SHIRE OF Quairading
Take a closer look

ASSET MANAGEMENT PLAN
SEPTEMBER 2022

@ShireofQuairading

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Endorsed October 2022

Resolution 105 – 22/23

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EXECUTIVE SUMMARY

The Shire of Quairading is responsible for a large and diverse range of assets.

The effective ongoing management of these assets is critical if the Shire is to achieve a sustainable (financially achievable) outcome in managing its assets.

Before summarising some of the findings associated with analysis work carried out in the preparation of this Asset Management Plan it is considered important to briefly outline some of the main functions of the plan and how it ties in with other processes and plans used in local government.

For asset management to be effective it needs to:

- Take into consideration asset conditions
- Be holistic in its application
- Take into consideration the Shire's financial capabilities
- Consider level of service
- Consider community needs and aspirations
- Be live and subject to ongoing change and improvement
- Be part of an integrated planning and management process

The integrated planning and reporting system, of which this Asset Management Plan forms part, sees community and strategic information being fed into the asset management process from above with this guidance typically documented in a Strategic Community Plan and a Corporate Business Plan. The Asset Management Plan then looks at the requirements for assets then considers how to best manage the assets in a sustainable way. The analysis generally requires some form of modelling of the impact of potential future works. Once works are settled the information is used to generate mid and long term programs. These programs then feed into the Shire's Long Term Financial Plan and other related planning such as workforce and plant replacement plan for further refinement.

This integrated management system, once in place, improves the continuity and efficiency of the annual budget development and flow program delivery and provides information for Council and the administration to monitor and meaningfully report on over a longer time frame.

The Asset Management Plan also provides information and measures for reporting to the State Government.

This September 2022 plan addresses most of the elements outlined above required for it to be effective in initiating program development and providing Councillors with information on which informed decisions can be made regarding Shire assets.

Those involved in the preparation of this plan have endeavoured to put to best use not only available information but also the underutilised capabilities of the Shires existing Asset and Maintenance Management System (RAMM).

The methods and information used in the development of this plan including its limitations are outlined in greater detail in the body of this document.

The plan also outlines how best to continue to develop the process into the future and provides references to transparently documented and technically sound approach used in its preparation that can be further built on.

Overall findings from this first analysis of data used to populate this Asset Management Plan indicate:

- The overall replacement value of the assets captured in the assessment to be $137 million.
- The average current condition rating of the captured assets is 2.3. This has most assets in better than average condition.
- Assets currently considered poor or very poor have a replacement value of approximately $10 million. $6.7 million of this is associated with Road Pavements that are in poor condition.
- There are two areas identified where a backlog of work exists that needs addressing for level of service requirements to be retained. This assumes funding of $2.6 million per annum is available for asset renewals.
- Total Projected Renewals $2.6 million per annum compares favourably with the current Annual Depreciation of $2.59 million - an asset sustainability ratio of 102%.
- Areas identified where a backlog of work exists that needs addressing for level of service requirements to be retained include:

  <u>Footpaths</u>

  Asphalt footpaths account for approximately 50% of the total footpaths and the majority are in average to poor condition. These will need to be renewed in the early years of the 10-year program at a total cost of $305,000.

  <u>Drainage (Culverts)</u>

  Approximately 10% of the pipe culverts are in poor or very poor condition. Most of these culverts are small (300 to 500mm diameter). These will need to be renewed in the early years of the 10-year program at a total cost of $467,000.

In the footpath areas an option for consideration would be to look at rationalising some of these assets. Without some degree of rationalisation maintaining service levels at anticipated funding will be difficult to achieve.

In the roads area, which is our largest area, grant funding received through the Regional Road Group has traditionally been applied to widening and reconstruction works on our MRWA listed 2030 eligible roads. The modelling and program development carried out on the current data confirmed this to be good approach for the sealed roads on that component of the network. The more discretionary road funding, such as the Roads to Recovery funding and the Shire's own funding, generally appeared adequate to meet most of the renewal needs of the roads.

One area that has not been considered in this plan is the increased size and regularity of extra infrastructure funding being fed through local government for economic stimulus reasons.

One of the larger examples of this is Wheatbelt Secondary Freight Network (WSFN) funding. The first three years of the 10-year renewal program includes a sum of $4.15 million for reconstruction of the Dangin Mears Road which is primarily WSFN funded. WSFN funding beyond the first 3 years is unknown.

The Shire will actively pursue grants both competitive and non-competitive together with prudent borrowings to spread the cost of major new assets over their life. (Strategic Community Plan).

WHY DOES THE SHIRE PROVIDE ASSETS?

Physical infrastructure assets typically exist for the purpose of facilitating service delivery. This includes core services such as governance and administration, transport, waste management, parks and recreation and so on. These services help us to be a liveable Shire that is responsive to community needs and values.

What is Asset Management?

Asset Management, as the name suggests, is the approach or system that we apply to manage our assets. Infrastructure assets can be challenging to manage to ensure that they are provided, operated, maintained and renewed, in a sustainable way within limited available financial resources. Good asset management practices seek to take a long-term planning view that balances service provision against the community's capacity to pay.

