

Shire of Kondinin

Transport Network Asset Management Plan

Part 1 - Summary

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Executive Summary

The Shire of Kondinin maintains a range of assets to provide an integrated transport service. This includes infrastructure roads, paths, drainage, car parks, street furniture and airstrip facilities.

This is the Shire's Asset Management Plan (AMP) for the transport network. It seeks to outline the activities and programmes that will be carried out over the next 15 years. It details the service levels the Shire will provide and the resources required to deliver them. While the document is comprehensive, it is also evolving with the Shire's practice maturity. As such there are a number of actions that have been identified that will improve the AMP's accuracy over time. All readers of this AMP must understand its limitations and applied assumptions before acting on any information contained within it. All information within this AMP is fully detailed within a separate Part 2 document.

Overall, the Shire's network is worth at least \$221m. The condition of transport assets generally appears to be average, but with up to 35% of different asset groups (by quantity) potentially being in either a poor or very poor condition. The network currently has a consumption ratio of 56%, but this is within the target band.

Presently, the Shire doesn't routinely determine and monitor the required service performance of its transport network. As such it is not currently possible to establish a clear link between the quality of service and associated cost. The establishment of clear performance metrics around service levels (both customer and technical), is listed as a key improvement action.

Looking forward, the Shire anticipates that there are a number changes that may occur to transport service demand. Some of the more significant changes will be maintenance and construction costs, state government influence, external funding, Council, legislation and compliance, and financial sustainability.

The AMP has determined that there are a number of areas of improvement that could be made to the Shire's management practices and processes. Specific actions have been captured within this AMP's improvement plan.

Background and Objectives

Purpose of this Asset Management Plan

This document is an Asset Management Plan (AMP) for the Shire's Transport Network. It documents the Shire's management practices, processes and strategies. This ensures that transport assets are maintained to agreed service levels, balanced against long term resource availability.

Focus of this Asset Management Plan

The AMP focuses on assets that support a transport service. The key assets that make up the network and their values are detailed in Table 1.

Asset Type	Quantity	Current Replacement Cost
Roads	1,341km	\$219,102,808
Paths	11.1km	\$627,000
Drainage		Unknown
<i>Culverts</i>	1,378	
<i>Pits/Outlets</i>	2	
<i>Pipes</i>	Unknown	
Car Parks	8	\$1,230,000
Street Furniture	1,195 items	Unknown
Aerodromes	1	\$872,000
TOTAL		\$221,831,808

Table 1: Assets covered by Transport AMP

Corporate Document Relationships

This AMP integrates with the following other key Shire documents:

- = Strategic Community Plan
- = Corporate Business Plan
- = Long Term Financial Plan
- = Annual Budget

Time Period of the AMP and Review Process

The Asset Management Plan covers a 15 year period. It will be reviewed during annual budget preparation and amended to be kept up to date.



Service Levels

Introduction

Service Levels describe the performance outputs that the Shire provides from its transport service. These have been developed through the consideration of strategic and customer inputs. The process through which the Shire's Service Levels were developed is found in Appendix B.

Service Level Performance

Table 2 details the service level performance that the Shire provides.

KPI	Performance	Tactic
Accessibility	Unknown	Establishing current performance
Aesthetics	Unknown	Establishing current performance
Condition	Average	Improving performance accuracy and establishing target.
Quality	Unknown	Establishing current performance
Safety	Unknown	Establishing current performance

Table 2: Service Level Performance

Demand

This section summarises likely factors which may affect the demand for transport services over the life of the AMP. Full details of past and future demand factors are recorded in Appendix C.

Historic Demand

A range of historical sources of service demand change have been considered. Their overall effect has been summarised as follows.

Driver Type	Effect	Demand Change
Vehicle Ownership	Dwellings with a registered motor vehicle down from 368 in 2001 to 312 in 2016, a decrease of -1% per annum.	Decrease
Travel to Work	Number of people travelling to work up from 356 (2001) to 376 (2016), an increase of +0.4% per annum. Car as driver is by far the most common mode.	Increase

Population	The Shire population fell from 950 (2001) to 864 (2016), at a rate of approximately -0.6% per annum.	Decrease
Demographics	The median age rose from 35 to 43 years of age (2001-2016). Decreases occurred in all 0-49 year bands, and increases in all 50+ years bands.	Changing
Recreation	Participation in recreational activities that utilise transport assets (e.g. walking in paths) remained virtually unchanged in recent years.	Neutral
Tourism	Visitor numbers in the 'Golden Outback' region grew from 1.9m (2013/14) to 2.3m (2017/18). This growth may have resulted in a moderate demand change within the Shire, particularly around key tourist areas.	Increase
Climate	Local annual rainfall levels have remained relatively stable, contrary to other Wheatbelt areas. Between 1949 and 2017, mean maximum temperatures have risen from 32.6°C to 33.3°C. As a result, asset lives may be shorter due to heat exposure.	Changing

Table 3: Historic Demand Drivers

Future Demand

Consideration was given to six possible future demand drivers (political, economic, social, technological, legal and environmental) that may influence demand on the provision of transport services.

