



Path Asset Management Plan 2018

Adopted Document



November 2018

VI.4

Document Control	<div> IPWEA <small>INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA</small></div> <div></div>				
Document ID:1) LCC PAMP 32018 draft VI.4 (working doc autorecover)					
Rev No	Date	Revision Details	Author	Reviewer	Approver
VI.1	20 July 2017	Draft	LCC	K Delaney	
VI.2	19 Feb 2018	Draft	LCC	K Delaney	
VI.3	2 April 2018	Draft for Briefing	LCC	K Delaney	
VI.4	5 Nov 2018	Adopted Document	LCC	K Delaney	

Template © Copyright 2016 – All rights reserved.
The Institute of Public Works Engineering Australasia.
www.ipwea.org/namsplus

TABLE OF CONTENTS

Contents

1	EXECUTIVE SUMMARY	5
1.1	Context	5
1.2	Purpose of the Plan.....	5
1.3	Asset Description	5
1.4	The Path Assets Service	7
1.5	Future Demand.....	8
1.6	Demand Management	9
1.7	What does it Cost?.....	9
1.8	What we will do.....	10
1.9	What we cannot do	11
1.10	Managing the Risks	11
1.11	Confidence Levels	12
1.12	The Next Steps	12
2	INTRODUCTION.....	13
2.1	Background.....	13
2.2	The purpose of the PAMP.....	14
2.3	The relationship of the PAMP with the Road Management Plan.....	14
2.4	PAMP Stakeholders	15
2.5	Goals and Objectives of Asset Management.....	18
2.6	Plan Framework.....	19
2.7	Core and Advanced Asset Management	19
2.8	Community Consultation	19
3	LEVELS OF SERVICE	20
3.1	Customer Research and Expectations	20
3.2	Strategic and Corporate Goals	21
3.3	Legislative Requirements.....	22
3.4	Service Provision	23
3.5	Levels of service	24
3.6	Technical Levels of Service.....	26
3.7	Renewal Works.....	30
3.8	The provision of New and upgraded Assets.....	30
3.9	Construction Standards for Reconstructed (Asset Renewal), Upgraded and New Assets.	30
4	FUTURE DEMAND	31
4.1	Demand Drivers	31
4.2	Short-term consideration (0-5 Years)	32
4.3	Medium- to long term consideration (>10 Years).....	32
4.4	Long-term consideration (> 20 Years)	32
4.5	Method of ongoing utilisation monitoring.	32
4.6	Changes that Impact Service Demand (i.e. the types of paths required)	32
4.7	Demand Management Plan	33
4.8	Coordinating New Path Infrastructure Provision.....	33
4.9	Asset Programs To Meet Demand.....	33
5	LIFECYCLE MANAGEMENT PLAN.....	35
5.1	Background Data.....	35
5.2	Physical parameters	35
5.3	Asset capacity and performance	36
5.4	Asset condition	37
5.5	Asset valuations.....	38

5.6	Historical Data	40
5.7	Infrastructure Risk Management Plan.....	40
5.8	Insurance	41
5.9	Routine Operations and Maintenance Plan.....	41
5.10	Asset Hierarchy.....	43
5.11	Renewal/Replacement Plan.....	45
5.12	Renewal and Replacement Strategies	45
5.13	Path Renewal Treatments	46
5.14	Summary of future renewal and replacement expenditure.....	47
5.15	Capital Investment Strategies	47
5.16	Summary of future upgrade/new assets expenditure	48
5.17	Disposal Plan	48
6	FINANCIAL SUMMARY	49
6.1	Financial Statements and Projections	49
6.2	Sustainability of service delivery.....	50
6.3	Projected expenditures for long term financial plan	53
6.4	Funding Strategy	54
6.5	Valuation Forecasts	55
6.6	Key Assumptions made in Financial Forecasts	57
6.7	Forecast Reliability and Confidence.....	58
7	PLAN IMPROVEMENT AND MONITORING	60
7.1	Status of Asset Management Practices	60
7.2	Accounting and financial systems	60
7.3	Asset Management System	60
7.4	Geographic Information System (GIS)	60
7.5	Monitoring and Review Procedures.....	61
7.6	Performance Measures	61
8	REFERENCES.....	62
9	APPENDICES	63
	Appendix A - Proposed Renewal/Maintenance Response Service Level Agreement	64
	Appendix B - Projected 10 year Capital Renewal and Replacement Works Program.....	74
	Appendix C - Projected Upgrade/New Expenditure 10 year Capital Works Program.....	75
	Appendix D - Budgeted Expenditures.....	78
	Appendix E - Abbreviations.....	79
	Appendix F - Glossary.....	80
	Appendix G - PATH Network Plans.....	91
	Appendix H - PAMP Improvement Plan.....	113

I EXECUTIVE SUMMARY

1.1 Context

Latrobe City is one of Victoria's four major regional cities with a population of over 75,000 residents located approximately 150 km east of Melbourne.

Latrobe City is made up of four central townships: Churchill, Moe-Newborough, Morwell and Traralgon and the smaller rural townships of Boolarra, Glengarry, Toongabbie, Tyers, Traralgon-South, Yallourn North and Yinnar. Council's path assets underpin the community's ability to gain pedestrian access properties and to move around Latrobe City.

The Latrobe City path network seeks to provide a safe environment where community members can gain pedestrian access (including the use of mobility devices), bicycle access or enjoy recreational exercise through walking and/or cycling.

The service provides for:

- Access to activity centres and community precincts
- Access within activity centres and community precincts
- Linkage with public transport
- Access within and between local neighbourhoods
- Recreational walking/cycling within towns and, to a limited extent;
- Recreational walking/cycling between townships.

Where there are no footpaths or shared paths this service is provided upon road shoulder or along the roadside verges.

Council receives numerous requests to extend the path networks or to provide differently surfaced paths, whether they be for walking, cycling, or a shared path use.

For the purposes of this plan the term Path is used to designate all paths, and includes footpaths, shared paths and cycle paths both hard surfaced and gravel. Tracks which are a lower standard path that service bushland reserves and on road cycle lanes are not included as part of this asset management plan.

1.2 Purpose of the Plan

The purpose of this Path Asset Management Plan (PAMP) is to assist with decision-making related to Council's existing path infrastructure, to present asset information, and to predict the financial requirements for the long-term provision of the path assets.

The plan presents Council's strategic approach based on balancing the community's desired service levels with Council's ability to provide the service. Council defines standards and service levels to be delivered in accordance with user needs, regulations, industry practice and legislative codes of practice.

1.3 Asset Description

The Latrobe City path network comprises constructed paths be they gravel or a hard surfaced such as asphalt, concrete, clay or brick pavers. The network seeks to provide a safe environment where community members can walk or bicycle for utilitarian purposes or recreationally.

Assets considered in the preparation of this PAMP include:

- Footpaths
- Pram Crossings
- Bicycle paths; and
- Shared Paths (both pedestrians and bicyclists)

The assets components considered in this PAMP, include path surfaces and the associated path formation for all the constructed sealed and unsealed paths for which Council is responsible.

Although Council is not responsible for the management of Declared Main Roads such as Princes Highway the paths within these road reserves are Council's responsibility. This plan does not include formed or informal paths and tracks developed by others.

Pedestrian bridges or boardwalks that form part of the path network have been included in the Bridges and Major Culverts Asset management Plan.