Our Asset Management Approach

The approach taken in the presentation of this Asset Management Plan follows that taken in the example documents agreed to be adopted by the NEWROC Councils. Our plan has been expanded to include other

asset classes other than just transport which was the emphasis of the example document. We have also used the provided and agreed data summary format in the development of this plan.

Most of us understand that assets deteriorate over time and that they need replacing or renewing once worn out.

The problem in dealing with such a large number and diverse range of assets, as managed by the Shire, is that that so many variable factors affect deterioration rates, maintenance and replacement costs, treatment types and level of service expectations.

It is for reason that asset modelling is needed to generate an asset renewal stream. Modelling helps to prioritise work selection and produces information that aids understanding costs and condition impacts of proposed future works. It also allows overall asset conditions to be better understood.

There are a number of modelling approaches available that could be applied.

Some of these are quite advanced and use complex algorithms capable of considering many factors simultaneously. However, for our purposes these types of approaches are not considered necessary.

Our Asset Modelling Approach

Because not all the assets are in a single system a spreadsheet model was developed to forecast asset deterioration and trigger renewal streams for each of the asset groups. The data used in the model was extracted from the 2020/21 APV Valuation Reports with some updating to reflect any new or renewed assets in the 2021/22 Financial Year.

The spreadsheet model is in the companion document "Shire of Quairading TAMP Input Data – V1 – as of 23 September 2022"

The model is relatively simple in concept, operating as follows: -

- Each asset is assigned a current condition rating
- The condition rating is based on the simple NAMS 1 to 5 scoring system outlined in Table 4
- For modelling purposes, the condition rating score is modified to go to one decimal place. For example, brand new assets are assigned a score of 0.5 and assets at end of life a score of 5.5. This means an asset deteriorates though a total of 5 condition basis points in its Total Useful Life (TUL)
- The current condition rating is derived from the APV valuation percent life expired (Remaining Useful Life (RUL)/TUL) for all assets except for roads. The condition rating for roads is based on the condition rating in RAMM from the full road visual assessment survey carried out by RMECS (Rod Munns Engineering Consulting Services) in February 2020.

- A straight-line deterioration model is used for all assets equal to 5/TUL per annum. Hence for an asset with TUL = 20 years the annual condition deterioration would be 0.25 condition points per annum.
- A renewal condition trigger is applied for each asset group with the default value being a condition score of 4. This equates to a Poor Condition Rating – Significant Renewal/Upgrade required (refer Table 4)
- Renewals are triggered when the condition score reaches the trigger value and are assigned a value equal to the Asset Replacement Cost
- For pavement renewals (Reconstruction Works) the model also triggers the surface replacement (Resealing) in the same year.
- For the higher value assets – Buildings and Roads – the modelling is at the component level (pavement, surface, roof, floor covering etc). All the other assets are modelled at the Asset Level.
- 10 Year Renewal Programs for each asset group together with an overall summary are contained in the companion document "Shire of Quairading TAMP Input Data – V1 – as of 23 September 2022"
- The model allows for adjustment of the renewal condition trigger. For Shire of Quairading a more conservative trigger of 3.5 was adopted for Bridges and a more aggressive trigger of 4.5 for Surface Water Channels, Resurfacing (Resealing) and Resheeting.
- This process was applied to produce a 10 Year prioritised renewal program (plus current Year 0 - 2022/23).

In the roads area the Road Hierarchy (Class 1 to Class 6) was also taken into consideration in the prioritisation process.

Hierarchy	Description
Class 1	Primary Distributor
Class 2	Regional Distributor
Class 3	Local Distributor
Class 4	Access Road A
Class 5	Access Road B
Class 6	Access Road C

Table 1: Road Hierarchy

The lower priority roads, Class 5, and Class 6 were excluded in developing the Road Reconstruction, Resealing and Resheeting Programs.

The renewal impact of works known to be budgeted for in the current and short-term future were also included in the model (ie. WSFN Funded Dangin Mears Road Reconstruction 2023/24 to 2025/26). This

prevents work that we know will be completed shortly showing up in future programming based on its current, but soon to be remedied, condition.

The scope covered in this asset management assessment

This September 2022 Asset Management Plan considers renewal type investments only and does not include business as usual operations and maintenance activities.

In the building area assets were assessed at component level (floor covering, roof etc) to develop the 10-year renewal program.

In the roads area assessment was also at the component level (pavement, surface, subgrade) and again only renewals were considered. Periodic maintenance activities like verge clearing or shoulder reconditioning were not included.

Providing the 10-Year renewal program is funded and duly executed, the existing maintenance regime and funding should be adequate. If there is a funding shortfall in the renewals program, then additional maintenance will be required to keep the assets in a condition to meet required levels of service.

Historically, the Shire has had an underlying gap in asset renewals, particularly for roads. Like many rural Shires, asset renewals have been subject to historic underfunding. While this suppresses rates, it leads to a decline in the serviceability of the assets. It is therefore vital to close this gap, particularly to preserve the serviceability of our local road network for our economy and community (Strategic Community Plan).

WHAT DO WE HAVE AND WHAT ARE THEY WORTH?

The Shire of Quairading Asset Inventory and Valuation are as shown below.

