



Department of **Local Government**
Department of **Regional Development and Lands**



ITEM 9.2.5
APPENDIX A

SHIRE OF YORK





ROADS AND BRIDGES
Asset Management Plan

Version 1.0

August 2012



Document Control		Asset Management for Small, Rural or Remote Communities				 
YORKROADS AND BRIDGES ASSET MANAGEMENT PLAN						
Rev No	Date	Revision Details	Author	Reviewer	Approver	
1.0	29/8/2012	First Draft of Roads & Bridges AMP	DL			

DCA

DOMINIC CARBONE AND ASSOCIATES
 SUITE 7, 64 CANNING HIGHWAY
 VICTORIA PARK, WA 6100
 PHONE: (08) 9472 0184
 MOBILE: 0448 120 652
 EMAIL: d.carbone@bigpond.com

This Asset Management Plan was prepared by Dominic Carbone & Associates, and DL Consulting.



16 Granada Loop
 Seville Grove WA 6112
 Phone – (08) 9399 8840
 Mobile – 0430 553 675
 Email – darren@dlconsulting.biz

The Shire of York wishes to acknowledge funding provided by the Department of Local Government and the Department of Regional Development and Lands through Royalties for Regions to support this project.



Department of **Local Government**
 Department of **Regional Development and Lands**



Asset Management for Small, Rural or Remote Communities Practice Note

The Institute of Public Works Engineering Australia.

www.ipwea.org.au/AM4SRRC

SHIRE OF YORK – ROADS AND BRIDGES ASSET MANAGEMENT PLAN
 © Copyright 2011 – All rights reserved.

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY.....	iii
2. INTRODUCTION.....	1
2.1 Background.....	1
2.2 Goals and Objectives of Asset Management.....	2
2.3 Plan Framework.....	3
2.4 Core and Advanced Asset Management.....	3
2.5 Community Consultation.....	3
3. LEVELS OF SERVICE.....	4
3.1 Customer Research and Expectations.....	4
3.2 Legislative Requirements.....	4
3.3 Current Levels of Service.....	5
3.4 Desired Levels of Service.....	8
4. FUTURE DEMAND.....	9
4.1 Demand Forecast.....	9
4.2 Changes in Technology.....	9
4.3 Demand Management Plan.....	10
4.4 New Assets from Growth.....	10
5. LIFECYCLE MANAGEMENT PLAN.....	11
5.1 Background Data.....	11
5.2 Risk Management Plan.....	22
5.3 Routine Maintenance Plan.....	23
5.4 Renewal/Replacement Plan.....	24
5.5 Creation/Acquisition/Upgrade Plan.....	25
5.6 Disposal Plan.....	26
6. FINANCIAL SUMMARY.....	27
6.1 Financial Statements and Projections.....	28
6.2 Funding Strategy.....	31
6.3 Valuation Forecasts.....	31
6.4 Key Assumptions made in Financial Forecasts.....	33
7. ASSET MANAGEMENT PRACTICES.....	34
7.1 Accounting/Financial Systems.....	34
7.2 Asset Management Systems.....	34
7.3 Information Flow Requirements and Processes.....	35
7.4 Standards and Guidelines.....	35
8. PLAN IMPROVEMENT AND MONITORING.....	36
8.1 Performance Measures.....	36
8.2 Improvement Plan.....	36
8.3 Monitoring and Review Procedures.....	36
REFERENCES.....	37
APPENDICES.....	38
Appendix A Maintenance Response Levels of Service.....	39
Appendix B Projected 10 year Capital Renewal Works Program.....	40
Appendix C Planned Upgrade/Exp/New 10 year Capital Works Program.....	52
Appendix D Abbreviations.....	55
Appendix E Glossary.....	56

This page is left intentionally blank.

1. EXECUTIVE SUMMARY

Context

York is the oldest inland town in Western Australia, being situated approximately 97kms east of Perth by road in the Avon Valley, and covering 2,010km². Nestled on the banks of the Avon River, the town has maintained a vibrant spirit among its many Victorian and Federation buildings. York is renowned for its preservation of heritage buildings and sites, providing charm and character to the town. An abundance of local activities and facilities make it an attractive destination.

York offers a scenic, rural lifestyle, and a family orientated community. It is close enough to Perth for easy access, and only 45 minutes to Midland.

The objective of this Roads and Bridges Asset Management Plan is to outline all the tasks and resources required to manage and maintain Council's roads and bridges portfolio to an agreed standard. This Asset Management Plan provides a detailed overview of the ongoing management of the Roads and Bridges assets.

This plan acts as a tool to support the ability of Council to deliver well targeted, responsive and value for money maintenance and operational services for customers and the community as a whole.

The Transport Service

The Transport network comprises:

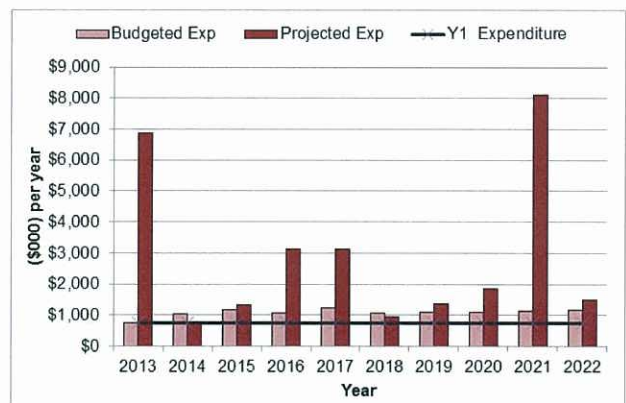
- Urban Roads consisting of-
 - Sealed roads – 38.25kms
 - Paved roads - 1.55kms
 - Formed roads - 0.87kms
 - Unformed roads - 0.35kms
- Rural Roads consisting of-
 - Sealed roads – 253.50kms
 - Paved roads – 239.49kms
 - Formed roads – 228.73kms
 - Unformed roads - 6.95kms
- Kerbing 70.25kms
- Bridges Not available

These infrastructure assets have a replacement value of \$73,752,358.

What does it Cost?

The projected cost to provide the services covered by this Asset Management Plan includes operations, maintenance, renewal and upgrade of existing assets over the 10 year planning period is \$31,390,000 or \$3,139,000 per year.

Council's estimated available funding for this period is \$13,254,000 or \$1,325,000 per year. This is a funding shortfall of \$1,814,000 per year, which is 62% of the cost to provide the service. Projected and budgeted expenditure are shown in the graph below.



Councils' present funding levels are insufficient to continue to provide existing services at current levels in the medium term.

What we will do

Council plans to provide Transport services for the following:

- Operation, maintenance, renewal and upgrade of Roads and Bridges assets to meet service levels set by council in annual budgets.
- Major renewals to Greenhills Road, Avon Terrace, Kauring Town streets, York town streets, Ashworth Road, Greenhills South Road, Spencers Brook Road, Qualen West Road, Doodenanning Road, Mannavale Road, Marwick Road, Top Beverley Road, Talbot West Road and Joaquina Street.
- Asset upgrades to Talbot West Road, Mokine Road, Greenhills South Road, Talbot Road, Top Beverley Road, Quellington Road, York-Tammin Road, Spencers Brook Road, Qualen West Road, Ashworth Road, Avon Terrace, Mannavale Road, Wambyn Road, Tenth Road, Leeming Road, Eleventh Road, Mansfield Street, Hardey Road, Cut Hill Road, Ovens Road, and Quellington Road bridge.

What we cannot do

The Asset Management Plan modelling has identified the following projected renewal works, which have not been funded in the Forward Capital Works Program over the next 5 years:

1. Mannavale Rd – Chip reseal & reconstruct;
2. Talbot Rd – Chip reseal & reconstruct;
3. Spencers Brook-York Rd – chip reseal & reconstruct;
4. Burges Siding Rd – reconstruct, chip reseal & asphalt;
5. Gwambygine East Rd – Gravel sheet & chip reseal;
6. Top Beverley Rd – Reconstruct & chip reseal;
7. Ovens Rd – Gravel sheet;
8. Boyercutty Rd – Gravel sheet;
9. Qualen West Rd – Reconstruct & chip reseal;
10. Sees Rd – Gravel sheet;
11. Grass Valley South Rd – Gravel sheet;
12. Lennard Rd – Gravel sheet;
13. Bogling Rd – Gravel sheet;
14. Knotts Rd – Chip reseal;
15. Warding Rd – Gravel sheet;
16. Station Rd – Gravel sheet;
17. Taylor Rd – Gravel sheet;
18. Mackie Rd – Gravel sheet;
19. Badgin Rd – Gravel sheet;
20. Allen Rd – Gravel sheet;
21. Piccadilly Rd – Gravel sheet;
22. Cameron Rd – Gravel sheet;
23. Hamersley Siding Rd – Gravel sheet & chip reseal;
24. Karabine Rd – Gravel sheet;
25. Luelf Rd – Gravel sheet & chip reseal;
26. Avon Terrace – Reconstruct & chip reseal;
27. South St – Reconstruct & chip reseal;
28. North Rd – Gravel sheet & chip reseal;
29. Yarra Rd – Gravel sheet;
30. Nockine Rd – Gravel sheet;
31. Qualen Rd – Gravel sheet;
32. Greenhills Rd – Reconstruct & chip reseal;
33. Attfield Rd North – Gravel sheet.

Managing the Risks

There are risks associated with providing the service and not being able to complete all identified activities and projects. We have identified major risks as:

- Poor condition of asset causes vehicle damage;
- Poor condition of asset causes injury;
- Flooding causing damage to asset;
- Damage to asset caused by natural disaster.
- Downgrading of services due to lack of funding.
- Lack of inspection and maintenance systems.

We will endeavour to manage these risks within available funding by:

- Establish routine inspection regimes;

- Evaluate appropriate designs for flood prone areas;
- Monitor weather forecasting and general preparedness.
- Establishing criteria to determine renewal and new/upgrade priorities; and
- Ensure appropriate resources are allocated to maintain systems.

The Next Steps

The actions resulting from this asset management plan are:

- Assess first years costs against actual.
- Prepare ranking system for renewals.
- Review maintenance practices and align with service level requirements.
- Review latest road building technologies and practices and train staff in contemporary techniques.
- Ongoing rolling program of data collection.
- Community consultation on service level provision.

Questions you may have

What is this plan about?

This asset management plan covers the infrastructure assets that serve the Shire of York Community's Roads and Bridges needs. These assets include sealed roads, unsealed roads and bridges throughout the Council area that enable people to have access to a safe and suitable road transport network.

What is an Asset Management Plan?

Asset management planning is a comprehensive process to ensure delivery of services from infrastructure is provided in a financially sustainable manner.

An asset management plan details information about infrastructure assets including actions required to provide an agreed level of service in the most cost effective manner. The Plan defines the services to be provided, how the services are provided and what funds are required to provide the services.

Why is there a funding shortfall?

Most of the Council's roads and bridges network was constructed from government grants often provided and accepted without consideration of ongoing operations, maintenance and replacement needs.

Many of these assets are approaching the later years of their life and require replacement, services from the

assets are decreasing and maintenance costs are increasing.

Councils' present funding levels are insufficient to continue to provide existing services at current levels in the medium term.

What options do we have?

Resolving the funding shortfall involves several steps:

1. Improving asset knowledge so that data accurately records the asset inventory, how assets are performing and when assets are not able to provide the required service levels;
2. Improving our efficiency in operating, maintaining, replacing existing and constructing new assets to optimise life cycle costs;
3. Identifying and managing risks associated with providing services from infrastructure;
4. Making trade-offs between service levels and costs to ensure that the community receives the best return from infrastructure;
5. Identifying assets surplus to needs for disposal to make savings in future operations and maintenance costs.
6. Consulting with the community to ensure that transport services and costs meet community needs and are affordable,
7. Developing partnership with other bodies, where available to provide services;
8. Seeking additional funding from governments and other bodies to better reflect a 'whole of government' funding approach to infrastructure services.

What happens if we don't manage the shortfall?

It is likely that council will have to reduce service levels in some areas, unless new sources of revenue are found. For Roads and Bridges, the service level reduction may include reverting a sealed road back to gravel, or reducing the number of times a road is graded per year.

What can we do?

Council can develop options and priorities for future Transport services with costs of providing the services, consult with the community to plan future services to match the community services needs with ability to pay for services and maximise benefit to the community for costs to the community.

2. INTRODUCTION

2.1 Background

This asset management plan is 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.

The asset management plan is to be read with Council’s Asset Management Policy, Asset Management Strategy and the following associated planning documents:

- Plan for the Future
- Forward Capital Works Plan
- Five Year Financial Plan
- Annual Budget
- Risk Management Policy
- Department of Local Government Asset Management Framework and Guidelines

The infrastructure assets shown in Council’s asset register and covered by this asset management plan are shown in Table 2.1.

Table 2.1: Assets covered by this Plan

Asset Category	Dimension	Replacement Value	Written Down Value
Roads – Urban (Built-Up)	Sealed: 38.25kms	\$4,688,139	\$3,981,391
	Paved: 1.55kms	\$80,764	\$69,805
	Formed: 0.87kms	\$31,053	\$31,053
	Unformed: 0.35kms	\$0	\$0
Roads - Rural	Sealed: 253.50kms	\$35,028,405	\$31,810,275
	Paved: 239.49kms	\$22,734,320	\$20,077,721
	Formed: 228.73kms	\$10,627,677	\$10,627,677
	Unformed: 6.95kms	\$0	\$0
Sub-Total Roads	769.69kms	\$73,190,358	\$66,388,942
Kerbing	Concrete: 70.25kms	\$562,000	\$353,020
Bridges	Not Available	Not Available	Not Available
TOTAL		\$73,752,358	\$66,950,942

Note: The figures in the above table are the full cost of the asset (formation plus pavement plus seal, where applicable) and do not represent the individual components of each asset.

Key stakeholders in the preparation and implementation of this Transport Asset Management Plan can be divided into internal and external stakeholders.

Internal stakeholders include:

The Shire of York Council

Custodian of the assets, community representation and administration

Chief Executive

Council representation and administration, Identification and definition of level of service requirements

Operations Team

Design parameters, standards, operation and administration

External stakeholders include:

Shire of York Community

Asset users, service level expectations

Visitors to the Shire of York

Asset users

Local Government Insurance Services

Minimisation of risk

Fire and Emergency Services Authority

Road Rescue and Emergency Services

2.2 Goals and Objectives of Asset Management

The Council exists to provide services to its community. Some of these services are provided by infrastructure assets. Council has acquired infrastructure assets by contract, construction by council staff and by donation of assets constructed by developers and others to meet increased levels of service.

Council's goal in managing infrastructure assets is to meet the required level of service in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Taking a life cycle approach,
- Developing cost-effective management strategies for the long term,
- Providing a defined level of service and monitoring performance,
- Understanding and meeting the demands of growth through demand management and infrastructure investment,
- Managing risks associated with asset failures,
- Sustainable use of physical resources,
- Continuous improvement in asset management practices.¹

The goal of this asset management plan is to:

- Document the services/service levels to be provided and the costs of providing the service,
- Communicate the consequences for service levels and risk, where desired funding is not available, and
- Provide information to assist decision makers in trading off service levels, costs and risks to provide services in a financially sustainable manner.

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

Council's vision is "The Rural Gateway. A place:

- *To visit, work, rest and play;*
- *Of vibrancy and energy, but one of tranquillity and safety;*
- *Of growth, where local businesses find opportunities and thrive;*
- *Of history and cultural interests, where past history is valued, building a sense of permanency and pride; and*
- *Of Community, where lifestyle choices are important and where community matters.*

Council's mission is:

"To manager growth, economically and socially, in supporting a progressive vibrant community"

Relevant goals and objectives and how these are addressed in this asset management plan are shown in Table 2.2.

Table 2.2: Organisation Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in AMP
Improved quality of our assets.	<ul style="list-style-type: none">▪ Upgrade and maintain our Infrastructure.	<ul style="list-style-type: none">▪ Develop and implement Asset Management Plans.▪ Provide and maintain safe, efficient transport, including roads, footpaths and cycleways.▪ Provide and maintain facilities for youth and aged services.

¹ IPWEA, 2006, *IIMM* Sec 1.1.3, p 1.3.

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 the organisation will manage its existing and future assets to provide the required services
- Financial summary – what funds are required to provide the required services.
- Asset management practices
- Monitoring – how the plan will be monitored to ensure it is meeting the organisation’s objectives.
- Asset management improvement plan

2.4 Core and Advanced Asset Management

This asset management plan is prepared as a first cut ‘core’ asset management plan in accordance with the International Infrastructure Management Manual² and the Asset Management Framework and Guidelines³. 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 where analysis is applied at the ‘system’ or ‘network’ level.

2.5 Community Consultation

The Asset Management Framework and Guidelines require local governments to consult with the community on their service requirements, expectations and satisfaction levels as part of the community’s ongoing engagement in relation to asset management.

The local government is required to report annually on its asset management; with the community providing feedback on the local government’s asset management performance.

This ‘core’ asset management plan is prepared to facilitate community consultation initially through feedback on public display of draft asset management plans prior to adoption by Council. Future revisions of the asset management plan will incorporate community consultation on existing and future service needs, service levels and costs of providing the service.

This will assist Council and the community in matching the level of service needed by the community, service risks and consequences with the community’s ability to pay for the service.

² IPWEA, 2006.

³ Department of Local Government (WA), 2011.

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 the asset management plan.

3.2 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and State regulations. Relevant legislation is shown in Table 3.2.

Table 3.2: Legislative Requirements

Legislation	Requirement
Aboriginal Heritage Act 1972	Preservation of the community places and objects used by traditional owners.
Aboriginal Heritage Regulations 1974	Preservation of the community places and objects used by traditional owners.
Disability Services Act 1993	An Act for the establishment of the Disability Services Commission and the Ministerial Advisory Council on Disability, for the progress of principles applicable to people with disabilities, for the funding and provision of services to such people that meet certain objectives, for the resolution of complaints by such people and for related purposes.
Disability Services Regulations 2004	Current amendments to Disability Services Act (1993)
Environmental Protection Act 1986 and associated regulations	To provide for an Environmental Protection Authority, for the prevention, control and abatement of environmental pollution, conservation, preservation, protection, enhancement and management of the environment.
Environmental Protection and Biodiversity Act 1999 (Cwth)	To provide for the prevention, control and abatement of environmental pollution, conservation, preservation, protection, enhancement and management of the environment.
Land Administration Act 1997	To make provision for the management and reservation of Crown Land.
Local Government Act 1995	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.
Local Government (Financial Assistance) Act 1995	Sets out the allocation of how financial assistance for local government by means of grants will be provided to the States, Capital Territory and the Northern Territory.
Local Government (Miscellaneous Provisions) Act 1960	To provide for the good rule, government, convenience, comfort and safety of persons in local government districts.
Main Roads Act 1930	To provide for the construction, maintenance and supervision of highways, main and secondary roads, and other roads, the control of access to roads and for other relative purposes.
Native Title Act 1999	Sets out the requirement for the protection and recognition of native title, which local governments must take into consideration where there is the involvement of Crown Land that is subject to a native title claim.
Occupational Health and Safety Act 1984 and associated regulations	Administered in part by local governments to promote and improve standards for occupational health, safety and welfare and to coordinate administration of the laws relating to occupational safety and health for incidental and other purposes.
Planning and Development Act 2005	To provide a system for land use planning and development in the State of WA.

