**100.00%**

Total Infrastructure (ex Formation)	**269,149,634**	

Table 32: Infrastructure Summary

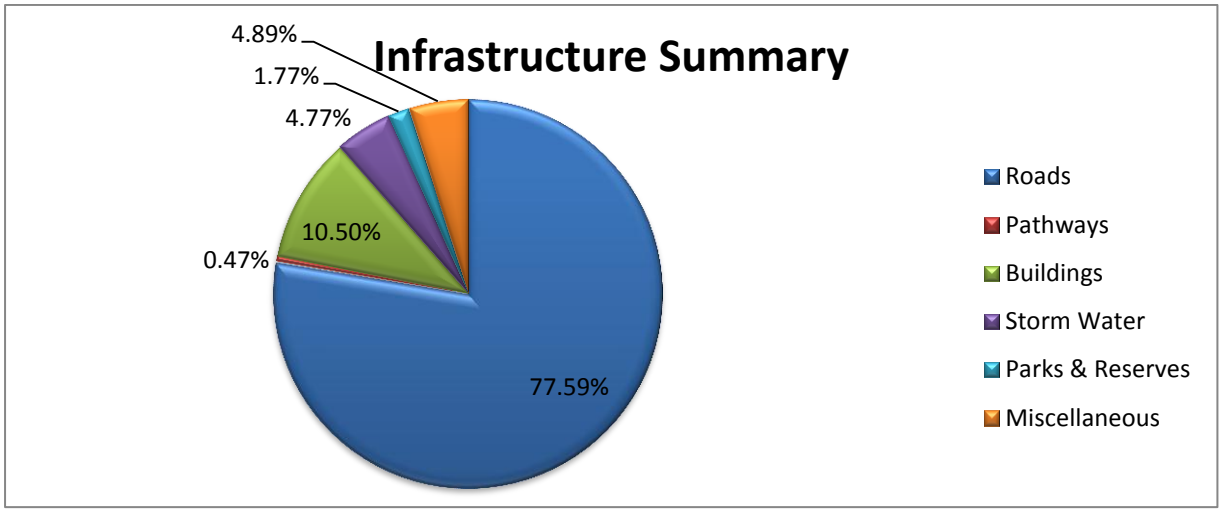


Figure 16: Infrastructure Summary

6.2 Ownership Function

The Shire, 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 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. Examples of these types of buildings are the Administration Building, Depot, Library, etc.

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 and Maintenance Strategy and the Renewal and Replacement Strategy. 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 and are the responsibility of the Shire to fund Operation, Maintenance, Renewal and Upgrade.

Build ID	Building Name	Location	Responsibility
	To be populated		

Table 33: 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
B1234	E.g. Wombat Football Club	Wombat Oval	100%	50%	25%	100%	Wombat Football Club
	To be populated						

Table 34: Buildings Partially Funded by the Shire

Council – No Responsibility

The following buildings and structures are located on land controlled by the 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
	To be populated		

Table 35: Buildings that are not the Responsibility of the Shire to Fund

Recommendation 8. ***The Shire of Wyndham – East Kimberley develops and maintains a comprehensive record of asset responsibilities.***

6.3 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 Shire 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 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.

6.4 Asset Life

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. The lives of each asset element/component utilised in the financial modelling undertaken in developing the AMP are as follows;

6.4.1 Road Pavement Life

Road - Pavement	Life
Sealed Road Pavement Regional Distributor	80
Sealed Road Pavement Local Distributor	80
Sealed Road Pavement Access	80
Unsealed Road Pavement District Distributor	20
Unsealed Road Pavement Local Distributor	20
Unsealed Road Pavement Access	20

Table 36: Life of Road Pavements

6.4.2 Road Seal Life

Road - Seal	Life
Spray Seal District Distributor	30
Spray Seal Local Distributor	30
Spray Seal Access	30
Asphalt Seal District Distributor	35
Asphalt Seal Local Distributor	35
Asphalt Seal Access	35

Table 37: Life of Road Seals

6.4.3 Road Kerbing Life

Road - Kerb	Life
Kerb	40

Table 38: Life of Road Kerbing

6.4.4 Pathway Life

Pathways	Life
Unclassified surface type	60
Spray Seal	30
Concrete Slab	50
Insitu Concrete	80
Brick Paving	40

Table 39: Life of Pathways

6.4.5 Storm Water Life

Storm Water	Life
Bridges	80
Culverts	80
Pits	60
Pipes	60

Table 40: Life of Storm Water

6.4.6 Building Life

Building Element	Life
Structure Long Life	80
Structure Shire Life	60
Roof	30
Mechanical Services	25
Fit out	30

Table 41: Life of Building Elements

6.4.7 Parks & Reserves Life

Parks & Reserves	Life
Play Equipment	25
Active Playing Fields	50
Passive Recreation Areas	80
Fencing	60
Reticulation Pipes	40
Reticulation Solenoids	30
Reticulation Pumps	30
Lighting	30

Table 42: Life of Parks & Reserves

6.4.8 Miscellaneous

Miscellaneous	Life
Runway Formation	
Runway Pavement	80
Runway Seal	20
Taxiway Formation	
Taxiway Pavement	80
Taxiway Seal	20
Apron Formation	
Apron Pavement	80
Apron Seal	20
Runway Lighting	15
Boatramps	50
Jetties	80

Table 43: Life of Miscellaneous Assets

6.5 Condition

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,

Condition Rating	Definition
	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 44-Condition Rating Definitions

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 are in need of 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.

6.5.1 Current Condition

The Shire has limited asset condition information. For the purposes of this 1st Cut plan, informed assumption has been made by staff 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 (see Footnote 2 on page **Error! Bookmark not defined.**).

The default condition distribution profiles provided in the Moloney Model range from Very Good to Poor and distributed as follows;

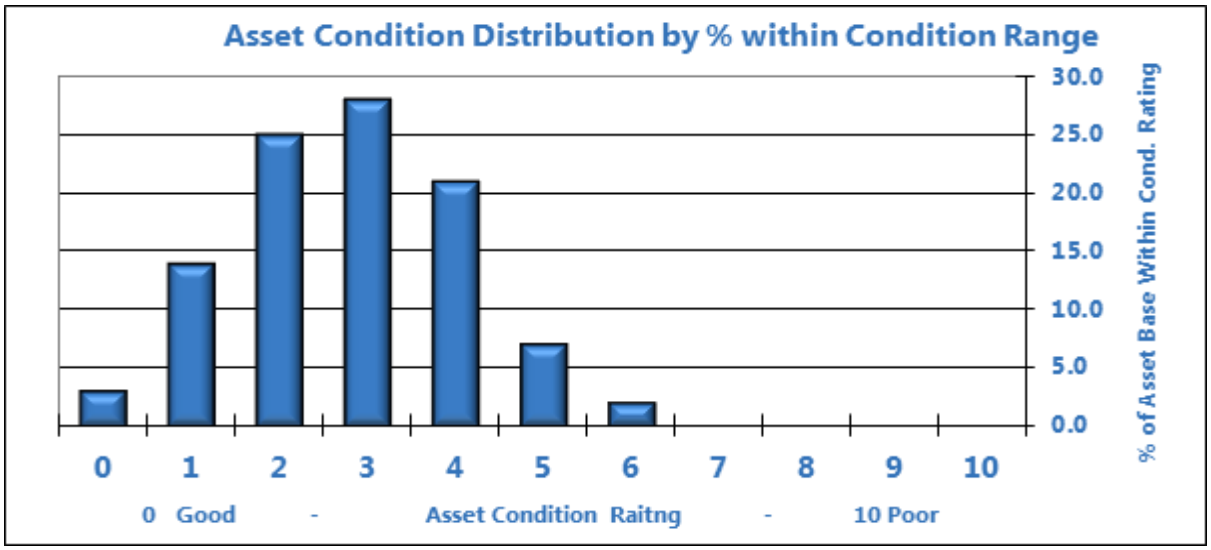


Figure 17: Very Good Default Condition Distribution

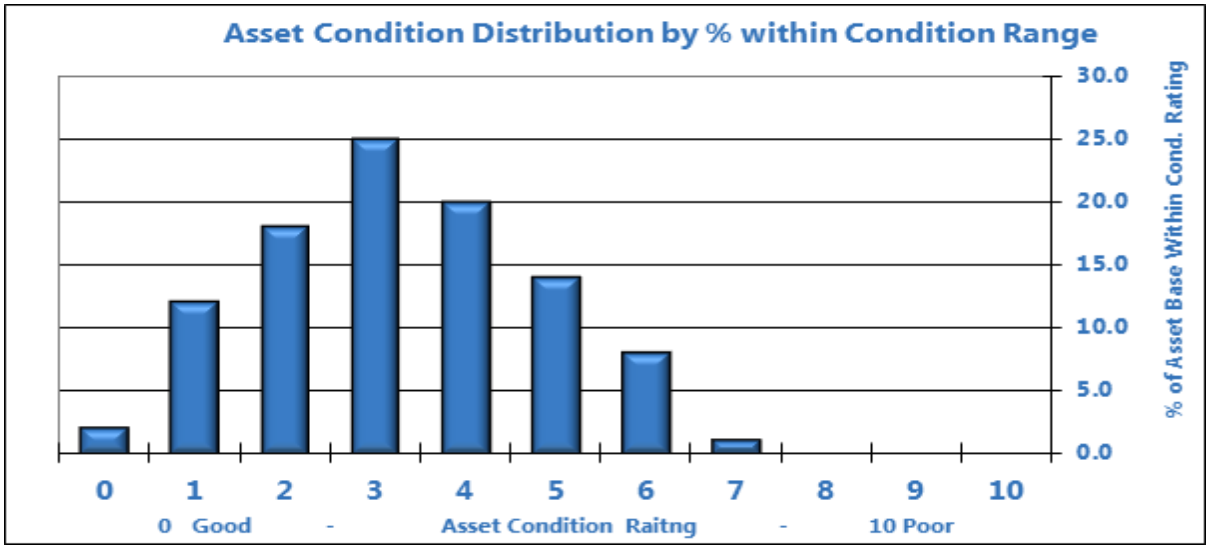


Figure 18: Good Default Condition Distribution

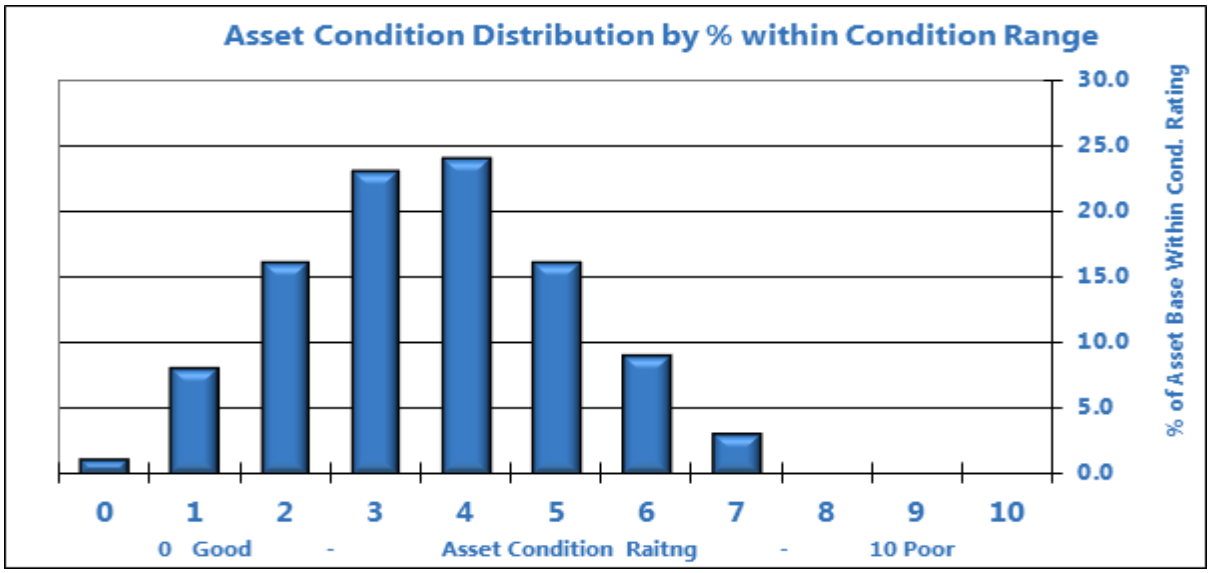


Figure 19: Above Average Default Condition Distribution

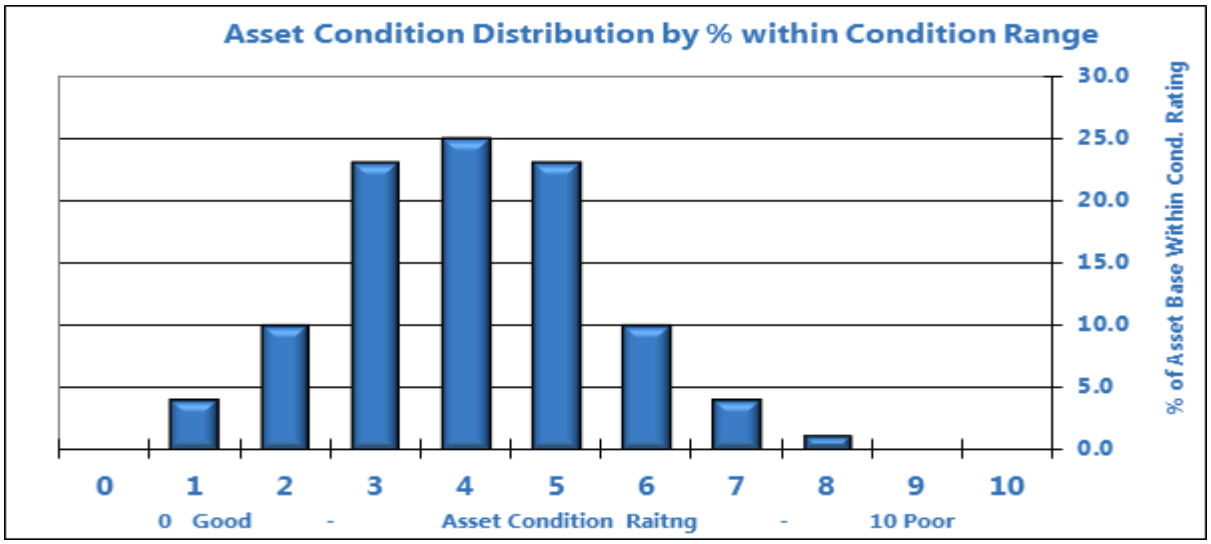


Figure 20: Average Default Condition Distribution

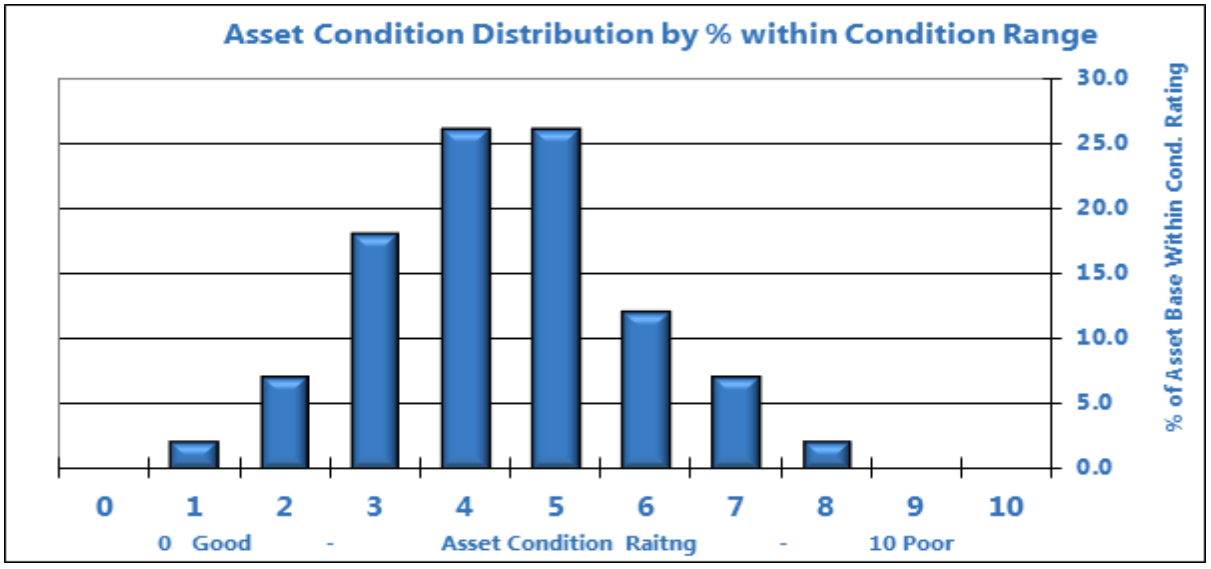


Figure 21: Below Average Default Condition Distribution

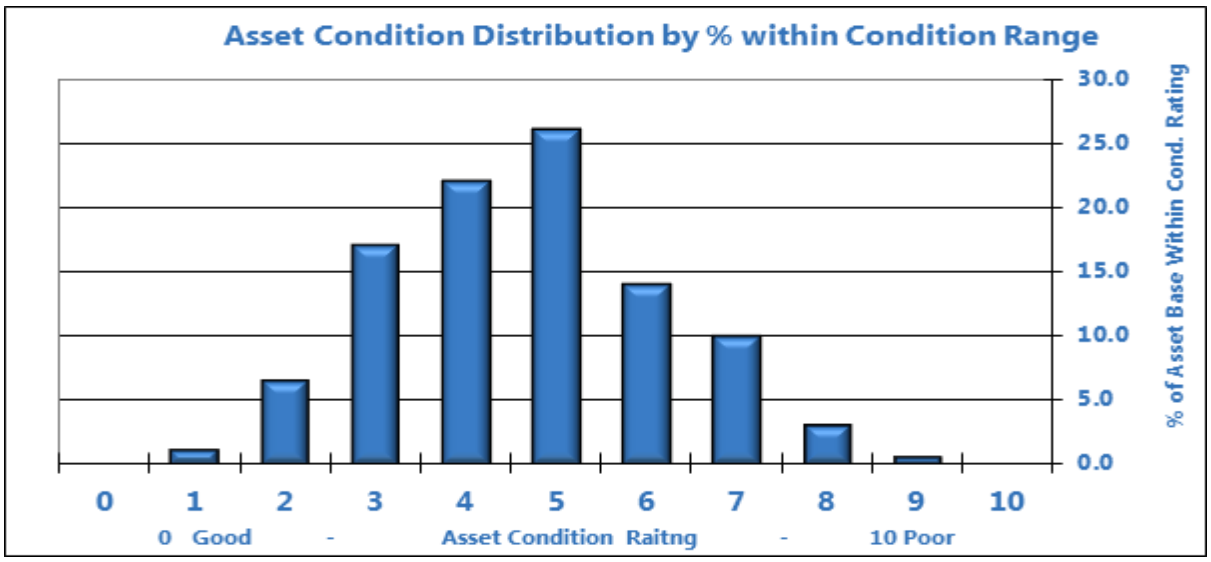


Figure 22: Poor Default Condition Distribution

6.5.2 Selected Condition Profile of Road Pavements

Road - Pavement	Default Condition
Sealed Road Pavement Regional Distributor	Not Modelled
Sealed Road Pavement Local Distributor	Average
Sealed Road Pavement Access	Average
Unsealed Road Pavement District Distributor	Average
Unsealed Road Pavement Local Distributor	Average
Unsealed Road Pavement Access	Average

Table 45: Default Condition Profiles Selected for Road Pavements

6.5.3 Selected Condition Profile of Road Seals

Road - Seal	Default Condition
Spray Seal District Distributor	Not Modelled
Spray Seal Local Distributor	Average
Spray Seal Access	Average
Asphalt Seal District Distributor	Not Modelled
Asphalt Seal Local Distributor	Not Modelled
Asphalt Seal Access	Not Modelled

Table 46: Default Condition Profiles Selected for Road Seals

6.5.4 Selected Condition Profile for Road Kerbs

Road - Kerb	Default Condition
Kerb	Average

Table 47: Default Condition Profiles Selected for Road Kerbs

6.5.5 Selected Condition Profile for Pathways

Pathways	Default Condition
Unclassified surface type	Below Average
Spray Seal	Average
Concrete Slab	Average
Insitu Concrete	Average
Brick Paving	Above Average

Table 48: Default Condition Profiles Selected for Pathways

6.5.6 Selected Condition Profile for Storm Water

Storm Water	Condition
Bridges	Above Average
Culverts	Average
Pits	Average
Pipes	Good

Table 49: Default Condition Profiles Selected for Storm Water

6.5.7 Selected Condition Profile for Buildings

Building Element	Default Condition
Structure Long Life	Custom*
Structure Shire Life	Custom*
Roof	Custom*
Mechanical Services	Custom*
Fit out	Custom*

Table 50: Default Condition Profiles Selected for Building Elements[2]

6.5.8 Selected Condition Profile for Parks & Reserves

Parks & Reserves	Condition
Play Equipment	Above Average
Active Playing Fields	Good
Passive Recreation Areas	Very Good
Fencing	Above Average
Reticulation Pipes	Above Average
Reticulation Solenoids	Above Average
Reticulation Pumps	Good
Lighting	Above Average

Table 51: Default Condition Profiles Selected for Parks & Reserves

6.5.9 Miscellaneous

Miscellaneous	Default Condition
Runway Formation	
Runway Pavement	Good
Runway Seal	Good
Taxiway Formation	
Taxiway Pavement	Good
Taxiway Seal	Good
Apron Formation	
Apron Pavement	Very Good
Apron Seal	Very Good
Runway Lighting	Above Average
Boatramps	Good
Jetties	Very Good

Table 52: Default Condition Profiles for Miscellaneous Assets

[2] *where noted Custom, refer to Appendix A for Custom Distribution Profile

6.6 Work Category Definitions

Maintenance - Maintenance activities are those routine works which keep assets operating to the required service levels and ensure that the asset reaches its intended life. If timely maintenance is not done, the asset will not reach its intended life. They fall into two categories:

- Planned Maintenance (proactive) - inspection and maintenance works planned to prevent asset failure; and
- Unplanned Maintenance (reactive) - reactive action to correct asset malfunctions and failures on an as required basis (i.e. emergency repairs).

Operations - Operational activities are the day to day activities that largely centre on safety and amenity but have no effect on condition. Typical operational activities include (but are not limited to):

- Cleaning.
- Utilities.
- Insurance
- Pest control.
- Security services.