The Latrobe City Council path network is primarily comprised assets of the following hierarchies:

- High Use Paths 61.0 km
- Medium use Paths 56.2 km
- Low use Paths 66.8 km
- All Paths 784.0 km

The path network is comprised assets with the following surface-types:

- Concrete 722.2 km
- Brick Paver 11.8 km
- Asphalt 2.0 km
- Bitumen (Spray Seal) 4.4 km
- Gravel 43.6 km
- All Paths 784.0 km

Table 1.3.1 - Path Network presenting path type and principle adjacent land use

Network Hierarchy/Surface-type & Adjacent land-Use	Commercial	Community	Education	Industrial	Open Space	Peri-Urban	Recreation	Residential	Rural Living	Total (km)
High Use / Sealed	26.0	0.1	0.7	0.2	0.1	1.9	1.2	29.1	0.0	59.2
Medium Use/ Sealed	11.7	0.4	0.8	0.0	10.0	2.7	0.6	27.3	0.0	53.5
Low Use / Sealed	29.7	2.2	0.9	7.1	6.5	8.6	2.2	569.8	0.8	627.7
High Use / Unsealed	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.1	0.0	1.8
Medium Use / Unsealed	0.0	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	2.8
Low Use / Unsealed	0.0	0.5	1.2	0.0	7.0	8.9	0.9	19.4	1.2	39.1
Total (km)	67.3	3.2	3.5	7.3	28.0	22.1	4.9	645.7	2.0	784.0

Assets considered in the preparation of the PAMP include:

- Central Business District paths that extend from shop front to back of kerb.
- Residential footpaths.
- Off-road shared pathways.
- Paths through reserves.
- Paths at Council properties such as recreation reserves and pre-schools.
- Rural shared paths.

Assets not considered in the preparation of the PAMP include:

- Minor unformed tracks within bushland reserves.
- The Grand Strzelecki Track.
- Gippsland Regional Rail Trail.
- Grand Ridge Rail Trail.
- TRU Energy Conservation Reserve Track (Latrobe Road).

The excluded tracks trails and paths are either unimproved, of a very minor nature or not the responsibility of Latrobe City.

1.4 The Path Assets Service

The path network serves to provide a non-vehicular (pedestrian, bicyclists, and as much as is practical with the financial limitations, people in mobility devices) transport service to enable access to properties and to provide access within Council owned or managed properties and reserves.

The PAMP levels of service give due regard to the strategic goals and objectives in the Council Plan and current understanding of the community's desired service levels. Future iterations of this Plan will be tested and amended in line with actual community service levels.

It is always a challenge to strike a balance between the needs and desires of the community and what can realistically be achieved with the financial and resource limits. Council however, has been providing a path network for many years and officers have developed current service provision levels over time to best match the perceived community desires constrained by resources.

There are two key service attributes:

'Service Provision' – being the extent, location and type of paths that are provided. There is no general standard that specifies the provisioning of paths, each Council determines its level of provisioning based on criteria such as the perceived demand. Guidelines exist for new residential and commercial development which set the standard for contemporary provisioning applicable for new development. As such the level of service provision for paths is markedly different depending upon the era in which the residential or commercial development was undertaken.

- A significant amount of early development within Latrobe City was undertaken on behalf of the State Electricity Commission and the coverage of residential footpaths was comprehensive, usually with 1.2 metre wide paths on both sides of streets, either without pram ramps or ramps that generally do not meet current standards.
- Private development commencing in the 1960's and picking up momentum in the 1980's was typified by a more minimal approach to the provision of residential footpaths with 1.2 metre wide paths often located one side of the street only and no paths in residential courts.

- These practices continued until the implementation of Rescode in the early 2000's when a higher level of residential footpath provisioning was adopted. Rescode was supplemented with Council's own Latrobe City Design Guidelines that defined the current default width of 1.5m and better matched the Disability Discrimination Act 1994 with respect to the provision of pram ramps.

The level of infrastructure provisioning provided at time of development among other features is reflected in property values within each development. It may be considered that the first property owners in developments have in effect, paid for the level of infrastructure provisioning that they enjoy and value continues to be reflected in the subsequent sale price and the rateable value of those properties.

Community members generally link the provisioning of infrastructure in the vicinity of their property to the payment of rates and not to the provision level by the original developer of their properties. This is understandable, and often leads to residents questioning why their properties are not provided with footpaths.

“Condition level of service” – The physical condition to which the assets will be maintained and the condition that assets are renewed is a measure of the service provided.. This service attribute is defined in *community* (Community Levels of Service) terms and *technical* (Technical Levels of service) terms.

- Physical condition criteria are generally specified to manage risk or to provide for specific function, however feedback from the community has brought forward the concept of “cosmetic condition” as a consideration for determining the level of service.
- Although not endorsed in the AM Plan, Council could consider a “cosmetic intervention level”. This is currently handled with discretionary funding such as streetscape renewal projects. The Moe Activity Centre Plan (MACP) for example proposes to renew the footpaths in much of the Moe town centre, this is not because they are not providing safe and convenient access to the adjacent properties but because they look dated and to some unappealing and do not present the township amenity in a favourable light.
- Similarly, replacing a path bay or adjacent bays because they have displaced more than the condition based intervention level can also present an unappealing appearance due marked difference in appearance between the new and older elements. The AM Plan does not propose the replacing larger sections of paths to create a homogeneous appearance.

The Road Management Act 2004 obliges Councils in Victoria to document the basic technical service levels that Council will apply for roads and paths. These are risk focused and are contained in Council's Road Management Plan. The Road Management Plan (RMP) is adopted by Council and made publicly available. Its technical service levels forms part of the levels of service of this presented in section 3 of this PAMP.

1.5 Future Demand

The Australian Bureau of Statistics indicates that by 2030 Latrobe City's population will be more than 84,000.

The majority of this growth is currently within the Traralgon area and projected for the Lake Narracan area north of Moe. Most new assets will be developer provided, although some concurrent upgrade will be required as part of Council's obligation under Development Contribution Plans.

Areas of the network of specific interest for the foreseeable future include:

- Renewal of the Moe town centre paved footpaths as part of the Moe Activity Centre Plan, in part driven by their cosmetic appearance.
- Development of Streetscape guidelines to help develop pleasant, cohesive, and manageable streetscapes for at least the smaller townships.

1.6 Demand Management

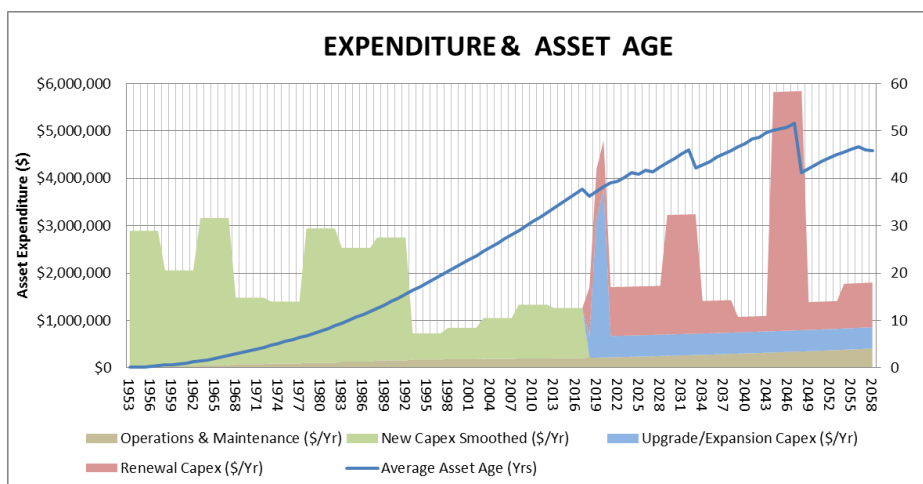
The future growth areas and the areas of specific interest are:

- The increasing aged demographic – may increase the number of people who walk for recreation, or for utilitarian purposes (i.e. shopping)
- The reduction in the number of children walking or cycling to school etc.
- Potential for increasing the support for bicycling as an alternative transport to driving.

1.7 What does it Cost?

The Council path network is a considerable investment that has been built-up over many years and presents a significant commitment to fund its upkeep and eventual renewal as these assets reach the end of their useful lives. The history of investment and the forward expenditure is presented in Figure 1.7.1

Figure 1.7.1 - Projected Operating and capital Costs of the Path Service



The assets that make up the path network have a 'Greenfields' replacement value of **\$114,099,468**, which consists of the following breakdown of the value as shown in Table 1.7.1. These infrastructure assets have a 'Brownfields' replacement value of **\$121,966,043**.