Legislation	Requirement
Road Traffic Act 1974	To provide for the regulation of road traffic
Roads to Recovery Act 2000	Sets out the provisions on how the Australian Government will provide funding to supplement expenditure on roads, including to local governments.

3.3 Current Levels of Service

Council has defined service levels in two terms.

Community Levels of Service relate to the service outcomes that the community wants in terms of safety, quality, quantity, reliability, responsiveness, cost effectiveness and legislative compliance.

Community levels of service measures used in the asset management plan are:

Quality	How good is the service?
Function	Does it meet users' needs?
Safety	Is the service safe?

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 council undertakes to best achieve the desired community outcomes.

Technical service measures are linked to annual budgets covering:

- Operations – the regular activities to provide services such as cleansing frequency, mowing frequency, etc.
- Maintenance – the activities necessary to retain an assets as near as practicable to its original condition (e.g. road patching, unsealed road grading, building and structure repairs),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),
- Upgrade – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).

Council's current service levels are detailed in the Tables below.

Table 3.3A: Current Service Levels – Sealed Roads

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service (2012)
COMMUNITY LEVELS OF SERVICE				
Quality	Provide a smooth ride	Customer service requests	To be determined	Not currently measured.
Function	Ensure that the road meets the user requirements for travel time and availability	Customer service requests	To be determined	Not currently measured.
Safety	Provide safe suitable roads, free from hazards	<ul style="list-style-type: none"> ▪ Customer reported accidents. ▪ Customer requests for curve realignments and safety signage. 	To be determined	Not currently measured.
TECHNICAL LEVELS OF SERVICE				
Operations	Urban sealed roads are clean	Street sweeping frequency	3 times per annum	Not currently measured.
Maintenance	Transport network is suitable for purpose.	<ul style="list-style-type: none"> ▪ Average maintenance cost per km of road. ▪ Pothole patching frequency 	<ul style="list-style-type: none"> ▪ Less than 10% variation between actual and 4 Year average maintenance cost. ▪ Potholes do not exceed 150mm in diameter 	Not currently measured.
		<ul style="list-style-type: none"> ▪ Cost effectiveness 	<ul style="list-style-type: none"> ▪ \$3,000/km 	Not currently measured
		<ul style="list-style-type: none"> ▪ Budget 	<ul style="list-style-type: none"> ▪ \$151,2507 	<ul style="list-style-type: none"> ▪ \$122,600
Renewal	Ensure roads are replaced/renewed so that roads continue to be fit for purpose	<ul style="list-style-type: none"> ▪ No of renewals identified in Renewal Plan (reseals) completed per year. ▪ Useful life of Infrastructure Assets 	<ul style="list-style-type: none"> ▪ 70% of renewals identified in first generation Renewal Plan completed per annum. ▪ Sealed surfaces 20 years. 	<ul style="list-style-type: none"> ▪ Not currently measured. ▪ Sealed surfaces 30-35 years.
		<ul style="list-style-type: none"> ▪ Condition of seals 	<ul style="list-style-type: none"> ▪ Less than 5% of roads with sections that have a condition rating of 4 or 5. 	6.7% of Roads with sections that have a condition rating of 4 or 5.
Upgrade/New	Ensure roads are upgraded to meet current standards and modern needs	No of upgrades identified in Upgrade Plan completed per annum.	80% of upgrades identified in first generation Upgrade Plan completed per annum.	Not currently measured.

Table 3.3B: Current Service Levels – Unsealed Roads

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service
COMMUNITY LEVELS OF SERVICE				
Quality	<ul style="list-style-type: none"> ▪ Provide a smooth ride. ▪ Road does not have excessive loose material or dust. 	Customer service requests	To be determined	Not currently measured.
Function	Ensure that the road meets the user requirements for travel time and availability	<ul style="list-style-type: none"> ▪ Customer service requests relating to travel time & availability 	To be determined	Not currently measured.
Safety	Provide safe suitable roads, free from hazards	<ul style="list-style-type: none"> ▪ Customer reported accidents. ▪ Customer requests for curve realignments and safety signage. 	<ul style="list-style-type: none"> ▪ To be determined 	Not currently measured.
TECHNICAL LEVELS OF SERVICE				
Operations				
Maintenance	<ul style="list-style-type: none"> ▪ Maintain transport network in an efficient and cost effective manner. ▪ Conduct routine maintenance grading as per service level standards 	<ul style="list-style-type: none"> ▪ Average maintenance cost per km of road. ▪ No of times each road is graded, according to Hierarchy. 	<ul style="list-style-type: none"> ▪ Less than 10% variation between actual and 4 Year average maintenance cost. ▪ Grading – <ul style="list-style-type: none"> ○ Regional – 4/yr ○ Local – 2/yr ○ Bus routes – 2/yr ○ Access roads – 1/yr 	Not currently measured.
		<ul style="list-style-type: none"> ▪ Budget 	<ul style="list-style-type: none"> ▪ \$604,990 	\$490,400
Renewal	<ul style="list-style-type: none"> ▪ Ensure roads are replaced/renewed so that road continues to be fit for purpose 	<ul style="list-style-type: none"> ▪ No of renewals identified in Renewal Plan (resheets) completed per year. 	<ul style="list-style-type: none"> ▪ 70% of renewals identified in first generation Renewal Plan completed per annum. 	Not currently measured.
		<ul style="list-style-type: none"> ▪ Condition of paved and formed roads, including unsealed shape. 	<ul style="list-style-type: none"> ▪ Less than 5% of roads with sections that have a condition rating of 4 or 5. 	86% of Paved/Formed Roads with sections that have a condition rating of 4 or 5.
Upgrade/New	<ul style="list-style-type: none"> ▪ Ensure roads are upgraded to meet current standards and modern needs 	<ul style="list-style-type: none"> ▪ No of upgrades identified in Upgrade Plan completed per annum. 	<ul style="list-style-type: none"> ▪ 80% of upgrades identified in first generation Upgrade Plan completed per annum. 	Not currently measured.

Table 3.3C: Current Service Levels – Bridges

Key Performance Measure	Level of Service Objective	Performance Measure Process	Desired Level of Service	Current Level of Service
COMMUNITY LEVELS OF SERVICE				
Quality	<ul style="list-style-type: none"> Ensure bridges provide a smooth ride. 	<ul style="list-style-type: none"> Customer service requests 	<ul style="list-style-type: none"> To be determined 	Not currently measured.
Function	<ul style="list-style-type: none"> Ensure bridges meet road users' needs in relation to accessibility, weight requirements and availability 	<ul style="list-style-type: none"> Customer service requests relating to availability. 	<ul style="list-style-type: none"> To be determined. 	Not currently measured.
Safety	<ul style="list-style-type: none"> Provide safe suitable bridges for vehicular traffic 	<ul style="list-style-type: none"> Customer reported accidents. 	<ul style="list-style-type: none"> To be determined. 	Not currently measured.
TECHNICAL LEVELS OF SERVICE				
Operations				
Maintenance	<ul style="list-style-type: none"> Ensure bridges are maintained in working condition. 	<ul style="list-style-type: none"> Inspections conducted per annum. No of defects outstanding. Average maintenance cost per annum 	<ul style="list-style-type: none"> One inspection conducted per annum. Less than 3 defect items per inspection. Less than 10% variation between actual and 4 Year average maintenance cost. 	Not currently measured.
		<ul style="list-style-type: none"> Budget 	<ul style="list-style-type: none"> \$119,600 	
Renewal	Ensure bridges are replaced/renewed so that they continue to be fit for purpose	No of renewals identified in Renewal Plan (overlays) completed per year.	<ul style="list-style-type: none"> 70% of renewals identified in first generation Renewal Plan completed per annum. 	Not currently measured.
Upgrade/New	Ensure bridges are upgraded/constructed to meet current standards and modern needs	No of bridge upgrades identified in Upgrade/New Plan completed per annum.	<ul style="list-style-type: none"> 80% of upgrades identified in first generation Upgrade Plan completed per annum. 	Not currently measured.

3.4 Desired Levels of Service

At present, indications of desired levels of service are obtained from various sources including residents' feedback to Councillors and staff, service requests and correspondence. Council has yet to quantify desired levels of service. This will be done in future revisions of this asset management plan.

4. FUTURE DEMAND

4.1 Demand Forecast

Factors affecting demand include population change, changes in demographics, seasonal factors, vehicle ownership, consumer preferences and expectations, economic factors, agricultural practices, environmental awareness, etc.

Demand factor trends and impacts on service delivery are summarised in Table 4.1.

Table 4.1: Demand Factors, Projections and Impact on Services

Demand factor	Present position	Projection	Impact on services
Population	<ul style="list-style-type: none"> The population as at 30 June 2011 was 3,396⁴. 	<ul style="list-style-type: none"> 5,400 by 2026⁵ (Band C), equates to 59% increase. 	<ul style="list-style-type: none"> No change in demand on community and facilities.
Demographics	<ul style="list-style-type: none"> 2011 Census over 65 made up 19.3% of population. 	<ul style="list-style-type: none"> Projected to increase to 21% over 65 by 2026. 	<ul style="list-style-type: none"> Require smoother roads to facilitate access for the elderly.
Climate change		<ul style="list-style-type: none"> Flooding and storm frequency increasing. 	<ul style="list-style-type: none"> Emergency Services Infrastructure damage creating higher frequency of loss of service. More requirement for Water Sensitive Urban Design principles to be incorporated into rural roads, resulting in higher design costs. Fuel costs increasing.
Agricultural Practices	<ul style="list-style-type: none"> Standard sized farm holdings. 	<ul style="list-style-type: none"> Aggregation of farms into larger holdings. Greater use of larger farm equipment and mobility between land holdings. 	<ul style="list-style-type: none"> Higher standard roads for larger, heavier transport vehicles.
Material sources	<ul style="list-style-type: none"> Gravel pavement used for roads 	<ul style="list-style-type: none"> Gravel supplies becoming scarce in the local area. 	<ul style="list-style-type: none"> Greater lead transport costs for importing gravel construction materials.

4.2 Changes in Technology

Technology changes are forecast to affect the delivery of services covered by this plan in the following areas.

Table 4.2: Changes in Technology and Forecast effect on Service Delivery

Technology Change	Effect on Service Delivery
Larger Heavy Vehicles	Wider roads with sealed shoulders
Pavement Recycling Methods	Less reliance on virgin material – resulting in less haulage of material and disposal. Potential for greater efficiencies and lower road rehabilitation and renewal costs.

⁴Source: ABS 2011 Census.

⁵Source: "WA Tomorrow Report", 2012 - WA Planning Commission

Technology Change	Effect on Service Delivery
Pavement preservation techniques	Longer lasting gravel paved roads due to use of stabilisation additives.

The Shire of Quairading will monitor and investigate advances in technology, and introduce them as appropriate.

4.3 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.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this asset management plan.

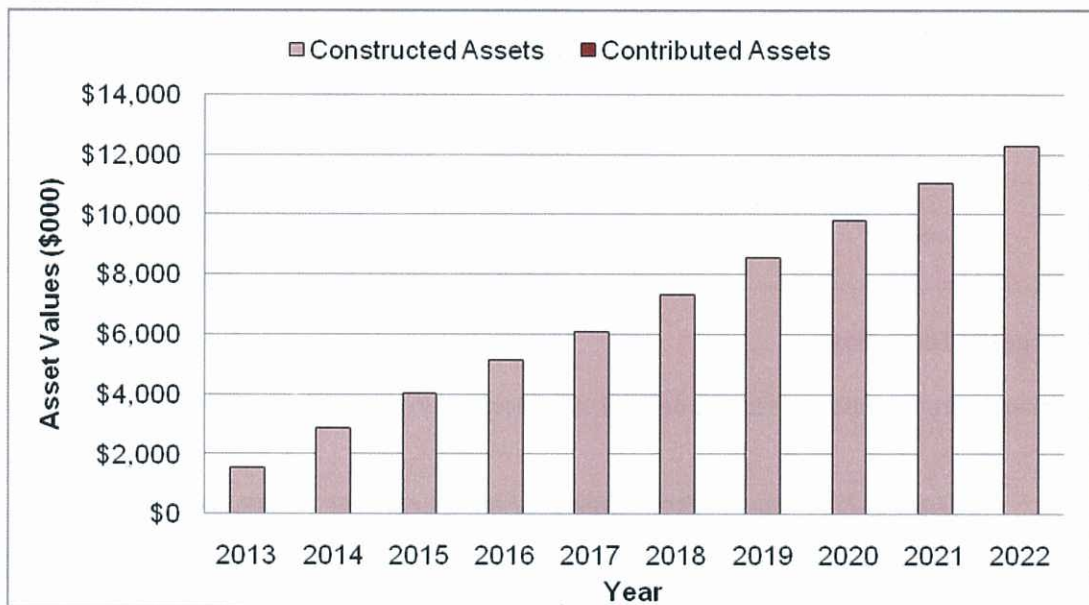
Table 4.3: Demand Management Plan Summary

Service Activity	Demand Management Plan
Regional Distributors	Upgrade and renewal of regional roads that will be impacted by increased heavy traffic volumes from increased agricultural activity and transporting product to port.
Local Distributors	Upgrade and renewal of local roads that experience increased heavy traffic volumes from increase agricultural activity, timber harvesting life cycle (once every 7-10 years).
Local Distributors	Renewal and maintenance priority to school bus routes.

4.4 New Assets for Growth

The new assets required to meet growth will be acquired free of cost from land developments and constructed/acquired by Council. The new contributed and constructed asset values are summarised in Figure 1.

Figure 1: New Assets for Growth



Acquiring these new assets will commit council to fund ongoing operations and maintenance 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 and maintenance costs.

5. LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how Council 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.

Asset category	Length (kms)	Dimension (M ²)
Built Up Roads – Sealed	38.25	290,829 M ²
Built-Up Roads – Paved	1.55	6,660M ²
Built-Up Roads – Formed	0.87	4,690 M ²
Built-Up Roads – Unformed	0.35	0 M ²
Rural Roads – Sealed	253.50	1,479,941 M ²
Rural Roads – Paved	239.49	1,414,848 M ²
Rural Roads - Formed	228.73	1,190,708 M ²
Rural Roads - Unformed	6.95	0 M ²
Sub-Total	769.69	4,387,676 M²
Kerbing	70.25	70,250LM
Bridges	N/A	Not Available

The age profile of the assets include in this Asset Management Plan is shown in Figures 2A, 2B and 2C.

Figure 2A: Sealed Roads Asset Age Profile

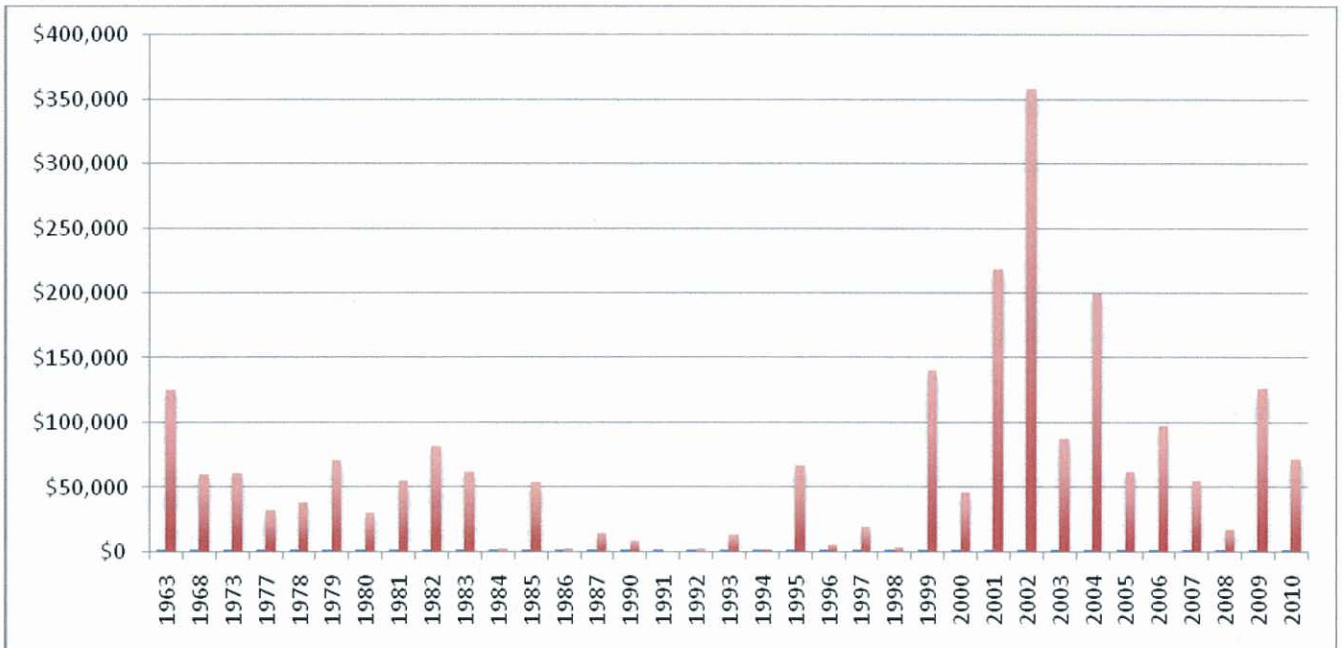


Figure 2B: Paved Roads Asset Age Profile

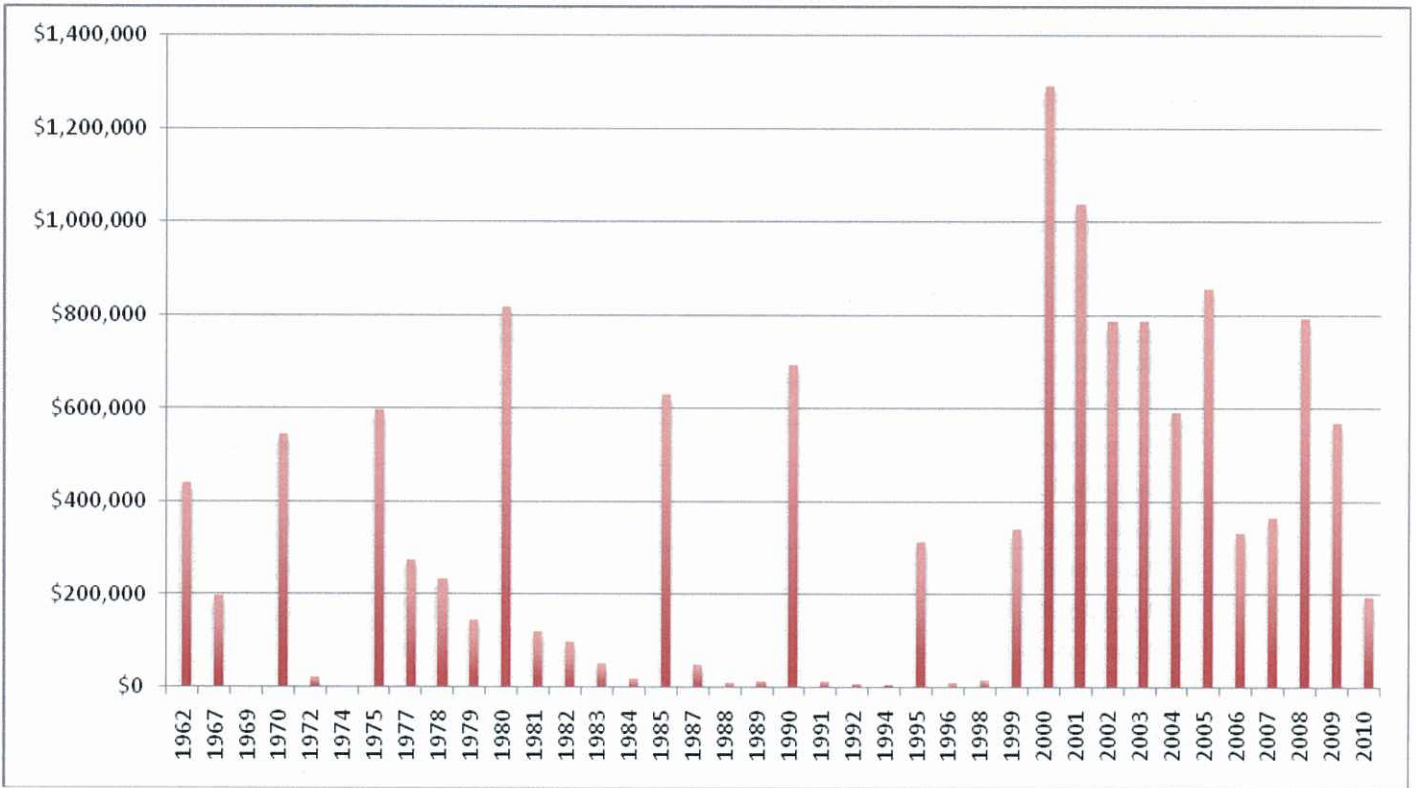


Figure 2C: Bridges Asset Age Profile

Data Not Available

5.1.2 Asset capacity and performance

Council’s services are generally provided to meet design standards where these are available.

Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Start SLK	End SLK	Condition Rating	Service Deficiency
Mannavale Rd	12.00	13.35	3.75	This section of road has extreme cracking defects, poor binder condition and poor stone condition. Condition rating of Fair-Minus.
Talbot Rd	1.10	1.41	3.87	This section of road has extreme cracking defects, poor binder condition and fair-minus stone condition. Condition rating of Fair-Minus.
Talbot Rd	4.37	6.10	3.75	This section of road has extreme cracking defects, poor binder condition and fair-minus stone condition. Condition rating of Fair-Minus.
Quellington Rd	2.05	2.47	4.12	This section of road has extreme cracking defects, extreme pavement deformation, fair-minus binder condition and fair-minus stone condition. Condition rating of Fair-Minus.

Location	Start SLK	End SLK	Condition Rating	Service Deficiency
Quellington Rd	4.36	5.50	3.87	This section of road has major cracking defects, extreme pavement deformation, fair-minus binder condition and fair-minus stone condition. Condition rating of Fair-Minus.
Avon Terrace	1.37	1.69	4.37	This section of road has majorsurface defects, extreme cracking defects, major pavement deformation, poor binder condition and fair-minus stone condition. Condition rating of Fair-Minus.
Centennial Drive	0.60	0.64	4.00	This section of road has extremesurface defects, majorcracking defects, major pavement deformation, poor binder condition and fair-minus stone condition. Condition rating of Fair-Minus.
Redmile Rd	0.00	0.27	4.37	This section of road has majorsurface defects, extreme cracking defects, major pavement deformation, poor binder condition and fair-minus stone condition. Condition rating of Fair-Minus.
Christie Retreat	0.00	0.10	4.37	This section of road has extreme surface defects, major cracking defects, some pavement deformation, poor binder condition and poor stone condition. Condition rating of Fair-Minus.
Cemetery Rd	0.02	0.23	3.75	This section of road has major surface defects, major cracking defects, major pavement deformation, fair-minus binder condition and fair-minus stone condition. Condition rating of Fair-Minus.
Mokine Rd	13.57	14.42	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Ovens Rd	2.97	3.87	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Ovens Rd	6.40	8.32	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Talbot West Rd	3.60	4.20	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Sandgate Rd	0.00	1.90	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Sandgate Rd	1.90	2.13	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Sandgate Rd	2.13	10.31	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Mackies Siding Rd	0.00	1.24	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Lennard Rd	0.00	4.85	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Parker Rd	0.00	0.97	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Parker Rd	1.63	2.10	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Leeming Rd	2.27	2.51	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Mt Hardy Rd	0.00	4.13	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.

Location	Start SLK	End SLK	Condition Rating	Service Deficiency
Taylor Rd	4.26	4.98	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Quonamining Rd	0.00	6.33	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Badgin Rd	1.88	5.11	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
St Jacks Rd	0.00	1.36	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Cameron Rd	0.00	8.82	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Mercer Rd	4.02	5.90	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Helena Rd	0.00	15.50	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Helena Rd	15.50	19.27	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Williams Rd	0.00	1.67	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Wilberforce Rd	1.80	5.84	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Ashworth Rd	2.72	4.13	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Leulf Rd	0.11	1.00	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Leulf Rd	1.00	3.59	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Kittlers Rd	0.00	3.79	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Oakover Rd	0.00	0.80	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Young Rd	0.00	3.55	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Duck Pool Rd	0.00	4.16	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Warding Dam Rd	0.00	1.80	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Flea Pool Rd	9.75	12.34	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Moore Rd	0.00	2.53	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Northbourne Rd	0.00	1.47	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Seabrook Rd	0.00	1.64	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Railway Rd	0.00	1.40	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Railway Rd	1.40	3.46	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.

Location	Start SLK	End SLK	Condition Rating	Service Deficiency
Kennedy Rd	0.00	4.67	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Mills Rd	0.00	5.69	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Gaults Rd	0.00	0.21	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Narraloggan Rd	0.00	0.48	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Narraloggan Rd	0.48	0.96	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Narraloggan Rd	0.96	2.64	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Narraloggan Rd	2.64	3.56	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Narraloggan Rd	3.56	5.51	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Corner Well Rd	0.00	5.55	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Keebles Rd	0.00	2.10	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Halbert Rd	0.00	1.12	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Rickeys Siding Rd	0.00	0.53	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Rickeys Siding Rd	0.53	0.86	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Rickeys Siding Rd	0.86	2.18	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Boyle Rd	0.07	0.28	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Boyle Rd	0.32	1.26	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Chester Rd	0.00	0.73	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Jenkins Rd	0.00	1.41	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Buckingham Rd	0.00	0.85	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Buckingham Rd	2.70	3.01	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Buckingham Rd	3.01	3.41	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Buckingham Rd	3.41	6.73	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Harbour Rd	0.00	1.63	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Tenth Rd	1.40	1.61	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.

Location	Start SLK	End SLK	Condition Rating	Service Deficiency
Georgiana St	0.50	0.75	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Eleventh Rd	1.39	1.60	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Qualen Rd	0.00	15.35	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
River St (Section 2)	0.14	0.20	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
River St (Section 2)	0.20	0.27	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Brunswick Rd	0.00	0.10	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Chandos Rd	0.00	1.30	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Revett Place	0.00	0.13	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Revett Place	0.13	0.25	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Spices Rd	0.70	0.88	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Roe St	0.40	0.48	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Sidney Rd	0.12	0.25	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Prunster Rd (Section 2)	0.00	0.59	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Neville St	0.00	0.14	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Parker Rd (No 186)	0.00	0.12	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Guilfoyle Rd	0.00	0.23	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Fish St	0.00	0.09	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Arnold Park Rd	0.00	3.59	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Clifton Rd	0.00	3.56	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Brown Rd	0.00	0.62	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Roediger Rd	0.00	2.56	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
White Wells Rd	0.00	1.15	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Winterfalls Rd	0.00	0.77	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Emmet Place	0.00	0.10	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.

Location	Start SLK	End SLK	Condition Rating	Service Deficiency
Lee Crescent	0.19	0.26	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Piccadilly Trail	0.75	1.85	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Lott Rd	0.00	1.20	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Hoops Rd	0.43	0.50	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
McCarthy Place	0.00	0.12	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Janet Millet Lane	0.01	0.19	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Morris Edwards Track	0.00	0.48	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Morris Edwards Track	0.48	0.84	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Flea Pool Track	0.00	1.20	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Near Warding Rd	0.00	4.68	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Twelfth Rd	0.00	0.27	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Seventh Rd	0.08	0.15	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Caljie Rd	0.00	1.75	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
McDougall Rd	0.00	2.30	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Greenhills Rail Access	0.00	0.41	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Myanarra Rd	0.00	1.83	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Unknown Rd	0.00	0.73	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Duperouzel Rd	0.00	0.88	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Rudall Rd	0.00	0.34	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Penny Lane (Kauring)	0.00	0.26	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Cowring St	0.00	0.60	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Cowring St	0.60	1.08	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Unnamed (Kauring)	0.40	0.87	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Whitfield St	0.00	0.41	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.

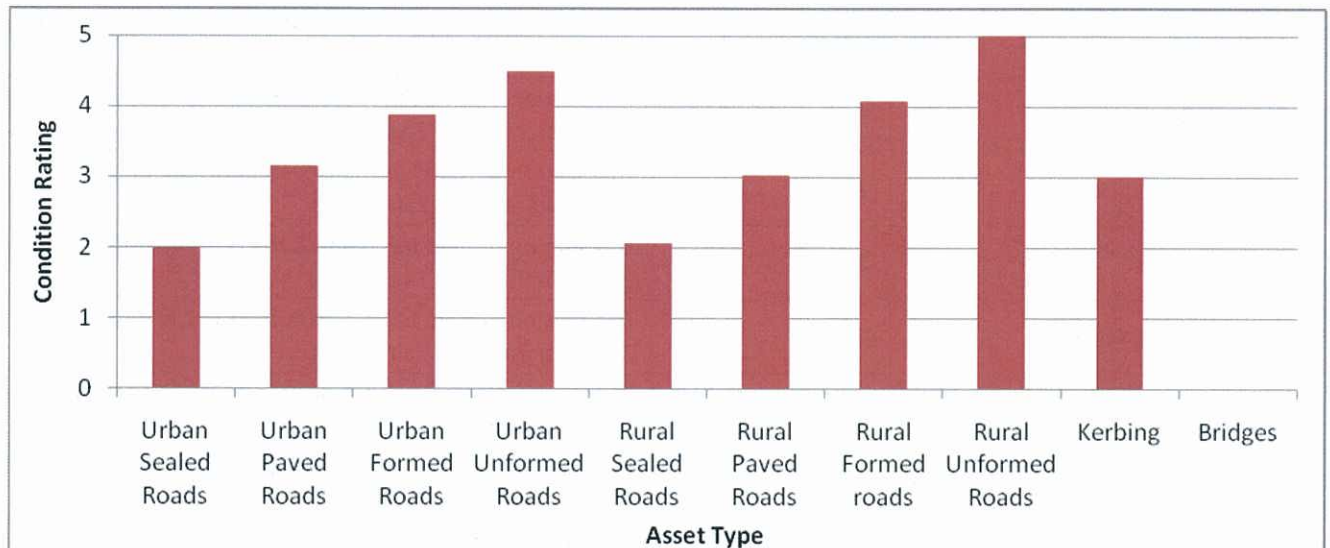
Location	Start SLK	End SLK	Condition Rating	Service Deficiency
Burges Siding Access	0.00	0.15	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Attfield Access	0.00	0.24	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Attfield Access	0.24	0.44	4	This section of road has major defects in the unsealed shape. Condition rating of Fair-Minus.
Attfield Access	0.44	0.75	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Talbot Hall Access	0.00	0.44	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.
Phelps Way	0.00	0.45	5	This section of road has extreme defects in the unsealed shape. Condition rating of Poor.

The above service deficiencies were identified from road condition ratings provided by Cardno BSD sourced from the RoMan Road Management System for the Shire of York.

5.1.3 Asset condition

The condition profile of assets included within this AM Plan is shown in Figure 3.

Figure 3: Asset Group Average Condition Profile



Condition is measured using a 1 – 5 rating system⁶ as detailed in Table 5.1.3.

Table 5.1.3: IIMM Description of Condition

Condition Rating	Description
1	Good condition: Only planned maintenance required.
2	Fair-Plus condition: Minor defects only, minor maintenance required plus planned maintenance (5%).
3	Fair condition: Significant maintenance required to return to acceptable level of service (10-20%).
4	Fair-Minus condition: Significant renewal/upgrade required (20-50%).

⁶ IIMM 2006, Appendix B, p B:1-3 ('cyclic' modified to 'planned', 'average' changed to 'fair')

Condition Rating	Description
5	Poor condition: Asset unserviceable, over 50% of asset requires replacement.

5.1.4 Asset valuations

The value of assets recorded in the asset register as at 2012 covered by this asset management plan is shown below. Assets were last revalued at June 2011.

Current Replacement Cost	\$73,752,358
Depreciable Amount	\$20,001,275
Depreciated Replacement Cost	\$13,199,859
Annual Depreciation Expense	\$795,000

Council's sustainability reporting reports the rate of annual asset consumption and compares this to asset renewal and asset upgrade and expansion.

Asset Consumption (Depreciation/Depreciable Amount)	4.1%
Asset renewal (Capital renewal exp/Depreciable amount)	1.8%
Annual Upgrade/New (Capital upgrade exp/Depreciable amount)	7.9%
Annual Upgrade/New (including contributed assets)	7.9%

Council is currently renewing assets at 42.9% of the rate they are being consumed and increasing its asset stock by 7.9% each year.

To provide services in a financially sustainable manner, Council will need to ensure that it is renewing assets at the rate they are being consumed over the medium-long term and funding the life cycle costs for all new assets and services in its long term financial plan.

5.1.5 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.

Council's Road Asset hierarchy, based on the Main Roads WA Road Hierarchy for WA, is shown in Table 5.1.5.

Table 5.1.5: Road Asset Hierarchy

Asset Category	Service Hierarchy	Function	Service Level Objective
Rural Roads	Primary Distributor (PD)	Predominant purpose is the movement of inter-regional and/or cross town/city traffic (freeways, highways and main roads) Primary Distributors have a high degree of connectivity, connecting other Primary and Distributor roads.	Nil – These designated roads are the responsibility of Main Roads Western Australia.
	Regional Distributor Road (RD)	Predominant purpose is the linking of significant destinations and designed for efficient movement of people and goods between and within regions. Regional distributors have a high degree of connectivity, connecting to primary and other distributor roads.	2 lanes constructed to a pavement width of 10m, with a bitumen seal width of 7m and a left and right shoulder width of 1.5m. Design characteristics support an Average Annual Daily Traffic volume greater than 100 vehicles per day (vpd). Heavy vehicles permitted on road. Intersection treatments are controlled with measures such as signs and line marking. Road marked with centrelines, speed signs and guide signs.
	Local Distributor Road (LD)	Predominant purpose is the movement of traffic within local areas and connecting to high order Distributor Roads. Local Distributors have a medium degree of connectivity, connecting to Distributors and Access Roads.	Road constructed to a pavement width of 8m, and a left and right shoulder width of 1.0m. Design characteristics support an Average Annual Daily Traffic volume of up to 100 vpd. Heavy vehicle's permitted, but only to service properties and subject to designated as a permitted heavy vehicle route. Intersection treatments are controlled with minor local area traffic management such as signing. Road marked with speed and guide signs only.
	Paved Access Road (PA)	Predominant purpose is provision of vehicle access to abutting properties. Paved Access Roads have a low degree of connectivity, provided mainly for property access.	Road constructed to a pavement width of 7m, with a left and right shoulder width of 1.0m. Design characteristics support a maximum Average Annual Daily Traffic volume of up to 75 vpd. Heavy vehicles only permitted access to service local properties if road is designated as a permitted heavy vehicle route. Intersection treatments are self controlling. Road marked with guide signs only.
	Formed Access Road (FA)	Predominant purpose is provision of vehicle access to abutting properties. Paved Access Roads have a low degree of connectivity, provided mainly for property access.	Road formed to a width of 6m, with a left and right shoulder width of 1.0m. Design characteristics support a maximum Average Annual Daily Traffic volume of up to 50 vpd. Heavy vehicles only permitted access to service local properties if road is designated as a permitted heavy vehicle route. Intersection treatments are self controlling. Road marked with guide signs only.

Asset Category	Service Hierarchy	Function	Service Level Objective
Urban Roads	Primary Distributor (PD)	<p>Predominant purpose is the movement of inter-regional and/or cross town/city traffic (freeways, highways and main roads)</p> <p>Primary Distributors have a high degree of connectivity, connecting other Primary and Distributor roads.</p>	<p>Nil – These designated roads are the responsibility of Main Roads Western Australia.</p>
	District Distributor Road A (DA)	<p>Predominant purpose is the high capacity movement of traffic between industrial, commercial and residential areas. District Distributor A roads have a high degree of connectivity, connecting to Primary and/or other Distributor Roads.</p>	<p>2 to 4 lane road constructed and sealed. Design characteristics support an Average Annual Daily Traffic volume greater than 8,000 vehicles per day (vpd). Heavy vehicles permitted on road. Intersection treatments are controlled with appropriate measures such as traffic signals. Pedestrian access controlled with positive measures (pedestrian signals) for safety. Road marked with centrelines, speed signs and guide signs. Speed 60-80km/hr.</p>
	District Distributor Road B (DB)	<p>Predominant purpose is the reduced capacity but high movement of traffic between industrial, commercial and residential areas. District Distributor B roads have a high degree of connectivity, connecting to Primary and/or other Distributor Roads.</p>	<p>2 lane road constructed and sealed. Design characteristics support an Average Annual Daily Traffic volume greater than 6,000 vehicles per day (vpd). Heavy vehicles permitted on road. Intersection treatments are controlled with appropriate Local Area Traffic Management. Pedestrian access controlled with appropriate measures (medians, island refuges) for safety. Road marked with centrelines, speed signs and guide signs. Speed 60-70km/hr.</p>
	Local Distributor Road (LD)	<p>Predominant purpose is the movement of traffic within local areas and connecting to high order Distributor Roads. Local Distributors have a medium degree of connectivity, connecting to Distributors and Access Roads.</p>	<p>Road constructed to a pavement width of 8m. Design characteristics support an Average Annual Daily Traffic volume of up to 6,000 vpd. Heavy vehicle's permitted, but only to service properties and subject to designated as a permitted heavy vehicle route. Intersection treatments are controlled with minor local area traffic management such as signing. Road marked with speed and guide signs only. Speed 50-60 km/hr.</p>
	Paved Access Road (PA)	<p>Predominant purpose is provision of vehicle access to abutting properties. Paved Access Roads have a low degree of connectivity, provided mainly for property access.</p>	<p>Road constructed to a width of 8m. Design characteristics support a maximum Average Annual Daily Traffic volume of up to 3,000 vpd. Heavy vehicles only permitted access to service local properties if road is designated as a permitted heavy vehicle route. Intersection treatments are self controlling. Speed 50-60 km/hr.</p>

5.2 Risk Management Plan

An assessment of risks⁷ 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 the organisation. 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 are summarised in Table 5.2.