Renewals - Renewal work is the replacement of an asset or a significant component on a like for like basis these are activities such as:

- Roof Replacements.
- Refit of kitchens.
- Road Reseals
- Gravel Sheeting

Upgrade – Is work associated with augmenting the asset. For example, building an addition such as a kitchen or extra room that was not there originally.

New Works - Projects (including land purchases) for the extension or upgrading of assets required to cater for growth or additional levels of service. New works create an asset that did not exist or extend an asset beyond its original size or capacity.

Asset Disposal - Costs associated with the removal, sale or demolition of decommissioned or surplus or redundant assets.

6.7 Operation and Maintenance Strategy

6.7.1 Operation and Maintenance Strategy Overview

The Shire does not have a long term strategy for the ongoing operation and maintenance of its assets.

In order to address the funding shortfall in maintenance, it is recommended that a long term operation and maintenance strategy be developed. An operation and maintenance strategy 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; and

- Nominate the means of resourcing and implementing operation and maintenance.

Recommendation 9. ***That the Shire of Wyndham – East Kimberley develops an Operations and Maintenance Strategy***

6.7.2 Maintenance Agreements

Future versions of the AMP will include references to Maintenance Level Agreements once a Level of Service Framework has been developed.

6.7.3 Maintenance Activities

A formal review of the frequency and standards required for maintenance (whether external or internal providers) is yet to be undertaken by the Shire.

An example of typical maintenance activities undertaken in relation to building assets are listed in the table below:

Activity	Frequency
Servicing of heating and air conditioning systems	
Roofs – Cleaning of gutters	
Termite control	
Plumbing – unblocking drains, fixing leaks, replacing washers etc	
Electrical – repairs to electrical systems	
Roofs – repairing broken tiles, fixing leaks etc	
Internal and external walls – patching, painting and repairing etc	
Windows and doors – patching and painting, repairing and replacing locks etc	
Floors – general repairs, sanding revarnishing, repainting and repolishing	
Inspecting and maintaining essential services (fire safety equipment)	
Repairing vandalism (graffiti, broken windows etc)	
Repairing fixtures and fittings	

Table 53: Maintenance Activity Frequency

The maintenance activities for assets, along with factors that govern or influence them, are:

- Reactive (unplanned) maintenance activities - this is governed by the urgency of what is required.
- Planned (scheduled) maintenance activities - these are generally more extensive repairs that are undertaken as part of a program of works to either prevent damage to building assets or bring building infrastructure up to an acceptable condition and the extent of this program largely depends on funding allocations.
- Backlog maintenance activities - this refers to an accumulation of uncorrected or deferred deficiencies in an asset and is generally governed by available funding and any future plans for a particular asset.

For many local governments, reactive work accounts for around 70% of the annual maintenance budget. By its nature, reactive work must be carried out as the need arises and cannot be scheduled in advance, however a significant proportion can be reduced by regular inspection and forward planning for replacement ahead of failure.

Work is prioritised as it arises on the basis of defined intervention levels and response times. The intervention level defines the condition, state or risk level associated with an asset component (i.e. the point in time at which the asset is considered to be below an acceptable level of service).

Response time defines a reasonable time frame within which it can be expected for Council to remedy the defect. For example, the maintenance strategy may define the maintenance framework and response times as follows:

As part of its level of service definitions, all identified hazards/defects will be addressed as follows:

- Extreme risk: immediate;
- High risk: within 24 hours;
- Medium risk: within 5 working days; or
- Low risk: within routine procedures.

Planned maintenance is repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown experience, prioritising, scheduling, actioning the work.

Reporting what was done in order to develop a maintenance history and improve maintenance and service delivery performance, is currently not being resourced. The current maintenance management system is based on informal inspections and individual officer reports.

6.7.4 Inspections

As previously indicated, a regular full condition survey and inspection is required for proactive management of assets. A four-tier inspection regime is recommended that will cover all aspects of safety, incidents, defects and condition.

- **Ad Hoc Reactive/Safety Inspections** – these inspections identify defects outside the tolerable level and likely to create danger or serious inconvenience to users of the network or the wider community. They are ad hoc by nature and are undertaken following notification to the Shire by members of the community through the Customer Service Officers or by Council employees while undertaking their normal work duties. These notifications are of defects and safety deficiencies. The subsequent inspection is conducted by an appropriate Council representative.

- **Programmed Inspections** – determine if the asset complies with the levels of service in terms of being within tolerable level of defects as specified in the Asset Management Plan and future Service Management Plan (Maintenance Agreement).

- **Incident Inspections** – enables an incident condition report to be prepared for use in legal proceedings and the gathering of information for the analysis of the causes of accidents and the planning and implementation of building asset management and safety measures.

- **Condition Inspections** – identifies deficiencies in the structural integrity of the building asset which if untreated, are likely to adversely affect asset values. The deficiencies may well impact short-term serviceability as well as the ability of the component to continue to perform for the duration of its intended life span.

Programmed Maintenance Identification and Condition Inspections should be undertaken by way of a formal timetable. This has not yet been fully established by the Shire. Generally speaking, condition

inspections are usually taken at a lesser frequency than programmed inspections that are designed to find defects due for rectification works.

Safety issues may be detected either as the result of the programmed defect inspection or by observation followed by notification to Council by members of the community or Council employees while undertaking their normal work duties. A subsequent safety inspection will then be conducted by an appropriate Council officer.

In determining the frequency of programmed inspections, the Shire should take into account the functional hierarchy classification of the asset. As a further degree of protection, ad hoc safety inspections should be arranged when they are reported for defects that may occur outside the programmed schedule timeframe.

The purpose of inspections is to identify, record and report defects that are causing, or have the potential to cause:

- Disruption to service provision;
- Degradation of asset performance and/or condition including cleanliness;
- A public health or safety risk;
- Inconvenience to staff and/or the public;
- A security risk;
- Breach of regulations or legislation;
- A financial risk; and
- Property damage.

An annual maintenance inspection survey of the asset portfolio is recommended to be further facilitated by response reviews by maintenance crews or contractors as required/when undertaking other tasks on site. Feedback from the Customer Contact System should also facilitate the recording of current and future needs for individual building assets. The latter would normally generate historical records that indicate increased depreciation in condition of these assets, but this option does not currently exist within the current system.

Recommendation 10. ***That the Shire of Wyndham – East Kimberley develop an asset inspection process and procedure.***

6.8 Renewal and Replacement Strategy

6.8.1 Renewal Strategy Overview

Every asset, despite how well it is maintained, will at some point in its life need to be replaced, either in part or in whole. Renewal is the cost of replacing/rehabilitating all or part of the asset.

Future versions of the AMP will include an Asset Renewal and Replacement Strategy.

Recommendation 11. ***That the Shire of Wyndham – East Kimberley develops an Asset Renewal and Replacement Strategy.***

6.9 Capital Investment Strategy (New, Upgrade, Disposal)

The following definitions apply to these processes:

- **New** – creation of an asset to meet new or additional level of service requirements.
- **Upgrade** – enhancement of an existing asset to meet increased level of service demand.
- **Disposal** – disposal of an asset or part of an asset which has become technologically obsolete or has simply reached the end of its useful life and there is no demand for renewal or replacement.

Future versions of the AMP will include a Capital Investment Strategy.

All future new, upgrade and disposal requests should be subject to a Capital Valuation process (to be developed) that uses multi criteria analysis to assess the proposed benefits and ongoing costs prior to acquisition or disposal (i.e. development of a Business Case including full future financial modelling).

6.9.1 New

Local Governments never have sufficient funds to fund everything that the community would like. There is often competing interest to ensure that as communities grow and change, new assets are created to deliver new, different or expanded services. If a Council succumbs to the temptation to uncontrollably fulfil the increasing demand for new assets, it runs the risk of seriously eroding its ability to maintain, operate and renew existing assets. This is where a local government can become unsustainable.

To strategically control the provision of new and upgraded assets, it is important that a Local Government develops systems and processes to ensure that funding allocations are made in line with its strategic plan and within its long term funding capacity to fund the maintenance, operation and renewal of both existing assets and new and upgraded assets. A way to do this is to develop a Capital Evaluation process.

- A Capital Evaluation assessment should be aimed to address issues such as:
- Relevance to corporate goals;
- Alignment to core business;
- Community need;
- Anticipated benefits;
- Environmental impacts;
- Risk identification and treatment;
- Total life cycle costs;
- Impact on existing services/infrastructure;

- Analysis as to whether service can be delivered without asset acquisition;
- Forecasting usage rates;
- Construction, materials and design standards; and
- Value for money.

In order for the Shire to have confidence that it is delivering services on a sustainable basis, any decision to create or upgrade new assets should undergo a critical 'whole-of-life' analysis that will consider the impact of longer term maintenance, as well as operating costs of the asset on Council's financial viability in the medium to long term.

This assessment will provide Council with the necessary information to decide whether to proceed with the acquisition of a particular asset. Where decisions are made to proceed with additional building asset, provision will be built into future budgets to accommodate the expenditure.

Recommendation 12. ***That the Shire of Wyndham – East Kimberley develops a Capital Evaluation Process.***

6.9.2 Upgrade

Upgrade refers to works which improve an existing asset beyond its current capacity. Upgrade may result from growth, social or environmental needs. Upgrade/expansion of infrastructure will contribute to the overall infrastructure inventory and will require ongoing additional maintenance and renewal. Recognition of the impact that this activity has on the future sustainability of infrastructure should be considered for all projects. As such, any potential upgrades should undergo a 'whole of life' analysis through the capital evaluation process to ensure the overall viability of the project.

6.9.3 Disposal

Disposal of an asset refers to its decommissioning, whether by sale, demolition or relocation. Assets are typically disposed of due to being either obsolete or surplus to requirements. Some disposals will attract no costs as they will either be transferred to a user group or the costs of demolition are covered by the value of construction materials.

There is currently no strategy in place to dispose of assets; however the AMP can provide the platform for a strategy to be considered and approved.

A disposal strategy could include the following principles:

- If Council has a particular asset that is not aligned to its core services, then that asset should be considered for disposal.
- Council will look for opportunities to appropriately dispose of assets that are surplus to current and anticipated future requirements. The use of assets in each local area should be optimised to provide the community with a value for money service. Any underutilised asset identified as being surplus will be disposed of by consulting the relevant parties and investigating options to consolidate and co-locate services and/or user groups.

Assets that are underperforming or are unsafe will be demolished and not replaced if there is no demonstrated ongoing need.

7.0 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 in order 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 averaged over the financial years 2009/10 to 20010/11. 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 used within the WAAMI Program 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,

- 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).

In order to determine how much money needs to be spent on an asset to keep it in functional order, a decision is required in regard to 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.

7.1 Retreatment Intervention Condition Rating (RICL)

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 following initial RICLs have been used for each asset group for the purposes of financial modelling within this Plan;

7.1.1 Intervention (RICL) for Road Pavements

Road - Pavement	RICL
Sealed Road Pavement Regional Distributor	7
Sealed Road Pavement Local Distributor	7
Sealed Road Pavement Access	7
Unsealed Road Pavement District Distributor	7
Unsealed Road Pavement Local Distributor	7
Unsealed Road Pavement Access	7

Table 54: Road Pavement Intervention Levels

7.1.2 Intervention (RICL) for Road Seals

Road - Seal	RICL
Spray Seal District Distributor	7
Spray Seal Local Distributor	7
Spray Seal Access	7
Asphalt Seal District Distributor	7
Asphalt Seal Local Distributor	7
Asphalt Seal Access	7

Table 55: Road Seal Intervention Levels

7.1.3 Intervention (RICL) for Road Kerbs

Road - Kerb	RICL
Kerb	7

Table 56: Road Kerb Intervention Levels

7.1.4 Intervention (RICL) for Pathways

Pathways	RICL
Unclassified surface type	7
Spray Seal	7
Concrete Slab	
Insitu Concrete	7
Brick Paving	7

Table 57: Pathway Intervention Levels

7.1.5 Intervention (RICL) for Storm Water

Storm Water	RICL
Bridges	7
Culverts	7
Pits	7
Pipes	7

Table 58: Storm Water Intervention Levels

7.1.6 Intervention (RICL) for Buildings

Building Element	RICL
Structure Long Life	7
Structure Shire Life	7
Roof	7
Mechanical Services	7
Fit out	7

Table 59: Building Elements Intervention Level

7.1.7 Intervention for Parks & Reserves

Parks & Reserves	RICL
Play Equipment	7
Active Playing Fields	7
Passive Recreation Areas	7
Fencing	7
Reticulation Pipes	7
Reticulation Solenoids	7
Reticulation Pumps	7
Lighting	7

Table 60: Parks & Reserves Intervention Level

7.1.8 Intervention for Miscellaneous Assets

Miscellaneous	RICL
Runway Formation	
Runway Pavement	7
Runway Seal	7
Taxiway Formation	
Taxiway Pavement	7
Taxiway Seal	7
Apron Formation	
Apron Pavement	7
Apron Seal	7
Runway Lighting	7
Boatramps	7
Jetties	7

Table 61: Miscellaneous Asset Intervention Level

7.2 Current Financial Position

The Shire's renewal and maintenance expenditure for assets over recent years has been as follows:

7.2.1 Renewal & Maintenance Expenditure on Road Pavements

Road - Pavement	Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Sealed Road Pavement Regional Distributor	0		0	
Sealed Road Pavement Local Distributor	858,675	A	128,000	E
Sealed Road Pavement Access	139,950	A	600,000	E
Unsealed Road Pavement District Distributor	0		0	
Unsealed Road Pavement Local Distributor	0		170,000	E
Unsealed Road Pavement Access	0		300,000	E
Total Road - Pavement	**998,625**		**1,198,000**	

Table 62: Renewal & Maintenance Expenditure on Road Pavements

7.2.2 Renewal & Maintenance Expenditure on Road Seals

Road - Seal	Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Spray Seal District Distributor	0		0	
Spray Seal Local Distributor	300,000	A	0	
Spray Seal Access	380,000	A	0	
Asphalt Seal District Distributor	0		0	
Asphalt Seal Local Distributor	0		0	
Asphalt Seal Access	0		0	
Total Road - Seal	**680,000**		**0**	

Table 63: Renewal & Maintenance Expenditure on Road Seals

7.2.3 Renewal & Maintenance Expenditure on Kerb

Road - Kerb	Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Kerb	0	E	0	E
Total Road - Kerb	**0**		**0**	
Total Roads	**1,678,625**		**1,198,000**	

Table 64: Renewal & Maintenance Expenditure on Road Kerbs

7.2.4 Renewal & Maintenance Expenditure on Pathways

Pathways	Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Unclassified surface type	0		0	
Spray Seal	0		0	
Concrete Slab	0		0	
Insitu Concrete	0		0	
Brick Paving	0		0	
Total Pathways	**0**		**0**	

Table 65: Renewal & Maintenance Expenditure on Pathways

7.2.5 Renewal & Maintenance Expenditure on Storm Water

Storm Water	Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Bridges	0		0	
Culverts	0		0	
Pits	0		0	
Pipes	0		0	
Total Storm Water	**0**		**0**	

Table 66: Renewal & Maintenance Expenditure on Storm Water

7.2.6 Renewal & Maintenance Expenditure on Buildings

Buildings	Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Long Life Structure	0		0	
Short Life Structure	170,000	A	0	
Roof Cladding	0		0	
Mechanical Services	0		0	
Fit out	0		344,250	E
Total Buildings	**170,000**		**344,250**	

Table 67: Renewal & Maintenance Expenditure on Buildings

7.2.7 Renewal & Maintenance Expenditure on Parks & Reserves

Parks & Reserves	Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Play Equipment	0		0	
Active Playing Fields	0		15,000	E
Passive Recreation Areas	0		0	
Fencing	0		0	
Reticulation Pipes	0		36,000	E
Reticulation Solenoids	0		0	
Reticulation Pumps	0		0	
Lighting	0		0	
Total Parks & Reserves	**0**		**51,000**	

Table 68: Renewal & Maintenance Expenditure on Parks & Reserves

7.2.8 Renewal & Maintenance Expenditure on Miscellaneous Assets

Miscellaneous	Renewal Expenditure	E/A	Maintenance Expenditure	E/A
Runway Formation	0		0	
Runway Pavement	19,950	A	0	
Runway Seal	0		0	
Taxiway Formation	0		0	
Taxiway Pavement	0		0	
Taxiway Seal	0		0	
Apron Formation	0		0	
Apron Pavement	0		0	
Apron Seal	0		0	
Runway Lighting	0		0	
Boatramps	30,000	A	30,000	E
Jetties	0		0	
Total Miscellaneous	**49,950**		**30,000**	

Table 69: Renewal & Maintenance Expenditure on Miscellaneous Assets

7.2.9 Total Renewal & Maintenance Expenditure

Infrastructure Summary	Renewal Expenditure	Maintenance Expenditure
Roads	1,678,625	1,198,000
Pathways	0	0
Buildings	170,000	344,250
Storm Water	0	0
Parks & Reserves	0	51,000
Miscellaneous	49,950	30,000
Total Infrastructure	**1,898,575**	**1,693,250**

Table 70: Total Renewal & Maintenance Expenditure

7.3 Renewal Demand

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

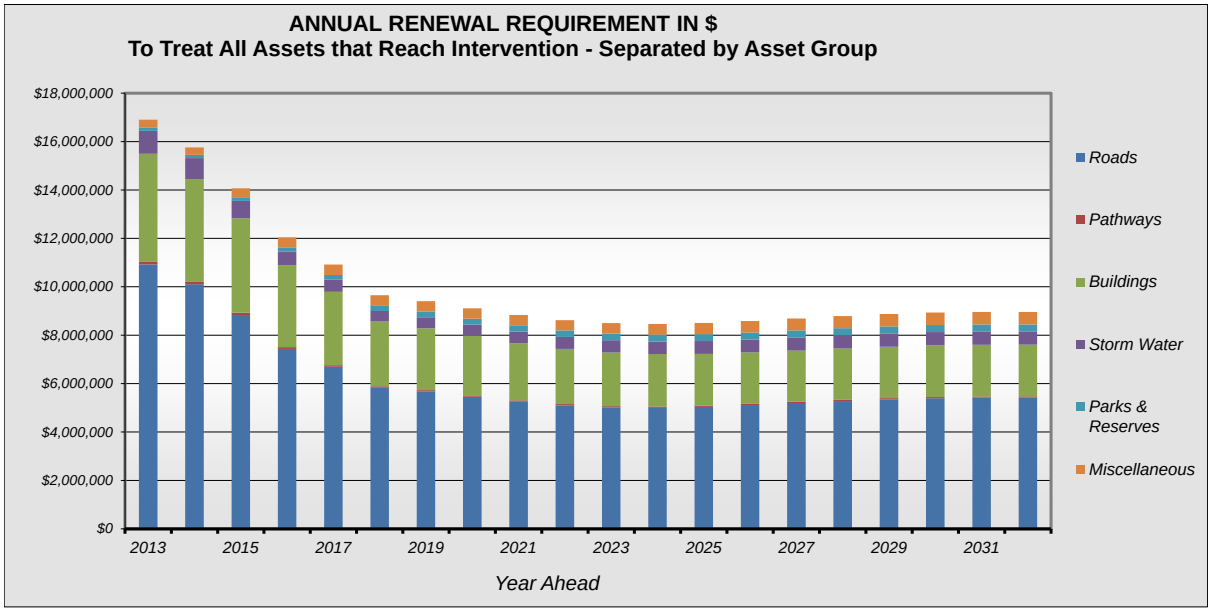


Figure 23: Predicted Renewal Demand, Split by Asset Group

The above graph demonstrates the renewal funding requirements for the retention of assets at current level of service for the next 20 years and demonstrates the high demand for funds to renew existing assets if they are all to be retained in the long term with the nominated modelling parameters detailed in this report. The average annual Renewal demand over 20 years is $10.129m/annum.

7.4 Current Renewal Expenditure

The second model provided by the renewal modelling tool sets out what the Shire currently spends on renewal which is currently $1.899m/annum.

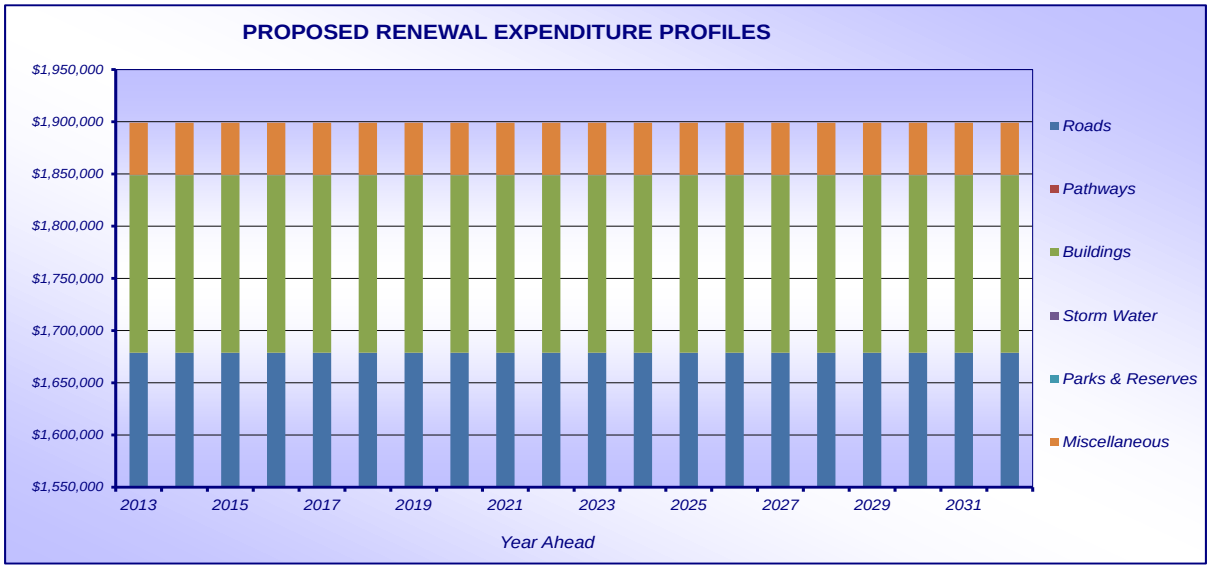


Figure 24: Current Renewal Expenditure, Split by Asset Group

7.5 Renewal Funding Gap

The modelling tool then subtracts the second model from the first to identify the overall average annual funding gap (shortfall in renewal expenditure) of $8.230m/annum.