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) are presented in Table 2.2.

Table 1.7.1– What does The Path Service Cost?

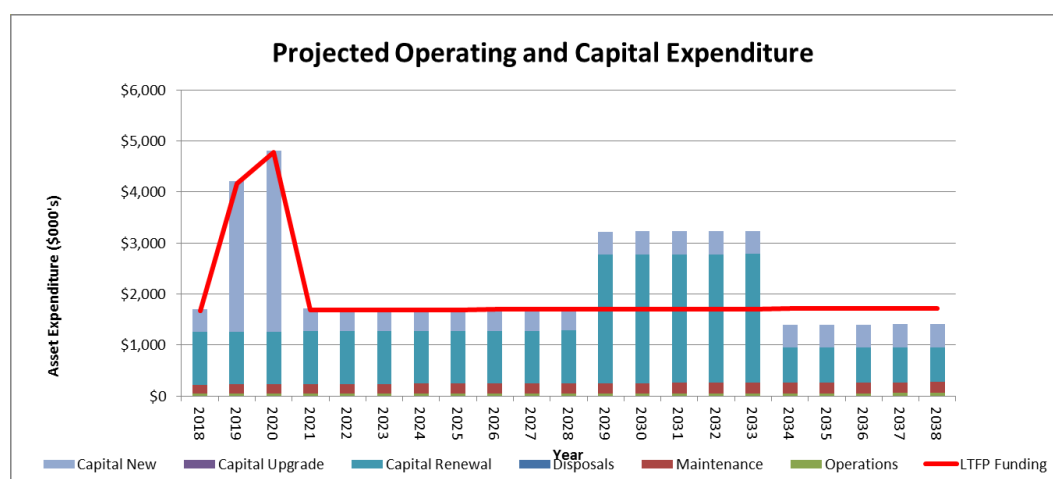
Latrobe Paths:	
What does it cost?	\$000's
10 year total cost [10 yr Ops, Maint, Renewal & Upgrade] -> Proj Exp	\$12,770
10 year average annual cost	\$1,277
10 year total LTFP budget [10 yr Ops, Maint, Renewal & Upgrade -> LTFP Budget]	\$11,538
10 year average annual LTFP budget	\$1,154
10 year AM financial indicator	90%
10 year average annual funding shortfall (-ve shortfall, +ve Surplus)	-\$123

The projected outlays necessary to provide the services covered by this Asset Management Plan (AM Plan) includes operations, maintenance, renewal and upgrade of existing assets over the 10-year planning period is **\$12,770,000** or **\$1,277,000** on average per year.

Estimated available funding for this period is **\$11,538,000** or **\$1,153,800** on average per year which is **90%** of the cost to provide the service.

This is a funding shortfall of **\$123,000** on average per year. Projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long Term Financial Plan are shown below in Figure 1.7.2. The spike in 2019 and 2020 represents the new Traralgon to Morwell Shared Path.

Figure 1.7.2- Projected Operating and capital Costs of the Path Service



1.8 What we will do

We plan to:

- Fund operational and maintenance cost for the existing path network to meet the provision and condition service levels set in this AM Plan, and consistent with the Latrobe City Road Management Plan intervention and response levels.
- Undertake major rehabilitation of the High and Medium use footpath network as they reach condition 5.
- Renew or rehabilitate 75% of the low usage footpaths as they reach condition 5 and the remaining 25% to be renewed at Condition 6.
- Fund a \$450,000 per annum program of new paths to link the existing footpath network and to provide paths in linear reserve over the 10 year planning period.

1.9 What we cannot do

We do **not** have enough funding to provide all service provisioning at the desired service levels or provide new paths above the already established programs.

Works and services that cannot be provided under present funding levels are:

- The provision of footpaths in front of residential properties that were not provided as part of the development of the property.
- Early renewal of the Moe CBD brick paving before that determined in the AM Plan condition timing. Moe CBD paver renewal will be progressed as an initial pilot project to determine style pallet and cost before being fully costed for consideration.
- Increase the existing network other than the noted annual funding program for new paths (Missing Links Program and the Linear paths Program), or when funded externally such as the Traralgon to Morwell path currently being constructed.

1.10 Managing the Risks

As with all Council services there are risks associated with providing the service.

We have identified major risks as:

- The use of first generation asset degradation curves which potentially may lead to lower confidence in decision-making and 'looseness' in the funding calculation for maintenance and renewals;
- The distributed nature of responsibility for path asset maintenance and rehabilitation.
- An ageing footpath network which will require an eventual transition renewal and rehabilitation undertaken as individual bay replacement to the replacement entire path sections.
- Accidents and injuries resulting in insurance claims.

We will manage these risks within available funding by:

- Conducting regular condition audits and site inspections to determine the remaining useful life of assets and maintenance requirements.
- Continued effort to rationalise collected data and improved processes to ensure data completeness and accuracy;
- Improved training and education of staff to increase awareness and adherence with associated standards,
- Request funding for renewal and rehabilitation as required and to monitor trends of maintenance requirements and techniques.
- Continue to undertake planned maintenance and rehabilitation (step grinding and bay replacement) for displacement and cracking to extend useful life.
- Maintain quick response to reported defects that are over the intervention levels listed in the Road Management Plan.
- Continue to renew through bay replacement rather than street block length renewal.

1.11 Confidence Levels

This PAMP is based on a **HIGH** level of confidence in the data due to the historic need to manage risk. The data has been developed incrementally over some 25 years, and the current data set has been created from a variety of sources generally with a **HIGH** degree of accuracy. The data has been tested and has been provide a proven to **HIGH** level of completeness and accuracy.

There is confidence in the calculation of the financial information is also **HIGH**; the results are based on asset quantities with **HIGH** confidence and asset age with **MEDIUM** confidence. This plan has incorporated asset condition as assessed by independent third party provider who is an expert in this field. The condition has been used to determine remaining useful life, providing a high level of confidence in the financial predictions.

1.12 The Next Steps

The actions resulting from this asset management plan are:

- Better define the roles and responsibilities for the Path service.
- Support the Service planning being undertaken to better define the Path service.
- Redefine within the asset register the asset segmentation, path hierarchy and create an inventory for the missing elements of the footpath network to provide for future service planning.
- Implement the PAMP improvement plan as time and resources allow.

2 INTRODUCTION

2.1 Background

This asset management plan (AM Plan) documents the responsible management of the assets (and services provided from the path assets), document how Council will comply with regulatory requirements, and to predict funding needed to provide the required levels of service over a 20 year planning period.

The asset management plan (AM Plan) follows the format for AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual (IIMM) and is to be read with Council's Asset Management Policy, Asset Management Strategy, and the following associated planning documents:

- Council Plan 2017-21
- Latrobe City – Tracks Trails and Pathways Strategy 2015
- Latrobe City's Road Management Plan 2017
- Latrobe City's Road Asset Management Plan

The infrastructure assets covered by this AM Plan are shown in Table 2.1.1. These assets are used to provide local non-vehicular access and active recreational walking and cycling opportunities for the community.