Asset	Value Type	Value Subtype	Count	Length (m)	Area (sq.m.)	Information Source	Date Extracted
Roads	*Hierarchy*	Class 1 - Primary Distributor	0	0	0	RAMM	Sep'22
		Class 2 - Regional Distributor	7	100,595	723,408	RAMM	Sep'22
		Class 3 - Local Distributor	16	203,571	1,201,659	RAMM	Sep'22
		Class 4 - Access Road A	80	361,118	1,938,012	RAMM	Sep'22
		Class 5 - Access Road B	39	172,930	924,059	RAMM	Sep'22
		Class 6 - Access Road 6	29	71,670	368,527	RAMM	Sep'22
	Cross Section	Unbuilt		32,670	32,670	RAMM	Sep'22
		Unformed		30,610	138,385	RAMM	Sep'22
		Formed		149,360	964,424	RAMM	Sep'22
		Paved		421,666	2,307,718	RAMM	Sep'22
		Sealed with no kerbing		261,963	1,592,001	RAMM	Sep'22
		Sealed with kerbing one side		1,230	11,013	RAMM	Sep'22
		Sealed with kerbing both sides		12,385	109,453	RAMM	Sep'22
	Surface Material	Asphalt		11,980	103,551	RAMM	Sep'22
		Cement Concrete		340	2,475	RAMM	Sep'22
		Double Chip Seal		49,228	357,486	RAMM	Sep'22
		Single Chip Seal		214,030	1,254,043	RAMM	Sep'22
	Pavement	Gravel		421,666	2,307,718	RAMM	Sep'22
	Kerbs	Kerb Barrier	237	24,490		RAMM	Sep'22
Drainage	*Culverts (large span)*	Box Culvert	93	1,726		RAMM	Sep'22
		Pipe Culvert	852	10,041		RAMM	Sep'22
	Stormwater	Table Drain	956	1,655,968		RAMM	Sep'22
Traffic Management	*Signs*	Sign - 2 Post	97			RAMM	Sep'22
		Sign - One Post	1,378			RAMM	Sep'22
Footpaths	*Footpaths*	Asphalt	24	2,598	5,186	RAMM	Sep'22
		Brick Paving	15	755	2,091	RAMM	Sep'22
		Concrete Slabs	1	53	64	RAMM	Sep'22
		Insitu Concrete	32	4,352	6,550	RAMM	Sep'22
Land	*Land*	Industrial	2			APV Valuation	Jun'21
		Residential	43			APV Valuation	Jun'21
		Rural	4			APV Valuation	Jun'21
Buildings	*Buildings*	Administration - 1 Storey	4			APV Valuation	Jun'21
		Civic - Amenities	5			APV Valuation	Jun'21
		Civic - Clubs/Community Groups	3			APV Valuation	Jun'21
		Civic - Town/Community Hall	3			APV Valuation	Jun'21
		Demountable - Amenities	2			APV Valuation	Jun'21
		Demountable - Other Transportable	2			APV Valuation	Jun'21
		Education - Child Care/Kindergarten	1			APV Valuation	Jun'21
		Health - Support	1			APV Valuation	Jun'21
		Industrial - Awnings/Canopy	1			APV Valuation	Jun'21
		Industrial - Pump/Switch	1			APV Valuation	Jun'21
		Industrial - Workshop	1			APV Valuation	Jun'21
		Recreation - Aquatic Centre	1			APV Valuation	Jun'21
		Recreation - Changeroom	1			APV Valuation	Jun'21
		Recreation - Clubhouse	2			APV Valuation	Jun'21
		Recreation - Kiosk	1			APV Valuation	Jun'21
		Recreation - Picnic Shelter/Rotunda	3			APV Valuation	Jun'21
		Residential - Detached House	11			APV Valuation	Jun'21
		Residential - Semi Detached/Duplex	4			APV Valuation	Jun'21
		Shed - Earth Floor	1			APV Valuation	Jun'21
		Shed - Fully Enclosed	9			APV Valuation	Jun'21
		Shed - Partly Walled	1			APV Valuation	Jun'21
		Special - Covered Walkways/Car Port	1			APV Valuation	Jun'21
Structures	*Bridges*	Reinforced Concrete	6			APV Valuation	Jun'21
		Steel/Concrete	1			APV Valuation	Jun'21
		Steel/Timber	1			APV Valuation	Jun'21
		Timber	7			APV Valuation	Jun'21
	Other Structures	Airport Assets	2			APV Valuation	Jun'21
		Excluded	5			APV Valuation	Jun'21
		Fences	11			APV Valuation	Jun'21
		Hardstand and Internal Roads	11			APV Valuation	Jun'21
		Lighting	13			APV Valuation	Jun'21
		Miscellaneous	13			APV Valuation	Jun'21
		Park Assets	27			APV Valuation	Jun'21
		Pool Assets	2			APV Valuation	Jun'21
		Retain Walls	8			APV Valuation	Jun'21
		Sporting Equipment	14			APV Valuation	Jun'21
		Structures	13			APV Valuation	Jun'21
		Vehicle	1			APV Valuation	Jun'21
		Water Supply	8			APV Valuation	Jun'21

Table 2: Infrastructure Inventory

The inventory was extracted from RAMM for Roads, Drainage, Traffic Management (Signs) and Footpaths. Bridges, Land, Buildings and Other Structures were extracted from the APV 2020/21 Valuation (these assets are currently not held in the RAMM database).