Table 5.2: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Associated Costs
Road and/or Bridge	Poor condition of road and/or bridge causes damage to vehicle.	M	Establish routine inspection regime and customer request management system for capturing and analysis of reported problems and incidents.	TBC
Road and/or Bridge	Poor condition of asset causes injury	H	Establish routine inspection regime and customer request management system for capturing and analysis of reported problems and incidents.	TBC
Road	Poor road surface causing dust/noise complaints	M	Establish routine inspection regime and customer request management system for capturing and analysis of reported problems and incidents.	TBC
Road	Damage/injury caused by utility provider assets or work	M-H	Formalise process for recording defects and develop standard process for notification to utility provider.	TBC
Road	Loose material on surface, loose material on shoulders causing damage or injury	H	<ul style="list-style-type: none"> ▪ Monitor sediment deposits from rainfall events. ▪ Monitor degradation of gravel road surface during summer periods. 	TBC
Road and/or Bridge	Flooding causing damage to road and/or bridge	H	Evaluate appropriate designs for flood prone areas.	TBC
Road and/or Bridge	Damage caused by natural disaster	M	Monitor weather forecasting and general preparedness	TBC
Road	Road pavement irregularities causing complaints	M	Formalise level of service standards in consultation with community.	TBC

⁷Shire of Quairading Infrastructure Risk Management Plan

5.3 Routine Maintenance Plan

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 Maintenance plan

Maintenance includes 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 culverts and pipes, etc. This work may generally fall 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
2009/2010	\$672,360
2010/2011	\$666,567
2011/2012	\$710,000

Current maintenance expenditure levels are based on historical data to meet the basic level of service, and are considered to be inadequate to meet required service levels. Future revision of this asset management plan will include linking required maintenance expenditures with required service levels.

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

5.3.2 Standards and specifications

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

- Internal practices
- Accepted Industry Standards
- IPWEA standards.

5.3.3 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 2011 dollar values.

Figure 4: Projected Operations and Maintenance Expenditure



Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded are to be included in the risk assessment process in the infrastructure risk management plan. Maintenance is funded from the operating budget and grants where available. This is further discussed in Section 6.2.

5.4 Renewal/Replacement Plan

Renewal expenditure is major work that does not increase the asset’s design capacity but restores, rehabilitates, replaces or renews an existing asset to its original 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 are identified from one of three methods provided in the ‘Expenditure Template’.

- Method 1 uses Asset Register data to project the renewal costs for renewal years using acquisition year and useful life, 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’.

Method 2 was used for this asset management plan. The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.4.1.

Table 5.4.1: Renewal Priority Ranking Criteria

Criteria	Weighting
Regional Distributor Roads (Rural)	No current weighting or ranking
Rural School Bus Routes	No current weighting or ranking
Local Distributor Roads (Rural)	No current weighting or ranking
Local Distributor Roads (Urban)	No current weighting or ranking
Access Roads (Rural)	No current weighting or ranking
Access Roads (Urban)	No current weighting or ranking
Total	%

Renewal will be undertaken using 'low-cost' renewal methods where practical. The aim of 'low-cost' renewals is to restore the service potential or future economic benefits of the asset by renewing the assets at a cost less than replacement cost.

Examples of low cost renewal include will be included in future updates of this Plan.

5.4.2 Renewal standards

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

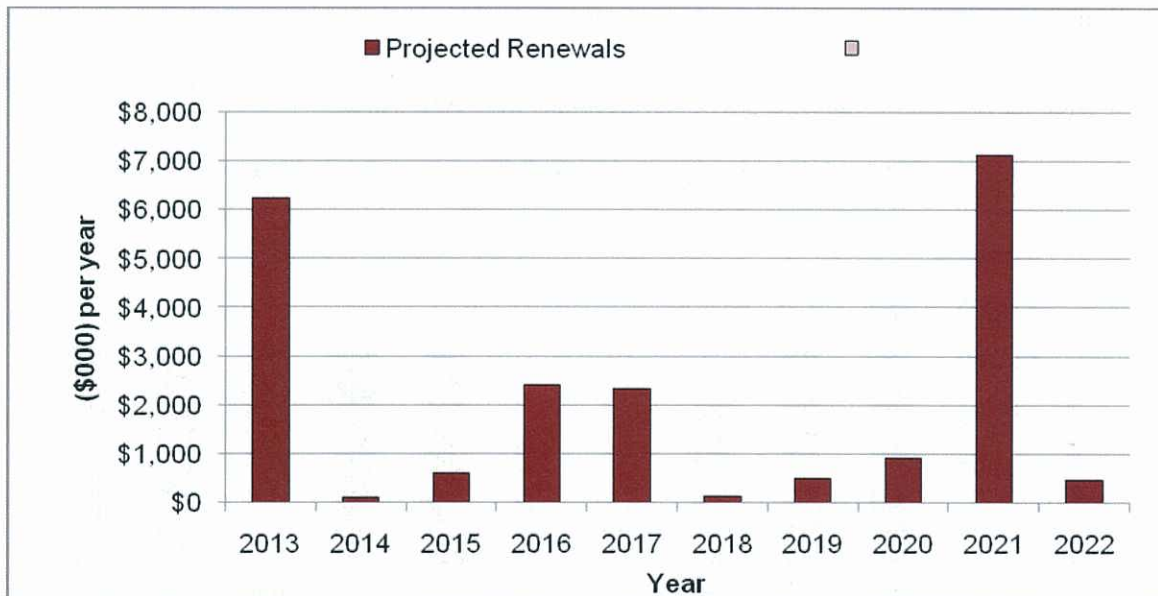
- Sealed Local Roads Manual, ARRB July 2005
- Unsealed Roads Manual, ARRB April 2009
- Occupational Health and Safety Standards
- Australian Asphalt Pavement Association Standards
- Acceptable Industry Standards

5.4.3 Summary of projected renewal expenditure

Projected future renewal expenditures are forecast to increase over time as the asset stock ages. The costs are summarised in Figure 5. Note that all costs are shown in 2011dollar values.

The projected capital renewal program is shown in Appendix B.

Figure 5: Projected Capital Renewal Expenditure



Deferred renewal, i.e. those assets identified for renewal and not scheduled for renewal in capital works programs are to be included in the risk assessment process in the risk management plan.

Renewals are to be funded from capital works programs and grants where available. 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 Council 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 estimate. Verified proposals are ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed in Table 5.5.1.

Table 5.5.1: Upgrade/New Assets Priority Ranking Criteria

Criteria	Weighting
	No current weighting or ranking
	No current weighting or ranking
	No current weighting or ranking
	No current weighting or ranking
	No current weighting or ranking
	No current weighting or ranking
Total	%

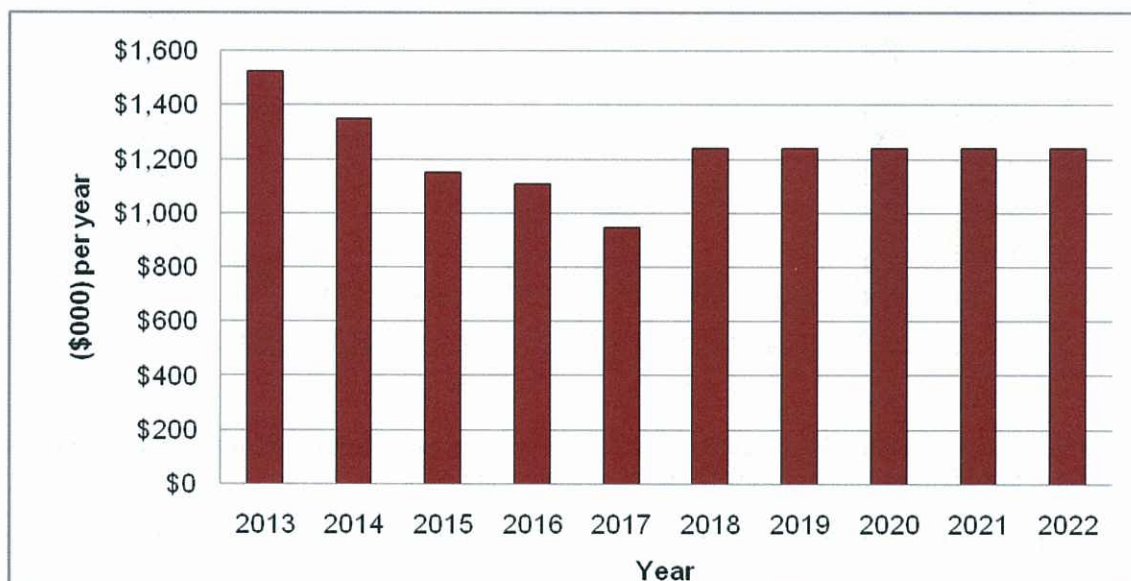
5.5.2 Standards and specifications

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 projected upgrade/new assets expenditure

Projected upgrade/new asset expenditures are summarised in Figure 6. The projected upgrade/new capital works program is shown in Appendix C. All costs are shown in current 2011dollar values.

Figure 6: Projected Capital Upgrade/New Asset Expenditure



New assets and services are to be funded from capital works program and grants where available. This is further discussed in Section 6.2.

5.6 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6, together with estimated annual savings from not having to fund operations and maintenance of the assets. These assets will be

further reinvestigated to determine the required levels of service and see what options are available for alternate service delivery, if any.

Where cashflow projections from asset disposals are not available, these will be developed in future revisions of this asset management plan.

Table 5.6: Assets identified for Disposal

Asset	Reason for Disposal	Timing	Net Disposal Expenditure (Expend +ve, Revenue -ve)	Operations & Maintenance Annual Savings
Nil.	Nil.	Nil.	Nil.	Nil

6. FINANCIAL SUMMARY

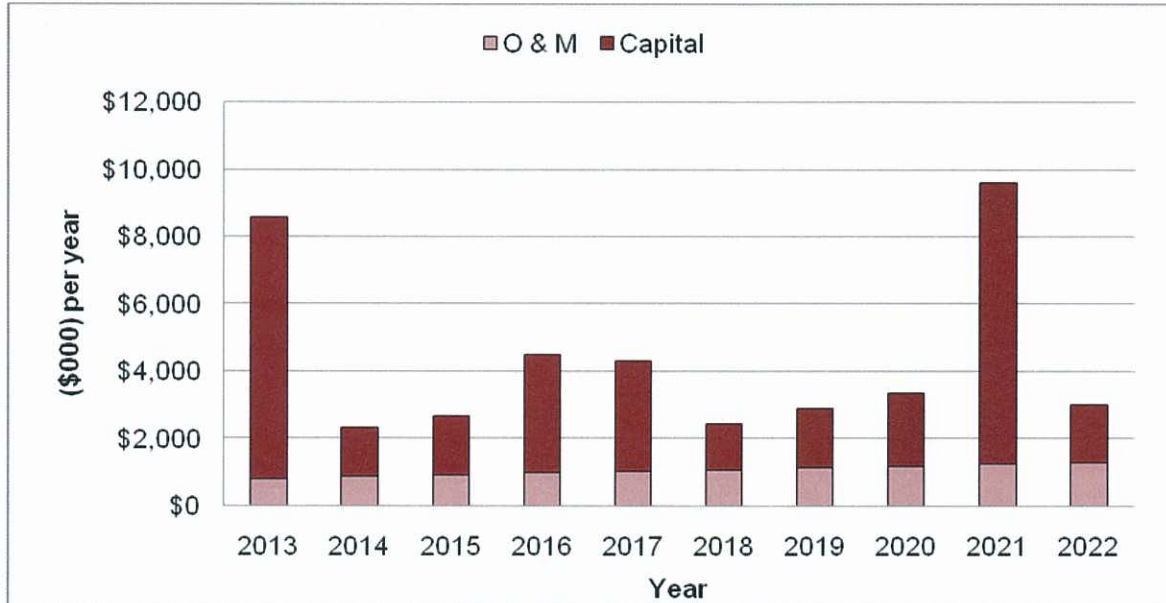
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset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

6.1 Financial Statements and Projections

The financial projections are shown in Figure 7 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets), net disposal expenditure and estimated budget funding.

Note that all costs are shown in 2011dollar values.

Figure 7: Projected Operating and Capital Expenditure and Budget



6.1.1 Financial sustainability in service delivery

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

Long term - Life Cycle Cost

Life cycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the longest asset life. Life cycle costs include operations and maintenance expenditure and asset consumption (depreciation expense). The life cycle cost for the services covered in this asset management plan is \$1,607,000 per year (operations and maintenance expenditure plus depreciation expense in year 1).

Life cycle costs can be compared to life cycle expenditure to give an indicator of sustainability in service provision. Life cycle expenditure includes operations, maintenance and capital renewal expenditure in year 1. Life cycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure at the start of the plan is \$1,153,000 (operations and maintenance expenditure plus budgeted capital renewal expenditure in year 1).

A shortfall between life cycle cost and life cycle expenditure is the life cycle gap.

The long term life cycle gap for services covered by this asset management plan is (\$454,000) per year (-ve = gap, +ve = surplus).

Life cycle expenditure is 72% of life cycle costs giving a life cycle sustainability index of 0.72.

The life cycle costs and life cycle expenditure comparison highlights any difference between present outlays and the average cost of providing the service over the long term. If the life cycle expenditure is less than that life cycle cost, it is most likely that outlays will need to be increased or cuts in services made in the future.

Knowing the extent and timing of any required increase in outlays and the service consequences if funding is not available will assist organisations in providing services to their communities in a financially sustainable manner. This is the purpose of the asset management plans and long term financial plan.

Medium term – 10 year financial planning period

This asset management plan identifies the projected operations, maintenance and capital renewal expenditures required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

These projected expenditures may be compared to budgeted expenditures in the 10 year period to identify any funding shortfall. In a core asset management plan, a gap is generally due to increasing asset renewals for ageing assets.

The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is \$3,139,000 per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$1,325,000 per year giving a 10 year funding shortfall of (\$1,814,000) per year and a 10 year sustainability indicator of 0.42. This indicates that Council has 42% of the projected expenditures needed to provide the services documented in the asset management plan.

Medium Term – 5 year financial planning period

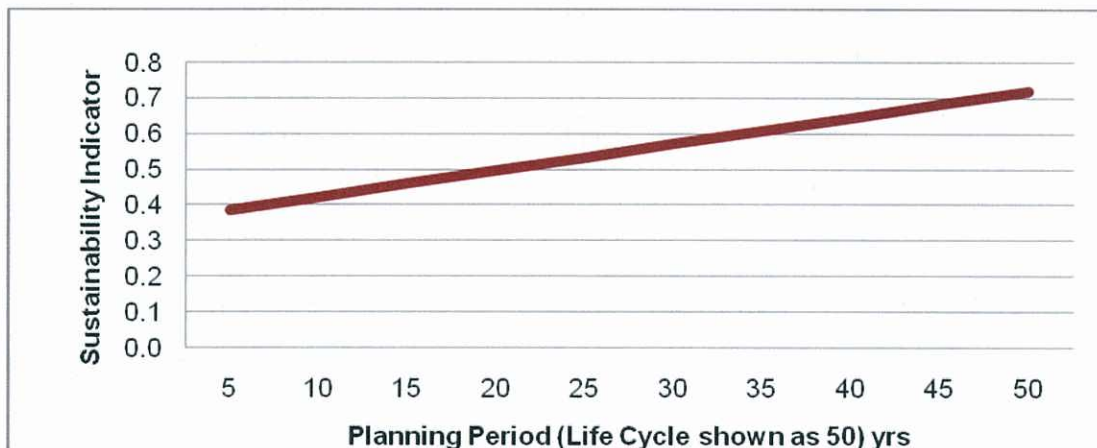
The projected operations, maintenance and capital renewal expenditure required over the first 5 years of the planning period is \$3,259,000 per year.

Estimated (budget) operations, maintenance and capital renewal funding is \$1,254,000 per year giving a 5 year funding shortfall of (\$2,005,000). This is 38% of projected expenditures giving a 5 year sustainability indicator of 0.38.

Financial Sustainability Indicators

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

Figure 7A: Financial Sustainability Indicators



Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and funding to achieve a financial sustainability indicator of 1.0 for the first years of the asset management plan and ideally over the 10 year life of the AMPlan.

Figure 8 shows the projected asset renewals in the 10 year planning period from Appendix B. The projected asset renewals are compared to budgeted renewal expenditure in the capital works program and capital renewal expenditure in year 1 of the planning period in Figure 8.