Table 2.1.1- Assets covered by this AM Plan

Asset category		Length (Km)	Surface Area (000's m2)	Replacement Value "Brownfield's"
High Usage	Concrete paths	55.2	112,276	\$11,494,024
	Asphalt paths	0.9	2,752	\$242,084
	Bitumen Paths	0.0	0	\$0
	Paved paths	3.1	11,944	\$1,256,802
	Gravel Paths	1.8	5,382	\$101,961
High Usage Paths		61.0	132,355	\$13,094,871
Medium Usage	Concrete paths	47.3	83,329	\$6,757,984
	Asphalt paths	5.9	12,460	\$323,226
	Bitumen paths	0.0	0	\$0
	Paved paths	0.3	1,072	\$165,645
	Gravel Paths	2.8	8,250	\$56,695
Medium Usage Paths		56.2	105,111	\$7,303,550
Low usage	Concrete paths	619.7	950,739	\$95,495,015
	Asphalt paths	5.0	10,488	\$629,257
	Bitumen Paths	2.0	3,540	\$342,887
	Paved paths	1.0	1,734	\$361,608
	Gravel paths	39.1	80,609	\$3,904,239
Low Usage		666.8	1,047,111	\$100,733,006
TOTAL PATH NETWORK		784.0	1,284,577	\$121,131,427

Key stakeholders in the preparation and implementation of this asset management plan are shown in Table 2.1.2.

Table 2.1.2 - Key Stakeholders in the AM Plan

Key Stakeholder	Role in Asset Management Plan
Councillors	<ul style="list-style-type: none"> • Articulating community needs, sound management and allocation of resources. • Good governance. • Consideration and adoption of Service levels.
Council Staff / Contractors	<ul style="list-style-type: none"> • Strategic planning and asset management. • Management and delivery of capital and maintenance works. • Provision of a safe footpath environment. • Responses to Community requests.
Community Residents and businesses	<ul style="list-style-type: none"> • Customers of the service. • Community requests and feedback. • Response to Community Satisfaction Survey.

2.2 The purpose of the PAMP

The fundamental purpose of an asset management plan is to document Council's long-term strategic management of paths in the context of:

- Council's available financial and human resources;
- The community's desired levels of service in accordance with Council's key strategic documents, such that legislative requirements are met.

The PAMP achieves this by defining the standards, provision and condition service levels and programs which Council will develop and deliver. The standards and service levels have been set in accordance with user needs, regulations, industry practice and legislative codes of practice.

2.3 The relationship of the PAMP with the Road Management Plan

The Road Management Act provides a legal framework for the management of the public road network inclusive of paths. The Road Management Act imposes specific statutory duties on road authorities to document how they will inspect, repair and maintain to a reasonable standard based on its ability to fund that standard, those roads and footpaths that form part of the public road network. It further obliges Council to document and make public its approach to managing its responsibilities under the Act in a Road Management Plan (RMP).

There is at times a confusion of purpose between an AM Plan and the RMP. The RMP however, speaks only to the risk management aspects of being a Road Authority under the Road Management Act 2004. The PAMP, among other things is focused on good overall strategic management in terms of providing a road and path network, such as future demand, planning, community levels of service and so on.

The provisions of this PAMP apply to those paths available to the public on roads and through reserves and Council properties.

This PAMP does not include hard stand areas that form part of the building surrounds that are maintained as part of the property. The principles of maintenance and risk management are applied through the aspect of being a property owner and less through the regime applied by this plan.

This version of the PAMP has changed a historical position that the homeowner is responsible for a footpath that crosses their driveway. Council has historically obliged the property owner to be responsible for the portion of their driveway that forms part of the continuation of a path.

Although the principle is sound: that being that the property owner has constructed the driveway through the path and is now driving their car across on what is or was a path, and that the damage arising is due to this use, and that therefore they are responsible for maintenance for the length of the driveway from the road edge to the property line. In practice however, the public does not make the distinction between the path through the driveway (historically under the property owner's care and control) separate from the adjacent path. Council officers have had considerable difficulty getting property owners to maintain and repair the portion of their driveway where the path is to what is considered a safe level. The cost to include this portion is minor and severe damage from vehicles can still be charged as damage to the path if necessary.

This change obliges Council to accept responsibility to repair hazards that may cause trips and slips within the driveway. A person constructing a driveway may need to reconstruct the path to accept the additional loads but this is already a standard driveway permit condition. New paths in developments already meet residential driveway design specifications.

2.4 PAMP Stakeholders

Council recognises external and internal stakeholders' needs vary depending on whether these stakeholders are the business community, residents, or visitors.

Key external stakeholders are shown in **Error! Reference source not found..**

Table 2.4.1: External Key Stakeholders

External Key Stakeholder
Community and general users
Local Businesses
Tourists and visitors – as occasional users
Management Committees of the Environment
Tourists and visitors – as occasional users
VicRoads
Developers
Council's Insurer
State and Federal Government

Council's organisational structure for service delivery by infrastructure assets is detailed below. The functions that have been identified in the Asset Management Strategy 2014-2018 are not fully reflected in the organisational structure.

The following table represents the Latrobe City Council positions implementing asset management throughout the asset life cycle.

Within Latrobe City there are internal stakeholders that either have responsibility for the delivery of transport assets or deliver services to our community that depend upon transport asset. The core organisation structure of those stakeholders is presented in Figure 2.4.2 with detail of their role outlined in Table 2.4.1. More detailed outline of responsibilities throughout an assets life-cycle is presented in Figure 2.5.4.

Key internal stakeholders and their role in asset management are outlined in Table 2.4.1.

Table 2.4.1 - Key Internal Stakeholders

Internal Key Stakeholder	Role in Asset Management Plan
Councillors	Represent the needs of community/stakeholders, allocate resources to meet the organisation's objectives in providing services while managing risks, ensure organisation is financially sustainable.
CEO/General Manager	Overall stewardship and responsibility to provide the support structure and resources to allow adequate management of the road assets.
Manager Infrastructure Development	Coordinate the resources to strategically plan, construct new assets, and renewal of existing assets.
Coordinator Infrastructure Planning	Coordinate the strategic asset planning.
Coordinator Infrastructure Design	To design larger path projects as assigned
Coordinator Civil Works Projects	Coordinate the resources to design and deliver the annual rehabilitation and new path construction programs
Team Leader Asset Strategy	Coordinate strategic planning activities and maintain road data.
Asset Assessment Officers	Data collection, condition reporting and spatial location of assets.
Manager Recreation	Coordinate the resources to identify the need for and to prioritise the paths within recreation reserves and open spaces
Co-ordinator Recreation & Open Space Planning	To identify the need for and to prioritise the paths within recreation reserves and open spaces
Manager Operations and Waste	Coordinate the resources reactive and planned asset maintenance.
Co-ordinator Infrastructure Maintenance	Provide support and guidance to reactive and programmed routine maintenance.
Team Leader Sealed Roads and Team Leader Unsealed Roads	Inspect and respond to reactive maintenance requests and undertake routine maintenance.
Infrastructure Maintenance Crews	Respond to reactive maintenance requests and undertake routine maintenance.
Council Business Units	Responsible for operational delivery, local laws enforcement and land use / development planning.