Asset Category	Asset Component	Replacement Cost ($)	Fair Value ($)	Annual Depreciation ($)	Asset Consumption Ratio	Valuer / Date
Roads	Pavement	$41,615,624	$31,865,104	$838,302	77%	APV Valuation 2020/21
	Surface	$10,879,478	$7,502,462	$534,731	69%	APV Valuation 2020/21
	Subgrade	$32,141,845	$32,141,845	$0		APV Valuation 2020/21
	Kerb Barrier	$613,746	$549,998	$6,409	90%	APV Valuation 2020/21
Paths	Footpath	$1,042,400	$568,449	$31,570	55%	APV Valuation 2020/21
Drainage	Box Culvert	$3,115,230	$1,934,300	$36,872	62%	APV Valuation 2020/21
	Pipe Culvert	$4,462,730	$2,722,052	$53,357	61%	APV Valuation 2020/21
	Table Drain	$4,156,402	$2,555,013	$450,957	61%	APV Valuation 2020/21
Traffic Management	Sign - 2 Post	$39,384	$26,462	$1,118	67%	APV Valuation 2020/21
	Sign - One Post	$378,970	$263,416	$10,666	70%	APV Valuation 2020/21
Structures	Bridges	$8,683,000	$4,681,142	$65,431	54%	APV Valuation 2020/21
Land	Land	$1,824,370	$1,824,370	$0		APV Valuation 2020/21
Buildings	01 Sub-Structure	$1,928,210	$1,497,731	$14,412	78%	APV Valuation 2020/21
	02 Structure	$4,838,969	$3,391,916	$46,786	70%	APV Valuation 2020/21
	03 Floor Coverings	$1,062,934	$773,847	$45,500	73%	APV Valuation 2020/21
	04 Fit-Out	$3,112,801	$2,232,735	$57,161	72%	APV Valuation 2020/21
	05 Roof	$4,040,999	$2,774,354	$48,182	69%	APV Valuation 2020/21
	61 Serv - Mechanical	$1,309,408	$1,026,411	$46,558	78%	APV Valuation 2020/21
	62 Serv - Fire	$137,425	$101,542	$8,001	74%	APV Valuation 2020/21
	63 Serv - Elect	$1,711,363	$1,248,690	$19,676	73%	APV Valuation 2020/21
	64 Serv - Hydr	$2,473,482	$1,873,835	$27,163	76%	APV Valuation 2020/21
	65 Serv - Security	$92,518	$83,153	$4,677	90%	APV Valuation 2020/21
	66 Serv - Transport	$0	$0	$0		APV Valuation 2020/21
	67 Serv - Site Infra	$0	$0	$0		APV Valuation 2020/21
Other Structures	Airport Assets	$562,000	$362,900	$20,870	65%	APV Valuation 2020/21
	Fences	$348,340	$206,922	$9,001	59%	APV Valuation 2020/21
	Hardstand and Internal Roads	$1,075,500	$837,423	$40,112	78%	APV Valuation 2020/21
	Lighting	$430,000	$333,089	$11,624	77%	APV Valuation 2020/21
	Miscellaneous	$266,864	$197,303	$16,320	74%	APV Valuation 2020/21
	Park Assets	$449,280	$268,671	$18,814	60%	APV Valuation 2020/21
	Pool Assets	$1,822,000	$1,224,580	$24,151	67%	APV Valuation 2020/21
	Retain Walls	$203,080	$129,561	$2,725	64%	APV Valuation 2020/21
	Sporting Equipment	$1,290,900	$840,766	$73,468	65%	APV Valuation 2020/21
	Structures	$261,600	$139,035	$10,528	53%	APV Valuation 2020/21
	Vehicle	$340,000	$233,198	$2,051	69%	APV Valuation 2020/21
	Water Supply	$726,900	$488,975	$11,268	67%	APV Valuation 2020/21
Total Valuation		$137,437,751	$106,901,250	$2,588,462	71%	

Table 3: Infrastructure Valuation

The valuations are based on the 2020/21 APV Valuation Reports with updates for new road layer and footpath renewals in 2021/22.

WHAT IS THEIR CONDITION?

Condition data is typically used to determine the need and timing of preventative or remedial action to prevent loss of service or economic loss.

To assess the condition of the assets the following condition grading methodology was adopted from the International Infrastructure Management Manual 2015 (IIMM). This condition assessment model is a typical approach for major groups of passive assets (e.g., roads, drainage, buildings, footpaths).

Rank	Description of Condition
1	**Excellent** Only normal maintenance required
2	**Good** (Minor Defects Only) Minor maintenance required (5%)
3	**Average** (Maintenance Required to Return to Accepted Level of Service) Significant maintenance required (10-20%)
4	**Poor** (Required Renewal) Significant renewal/upgrade required (20-40%)
5	**Very Poor** (Asset Unserviceable) Over 50% of asset requires replacement

Table 4: Condition Assessment Model

For Roads and associated assets (Pavement, Surface, Drainage, Footpaths, Surface Water Channels and Signage) there is relatively up to date condition ratings in the RAMM database as a full condition assessment was carried out by RMECS in February 2020. Since then, new road assets - as provided by the Executive Manager of Works and Services - have been updated in RAMM.