Figure 8: Projected and Budgeted Renewal Expenditure

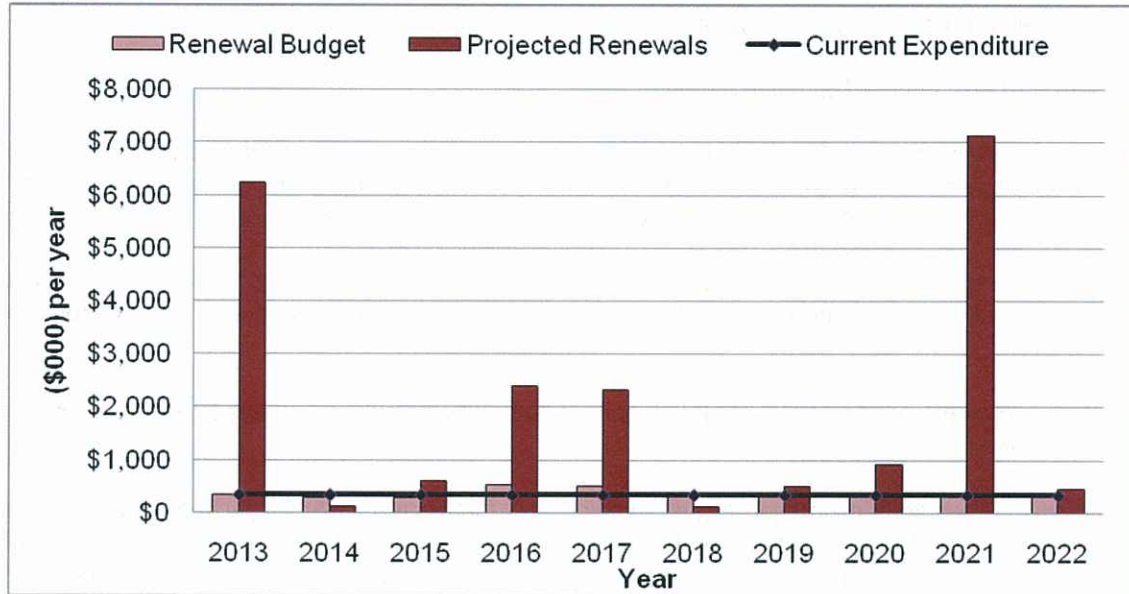


Table 6.1.1 shows the shortfall between projected and budgeted renewals

Table 6.1.1: Projected and Budgeted Renewals and Expenditure Shortfall

Year	Projected Renewals (\$000)	Planned Renewal (Budget) (\$000)	Renewal Funding Shortfall (\$000) (-ve Gap, +ve Surplus)	Cumulative Shortfall (\$000) (-ve Gap, +ve Surplus)
2012	\$6,238	\$341	-\$5,897	-\$5,897
2013	\$113	\$290	\$177	-\$5,720
2014	\$595	\$300	-\$295	-\$6,015
2015	\$2,404	\$529	-\$1,875	-\$7,890
2016	\$2,338	\$500	-\$1,838	-\$9,728
2017	\$128	\$397	\$269	-\$9,459
2018	\$507	\$397	-\$110	-\$9,569
2019	\$923	\$397	-\$526	-\$10,095
2020	\$7,124	\$397	-\$6,727	-\$16,822
2021	\$471	\$397	-\$74	-\$16,896

Note: A negative shortfall indicates a funding gap; a positive shortfall indicates a surplus for that year.

Providing services in a sustainable manner will require matching of projected asset renewals to meet agreed service levels with planned capital works programs and available revenue.

A gap between projected asset renewals, planned asset renewals and funding indicates that further work is required to manage required service levels and funding to eliminate any funding gap.

We will manage the 'gap' by developing this asset management plan to provide guidance on future service levels and resources required to provide these services, and review future services, service levels and costs with the community.

6.1.2 Expenditure projections 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 current (non-inflated) values. Disposals are shown as net expenditures (revenues are negative).

Table 6.1.2: Expenditure Projections for Long Term Financial Plan (\$000)

Year	Operations (\$000)	Maintenance (\$000)	Projected Capital Renewal (\$000)	Capital Upgrade/ New (\$000)	Disposals (\$000)
2012	\$102	\$710	\$6,238	\$1,522	\$0
2013	\$122	\$748	\$113	\$1,351	\$0
2014	\$140	\$785	\$595	\$1,149	\$0
2015	\$156	\$820	\$2,404	\$1,110	\$0
2016	\$171	\$856	\$2,338	\$949	\$0
2017	\$185	\$890	\$128	\$1,242	\$0
2018	\$202	\$928	\$507	\$1,242	\$0
2019	\$220	\$967	\$923	\$1,242	\$0
2020	\$237	\$1,007	\$7,124	\$1,242	\$0
2021	\$255	\$1,048	\$471	\$1,242	\$0

Note: All projected expenditures are in 2012 values

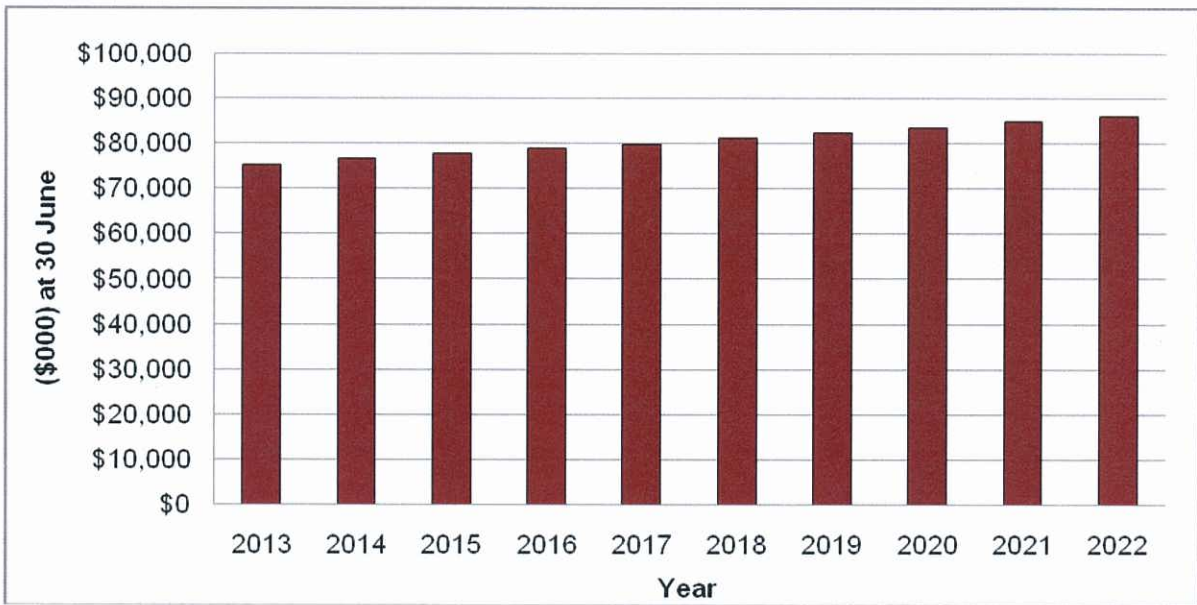
6.2 Funding Strategy

Projected expenditure identified in Section 6.1 is to be funded from future operating and capital budgets. The funding strategy is detailed in the organisation's 10 year long term financial plan.

6.3 Valuation Forecasts

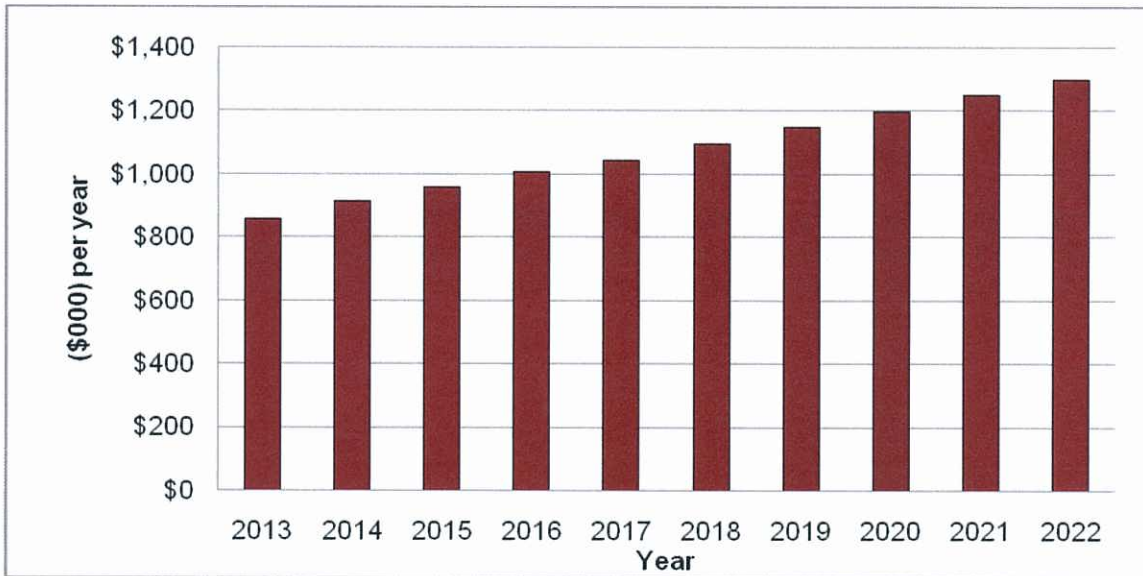
Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated to Council. Figure 9 shows the projected replacement cost asset values over the planning period in 2011 dollar values.

Figure 9: Projected Asset Values



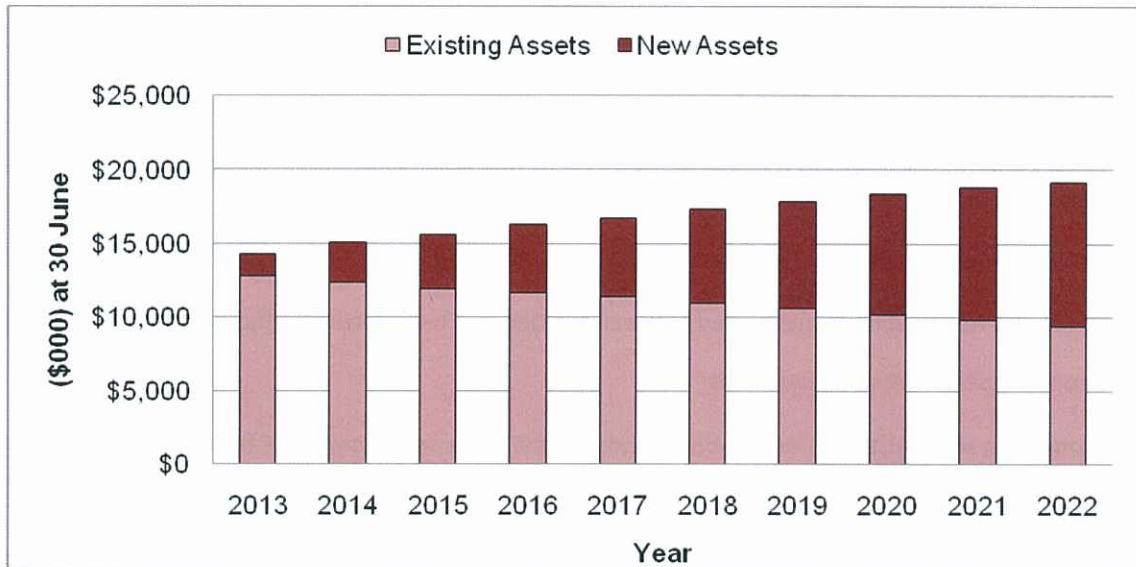
Depreciation expense values are forecast in line with asset values as shown in Figure 10.

Figure 10: Projected Depreciation Expense



The depreciated replacement cost (current replacement cost less accumulated depreciation) 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 effect of contributed and new assets on the depreciated replacement cost is shown in the light colour bar.

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 are:

- Roads and Bridges assets will remain in Council's care, control and management throughout the planning period.
- Maintenance costs are largely based on historical expenditure and it is assumed there will be no significant increases in service requirements.
- Valuation and condition information prepared by Cardno BSD in March 2011 has determined the asset values

7. ASSET MANAGEMENT PRACTICES

7.1 Accounting/Financial Systems

7.1.1 Accounting and financial systems

The Shire of York uses the SynergySoft financial software for its financial management system and uses RoMan and the integrated asset register module in SynergySoft for asset accounting purposes.

7.1.2 Accountabilities for financial systems

Accountabilities and responsibilities are divided between the Deputy Chief Executive Officer and Finance Staff.

7.1.3 Accounting standards and regulations

As well as complying with Australian Accounting Standards, the Shire must comply with the Western Australia Local Government Act 1995 and the Local Government (Finance) Regulations 1996. Accounting Standard AASB116 – “Property, Plant and Equipment” is the significant regulatory requirement relevant to accounting for assets.

7.1.4 Capital/maintenance threshold

The Shire, as a general rule, applies a Capital Threshold limit of \$1,000 for expenditure that is expensed in the current year. Expenditure over \$1,000 on an asset is classed as capital expenditure and capitalised against the asset.

7.1.5 Required changes to accounting financial systems arising from this AMPlan

The general ledger in SynergySoft may require recoding to allow Council to differentiate between operational costs, maintenance costs, upgrades/expansion, new and renewal costs. Further research is required to ascertain if this recoding is necessary.

7.2 Asset Management Systems

7.2.1 Asset management system

The Asset Management system consists of the RoMan database and current operating procedures.

7.2.2 Asset registers

The Shire maintains an Asset Register in SynergySoft in conjunction with the RoMan database for this asset class.

7.2.3 Linkage from asset management to financial system

The linkage from the financial system to the asset register is integrated, with officers inputting data into the creditors system which links through to the Asset Register module; and then the Shire utilises a bureau service from Cardno BSD to manage the input into the RoMan system.

7.2.4 Accountabilities for asset management system and data

Accountabilities and responsibilities are divided between the Finance staff and the Works Manager. The Works Manager provides information on the relevant assets and allocates costs associated with payroll and purchasing systems. The Finance staff create the records within the Asset Register and post expenditure direct to the general ledger and update the Asset Register. Road data is then forwarded to Cardno BSD to update to RoMan database.

7.2.5 Required changes to asset management system arising from this AMPlan

No changes have been identified to the asset management system, but subsequent revisions of this Roads and Bridges Asset Management Plan may identify further improvements to the existing system.

7.3 Information Flow Requirements and Processes

The key information flows *into* this asset management plan are:

- Council strategic and operational plans,
- Service requests from the community,
- Network asset information,
- The unit rates for categories of work/materials,
- Current levels of service, expenditures, service deficiencies and service risks,
- Projections of various factors affecting future demand for services and new assets acquired by Council,
- Future capital works programs,
- Financial asset values.

The key information flows *from* this asset management plan are:

- The projected Works Program and trends,
- The resulting budget and long term financial plan expenditure projections.
- Financial sustainability indicators.

These will impact the Long Term Financial Plan, Corporate Business Plan, Annual Budget and Departmental Business Plans and Budgets.

7.4 Standards and Guidelines

Standards, guidelines and policy documents referenced in this asset management plan are:

- Shire of York Asset Capitalisation Threshold Policy
- Shire of York Asset Management Policy
- Shire of York Asset Management Strategy
- Australian Standards
- Australian Road Research Board Sealed and Unsealed Roads Management Manuals

8. PLAN IMPROVEMENT AND MONITORING

8.1 Performance Measures

The effectiveness of the asset management plan can be measured in the following ways:

- The degree to which the required cashflows identified in this asset management plan are incorporated into the organisation’s long term financial plan and Community/Strategic Planning processes and documents,
- 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;

8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 8.2.

Table 8.2: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1	Conduct detailed inspection of all Roads and Bridges assets with a Fair-Minus and Poor condition rating to determine renewal requirements.	Works Manager	Internal	June 2013
2	Assess the first year of the Plan against actual costs	Works Manager	Internal	June 2013
3	Prepare and prioritise a long term plan and ranking systems for renewal & upgrade/new expenditure	CEO/Works Manager	Internal	June 2013
4	Review of road maintenance practices to ensure alignment with service level requirements.	CEO/Works Manager	Internal	Annually
5	Ongoing rolling program of data collection (every 4 years).	Works Manager	External Contractor	Every 4 Yrs
6	Review service levels and commence internal and Elected Member consultation on service level provision	CEO/Works Manager	Internal	June 2014
7	Community consultation on service level provision	CEO	TBA	June 2015

8.3 Monitoring and Review Procedures

This asset management plan will be reviewed during annual budget preparation and amended to recognise any material changes in service levels and/or resources available to provide those services as a result of the budget decision process.

The Plan has a life of 4 years and a major revision is to be done within six months of its expiry.

REFERENCES

Shire of York Plan for the Future

Shire of York 2011/12 Annual Budget

Shire of York Forward Capital Works Plan 2010/11 – 2014/15

Shire of York RoMan 10 Year Predicted Works Program, March 2011

Shire of York RoMan Road Asset Valuations and Condition Ratings, March 2011

DVC, 2006, *Asset Investment Guidelines*, Glossary, Department for Victorian Communities, Local Government Victoria, Melbourne, <http://www.dpcd.vic.gov.au/localgovernment/publications-and-research/asset-management-and-financial>

IPWEA, 2006, *International Infrastructure Management Manual*, Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au

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, *Asset Management for Small, Rural or Remote Communities* Practice Note, Institute of Public Works Engineering Australia, Sydney, www.ipwea.org.au/AM4SRRC

DLG, 2011, *Asset Management Framework and Guidelines*, Department of Local Government, Western Australia, <http://integratedplanning.dlg.wa.gov.au/DeliverAssetManagement.aspx>

WAPC, 2012, *WA Tomorrow Report 2012*, Western Australian Planning Commission, Western Australia

ABS, 2012, *2011 Census Community Profiles– Quairading Local Government Area*, Australian Bureau of Statistics, http://www.censusdata.abs.gov.au/census_services/getproduct/census/2011/communityprofile/LGA50770?opendocument&navpos=230

APPENDICES

- Appendix A Maintenance Response Levels of Service

- Appendix B Projected 10 year Capital Renewal Works Program

- Appendix C Planned Upgrade/Exp/New 10 year Capital Works Program A

- Appendix D Abbreviations

- Appendix E Glossary

Appendix A Maintenance Response Levels of Service

ROUTINE MAINTENANCE ITEMS	INTERVENTION LEVELS	RESPONSE TIME BY CLASS				
		Regional	Distributor	Access	Local	Formed
1.0 - UNSEALED ROADS & SHOULDERS						
1.1 Pothole Maintenance	Any pothole with depth > 300mm	2 Weeks	4 Weeks	12 Weeks	16 Weeks	20 Weeks
1.2 Repair of general pavement defects	Scouring or corrugations > 100mm depth and length < 20m	6 Weeks	10 Weeks	12 Weeks	12 Weeks	N/A
1.3 Management of loose material	Loose material > 100mm depth at any location on the pavement and < 20m ²	2 Weeks	4 Weeks	4 Weeks	4 Weeks	N/A
1.4 Maintenance of shoulders and verges	Any scouring, corrugations or potholing with depth > 100mm	2 Weeks	2 Weeks	4 Weeks	4 Weeks	N/A
2.0 - SEALED ROADS						
2.1 Pothole Maintenance	Any pothole with depth > 75mm	2 Weeks	4 Weeks	8 Weeks	12 Weeks	N/A
	Any pothole with depth > 40mm and dimension of 350mm	2 Weeks	4 Weeks	8 Weeks	12 Weeks	N/A
2.2 Seal Texture Maintenance	Crocodile cracking > 10m ²	8 Weeks	8 Weeks	16 Weeks	16 Weeks	N/A
	Longitudinal cracking > 20m ²	16 Weeks	16 Weeks	32 Weeks	52 Weeks	N/A
	Flushing > 5m ²	16 Weeks	16 Weeks	32 Weeks	52 Weeks	N/A
	Stripping > 5m ²	16 Weeks	16 Weeks	32 Weeks	52 Weeks	N/A
2.3 Edge Break Maintenance	Edge break > 250mm from nominal seal edge	1 Week	1 Week	2 Weeks	4 Weeks	N/A
2.4 Edge Drop Off Maintenance	Edge drop with depth > 100mm and > 20m length	1 Week	1 Week	2 Weeks	4 Weeks	N/A
3.0 - DRAINAGE						
3.1 Table drain and open drain maintenance	Isolated blockages (> 10 lm and/or > 2m ³)	4 Weeks	8 Weeks	12 Weeks	16 Weeks	24 Weeks
3.2 Kerb and gutter maintenance	> 50% of cross sectional area blocked	8 weeks	8 Weeks	16 Weeks	16 Weeks	N/A
	Isolated blockages (< 5 lm and/or > 30% cross sectional area)	16 Weeks	16 Weeks	24 Weeks	24 Weeks	N/A
4.0 - ROADSIDE, VERGE & SAFETY						
4.1 Guideposts Replacement	Identify & replace all missing or damaged guideposts	4 Weeks	8 Weeks	12 Weeks	16 Weeks	N/A
4.2 Delineator Replacement	For all traffic devices that have delineators, replace any missing or damaged delineators	4 Weeks	8 Weeks	12 Weeks	16 Weeks	N/A
4.3 Sign Straightening	Intervention require when sign is: (a) leaning from vertical and/or rotated from correct position > 45°. (b) vertically displaced by > 0.5m.	4 Weeks	4 Weeks	6 Weeks	8 Weeks	N/A
4.4 Management of sight distance to signs	Vegetation that impedes sight distance to signs from distance of 200m from approaching vehicle	4 Weeks	6 Weeks	8 Weeks	12 Weeks	N/A