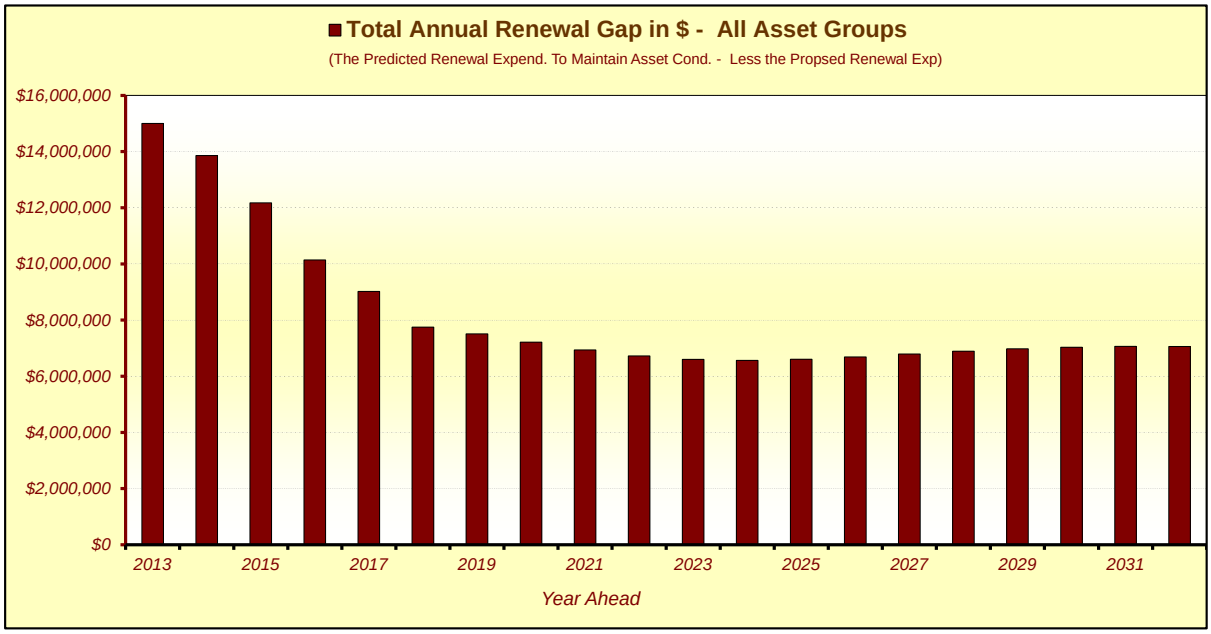


Figure 25: Annual Renewal Funding Gap across All Assets

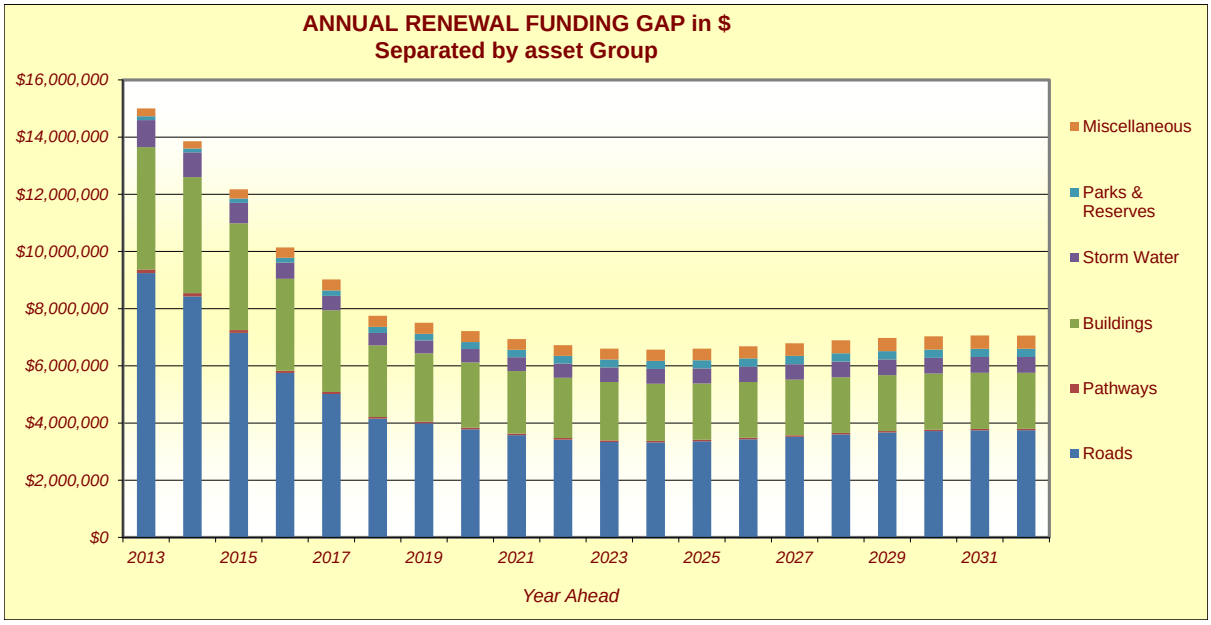


Figure 26: Annual Renewal Funding Gap, Split by Asset Groups

7.6 Cumulative Renewal Gap

The following graph demonstrates the long term cumulative funding impact if council continues to fund asset renewal at current levels. It indicates that there will be a cumulative effect of underfunding of the order of $164.595 million over the 20 year modelling period, an average of $8.230m/annum.

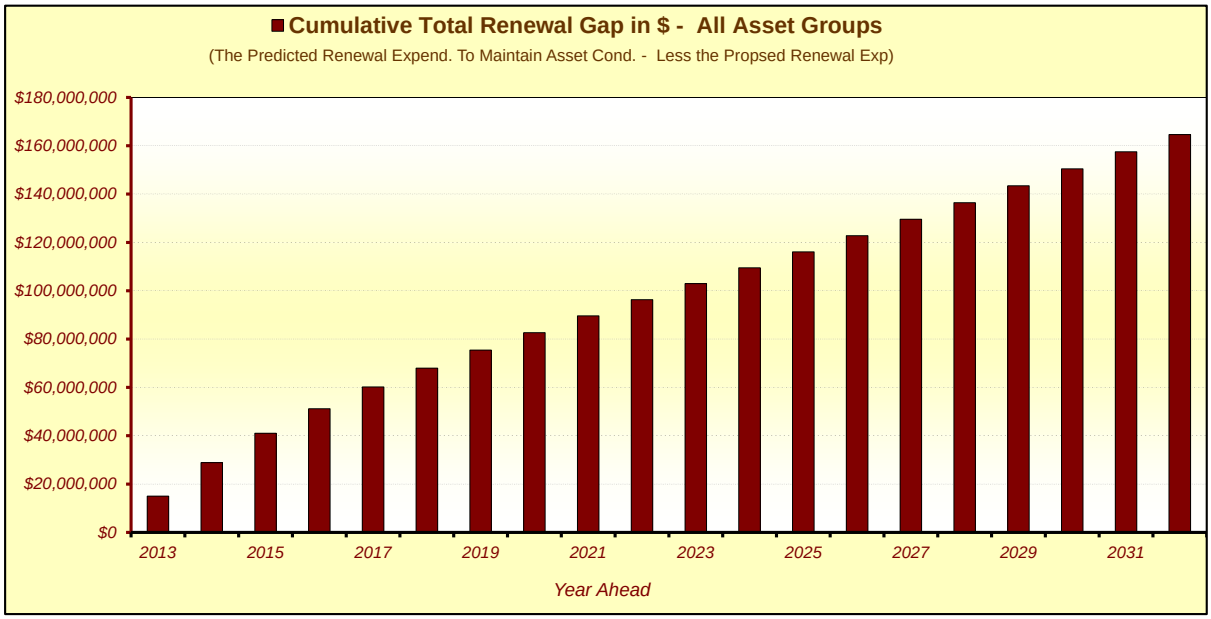


Figure 27: Cumulative Renewal Gap

7.7 Asset Base Outside of Intervention

There are currently 11.05% of assets outside of intervention, however if renewal funding continues in the long term at the current level, after 20 years, 52.17% of assets will be exceeding intervention. This would no doubt be an unacceptable situation to the Community.

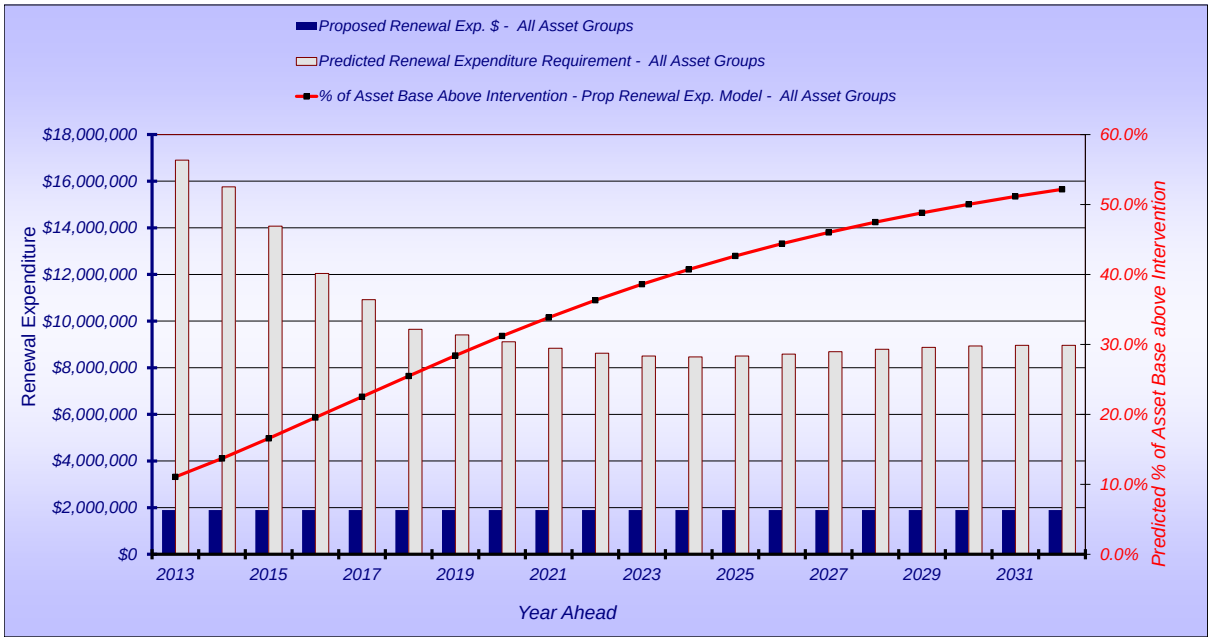


Figure 28: Predicted Renewal Demand vs Current Renewal Expenditure and Showing % of Asset Base beyond Intervention

7.8 Predicted Consequential Maintenance Based on Renewal Demand

If Council funded the predicted renewal demand of $10.129m/annum, the predicted consequential maintenance would be of the order of, $1.335m/annum. The Shire is currently spending $1.623m/annum on maintenance.

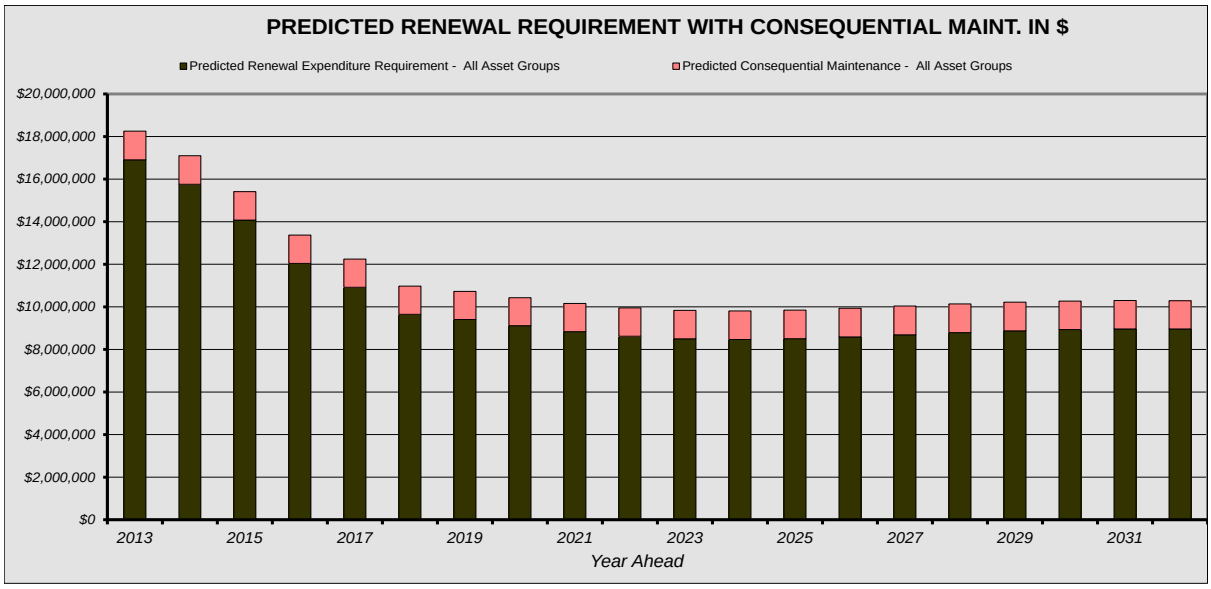


Figure 29: Predicted Renewal Demand and Predicted Consequential Maintenance

7.9 Predicted Consequential Maintenance Based on Current Renewal Expenditure

If Council continues to spend only $1.899m/annum on asset renewal, consequential maintenance is predicted to increase rapidly from $1.623m presently to $2.430m after 20 years, an average of $2.188m/year ($565k/annum more than the Shire is currently spending on asset maintenance).

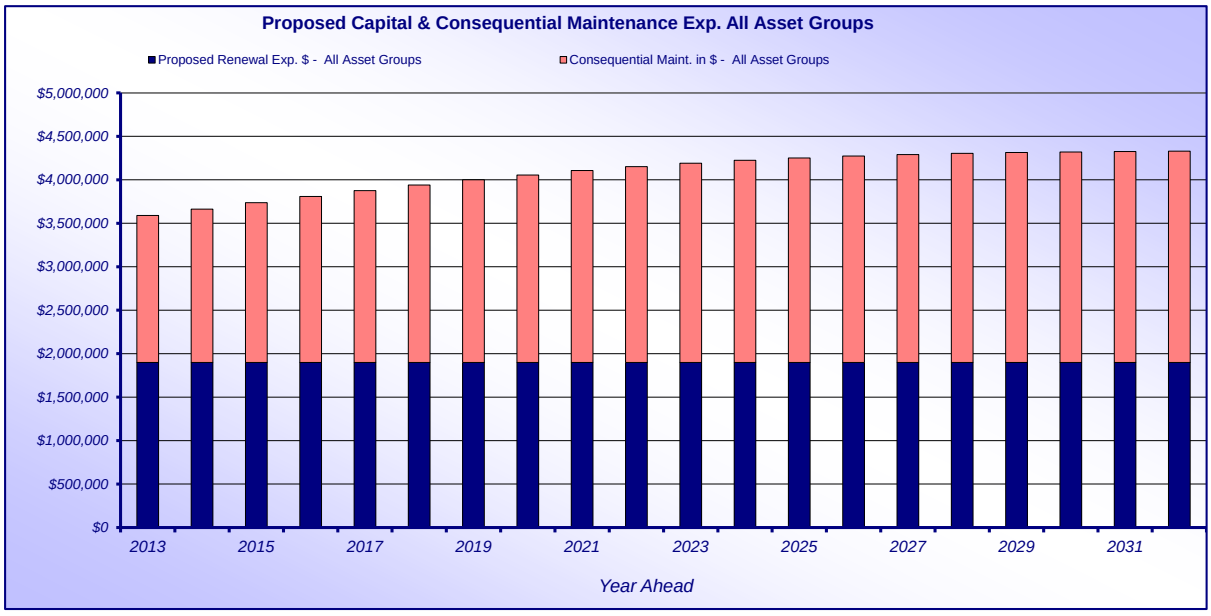


Figure 30: Current Renewal Expenditure and Predicted Consequential Maintenance

7.10 Implications of the Renewal Model

The following graph shows the implications of continuing current practice, if Council continues to underfund renewal, 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. This is not predicted to occur within the 20 year horizon of the model due to the very low funding base for current asset renewal expenditure. Nonetheless, because of the under investment is asset renewal assets that are beyond intervention will continue to increase from the present 11.05% to 52.17% by 2032.

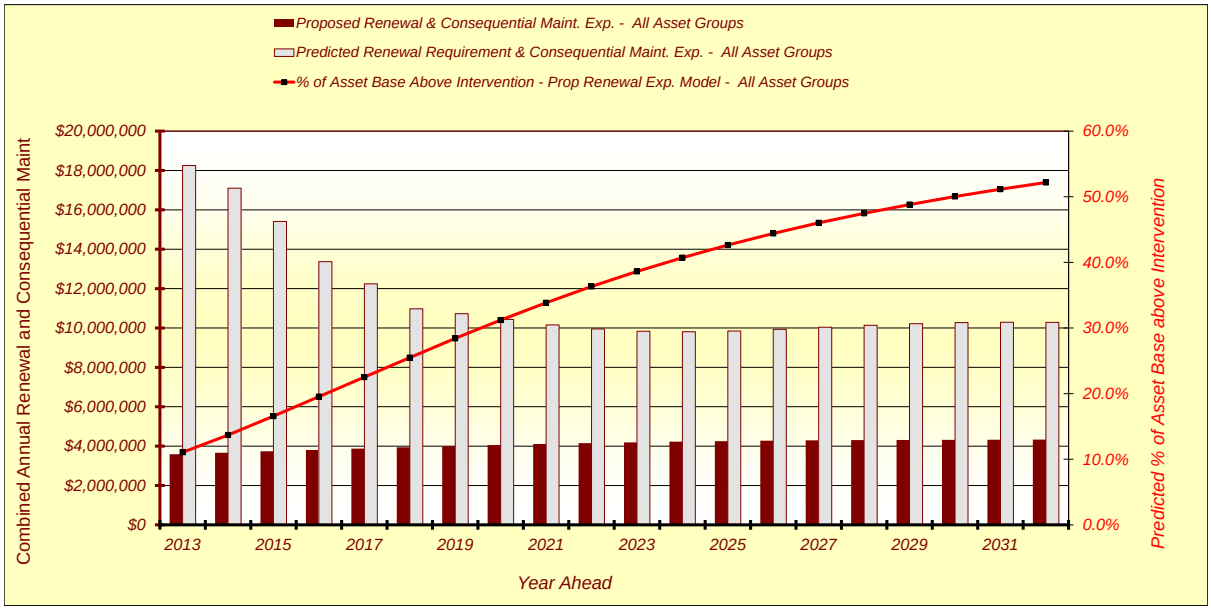


Figure 31: Existing Expenditure and Consequential Maintenance vs Predicted Expenditure and Consequential Maintenance

Failure to review the current Renewal and Maintenance expenditure levels of funding or rationalise the asset ownership, 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 of its assets will be restricted by a shortfall of funds.

7.11 Funding Capacity

Funding for creating, renewing or maintaining assets may be obtained by the Council from a number of sources. The annual budget is set and prioritised based on a process of consultation that enables Council to assess needs and develop business cases for all projects and programs.

7.11.1 Funding Solution (Based on Current Renewal Expenditure)

The modelling in Section 7.0 indicates that Council currently has a $8.230m/annum funding gap based on the current asset portfolio and the selected modelling parameters.

The Moloney Renewal Model provides a simplified funding solution modelling tool that allows for the input of an additional annual funding allocation.

The Shire's 2012/13 adopted budget indicates that the current rate income is budgeted to be $7.124m. Based on this figure a projected rate increase of 6.9% cumulative for 19 years would be sufficient to close the funding gap simply from rates as indicated in the following graph and tables.

Year No.	Calendar Year	Rate Increase	Annual Renewal Funding above the Current level	Cumulative Renewal Funding above the Current level
1	2014	6.90%	$491,566	$491,566
2	2015	6.90%	$1,017,051	$1,508,617
3	2016	6.90%	$1,578,794	$3,087,411
4	2017	6.90%	$2,179,297	$5,266,708
5	2018	6.90%	$2,821,235	$8,087,942
6	2019	6.90%	$3,507,466	$11,595,408
7	2020	6.90%	$4,241,048	$15,836,456
8	2021	6.90%	$5,025,246	$20,861,702
9	2022	6.90%	$5,863,555	$26,725,257
10	2023	6.90%	$6,759,706	$33,484,963
11	2024	6.90%	$7,717,692	$41,202,655
12	2025	6.90%	$8,741,779	$49,944,435
13	2026	6.90%	$9,836,529	$59,780,963
14	2027	6.90%	$11,006,815	$70,787,778
15	2028	6.90%	$12,257,852	$83,045,630
16	2029	6.90%	$13,595,210	$96,640,840
17	2030	6.90%	$15,024,846	$111,665,686
18	2031	6.90%	$16,553,127	$128,218,813
19	2032	6.90%	$18,186,859	$146,405,672
20	2033	0.00%	$18,186,859	$164,592,531

Table 71: Indicative Funding Solution utilising rates alone

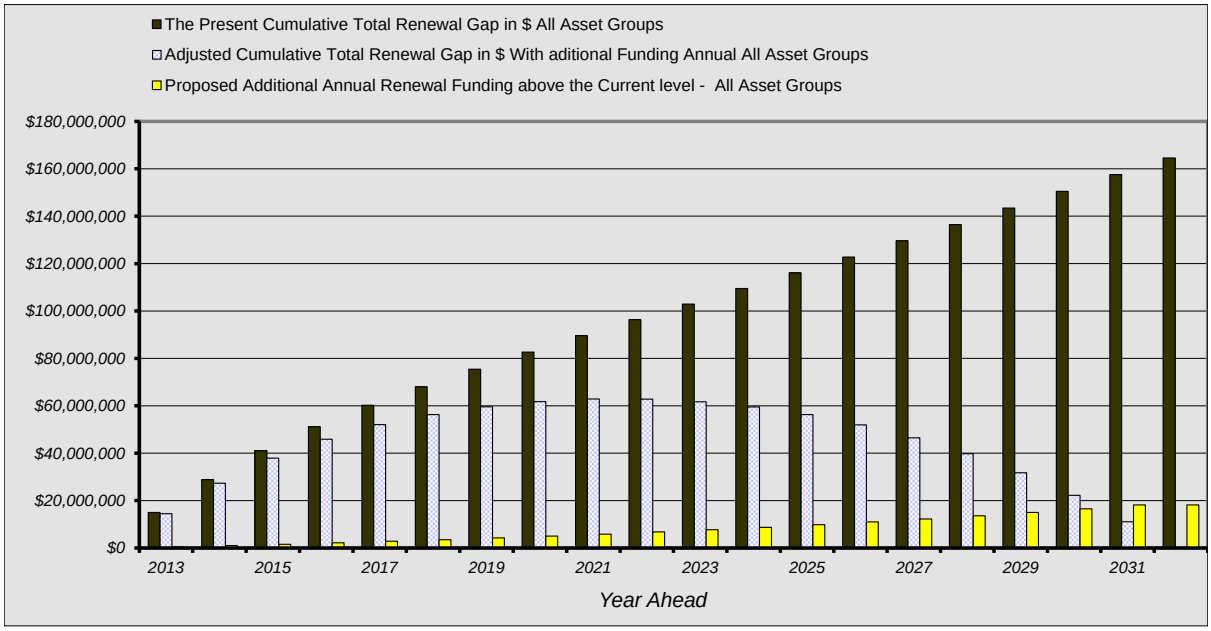


Figure 32: Indicative Funding Solution utilising Rates alone

7.12 Funding Strategy

7.12.1 New Paradigm in Budgeting

The WAAMI Renewal Gap process includes a financial modelling unit that provides local governments 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 last 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 was no recognition that recurrent expenditure includes both non-discretionary activities (maintenance) and discretionary activities (operations).