Driver Type	Effect	Demand Change
Political	Increased demand to improve internal asset management practices to reach a desired future level of proficiency. Possible increased demand for additional municipal resources as a result of decreasing external grant funding.	Increase
Economic	The long-term outlook is for transport construction and maintenance costs to at least match inflation increases. The long-term financial sustainability of the transport network looks broadly secure.	Neutral
Social	Tourist growth, as well as an ageing population (higher median age) may drive some change in the provision of transport services. Specifically, path networks and car parking at possible tourist destinations. A decreasing population size may reduce usage rates, but is unlikely to result in less	Increase

	assets.	
Technological	Construction technology changes are unlikely to affect demand over the term of this AMP. Electric vehicle take up is relatively slow, though investigation of potential recharge points may be required. Negative demand (i.e. better management practices) likely to occur through the long term uptake of software integration and enhanced material technologies.	Decrease
Legal	Benefits (e.g. stronger risk mitigation) may be realised though improving the Shire's formal defect identification and correction practices.	Neutral
Environmental	Increased demand to monitor and reduce the environmental cost of the transport network. Increased demand to provide and maintain assets that are resilient to climate change (e.g. floods, fire, heat etc.).	Increase

Table 4: Future Demand Drivers

Demand Management

A review of past and future demand factors shows that change has occurred, and will also likely occur into the future. While six future demand factors have been identified by Shire staff as being likely to occur, no specific mitigation tactics are required at present. The Shire will take a monitor and react approach.

Lifecycle Management Plan

The lifecycle management plan details how the Shire intends to manage and operate its transport network at the agreed service levels. Full details of the network can be found in Appendix D.

Transport Network Physical Parameters

Asset	Quantity	Current Replacement Cost	Fair Value	ADE
Roads	1,341km	\$219,102,808	\$122,617,131	\$2,632,552
Paths	11.1km	\$627,000	\$278,800	\$22,960
Drainage		Unknown	Unknown	Unknown
Culverts	1,378	Unknown	Unknown	Unknown
Pits/Outlets	2	Unknown	Unknown	Unknown
Pipes	Unknown	Unknown	Unknown	Unknown

Car Parks	8	\$1,230,000	\$520,387	\$31,440
Street Furniture	1,195	Unknown	Unknown	Unknown
Airstrips	1	\$872,000	\$577,480	\$35,740
Total		\$221,831,808	\$123,993,797	\$2,769,829