Appendix B Projected 10 year Capital Renewal Works Program

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
1	YORK-TAMMIN RD	Chip reseal	0.04	0.7	2013	23,961
1	YORK-TAMMIN RD	Chip reseal	2.07	5.47	2013	112,497
1	YORK-TAMMIN RD	Chip reseal	7.46	9.44	2013	54,292
1	YORK-TAMMIN RD	Chip reseal	9.95	11.31	2013	35,624
1	YORK-TAMMIN RD	Chip reseal	19.74	20.43	2013	17,757
1	YORK-TAMMIN RD	Chip reseal	20.88	21.34	2013	11,838
1	YORK-TAMMIN RD	Chip reseal	21.54	21.92	2013	9,779
1	YORK-TAMMIN RD	Chip reseal	27.38	27.74	2013	11,416
1	YORK-TAMMIN RD	Chip reseal	31.05	31.26	2013	5,790
2	MANNAVALE RD	Chip reseal	0.17	1.86	2013	43,492
2	MANNAVALE RD	Chip reseal	2.92	4.6	2013	33,198
2	MANNAVALE RD	Chip reseal	6.37	7.7	2013	21,393
2	MANNAVALE RD	Chip reseal	8.43	13.35	2013	79,136
3	TALBOT RD	Chip reseal	0	0.05	2013	1,585
3	TALBOT RD	Chip reseal	0.93	0.99	2013	1,793
3	TALBOT RD	Chip reseal	1.1	1.41	2013	8,547
3	TALBOT RD	Chip reseal	4.37	6.19	2013	44,309
3	TALBOT RD	Chip reseal	6.89	10.12	2013	70,211
3	TALBOT RD	Chip reseal	10.45	11.9	2013	33,364
3	TALBOT RD	Chip reseal	13.27	15.2	2013	44,852
3	TALBOT RD	Chip reseal	15.58	15.96	2013	10,569
4	SPENCERS BROOK-YORK RD	Chip reseal	3.82	4.47	2013	16,726
4	SPENCERS BROOK-YORK RD	Chip reseal	5.67	7.33	2013	42,719
4	SPENCERS BROOK-YORK RD	Chip reseal	7.7	8.69	2013	26,441
4	SPENCERS BROOK-YORK RD	Chip reseal	8.86	9.98	2013	28,823
4	SPENCERS BROOK-YORK RD	Chip reseal	13.43	16.13	2013	90,576
4	SPENCERS BROOK-YORK RD	Chip reseal	17	17.84	2013	24,172
4	SPENCERS BROOK-YORK RD	Chip reseal	18.64	20.83	2013	59,928
5	BURGES SIDING RD	Chip reseal	1.53	1.56	2013	993
6	QUELLINGTON RD	Chip reseal	0	0.04	2013	1,103
6	QUELLINGTON RD	Chip reseal	2.05	7.46	2013	36,782
6	QUELLINGTON RD	Chip reseal	7.83	11.1	2013	70,236
6	QUELLINGTON RD	Chip reseal	11.14	17.6	2013	113,112
7	GWAMBYGINE EAST RD	Chip reseal	0.3	0.75	2013	11,374
7	GWAMBYGINE EAST RD	Chip reseal	2.21	2.54	2013	10,161
8	DOODENANNING RD	Chip reseal	1.79	10.07	2013	170,073
8	DOODENANNING RD	Chip reseal	12.03	12.8	2013	24,769
9	TOP BEVERLEY-YORK RD	Chip reseal	0	0.04	2013	3,510
9	TOP BEVERLEY-YORK RD	Chip reseal	0.12	0.4	2013	10,294
9	TOP BEVERLEY-YORK RD	Chip reseal	3.15	4.06	2013	23,836
10	MOKINE RD	Chip reseal	0.12	0.51	2013	10,574
10	MOKINE RD	Chip reseal	5.7	6.98	2013	29,199
10	MOKINE RD	Chip reseal	7.35	8.74	2013	26,764
18	TREWS RD	Chip reseal	0.33	1.12	2013	21,516
19	QUALEN WEST RD	Chip reseal	1.04	2	2013	27,794
19	QUALEN WEST RD	Chip reseal	5.37	6.5	2013	28,561
19	QUALEN WEST RD	Chip reseal	7.3	9.61	2013	58,388
20	CUT HILL RD	Chip reseal	0.13	1.14	2013	19,048
28	KNOTTS RD	Chip reseal	0.24	0.9	2013	18,418
28	KNOTTS RD	Chip reseal	1.45	1.54	2013	2,978

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
28	KNOTTS RD	Chip reseal	1.78	2.29	2013	14,062
28	KNOTTS RD	Chip reseal	2.96	3.48	2013	14,667
28	KNOTTS RD	Chip reseal	4.58	4.68	2013	2,757
38	CUBBINE RD	Chip reseal	0	4.16	2013	90,679
38	CUBBINE RD	Chip reseal	7.22	7.42	2013	5,147
46	HAMERSLEY SIDING RD	Chip reseal	9.28	9.5	2013	6,066
69	MARWICK RD	Chip reseal	0.03	4.04	2013	103,196
82	BOYLE RD	Chip reseal	0.28	0.32	2013	735
86	BUCKINGHAM RD	Chip reseal	0.85	2.7	2013	51,093
89	AVON TCE	Chip reseal	0	0.22	2013	9,706
89	AVON TCE	Chip reseal	0.52	1.32	2013	35,945
89	AVON TCE	Chip reseal	1.37	1.69	2013	21,747
90	ULSTER RD	Chip reseal	1.35	2.01	2013	20,927
90	ULSTER RD	Chip reseal	2.12	2.52	2013	11,764
91	GREY ST	Chip reseal	0	0.12	2013	4,963
92	TENTH RD	Chip reseal	0.34	1.07	2013	16,774
94	SOUTH ST	Chip reseal	0	0.03	2013	1,103
94	SOUTH ST	Chip reseal	0.61	0.76	2013	6,480
95	FORD ST	Chip reseal	1.16	1.28	2013	3,861
96	CENTENNIAL DR	Chip reseal	0	0.27	2013	9,430
98	BROOME ST	Chip reseal	0.18	0.25	2013	2,638
99	JOAQUINA ST	Chip reseal	0	0.02	2013	1,066
108	CARTER RD	Chip reseal	1.58	1.61	2013	841
110	ELEVENTH RD	Chip reseal	1.06	1.39	2013	9,099
111	SCARPIA ST	Chip reseal	0	0.26	2013	9,596
115	SIXTH RD	Chip reseal	0	0.45	2013	10,340
116	MOUNT ST	Chip reseal	0	0.21	2013	7,239
117	HERBERT RD	Chip reseal	0.14	0.38	2013	5,847
117	HERBERT RD	Chip reseal	1.03	1.05	2013	551
118	NEW ST	Chip reseal	0.25	0.36	2013	5,712
119	NEWCASTLE ST	Chip reseal	0	1.45	2013	44,400
122	BARKER ST	Chip reseal	0	0.08	2013	1,691
123	FORREST ST	Chip reseal	0.47	0.8	2013	12,904
124	GEORGE ST	Chip reseal	0	0.16	2013	4,338
125	MEARES ST	Chip reseal	0.35	0.47	2013	3,088
126	GILFORD ST	Chip reseal	0	0.34	2013	9,374
127	HOWICK ST	Chip reseal	0	0.27	2013	11,789
128	REDMILE RD	Chip reseal	0	0.27	2013	4,628
129	CLIFFORD ST	Chip reseal	0.37	0.51	2013	9,007
130	SUBURBAN RD	Chip reseal	0	0.08	2013	3,015
130	SUBURBAN RD	Chip reseal	0.48	0.5	2013	1,250
131	SEABROOK ST	Chip reseal	0	0.17	2013	3,984
133	STEERE RD	Chip reseal	0	0.06	2013	2,812
133	STEERE RD	Chip reseal	0.21	1.63	2013	36,543
135	RADNOR RD	Chip reseal	0	0.03	2013	591
136	HOPE ST	Chip reseal	0	0.43	2013	12,844
137	SCOTT ST	Chip reseal	0	0.33	2013	10,009
138	BOUVERIE RD	Chip reseal	0	0.52	2013	14,338
140	COWAN RD	Chip reseal	0.16	0.44	2013	7,721
150	GREENHILLS RD	Chip reseal	0	3.38	2013	70,127
150	GREENHILLS RD	Chip reseal	3.43	4.86	2013	35,487
152	RAILWAY ST	Chip reseal	0	0.27	2013	8,432

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
158	LOWE ST	Chip reseal	0	0.13	2013	5,436
158	LOWE ST	Chip reseal	0.16	0.27	2013	4,600
160	BIRCH ST	Chip reseal	0	0.16	2013	4,411
177	DAVIS ST	Chip reseal	0.09	0.15	2013	1,296
181	MACARTNEY ST	Chip reseal	0.18	0.31	2013	5,561
182	EDWARDS ST	Chip reseal	0	0.15	2013	4,205
185	HARVEY ST	Chip reseal	0	0.06	2013	2,068
189	WILLIAM ST	Chip reseal	0	0.19	2013	5,327
198	MORRIS EDWARDS DR	Chip reseal	0	0.01	2013	312
202	PELHAM ST	Chip reseal	0	0.02	2013	762
204	LEE CRES	Chip reseal	0.26	0.52	2013	7,169
208	ENSIGN DALE CT	Chip reseal	0	0.36	2013	9,761
219	PENNY DR	Chip reseal	0	3.09	2013	69,579
242	CEMETERY RD	Chip reseal	0.02	0.23	2013	3,860
245	ATTFIELD RD NORTH	Chip reseal	0	0.5	2013	15,749
250	RAILWAY CIRCLE	Chip reseal	0	0.12	2013	6,723
251	NEWCASTLE COURT	Chip reseal	0	0.04	2013	883
253	FOREMAN DRIVE	Chip reseal	0	0.43	2013	11,659
89	AVON TCE	Asphalt reseal	1.96	2.32	2013	107,335
95	FORD ST	Asphalt reseal	1.05	1.09	2013	10,763
99	JOAQUINA ST	Asphalt reseal	0.02	0.19	2013	47,803
171	MAXWELL ST	Asphalt reseal	0	0.02	2013	3,539
245	ATTFIELD RD NORTH	Asphalt reseal	0.77	0.81	2013	7,175
256	LANGFORD RD	Asphalt reseal	0	0.02	2013	2,909
7	GWAMBYGINE EAST RD	Unsealed road resheet	9.3	12.68	2013	171,031
8	DOODENANNING RD	Unsealed road resheet	14.37	15.8	2013	72,359
10	MOKINE RD	Unsealed road resheet	12.06	13.57	2013	68,020
11	OVENS RD	Unsealed road resheet	2.97	3.87	2013	40,542
11	OVENS RD	Unsealed road resheet	5.5	8.32	2013	127,029
12	TALBOT WEST RD	Unsealed road resheet	1.22	2	2013	39,469
12	TALBOT WEST RD	Unsealed road resheet	3.6	4.2	2013	30,360
13	TALBOT HALL RD	Unsealed road resheet	0	2.76	2013	108,995
13	TALBOT HALL RD	Unsealed road resheet	5.5	7.37	2013	73,848
17	BERRY BROW RD	Unsealed road resheet	0	1.1	2013	46,496
21	SANDGATE RD	Unsealed road resheet	3.49	4.24	2013	21,284
25	LENNARD RD	Unsealed road resheet	1.2	4.85	2013	164,418
29	WARDING RD	Unsealed road resheet	0	1.26	2013	63,756
29	WARDING RD	Unsealed road resheet	1.8	2.6	2013	40,480
29	WARDING RD	Unsealed road resheet	6.19	6.36	2013	7,186
33	STATION RD	Unsealed road resheet	3.14	4	2013	33,962
34	TAYLOR RD	Unsealed road resheet	1.46	3.9	2013	96,359
35	MACKIE RD	Unsealed road resheet	0	4.04	2013	181,985
37	BADGIN RD	Unsealed road resheet	0	5.11	2013	215,991
43	CAMERON RD	Unsealed road resheet	6.1	8.82	2013	113,636
44	MERCER RD	Unsealed road resheet	4.6	5.4	2013	24,927
46	HAMERSLEY SIDING RD	Unsealed road resheet	5.2	7.3	2013	88,764
49	WILBERFORCE RD	Unsealed road resheet	1.8	3.59	2013	70,689
49	WILBERFORCE RD	Unsealed road resheet	3.76	5.84	2013	82,141
51	ASHWORTH RD	Unsealed road resheet	2.72	4.13	2013	55,682
53	LU ELF RD	Unsealed road resheet	0.11	3.59	2013	145,429
60	HARDY RD	Unsealed road resheet	0	3.01	2013	127,228
74	MILLS RD	Unsealed road resheet	0	1.05	2013	32,716

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
75	GAULTS RD	Unsealed road resheet	0	0.21	2013	6,543
76	NARRALOGGAN RD	Unsealed road resheet	0.96	1.2	2013	8,145
79	KEEBLES RD	Unsealed road resheet	0	0.43	2013	14,591
79	KEEBLES RD	Unsealed road resheet	1.17	2.1	2013	34,144
81	RICKEYS SIDING RD	Unsealed road resheet	0.53	0.86	2013	11,198
84	CLUB HOTEL RD	Unsealed road resheet	0	0.9	2013	40,542
86	BUCKINGHAM RD	Unsealed road resheet	0	0.85	2013	24,124
86	BUCKINGHAM RD	Unsealed road resheet	3.01	3.41	2013	12,463
149	QUALEN RD	Unsealed road resheet	0	1.9	2013	64,479
149	QUALEN RD	Unsealed road resheet	2.7	7.2	2013	152,713
157	POOL ST	Unsealed road resheet	0	0.03	2013	1,351
168	REVETT PL	Unsealed road resheet	0	0.19	2013	6,114
184	NEVILLE ST	Unsealed road resheet	0	0.14	2013	5,140
190	GUILFOYLE RD	Unsealed road resheet	0	0.23	2013	7,805
212	LOTT RD	Unsealed road resheet	0	0.45	2013	15,271
224	GOLF CLUB ACCESS	Unsealed road resheet	0	0.5	2013	21,135
505	COWRING ST	Unsealed road resheet	0	0.6	2013	22,028
606	ATTFIELD ACCESS	Unsealed road resheet	0	0.24	2013	6,811
1	YORK-TAMMIN RD	Reconstruction	25.12	25.22	2013	14,554
6	QUELLINGTON RD	Reconstruction	2.05	2.47	2013	58,877
6	QUELLINGTON RD	Reconstruction	4.36	7.46	2013	440,687
10	MOKINE RD	Reconstruction	2.49	2.59	2013	15,892
19	QUALEN WEST RD	Reconstruction	11.44	11.54	2013	14,555
95	FORD ST	Reconstruction	1.05	1.09	2013	16,064
96	CENTENNIAL DR	Reconstruction	0.6	0.64	2013	7,963
119	NEWCASTLE ST	Reconstruction	1.1	1.15	2013	7,478
128	REDMILE RD	Reconstruction	0	0.08	2013	12,380
154	RIVER ST SECTION 2	Reconstruction	0	0.14	2013	18,502
156	CHRISTIE RETREAT	Reconstruction	0	0.1	2013	13,483
234	SEVENTH RD	Reconstruction	0	0.03	2013	3,644
						\$6,239,017

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
2	MANNAVALE RD	Chip reseal	7.7	8.43	2014	11,742
3	TALBOT RD	Chip reseal	2.97	4.37	2014	38,602
10	MOKINE RD	Chip reseal	0	0.12	2014	3,958
10	MOKINE RD	Chip reseal	0.51	0.88	2014	10,739
28	KNOTTS RD	Chip reseal	0	0.24	2014	6,618
28	KNOTTS RD	Chip reseal	1.54	1.78	2014	6,617
117	HERBERT RD	Chip reseal	0.94	1.03	2014	2,399
153	BROOK ST	Chip reseal	0	0.07	2014	1,769
5	BURGES SIDING RD	Asphalt reseal	0	0.03	2014	5,454
128	REDMILE RD	Reconstruction	0.08	0.27	2014	25,873
						\$113,771

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
1	YORK-TAMMIN RD	Chip reseal	21.92	23.3	2015	38,050
1	YORK-TAMMIN RD	Chip reseal	24.57	24.85	2015	7,206