Capital expenditure was generally treated as a '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 Pipe replacement Sump maintenance	Drainage development New drainage systems Atlantis cell replacement
'Non-Discretionary' Funding	**'Discretionary' Funding**

Table 72: Traditional Local Government Budget Structure

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

If asset and services management practices are to ensure the ability to sustain Council's infrastructure assets and services into the future, which is the basis of strategic 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).

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.

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 73: New Paradigm in Budget Structure

This structure better represents the distribution of recurrent costs as maintenance and operational costs, recognising 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 Asset and Services Management Plan. 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 74: Net Impact of Decisions to commit expenditure to New and / 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 Asset and associated Services Management Plan considers current expenditures, both maintenance and capital, and existing levels of service and using generic asset degradation curves models the consumption or degradation of the asset.

In order to determine how much money needs to be spent on an asset to maintain it, a decision is required in regard to when to intervene to undertake works to rehabilitate the asset.

Useful lives for assets should be tested according to local criteria and industry standards. Regional uniformity would be desirable but will be dependent upon specifications and 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 Asset Management Working Group will now critically review the inputs and where necessary refine and validate the model. Once this has been done, the Shire will then be in a strong position to review level of service and refine in order to implement options and strategies to close the funding gap and put the Shire on a long term sustainable footing.

8.0 Asset Management Practices, Performance Monitoring and Improvement

Asset management processes are defined as the processes, analysis and evaluation techniques needed to support lifecycle asset management. This includes the following asset management functions:

Figure 33: Asset Management Lifecycle

The manner in which the internal implementation of asset management is organised holds considerable potential to effect major improvements, often at no additional cost to the organisation.

The Shire has made considerable progress in asset management over the past few years, having adopted a policy, formed an Asset Management Working Group, developed an implementation strategy, undertaken awareness training, collected data and commenced Asset Management Plans.

The challenge in adjusting the organisation status quo to implement asset management cannot be overstated.

Asset management is a long term organisational improvement process that requires committed staff to energise the process, which can easily stall in the event of staff turnover.

All the common techniques and aims of management apply in progressing asset management implementation, for example, a stable work force, a working environment that engenders staff motivation, internal support services, e.g. IT and records, that are internal customer focussed, support from the Council, a clear reporting structure, clear individual roles and responsibilities and individual and Departmental accountabilities.

8.1 Roles and Responsibilities in Asset Management

Effective AM implementation requires interdepartmental coordination on a scale not generally experienced in a typical Local Government organisation.

The favoured AM organisational model is shown diagrammatically in Figure 34.

The model suggests that the asset management task can be divided into four highly interactive roles:

- The Service (or facility) Manager.
- The Asset Manager.
- The Maintenance provider.
- The Operations provider.

Depending on the asset type/size and quantity, the positions can be filled by staff members or external parties such as consultants and contractors. Subject to workload considerations, more than one of the roles can be undertaken by the same staff officer.

The positions will most likely be spread amongst the three Directorates. (Technical, Corporate and Community). These staff members will need to meet and coordinate on a regular basis to ensure that the optimum management outcome for each asset is being achieved.

These roles interact as indicated in Figure 34.

Ultimately, the relationship between each of the roles is documented via "Service Level Agreements (SLAs)". The SLAs, operations and maintenance budgets etc are all developed by negotiation between the parties.

The responsibilities of each role are defined, as follows:

8.1.1 Service / facility Manager

Role description:

- Liaises with customers and facility users.
- Manages user demands.
- Manages operational issues.
- Plans for future expansions.
- Liaises with the Asset Manager regarding the SLA.

Generic duties:

The aim of this role is to ensure that a realistic match exists between the service provided by the asset and the demands of the users.

- Compliance with the Council's Infrastructure Asset Management Policy.
- Keeping in touch with users, monitor demand.
- Respond to user demands by adjusting operations expenditure.
- Promoting the facility.
- Facilitating community engagement.
- Income – set user charges in accordance with Council policies.
- Look at the long term, use whole–of–life costings.
- Establish user agreements.

- Initiate and sponsor capital upgrading proposals.
- Prepare capital works budgets, seek sources of funding.
- Initiate rationalisation of the asset.
- Liaise with project Managers on upgrade/new works.
- Prepares and manages the Operations budget and Service Level Agreement (SLA) with the Operations Provider.
- Liaise with the Asset Manager; develop a SLA regarding maintenance and renewal.

8.1.2 Asset Manager

Role description:

- Liaises with Service Managers and Maintenance Providers.
- Focuses on Asset Preservation.

Generic duties:

- The aim of this role is to keep the asset functioning in a cost effective manner.
- Compliance with the Council's Infrastructure Asset Management Policy.
- Establishes an inspection regime.
- Maintains the Asset Register.
- Develops renewal plans and budgets.
- Implements renewal plans.
- Determines the maintenance Service Level Agreement (SLA) with the maintenance Providers.
- Manages the maintenance SLA.
- Liaises with the Service Manager over the SLA and associated budgets.

8.1.3 Maintenance Provider

Role description:

- Manages the delivery of proactive and reactive maintenance requirements in accordance with a Service Level Agreement.
- Develops and implements maintenance schedules in liaison with the Asset Manager.
- Focuses on the efficient delivery of Maintenance activities.

Generic duties:

- Undertakes the non-discretionary type activities required to keep the asset functional to the agreed level of service.
- Provides a reliable, defined, maintenance service in a cost effective manner.
- Liaises with the Asset Manager to determine the agreed level-of-service as documented in the Service Level Agreement.
- Liaises with the Operations Providers to coordinate activities.

8.1.4 Operations Providers

Role description:

- Undertakes the operational tasks associated with the asset. That is, regular discretionary activities to provide public health, safety and amenity.
- Focuses on the efficient delivery of services and efficient use of utilities (water, power, gas, telecommunications).

Generic duties:

- Provides efficient delivery of operational activities such as operational staff, cleaning and utilities (e.g. water, power, gas, telecommunications) in accordance with a service level agreement.
- Liaises with the service manager regarding the level of service and associated costs.
- Develops and implements operational schedules in liaison with the Service Manager.

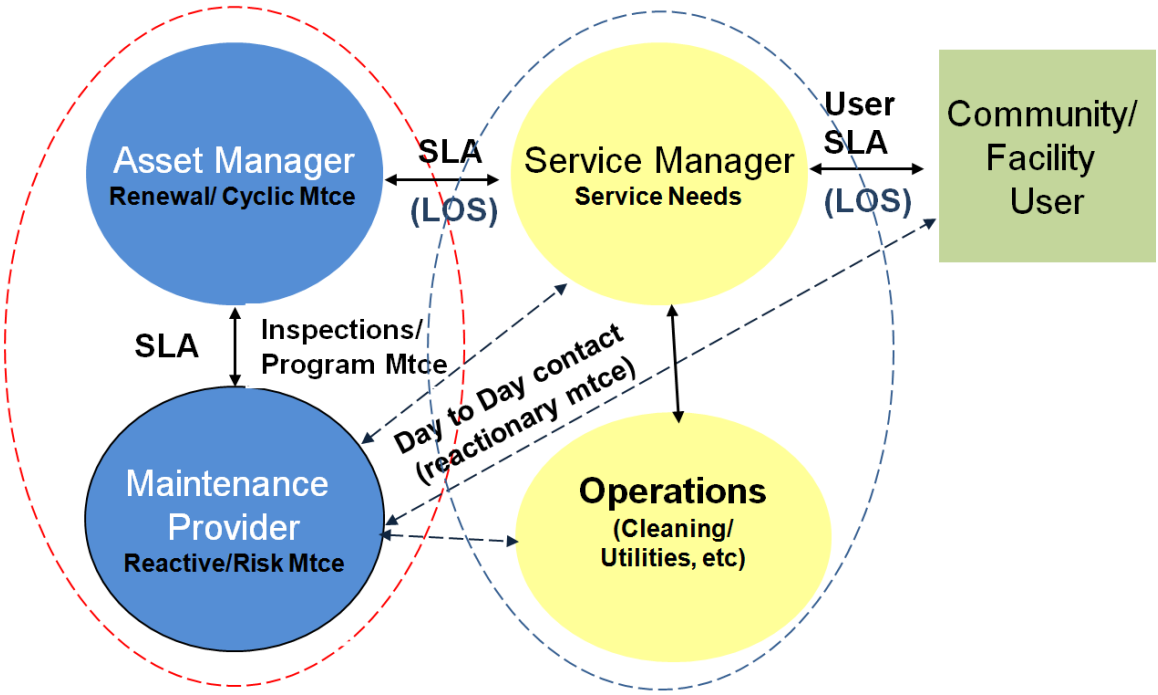


Figure 34: Asset Management Organisational Model

The first step in implementing this organisational approach to AM is to develop a "Roles and Responsibilities" Matrix, in which the individual officer or contractor responsible for each of the four roles for each of the asset groups identified. Once the match between the personnel and role is approved, the roles need to be locked in place by inclusion in position descriptions.

In 2009 the Shire developed a draft Roles and Responsibilities Matrix. This matrix now needs updating in line with the requirements of this plan and the IP&R Framework.

Responsible Officer							
Key Activity	FPO	XMCPS	XMERS	MRL	BSURV	BMO	PM
Formation of Working Group	Complete						
Development of AM Policy	Complete						
Define Role of the Audit Committee		Complete					
AM Improvement Strategy:							
Introduction	✓		☐				
Background	✓		☐				
Objectives	✓		☐				
Current Status*	✓	✓	✓	✓	✓	✓	✓
Confidence grade	✓			☐			
Purpose & Process	✓	☐					
Implementation	✓	☐					
Data*	✓	✓	✓	✓	✓	✓	✓
Risk Management*	✓	✓	✓	✓	✓	✓	✓
Project Management*	✓	✓	✓	✓	✓	✓	✓
Information Systems*	✓	☐					
Asset Maintenance*	✓	✓	✓	✓	✓	✓	✓
Gap Analysis	✓	☐					
Action Plan	✓	☐					
Asset Management Working Group	✓	☐					
Review Procedures	✓	☐					
Amend Agenda Template to include AM	✓	✓					
Briefings at team meetings across Shire on AM	✓						
AM Plans #							
Roads	✓		✓				✓
Paths	✓		✓				✓
Drainage	✓		✓				✓
Buildings	✓				✓	✓	
Recreation Areas	✓			✓			
Airports	✓	✓					
Street Trees	✓		✓				✓
Populate Renewal Gap Model	✓						
Populate Buildings Database	✓				✓	✓	
Review Asset Master Lists	✓						
Develop & Refine ongoing monitoring for Asset Maintenance & Renewal	✓						
Develop & Refine AM Processes, tools & Templates	✓						

Table 75: 2009 Draft Roles & Responsibilities Matrix

Recommendation 13. ***That the Shire of Wyndham – East Kimberley updates the 2009 Draft Roles and Responsibilities Matrix and documents this in the AMP and cross reference individual Position Descriptions.***

8.2 Data Systems

Asset management data is defined as appropriate, accessible and reliable data that can be used with information systems to enable enhanced asset management. This includes the following data on the following asset characteristics and topics:

- Condition monitoring
- Classification and identification
- Condition
- Benchmark data
- Lifecycle costings
- Risk information
- Future demand analysis
- Capital works programming
- Physical attributes
- Cost and maintenance histories
- Valuation
- Data quality
- As constructed plans
- Advanced applications such as deterioration modelling

The Shire uses the following software in relation to asset management:

- Microsoft Access;
- Microsoft Office software (Excel, etc);
- Financial system (Synergysoft);

The AMP incorporates a consolidated list of assets, their value and condition as estimated in 2012.

It is recommended that a data and systems audit be undertaken in order to identify all software systems being used across the organisation and all relevant data sets. The audit would include documenting (as a minimum) the following;

Software Systems	Data
Name of software	Name of data set
Version number	Custodian of the data set
Software supplier	Primary software (including versions) the data is designed to be used with
Location of Master version	Users authorised with read/write access to the data
Software Administrator	Location of the Master data set
Number of licences	Version number of the Master data set
Who licences have been allocated to	Frequency of data update
Licence restrictions	Assessment of data quality
Backup procedures for software	Backup procedure for data
Restoration procedure for software	Restoration procedure for data

Table 76: Recommended Minimum Audit Parameters for a Data and Systems Audit

Recommendation 14. ***That the Shire of Wyndham – East Kimberley undertakes a data and systems audit of all software and data used across the organisation and document thin in the AMP.***

8.3 Monitoring and Review Procedures

8.3.1 Monitoring

In order for the AMP to remain relevant, it is important that what is set out in the plan is monitored and reported on so that Council and the Community have confidence the plan is being delivered. This is particularly important when the AMP sets out the community's needs in terms of level of service (Section 3) and the financial projections (Section 7) details how it will be funded. Hence the importance of having the more complete versions of the AMP adopted by Council.

Some of the aspects that could be monitored includes;

- The degree to which the required 20 year cash flows identified in the AMP are incorporated into Council's Long Term Financial Plan and Resource Plan;
- Quantity of assets classified as being below nominated intervention (RICL);
- The level of user satisfaction based on comparative surveys from year to year;
- The trend in overall condition of assets from one survey period to the next, i.e. are assets getting worse or better based on the funding being injected to renewal.

Recommendation 15. ***That the Shire of Wyndham – East Kimberley develops monitoring criteria against which performance monitoring of the effectiveness of the AMP can be measured and reported.***

8.3.2 Review

It is important that this Plan is considered "the bible" in terms of how the Shire manages its assets. The AMP is meant to be a living document that doesn't just sit on the shelf gathering dust but is regularly updated and used by staff at all levels of the organisation to manage the Shire assets. Ultimately it will assist Councillors to make informed decisions in relation to assets and by the community to understand the issues and constraints relating to assets.

For the document to be a living document, it is important that it is continually reviewed and updated (at least annually) to include all of the changes to assets that have occurred in the past 12 months, update the condition ratings, redo the financial modelling and update any assumptions and strategies.

Ideally the AMP should be reviewed in the first half of the financial year, each year. It is important to tie this AMP into the annual business planning cycle so that sufficient funds end up being allocated in the budget in order to implement the identified improvement tasks as follows:

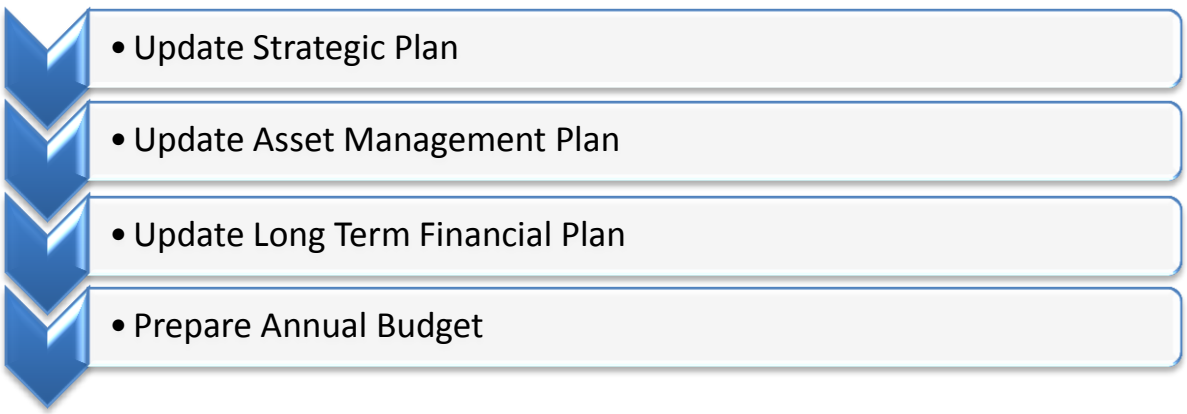


Figure 35: Local Government Planning Cycle

9.0 Glossary

9.1 Definitions

The following terms are used in this strategy.

(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 as a whole 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

9.2 Abbreviations

AC – Asset Coordinator

AM – Asset Management

AMWG – Asset Management working group

IIMM – International Infrastructure Management Manual

LGPMC - Local Government and Planning Ministers' Council

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

WAAMI – West Australian Asset Management Improvement (Program)

WALGA – West Australian Local Government Association

Appendix A. Individual Asset Set Summaries

Asset Set Presently Displayed ***Sealed Road Pavement - Local Distributor***

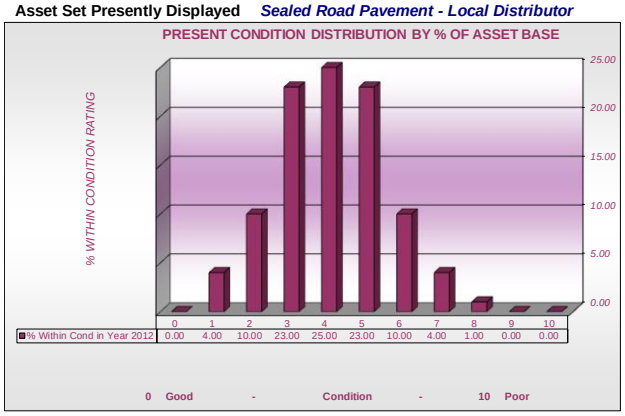
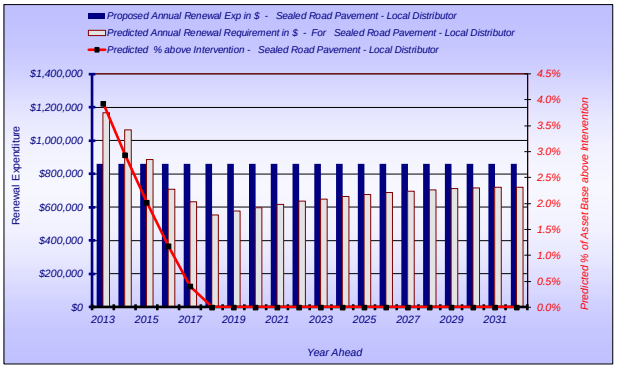
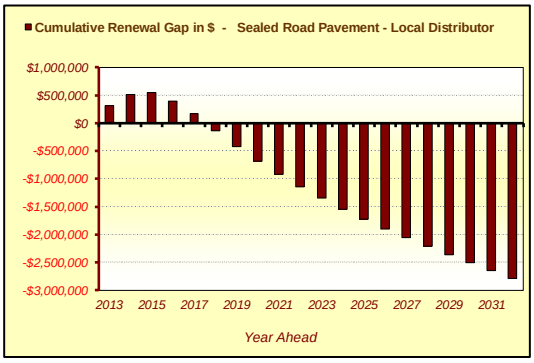


Table of Key Indicators

Present Annual Renewal Expenditure	$858,675	Present Annual Renewal Demand From Modelling	$1,168,369
Total Asset Group Quantity	2,113,740	Av Annual Renewal Demand (Long Term)	$528,435
Units	sqm	Av Unit Renewal Cost in $/Unit	20.00
Total Cost to Renew the Whole Asset Group in $	$42,274,800	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$128,000	Present Value of assets above Intervention	$2,113,740
Retreatment Intervention Condition Level	7	% 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	80.0	St Dev of Condition Distribution	10.03
Life in years to Intervention Level	69.6	Condition Distribution Accuracy Indicator	2.51
% of Present Demand being Met	73.49%	% Long Term Average Demand being Met	162.49%





Asset Set Presently Displayed ***Sealed Road Pavement - Access***

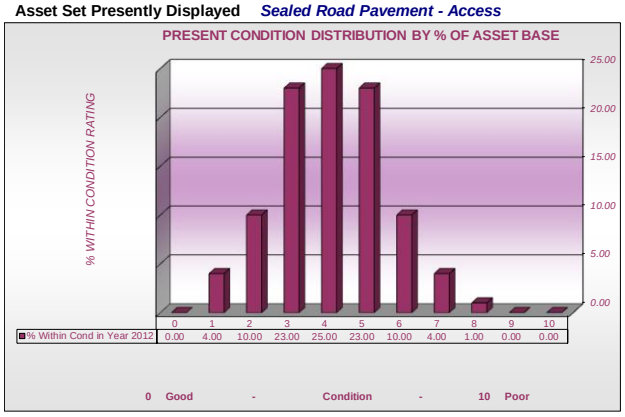
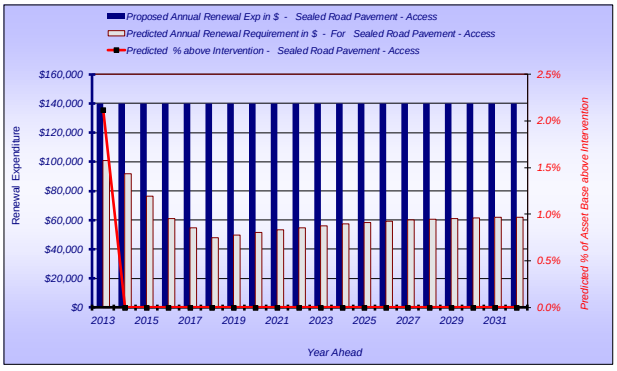
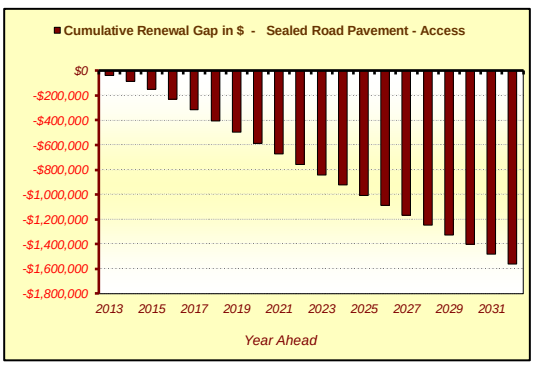


