GLAMORGAN SPRING BAY COUNCIL

Transport Infrastructure

Asset Management Plan

(Incorporating - Sealed and Unsealed Roads – Footpaths – Kerb and Gutters)

Scenario 1 Version 5 (S1_V5)

August 2014

Document Control	

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1	01/10/2012	Initial Draft	T. Pollard		
2	20/02/2013	Final Draft	T. Pollard		
3	26/08/2014	Revision – Adopted by Council	T. Pollard		

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1. EXECUTIVE SUMMARY

Context

Glamorgan Spring Bay Council's (GSBC) network of public roads, including kerbs and footpaths, is infrastructure provided to the community to facilitate a safe, convenient and defined means for transporting people and goods around and through the municipal area.

Transport access to Glamorgan Spring Bay area is via the Tasman Highway from north and south and via the Lake Leake Road to the west. There is no airport or rail link to the area.

Of the permanent population, 70% live in the towns of Bicheno, Coles Bay, Swansea, Triabunna and Orford. The remainder of the population is spread over the rural hamlets of Buckland, Cranbrook, Spring Beach, Swanwick and the large rural holdings that form the backbone of the rural sector.

Population growth in the Council resulting in an increase in any of the road infrastructure assets is unlikely under present circumstances in the foreseeable future. It is also considered that the capacity of the road network is sufficient to meet current and future demands for short term use excluding extraordinary demands.

Council's Transport Service
GSBC Transport network comprises:

- Sealed Roads – 169 kms
- Unsealed Roads – 188 kms
- Footpaths – 22 kms
- Kerb and Gutter – 71 kms

Asset Valuation Summary ($000)

Current Replacement Cost	**$73,797**
Depreciable Amount	**$25,492**
Depreciated Replacement Cost	**$48,304**
Annual Depreciation Expense	**$959**
Rate of Annual Asset Consumption	**3.8%**
Rate of Annual Asset Renewal	**3.7%**
Rate of Annual Asset Upgrade	**1.4%**
Rate of Asset Upgrade (Including Contributed Assets)	**1.4%**
Asset renewals as percentage of consumption	**97.5%**
Percentage Increase in asset stock	**1.4%**

What does it Cost?

Executive Summary	($000)
10 year total cost [10 yr Ops, Maint, Renewal and Upgrade Proj Exp]	**$19,723**
10 year average cost	**$1,972**
10 year total LTFP budget [10 yr Ops, Maint, Renewal and Upgrade LTFP Budget]	**$19,405**
10 year average LTFP budget	**$1,941**
10 year AM financial indicator	**98%**
10 year average funding shortfall	**$-32**

What we will do

We plan to provide Road Infrastructure services for the following:

- Operation, maintenance, renewal and upgrade of Sealed roads, unsealed roads, footpaths and kerb and gutters to meet service levels set in annual budgets.

The Next Steps

Actions resulting from this Asset Management Plan are:

- **Road Network Inspection regime** - Develop a road network asset inspection regime covering inspection program and reporting and recording mechanism.

2. INTRODUCTION

2.1 Background

This Asset Management Plan has been developed to demonstrate responsive management of assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed to provide the required levels of service over a 20 year planning period.

The Asset Management Plan follows the format for AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual.

The Asset Management Plan is to be read with Council's Asset Management Policy, Asset Management Strategy and the following associated planning documents:

- Glamorgan Spring Bay Council Strategic Plan 2012 - 2020

The infrastructure assets covered by this asset management plan are shown in Table 2.1. These assets are used to provide transport services to our community.

Table 2.1: Assets covered by this Plan

Asset category	Dimension	Replacement Value
Urban Unsealed	50,893 m2	$1,455,896
Rural Unsealed	649,234 m2	$17,324,134
Urban Sealed	583,817 m2	$19,256,008
Rural Sealed	520,573 m2	$15,514,865
Chip Seals	883,998 m2	$7,684,267
Asphalt Overlays	64,213 m2	$1,811,222
Kerb and Channel	71,799m	$7,458,738
Footpaths	36,592 m2	$3,292,494
TOTAL		**$73,797,624**

The Plan is intended to demonstrate to stakeholders that Council is managing its roads and the road related assets responsibly.

The key community/stakeholder groups involved, who are both users of the road network and/or are affected by it include for example:

- The community in general (for recreation, sport, leisure and business);
- Residents and businesses adjoining the road network;
- Pedestrians (including the very young, those with disabilities, and the elderly with somewhat limited mobility);
- Users of a range of miscellaneous smaller and lightweight vehicles such as pedal cyclists, motorised buggies, wheel chairs, prams, etc;
- Vehicle users using motorised vehicles such as trucks, buses, commercial vehicles, cars and motor cyclists;
- Local agricultural and commercial producers;
- Tourists and visitors to the area;
- Emergency agencies (Police, Fire, Ambulance);
- Managers of the road network;

2.2 Goals and Objectives of Asset Management

Council's core business is to provide services to its community. Some of these services are provided by infrastructure assets. We have acquired infrastructure assets through purchase, contract, construction by our staff and by donation of assets constructed by developers and others to meet increased levels of service.

Our goal in managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance
- Managing the impact of growth through demand management and infrastructure investment
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service
- Identifying, assessing and appropriately controlling risks
- Having a long-term financial plan which identifies required, affordable expenditure and how it will be financed.[1]

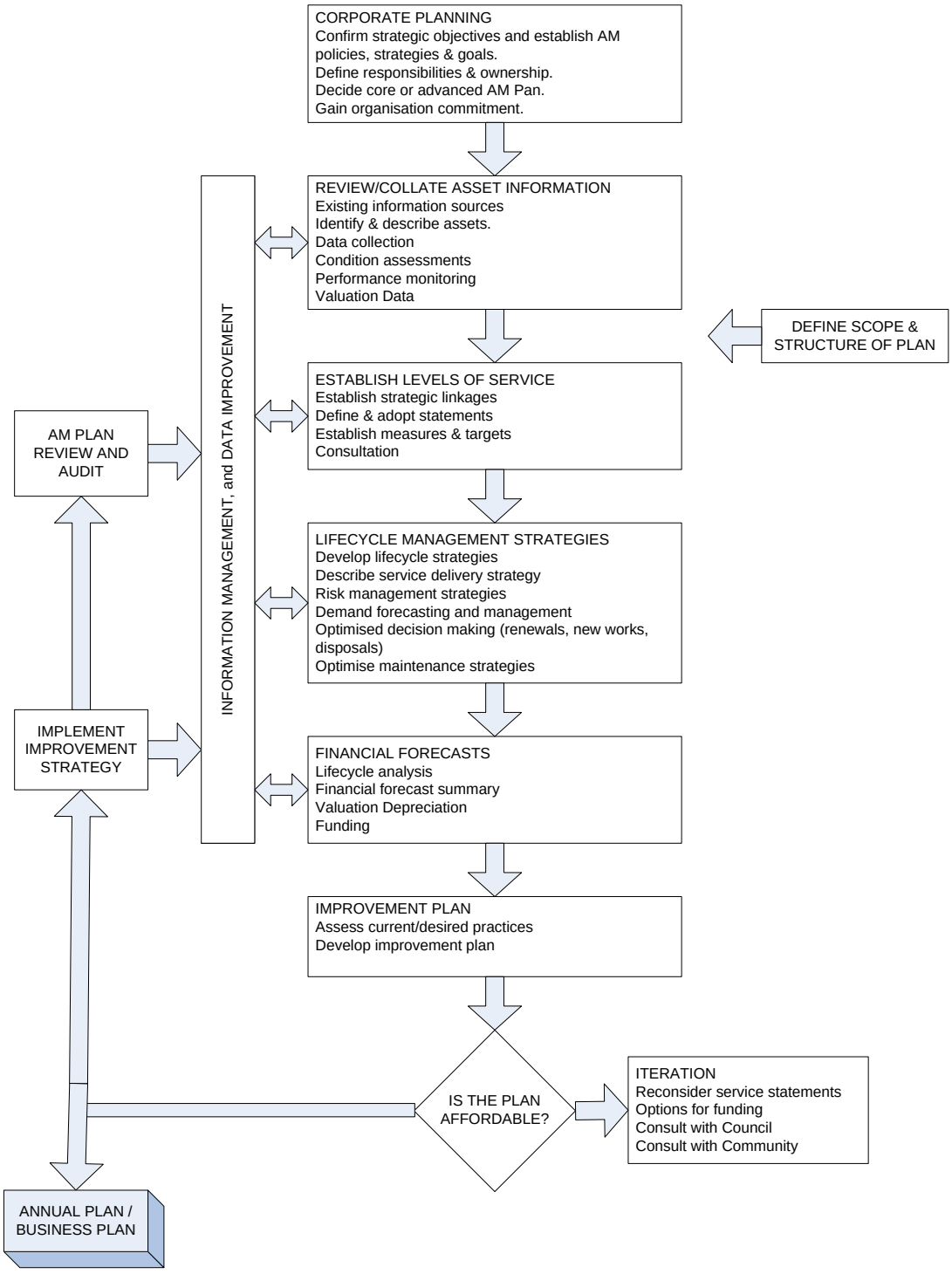
2.3 Plan Framework

Key elements of the plan are

- Levels of service – specifies the services and levels of service to be provided by Council,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Life cycle management – how we will manage our existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices,
- Monitoring – how the plan will be monitored to ensure it is meeting the organisation's objectives,
- Asset management improvement plan.

[1] Based on IPWEA, 2011, IIMM, Sec 1.2 p 1|7.

A road map for preparing an Asset Management Plan is shown below.



Road Map for preparing an Asset Management Plan
Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11.

2.4 Core and Advanced Asset Management

This Asset Management Plan is prepared as a 'core' Asset Management Plan over a 20 year planning period in accordance with the International Infrastructure Management Manual[2]. It is prepared to meet minimum legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is a 'top down' approach whereby analysis is applied at the 'system' or 'network' level.

Future revisions of this Asset Management Plan will move towards 'advanced' asset management using a 'bottom up' approach for gathering asset information for individual assets. This is done to support the optimisation of activities and programs to meet agreed service levels.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

Council has not carried out any research on customer expectations. This will be investigated for future updates of our Asset Management Plan.

3.2 Strategic and Corporate Goals

This asset management plan is prepared under the direction of Council's vision, mission, goals and objectives.

Our vision is:

In 2020 Glamorgan Spring Bay will be:

Proud of our united inclusive community
Responsible for our environment, health, education, heritage
And the arts
With a diverse progressive and prosperous economy
An attractive lifestyle,
In a beautiful place

Values to guide future choices

In all that we do, across Glamorgan Spring Bay, we will:

- Work together and take an East Coast view
- Be honest and self reliant
- Take the initiative and be creative
- Build community spirit and pride
- Move forward but retain what is good from the past

[2] IPWEA, 2011, IIMM.

Relevant organisation goals and objectives and how these are addressed in this Asset Management Plan are:

Table 3.2: Council Goals and how these are addressed in this Plan

Goal	Objective	How addressed in AMP
Safe and reliable roads and footpaths.	Maintain and develop roads and footpaths at appropriate standards	Continue to develop and maintain regular inspection of asset condition, defects and develop maintenance and capital works programs for inclusion in the Asset Management Plan.

Council will exercise its duty of care to ensure public safety in accordance with the Infrastructure Risk Management Plan prepared in conjunction with this AM Plan. Management of infrastructure risks is covered in Section 5.2

3.3 Legislative Requirements

We have to meet many legislative requirements including Australian and State Legislation and State Regulations. These include:

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Road Traffic Act	Sets out the rules to be followed and responsibilities of users of the road system and how the rules are enforced.
Occupational, Health and Safety Act and Regulations	Sets out the roles and responsibilities to secure the health, safety and welfare of persons at work.
Road and Jetties Act	Provides for the appointment of a Commissioner of Highways and provisions for the construction and maintenance of roads and associated assets.
Australian Road Rules	The Australian Road Rules are incorporated into the State Traffic Regulations under the Road Traffic Act.

3.4 Current Levels of Service

We have defined service levels in two terms.

1) **Community Levels of Service** measure how the community receives the service and whether the organisation is providing community value.

Community levels of service measures used in the Asset Management Plan are:

Quality	How good is the service?
Function	Does it meet users' needs?
Capacity/Utilisation	Is the service over or under used?

Community Service level Expectations

Council officers have traditionally worked towards the provision of a level of service that is assumed to be the community's expectation.