Figure 2.4.1 - Organisational Structure Chart for Path Service

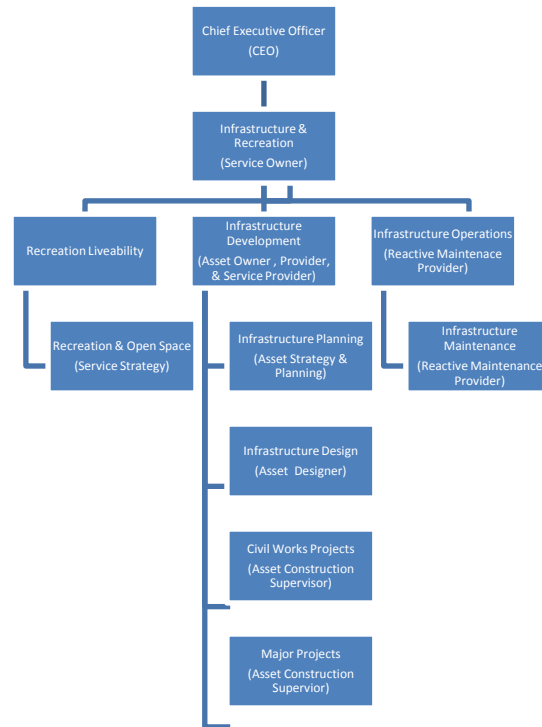
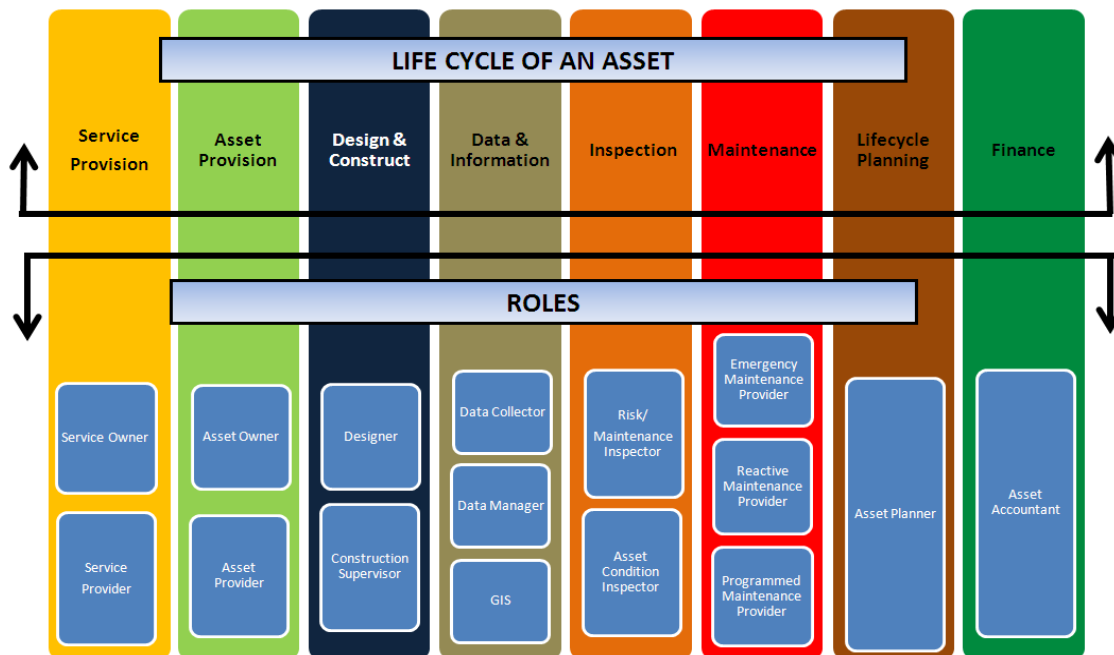


Figure 2.4.2 - Organisational Asset Management Structure/Roles



The principle delivery of transportation infrastructure assets and the service they provide is the responsibility of the “Infrastructure & Recreation” division.

Table 2.4.2- Asset Management Function Responsibilities

Service & Asset Function	Department	Position
Service Owner	Infrastructure Development	GM Infrastructure and Recreation Manger Infrastructure Development
Service Provider	Infrastructure Development	Manager Infrastructure Development
Service Planner	Infrastructure Development	Manager Infrastructure Development
Service Planner	Infrastructure Development Recreation	Manager Infrastructure Development Manager Recreation
Asset Owner	Infrastructure Development	Manager Infrastructure Development
Asset Provider	Infrastructure Development	Manager Infrastructure Development
Asset Designer	Infrastructure Development	Coordinator Infrastructure Design
Construction Supervisor	Infrastructure Development	Coordinator Civil Works Projects Civil Engineers Team Leader Development TO Civil Works
Data Collector	Infrastructure Development	Asset Assessment Officer
Data Manager	Infrastructure Development	Team Leader Asset Strategy
GIS Liaison	Infrastructure Development	Asset Assessment Officer
Risk Inspector	Infrastructure Development	Asset Assessment Officer
Asset Condition Inspector	Infrastructure Development	Asset Assessment Officer
Emergency Maintenance	Infrastructure Development	TO Roads & Drains
Reactive Maintenance	Infrastructure Operations	Team Leader Sealed Roads Team Leader Unsealed Roads
Programmed Maintenance	Infrastructure Development	TO Civil Works
Asset Planner	Infrastructure Development	Coord Infrastructure Planning
Finance Planner	Finance	Manager Finance
Asset Accountant	Finance	Accounting Services

2.5 Goals and Objectives of Asset Management

A key reason that Council exists is to provide services to its community. Most of these services are provided or supported through infrastructure assets. Council has acquired infrastructure assets by 'purchase', through construction by our staff or through contract, and by being gifted assets constructed by developers and others to meet their increased service demand.

Our goal in managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost-effective manner for present and future users.

The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment.
- Taking a lifecycle approach to cost-effective management strategies for the long-term that meet the defined level of service,
- Managing risks associated with the service delivery as they relate to the assets,
- Having a long-term financial plan which identifies required, affordable expenditure and how it will be financed, and
- Continuing improvement in asset management practices.

2.6 Plan Framework

Key elements of this plan are:

- **Levels of service** – specifies the services and levels of service to be provided by the organisation,
- **Future demand** and how this will impact on future service delivery, and how this is to be met,
- **Service Provision** Specifying where paths are built, to what standard paths will be built.
- **Condition Level of Service** Specifying to what standard paths will be maintained and renewed.
- **Lifecycle management** that outlines how Council will manage its existing and future assets to provide the defined levels of service,
- **Financial summary** of what funds are required to provide the defined services, and
- Asset Management Improvement Plan (Appendix H).

2.7 Core and Advanced Asset Management

This PAMP is prepared as a ‘core’ asset management plan in accordance with the International Infrastructure Management Manual. It meets legislative and organisational requirements for sustainable service delivery and long term financial planning and reporting. Core asset management is essentially where the level of service is based on current service levels and current strategy, and not optimised in consideration of community expectations or Council’s ability to fund different service delivery strategies.

Future revisions of the PAMP will move towards ‘advanced’ asset management using a ‘bottom up’ approach, gathering asset information for individual assets inclusive of asset condition to support the optimisation of activities and programs to meet agreed service levels in a financially sustainable manner.

To elaborate the ‘core’ AMP does not attempt to:

- Optimise decision making, or to
- Balance community expectation of service provision and levels of service to Council’s ability to fund.

This approach is consistent with recommendation 3.1.1 of the Asset Management Strategy 2014-18 being “Identify and prioritise the Level 1 Service Plans to support the nominated AMP’s”.

2.8 Community Consultation

Future revisions of the PAMP will incorporate community consultation on service levels and costs of providing the service. This will assist the Council and the community in matching the level of service needed by the community, service risks and consequences with the community’s ability and willingness to pay for the service.

3 LEVELS OF SERVICE

3.1 Customer Research and Expectations

The organisation has not carried out any research on customer expectations. This will be investigated/undertaken for future updates of the PAMP. The current levels of service have been informally benchmarked against similar Councils in the area and have been shown to be consistent in all aspects. A review of the footpath defect intervention levels by a risk management expert associated with the Municipal Association of Victoria as part of the revision of the Road Management Plan indicates that the defect interventions are more stringent (lower height) than that recommended, although they indicated we should have a faster response time once the defect is identified. A faster response time to make defects safe (if not repaired) has not been incorporated however the response time to repair defects was reduced.

The levels of service developed for this plan are based on current adopted technical levels of service that have been the experience of Council in delivering the service and responding to community requests and complaints.

We participate in the Local Government Community Satisfaction Survey. This survey polls a sample of residents on their level of satisfaction with Council's services. The most recent community satisfaction survey reported satisfaction levels with the condition of footpaths and local streets as a combined category. As such this is an imprecise consideration of the community's satisfaction with the footpath service but broadly it would highlight any major dissatisfaction.

Council currently receives feedback from the community from the following various sources:

- Benchmarking with like Councils
- Pathways Request – customer requests and reactive asset complaints, and
- Annual Local Government Community Satisfaction Surveys.