Table of Key Indicators

Present Annual Renewal Expenditure	$139,950	Present Annual Renewal Demand From Modelling	$100,656
Total Asset Group Quantity	182,100	Av Annual Renewal Demand (Long Term)	$45,525
Units	sqm	Av Unit Renewal Cost in $/Unit	20.00
Total Cost to Renew the Whole Asset Group in $	$3,642,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$600,000	Present Value of assets above Intervention	$182,100
Retreatment Intervention Condition Level	7	% 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	80.0	St Dev of Condition Distribution	10.03
Life in years to Intervention Level	69.6	Condition Distribution Accuracy Indicator	2.51
% of Present Demand being Met	139.04%	% Long Term Average Demand being Met	307.41%





Asset Set Presently Displayed ***Unsealed Road Pavement - District Distributor***

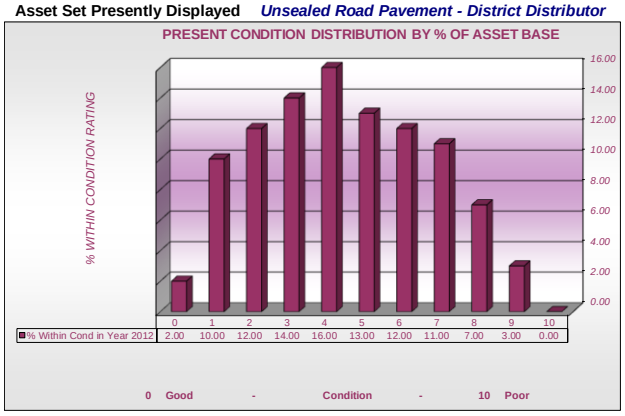
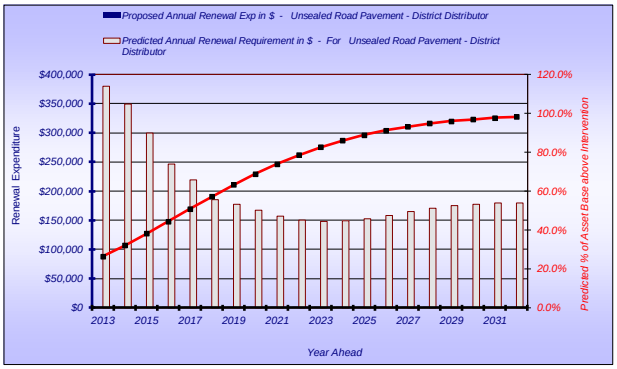
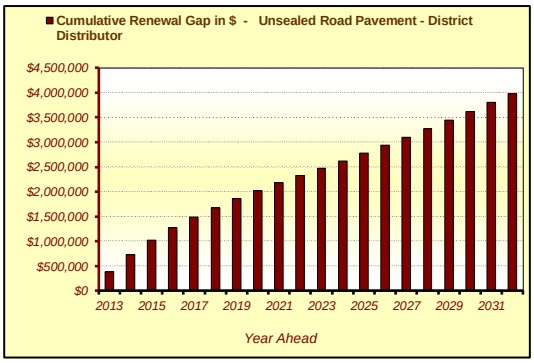


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$379,237
Total Asset Group Quantity	586,200	Av Annual Renewal Demand (Long Term)	$146,550
Units	sqm	Av Unit Renewal Cost in $/Unit	5.00
Total Cost to Renew the Whole Asset Group in $	$2,931,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$615,510
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.24
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.16
Life to Condition 10 in Years	20.0	St Dev of Condition Distribution	5.32
Life in years to Intervention Level	17.2	Condition Distribution Accuracy Indicator	0.85
% of Present Demand being Met	0.01%	% Long Term Average Demand being Met	0.01%





Asset Set Presently Displayed ***Unsealed Road Pavement - Local Distributor***

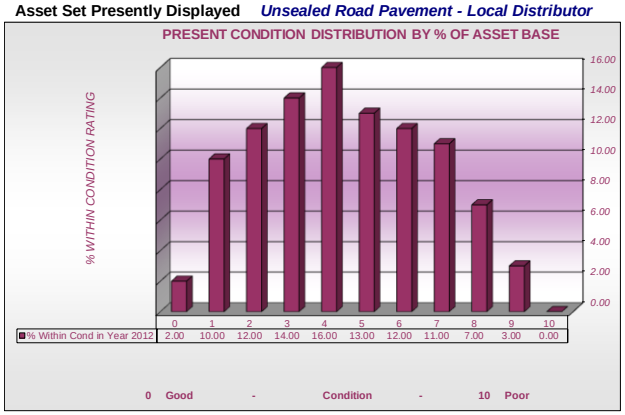
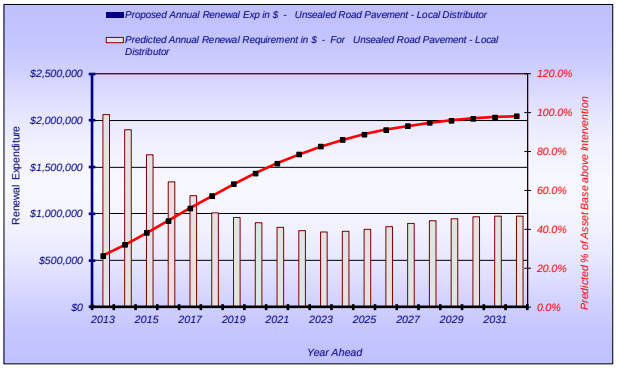
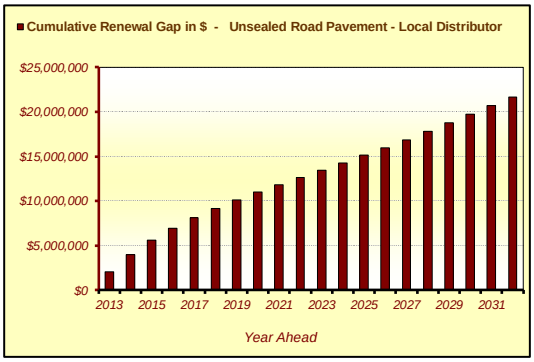


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$2,062,581
Total Asset Group Quantity	3,188,200	Av Annual Renewal Demand (Long Term)	$797,050
Units	sqm	Av Unit Renewal Cost in $/Unit	5.00
Total Cost to Renew the Whole Asset Group in $	$15,941,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$170,000	Present Value of assets above Intervention	$3,347,610
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.24
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.16
Life to Condition 10 in Years	20.0	St Dev of Condition Distribution	5.32
Life in years to Intervention Level	17.2	Condition Distribution Accuracy Indicator	0.85
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%





Asset Set Presently Displayed ***Unsealed Road Pavement - Access***

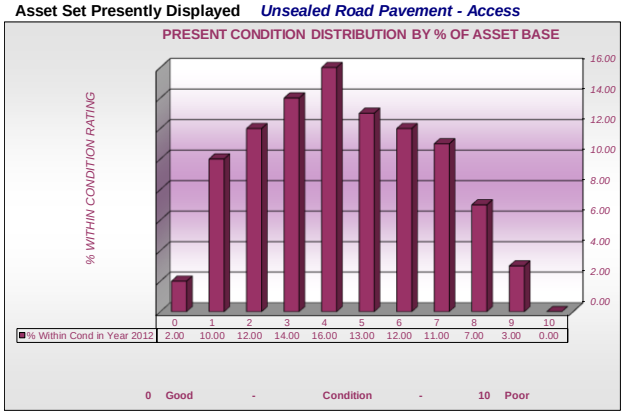
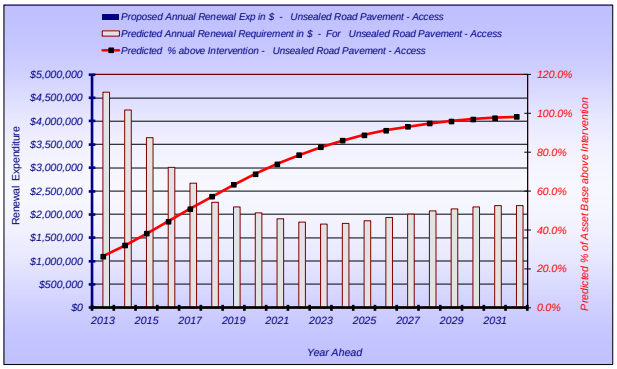
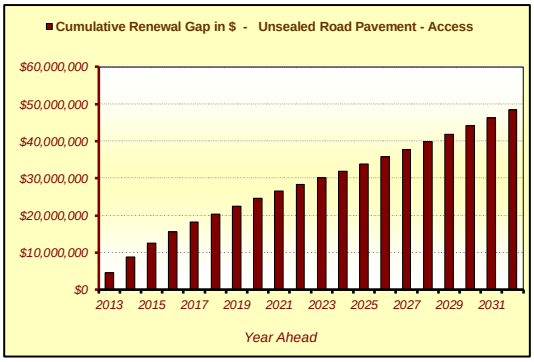


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$4,615,285
Total Asset Group Quantity	7,134,000	Av Annual Renewal Demand (Long Term)	$1,783,500
Units	sqm	Av Unit Renewal Cost in $/Unit	5.00
Total Cost to Renew the Whole Asset Group in $	$35,670,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$300,000	Present Value of assets above Intervention	$7,490,700
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.24
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.16
Life to Condition 10 in Years	20.0	St Dev of Condition Distribution	5.32
Life in years to Intervention Level	17.2	Condition Distribution Accuracy Indicator	0.85
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%





Asset Set Presently Displayed ***Spray Seal - Local Distributor***

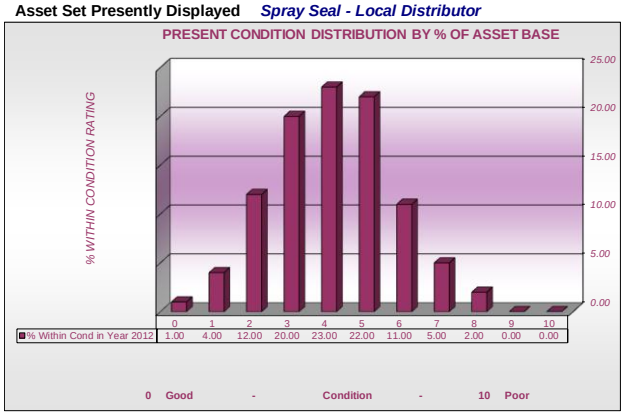
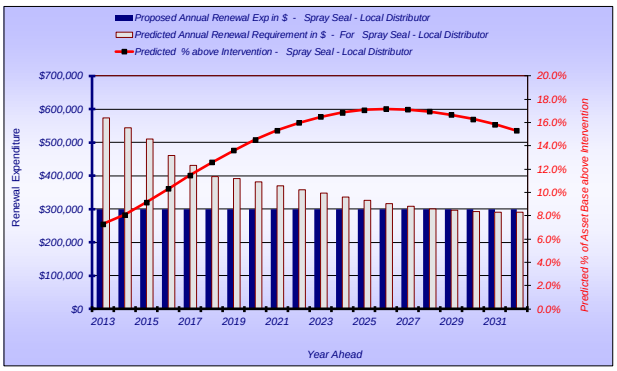
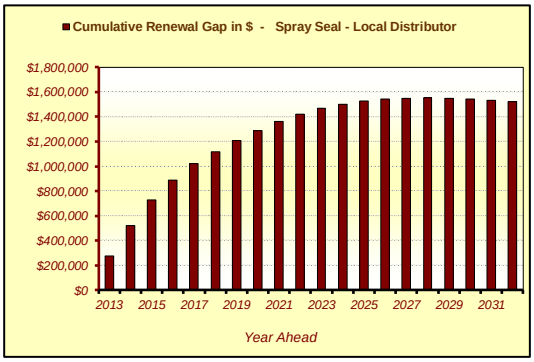


Table of Key Indicators

Present Annual Renewal Expenditure	$300,000	Present Annual Renewal Demand From Modelling	$573,322
Total Asset Group Quantity	1,479,618	Av Annual Renewal Demand (Long Term)	$295,924
Units	sqm	Av Unit Renewal Cost in $/Unit	6.00
Total Cost to Renew the Whole Asset Group in $	$8,877,708	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$621,655
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.	0.23
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	9.03
Life in years to Intervention Level	28.2	Condition Distribution Accuracy Indicator	2.08
% of Present Demand being Met	52.33%	% Long Term Average Demand being Met	101.38%





Asset Set Presently Displayed ***Spray Seal - Access***

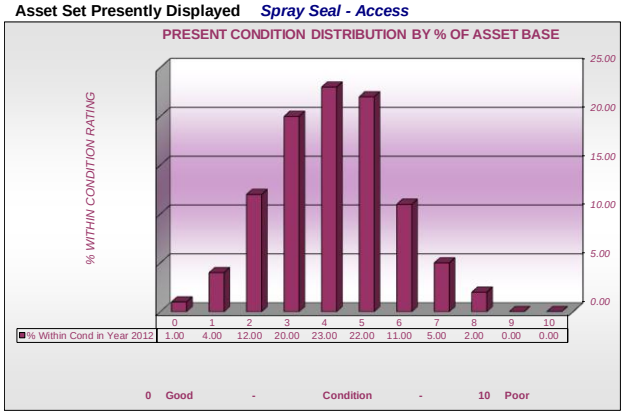
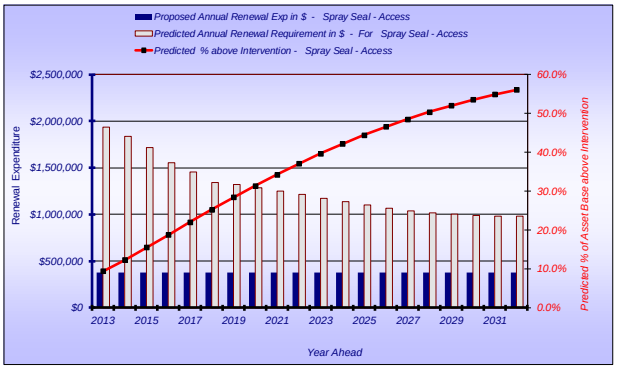
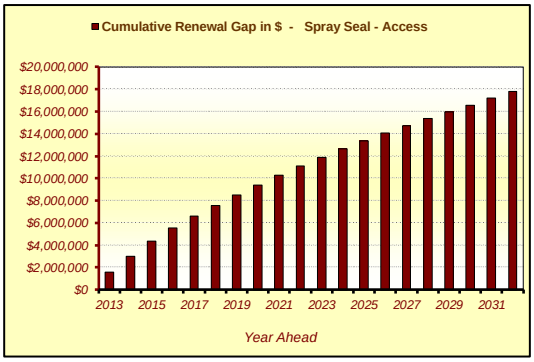


Table of Key Indicators

Present Annual Renewal Expenditure	$380,000	Present Annual Renewal Demand From Modelling	$1,934,995
Total Asset Group Quantity	4,993,800	Av Annual Renewal Demand (Long Term)	$998,760
Units	sqm	Av Unit Renewal Cost in $/Unit	6.00
Total Cost to Renew the Whole Asset Group in $	$29,962,800	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$2,098,123
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.	0.23
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	9.03
Life in years to Intervention Level	28.2	Condition Distribution Accuracy Indicator	2.08
% of Present Demand being Met	19.64%	% Long Term Average Demand being Met	38.05%





Asset Set Presently Displayed ***Kerbing***

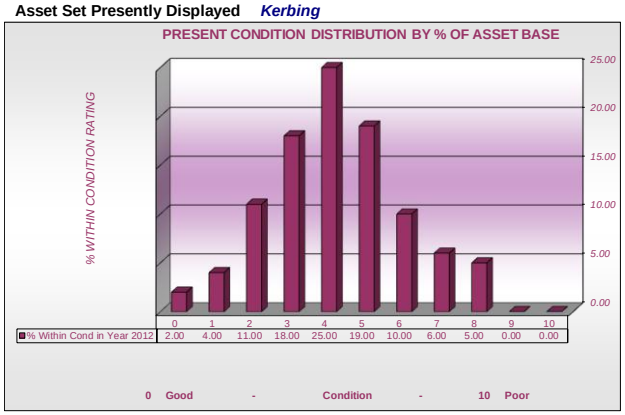
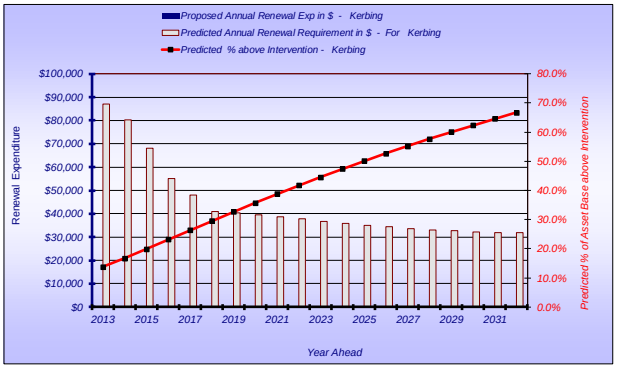
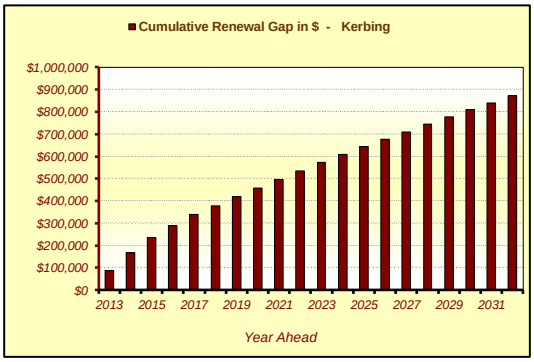


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$87,036
Total Asset Group Quantity	42,753	Av Annual Renewal Demand (Long Term)	$32,065
Units	Metres	Av Unit Renewal Cost in $/Unit	30.00
Total Cost to Renew the Whole Asset Group in $	$1,282,590	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$141,085
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.	0.25
Life to Condition 10 in Years	40.0	St Dev of Condition Distribution	8.38
Life in years to Intervention Level	37.6	Condition Distribution Accuracy Indicator	2.10
% of Present Demand being Met	0.02%	% Long Term Average Demand being Met	0.06%





Asset Set Presently Displayed ***Unclassified Pathways***

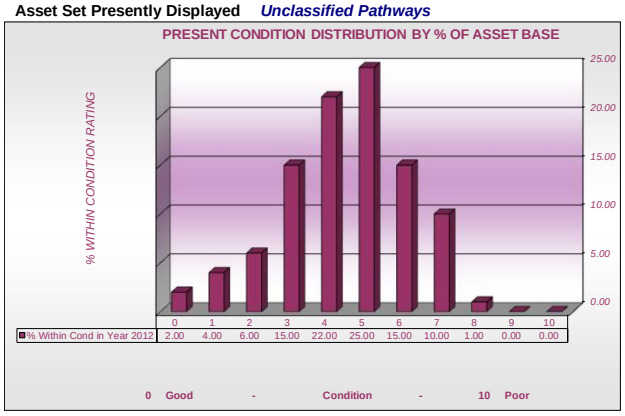
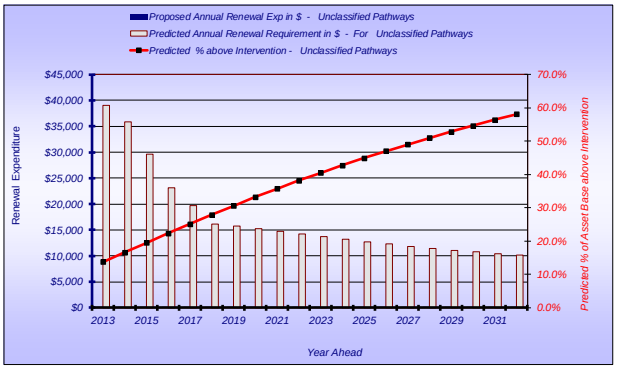
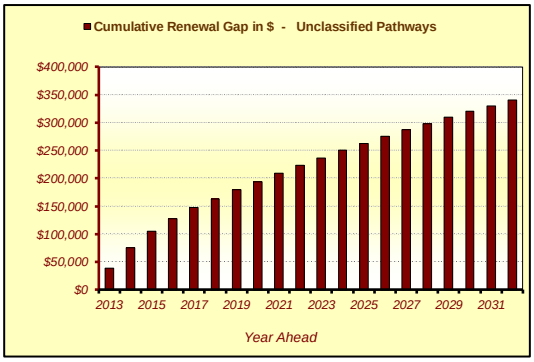


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$39,073
Total Asset Group Quantity	11,700	Av Annual Renewal Demand (Long Term)	$9,750
Units	sqm	Av Unit Renewal Cost in $/Unit	50.00
Total Cost to Renew the Whole Asset Group in $	$585,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$64,350
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.12
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	60.0	St Dev of Condition Distribution	8.98
Life in years to Intervention Level	56.4	Condition Distribution Accuracy Indicator	2.25
% of Present Demand being Met	0.05%	% Long Term Average Demand being Met	0.21%





Asset Set Presently Displayed ***Spray Seal Pathways***

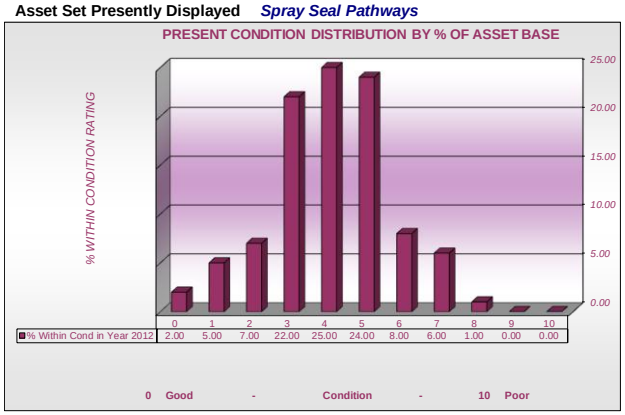
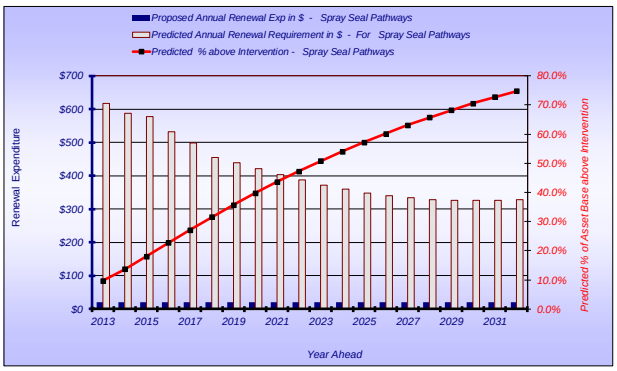
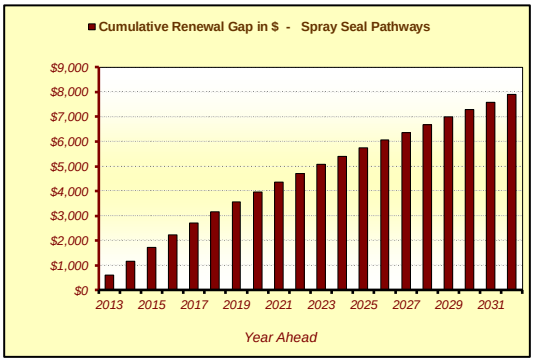