During any future consultation process Council will test this assumption to ensure that it is correct or amend it accordingly. The assumptions are that the road network will provide for:

- reasonably direct traffic routes between important centres of community interest;
- ease of access to major traffic routes;
- normal heavy vehicle traffic to be limited where possible to Arterial Roads managed by the State through Department of State Growth (DSG);
- access to the municipal road network by heavy vehicles to be limited to those necessarily using the municipal roads (ie for business within the municipal area) and then for them to use only Link and Collector Roads other than when immediately accessing properties in order to minimise maintenance on local access roads;
- limited through access along residential streets;
- minimal conflict between various road user groups/vehicle types (eg cars, trucks, motor cyclists, bicyclists, pedestrians, children and people with disabilities);
- suitable traffic control devices in dangerous locations especially where there is potential conflict between user groups (eg pedestrian crossings, road and street intersections);
- people with disabilities, the aged, adults with children, etc in relation to potential hazards and obstructions such as road crossings, location of street furniture, light poles, sign posts, etc.
- road surfaces that create minimal adverse noise conditions in residential areas, are smooth riding, accessible and safe in all the prevailing local weather conditions (ie non-slippery when wet) and free-draining;
- street lighting in urban areas provides good visibility at night for all road users;
- all road structures (eg. pavement base, surface, bridges, and traffic devices) to be maintained in a safe, workable condition;
- street and roadside trees selected to maximise aesthetic benefit but with minimal ongoing problems e.g. hazards caused by root movement and fruit droppings;
- nature strips to be suitable for easy maintenance by adjoining property owners;
- town street signage adequate to facilitate access for non-locals.

2) Technical Levels of Service

Supporting the community service levels are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the organisation undertakes to best achieve the desired community outcomes and demonstrate effective organisational performance.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as opening hours, cleansing frequency, mowing frequency, etc.
- Maintenance – the activities necessary to retain assets as near as practicable to an appropriate service condition (eg road patching and unsealed road grading),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (eg frequency and cost of road resurfacing and pavement reconstruction),
- Upgrade – the activities to provide a higher level of service (eg widening a road, sealing an unsealed road) or a new service that did not exist previously.

Asset Management Plans, implement and control technical service levels to influence the customer service levels.[3]

Our current service levels are detailed in Table 3.4.

Table 3.4: Current Service Levels

Road Network

Key Performance Measure	Level of Service Objective	Performance Measure Process	Current Level of Service
Quality	Provide safe driving conditions and uniform seal appropriate to classification of the road.	Customer service requests relating to rideability and general defects	Provision of a 24 hour, 7 day per week call-out service to attend to issues
Function	Meets users requirements for: • road width • accessibility • traffic control	Customer service requests for function	Provision of a 24 hour, 7 day per week call-out service to attend to issues
Safety	Roads are safe	Number of injury / accidents (from DSG records)	Provision of a 24 hour, 7 day per week call-out service to attend to issues

Review of levels of Service

A level of service review has to be undertaken in the context of the:

- object of good road management;
- rights of users of local streets and pathways;
- ensuring that the local road and pathway network and infrastructure are as safe for users as is reasonably practicable;
- priorities and social, environmental and economic needs of the community and of road users;
- analysis of the annual asset condition survey results, maintenance standards and asset performance targets;
- analysis of fatal and serious road crashes;
- special needs of any sector of the community;
- Council's overall policy and budgetary position;
- relevant environmental, economic, social or financial policies or objective of the Tasmanian Government in relation to road management;
- volume and nature of usage of local roads and pathways;
- seeking to secure the most efficient and effective management and use of the local road and pathway network and infrastructure to meet the needs of the community and road users;
- ensuring the most efficient use of the resources available for local road and pathway management;

[3] IPWEA, 2011, IIMM, p 2.22

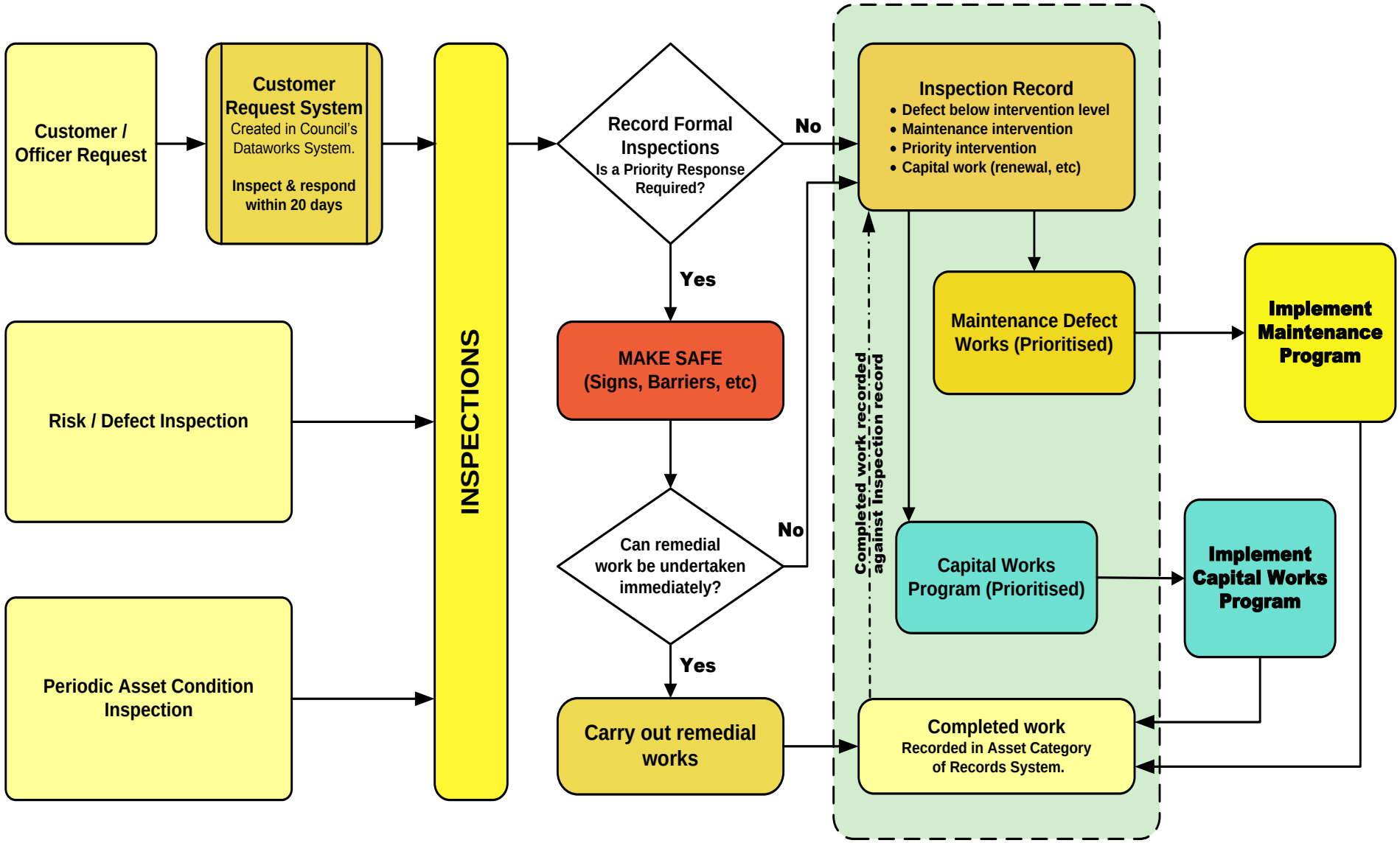
3.5 Desired Levels of Service

Functional requirements of maintenance are outlined in the following table

Table 3.5: Maintenance Functional Requirements

Asset Feature	Goals / Objectives
Pavement Maintenance	
Sealed Surface	▪ Provide safe driving conditions, uniform seal appropriate to classification of the road. ▪ Minimise rate of deterioration of the pavement.
Unsealed Road	▪ Provide safe driving conditions and ride-ability appropriate to the classification of the road.
Operational Servicing	▪ Provide timely emergency response to assist the public and minimise disruption caused by temporary loss of use of the asset.
Roadside Maintenance	
Road Furniture	Signs: ▪ Provide clear messages to motorists during both day and night conditions which are aesthetically sound.
	Guard Fence: ▪ Provide required structural resistance to errant vehicles to minimise accident severity.
	Paved Islands and Footpaths: ▪ Provide safer travel for pedestrians and be aesthetically sound.
	Road Markings: ▪ Provide clear delineation of the road and traffic movements.
Vegetation	Street Trees and other Decorative Plantings: ▪ Provide for safe travel and aesthetically pleasing environment.
	Roadside Verges: ▪ minimise weed infestations, sight distance hazards, fire hazard while recognising important roadside vegetation environmental issues.
Operational Servicing	Street Lighting: ▪ Provide prompt reporting of non-working streetlighting to Aurora.

Council's organisational structure for service delivery from infrastructure assets is detailed below:



4. FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include, but are not limited to: population change, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices and environmental awareness.

4.2 Demand Forecast

The present position and projections for demand drivers that may impact future service delivery and utilisation of assets were identified and are documented below.

Population of the Glamorgan Spring Bay Local Government Area is estimated to be 4,905 as at June 2021. The most recent Census was conducted in 2011 with data released in June 2012. Data is added every 5 years.

The following table has been taken from ABS records through the State of the Environment Report 2003 by the Tasmanian Government. It shows the population trends of mid-size urban centres (200–19,999 people), 1986–11 for the four main Glamorgan Spring Bay towns. The following figures relate to 2011 Census.

Table 4.2: Summary of population numbers per town from 1986 – 2011.

Population centre	1986	1991	1996	2001	2006	2011	Change 2001–11
Bicheno	661	705	700	711	640	853	1.19%
Triabunna	883	831	766	700	959	895	1.27%
Swansea	411	418	495	529	840	771	1.45%
Orford	458	502	461	485	553	518	1.06%
Coles Bay	N/A	N/A	N/A	N/A	473	305	N/A
TOTAL	**2413**	**2456**	**2422**	**2425**	**3465**	**3342**	**+4.97%**

Analysis of these figures show that overall the net change in these key towns is minimal. The change is +4.97% for the four town combined total over the last 10 year period from 2001 to 2011.

It is anticipated that at this rate, there will be little need for change to the adopted 'Levels of Service'. However, there may be a general expectation within the community for ongoing improvements to basic services. Consultation is the prime means of establishing this.

4.3 Demand Impact on Assets

Demand forecasting population growth in the Council resulting in a significant increase in any of the road infrastructure assets is unlikely under present circumstances for the foreseeable future.

It is considered that the capacity of the road network is sufficient to meet current and future demands for at least the short term for other than extraordinary demands.

However, there are several specific issues of concern to Council at present:

(a) **Forest harvesting** – this is where the harvesting of forests generates significant increased volumes of heavy vehicles on specific roads. The additional loadings placed on some specific sections of the road network is of a real concern as it results in increased maintenance costs and the premature failure of pavements especially in wet periods.

As of 2012 the Triabunna Chip Mill is closed. The issues mentioned above have become largely irrelevant, but should remain listed in the event the industry recommences in the municipal area. Due to the past additional loadings, a number of road pavements, kerbs and footpaths are experiencing accelerated deterioration with isolated failures becoming more apparent in the Triabunna area.

(b) **Impact of a National Park** – where access to it has significantly increased traffic volumes on what were either Local Access or Limited Local Access Roads.

In this instance, the Douglas-Apsley National Park has caused a 'Limited Local Access Roads' road to effectively carry the traffic volumes of a Link or Collector Road with the subsequent increase in maintenance costs. The design standard of the road is also below what is required of its 'new' status. However, no rate income or any other direct form of income has been provided to council to offset the additional costs. It is a similar situation to forest harvest roads in that it has disadvantaged Council through imposition of additional road maintenance requirements.

(c) **Maintenance of access roads to and across single properties** – this is where Council maintains that section of road located on the actual property due to the dwelling being sited remote from the property boundary. Such a situation involves additional cost that it would if the access road was maintained only to the nearest point of the property.

4.4 Demand Management Plan

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices include non-asset solutions, insuring against risks and managing failures.

Non-asset solutions focus on providing the required service without the need for Council to own the assets and management actions including reducing demand for the service, reducing the level of service (allowing some assets to deteriorate beyond current service levels) or educating customers to accept appropriate asset failures (4). Examples of non-asset solutions include providing services from existing infrastructure such as aquatic centres and libraries that may be in another community area or public toilets provided in commercial premises.

Opportunities identified to date for demand management are shown in Table 4.4. Further opportunities will be developed in future revisions of this Asset Management Plan.