Table 5: Transport Network Physical Parameters

Transport Network Condition

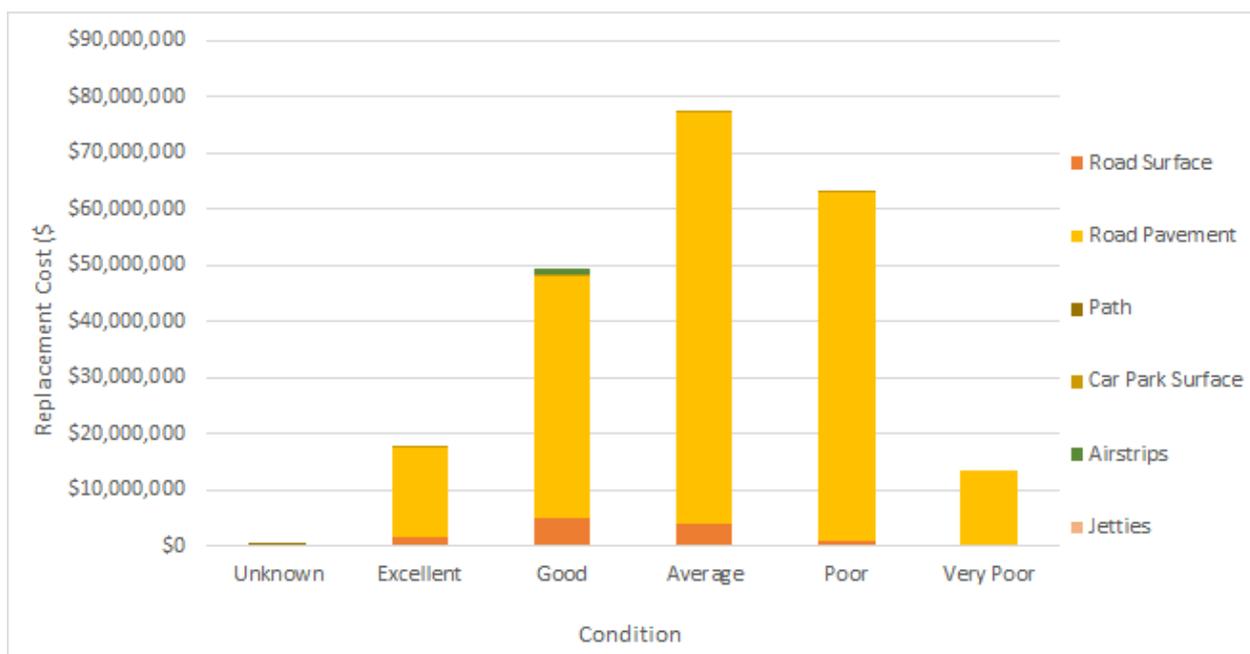


Figure 1: Transport Network Condition

Lifecycle Management Strategies

Operation & Maintenance Strategy

The Shire seeks to progress to a point whereby it employs preventative maintenance strategies wherever possible. This will help to maximise asset performance and minimise long terms costs. Each asset group’s strategy will be specifically designed for its own requirements. Technical maintenance service levels will be documented, and reflected within this AMP. All planned maintenance activities will also be individually costed, and these then used to inform the long term budget requirements.

Renewal Strategy

Some transport assets are periodically inspected to determine their condition, on a 1 (new/very good) to 5 (very poor/failed) scale. The results are then modelled to predict assets’ potential year of renewal. Shire staff then inspect these assets to determine the timing, scope and budget of any future renewal project. Projects are listed on the consolidated long term works program.

Upgrade/New Strategy

The need for new and/or upgraded assets (e.g. to meet a service deficiency) are identified from a number of potential sources. Each potential project is investigated by Shire staff and where valid, often prioritised against similar projects. Approved projects are then listed onto the consolidated long term works program.

Disposal Strategy

The Shire does not frequently dispose of transport assets. Where a potential need is identified, then this is considered by staff and (in some cases) Council.

Financial

This section contains the financial requirements resulting from all the information presented in this AMP. All future monetary figures in this section are expressed in terms of real dollars, with a 2018/19 base year.

Projected Expenditure Requirements

Year	Operation & Maintenance	Renewal	Upgrade & New	Disposal	Total
2018/19	\$847,500	\$3,214,917	\$50,000	\$0	\$4,112,417
2019/20	\$847,500	\$1,721,227	\$100,000	\$0	\$2,668,727
2020/21	\$847,500	\$1,648,489	\$50,000	\$0	\$2,545,989
2021/22	\$847,500	\$2,160,639	\$50,000	\$0	\$3,058,139
2022/23	\$847,500	\$2,161,639	\$50,000	\$0	\$3,059,139
2023/24	\$847,500	\$2,166,389	\$50,000	\$0	\$3,063,889
2024/25	\$847,500	\$2,664,639	\$50,000	\$0	\$3,562,139
2025/26	\$847,500	\$2,666,689	\$50,000	\$0	\$3,564,189
2026/27	\$847,500	\$2,970,636	\$50,000	\$0	\$3,868,136
2027/28	\$847,500	\$3,170,636	\$50,000	\$0	\$4,068,136
2028/29	\$847,500	\$3,170,636	\$50,000	\$0	\$4,068,136
2029/30	\$847,500	\$3,170,636	\$50,000	\$0	\$4,068,136
2030/31	\$847,500	\$3,170,636	\$50,000	\$0	\$4,068,136
2031/32	\$847,500	\$3,170,636	\$50,000	\$0	\$4,068,136
2032/33	\$847,500	\$3,170,636	\$50,000	\$0	\$4,068,136

Table 6: Transport Asset Projected Expenditure Requirements

Plan Improvement and Monitoring

This Section of the AMP outlines the degree to which it is an effective and integrated tool within the Shire. It also details the future tasks required to improve its accuracy and robustness.

Performance Measures

The effectiveness of the AMP will be monitored by the performance of the three statutory ratios that the Shire reports on. Each ratio is described in Appendix G. The Shire’s current performance is recorded in Table 7.

Year	Asset Consumption Ratio	Asset Sustainability Ratio	Asset Renewal Funding Ratio
2019	56% (on target)	57% (below target)	

Table 7: AMP Performance Measures

Improvement Plan

The asset management improvement plan generated from this AMP is shown in Table 8.

Task	Task	Responsibility	Timeline
1	Condition rate all transport assets (Appendix D)		
2	Value all transport assets (Appendix D)		
3	Review the need to accommodate electric vehicles (Appendix C).		
4	Develop a formal schedule of planned transport asset operation and maintenance works (Appendix C & E). Integrate with the AMPs works programme.		
5	Monitor current service level performance (Appendix B).		

Table 8: Transport AMP Improvement Plan