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$617
Total Asset Group Quantity	665	Av Annual Renewal Demand (Long Term)	$333
Units	sqm	Av Unit Renewal Cost in $/Unit	15.00
Total Cost to Renew the Whole Asset Group in $	$9,975	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$698
Retreatment Intervention Condition Level	7	% 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	30.0	St Dev of Condition Distribution	9.77
Life in years to Intervention Level	28.2	Condition Distribution Accuracy Indicator	2.44
% of Present Demand being Met	3.24%	% Long Term Average Demand being Met	6.02%





Asset Set Presently Displayed ***Concrete Slab Pathways***

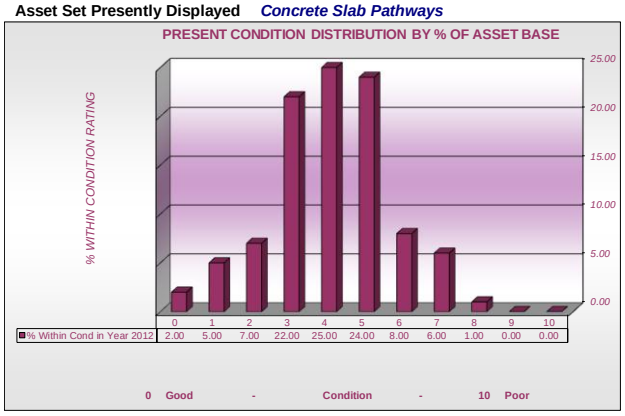
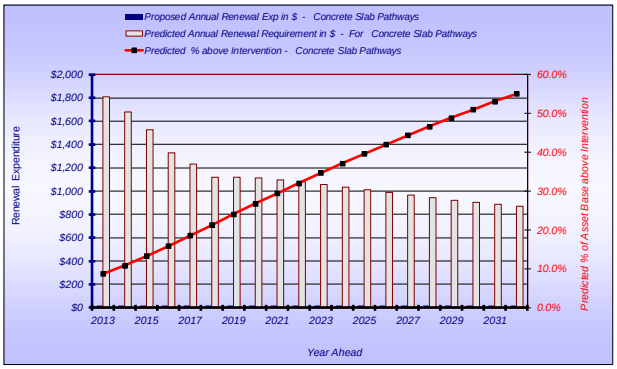
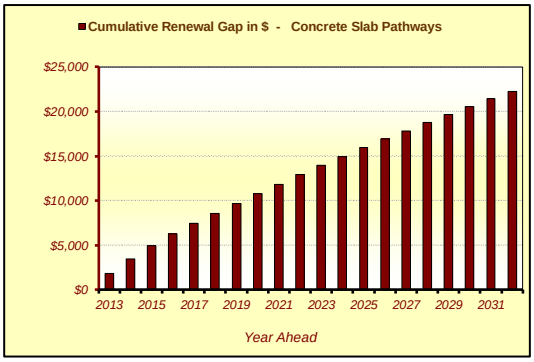


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$1,811
Total Asset Group Quantity	804	Av Annual Renewal Demand (Long Term)	$804
Units	sqm	Av Unit Renewal Cost in $/Unit	50.00
Total Cost to Renew the Whole Asset Group in $	$40,200	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$2,814
Retreatment Intervention Condition Level	7	% 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	50.0	St Dev of Condition Distribution	9.77
Life in years to Intervention Level	47.0	Condition Distribution Accuracy Indicator	2.44
% of Present Demand being Met	1.10%	% Long Term Average Demand being Met	2.49%





Asset Set Presently Displayed ***Insitu Concrete Pathways***

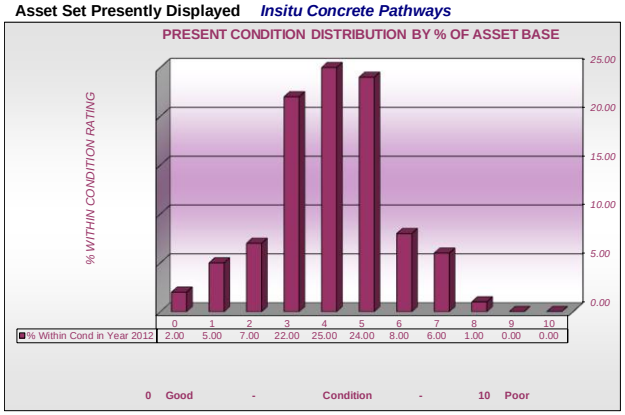
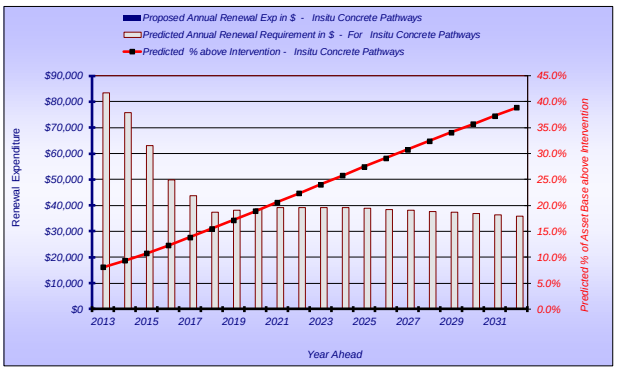
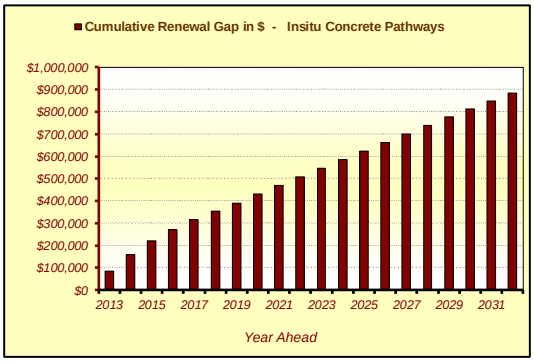


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$83,518
Total Asset Group Quantity	28,453	Av Annual Renewal Demand (Long Term)	$28,453
Units	sqm	Av Unit Renewal Cost in $/Unit	80.00
Total Cost to Renew the Whole Asset Group in $	$2,276,240	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$159,337
Retreatment Intervention Condition Level	7	% 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	80.0	St Dev of Condition Distribution	9.77
Life in years to Intervention Level	75.2	Condition Distribution Accuracy Indicator	2.44
% of Present Demand being Met	0.02%	% Long Term Average Demand being Met	0.07%





Asset Set Presently Displayed ***Brick Paving Pathways***

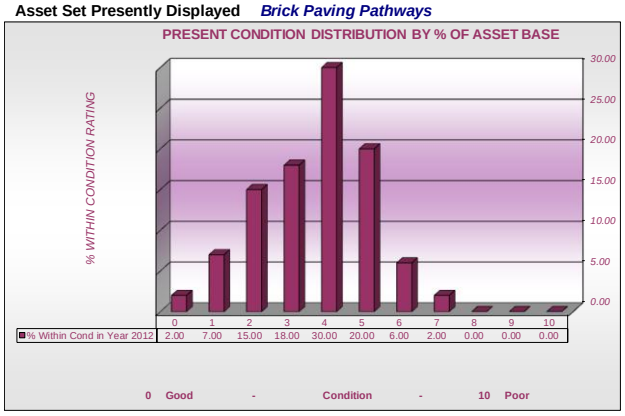
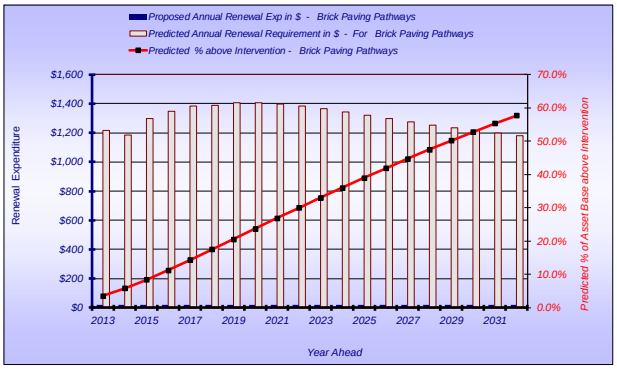
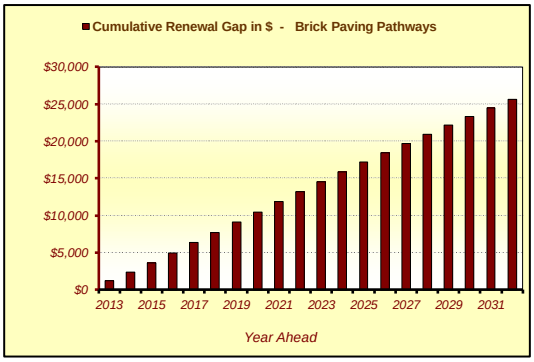


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$1,214
Total Asset Group Quantity	733	Av Annual Renewal Demand (Long Term)	$1,100
Units	sqm	Av Unit Renewal Cost in $/Unit	60.00
Total Cost to Renew the Whole Asset Group in $	$43,980	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$880
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.24
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.30
Life to Condition 10 in Years	40.0	St Dev of Condition Distribution	10.16
Life in years to Intervention Level	37.6	Condition Distribution Accuracy Indicator	3.05
% of Present Demand being Met	1.65%	% Long Term Average Demand being Met	1.82%





Asset Set Presently Displayed ***Short Life Structure***

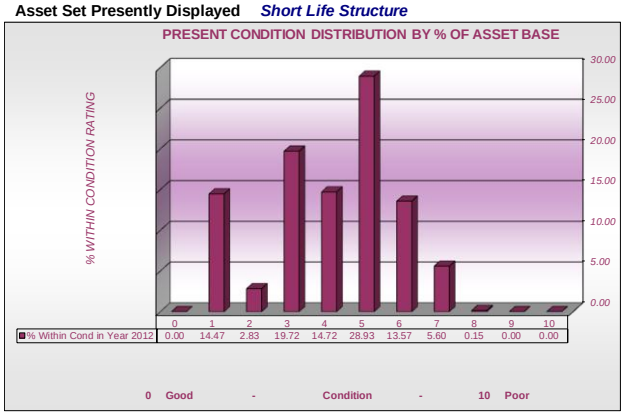
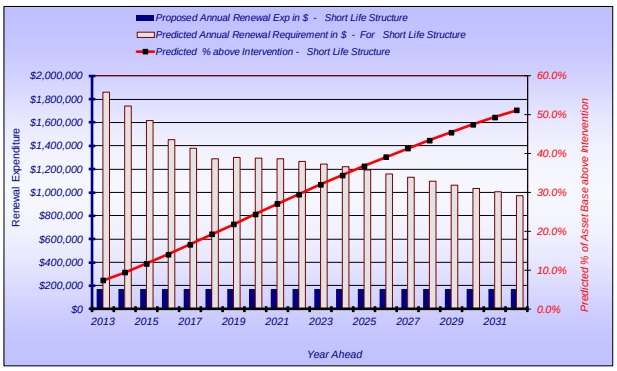
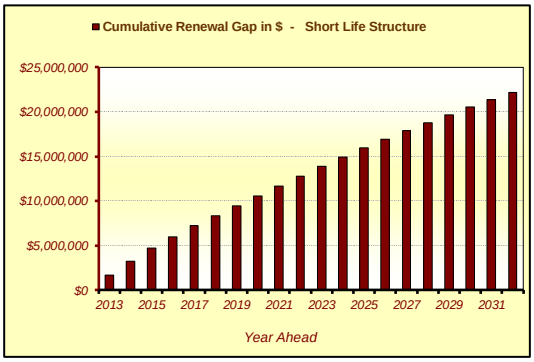


Table of Key Indicators

Present Annual Renewal Expenditure	$170,000	Present Annual Renewal Demand From Modelling	$1,858,635
Total Asset Group Quantity	50	Av Annual Renewal Demand (Long Term)	$720,656
Units	No	Av Unit Renewal Cost in $/Unit	864,786.61
Total Cost to Renew the Whole Asset Group in $	$43,239,331	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$2,486,426
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.	0.29
Life to Condition 10 in Years	60.0	St Dev of Condition Distribution	9.83
Life in years to Intervention Level	49.2	Condition Distribution Accuracy Indicator	2.84
% of Present Demand being Met	9.15%	% Long Term Average Demand being Met	23.59%





Asset Set Presently Displayed ***Roof Cladding***

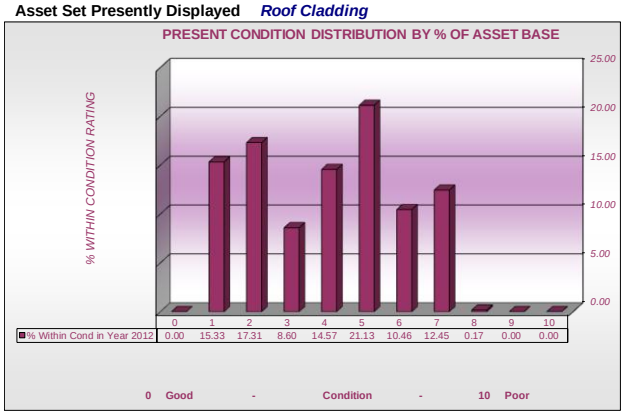
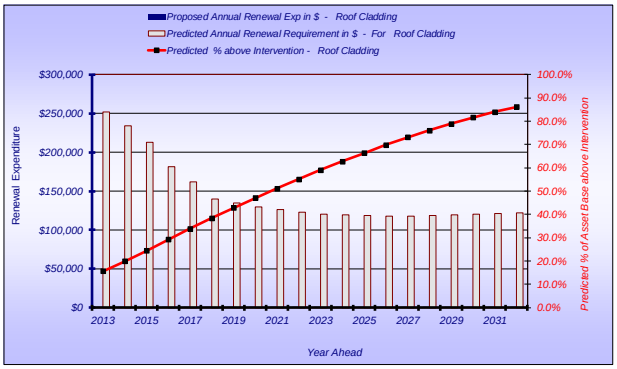
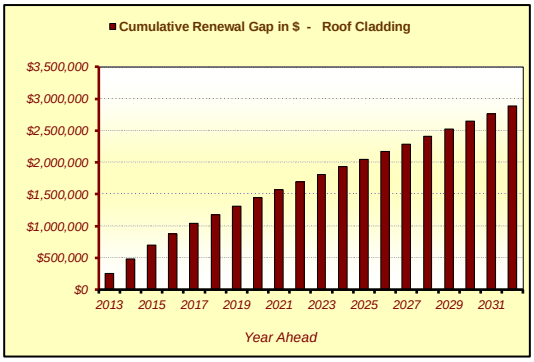


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$251,891
Total Asset Group Quantity	48	Av Annual Renewal Demand (Long Term)	$102,132
Units	No	Av Unit Renewal Cost in $/Unit	63,832.57
Total Cost to Renew the Whole Asset Group in $	$3,063,964	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$386,515
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.	0.21
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	7.89
Life in years to Intervention Level	24.6	Condition Distribution Accuracy Indicator	1.67
% of Present Demand being Met	0.01%	% Long Term Average Demand being Met	0.02%





Asset Set Presently Displayed ***Mechanical Services***

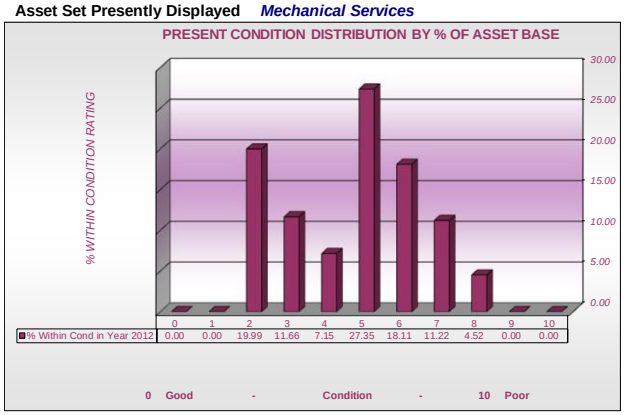
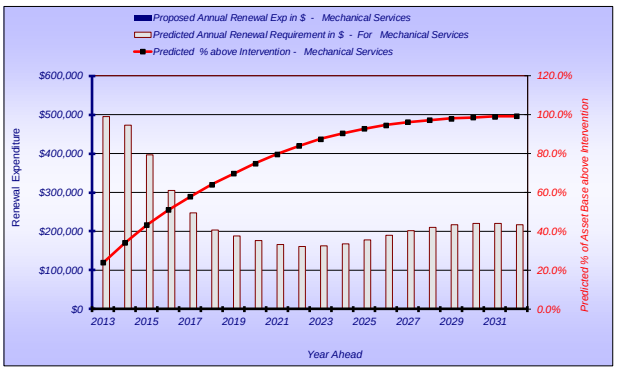
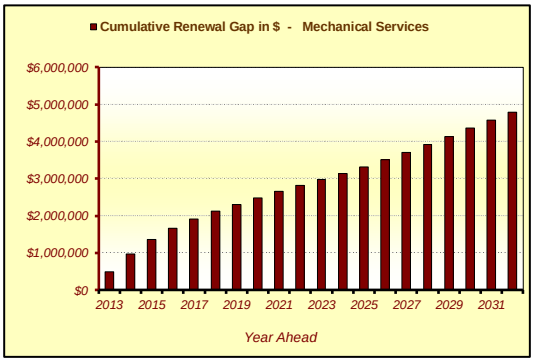


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$495,203
Total Asset Group Quantity	48	Av Annual Renewal Demand (Long Term)	$165,275
Units	No	Av Unit Renewal Cost in $/Unit	68,864.67
Total Cost to Renew the Whole Asset Group in $	$3,305,504	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$344,250	Present Value of assets above Intervention	$520,247
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.20
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.27
Life to Condition 10 in Years	20.0	St Dev of Condition Distribution	9.49
Life in years to Intervention Level	16.4	Condition Distribution Accuracy Indicator	2.60
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.01%





Asset Set Presently Displayed ***Fit out***

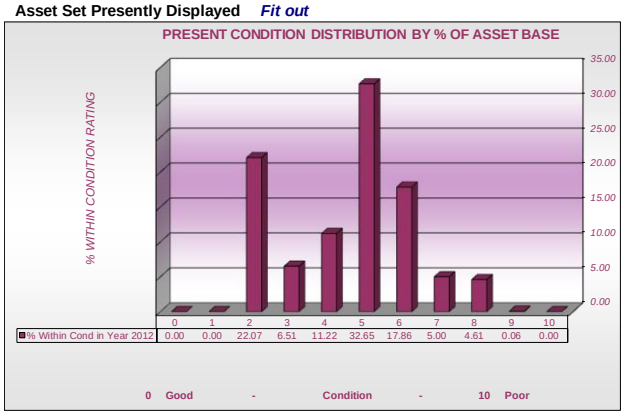
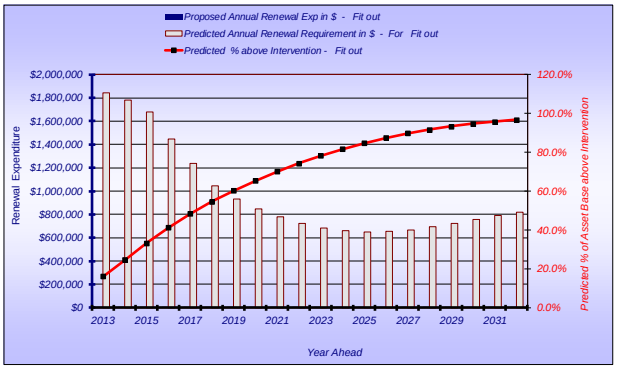
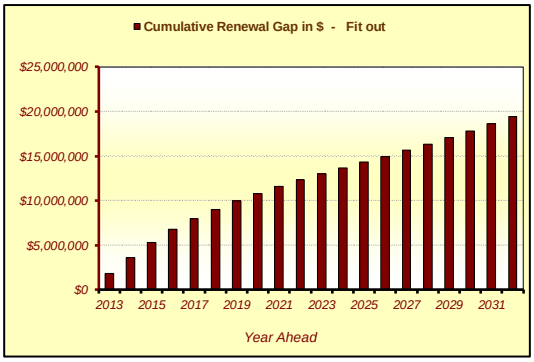


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$1,843,479
Total Asset Group Quantity	48	Av Annual Renewal Demand (Long Term)	$661,101
Units	No	Av Unit Renewal Cost in $/Unit	344,323.33
Total Cost to Renew the Whole Asset Group in $	$16,527,520	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$1,599,601
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.22
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.33
Life to Condition 10 in Years	25.0	St Dev of Condition Distribution	10.85
Life in years to Intervention Level	20.5	Condition Distribution Accuracy Indicator	3.54
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.00%