Table 4.4: Demand Management Plan Summary

Demand Driver	Demand Management Plan
Urban Roads	Identify and promote major transport routes with road hierarchy matched to service levels.
Rural Roads	Review existing road hierarchy with matched service levels for patrol grading and resheet cycles of unsealed road network. Identify existing rural sealed roads for possible conversion back to an unsealed pavement.

[4] IPWEA, 2011, IIMM, Table 3.4.1, p 3|58.

4.5 Asset Programs to meet Demand

The new assets required to meet growth will be acquired free of cost from land developments and constructed/acquired by the organisation. New assets constructed/acquired by the organisation are discussed in Section 5.5. The cumulative value of new contributed and constructed asset values are summarised in Figure 1.

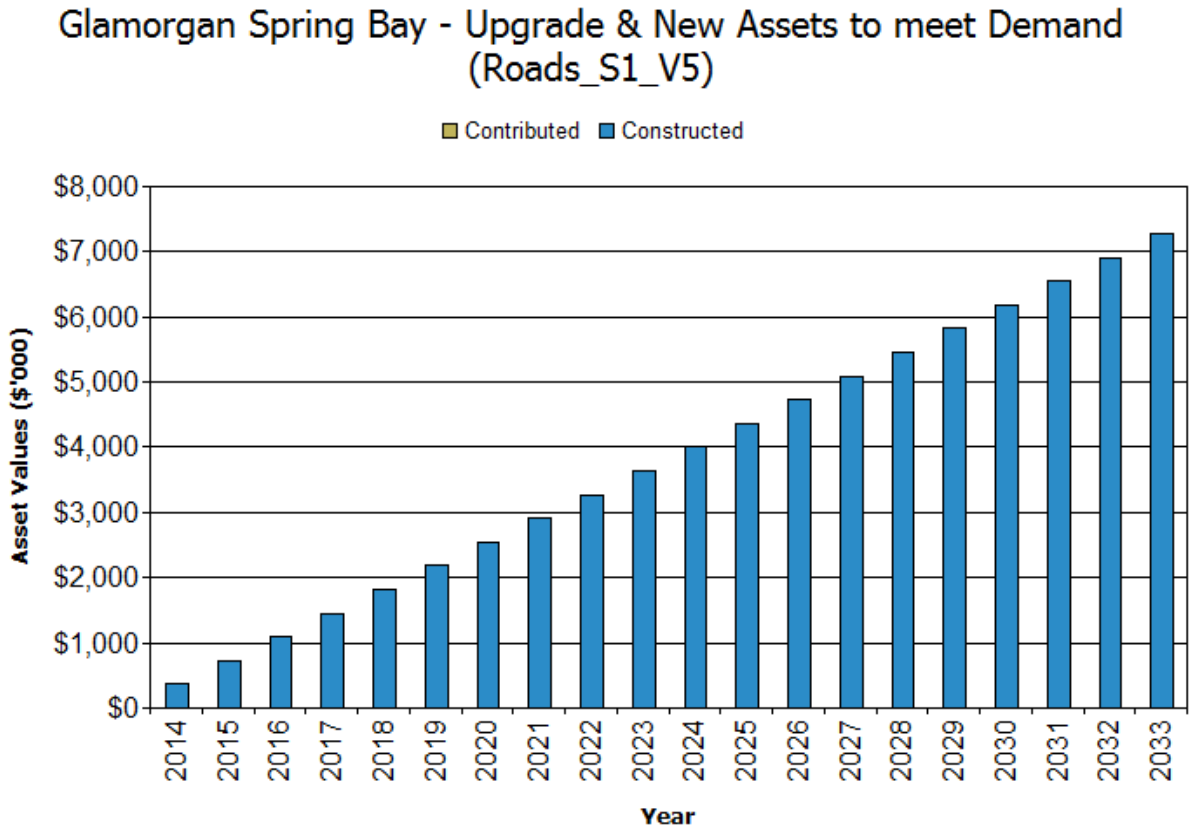


Figure 1: Upgrade and New Assets to meet Demand

(Note: Contributed Assets are minimal and do not appear on graph)

Acquiring these new assets will commit Council to fund ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs in Section 5.

5. LIFECYCLE MANAGEMENT PLAN

The Lifecycle Management Plan details how the organisation plans to manage and operate the assets at the agreed levels of service (defined in Section 3) while optimising life cycle costs.

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this Asset Management Plan are shown in Table 2.1.

The road lengths are distributed generally throughout the urban and rural sectors of the municipality comprising approximately 1,100,000 square metres of rural sealed and unsealed pavements and 600,000 square metres of urban pavements.

The upgrade of urban streets over recent years has seen the installation of kerb and channel and footpaths which aligns a significant portion of these asset categories within the early stages of their life cycles.

5.1.2 Asset capacity and performance

Council's services are generally provided to meet design standards where these are available.
Known service performance deficiencies are listed by location in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Unsealed road network	Resulting from complaints from users relating to rideability etc, resulting from poor cross-sectional formation and/or pavement thickness.
Sealed road network	Resulting from complaints from users relating to potholes and isolated failures.

5.1.3 Asset condition

Condition is monitored using the 1 – 5 rating system as detailed in Table 5.1.3

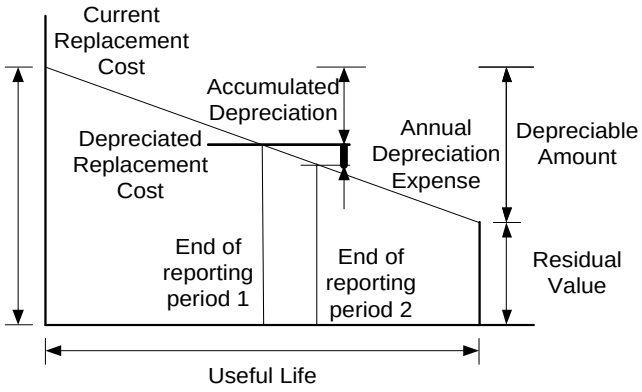
Table 5.1.3: Simple Condition Grading Model

Condition Grading	Description of Condition
1	**Very Good**: only planned maintenance required
2	**Good**: minor maintenance required plus planned maintenance
3	**Fair**: significant maintenance required
4	**Poor**: significant renewal/rehabilitation required
5	**Very Poor**: physically unsound and/or beyond rehabilitation

5.1.4 Asset valuations

The value of assets recorded in the asset register as at 30/06/2014 covered by this Asset Management Plan is shown below. Assets were last revalued at 30 June 2014. Assets are valued using the Brownfield rates.

Current Replacement Cost	$73,797,624
Depreciable Amount	$25,492,811
Depreciated Replacement Cost[5]	$48,304,812
Annual Depreciation Expense	$959,616



Useful lives were reviewed in 2014 as part of this AMP process.

Various ratios of asset consumption and expenditure have been prepared to help guide and gauge asset management performance and trends over time.

Rate of Annual Asset Consumption (Depreciation/Depreciable Amount)	3.76%
Rate of Annual Asset Renewal (Capital renewal exp/Depreciable amount)	3.65%
Rate of Annual Asset Upgrade/New (Capital upgrade exp/Depreciable amount)	1.43%
Rate of Annual Asset Upgrade/New (including contributed assets)	1.43%

In 2014-15 Council plans to renew assets at 3.65% of the rate they are being consumed and will be increasing its asset stock by 1.43% in the year.

5.2 Infrastructure Risk Management Plan

An assessment of risks[6] associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a 'financial shock' to Council. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

Critical risks, being those assessed as 'Very High' - requiring immediate corrective action and 'High' – requiring prioritised corrective action identified in the Infrastructure Risk Management Plan, together with the estimated residual risk after the selected treatment plan is operational are summarised in Table 5.2. These risks are reported to the General Manager and Council.

[5] Also reported as Written Down Current Replacement Cost (WDCRC).
[6] Refer GSBC Risk Management Strategy

Table 5.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Treatment Costs
Unsealed road network	Reduction in number of roads with all weather access	H	Review road hierarchy and match service levels to available funds	Staff time
Sealed road network	Increase in pavement failures and road roughness due to wearing of sealed surfaces	H	Address resealing frequencies and develop pavement rehabilitation plan	To be determined

5.3 Routine Operations and Maintenance Plan

Operations include regular activities which provide services such as public health, safety and amenity, e.g. street sweeping, grass mowing and street lighting.

Routine maintenance is the regular on-going work that is necessary to keep assets operating, including instances where portions of the asset fail and need immediate repair to make the asset operational again.

5.3.1 Operations and Maintenance Plan

Operational activities affect service levels including quality and function through street sweeping and grass mowing frequency, intensity and spacing of street lights.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating, eg road patching but excluding rehabilitation or renewal. Maintenance may be classified into reactive, planned and specific maintenance work activities.

Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions.

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 and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

Specific maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, replacing air conditioning units, etc. This work falls below the capital/maintenance threshold but may require a specific budget allocation.

Actual past maintenance expenditure is shown in Table 5.3.1.

Table 5.3.1: Maintenance Expenditure Trends

Year	Maintenance Expenditure	
	Unsealed Roads	Sealed Roads
2011	$337,773	$408,947
2012	$332,921	$458,738
2013	$355,319	$406,456

Maintenance expenditure levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance expenditure levels are such that will result in a lesser level of service, the service consequences and service risks have been identified and service consequences highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan.

Assessment and prioritisation of reactive maintenance is undertaken by Council staff using experience and judgement.

5.3.2 Operations and Maintenance Strategies

The organisation will operate and maintain assets to provide the defined level of service to approved budgets in the most cost-effective manner. Operation and maintenance activities include:

- Scheduling operations activities to deliver the defined level of service in the most efficient manner,
- Undertaking maintenance activities through a planned maintenance system to reduce maintenance costs and improve maintenance outcomes.
- Undertake cost-benefit analysis to determine the most cost-effective split between planned and unplanned maintenance activities,
- Maintain a current infrastructure risk register for assets and present service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council,
- Review current and required skills base and implement workforce training and development to meet required operations and maintenance needs,
- Review asset utilisation to identify underutilised assets and appropriate remedies, and over utilised assets and customer demand management options,
- Maintain a current hierarchy of critical assets and required operations and maintenance activities,
- Develop and regularly review appropriate emergency response capability,
- Review management of operations and maintenance activities to ensure Council is obtaining best value for resources used.

5.3.3 Assets Not Maintained by Council

There are a number of assets within the road reserve that Council does not have an obligation to maintain. However Council has a duty of care to ensure that these assets are in a safe condition for the public in general and may serve a notice on the property owner to have defects repaired. They are often a point of conflict with residents who have an expectation that Council will maintain them as they are within the road reserve.

These assets and the responsibility for addressing their defects are as follows:

Vehicle crossings/driveways

The portion of a vehicle crossing located between the carriageway and the property boundary is the responsibility of the adjoining property owner to maintain.

This area should only be repaired by Council if Council activities have caused damage to it or it is part of a reinstatement operation. Works carried out on a vehicle crossing at the owners' request shall be treated as private works.

Responsibility for defect rectification

Where, any of these areas within the road reserve for which Council has a responsibility, there is a defect that is liable to cause any injury to a member of the public it must be repaired.

In such instances, the owner must be notified and directed to make the area safe and repair the defect within a period of 2 weeks and that in the event that the defect is not repaired Council will repair it as a charge against the property. Where the owner does not undertake the work in the timeframe allowed, appropriate remedial measures action must be followed up as a matter of urgency.

Utility/Agency/Business Assets

There are also assets located in the road reserve that are clearly the responsibility of other agencies. These include:

Utility assets such as telecommunications and electricity.

5.3.4 Ownership Responsibilities

Council has a number of key missions in the delivery of a transportation system, including:

- Ensuring cost-effective lifecycle management of assets
- Providing levels of service that satisfy users and meet demand needs and safety requirements

Meeting all of these responsibilities effectively requires the availability and allocation of asset management resources.

Key current issues in relation to these functions include:

- The satisfactory control of excavations and works on the road reserve by utility operators and contractors
- Management systems for controlling access to the network by over-weight / over-dimensional vehicles.

5.3.5 Road Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

In developing the desired levels of service, Glamorgan Spring Bay Council has defined the hierarchies for the road network which consists of road pavements as shown in Table 5.3.5a.
The hierarchy takes into account existing and future traffic volumes and uses of the road.

The purpose of developing hierarchy categories is to enable works to be prioritised and programmed in a rational manner when undertaking maintenance and remedying defects. It provides a framework in which information on road network assets is collected, reported, and decisions made.
Arterial Roads are State Highways and Main Roads and they are the responsibility of the State Road Authority, Department of State Growth (DSG).