For the remaining assets (Buildings, Bridges and Other Structures) the condition rating was derived from the recent (2020/21) APV Valuation Reports based on the asset consumption ratio and % of Total Useful Life expired.

For most assets, the condition rating is assigned at the asset level. For the larger more complex assets – Roads and Buildings – assets are assessed at component level and then aggregated up to achieve an overall condition rating.

The current condition profile of the Shire's infrastructure assets is as shown in the figure and tables below:

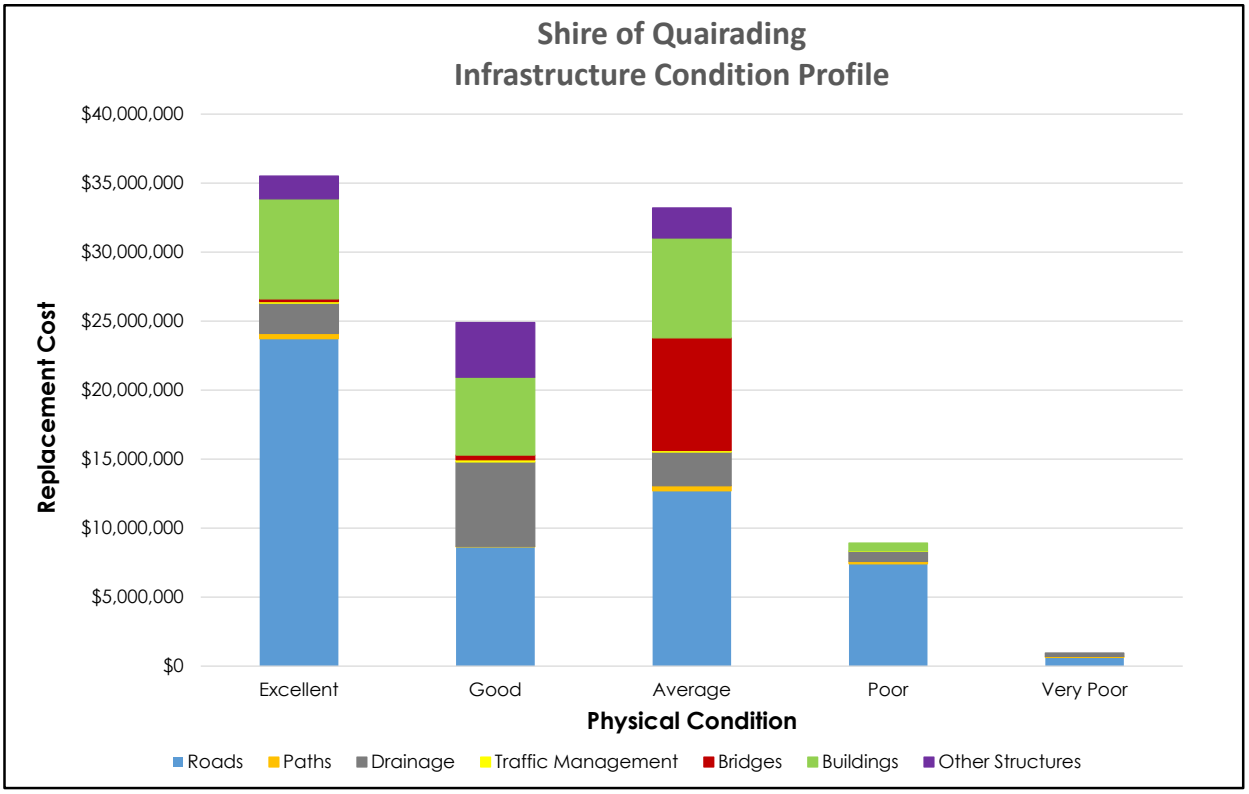

Figure 1: Infrastructure Condition Profile

Asset	Excellent	Good	Average	Poor	Very Poor
Roads	45%	16%	24%	14%	1%
Paths	37%	5%	34%	17%	7%
Drainage	19%	52%	21%	6%	2%
Traffic Management	26%	36%	30%	8%	0%
Bridges	2%	4%	94%	0%	0%
Buildings	35%	27%	35%	3%	0%
Other Structures	21%	51%	28%	0%	0%
TOTAL	**34%**	**24%**	**32%**	**9%**	**1%**

Table 5: Infrastructure Condition Profile (%)

Asset	Excellent	Good	Average	Poor	Very Poor
Roads	$23,724,073	$8,637,103	$12,710,424	$7,407,858	$629,390
Paths	$382,880	$52,320	$358,550	$173,650	$75,000
Drainage	$2,198,338	$6,111,268	$2,438,404	$738,116	$248,236
Traffic Management	$109,574	$149,546	$127,255	$31,979	$0
Bridges	$194,000	$340,000	$8,149,000	$0	$0
Buildings	$7,259,193	$5,644,542	$7,243,864	$560,510	$0
Other Structures	$1,644,844	$3,961,100	$2,170,520	$0	$0
TOTAL	**$33,868,058**	**$20,934,779**	**$31,027,496**	**$8,912,113**	**$952,626**

Table 6: Infrastructure Condition Profile ($)

HOW CONFIDENT ARE WE?