Table 3.1.1 - Community Perception of Importance

Performance Measure Importance to the community of footpaths and local streets	I – 5 Score	Community Importance				
	Overall Score	Extremely Important 1	Very Important 2	Fairly Important 3	Not That Important 4	Not at all Important 5
2016 – Very Important Carried forward from 2014	1.93	34%	43%	20%	2%	1%
2015 – Very Important Carried forward from 2014	1.93	34%	43%	20%	2%	1%
2014 - Very Important	1.93	34%	43%	20%	2%	1%
2013 - Very Important	1.88	36%	42%	20%	2%	0%
2012 - Very Important	2.01	29%	45%	23%	2%	0%

Note – Data series terminated in 2014 an alternative will need to be sourced for future revisions of this plan.

Table 3.1: Community Satisfaction Survey Levels

Performance Measure Satisfaction of the community with the condition of footpaths and local streets	1 – 5 Score	Satisfaction Level				
	Overall Score	Very Satisfied 1	Fairly Satisfied 2	Satisfied 3	Somewhat satisfied 4	Not Satisfied 5
2016 – Satisfied Carried forward from 2014	2.82	14%	29%	28%	19%	10%
2015 – Satisfied Carried forward from 2014	2.82	14%	29%	28%	19%	10%
2014 – Satisfied	2.82	14%	29%	28%	19%	10%
2013 – Satisfied	2.75	11%	32%	33%	15%	8%
2012 – Satisfied	2.70	9%	39%	30%	13%	8%

Note – Data series terminated in 2014 an alternative will need to be sourced for future revisions of this plan.

In broad terms the survey results suggest that the condition of footpaths is very important to the community and that they are satisfied with the condition of the footpaths.

3.2 Strategic and Corporate Goals

This PAMP is prepared under the direction of the organisation's vision, mission, goals and objectives. Our vision is:

In 2026, Latrobe Valley benefits from a well-planned built environment that is complementary to its surroundings and which provides for a connected and inclusive community.

Our mission is:

To provide the best possible facilities, services, advocacy and leadership for Latrobe City, one of Victoria's four major regional cities.

Relevant organisational goals and objectives and how these are addressed in the PAMP are included in Table 3.2.1.

Table 3.2.1 - Organisational Goals and how these are addressed in this Plan

Goal	Objective	Strategic Directions	How Goal and Objectives are addressed in AM Plan
APPROPRIATE, AFFORDABLE & SUSTAINABLE FACILITIES, SERVICES & RECREATION	To provide facilities and services that are accessible and meet the needs of our diverse community.	Develop and maintain community infrastructure that meets the needs of our community.	To document how Latrobe City Council will provide the path service provision and level of service.
EFFICIENT, EFFECTIVE & ACCOUNTABLE GOVERNANCE OBJECTIVES 2013 – 2017	Work to minimise rate increases for our community.	Ensure Latrobe City Council's infrastructure and assets are maintained and managed sustainably.	To analyse existing services and lifecycle management plans that will optimise the service delivery.

The organisation will exercise its duty of care to ensure public safety is accordance with Council's risk management policies. Management of infrastructure risks is covered in Section 5.7.

3.3 Legislative Requirements

The organisation will meet legislative requirements including Australian and State legislation and regulations. These are included in Table 3.3.1.

Table 3.3.1 - Legislative Requirements

Legislation	Requirement
Local Government Act 1989	Sets out role, purpose, responsibilities and powers of local governments.
Road Management Act 2004	Relates to management of roads
Subdivision Act 1988 and Subdivision Regulations (Procedures) 1989	Sets out the requirements for the provision of infrastructure resulting from development.
ResCode	Specifies infrastructure requirements and standards for urban development.
Environment Protection Act 1970	Relates discharge, emission or deposit of any substance that may pollute any segment or element of the environment
Emergency Management Act 1986	Requires a council to have a Municipal Emergency Management Plan to address local emergency risks.
Occupational Health and Safety Act 2004	Applicable to working on all infrastructure.
All other relevant Australian Standards and Codes of Practice	Such as Codes of Practice relating to Road Management Act and other relevant legislation.
All other relevant State and federal Acts and Regulations	Where applicable, including Disability Discrimination Act (1992) including the Disability Standards for Accessible Public Transport (2002)
All Local Laws and relevant policies of the Organisation	Construction standards, Maintenance contracts, etc

3.4 Service Provision

Service Provision is the extent, location and amount of an asset/service that is to be provided. For example, in the case of buildings it is the number of a particular type of building that is required to provide the service, determined perhaps through assessing the demographics of an area and the resulting need for the service, and then determining how the building asset can support that.

In this instance the service provision is where paths will be provided – be it within a reserve or on one or both sides of a street. The default position within the Latrobe City Design Guidelines is on both sides of each street except short cul-de-sacs and narrow laneways. The current network does not meet this service provision target. In many cases outside of a residential area there is not a demand for a footpath on both sides of a road, or the demand (the number of actual or potential users is very low), and therefore while a footpath on both sides of a road may be an ideal state, it is not as a high priority for Council's discretionary funds.

It is very rare for there to be a demand to provide wider footpaths and as providing a new path (missing link) is considerably more important than widening an existing path for the convenience of walking side by side, no effort is being made to upgrade 1.2m paths to be 1.5m wide.

As suburbs and pedestrian/bicyclist routes change however, gaps in the network where they may wish to have a hard surface path are brought to Council's attention or otherwise noted such as the Tracks, Trails, and Paths Strategy 2015.

The philosophy behind the priority between new path projects is included in detail in Appendix C.

Within reserves – as per the Tracks Trails and Path Strategy 2015. This Strategy was developed to assist prioritising the numerous requests for new paths in reserves. This document was developed and is managed by Recreation and Open Space Strategy due to its link with open space and recreational activities.

The key principles of the strategy are:

- Education of the benefits of active transport:
 - To provide an appreciation of the benefits of walking and cycling and active transport in achieving councils strategic direction towards community health and wellbeing.
 - Develop strategies for promotion, education, advocacy and support of walking and cycling to create a culture within Latrobe City which respects and embraces walking and cycling both at a strategic decision making level and at a local community level.
 - Identify opportunities to link planned or guided walks for walking groups or tourism based upon the principal pedestrian networks.
 - Develop strategies for the promotion, education, advocacy and support for users of mobility devices
- Assess current reserve path networks for community need:
 - To evaluate the existing walking and cycling networks to assess the connectivity, adequacy in operation, safety, comfort and amenity.
 - Provide strategies for improving the function of walking and cycling so they become a viable transport and recreation option for all Latrobe City visitors and residents.
 - Coordinate planning and delivery of priority walking and cycling infrastructure including assisting in directing capital works expenditure.
 - Establish principal pedestrian networks in the four major towns of Traralgon, Morwell, Moe and Churchill based around key activity centres.

Within street environments the key considerations to prioritise between path projects are:

- Position within path network:
 - (Score 10) Access within major town activity centres
 - (Score 9) Access within small town main street precincts
 - (Score 8) Access within major town local shopping precincts
 - (Score 7) Access to major town activity centres
 - (Score 6) Access to small town main street precincts
 - (Score 6) Access to major town local shopping precincts
 - (Score 5-3) Access between neighbourhoods and major town activity centres
 - (Score 2-0) Access within residential precincts
- Access to transport networks
 - (Score 6) Train stations
 - (Score 6) Bus terminals
 - (Score 3) Local bus stops
 - (Score 2) Cycling networks and regional rail trails
- Community Precincts:
 - (Score 7) Elderly precincts
 - (Score 6) Schools / preschools and childcare centres
 - (Score 5) Community meeting places
 - (Score 4) Sports stadiums
 - (Score 3-1) Recreation reserves
- Community need / support.
 - (Score 6-2) Demonstrated need and use by community.