Table 5.3.5a: Road Asset Hierarchy

Glamorgan Spring Bay Hierarchy
1. Link Roads
2. Collector Roads
3. Local Access Roads
4. Limited Local Access Roads

Appendix A provides more detail on the Glamorgan Spring Bay Road Hierarchy.

Inspection Frequencies

Inspection frequencies for the various categories within the Road Hierarchy have been nominated. These are based on what has been deemed achievable within the constraints of Council's current funding budget.

Council's proposed service hierarchy programme. (to be developed), is shown is Table 5.3.5b.

Table 5.3.5b: Hierarchy Inspection Frequency

Road Classification	Road Defect Inspection	Footpath Inspection
Link	6 monthly	6 monthly
Collector	6 monthly	6 monthly
Local Access	12 monthly	12 monthly
Limited Local Access	12 monthly	12 monthly

Defect Inspections

Defect inspection frequencies have regard to potential hazard, the road classification and available resources. The purpose of defect inspections is to ensure that the road assets do not deteriorate beyond the tolerable defect level.

All inspections of the road assets will be conducted on the following basis:

Hazard Inspections

Hazard or safety inspections will be conducted in response to a perceived hazard or potential risk reported through Council's Customer Action Request System or by officer or maintenance report.

An inspection will be carried out the same day the report is received by the inspecting officer and action taken to make safe, or provide appropriate warning, and to program the works in accordance with the assessed risk and the maintenance targets. Council also relies upon periodic random supervisor or staff inspections and notification by members of the public.

For road classifications upon which inspections are undertaken, random inspections and notification by members of the public shall be relied upon in between formal inspections. Council's "Service Request" system is outlined in this Road Plan.

Customer Service Inspections

Requests from the public will be inspected according to the following schedule:

Urgency of Request	Inspection Response Time
Emergency/Critical	Same day
High Priority	5 working days
Normal	2 -4 weeks
Low Priority	4 to 8 weeks

Standards and specifications

Maintenance work is carried out in accordance with the following Standards and Specifications.

- Council Municipal Standard Drawings

5.3.6 Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the asset stock as shown in Figure 4. Note that all costs are shown in current 2014 dollar values (ie real values).

Assumed Inflation Rate of 2.80 %

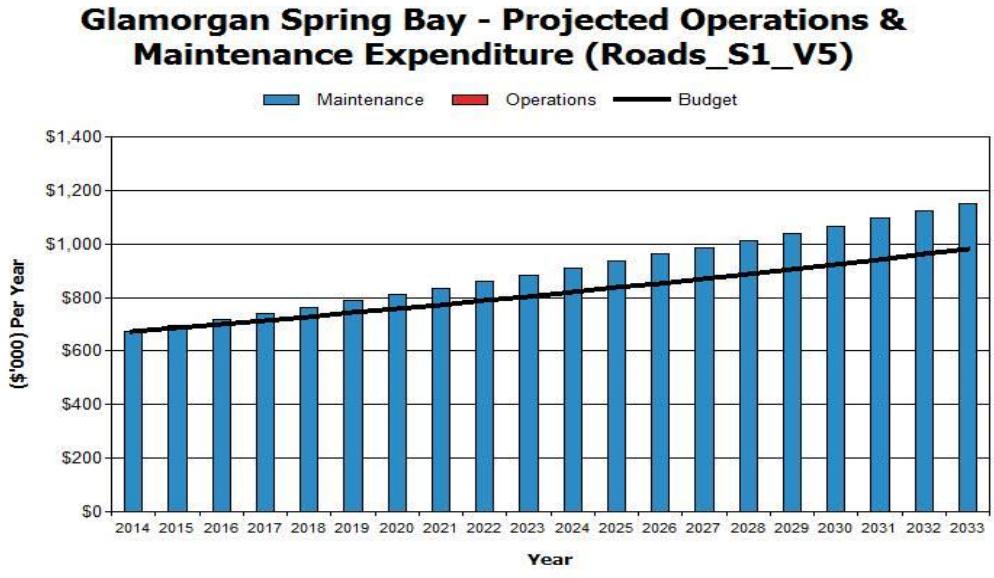


Figure 4: Projected Operations and Maintenance Expenditure
(Note: operations not included in graph)

Deferred maintenance, (ie works that are identified for maintenance and unable to be funded), are to be included in the risk assessment and analysis in the Infrastructure Risk Management Plan.

Maintenance is funded from the operating budget where available. This is further discussed in Section 6.2.

5.4 Renewal/Replacement Plan

Renewal and replacement expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original or lesser required service potential. Work over and above restoring an asset to original service potential is upgrade/expansion or new works expenditure.

5.4.1 Renewal plan

Assets requiring renewal/replacement are identified from one of three methods provided in the 'Expenditure Template'.

- Method 1 uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, or
- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as Pavement Management Systems), or
- Method 3 uses a combination of average *network renewals* plus *defect repairs* in the *Renewal Plan* and *Defect Repair Plan* worksheets on the 'Expenditure template'.

All Methods were referenced as part of the preparation of this Asset Management Plan to establish the method which best represented renewal demand over the forecast period.

The useful lives and unit replacement rates of assets used to develop projected asset renewal expenditures are shown in Table 5.4.1. Asset useful lives were last reviewed on June 2014 as part of the AMP preparation. Consideration was also given to lives and unit replacement rates adopted by similar Councils through a benchmarking exercise undertaken via the LGAT Asset Management Reform Project.

Table 5.4.1: Useful Lives and Unit Replacement Rates of Assets

Asset (Sub)Category	Useful life (years)	Unit Replacement Rates
Rural Sealed	60	$11.50 / m2
Rural Unsealed	30	$6.00 / m2
Urban Sealed	90	$14.50 / m2
Urban Unsealed	80	$8.00 / m2
Chip Seals	15	$6.70 / m2
Asphalt Overlays	40	$70.00 / m2
Footpaths	70	$110 / m2
Kerb and Channel	70	$100 / m

5.4.2 Renewal and Replacement Strategies

The organisation will plan capital renewal and replacement projects to meet level of service objectives and minimise infrastructure service risks by:

- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner,
- Undertaking project scoping for all capital renewal and replacement projects to identify:
    - the service delivery 'deficiency', present risk and optimum time for renewal/replacement,
    - the project objectives to rectify the deficiency,

  - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
  - and evaluate the options against evaluation criteria adopted by Council, and
  - select the best option to be included in capital renewal programs,

- Using 'low cost' renewal methods (cost of renewal is less than replacement) wherever possible,
- Maintain a current infrastructure risk register for assets and service risks associated with providing services from infrastructure assets and reporting Very High and High risks and residual risks after treatment to management and Council,
- Review current and required skills base and implement workforce training and development to meet required construction and renewal needs,
- Maintain a current hierarchy of critical assets and capital renewal treatments and timings required ,
- Review management of capital renewal and replacement activities to ensure Council is obtaining best value for resources used.

5.4.3 Renewal ranking criteria

The general renewals strategy is to rehabilitate or replace assets when justified by assessing:

Risk: The risk of failure and associated financial and social impact justifies action (e.g. impact and extent of resulting inability to achieve access along the road, probable extent of damage to business, any health risk arising from the impediment to access).

Asset performance: Renewal of an asset when it fails to meet the required level of service. Non-performing assets are identified by the monitoring of asset reliability, capacity and efficiency during planned maintenance inspections and operational activity.

Indicators of non-performing assets include constant closures due to impassability; roughness causing damage to vehicles and produce; and risk to safety is rated high on an increasing frequency

Economics: It is no longer economic to continue repairing the asset (i.e., the annual cost of repairs exceeds the annualised cost of renewal). The retreatment intervention condition level of each asset class is shown in table 5.4.4.

Condition Inspections

Condition assessments are carried out on all road assets every three years and updated in Council's Road Asset Management system called 'My Data'; a system to track the degradation rate of the assets and to facilitate renewal projections. These condition assessments also provide an indication of the likely ongoing maintenance requirements.

5.4.4 Defect Intervention Levels and Response Times

The defect intervention level is that point where a defect requires remedial action. It has gone beyond the point where it can be tolerated. The implication of this is that defects can and will exist and to endeavour to address them immediately they are observed is impracticable due to the cost. It is more efficient from a cost management perspective to address defects as the maintenance vehicle/machine undertakes its cyclic rounds. However there may be times when a defect deteriorates rapidly and becomes a hazard that it requires specific attention immediately but this is not the norm.

Table 5.4.4: Intervention Condition Levels

Asset Class	Intervention Condition Level
Footpaths	4.0
Kerbs	4.0
Sealed Pavement	4.0
Chip Seal Surfaces	4.0
Unsealed Pavements	4.0

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate, or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (eg roughness of a road).[7]

It is possible to get some indication of capital renewal and replacement priorities by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have a high utilisation and subsequent impact on users would be greatest,
- The total value represents the greatest net value to the organisation,
- Have the highest average age relative to their expected lives,
- Are identified in the AM Plan as key cost factors,
- Have high operational or maintenance costs, and
- Where replacement with modern equivalent assets would yield material savings.[8]

Renewal and replacement standards

Renewal work is carried out in accordance with the following Standards and Specifications.

- Council Municipal Standard Drawings (2014)

5.4.3 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time as the asset stock increases from growth. The expenditure is summarised in Fig 5. Note that all amounts are shown in real values.

[7] IPWEA, 2011, IIMM, Sec 3.4.4, p 3|60.
[8] Based on IPWEA, 2011, IIMM, Sec 3.4.5, p 3|66.

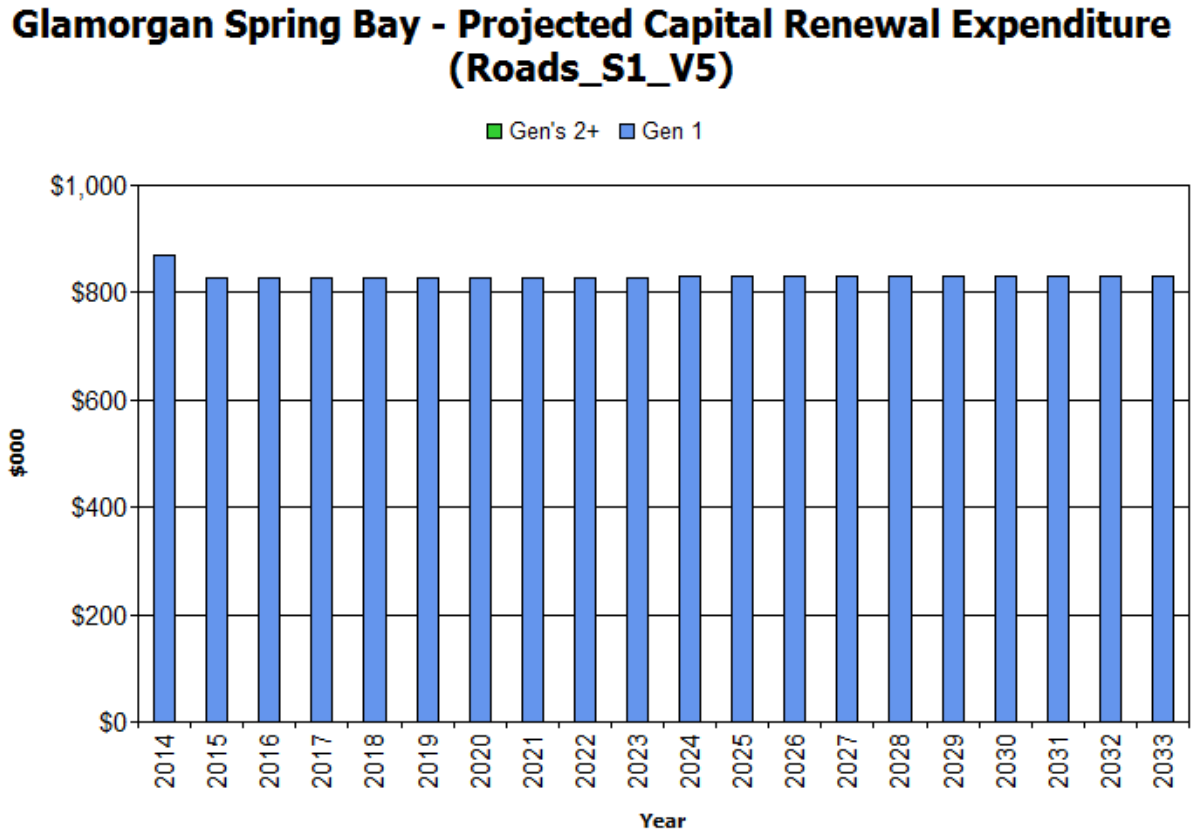


Fig 5: Projected Capital Renewal and Replacement Expenditure

(Note: Gen's 2+ not shown in above graph)

Deferred renewal and replacement, ie those assets identified for renewal and/or replacement and not scheduled in capital works programs are to be included in the risk analysis process in the Risk Management Plan.