The asset assessment and programming conducted in this review is only as good as the base data and rules and assumption applied to that data.

Accordingly it is important when using this information to understand how confident we are in the accuracy of what we are using as this has a direct influence on the accuracy of the results. Understanding where data gaps exist is also important to determine where the Shire best targets data improvements moving forward.

The Shire has assessed its confidence in the asset data using the following grading scale.

Confidence Grade	Accuracy	Confidence Grade General Meaning
Highly Reliable	± 2%	Data based on sound records, procedures, investigations and analysis which is properly documented and recognised as the best method of assessment.
Reliable	± 10%	Data based on sound records, procedures, investigations and analysis which is properly documented but has minor shortcomings; for example the data is old, some documentation is missing and reliance is placed on unconfirmed reports or some extrapolation.
Uncertain	± 25%	Data based on sound records, procedures, investigations and analysis which are incomplete or unsupported, or extrapolation from a limited sample for which grade A or B data is available.
Very Uncertain	± 40%	Data based on unconfirmed verbal reports and/or cursory inspection and analysis.
Unknown	Nil	None or very little data held.

Table 7: Data Confidence Grading

The current confidence in the Shire's asset data is:

Asset Class	Confidence Grade	Justification
Roads	**Reliable**	Roads Data was fully updated in RAMM February 2020 and new layers added up to the end of the 21/22 FY. Historical data is lacking.
Bridges	**Unknown**	Some basic data in RAMM but not sure of the Integrity
Land	**Uncertain**	Data in relation to the Shire's land tenure has a stable foundation but we are still investigating legacy issues
Buildings	**Reliable**	The register captures all the buildings. The structure of the components needs refining for future revaluations.
Drainage	**Uncertain**	Drainage Data was fully updated in RAMM February 2020 (Table Drains, Culverts, Kerbing) but other drainage assets (Underground Pipes) not in RAMM are incomplete.
Footpaths	**Highly Reliable**	Data is sound
Traffic Management (Signs)	**Reliable**	Signage Data was fully updated in RAMM February 2020 but no updating since then.
Other Structures	**Reliable**	Data is sound. When new assets are added or removed data is updated and accurate.

Table 8: Asset Data Confidence

Effective Asset Management relies heavily on high quality asset data and information. Regular (annual/tri annual) inspections are essential to keep the data up to date so that informed Asset Management decisions can be made.

The data used to develop this Asset Management Plan varies between reliable and uncertain so there is a moderate level of confidence in the outcomes.

The Shire currently maintains two Asset Management Systems, a spreadsheet-based Asset Register and the RAMM Asset Management Database. This is not ideal as there is potential for overlap and increased workload to maintain the two systems.

It is recommended that the Shire adopt the RAMM Asset Management System as it's sole source of truth. This will require a one-off migration of data and training and upskilling of staff in the use and maintenance of the RAMM System.

HOW IS THE SERVICE performing?

The Shire should check that the service performance delivered by its assets meets the needs of the community. If necessary, adjustment can be made to the quality of service that our assets provide and this in turn can effect overall cost. In general, as the service quality gets higher, so too does cost. The Shire needs to deliver the service at a level that the community is willing and able to pay for.

In the roads area a hierarchy system has recently been developed by the Shire to aid the selection of appropriate levels of service for our roads (refer Table 1). This recognises that infrequently used roads do not need to be maintained to the level of high use roads.

Service Satisfaction

Periodically, the Shire engages with its community to understand their satisfaction with the various services that it provides. The results enable service performance and importance to be assessed. In addition, when other WA local governments perform the same survey, the Shire is able to benchmark its performance.

Community satisfaction information is currently being sought for the Shire so as to commence the process better understanding community expectations and levels of satisfaction. This will then be used to populate a performance table similar to that provided below.

Service Area	Performance Score	Industry Standard	Performance Trend
Roads			
Footpaths			
Land			
Buildings			
Bridges			
Drainage			
Other Structures			
Traffic Management			

Table 9: Service Community Satisfaction

Service Levels

Service levels describe the quality and performance that the Shire aims to provide in its service areas. The Shire is looking to develop service delivery performance measures that can populate a table similar to the example below for footpaths and subsequently be reviewed to establish service level trends.

KPI	Driver	Level of Service	Performance Measure	Target	Current	Data Confidence
Accessibility	SCP & Stakeholders	Transport network is accessible to all users.	Percentage of path segments that meet disability access standards.	100%		
			Percentage of survey respondents that are at least satisfied with their ability to access the Shire's transport network.	80%+		

Table 10: AMP Service Levels

HOW IS THE SERVICE CHANGING?

Generally, the demand for services changes over time. As a result, the assets that support these services, and the way in which they are managed, may also need to change.

Future Considerations

Looking forward, over the life of this Plan, the Shire should consider the following points when looking at demand for services.

- The pride that local people and in particular long-term residents have in their shire and their desire to support and care for each other.
- The importance of agriculture and rural services and the need to think big to attract rural business opportunities.
- A desire for the Shire to employ local residents wherever this is practical.
- The shrinking population and the potential impact this could have on community facilities and services.
- The importance of volunteering and the potential for volunteer burnout with the pool of volunteers shrinking.
- The importance of and potential for local tourism with COVID-19 resulting in a significant increase in visitors to the town.
- The lack of suitable rental accommodation to attract workers to the town.
- The importance of attracting community minded people, targeted skills and boutique business to the town and the region.