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
1	YORK-TAMMIN RD	Chip reseal	25.84	27.38	2015	40,973
3	TALBOT RD	Chip reseal	1.41	2.97	2015	43,014
3	TALBOT RD	Chip reseal	11.9	13.27	2015	22,665
9	TOP BEVERLEY-YORK RD	Chip reseal	7	7.93	2015	23,933
19	QUALEN WEST RD	Chip reseal	4.5	5.37	2015	21,990
19	QUALEN WEST RD	Chip reseal	6.5	7.3	2015	20,220
90	ULSTER RD	Chip reseal	0.61	1.35	2015	22,760
92	TENTH RD	Chip reseal	0	0.34	2015	7,813
94	SOUTH ST	Chip reseal	0.03	0.44	2015	13,263
95	FORD ST	Chip reseal	0	0.37	2015	11,470
98	BROOME ST	Chip reseal	0	0.18	2015	5,459
104	ALFRED ST	Chip reseal	0.35	0.62	2015	7,941
105	HENRY RD	Chip reseal	0.57	1.05	2015	11,471
129	CLIFFORD ST	Chip reseal	0.19	0.37	2015	7,859
133	STEEER RD	Chip reseal	0.06	0.21	2015	5,101
139	THOMPSON ST	Chip reseal	0.21	0.22	2015	299
140	COWAN RD	Chip reseal	0.05	0.16	2015	3,033
140	COWAN RD	Chip reseal	0.48	0.9	2015	11,581
162	BAYLY RD	Chip reseal	0	1.1	2015	28,307
167	MANSFIELD ST	Chip reseal	0	0.32	2015	9,558
181	MACARTNEY ST	Chip reseal	0	0.11	2015	5,005
191	LITTLE ST	Chip reseal	0.22	0.35	2015	2,987
198	MORRIS EDWARDS DR	Chip reseal	0.82	1.9	2015	33,254
202	PELHAM ST	Chip reseal	0.02	0.34	2015	9,853
210	SYLVESTER CT	Chip reseal	0	0.3	2015	7,444
248	COWAN TRACK	Chip reseal	0	0.05	2015	919
181	MACARTNEY ST	Asphalt reseal	0.11	0.18	2015	16,799
4	SPENCERS BROOK-YORK RD	Reconstruction	7.7	8.48	2015	109,347
18	TREWS RD	Reconstruction	0.33	0.63	2015	45,255
						\$594,829

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
2	MANNAVALE RD	Chip reseal	1.86	2.92	2016	27,278
3	TALBOT RD	Chip reseal	0.05	0.72	2016	18,474
3	TALBOT RD	Chip reseal	6.19	6.89	2016	14,939
3	TALBOT RD	Chip reseal	10.12	10.45	2016	9,402
4	SPENCERS BROOK-YORK RD	Chip reseal	2.72	3.82	2016	28,309
4	SPENCERS BROOK-YORK RD	Chip reseal	16.13	17	2016	24,908
4	SPENCERS BROOK-YORK RD	Chip reseal	17.84	18.64	2016	22,058
8	DOODENANNING RD	Chip reseal	0	0.39	2016	9,025
9	TOP BEVERLEY-YORK RD	Chip reseal	4.06	4.51	2016	15,302
10	MOKINE RD	Chip reseal	11.85	12.06	2016	5,694
19	QUALEN WEST RD	Chip reseal	3.42	4.5	2016	29,614
51	ASHWORTH RD	Chip reseal	6.1	6.34	2016	6,617
89	AVON TCE	Chip reseal	1.32	1.37	2016	2,928
106	OSNABURG RD	Chip reseal	0	0.55	2016	15,671
107	BLAND RD	Chip reseal	0.56	1.1	2016	16,130
109	NORTH RD	Chip reseal	0	0.18	2016	4,963
110	ELEVENTH RD	Chip reseal	0.35	1.06	2016	17,619
118	NEW ST	Chip reseal	0	0.25	2016	12,982
119	NEWCASTLE ST	Chip reseal	1.45	1.52	2016	2,252

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
130	SUBURBAN RD	Chip reseal	0.26	0.48	2016	13,750
177	DAVIS ST	Chip reseal	0	0.09	2016	1,944
201	TRIGG ST	Chip reseal	0.11	0.23	2016	3,309
215	PLAUDIT ST	Chip reseal	0	0.26	2016	7,169
221	LEWIS RD	Chip reseal	0	0.37	2016	12,582
145	YARRA RD (F)	Unsealed road resheet	0	24.14	2016	1,343,607
146	NOCKINE RD (F)	Unsealed road resheet	0	9.88	2016	450,543
5	BURGES SIDING RD	Reconstruction	0.83	1.53	2016	113,120
89	AVON TCE	Reconstruction	1.37	1.69	2016	84,205
94	SOUTH ST	Reconstruction	0.03	0.44	2016	65,373
94	SOUTH ST	Reconstruction	0.48	0.61	2016	24,622
						\$2,404,389

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
1	YORK-TAMMIN RD	Chip reseal	0.7	2.07	2017	44,072
1	YORK-TAMMIN RD	Chip reseal	9.44	9.95	2017	13,359
1	YORK-TAMMIN RD	Chip reseal	11.73	12.52	2017	22,146
1	YORK-TAMMIN RD	Chip reseal	20.43	20.88	2017	13,306
1	YORK-TAMMIN RD	Chip reseal	21.34	21.54	2017	5,515
1	YORK-TAMMIN RD	Chip reseal	23.3	24.57	2017	35,018
1	YORK-TAMMIN RD	Chip reseal	24.85	25.12	2017	7,445
1	YORK-TAMMIN RD	Chip reseal	25.22	25.84	2017	17,095
1	YORK-TAMMIN RD	Chip reseal	27.74	31.05	2017	90,607
1	YORK-TAMMIN RD	Chip reseal	31.4	33.51	2017	58,181
2	MANNAVALE RD	Chip reseal	4.6	6.37	2017	39,885
3	TALBOT RD	Chip reseal	0.72	0.93	2017	5,790
3	TALBOT RD	Chip reseal	0.99	1.1	2017	3,033
3	TALBOT RD	Chip reseal	15.2	15.58	2017	9,605
3	TALBOT RD	Chip reseal	15.96	15.97	2017	331
4	SPENCERS BROOK-YORK RD	Chip reseal	1.5	2.6	2017	28,309
5	BURGES SIDING RD	Chip reseal	0.04	0.2	2017	5,147
6	QUELLINGTON RD	Chip reseal	0.04	2.05	2017	34,906
6	QUELLINGTON RD	Chip reseal	7.46	7.83	2017	9,522
7	GWAMBYGINE EAST RD	Chip reseal	0	0.17	2017	4,687
7	GWAMBYGINE EAST RD	Chip reseal	2.54	3.4	2017	22,132
7	GWAMBYGINE EAST RD	Chip reseal	3.83	4.32	2017	12,610
7	GWAMBYGINE EAST RD	Chip reseal	12.68	12.7	2017	551
9	TOP BEVERLEY-YORK RD	Chip reseal	0.04	0.12	2017	2,941
9	TOP BEVERLEY-YORK RD	Chip reseal	0.4	0.9	2017	18,382
9	TOP BEVERLEY-YORK RD	Chip reseal	4.51	7	2017	64,077
9	TOP BEVERLEY-YORK RD	Chip reseal	7.93	13.43	2017	136,395
9	TOP BEVERLEY-YORK RD	Chip reseal	13.53	14.08	2017	14,154
10	MOKINE RD	Chip reseal	0.88	2.49	2017	51,791
10	MOKINE RD	Chip reseal	6.98	7.35	2017	11,903
10	MOKINE RD	Chip reseal	9.77	10.07	2017	9,927
12	TALBOT WEST RD	Chip reseal	28.1	30.77	2017	76,074
15	BOYERCUTTY RD	Chip reseal	7.18	7.29	2017	3,640
19	QUALEN WEST RD	Chip reseal	0	1.04	2017	31,419
19	QUALEN WEST RD	Chip reseal	2	3.42	2017	41,887
20	CUT HILL RD	Chip reseal	0	0.13	2017	4,775

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
20	CUT HILL RD	Chip reseal	2.09	2.18	2017	2,895
27	PARKER RD	Chip reseal	2.3	2.33	2017	1,241
28	KNOTTS RD	Chip reseal	2.29	2.96	2017	18,473
28	KNOTTS RD	Chip reseal	3.48	4.58	2017	30,330
38	CUBBINE RD	Chip reseal	5.16	7.22	2017	56,801
40	ALLEN RD	Chip reseal	0	0.02	2017	551
69	MARWICK RD	Chip reseal	0	0.03	2017	882
82	BOYLE RD	Chip reseal	0	0.07	2017	3,285
89	AVON TCE	Chip reseal	0.22	0.52	2017	12,683
90	ULSTER RD	Chip reseal	0	0.07	2017	3,603
90	ULSTER RD	Chip reseal	0.53	0.61	2017	2,831
90	ULSTER RD	Chip reseal	2.01	2.12	2017	3,538
92	TENTH RD	Chip reseal	1.1	1.4	2017	8,548
93	AYOUB ST	Chip reseal	0	0.02	2017	570
94	SOUTH ST	Chip reseal	0.44	0.48	2017	1,286
95	FORD ST	Chip reseal	0.37	1.05	2017	31,718
95	FORD ST	Chip reseal	1.09	1.16	2017	3,570
101	GEORGIANA ST	Chip reseal	0.39	0.45	2017	2,620
101	GEORGIANA ST	Chip reseal	0.77	1.23	2017	12,049
107	BLAND RD	Chip reseal	0	0.56	2017	16,728
107	BLAND RD	Chip reseal	2.01	2.08	2017	1,930
109	NORTH RD	Chip reseal	1.39	4	2017	59,489
112	KNIGHT ST	Chip reseal	0.48	0.5	2017	653
114	NINTH RD	Chip reseal	0	0.03	2017	813
114	NINTH RD	Chip reseal	1.08	1.27	2017	5,151
117	HERBERT RD	Chip reseal	0.07	0.14	2017	1,544
117	HERBERT RD	Chip reseal	1.05	1.34	2017	7,996
120	WHEELER ST	Chip reseal	0.37	0.57	2017	6,249
121	WYBORN ST (FORMERLEY ELIZABETH)	Chip reseal	0	0.21	2017	8,833
123	FORREST ST	Chip reseal	0	0.47	2017	13,731
124	GEORGE ST	Chip reseal	0.16	0.41	2017	7,928
129	CLIFFORD ST	Chip reseal	0	0.19	2017	7,858
130	SUBURBAN RD	Chip reseal	0.14	0.26	2017	7,169
130	SUBURBAN RD	Chip reseal	0.5	0.63	2017	3,107
134	CARDWELL RD	Chip reseal	0	0.79	2017	22,876
138	BOUVERIE RD	Chip reseal	0.52	0.54	2017	551
139	THOMPSON ST	Chip reseal	0	0.21	2017	6,274
140	COWAN RD	Chip reseal	0	0.05	2017	1,723
143	ATTFIELD ST	Chip reseal	0	0.13	2017	4,062
143	ATTFIELD ST	Chip reseal	1.27	1.53	2017	7,647
151	DINSDALE RD	Chip reseal	0	0.61	2017	19,365
157	POOL ST	Chip reseal	0.13	0.48	2017	19,781
158	LOWE ST	Chip reseal	0.13	0.16	2017	1,254
169	BLAND ST	Chip reseal	0	0.02	2017	377
170	MAIN CAMP RD	Chip reseal	0.02	0.13	2017	3,033
170	MAIN CAMP RD	Chip reseal	0.15	0.27	2017	3,308
171	MAXWELL ST	Chip reseal	0.02	0.3	2017	8,677
174	PRUNSTER RD SECTION 1	Chip reseal	0	0.04	2017	1,121
181	MACARTNEY ST	Chip reseal	0.38	0.5	2017	5,239
183	MONGER ST	Chip reseal	0	0.2	2017	4,227
189	WILLIAM ST	Chip reseal	0.19	0.35	2017	4,485
198	MORRIS EDWARDS DR	Chip reseal	0.05	0.34	2017	8,929

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
198	MORRIS EDWARDS DR	Chip reseal	1.9	2.73	2017	25,666
201	TRIGG ST	Chip reseal	0	0.11	2017	3,033
211	FORBES ST	Chip reseal	0	0.32	2017	8,970
214	FISHER ST	Chip reseal	0	0.24	2017	8,162
217	HOOPS RD	Chip reseal	0	0.02	2017	607
246	TIP ROAD	Chip reseal	0	0.06	2017	1,710
255	ANDREWS AVE	Chip reseal	0.02	0.36	2017	10,469
256	LANGFORD RD	Chip reseal	0.02	0.51	2017	13,511
2	MANNAVALE RD	Reconstruction	4.25	4.6	2017	46,724
3	TALBOT RD	Reconstruction	4.82	6.19	2017	182,289
4	SPENCERS BROOK-YORK RD	Reconstruction	4.2	4.47	2017	37,850
4	SPENCERS BROOK-YORK RD	Reconstruction	5.67	7.33	2017	232,713
6	QUELLINGTON RD	Reconstruction	2.47	4.36	2017	230,428
6	QUELLINGTON RD	Reconstruction	14.37	14.85	2017	63,437
9	TOP BEVERLEY-YORK RD	Reconstruction	9.4	9.6	2017	28,038
242	CEMETERY RD	Reconstruction	0.02	0.23	2017	24,944
						\$2,338,750

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
1	YORK-TAMMIN RD	Asphalt reseal	0	0.04	2018	9,211
89	AVON TCE	Asphalt reseal	1.69	1.72	2018	10,254
129	CLIFFORD ST	Asphalt reseal	0.51	0.53	2018	6,788
130	SUBURBAN RD	Asphalt reseal	0.08	0.14	2018	16,580
142	GLEBE ST	Asphalt reseal	0	0.02	2018	4,412
255	ANDREWS AVE	Asphalt reseal	0.36	0.4	2018	6,496
255	ANDREWS AVE	Asphalt reseal	0.59	0.63	2018	6,496
256	LANGFORD RD	Asphalt reseal	0.51	0.53	2018	2,909
2	MANNAVALE RD	Reconstruction	3.41	3.9	2018	65,414
						\$128,560

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
110	ELEVENTH RD	Chip reseal	0	0.35	2019	8,042
120	WHEELER ST	Asphalt reseal	0.3	0.37	2019	11,538
142	GLEBE ST	Asphalt reseal	0.35	0.51	2019	35,368
170	MAIN CAMP RD	Asphalt reseal	0	0.02	2019	2,908
170	MAIN CAMP RD	Asphalt reseal	0.13	0.15	2019	2,908
223	JANET MILLET LANE	Asphalt reseal	0	0.01	2019	1,454
4	SPENCERS BROOK-YORK RD	Reconstruction	19.54	20.83	2019	186,423
10	MOKINE RD	Reconstruction	7.35	8.74	2019	168,632
150	GREENHILLS RD	Reconstruction	4.21	4.86	2019	89,382
						\$506,655

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
1	YORK-TAMMIN RD	Chip reseal	12.65	19.74	2020	194,947
1	YORK-TAMMIN RD	Chip reseal	31.26	31.4	2020	4,503
4	SPENCERS BROOK-YORK RD	Chip reseal	2.6	2.72	2020	3,860
7	GWAMBYGINE EAST RD	Chip reseal	0.22	0.25	2020	869
12	TALBOT WEST RD	Chip reseal	32.5	32.69	2020	5,413
46	HAMERSLEY SIDING RD	Chip reseal	0.37	0.66	2020	6,930

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
51	ASHWORTH RD	Chip reseal	6.34	6.94	2020	16,543
66	OSBORN RD	Chip reseal	0	1.22	2020	28,593
90	ULSTER RD	Chip reseal	0.11	0.53	2020	17,710
101	GEORGIANA ST	Chip reseal	0	0.39	2020	15,643
103	FRASER ST	Chip reseal	0	0.31	2020	11,599
107	BLAND RD	Chip reseal	1.1	2.01	2020	25,091
108	CARTER RD	Chip reseal	0	1.58	2020	44,292
119	NEWCASTLE ST	Chip reseal	1.52	2.41	2020	30,266
120	WHEELER ST	Chip reseal	0	0.3	2020	9,373
143	ATTFIELD ST	Chip reseal	0.13	1.27	2020	32,178
161	NUGENT RD	Chip reseal	0	0.55	2020	15,165
163	CHANDOS RD	Chip reseal	1.3	1.86	2020	14,154
165	MAUD ST	Chip reseal	0	0.25	2020	10,110
176	CRAIG ST	Chip reseal	0	0.09	2020	2,068
178	ROE ST	Chip reseal	0.18	0.32	2020	3,732
198	MORRIS EDWARDS DR	Chip reseal	0.01	0.05	2020	1,103
198	MORRIS EDWARDS DR	Chip reseal	0.34	0.82	2020	14,779
204	LEE CRES	Chip reseal	0	0.05	2020	1,379
209	LIGHTLY PL	Chip reseal	0	0.28	2020	6,434
216	DURABLE ST	Chip reseal	0	0.09	2020	2,068
218	RIVERSIDE CT	Chip reseal	0	0.28	2020	7,720
226	COLD HARBOUR RD	Chip reseal	0	0.57	2020	15,717
245	ATTFIELD RD NORTH	Chip reseal	0.5	0.77	2020	9,182
245	ATTFIELD RD NORTH	Chip reseal	0.81	0.95	2020	4,761
254	CAMFIELD PL	Chip reseal	0.02	0.25	2020	6,342
255	ANDREWS AVE	Chip reseal	0.4	0.59	2020	5,850
255	ANDREWS AVE	Chip reseal	0.63	0.69	2020	1,848
255	ANDREWS AVE	Chip reseal	0.73	0.82	2020	2,771
260	SPRINGS RD	Chip reseal	0	0.45	2020	10,340
550	DOVEY COURT (GWAMBYGINE)	Chip reseal	0	0.05	2020	1,379
143	ATTFIELD ST	Unsealed road resheet	1.53	1.89	2020	12,217
1	YORK-TAMMIN RD	Reconstruction	33.12	33.51	2020	56,762
3	TALBOT RD	Reconstruction	9.73	10.12	2020	48,518
5	BURGES SIDING RD	Reconstruction	1.53	1.56	2020	4,848
89	AVON TCE	Reconstruction	0	0.22	2020	42,618
89	AVON TCE	Reconstruction	0.98	1.32	2020	72,689
94	SOUTH ST	Reconstruction	0.61	0.76	2020	28,656
185	HARVEY ST	Reconstruction	0	0.06	2020	9,937
253	FOREMAN DRIVE	Reconstruction	0	0.43	2020	62,007
						\$922,964

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
1	YORK-TAMMIN RD	Chip reseal	5.47	7.46	2021	65,846
1	YORK-TAMMIN RD	Chip reseal	11.58	11.73	2021	5,032
1	YORK-TAMMIN RD	Chip reseal	12.52	12.65	2021	4,302
4	SPENCERS BROOK-YORK RD	Chip reseal	4.97	5.67	2021	23,482
5	BURGES SIDING RD	Chip reseal	0.25	0.73	2021	15,478
7	GWAMBYGINE EAST RD	Chip reseal	0.75	2.21	2021	43,501
9	TOP BEVERLEY-YORK RD	Chip reseal	0.9	3.15	2021	76,801
10	MOKINE RD	Chip reseal	8.74	8.87	2021	4,181