Renewals and replacement expenditure in the organisation's capital works program will be accommodated in the Long Term Financial Plan (LTFP). This is further discussed in Section 6.2.

5.5 Creation/Acquisition/Upgrade Plan

New works are those works that create a new asset that did not previously exist, or works which upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost to the organisation from land development. These assets from growth are considered in Section 4.4.

5.5.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as councillor or community requests, proposals identified by strategic plans or partnerships with other organisations. Candidate proposals are inspected to verify need and to develop a preliminary renewal estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed below.

Council recognises the difficulty for funding the existing road network asset, both maintenance and renewals, therefore is very cautious about undertaking creation of new assets outside of development proposals.

Provision of new or upgraded works fall into the following categories depending upon the extent and type of works:

- Council funded, or
- Developer funded as part of subdivisional development, or
- Contribution to the cost by either the developer and/or Council.

Where possible, developers of new subdivisions are required, as part of the development approvals process, to provide the basic road infrastructure to the standard appropriate for that development.

There are occasions when Council is required to upgrade an asset because of changed usage requirements. In such instances, the project is scrutinised closely by officers and is dealt with as part of the annual budget process.

When council considers its discretionary capital expenditures for new or upgraded assets it is essential to establish the consequential recurring operational and maintenance costs that will occur once the new or upgraded asset becomes operational. For instance new urban streets may well require immediate costs for street sweeping. A row of new street lights will incur ongoing electricity costs for operations immediately they are brought into use.

This consequential additional cost is “non-discretionary” as it will be incurred if the new asset is provided. Nature strips and street trees require maintenance.

As new projects are brought forward for consideration with the annual budget, they will also have an assessment of these ongoing operational (recurrent) costs presented to Council as part of the overall project cost projections.

In addition, as Council acquires new assets through the subdivision development process it is important that the consequential costs are established and allowed for in future budgets. Costs of maintaining these works is covered by rate income from the properties within the development.

It is not reasonable to expect that these costs will be absorbed into existing budgets without an increase. To do so is to effectively reduce the current levels of service to some or all of the rest of the municipal area.

5.5.2 Capital Investment Strategies

Council will plan capital upgrade and new projects to meet level of service objectives by:

- Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner,
- Undertake project scoping for all capital upgrade/new projects to identify:
    - the service delivery ‘deficiency’, present risk and required timeline for delivery of the upgrade/new asset,
    - the project objectives to rectify the deficiency including value management for major projects,
    - the range of options, estimated capital and life cycle costs for each options that could address the service deficiency,
    - management of risks associated with alternative options,
    - and evaluate the options against evaluation criteria adopted by Council, and
    - select the best option to be included in capital upgrade/new programs.
- Review management of capital project management activities to ensure Council is obtaining best value for resources used.

Standards and specifications for new assets and for upgrade/expansion of existing assets are the same as those for renewal shown in Section 5.4.2.

5.5.3 Summary of future upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in Fig 6. The projected upgrade/new capital works program is shown in Appendix B. All amounts are shown in real values.

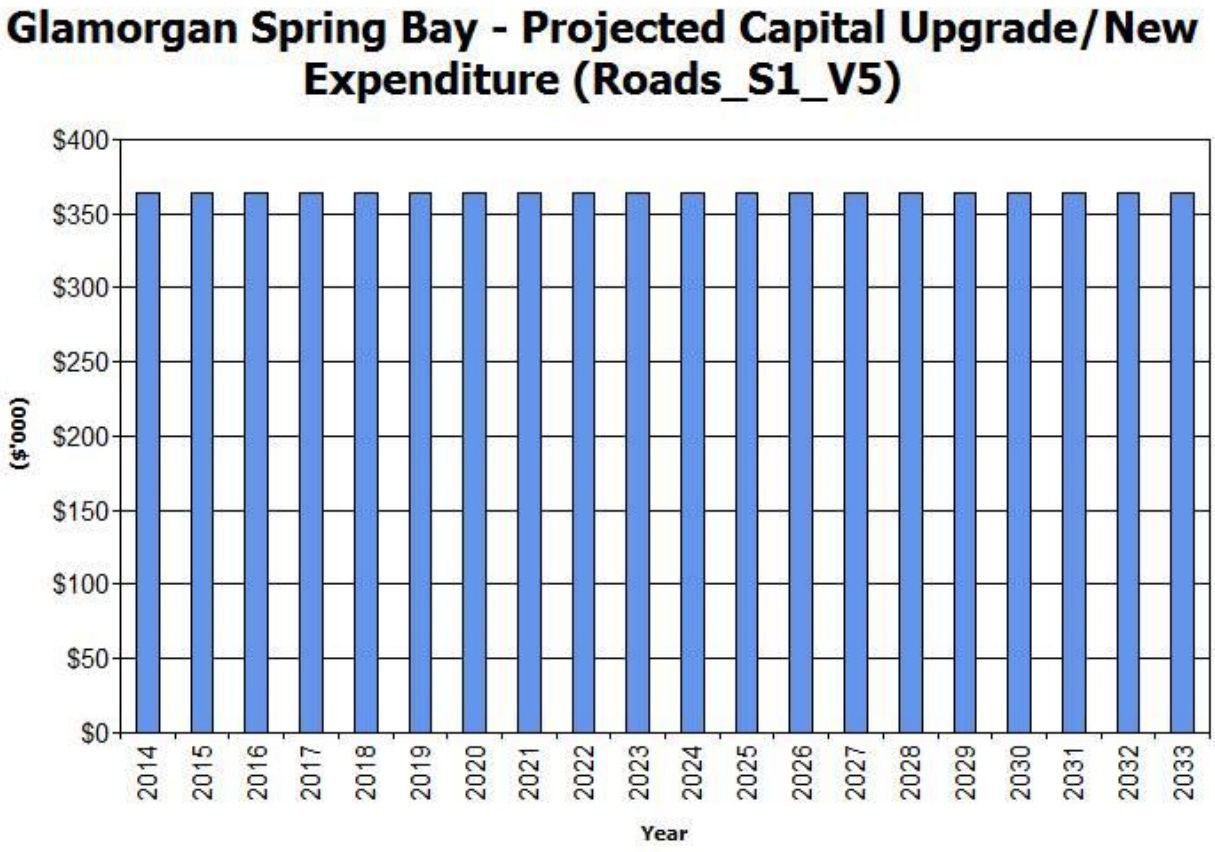


Fig 6: Projected Capital Upgrade/New Asset Expenditure

Expenditure on new assets and services in the organisation's capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

5.6 Disposal Plan

There are at present no road, footpath or kerb and channel assets within the municipal area under Council jurisdiction that are proposed for disposal without replacement.

Disposal of roads could occur where they are:-

- Requested by residents and approved by Council;
- Handed over or back to a private interest of other authority; or
- Where utilisation studies specifically demonstrates that insufficient or no use is occurring, and the continuing existence of the asset is not justified.

Council's asset records are adjusted to reflect the change in asset value as a result of reconstruction and the creation of a 'new' asset with a higher value than the one replaced.

Recognition also needs to be made in the Recurrent/Operating budget of the reduction of associated operating or maintenance costs of the decommissioned assets.

5.7 Service Consequences and Risks

Council has prioritised decisions made in adopting this AM Plan to obtain the optimum benefits from its available resources. Decisions are made based on the development of 3 scenarios of AM Plans.

Scenario 1 - What we would like to do based on asset register data

Scenario 2 – What we should do with existing budgets and identifying level of service and risk consequences (ie what are the operations and maintenance and capital projects we are unable to do, what is the service and risk consequences associated with this position). This may require several versions of the AM Plan.

Scenario 3 – What we can do and be financially sustainable with AM Plans matching Long Term Financial Plans.

The development of scenario 1 and scenario 2 AM Plans provides the tools for discussion with the Council and community on trade-offs between what we would like to do (scenario 1) and what we should be doing with existing budgets (scenario 2) by balancing changes in services and service levels with affordability and acceptance of the service and risk consequences of the trade-off position (scenario 3).

6. FINANCIAL SUMMARY

This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be updated as further information becomes available on desired levels of service and current and projected future asset performance.

6.1 Financial Statements and Projections

The financial projections are shown in Fig 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets).

Note that all costs are shown in real values.

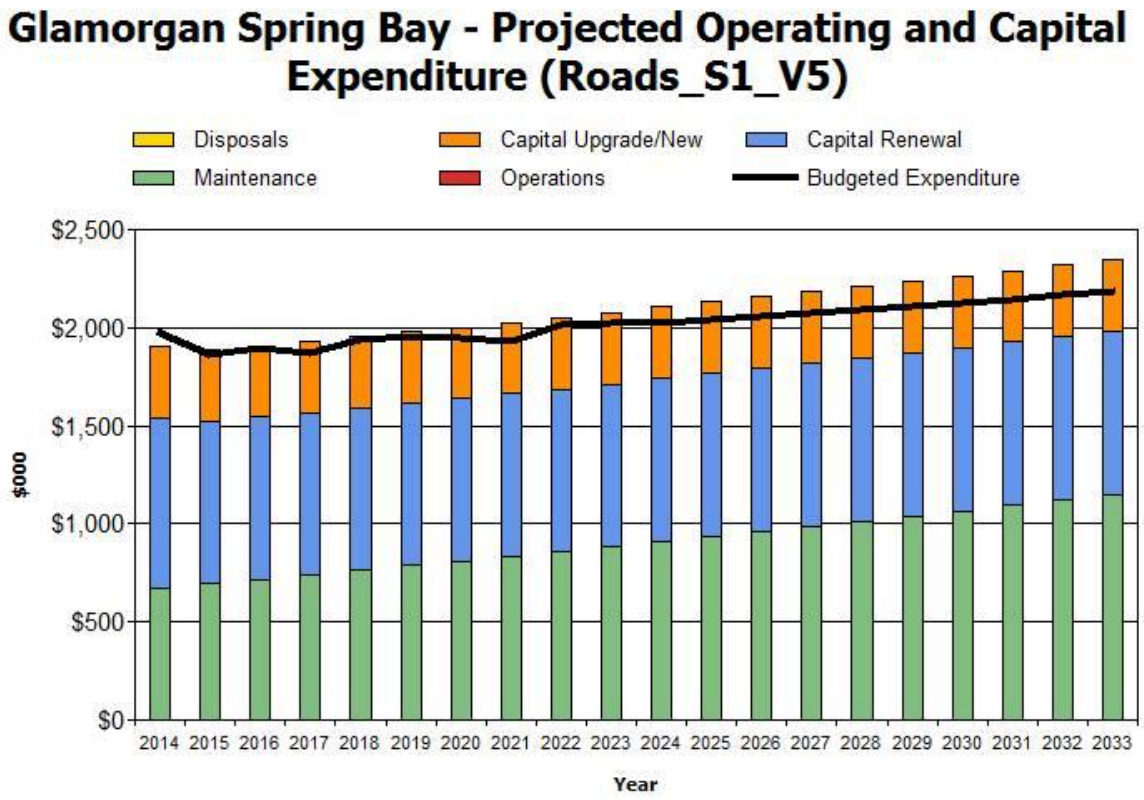


Fig 7: Projected Operating and Capital Expenditure

(Note: Disposals and Operations do not appear in this graph)

6.1.1 Sustainability of service delivery

There are four key indicators for service delivery sustainability that have been considered in the analysis of the services provided by this asset category; these being the asset renewal funding ratio, long term life cycle costs/expenditures and medium term projected/budgeted expenditures over 5 and 10 years of the planning period.

All dollar values are in ($'000)'s for this report.	
Asset Renewal Funding Ratio	**101%**
Long Term - Life Cycle Costs	
Life Cycle Cost [average 10 years projected ops, maint exp and deprn.]	**$1,736**
Life Cycle Exp [average 10 years LTFP budget ops, maint and capital renewal exp]	**$1,577**
Life Cycle Gap [life cycle expenditure – life cycle cost (-ve = gap)]	**$-159**
Life Cycle Indicator [life cycle expenditure / life cycle cost]	**91%**
Medium Term - 10 year financial planning period	
10 yr Ops, Maint and Renewal Projected Expenditure	**$1,608**
10 yr Ops, Maint and Renewal LTFP Budget Exp	**$1,577**
10 year financing shortfall [10 yr proj exp - LTFP Budget exp]	**$-32**
10 year financing indicator [LTFP Budget exp / 10 yr proj exp]	**98%**
Medium Term – 5 year financial planning period	
5 yr Ops, Maint and Renewal Projected Expenditure	**$1,554**
5 yr Ops, Maint and Renewal LTFP Budget Exp	**$1,543**
5 year financing shortfall [5 yr proj exp - LTFP Budget exp]	**$-11**
5 year financing indicator [LTFP Budget exp / 5 yr proj exp]	**99%**

Asset management financial indicators

Figure 7A shows the asset management financial indicators over the 10 year planning period and for the long term life cycle.