Change Mitigations

To meet the challenges that will arise from service change, the Shire should consider:

- Reviewing its path network concentrating on connectivity to accommodate an increasing numbers of older users.
- Provision for electric vehicle recharge stations.
- Upgrade its road network to meet the requirements of larger vehicles.
- Look to secure gravel resources for the future.
- Continue to develop its own water security with dams and potentially bores.
- Applying more resources in the maintenance of its gravel road network.
- Implement initiatives that make our town environments more liveable, eg street trees.
- Collection of further asset data and establish ready to implement processes to aid effective claiming of disaster relief funding.

Future major projects

Upcoming and proposed projects that will influence the asset portfolio moving forward:

- Wheatbelt Secondary Freight Network Projects (Dangin Mears Upgrade Project)
- Community Building/Rec Facilities Upgrade

HOW ARE THE ASSETS MANAGED?

Capital investment into renewal and replacement works, which is the main focus of this Asset Management Plan, is only one aspect of how our assets should be managed.

Reactive works

These works are normally conducted in response to an event or as a result of an asset becoming unserviceable or not meeting service expectations. Repair or replacement works are generally initiated to remedy these situations.

Operation and Maintenance Works

These look to implement works at a preventative level wherever possible. This should be done through regular inspection, and planned maintenance schedules. These schedules are under development and considered an area of focus for continued development of this Asset Management Plan.

Renewal Works

These, as is the case with the works programmed from this latest assessment of our assets, are determined by conditions and projected condition as time moves forward. The treatment, as the name suggest, make the asset treated as new again. In so doing the work contributes to maintaining or improving the overall asset condition.

Upgrade & New Works

The need for new and/or upgraded assets typically takes place to meet service deficiency. Upgrade works typically utilise in some shape or form an existing asset whist new works are conducted on a standalone basis. Upgrade works can often, particularly in the road environment, include a renewal component (ie. Dangin Mears Upgrade Works to WSFN Standard)

The aim of staggered work cycles is to prolong the life of assets by seeing that they are maintained well. Good asset management practice sees a reduction in reactive works by intercepting this work with good maintenance and renewal works.

WHAT WILL BE THE SERVICE COST?

The Shire's assets are a significant ongoing cost commitment to our community.

Our program costs are provided below. The program and costs flowed directly out of the modelling exercise with only minimal manipulation of the outputs.

The model has generated renewal streams for each of the asset categories for the period 2022/23 (Year 0) to 2032/33 (Year 10). These can be found in the companion document "Shire of Quairading TAMP Input Data – V1 – as of 23 September 2022"

There has been no smoothing of the costs so projected works may need timing adjusted to meet the available annual budgets.

The program provided is at a good level of detail to feed the long term financial plan. The long term financial plan can further adjust and refine timings to balance costs even further over the years. The long-term financial plan also looks at our savings reserves, borrowings and external funding may be prudent for planned high expenditure years.

If the overall level of expenditure is too high to be sustained in the Long-Term Financial Plan the Asset Management Plan will need to be adjusted (increased condition triggers) to produce a reduction in program expenditure and potentially a reduction in service levels for a more sustainable outcome.

Figure 2 below is the financial summary of the 10-year renewal program based on renewal treatments being applied when condition of the asset reaches a designated renewal condition trigger, nominally a condition score of 4 (Poor).

The condition triggers were adjusted to achieve a consistent condition rating of between Good and Average (2.4) and to achieve an asset sustainability ratio of approximately 100% (Annual Renewals equal to Annual Depreciation).

Shire of Quairading Asset Renewal Summary (Y0 = 2022/23)

Renewal Condition Trigger	Renewal Program	Weighted Average Condition Year 0	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Total	Weighted Average Condition Year 10	Renewals Per Annum	Annual Depreciation
3.5	Bridge Renewal	2.8	$0	$0	$744,000	$0	$0	$0	$0	$0	$0	$0	$0	$744,000	3.0	$67,636	$65,431
4.0	Buildings Renewal	2.1	$142,620	$107,262	$0	$202,068	$97,276	$124,623	$0	$113,356	$328,722	$515,563	$226,238	$1,857,728	2.5	$168,884	$318,117
4.0	Culvert Renewal	2.5	$467,630	$0	$0	$0	$0	$0	$0	$72,390	$0	$0	$0	$540,020	2.8	$49,093	$90,229
4.0	Footpath Renewal	2.9	$248,650	$144,700	$0	$0	$0	$213,850	$0	$27,020	$0	$0	$0	$634,220	2.0	$57,656	$31,570
4.0	Other Structures Renewal	2.3	$0	$16,000	$592,000	$61,900	$0	$534,864	$187,400	$33,700	$192,000	$1,405,620	$88,200	$3,111,684	2.3	$282,880	$240,931
4.0	Road Reconstruction*	2.0	$200,378	$984,900	$920,300	$2,247,500	$0	$0	$0	$0	$0	$0	$0	$4,353,078	1.9	$395,734	$245,934
4.5	Road Resealing*	2.5	$560,860	$915,397	$192,590	$477,330	$1,512,690	$1,070,692	$0	$12,100	$881,320	$1,452,180	$255,000	$7,330,159	2.3	$666,378	$534,731
4.5	Road Resheeting*	2.7	$0	$0	$1,358,851	$0	$0	$0	$3,102,155	$0	$0	$0	$0	$4,461,006	2.9	$405,546	$592,368
4.0	Sign Renewal	2.2	$0	$0	$31,979	$0	$38,553	$0	$0	$0	$88,702	$0	$0	$159,234	2.2	$14,476	$11,784
4.5	SWC Renewal	2.7	$521,482	$1,089,794	$0	$0	$1,105,408	$0	$1,442,478	$0	$518,722	$0	$1,089,794	$5,767,678	2.8	$524,334	$457,366
	Totals	**2.3**	**$2,141,619**	**$3,258,053**	**$3,839,720**	**$2,988,798**	**$2,753,927**	**$1,944,029**	**$4,732,033**	**$258,566**	**$2,009,466**	**$3,373,363**	**$1,659,232**	**$28,958,806**	**2.4**	**$2,632,619**	**$2,588,462**