3.5 Levels of service

3.5.1 Community Levels of Service definition

Service levels are defined in two terms, Community Levels of Service and Technical Levels of Service.

Community Levels of Service measure how the community perceives the service and whether the organisation is providing community value as opposed to the Technical Levels of Service which define how Council will to meet the Community Level of Service.

The organisation's current and expected community service levels are detailed in Tables 3.4.1 and 3.4.2. Both tables show the agreed expected community levels of service based on resource levels in the current long-term financial plan and non-structured community consultation/engagement.

The community level of service has been developed over many years as a result of community feedback, consultation and developments to meet the requirements of the Road Management Act 2004. The levels of service defined in this section will:

- Clarify the level of service that our community should expect;
- Identify works required to meet these levels of service;
- Identify the costs and benefits of the services offered;
- Enable Council and our community to discuss and assess the suitability, affordability and equity of the existing service level and to determine the impact of increasing or decreasing the level of service in future.

The primary purpose of the path network is to provide safe, convenient and mostly all-weather pedestrian access to properties. The community also desires that the access be safe, clean, comfortable, and aesthetically pleasing.

Table 3.4.1: Community Level of Service

COMMUNITY Levels of Service				
<p>The provision of a path network that:</p> <ul style="list-style-type: none"> ○ AMENITY - allows trouble free access of properties and links communities ○ SAFE - allows safe travel; ○ WALKABILITY – trouble free smooth travel; ○ ECONOMIC – supports businesses and general economic development. <p>A safe network of footpaths, pedestrian/cycle/shared pathways for non-vehicular access and recreation.</p> <ul style="list-style-type: none"> • Access within service and activity centres. • Access to service and activity centres. • Linkages with public transport. • Access to and within community precincts. • Access within local neighbourhoods. • Recreational walking/cycling within townships. • Recreational walking/cycling between townships. (in order of Service priority) 				
COMMUNITY LEVELS OF SERVICE				
Attribute	Confidence in meeting Objective	Measure	Current Performance	Target Performance
QUALITY				
Safe	HIGH	Number of community request that exceed intervention levels.	Not known (Improvement Plan Action)	Not Identified (Improvement Plan Action)
FUNCTION				
Connected network	LOW	Annual # of community requests for strategic linkages.	Not known (Improvement Plan Action)	Not known (Improvement Plan Action)
CAPACITY & UTILISATION				
Utilised path network	LOW	Number of community requests related to capacity conflicts.	Not known (Improvement Plan Action)	Not known (Improvement Plan Action)

3.6 Technical Levels of Service

Supporting the Community Levels of Service are operational or technical measures of performance. These technical measures relate to the allocation of resources to service activities that the organisation undertakes to best achieve the desired community outcomes (Community Levels of Service) and are the Technical Levels of Service.

Table 3.6.1 shows the Technical Level of Service expected to be provided under this AM Plan. The agreed sustainable position in the table documents the position agreed by the Council and trade-off of service levels performance, costs and risk within resources available in the long-term financial plan.

The Technical Level of Service relies in part on the Service Potential Index (SPI) which is a condition based measure determined by a weighted average of condition scores for displacement, distortion, cracking and surface texture. An SPI of 1 represents a new or near new state while and SPI of 5 represents a very poor condition state.

Table 3.6.1- Path Technical Levels of Service (Non-Road Management Plan)

Service Attribute	Service Objective	Activity Measure Process	Current Performance *	Desired performance **	Agreed Sustainable Position ***
Operations	Effective Services	Resource agreed works program	Fully staffed, appropriate budget.	Advanced AMP	Advanced AMP
	Asset Planning	PAMP adopted	As per AM Strategy.	Advanced AMP	Advanced AMP
		BUDGET (\$ per annum)	\$1,603,828	Unknown	Unknown
Maintenance	Reactive maintenance	RMP responses achieved	Achieved	Advanced AMP	Advanced AMP
	Planned maintenance	Deliver annual works program	Achieved	Advanced AMP	Advanced AMP
Renewal	Condition for renewal (High)	Condition trigger for renewal	SPI 5	Advanced AMP	Advanced AMP
	Condition for renewal (Med)	Condition trigger for renewal	SPI 5	Advanced AMP	Advanced AMP
	Condition for renewal (Low)	Condition trigger for renewal	SPI 5	Advanced AMP	Advanced AMP
	Path bay replacement	Deliver annual works program	Achieved	Advanced AMP	Advanced AMP
Upgrade/ New	Strategic “Missing Links” or Linear Paths	Five year list of projects	Achieved	Advanced AMP	Advanced AMP

Note:

* Current activities and costs (currently funded).

** Desired activities and costs to sustain current service levels and achieve minimum life cycle costs (not currently funded).

*** Activities and costs communicated and agreed with the community as being sustainable (funded position following trade-offs, managing risks and delivering agreed service levels).

Table 3.6.2 defines the path classification and the related proactive inspection regime. It has been developed, based principally on the volume of usage (both pedestrian and cyclists if applicable) and is from the Latrobe City Road Management Plan 2017. As such it is the risk management Technical Levels of Service.

The path classifications are High Usage (FMC-H), Medium Usage (FMC-M) and Low Usage (FMC-L).

Table 3.6.2 - Path Hierarchy and inspection regime (Road Management Plan)

Hierarchy Type	Footpath Maintenance Category (FMC)	Primary Function
High Usage Zone	FMC-H	Central Business Districts of the following major towns, Moe, Newborough, Churchill, & Traralgon.
Medium Usage Zone	FMC-M	Heavily pedestrianised areas: - minor-shopping areas, collector paths and some shared bicycle/pedestrian paths.
Low Usage Zone	FMC-L	Constructed paths in residential and commercial areas, and rural residential areas; including concrete, asphalt, and gravel paths.

Proactive defect inspections shall be conducted in accordance with the following schedule outlined below in Table 3.6.3. The frequency of inspections varies with the Footpath Maintenance Category (RMC) & Footpath Maintenance Category (FMC).

Table 3.6.3 – Proactive Inspection Path Hierarchy and inspection regime (Road Management Plan)

Hierarchy Type	Footpath Maintenance Category (FMC)	Hazard (Proactive) Inspection Timeframes
High Usage Zone	FMC-H	One (1) inspection every 12 months
Medium Usage Zone	FMC-M	One (1) inspection every 24 months
Low Usage Zone	FMC-L	One (1) inspection every 36 months

Response times to investigate customer requests (Reactive Inspection Response Time frames) are set out in Table 3.6.3 for the footpath maintenance categories.

Table 3.6.3 - Reactive Inspection Response Time frames

Footpath Maintenance Category (FMC)	Control Mechanism	Emergency Inspection Times	Reactive Inspection Times
FMC-H	Inspect rectify if possible, or provide appropriate warning	A (1 day)	A (1 day)
FMC-M	Inspect rectify if possible, or provide appropriate warning	A (1 day)	B (2 Days)
FMC-L	Inspect rectify if possible, or provide appropriate warning	A (1 day)	C (5 days)

The defect intervention levels are defined in Table 3.6.4

Table 3.6.4 – Intervention Levels

Footpath Maintenance Category (FMC)	Hazard Intervention Level	Response Time For Interim Repairs resulting from Customer Requests	Response Time For Permanent Repair
FMC-H	Defective pedestrian areas with a step greater than 10 mm	D (2 weeks)	12 Months
FMC-M	Defective pedestrian areas with a step greater than 20 mm	D (2 weeks)	12 Months
FMC-L	Defective pedestrian areas with a step greater than 20 mm	E (4 weeks)	18 Months

Note 1: Council will not maintain nature strips and sweep footpaths of leaves, nuts and fruits from street trees. Inappropriate street trees that drop nuts and fruits on paths will be replaced under the appropriate tree management plan as funds become available.