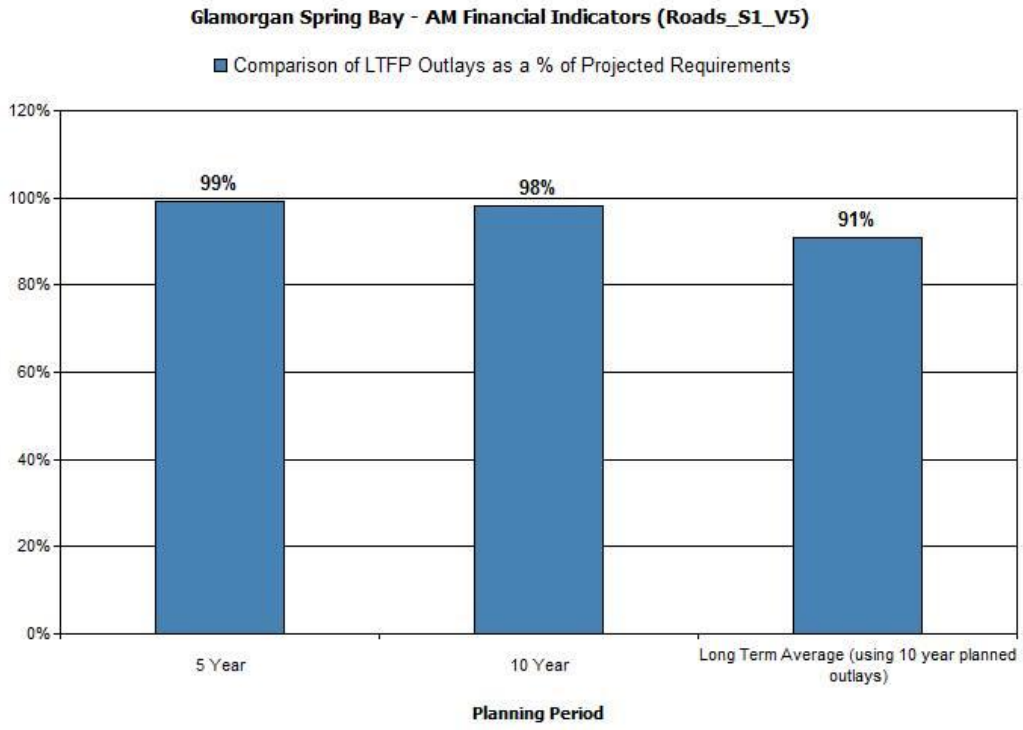


Figure 7A: Asset Management Financial Indicators

Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and financing to achieve a financial indicator of approximately 1.0 for the first years of the Asset Management Plan and ideally over the 10 year life of the Long Term Financial Plan.

Figure 8 shows the projected asset renewal and replacement expenditure over the 20 years of the AM Plan. The projected asset renewal and replacement expenditure is compared to renewal and replacement expenditure in the Capital Works Program, which is accommodated in the Long Term Financial Plan.

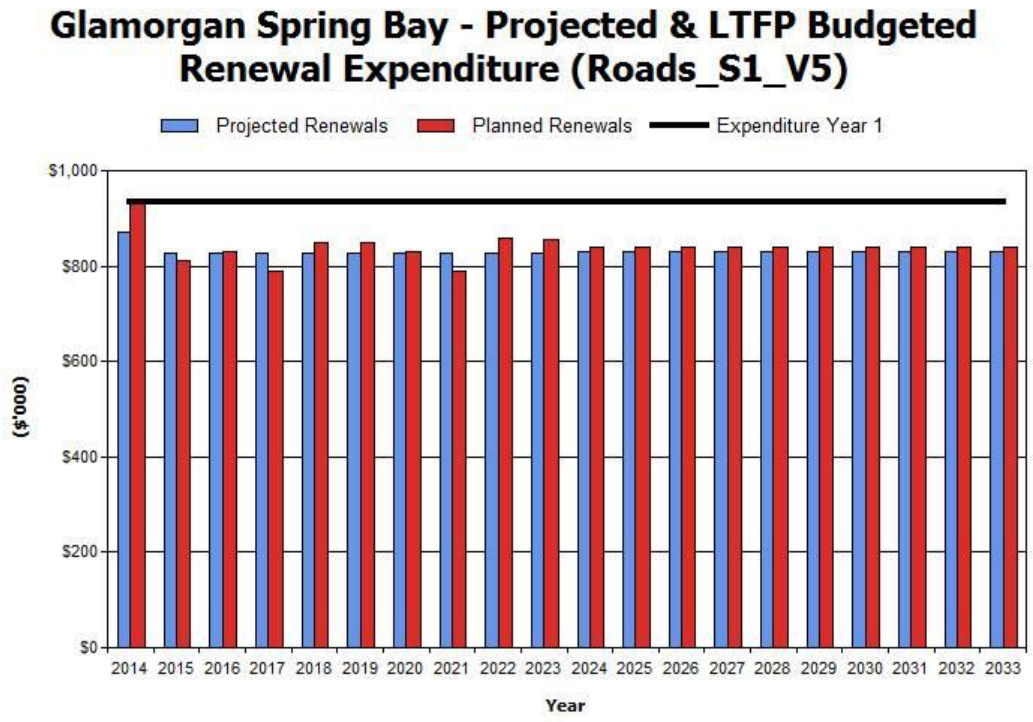


Figure 8: Projected and LTFP Budgeted Renewal Expenditure

Table 6.1.1 shows the shortfall between projected renewal and replacement expenditures and expenditure accommodated in long term financial plan. Budget expenditures accommodated in the long term financial plan or extrapolated from current budgets are shown in Appendix C.

Table 6.1.1: Projected and LTFP Budgeted Renewals and Financing Shortfall

Year	Projected Renewals ($000)	LTFP Renewal Budget ($000)	Renewal Financing Shortfall ($000) (-ve Gap, +ve Surplus)	Cumulative Shortfall ($000) (-ve Gap, +ve Surplus)
2014	$870	$935	$65	$65
2015	$827	$810	$-17	$48
2016	$827	$830	$3	$51
2017	$827	$790	$-37	$14
2018	$827	$850	$23	$37
2019	$827	$850	$23	$60
2020	$827	$830	$3	$63
2021	$827	$790	$-37	$26
2022	$827	$860	$33	$59
2023	$827	$855	$28	$87

Note: A negative shortfall indicates a financing gap, a positive shortfall indicates a surplus for that year.

Providing services in a sustainable manner will require matching of projected asset renewal and replacement expenditure to meet agreed service levels with **the corresponding** capital works program accommodated in the long term financial plan.

6.1.2 Projected expenditures for Long Term Financial Plan

Table 6.1.2 shows the projected expenditures for the 10 year Long Term Financial Plan.

Expenditure projections are in 2014 real values.

Table 6.1.2: Projected Expenditures for Long Term Financial Plan ($000)

Year	Operations ($000)	Maintenance ($000)	Projected Capital Renewal ($000)	Capital Upgrade/ New ($000)	Disposals ($000)
2014	$0	$673	$870	$364	$0
2015	$0	$694	$827	$364	$0
2016	$0	$718	$827	$364	$0
2017	$0	$741	$827	$364	$0
2018	$0	$764	$827	$364	$0
2019	$0	$788	$827	$364	$0
2020	$0	$811	$827	$364	$0
2021	$0	$836	$827	$364	$0
2022	$0	$860	$827	$364	$0
2023	$0	$885	$827	$364	$0

6.2 Funding Strategy

After reviewing service levels, as appropriate to ensure ongoing financial sustainability, projected expenditures identified in Section 6.1.2 will be accommodated in the Council's 10 year Long Term Financial Plan.

6.3 Valuation Forecasts

Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others that are donated to the Council.

Figure 9 shows the projected replacement cost asset values over the planning period in real values.

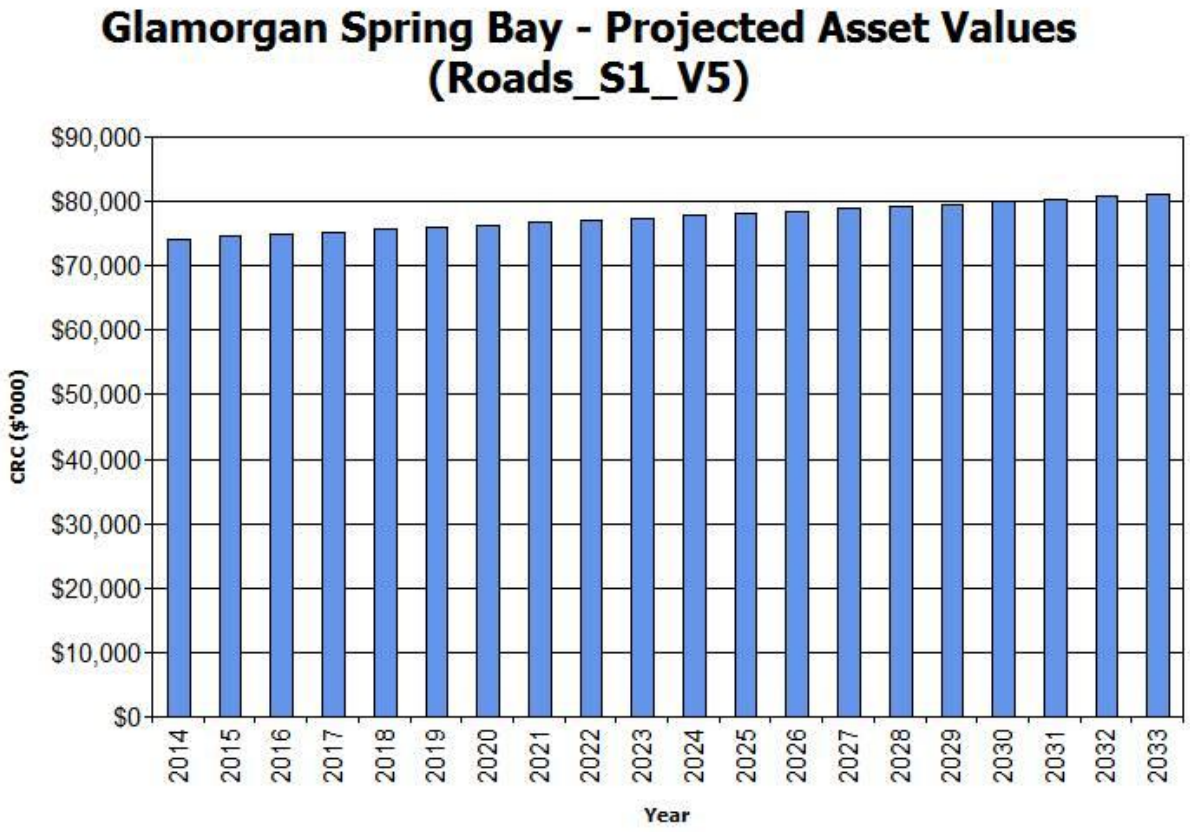


Figure 9: Projected Asset Values

Depreciation expense values are forecast in line with asset values as shown in Figure 10.