Asset Set Presently Displayed ***Bridges***

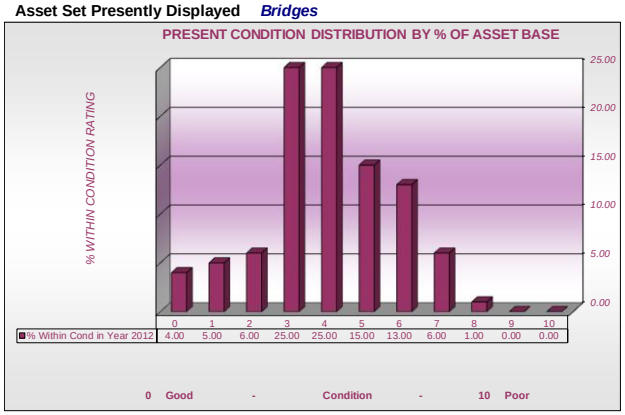
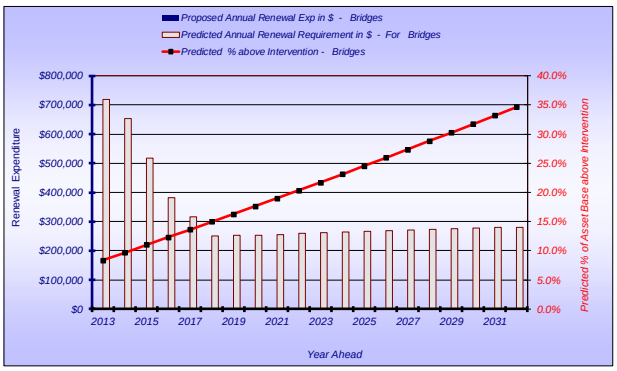
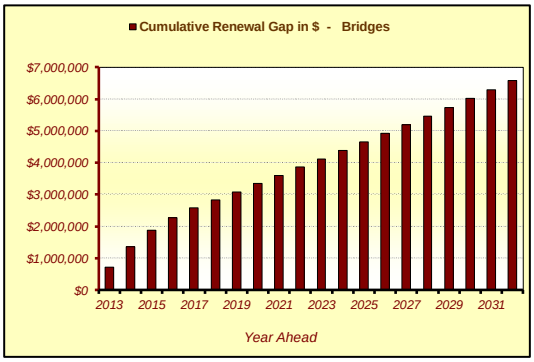


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$718,930
Total Asset Group Quantity	1,896	Av Annual Renewal Demand (Long Term)	$237,000
Units	sqm	Av Unit Renewal Cost in $/Unit	10,000.00
Total Cost to Renew the Whole Asset Group in $	$18,960,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$1,327,200
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.15
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	80.0	St Dev of Condition Distribution	9.21
Life in years to Intervention Level	71.2	Condition Distribution Accuracy Indicator	2.30
% of Present Demand being Met	0.00%	% Long Term Average Demand being Met	0.01%





Asset Set Presently Displayed ***Culverts***

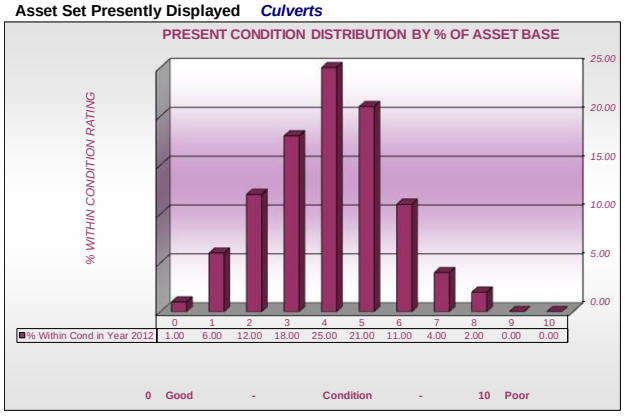
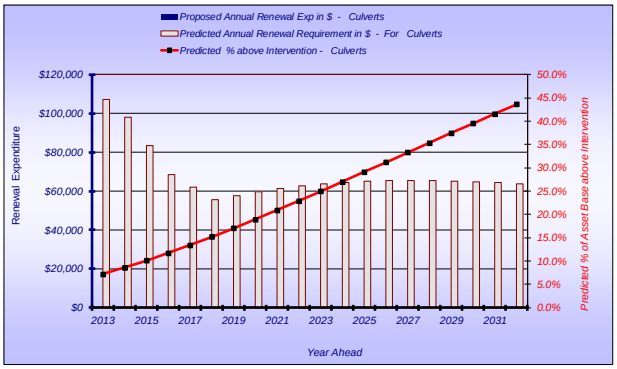
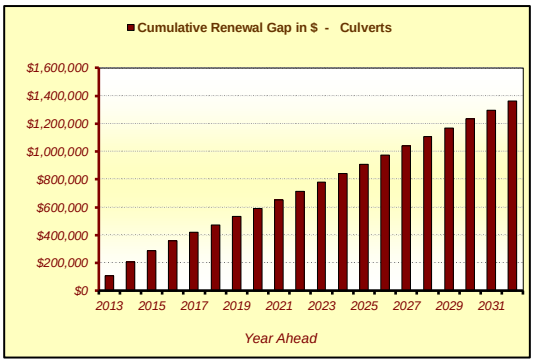


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$107,207
Total Asset Group Quantity	446	Av Annual Renewal Demand (Long Term)	$39,025
Units	No	Av Unit Renewal Cost in $/Unit	7,000.00
Total Cost to Renew the Whole Asset Group in $	$3,122,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$187,320
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	80.0	St Dev of Condition Distribution	8.96
Life in years to Intervention Level	65.6	Condition Distribution Accuracy Indicator	2.24
% of Present Demand being Met	0.02%	% Long Term Average Demand being Met	0.05%





Asset Set Presently Displayed ***Pits***

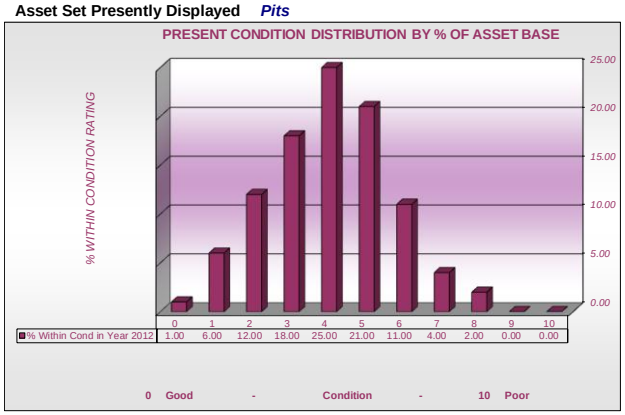
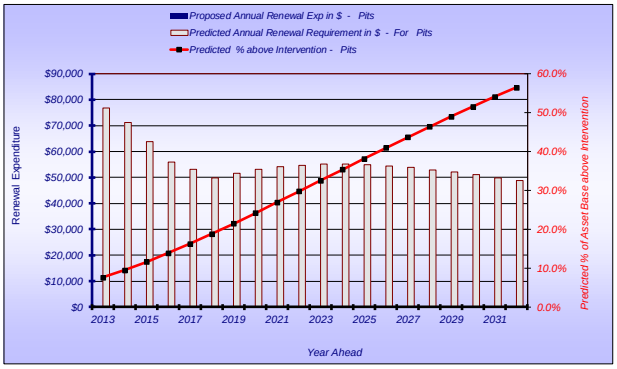
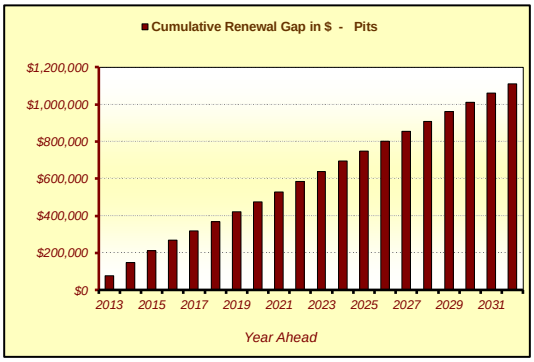


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$76,751
Total Asset Group Quantity	700	Av Annual Renewal Demand (Long Term)	$32,667
Units	No	Av Unit Renewal Cost in $/Unit	2,800.00
Total Cost to Renew the Whole Asset Group in $	$1,960,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$117,600
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	60.0	St Dev of Condition Distribution	8.96
Life in years to Intervention Level	49.2	Condition Distribution Accuracy Indicator	2.24
% of Present Demand being Met	0.03%	% Long Term Average Demand being Met	0.06%





Asset Set Presently Displayed ***Pipes***

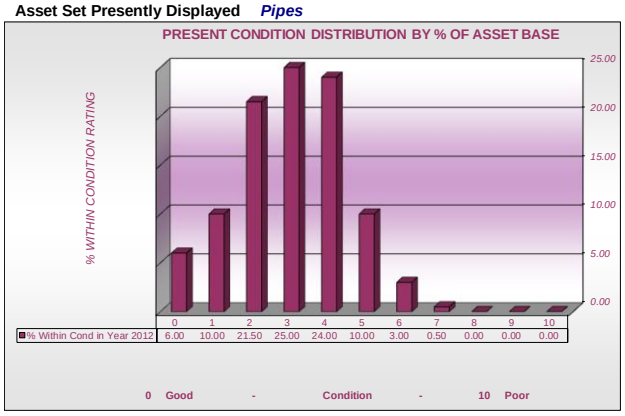
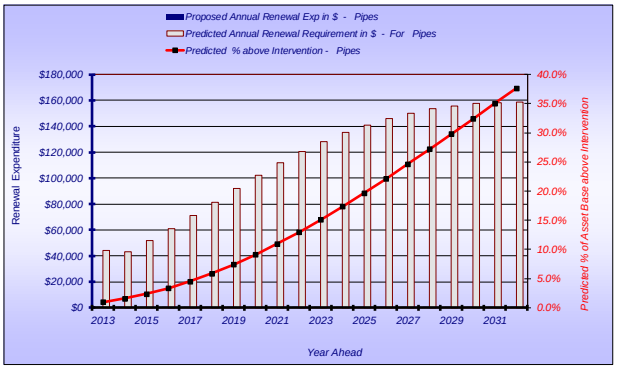
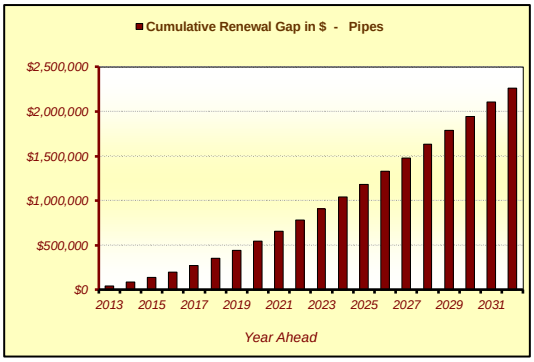


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$44,040
Total Asset Group Quantity	15,000	Av Annual Renewal Demand (Long Term)	$100,000
Units	Metres	Av Unit Renewal Cost in $/Unit	400.00
Total Cost to Renew the Whole Asset Group in $	$6,000,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$30,000
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.38
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	60.0	St Dev of Condition Distribution	10.00
Life in years to Intervention Level	49.2	Condition Distribution Accuracy Indicator	2.50
% of Present Demand being Met	0.05%	% Long Term Average Demand being Met	0.02%





Asset Set Presently Displayed ***Play Equipment***

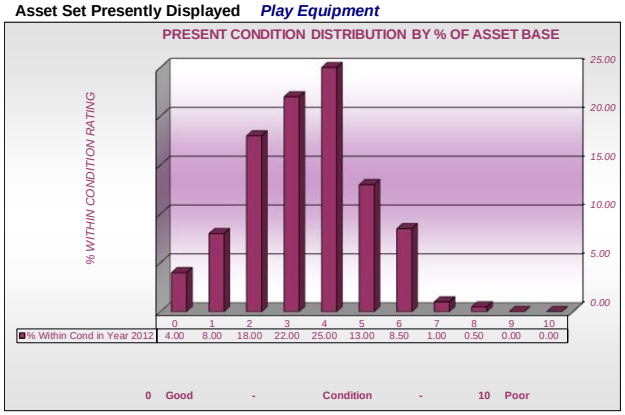
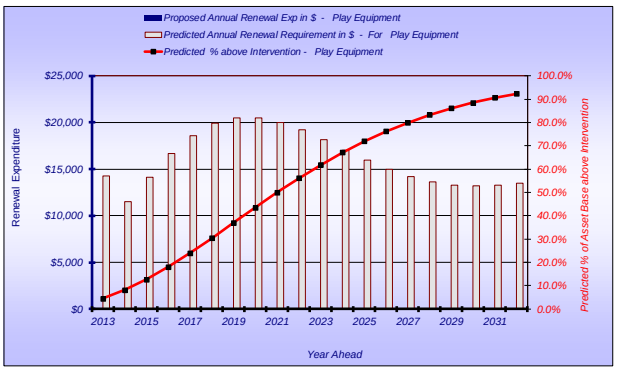
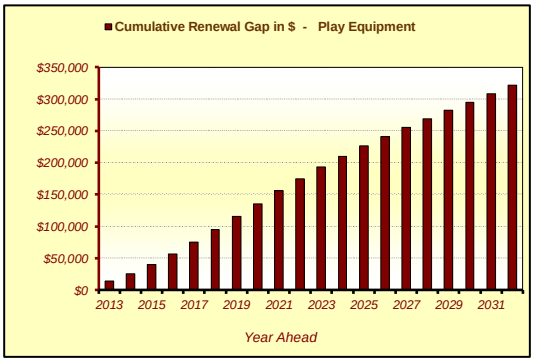


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$14,302
Total Asset Group Quantity	5	Av Annual Renewal Demand (Long Term)	$12,461
Units	No	Av Unit Renewal Cost in $/Unit	62,307.40
Total Cost to Renew the Whole Asset Group in $	$311,537	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$4,673
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.30
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	25.0	St Dev of Condition Distribution	9.20
Life in years to Intervention Level	20.5	Condition Distribution Accuracy Indicator	2.30
% of Present Demand being Met	0.14%	% Long Term Average Demand being Met	0.16%





Asset Set Presently Displayed ***Active Playing Fields***

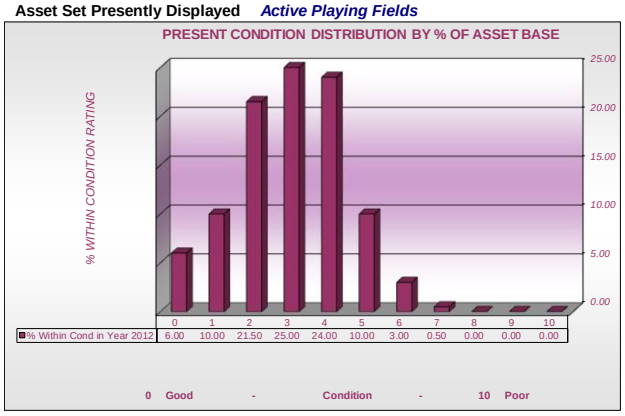
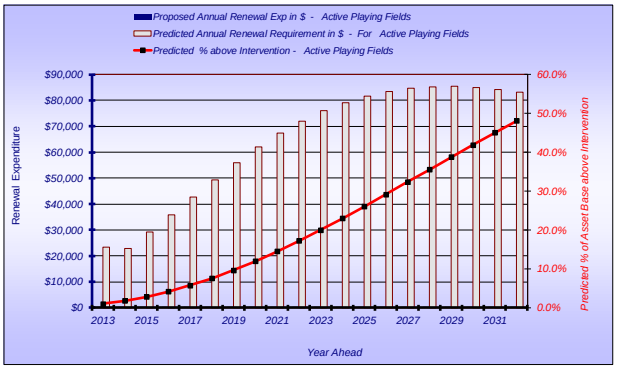
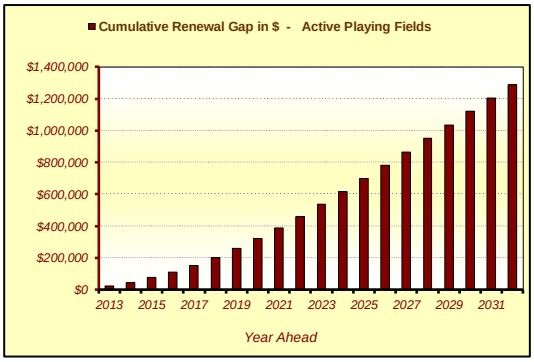


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$23,269
Total Asset Group Quantity	53,438	Av Annual Renewal Demand (Long Term)	$53,438
Units	sqm	Av Unit Renewal Cost in $/Unit	50.00
Total Cost to Renew the Whole Asset Group in $	$2,671,916	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$15,000	Present Value of assets above Intervention	$13,360
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.38
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	10.00
Life in years to Intervention Level	41.0	Condition Distribution Accuracy Indicator	2.50
% of Present Demand being Met	0.09%	% Long Term Average Demand being Met	0.04%





Asset Set Presently Displayed ***Passive Recreation Areas***

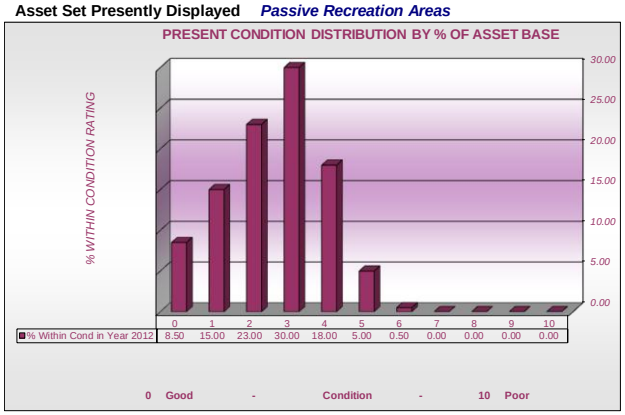
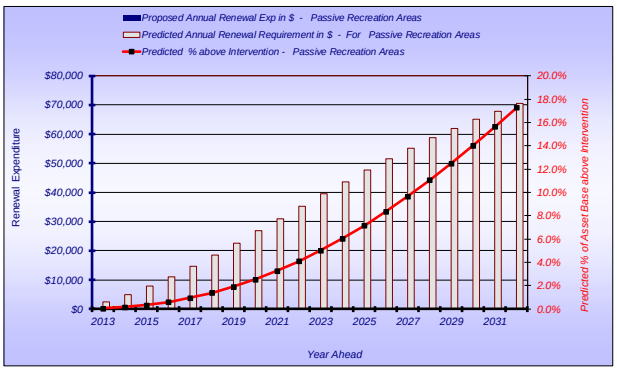
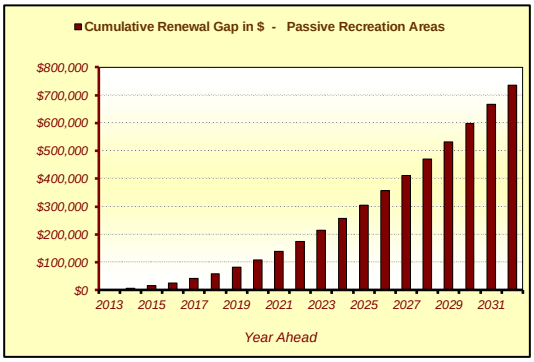


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$2,422
Total Asset Group Quantity	213,130	Av Annual Renewal Demand (Long Term)	$53,283
Units	sqm	Av Unit Renewal Cost in $/Unit	20.00
Total Cost to Renew the Whole Asset Group in $	$4,262,600	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	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	80.0	St Dev of Condition Distribution	10.80
Life in years to Intervention Level	65.6	Condition Distribution Accuracy Indicator	3.24
% of Present Demand being Met	0.83%	% Long Term Average Demand being Met	0.04%





Asset Set Presently Displayed ***Fencing***

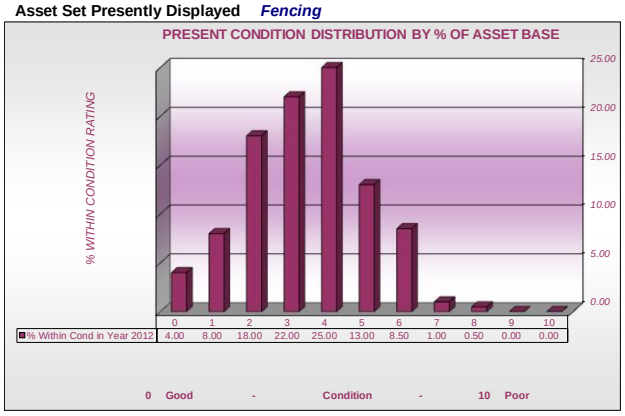
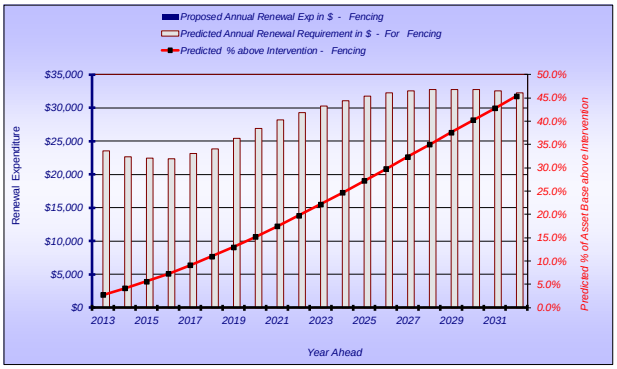
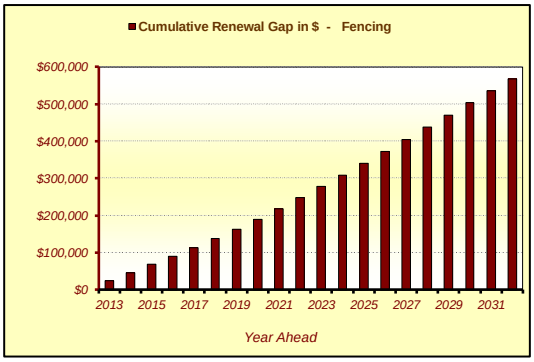


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$23,500
Total Asset Group Quantity	5,000	Av Annual Renewal Demand (Long Term)	$20,833
Units	Metres	Av Unit Renewal Cost in $/Unit	250.00
Total Cost to Renew the Whole Asset Group in $	$1,250,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$18,750
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.30
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	60.0	St Dev of Condition Distribution	9.20
Life in years to Intervention Level	49.2	Condition Distribution Accuracy Indicator	2.30
% of Present Demand being Met	0.09%	% Long Term Average Demand being Met	0.10%