Note: Roads Hierarchy Class 5 and Class 6 have been excluded from the Road Renewal Programs

Rank	Description of Condition
1	**Excellent** Only normal maintenance required
2	**Good** (Minor Defects Only) Minor maintenance required (5%)
3	**Average** (Maintenance Required to Return to Accepted Level of Service) Significant maintenance required (10-20%)
4	**Poor** (Requires Renewal) Significant renewal/upgrade required (20-40%)
5	**Very Poor** (Asset Unserviceable) Over 50% of asset requires replacement

Figure 2: 10 Year Infrastructure Renewal Program

IS THE SERVICE SUSTAINABLE?

The Shire monitors the effectiveness of the AMP through three financial ratios. They measure the past, present and future ability to renew assets when required.

Past - Sustainability Ratio (ASR) - *Shire Benchmark > 90%*

This ratio indicates whether a local government is replacing or renewing existing non-financial assets at the same rate that its overall asset base is wearing out. The ratio compares the average actual expenditure on asset renewal to the annual depreciation expense.

Present - Consumption Ratio - *Shire Benchmark > 50%*

This ratio seeks to highlight the aged condition of a local government's physical assets by comparing their fair value (worth in current state) to their replacement cost (worth in as new state).

Future - Renewal Funding Ratio - *Shire Benchmark > 75%*

This ratio indicates whether the local government has the financial capacity to fund asset renewal as required, and can continue to provide existing levels of services in future. The ratio compares the available asset renewal expenditure in the Long-Term Financial Plan (under development) to the required asset renewal expenditure in the Asset Management Plans.

Past Sustainability Ratio	Present Consumption Ratio	Future Renewal Funding Ratio
80%	70%	Awaiting LTFP

Table 11: Service Sustainability Ratios

Note: The current figures are heavily influenced by a value dominant road asset dataset (62% of Asset Portfolio)

HOW WILL THE SHIRE IMPROVE ITS SERVICE MANAGEMENT?

Where possible, and appropriate, the Shire is committed to improving its asset management practices. The following actions have been identified by this AMP for future implementation.

Task	Year
Undertake a verification inspection of assets due for renewal in Year 0 (2022/23) and Year 1 (2023/24)	Immediate
Undertake a full visual assessment of Roads and associated infrastructure (last done February 2020)	Mid 2023
Schedule annual updating of RAMM (new assets) and Interim Valuations to keep asset data current.	Ongoing
Expand the use and understanding of the RAMM database within the organisation	2022/23
Consider adopting RAMM as the Shires "single source of truth" Asset Management System for managing the Shires physical assets.	2023
Undertake community consultation to gain greater understanding of service level requirements.	2022/23
Continue to look for further external funding opportunities to cover any gaps in funding for the projected 10 Year renewal program.	Ongoing
Cost the above initiatives and apply available remaining consultant's funds to commence priority activities and submit other remaining costs for suggested approval in future budgets.	2022/23

Table 12: AMP Opportunities for Improvement

FURTHER READING AND REFERENCES

Shire of Quairading – Asset Management Strategy Endorsed 46 - 22_23

Shire of Quairading – Strategic Community Plan

Shire of Quairading – Long Term Financial Plan (Under redevelopment)

Shire of Quairading – Road Hierarchy

Source documentation for information nominated in this September 2022 Asset Management Plan

Shire of Quairading TAMP Input Data - V1 – as of 23 September 2022

This is the NEWROC provided standard format information capturing and summary sheet where most of the tabulated information and provided figures in this report have come from. It also includes the full 2020/21 APV Valuation Dataset and the predictive condition model and renewal programs. The sheet is in excel format and is stamped V1 - 23 September 2022 so that it is identified as the version that ties to this Asset Management Plan.

2020/21 APV Valuation Reports

2021 Road and Open Spaces Infrastructure – Effective Valuation Date 30/6/2021

2021 Land and Building Assets – Effective Valuation Date 30/6/2021

RAMM Database

Roads and associated assets physical attributes and condition ratings.