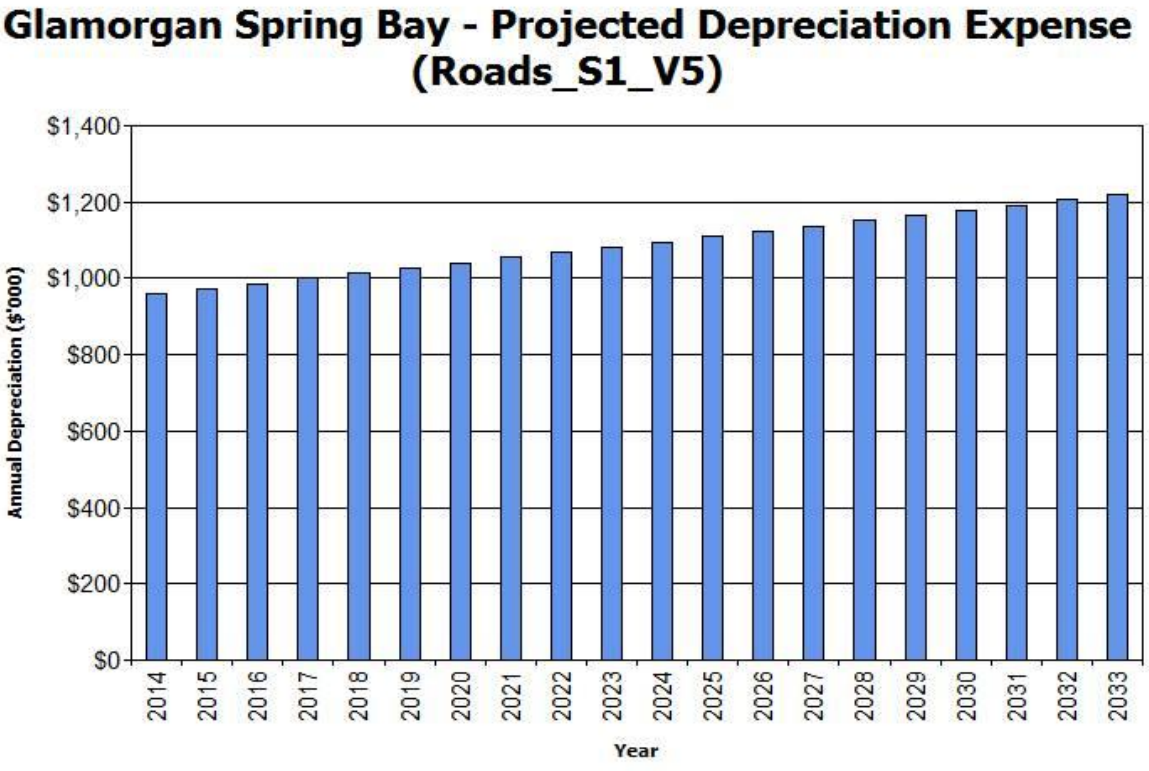


Figure 10: Projected Depreciation Expense

The depreciated replacement cost will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets' depreciated replacement cost is shown in Figure 11. The depreciated replacement cost of contributed and new assets is shown in the darker colour and in the lighter colour for existing assets.

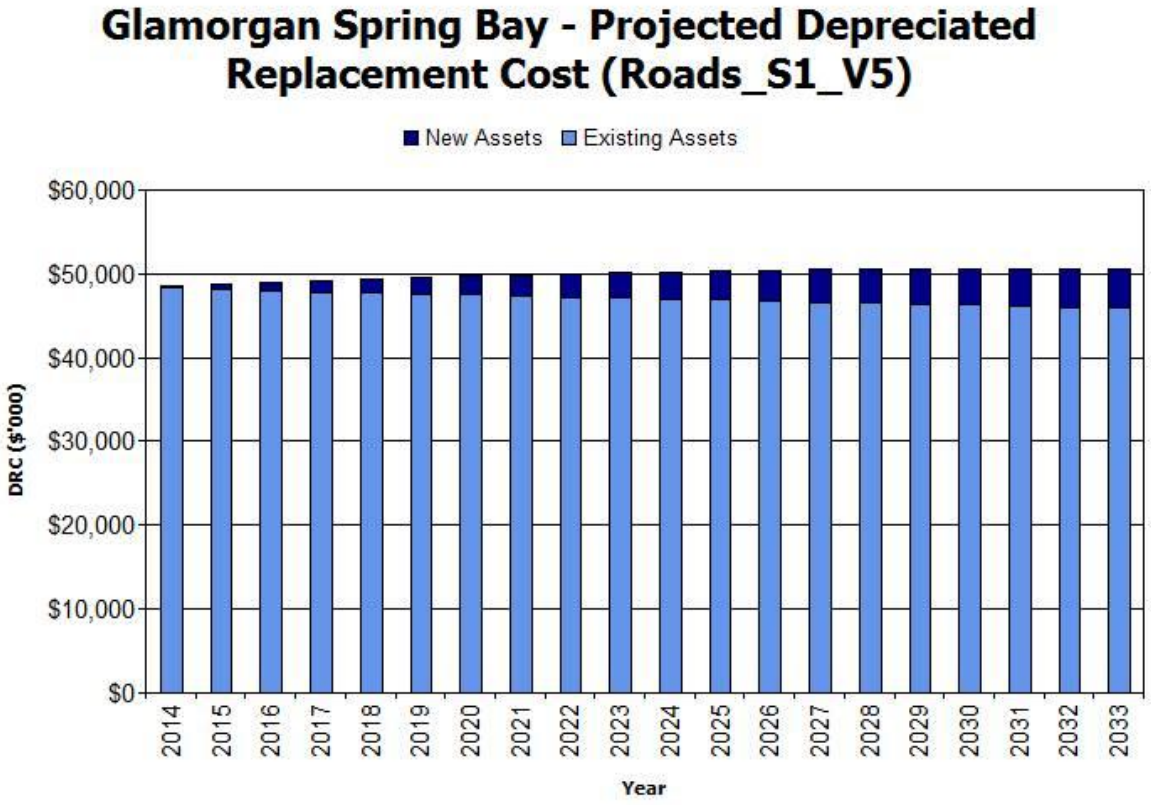


Figure 11: Projected Depreciated Replacement Cost

6.4 Key Assumptions made in Financial Forecasts

This section details the key assumptions made in presenting the information contained in this Asset Management Plan and in preparing forecasts of required operating and capital expenditure and asset values, depreciation expense and carrying amount estimates. It is presented to enable readers to gain an understanding of the levels of confidence in the data behind the financial forecasts.

Key assumptions made in this Asset Management Plan and risks that these may change are:

- Projections are based on local operating knowledge only,
- Expenditure projections are very preliminary with a range of ± 20%

7. PLAN IMPROVEMENT AND MONITORING

7.1 Status of Asset Management Practices

7.1.1 Accounting and financial systems

Council uses the 'XERO' Financial Management System.

Accountabilities for financial systems

The General Manager and Finance Officer are responsible for the accounting and financial systems.

Accounting Standards and Regulations

Council works under Australian Accounting Standards and State Legislation/Regulations and Directives issued by the Local Government Department.

7.1.2 Asset Management System

Council uses the 'MyData' Asset Management System and 'Mapinfo' Geographic Information System

Accountabilities for Asset Management system and data maintenance

The Manager Works is responsible for the asset management systems and its associated data.

7.2 Improvement Program

An Asset Management Improvement Plan will be generated from this Asset Management Plan in the future and will be shown in Table 7.2 when complete.

Table 7.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1				
2				
3				
4				

7.3 Monitoring and Review Procedures

This Asset Management Plan will be reviewed during annual budget planning processes and amended to recognise any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

The Asset Management Plan will be updated annually to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the Council's Long Term Financial Plan.

7.4 Performance Measures

The effectiveness of the Asset Management Plan can be measured in the following ways:

- The degree to which the required projected expenditures identified in this Asset Management Plan are incorporated into Council's Long Term Financial Plan,
- The degree to which 1-5 year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the Asset Management Plan,
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into Council's Strategic Plan and associated plans,
- The Asset Renewal Funding Ratio achieving the target of 1.0.

8. REFERENCES

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IPWEA, 2008, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/namsplus.

IPWEA, 2009, 'Australian Infrastructure Financial Management Guidelines', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AIFMG.

IPWEA, 2011, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/IIMM

Council,' Community Strategic Plan 2013 – 2020'

Council, 'Annual Plan and Budget'

9. APPENDICES

Appendix A Council Road Hierarchy Descriptions

Appendix B Projected 10 year Capital Upgrade/New Works Program

Appendix C Budgeted Expenditures Accommodated in LTFP

Appendix D Abbreviations

Appendix E Glossary

Appendix A : Council Road Hierarchy Description

Glamorgan Spring Bay Road Hierarchy	Functional Description
State Arterials **Freeways and Primary Arterials**	Function is to carry the heaviest volumes of traffic, including commercial vehicles, and provide the principal routes for traffic flows in and around the municipality. These Arterials come under the jurisdiction of DSG and as such maintenance of the road pavement and surface is not the responsibility of Council.
Link Road **Hierarchy Category 1**	Those roads whose main function is to form the principal avenue of communication for movements between key towns, and direct connections between significant commercial / forestry sites and important centres.  *Example: Buckland Woodsdale Road*

Glamorgan Spring Bay Road Hierarchy	Functional Description
Collector Road **Hierarchy Category 2**	Carry moderate volumes of traffic and provide access by linking urban areas to Link and Arterial roads. They may also provide links between the various Collector roads. They generally carry limited through traffic.  *Example: Charles Street, Orford*
Local Access Road **Hierarchy Category 3**	Those roads whose primary function is to provide access to rural properties and they cater for relatively short distance travel to higher level roads.  *Example: Swanwick Road*

Glamorgan Spring Bay Road Hierarchy	Functional Description
Limited Local Access Road **Hierarchy Category 4**	Those roads whose primary function is to provide access to rural properties but they have minimal traffic (less than Local Access Roads). They receive minimal maintenance (less than annual). Single vehicle access and low speed, generally 30 kph  *Example: Ferndale Road, Bicheno*

Appendix B Projected Upgrade / Expenditure / New - 10 year Capital Works Program

($000)

Year	Item	Description	Estimate
2014	1	Sunrise Court	$54
	2	Low Street	$55
	3	East Shelly Road	$45
	4	Happy Valley Road	$83
	5	Garnett Ave	$11
	6	Victoria Street	$45
	7	Tasman Hwy Bicheno	$31
	8	French Street	$40
	9		
	10		
2014		**Total**	**$364**

($000)

Year	Item	Description	Estimate
2015	1	Unknown Upgrade Allowance	$364
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2015		**Total**	**$364**

($000)

Year	Item	Description	Estimate
2016	1	Unknown Upgrade Allowance	$364
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2016		**Total**	**$364**

($000)

Year	Item	Description	Estimate
2017	1	Unknown Upgrade Allowance	$364
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2017		**Total**	**$364**

($000)

Year	Item	Description	Estimate
2018	1	Unknown Upgrade Allowance	$364
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2018		**Total**	**$364**

($000)

Year	Item	Description	Estimate
2019	1	Unknown Upgrade Allowance	$364
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2019		**Total**	**$364**

($000)

Year	Item	Description	Estimate
2020	1	Unknown Upgrade Allowance	$364
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2020		**Total**	**$364**

($000)

Year	Item	Description	Estimate
2021	1	Unknown Upgrade Allowance	$364
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2021		**Total**	**$364**

($000)

Year	Item	Description	Estimate
2022	1	Unknown Upgrade Allowance	$364
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2022		**Total**	**$364**

($000)

Year	Item	Description	Estimate
2023	1	Unknown Upgrade Allowance	$364
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2023		**Total**	**$364**

Appendix C Budgeted Expenditures Accommodated in LTFP

Glamorgan Spring Bay - Report 7 - LTFP Expenditure Projections (Roads_S1_V5)

Projected Expenditure	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Capital Expenditure on Renewal/Replacement of existing assets	$870	$827	$827	$827	$827	$827	$827	$827	$827	$827
Capital Expenditure on Upgrade/New assets	$364	$364	$364	$364	$364	$364	$364	$364	$364	$364
Operational cost of existing assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Maintenance cost of existing assets	$673	$685	$700	$714	$728	$743	$757	$773	$788	$804
Operational cost of New assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Maintenance cost of New assets	$0	$8.99	$17.98	$26.97	$35.96	$44.95	$53.94	$62.94	$71.93	$80.92
Disposal of Surplus Assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

All dollar values in ($'000)'s

Appendix D Abbreviations

AAAC	Average annual asset consumption
AM	Asset management
AM Plan	Asset management plan
ARI	Average recurrence interval
ASC	Annual service cost
BOD	Biochemical (biological) oxygen demand
CRC	Current replacement cost
CWMS	Community wastewater management systems
DA	Depreciable amount
DRC	Depreciated replacement cost
DSG	Department of State Growth
EF	Earthworks/formation
GSBC	Glamorgan Spring Bay Council
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
LTFP	Long Term Financial Plan
MMS	Maintenance management system
PCI	Pavement condition index
RV	Residual value
SoA	State of the Assets
SS	Suspended solids
S1_V5	Scenario 1 – Version 5
vph	Vehicles per hour
WDCRD	Written down current replacement cost

Appendix E Glossary

Annual service cost (ASC)

1) Reporting actual cost
   The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.
2) For investment analysis and budgeting
   An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, finance/ opportunity and disposal costs, less revenue.