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
12	TALBOT WEST RD	Chip reseal	18.7	28.1	2021	281,079
12	TALBOT WEST RD	Chip reseal	30.77	32.5	2021	49,798
14	WAMBYN RD	Chip reseal	9.88	10.18	2021	12,269
23	SEES RD	Chip reseal	0.9	1.13	2021	6,870
38	CUBBINE RD	Chip reseal	4.16	5.16	2021	27,573
46	HAMERSLEY SIDING RD	Chip reseal	0	0.37	2021	12,412
51	ASHWORTH RD	Chip reseal	0	0.21	2021	6,756
51	ASHWORTH RD	Chip reseal	2.26	2.72	2021	14,798
53	LU ELF RD	Chip reseal	0	0.11	2021	3,539
91	GREY ST	Chip reseal	0.12	1.03	2021	49,318
96	CENTENNIAL DR	Chip reseal	0.27	0.6	2021	16,086
100	BIRD ST	Chip reseal	0	0.29	2021	11,329
102	HARRIOTT ST	Chip reseal	0	0.54	2021	20,809
103	FRASER ST	Chip reseal	0.31	0.59	2021	10,809
104	ALFRED ST	Chip reseal	0	0.35	2021	13,948
105	HENRY RD	Chip reseal	0	0.57	2021	17,288
112	KNIGHT ST	Chip reseal	0.36	0.48	2021	3,915
113	EIGHTH RD	Chip reseal	0	0.36	2021	10,425
114	NINTH RD	Chip reseal	0.03	1.08	2021	29,080
117	HERBERT RD	Chip reseal	0.38	0.86	2021	9,926
125	MEARES ST	Chip reseal	0	0.35	2021	10,134
132	VIEW ST	Chip reseal	0	0.21	2021	6,370
135	RADNOR RD	Chip reseal	0.03	0.46	2021	8,665
141	DONCON ST	Chip reseal	0	0.13	2021	4,780
144	LINCOLN ST	Chip reseal	0	0.27	2021	9,656
153	BROOK ST	Chip reseal	0.07	0.21	2021	3,346
156	CHRISTIE RETREAT	Chip reseal	0.1	0.24	2021	5,469
157	POOL ST	Chip reseal	0.03	0.13	2021	4,273
159	BRUNSWICK RD	Chip reseal	0.76	0.8	2021	1,397
164	CRAWFORD CT	Chip reseal	0	0.34	2021	10,624
166	BARRATT ST	Chip reseal	0	0.12	2021	3,529
174	PRUNSTER RD SECTION 1	Chip reseal	0.04	1.66	2021	45,413
178	ROE ST	Chip reseal	0	0.15	2021	4,274
181	MACARTNEY ST	Chip reseal	0.31	0.38	2021	3,056
181	MACARTNEY ST	Chip reseal	0.5	1.07	2021	24,886
220	GLASS CT	Chip reseal	0	0.13	2021	3,584
7	GWAMBYGINE EAST RD	Unsealed road resheet	5.7	9.3	2021	182,163
8	DOODENANNING RD	Unsealed road resheet	10.07	12.03	2021	104,622
8	DOODENANNING RD	Unsealed road resheet	12.8	14.37	2021	79,443
8	DOODENANNING RD	Unsealed road resheet	15.8	19.09	2021	148,201
10	MOKINE RD	Unsealed road resheet	8.87	9.77	2021	45,541
10	MOKINE RD	Unsealed road resheet	10.07	11.85	2021	90,070
10	MOKINE RD	Unsealed road resheet	14.42	17.75	2021	156,252
11	OVENS RD	Unsealed road resheet	0	2.97	2021	133,785
11	OVENS RD	Unsealed road resheet	3.87	5.5	2021	73,426
12	TALBOT WEST RD	Unsealed road resheet	0	1.22	2021	61,733
12	TALBOT WEST RD	Unsealed road resheet	2	3.6	2021	80,962
13	TALBOT HALL RD	Unsealed road resheet	2.76	5.5	2021	103,872
14	WAMBYN RD	Unsealed road resheet	0	9.88	2021	480,382
15	BOYERCUTTY RD	Unsealed road resheet	1.3	1.77	2021	22,477
15	BOYERCUTTY RD	Unsealed road resheet	2.1	4.7	2021	131,562
15	BOYERCUTTY RD	Unsealed road resheet	5.1	7.18	2021	93,695

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
16	GREENHILLS SOUTH RD	Unsealed road resheet	0.91	4.19	2021	165,970
17	BERRY BROW RD	Unsealed road resheet	1.1	1.7	2021	25,361
23	SEES RD	Unsealed road resheet	0	0.9	2021	35,542
23	SEES RD	Unsealed road resheet	1.13	8.74	2021	308,052
24	GRASS VALLEY SOUTH RD	Unsealed road resheet	0	2.13	2021	90,032
25	LENNARD RD	Unsealed road resheet	0	1.2	2021	54,055
25	LENNARD RD	Unsealed road resheet	5.3	7.55	2021	101,353
26	BOGLING RD	Unsealed road resheet	0	2.8	2021	118,351
27	PARKER RD	Unsealed road resheet	0.97	1.63	2021	33,397
27	PARKER RD	Unsealed road resheet	2.1	2.3	2021	9,009
29	WARDING RD	Unsealed road resheet	1.26	1.8	2021	27,324
29	WARDING RD	Unsealed road resheet	2.6	6.19	2021	179,656
31	LEEMING RD	Unsealed road resheet	0	1.27	2021	57,209
31	LEEMING RD	Unsealed road resheet	1.5	1.7	2021	9,009
33	STATION RD	Unsealed road resheet	0	1.3	2021	58,560
33	STATION RD	Unsealed road resheet	1.9	3.14	2021	48,969
34	TAYLOR RD	Unsealed road resheet	0	1.46	2021	57,657
34	TAYLOR RD	Unsealed road resheet	3.9	4.26	2021	14,217
35	MACKIE RD	Unsealed road resheet	4.04	8.92	2021	229,713
39	ST JACKS RD	Unsealed road resheet	1	1.36	2021	13,217
40	ALLEN RD	Unsealed road resheet	0.02	6.14	2021	239,964
42	PICCADILLY RD	Unsealed road resheet	0	6.53	2021	286,096
43	CAMERON RD	Unsealed road resheet	0	6.1	2021	268,114
43	CAMERON RD	Unsealed road resheet	8.82	11.98	2021	124,792
46	HAMERSLEY SIDING RD	Unsealed road resheet	0.66	5.2	2021	220,506
46	HAMERSLEY SIDING RD	Unsealed road resheet	7.3	9.28	2021	94,690
48	KARABINE RD	Unsealed road resheet	0	2.91	2021	131,084
49	WILBERFORCE RD	Unsealed road resheet	0	1.8	2021	71,085
50	WATERFALL RD	Unsealed road resheet	6.45	6.7	2021	9,873
50	WATERFALL RD	Unsealed road resheet	7.29	8.4	2021	43,835
51	ASHWORTH RD	Unsealed road resheet	0.84	2.26	2021	56,078
51	ASHWORTH RD	Unsealed road resheet	4.13	6.1	2021	81,408
52	GUNAPIN RIDGE RD	Unsealed road resheet	5.7	6.2	2021	22,523
61	FLEA POOL RD	Unsealed road resheet	0	2.52	2021	113,515
61	FLEA POOL RD	Unsealed road resheet	8.01	8.31	2021	11,848
63	MOORE RD	Unsealed road resheet	0	2.53	2021	104,521
68	NEEDLING HILLS RD	Unsealed road resheet	0	0.73	2021	24,773
71	RAILWAY RD	Unsealed road resheet	0	0.08	2021	5,381
74	MILLS RD	Unsealed road resheet	4.5	5.09	2021	20,022
76	NARRALOGGAN RD	Unsealed road resheet	0.48	0.96	2021	16,289
76	NARRALOGGAN RD	Unsealed road resheet	3.03	3.56	2021	17,986
76	NARRALOGGAN RD	Unsealed road resheet	5.51	6.08	2021	20,926
79	KEEBLES RD	Unsealed road resheet	0.43	1.17	2021	27,168
82	BOYLE RD	Unsealed road resheet	1.26	2.06	2021	27,149
84	CLUB HOTEL RD	Unsealed road resheet	0.9	1.93	2021	46,398
86	BUCKINGHAM RD	Unsealed road resheet	3.41	3.6	2021	5,920
93	AYOUB ST	Unsealed road resheet	0.02	0.18	2021	6,319
108	CARTER RD	Unsealed road resheet	1.61	2.12	2021	18,724
109	NORTH RD	Unsealed road resheet	0.18	0.54	2021	14,217
109	NORTH RD	Unsealed road resheet	1.29	1.39	2021	3,394
116	MOUNT ST	Unsealed road resheet	0.21	0.3	2021	4,554
117	HERBERT RD	Unsealed road resheet	0	0.07	2021	2,570

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
154	RIVER ST SECTION 2	Unsealed road resheet	0.14	0.2	2021	2,803
169	BLAND ST	Unsealed road resheet	0.02	0.15	2021	4,051
172	SPICES RD	Unsealed road resheet	0	0.88	2021	27,976
175	MORSE PL	Unsealed road resheet	0	0.22	2021	7,466
178	ROE ST	Unsealed road resheet	0.32	0.4	2021	3,604
179	SIDNEY RD	Unsealed road resheet	0	0.12	2021	4,073
191	LITTLE ST	Unsealed road resheet	0	0.1	2021	4,504
192	FISH ST	Unsealed road resheet	0	0.09	2021	2,804
200	EMMET PL	Unsealed road resheet	0	0.1	2021	2,838
203	WATER ST	Unsealed road resheet	0	0.16	2021	5,430
204	LEE CRES	Unsealed road resheet	0.19	0.26	2021	1,987
205	PICCADILLY TRAIL	Unsealed road resheet	0	0.75	2021	29,618
208	ENSIGN DALE CT	Unsealed road resheet	0.36	0.4	2021	2,135
213	EATON ST	Unsealed road resheet	0	0.07	2021	1,987
218	RIVERSIDE CT	Unsealed road resheet	0.28	0.38	2021	3,394
225	MORRIS EDWARDS TRACK	Unsealed road resheet	0	0.61	2021	17,240
233	TWELFTH RD	Unsealed road resheet	0	0.27	2021	9,163
234	SEVENTH RD	Unsealed road resheet	0.03	0.08	2021	1,975
244	MCDUGALL ROAD	Unsealed road resheet	0	2.3	2021	90,829
247	GREENHILLS RAIL ACCESS	Unsealed road resheet	0	0.41	2021	13,914
249	MYANARRA RD	Unsealed road resheet	0.88	1.83	2021	29,601
252	TREWS COURT	Unsealed road resheet	0	0.12	2021	4,739
258	DAVIES CRT	Unsealed road resheet	0.01	0.12	2021	4,955
501	PENNY ST (KAURING)	Unsealed road resheet	0.44	0.72	2021	12,613
502	PENNY LANE (KAURING)	Unsealed road resheet	0	0.26	2021	9,545
503	RAIL TRAIL (KAURING)	Unsealed road resheet	0	0.2	2021	6,787
506	UNNAMED (KAURING)	Unsealed road resheet	0	0.4	2021	12,463
550	DOVEY COURT (GWAMBYGINE)	Unsealed road resheet	0.05	0.47	2021	18,919
605	BURGES SIDING ACCESS	Unsealed road resheet	0	0.15	2021	5,091
606	ATTFIELD ACCESS	Unsealed road resheet	0.24	0.44	2021	5,676
117	HERBERT RD	Reconstruction	0.94	1.03	2021	12,857
						\$7,123,704

Road No.	Road Name	Works Description	Start SLK	End SLK	Renewal Year	Renewal Cost
254	CAMFIELD PL	Asphalt reseal	0	0.02	2022	2,909
255	ANDREWS AVE	Asphalt reseal	0.69	0.73	2022	6,496
255	ANDREWS AVE	Asphalt reseal	0.82	0.84	2022	3,248
3	TALBOT RD	Reconstruction	6.89	9.73	2022	366,686
12	TALBOT WEST RD	Reconstruction	14.92	15	2022	12,928
245	ATTFIELD RD NORTH	Reconstruction	0	0.5	2022	78,485
						\$470,752

Appendix C Planned Upgrade/Exp/New 10 year Capital Works Program

Road No.	Road Name	Works Description	Upgrade Year	Cost
12	Talbot West Rd	Construct & seal	2013	\$72,000
	Mokine Rd	Construct & primer seal	2013	\$376,000
	York-Tammin Rd	Reconstruct & seal	2013	514,000
	Qualen West Rd	Intersection Treatment	2013	\$46,000
	Greenhills Townsite Streets	Kerbing treatments	2013	\$15,000
	Ashworth Rd	Extend seal	2013	\$80,000
	Quellington Rd	Widen seal	2013	\$130,000
	Avon Terrace	Streetscape works	2013	\$130,000
	York Town Streets	Reconstruct & seal	2013	\$159,000
				\$1,522,000

Road No.	Road Name	Works Description	Upgrade Year	Cost
	Mokine Rd	Final seal	2014	\$50,000
	Greenhills South Rd	Extend seal	2014	\$139,000
	Talbot Rd	Upgrade shoulders & widen seal	2014	\$60,000
	Top Beverley Rd	Upgrade shoulders	2014	\$70,000
	York-Tammin Rd	Construct & seal	2014	\$258,000
	Ashworth Rd	Final seal	2014	\$10,000
	Quellington Rd	Widen seal	2014	\$60,000
	Wambyn Rd	Clear & widen gravel sheet	2014	\$60,000
	York Town Streets	Reconstruct & seal	2014	\$364,000
	Quellington Bridge	Widen and resurface	2014	\$280,000
				\$1,351,000

Road No.	Road Name	Works Description	Upgrade Year	Cost
	Greenhills South Rd	Final seal	2015	\$80,000
	Talbot Rd	Shoulder Upgrade	2015	\$100,000
	Quellington Rd	Widen seal	2015	\$219
	York-Tammin Rd	Construct & seal	2015	\$80,000
	Spencers Brook Rd	Widen & seal	2015	\$280,000
	Wambyn Rd	Extend Seal	2015	\$120,000
	Tenth Rd	Upgrade drainage	2015	\$25,000
	Eleventh Rd	Upgrade drainage	2015	\$25,000
	Hardey Rd	Upgrade drainage	2015	\$45,000
	York Town Streets	Reconstruct & seal	2015	\$175,000
				\$1,149,000

Road No.	Road Name	Works Description	Upgrade Year	Cost
	Talbot Rd	Final seal	2016	\$70,000
	Quellington Rd	Widen Seal	2016	\$190,000
	Spencers Brook Rd	Widen & seal	2016	\$360,000
	Mannavale Rd	Final seal	2016	\$70,000
	Wambyn Rd	Final seal	2016	\$70,000
	Ovens Rd	Upgrade drainage & gravel sheet	2016	\$80,000
	York Car park	Construct car park	2016	\$150,000
	York Town Streets	Reconstruct & seal	2016	\$120,000
				\$1,110,000

Road No.	Road Name	Works Description	Upgrade Year	Cost
	Talbot West Rd	Construct & seal	2017	\$299,000
	Spencers Brook Rd	Widen & seal	2017	\$390,000
	Cut Hill Rd	Widen & seal	2017	\$70,000
	Ovens Rd	Upgrade drainage	2017	\$70,000
	York Town Streets	Reconstruct & seal	2017	\$120,000
				\$949,000

Road No.	Road Name	Works Description	Upgrade Year	Cost
	Average Upgrade Spend	Various	2018	\$1,242,000
				\$1,242,000

Road No.	Road Name	Works Description	Upgrade Year	Cost
	Average Upgrade Spend	Various	2019	\$1,242,000
				\$1,242,000

Road No.	Road Name	Works Description	Upgrade Year	Cost
	Average Upgrade Spend	Various	2020	\$1,242,000
				\$1,242,000

Road No.	Road Name	Works Description	Upgrade Year	Cost
	Average Upgrade Spend	Various	2021	\$1,242,000
				\$1,242,000

Road No.	Road Name	Works Description	Upgrade Year	Cost
	Average Upgrade Spend	Various	2022	\$1,242,000
				\$1,242,000

Appendix D Abbreviations

AAAC	Average annual asset consumption
AMP	Asset management plan
ARI	Average recurrence interval
BOD	Biochemical (biological) oxygen demand
CRC	Current replacement cost
CWMS	Community wastewater management systems
DA	Depreciable amount
EF	Earthworks/formation
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
MMS	Maintenance management system
PCI	Pavement condition index
RV	Residual value
SS	Suspended solids
vph	Vehicles per hour

Appendix EGlossary

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 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 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.

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, e.g. 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, e.g. 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, e.g. 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.

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.

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.

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.

Fair value

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

Funding gap

A funding gap exists whenever an entity has insufficient capacity to fund 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 funding gap means service levels have already or are currently falling. A projected funding 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, e.g. 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 LCCT** The total cost of an asset throughout its life including planning, design, construction, acquisition, operation, maintenance, rehabilitation and disposal costs.
2. **Average LCCT** The life cycle cost (LCC) is average cost to provide the service over the longest asset life cycle. It comprises annual operations, maintenance and asset consumption expense, represented by depreciation expense. 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 actual or planned annual operations, maintenance and capital renewal expenditure incurred in providing the service in a particular year. Life Cycle Expenditure may be compared to average Life Cycle Cost to give an initial indicator of life cycle sustainability.

Loans / borrowings

See borrowings.

Maintenance

All actions necessary for retaining an asset as near as practicable to its original condition, including regular ongoing day-to-day work necessary to keep assets operating, e.g. 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.

• **Significant 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 and renewal gap

Difference between estimated budgets and projected required expenditures for maintenance and renewal of assets to achieve/maintain specified service levels, totalled over a defined time (e.g. 5, 10 and 15 years).

Maintenance and renewal sustainability index

Ratio of estimated budget to projected expenditure for maintenance and renewal of assets over a defined time (e.g. 5, 10 and 15 years).

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 e.g. 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, e.g. parks and playgrounds, footpaths, roads and bridges, libraries, etc.

Operations expenditure

Recurrent expenditure, which is continuously required to provide a service. In common use the term typically includes, e.g. 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.

Pavement management system

A systematic process for measuring and predicting the condition of road pavements and wearing surfaces over time and recommending corrective actions.

PMS Score

A measure of condition of a road segment determined from a Pavement Management System.

Rate of annual asset consumption

A measure of average annual consumption of assets (AAAC) expressed as a percentage of the depreciable amount (AAAC/DA). Depreciation may be used for AAAC.

Rate of annual asset renewal

A measure of the rate at which assets are being renewed per annum expressed as a percentage of depreciable amount (capital renewal expenditure/DA).

Rate of annual asset upgrade

A measure of the rate at which assets are being upgraded and expanded per annum 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.

Revenue generating investments

Investments for the provision of goods and services to sustain or improve services to the community that are expected to generate some savings or revenue to offset operating costs, e.g. public halls and theatres, childcare centres, sporting and recreation facilities, tourist information centres, etc.

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).

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.

Specific Maintenance

Replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including repainting, building roof replacement, cycle, 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.

Sub-component

Smaller individual parts that make up a component part.

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, Glossary