Asset Set Presently Displayed ***Reticulation Pipes***

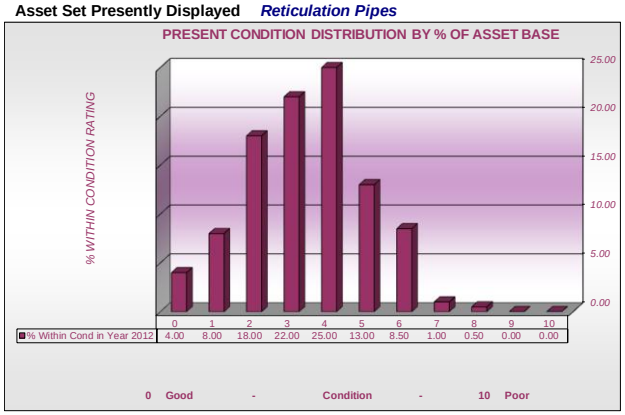
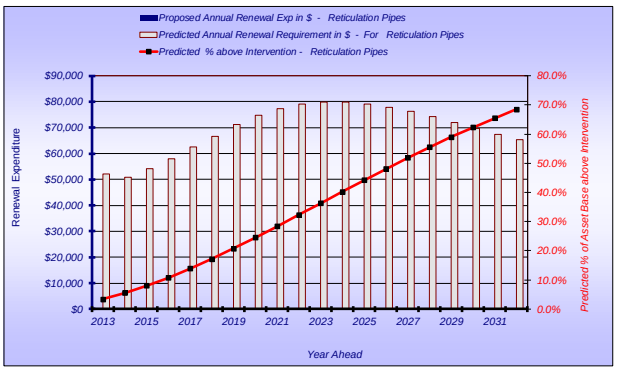
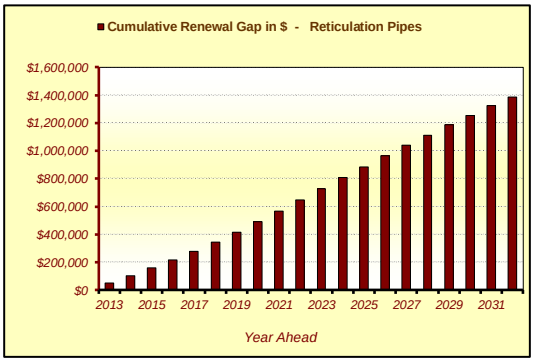


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$52,158
Total Asset Group Quantity	25,000	Av Annual Renewal Demand (Long Term)	$50,000
Units	Metres	Av Unit Renewal Cost in $/Unit	80.00
Total Cost to Renew the Whole Asset Group in $	$2,000,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$36,000	Present Value of assets above Intervention	$30,000
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.30
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	9.20
Life in years to Intervention Level	32.8	Condition Distribution Accuracy Indicator	2.30
% of Present Demand being Met	0.04%	% Long Term Average Demand being Met	0.04%





Asset Set Presently Displayed ***Reticulation Solinoids***

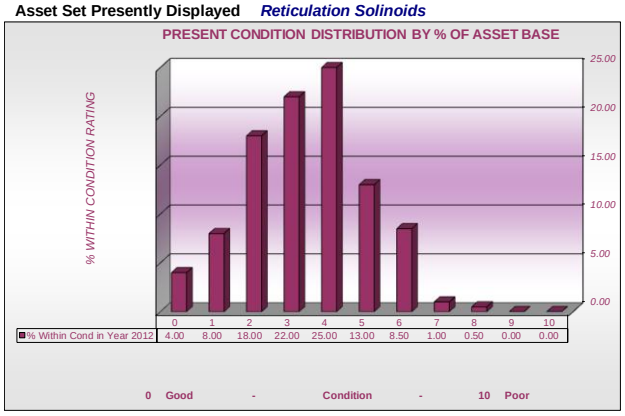
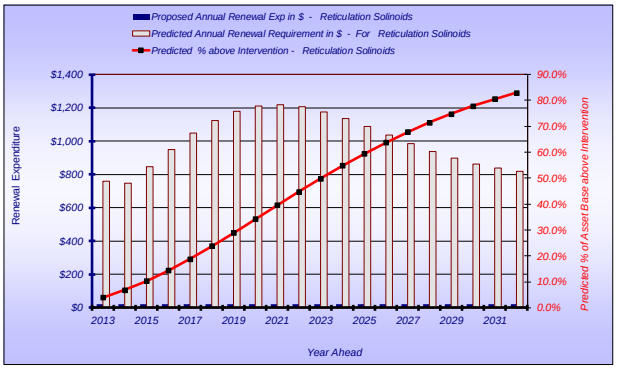
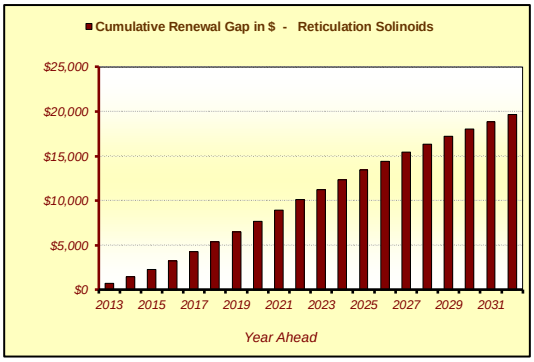


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$758
Total Asset Group Quantity	50	Av Annual Renewal Demand (Long Term)	$750
Units	No	Av Unit Renewal Cost in $/Unit	450.00
Total Cost to Renew the Whole Asset Group in $	$22,500	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$338
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.30
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	9.20
Life in years to Intervention Level	24.6	Condition Distribution Accuracy Indicator	2.30
% of Present Demand being Met	2.64%	% Long Term Average Demand being Met	2.67%





Asset Set Presently Displayed ***Reticulation Pumps***

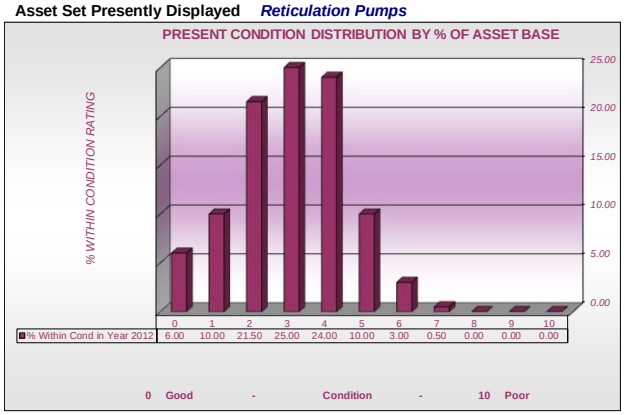
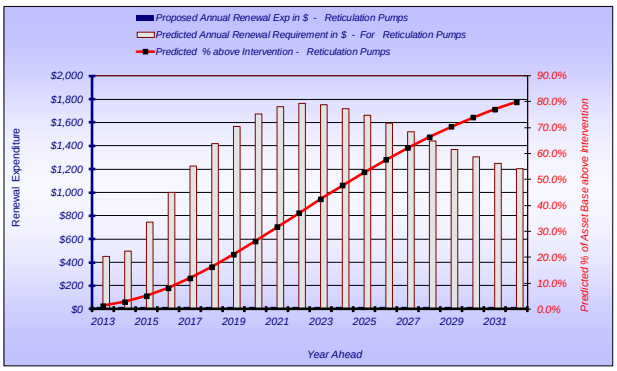
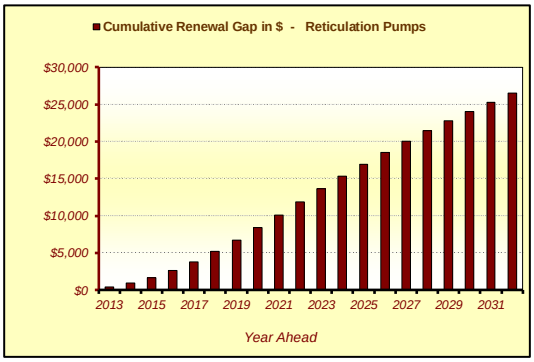


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$451
Total Asset Group Quantity	4	Av Annual Renewal Demand (Long Term)	$1,067
Units	No	Av Unit Renewal Cost in $/Unit	8,000.00
Total Cost to Renew the Whole Asset Group in $	$32,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$160
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.38
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	10.00
Life in years to Intervention Level	24.6	Condition Distribution Accuracy Indicator	2.50
% of Present Demand being Met	4.44%	% Long Term Average Demand being Met	1.88%





Asset Set Presently Displayed ***Lighting***

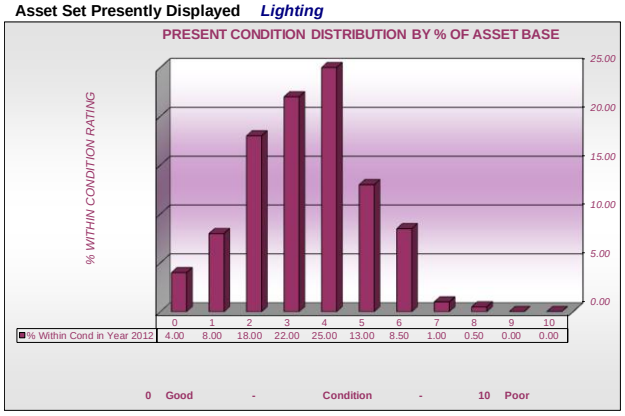
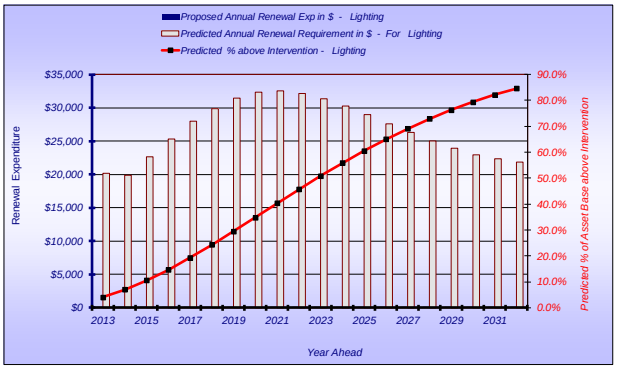
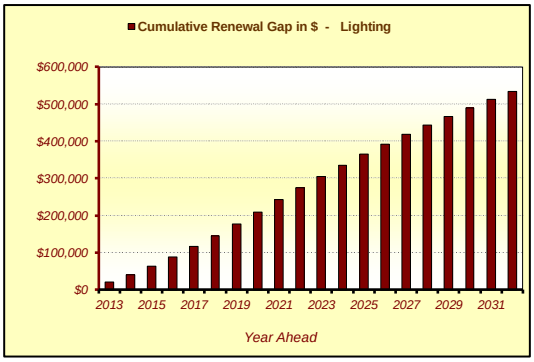


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$20,216
Total Asset Group Quantity	40	Av Annual Renewal Demand (Long Term)	$20,000
Units	No	Av Unit Renewal Cost in $/Unit	15,000.00
Total Cost to Renew the Whole Asset Group in $	$600,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$9,000
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.30
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	30.0	St Dev of Condition Distribution	9.20
Life in years to Intervention Level	24.6	Condition Distribution Accuracy Indicator	2.30
% of Present Demand being Met	0.10%	% Long Term Average Demand being Met	0.10%





Asset Set Presently Displayed ***Airport Pavement***

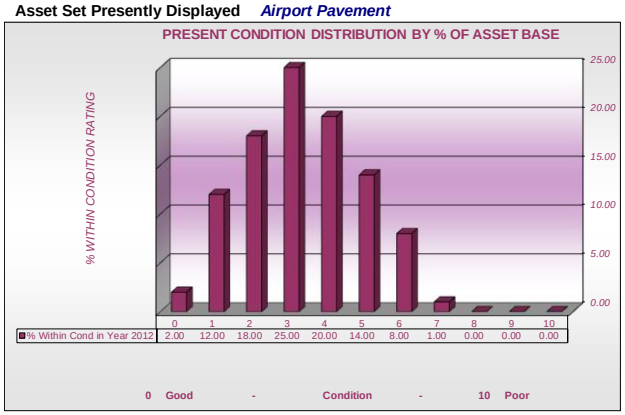
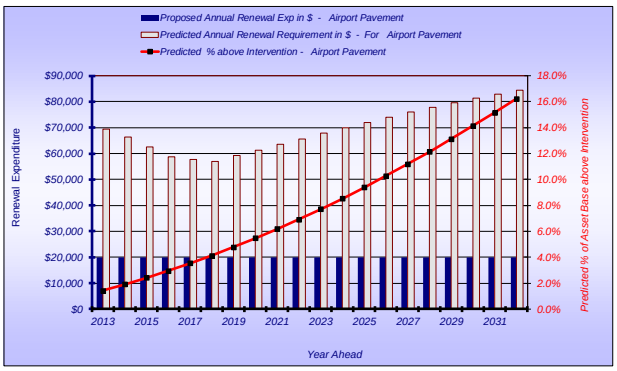


Table of Key Indicators

Present Annual Renewal Expenditure	$19,950	Present Annual Renewal Demand From Modelling	$69,385
Total Asset Group Quantity	202,966	Av Annual Renewal Demand (Long Term)	$76,112
Units	sqm	Av Unit Renewal Cost in $/Unit	30.00
Total Cost to Renew the Whole Asset Group in $	$6,088,980	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$60,890
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	80.0	St Dev of Condition Distribution	9.21
Life in years to Intervention Level	69.6	Condition Distribution Accuracy Indicator	2.30
% of Present Demand being Met	28.75%	% Long Term Average Demand being Met	26.21%



Asset Set Presently Displayed ***Airport Seal***

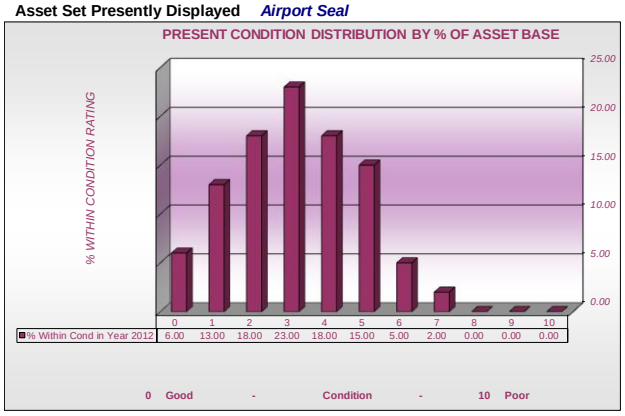
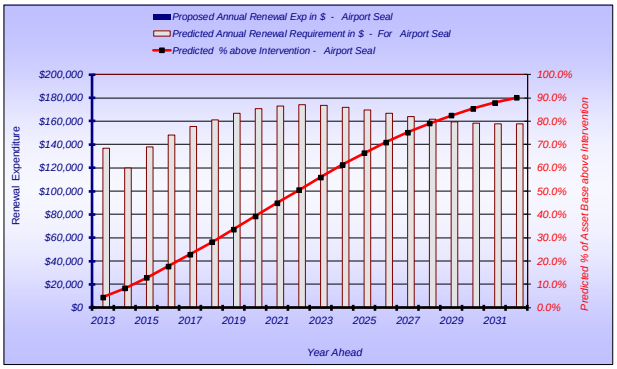


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$137,002
Total Asset Group Quantity	202,966	Av Annual Renewal Demand (Long Term)	$152,225
Units	sqm	Av Unit Renewal Cost in $/Unit	15.00
Total Cost to Renew the Whole Asset Group in $	$3,044,490	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$60,890
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.37
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.23
Life to Condition 10 in Years	20.0	St Dev of Condition Distribution	8.53
Life in years to Intervention Level	18.8	Condition Distribution Accuracy Indicator	1.96
% of Present Demand being Met	0.01%	% Long Term Average Demand being Met	0.01%



Asset Set Presently Displayed ***Runway Lighting***

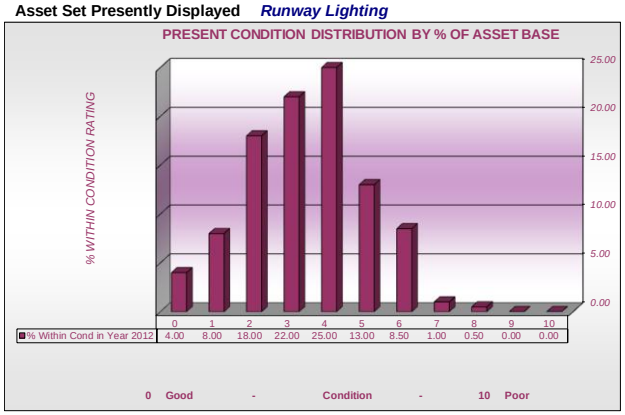
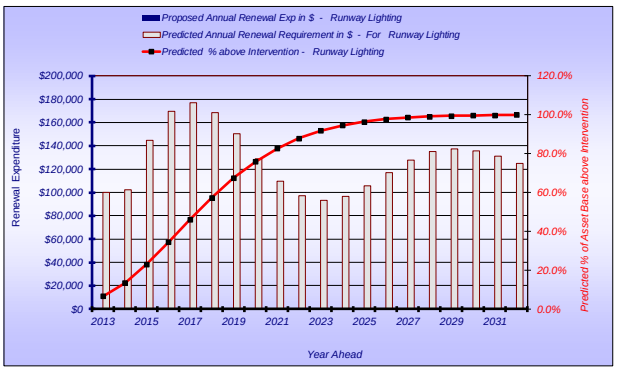
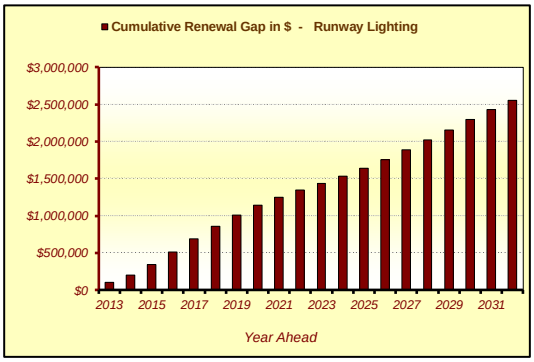


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$99,773
Total Asset Group Quantity	2	Av Annual Renewal Demand (Long Term)	$100,000
Units	No	Av Unit Renewal Cost in $/Unit	750,000.00
Total Cost to Renew the Whole Asset Group in $	$1,500,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	Present Value of assets above Intervention	$22,500
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.30
Return Cond Level following Renewal	0	Largest Individual % in Starting Condition Dist.	0.25
Life to Condition 10 in Years	15.0	St Dev of Condition Distribution	9.20
Life in years to Intervention Level	12.3	Condition Distribution Accuracy Indicator	2.30
% of Present Demand being Met	0.02%	% Long Term Average Demand being Met	0.02%





Asset Set Presently Displayed ***Boatramps***

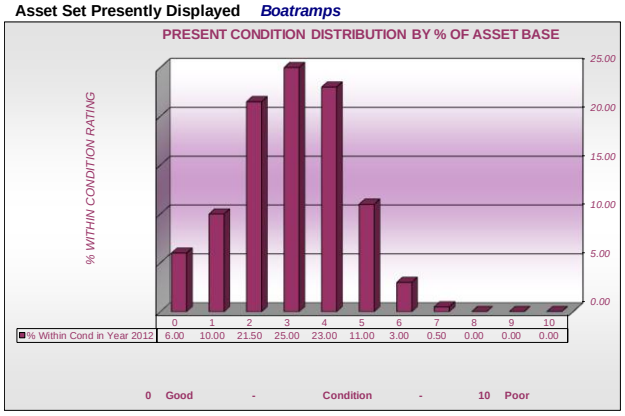
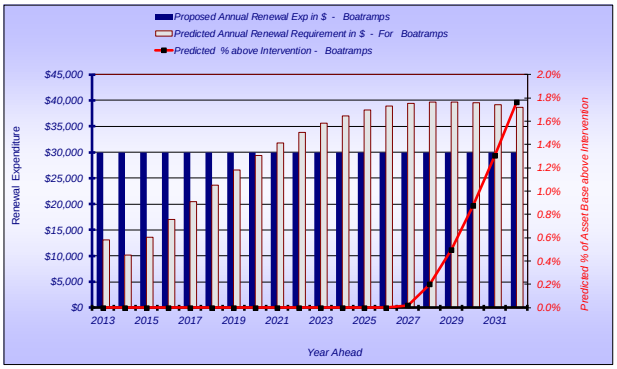
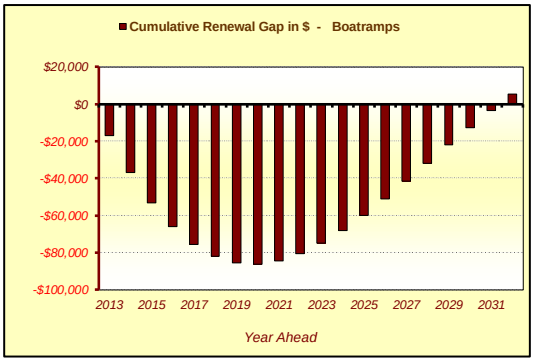


Table of Key Indicators

Present Annual Renewal Expenditure	$30,000	Present Annual Renewal Demand From Modelling	$13,068
Total Asset Group Quantity	5	Av Annual Renewal Demand (Long Term)	$25,000
Units	No	Av Unit Renewal Cost in $/Unit	250,000.00
Total Cost to Renew the Whole Asset Group in $	$1,250,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$30,000	Present Value of assets above Intervention	$6,250
Retreatment Intervention Condition Level	7	% at & Under Cond 2 (%In Excellent Cond)	0.38
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	9.87
Life in years to Intervention Level	41.0	Condition Distribution Accuracy Indicator	2.47
% of Present Demand being Met	229.57%	% Long Term Average Demand being Met	120.00%





Asset Set Presently Displayed ***Jetties***

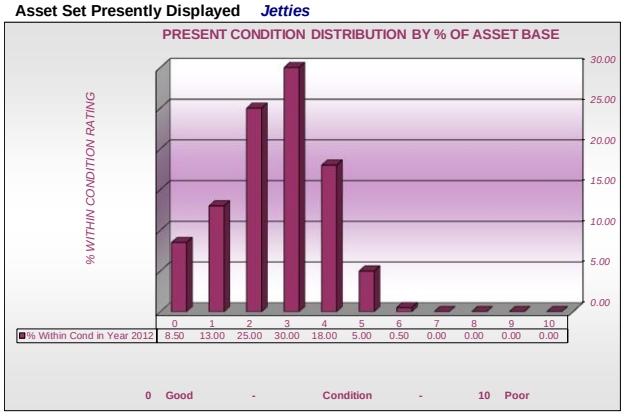


Table of Key Indicators

Present Annual Renewal Expenditure	$20	Present Annual Renewal Demand From Modelling	$3,636
Total Asset Group Quantity	1,600	Av Annual Renewal Demand (Long Term)	$80,000
Units	sqm	Av Unit Renewal Cost in $/Unit	4,000.00
Total Cost to Renew the Whole Asset Group in $	$6,400,000	% at and above Intervention Level (In Poor Cond)	$0
Annual Maintenance Exp.	$20	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	80.0	St Dev of Condition Distribution	10.98
Life in years to Intervention Level	65.6	Condition Distribution Accuracy Indicator	3.30
% of Present Demand being Met	0.55%	% Long Term Average Demand being Met	0.03%