Asset

A resource controlled by an entity as a result of past events and from which future economic benefits are expected to flow to the entity. Infrastructure assets are a sub-class of property, plant and equipment which are non-current assets with a life greater than 12 months and enable services to be provided.

Asset category

Sub-group of assets within a class hierarchy for financial reporting and management purposes.

Asset class

A group of assets having a similar nature or function in the operations of an entity, and which, for purposes of disclosure, is shown as a single item without supplementary disclosure.

Asset condition assessment

The process of continuous or periodic inspection, assessment, measurement and interpretation of the resultant data to indicate the condition of a specific asset so as to determine the need for some preventative or remedial action.

Asset hierarchy

A framework for segmenting an asset base into appropriate classifications. The asset hierarchy can be based on asset function or asset type or a combination of the two.

Asset management (AM)

The combination of management, financial, economic, 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 renewal funding ratio

The ratio of the net present value of asset renewal funding accommodated over a 10 year period in a long term financial plan relative to the net present value of projected capital renewal expenditures identified in an asset management plan for the same period [AIFMG Financial Sustainability Indicator No 8].

Average annual asset consumption (AAAC)*

The amount of an organisation's asset base consumed during a reporting period (generally a year). This may be calculated by dividing the depreciable amount by the useful life (or total future economic benefits/service potential) and totalled for each and every asset OR by dividing the carrying amount (depreciated replacement cost) by the remaining useful life (or remaining future economic benefits/service potential) and totalled for each and every asset in an asset category or class.

Borrowings

A borrowing or loan is a contractual obligation of the borrowing entity to deliver cash or another financial asset to the lending entity over a specified period of time or at a specified point in time, to cover both the initial capital provided and the cost of the interest incurred for providing this capital. A borrowing or loan provides the means for the borrowing entity to finance outlays (typically physical assets) when it has insufficient funds of its own to do so, and for the lending entity to make a financial return, normally in the form of interest revenue, on the funding provided.

Capital expenditure

Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

Capital expenditure - expansion

Expenditure that extends the capacity of an existing asset to provide benefits, at the same standard as is currently enjoyed by existing beneficiaries, to a new group of users. It is discretionary expenditure, which increases future operations and maintenance costs, because it increases the organisation's asset base, but may be associated with additional revenue from the new user group, eg. extending a drainage or road network, the provision of an oval or park in a new suburb for new residents.

Capital expenditure - new
Expenditure which creates a new asset providing a new service/output that did not exist beforehand. As it increases service potential it may impact revenue and will increase future operations and maintenance expenditure.

Capital expenditure - renewal
Expenditure on an existing asset or on replacing an existing asset, which returns the service capability of the asset up to that which it had originally. It is periodically required expenditure, relatively large (material) in value compared with the value of the components or sub-components of the asset being renewed. As it reinstates existing service potential, it generally has no impact on revenue, but may reduce future operations and maintenance expenditure if completed at the optimum time, eg. resurfacing or resheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval.

Capital expenditure - upgrade
Expenditure, which enhances an existing asset to provide a higher level of service or expenditure that will increase the life of the asset beyond that which it had originally. Upgrade expenditure is discretionary and often does not result in additional revenue unless direct user charges apply. It will increase operations and maintenance expenditure in the future because of the increase in the organisation's asset base, eg. widening the sealed area of an existing road, replacing drainage pipes with pipes of a greater capacity, enlarging a grandstand at a sporting facility.

Capital funding
Funding to pay for capital expenditure.

Capital grants
Monies received generally tied to the specific projects for which they are granted, which are often upgrade and/or expansion or new investment proposals.

Capital investment expenditure
See capital expenditure definition.

Capitalisation threshold
The value of expenditure on non-current assets above which the expenditure is recognised as capital expenditure and below which the expenditure is charged as an expense in the year of acquisition.

Carrying amount
The amount at which an asset is recognised after deducting any accumulated depreciation / amortisation and accumulated impairment losses thereon.

Class of assets
See asset class definition

Component
Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

Core asset management
Asset management which relies primarily on the use of an asset register, maintenance management systems, job resource management, inventory control, condition assessment, simple risk assessment and defined levels of service, in order to establish alternative treatment options and long-term cashflow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than detailed risk analysis and optimised decision- making).

Cost of an asset
The amount of cash or cash equivalents paid or the fair value of the consideration given to acquire an asset at the time of its acquisition or construction, including any costs necessary to place the asset into service. This includes one-off design and project management costs.

Critical assets
Assets for which the financial, business or service level consequences of failure are sufficiently severe to justify proactive inspection and rehabilitation. Critical assets have a lower threshold for action than non-critical assets.

Current replacement cost (CRC)
The cost the entity would incur to acquire the asset on the reporting date. The cost is measured by reference to the lowest cost at which the gross future economic benefits could be obtained in the normal course of business or the minimum it would cost, to replace the existing asset with a technologically modern equivalent new asset (not a second hand one) with the same economic benefits (gross service potential) allowing for any differences in the quantity and quality of output and in operating costs.

Deferred maintenance
The shortfall in rehabilitation work undertaken relative to that required to maintain the service potential of an asset.

Depreciable amount
The cost of an asset, or other amount substituted for its cost, less its residual value.

Depreciated replacement cost (DRC)
The current replacement cost (CRC) of an asset less, where applicable, accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.

Depreciation / amortisation
The systematic allocation of the depreciable amount (service potential) of an asset over its useful life.

Economic life
See useful life definition.

Expenditure
The spending of money on goods and services. Expenditure includes recurrent and capital outlays.

Fair value
The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties, in an arms length transaction.

Financing gap
A financing gap exists whenever an entity has insufficient capacity to finance asset renewal and other expenditure necessary to be able to appropriately maintain the range and level of services its existing asset stock was originally designed and intended to deliver. The service capability of the existing asset stock should be determined assuming no additional operating revenue, productivity improvements, or net financial liabilities above levels currently planned or projected. A current financing gap means service levels have already or are currently falling. A projected financing gap if not addressed will result in a future diminution of existing service levels**.**

Heritage asset
An asset with historic, artistic, scientific, technological, geographical or environmental qualities that is held and maintained principally for its contribution to knowledge and culture and this purpose is central to the objectives of the entity holding it.

Impairment Loss
The amount by which the carrying amount of an asset exceeds its recoverable amount.

Infrastructure assets
Physical assets that contribute to meeting the needs of organisations or the need for access to major economic and social facilities and services, eg. roads, drainage, footpaths and cycleways. These are typically large, interconnected networks or portfolios of composite assets. The components of these assets may be separately maintained, renewed or replaced individually so that the required level and standard of service from the network of assets is continuously sustained. Generally the components and hence the assets have long lives. They are fixed in place and are often have no separate market value.

Investment property
Property held to earn rentals or for capital appreciation or both, rather than for:
(a) use in the production or supply of goods or services or for administrative purposes; or
(b) sale in the ordinary course of business.

Key performance indicator
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 service/activity against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental impact, acceptability and cost.

Life Cycle Cost *
1. **Total LCC** The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
2. **Average LCC** The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises average operations, maintenance expenditure plus asset consumption expense, represented by depreciation expense projected over 10 years. The Life Cycle Cost does not indicate the funds required to provide the service in a particular year.

Life Cycle Expenditure
The Life Cycle Expenditure (LCE) is the average operations, maintenance and capital renewal expenditure accommodated in the long term financial plan over 10 years. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of affordability of projected service levels when considered with asset age profiles.

Maintenance
All actions necessary for retaining an asset as near as practicable to an appropriate service condition, including regular ongoing day-to-day work necessary to keep assets operating, eg road patching but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life.

- **Planned maintenance**
  Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.
- **Reactive maintenance**
  Unplanned repair work that is carried out in response to service requests and management/ supervisory directions.
- **Specific maintenance**
  Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget.
- **Unplanned maintenance**
  Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.

Maintenance expenditure *
Recurrent expenditure, which is periodically or regularly required as part of the anticipated schedule of works required to ensure that the asset achieves its useful life and provides the required level of service. It is expenditure, which was anticipated in determining the asset's useful life.

Materiality
The notion of materiality guides the margin of error acceptable, the degree of precision required and the extent of the disclosure required when preparing general purpose financial reports. Information is material if its omission, misstatement or non-disclosure has the potential, individually or collectively, to influence the economic decisions of users taken on the basis of the financial report or affect the discharge of accountability by the management or governing body of the entity.

Modern equivalent asset
Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing. It allows for technology changes and, improvements and efficiencies in production and installation techniques

Net present value (NPV)
The value to the organisation of the cash flows associated with an asset, liability, activity or event calculated using a discount rate to reflect the time value of money. It is the net amount of discounted total cash inflows after deducting the value of the discounted total cash outflows arising from eg the continued use and subsequent disposal of the asset after deducting the value of the discounted total cash outflows.

Non-revenue generating investments
Investments for the provision of goods and services to sustain or improve services to the community that are not expected to generate any savings or revenue to the Council, eg. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operations
Regular activities to provide services such as public health, safety and amenity, eg street sweeping, grass mowing and street lighting.

Operating expenditure
Recurrent expenditure, which is continuously required to provide a service. In common use the term typically includes, eg power, fuel, staff, plant equipment, on-costs and overheads but excludes maintenance and depreciation. Maintenance and depreciation is on the other hand included in operating expenses.

Operating expense
The gross outflow of economic benefits, being cash and non cash items, during the period arising in the course of ordinary activities of an entity when those outflows result in decreases in equity, other than decreases relating to distributions to equity participants.

Operating expenses
Recurrent expenses continuously required to provide a service, including power, fuel, staff, plant equipment, maintenance, depreciation, on-costs and overheads.

Operations, maintenance and renewal financing ratio
Ratio of estimated budget to projected expenditure for operations, maintenance and renewal of assets over a defined time (eg 5, 10 and 15 years).

Operations, maintenance and renewal gap
Difference between budgeted expenditures in a long term financial plan (or estimated future budgets in absence of a long term financial plan) and projected expenditures for operations, maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Pavement management system (PMS)
A systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.

Rate of annual asset consumption *
The ratio of annual asset consumption relative to the depreciable amount of the assets. It measures the amount of the consumable parts of assets that are consumed in a period (depreciation) expressed as a percentage of the depreciable amount.

Rate of annual asset renewal *
The ratio of asset renewal and replacement expenditure relative to depreciable amount for a period. It measures whether assets are being replaced at the rate they are wearing out with capital renewal expenditure expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

Rate of annual asset upgrade/new *
A measure of the rate at which assets are being upgraded and expanded per annum with capital upgrade/new expenditure expressed as a percentage of depreciable amount (capital upgrade/expansion expenditure/DA).

Recoverable amount
The higher of an asset's fair value, less costs to sell and its value in use.

Recurrent expenditure
Relatively small (immaterial) expenditure or that which has benefits expected to last less than 12 months. Recurrent expenditure includes operations and maintenance expenditure.

Recurrent funding
Funding to pay for recurrent expenditure.

Rehabilitation
See capital renewal expenditure definition above.

Remaining useful life
The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life is useful life.

Renewal
See capital renewal expenditure definition above.

Residual value
The estimated amount that an entity would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

Risk management
The application of a formal process to the range of possible values relating to key factors associated with a risk in order to determine the resultant ranges of outcomes and their probability of occurrence.

Section or segment
A self-contained part or piece of an infrastructure asset.

Service potential
The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.

Service potential remaining
A measure of the future economic benefits remaining in assets. It may be expressed in dollar values (Fair Value) or as a percentage of total anticipated future economic benefits. It is also a measure of the percentage of the asset's potential to provide services that is still available for use in providing services (Depreciated Replacement Cost/Depreciable Amount).

Specific Maintenance
Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, replacement of air conditioning equipment, etc. This work generally falls below the capital/ maintenance threshold and needs to be identified in a specific maintenance budget allocation.

Strategic Longer-Term Plan
A plan covering the term of office of councillors (4 years minimum) reflecting the needs of the community for the foreseeable future. It brings together the detailed requirements in the Council's longer-term plans such as the asset management plan and the long-term financial plan. The plan is prepared in consultation with the community and details where the Council is at that point in time, where it wants to go, how it is going to get there, mechanisms for monitoring the achievement of the outcomes and how the plan will be resourced.

Useful life
Either:
(a) the period over which an asset is expected to be available for use by an entity, or
(b) the number of production or similar units expected to be obtained from the asset by the entity.

It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the Council.

Value in Use
The present value of future cash flows expected to be derived from an asset or cash generating unit. It is deemed to be depreciated replacement cost (DRC) for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, where the entity would, if deprived of the asset, replace its remaining future economic benefits.

Source: IPWEA, 2009, AIFMG Glossary

*Additional and modified glossary items shown