Note 2: An appropriate interim repair is made when Customer Request highlights a defect above intervention. Interim repairs may interim measures to reduce the defect such as applying asphalt, or may be to highlight the defect such as painting or signage

Table 3.6.1, Table 3.6.2, and Table 3.6.3 defines the Technical Level of Service to be provided under this PAMP. The agreed sustainable position in these tables documents the current position of Council based on existing and past practice. Further development of this Plan will include/consider community consultation and trade-off of service levels performance, costs and risk within resources available in the long-term financial plan.

3.7 Renewal Works.

The PAMP does forecast when an asset will reach the end of its useful life, however footpaths are not renewed in this way at Latrobe City. Renewal is funded wholly by Council under the Footpath Bay Replacement Program, that is to say, discrete panels are replaced where they have failed.

The Footpath Grinding Program also returns the asset to the current service level; however the asset is not reset to its original expected life and therefore is categorised as repair or maintenance.

3.8 The provision of New and upgraded Assets

New assets are identified for the path network through a strategic review to identify missing links in the path network, and for the recreational network by way of the Tracks Trail and Paths Strategy.

Most new path assets are provided through development activity through which the assets are gifted to Council.

Generally upgrading would be widening of the paths from the initial construction width (usually 1.2m) to the current standard width. This is a costly exercise and the narrow path meets perhaps 90% of the intended service. Therefore, upgrading to full width will only be done when the full length needs renewal.

Another potential upgrade is to convert gravel paths to sealed paths. This could be considered a new path but the difference is moot. This is a significant upgrade as a gravel path would only provide perhaps 50% of the intended service level; gravel can be a solid, weather resistant surface but is not as convenient as a concrete or asphalt surface and is more prevalent to a slip hazard instead of a trip hazard, that is more common with a sealed surface.

3.9 Construction Standards for Reconstructed (Asset Renewal), Upgraded and New Assets.

New paths that will be provided are in accordance with:

- The Infrastructure Design Manual (IDM) once adopted or the Latrobe City Design Guidelines until this time, and
- Relevant Australian Standards.

It is not intended that all existing paths will be upgraded to comply with these adopted Standards, however any new work will be constructed to the desirable Standard, where practicable. In instances where adopted standards cannot be achieved, professional judgement and industry best practice will be adopted. Renewal works will endeavour to increase the standard to meet the IDM or Latrobe City Design Guideline standards but is subject to funding and what is practical within the existing road environment.

4 FUTURE DEMAND

4.1 Demand Drivers

Demand for paths is through the increase in population and the trends associated with changing demographics. For Latrobe City Council the population is substantially managed through developer constructed assets. There are sections of the network that are not linked and the demand is indicated by requests. Table 4.1.1 shows the identified demand drivers and the projected impact on services.

Demand management for paths is limited other than encouraging residents to use the verge where paths cannot be reasonably provided (either based on cost or the physical limitations). Opportunities identified to date for demand management are shown in Table 4.7.1. Further opportunities will may be developed in future revisions of this asset management plan.

Projections by the Australian Bureau of Statistics indicate that should Latrobe City continue to experience current growth trends that the population be approximately 84,000 by 2030.

The majority of this growth is forecast to be concentrated within the Traralgon area and hence it is expected that population pressures will be most felt in Traralgon, and mostly accommodated by developer contributed assets.

Table 4.1.1 - Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on services
Residential Development	0.53% p.a. growth in network	0.53% p.a. growth in network	Higher level of service \$8,000 additional cost p.a.
Aging Demographic	Proportion of people over 65 to be determined.	Increasing proportion of people over 65 years of age	Greater mobility aids will be used potentially desiring wider and smoother footpaths
Active Communities	General support to enable residents to become more active. No specific target.	Increasing demand as more people bicycle and walk.	Higher demand for new shared paths and end of trip facilities.

4.1.1 Residential Development

New path assets required to meet future predicted growth will be vested to Council via developers and/or constructed by Council. Council does not have accurate information to identify how many new paths will be constructed or what the value of these assets will be, as developments are subject to market demand and factors beyond the control of Council. However, considering path constructed between the 2006 to 2008, on average, 0.30% (2.3 km) of paths were added to the path asset stock each year. In the period between 2009 to 2015 new paths added increased to 0.53% (4.2 km) each year.

The bulk of population growth in Latrobe City is on the fringes of Traralgon, most notably the area north of Cross's Road and the precinct bounding Marshalls Road. The development in these areas will result in pressures to complete the linkage to the existing local path network. The other significant development with Latrobe City that will have impact both locally and within the wider network is the Lake Narracan development north of Moe. The anticipated pressure will be to link these new growth areas to the adjacent services.

4.1.2 Ageing Demographic

As the aged component of the population increases so will the demand for more paths (e.g. both sides of roads) smoother paths, and paths that lead to safer road crossing locations.

4.1.3 Active Communities

Sectors of our community have a passion for active life styles. The most common activity is recreational walking which tends to prioritise circuits that present a challenge and include points of interest. The desire to complete path circuits at the periphery of our residential area is increasing. The other commonly requested upgrade is to facilitate recreational cycling along roads that link our townships.

4.2 Short-term consideration (0-5 Years)

Little action is required in the short-term. As indicated, developers will provide the bulk of the path assets.

Potential projects within that timeframe are related to link these new growth areas to the adjacent services the provision of improved traffic flow within Traralgon at key areas:

- Missing links Program
- Linear Paths (Tracks, Trails & Pathways Strategy – Implementation Plan).
- Morwell to Traralgon Shared Pathway.
- Bicycle access into the centre of Traralgon.

4.3 Medium- to long term consideration (>10 Years)

No specific action is identified however depending on the findings of strategic analysis, potential projects emerging issues may include:

- Linkage to Lake Narracan.
- Development of on road provision of cycle lanes to link our smaller townships along what is predominantly VicRoads arterial roads.

4.4 Long-term consideration (> 20 Years)

This has not yet considered or developed and may be considered in future plans.

4.5 Method of ongoing utilisation monitoring.

There are no Path assets that are over-utilised. It may be that some shared paths will, in the future have more cyclist versus pedestrian conflicts than acceptable but for this timeframe it is unlikely that anything that signage and the occasional barrier installation to resolve these issues. Utilisation level of the Latrobe City footpath network is not well understood. Information on utilisation has been highlighted as an improvement plan action. Latrobe City receives very few customer requests with respect to conflict between users of the footpath network. It can be assumed that the network does not have under capacity issues. This is reflected in the position of not upgrading the width of constructed footpaths that are less than 1.5m except at renewal.

4.6 Changes that Impact Service Demand (i.e. the types of paths required)

There are many factors that influence service demand on Council's path asset network some of these are explored further below.

4.6.1 Technological Changes and Innovation

Technological change that will significantly impact the delivery of the Path network service is not anticipated to be developed. A potential minor technological change may be the use of more sophisticated stabilisation in gravel or natural material paths.

4.7 Demand Management Plan

The combined factor for growth used in modelling the financial needs of this plan is 0.53% p.a. This includes the estimate for annual gifted assets, commitments under Development Contribution Plans and contingency for future network upgrades for capacity issues. This forecast will be refined in future revisions of this PAMP.

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

No non-asset solutions are apparent as provision of paths cannot practically be privatised and rather than managing demand, Council's vision includes a more active population.

Opportunities identified to date for demand management are shown in Table 4.4. Further opportunities will be explored in future revisions of the PAMP.

Future demand increase is inevitable. Population increases (development), the changing demographics and changes to industry operations or locations will impact the transportation network.

Table 4.7.1 - Demand Management Plan Summary

Demand Driver	Impact on Services	Demand Management Plan
Residential development	Extension of footpath network.	Where possible ensure development paths link to existing network.
Ageing Demographics	Greater use of mobility devices	Identify a priority network for mobility device access.
Active Communities	Greater use of path network	Consider wider paths (e.g. shared path) near retirement and assisted care facilities. More benches on busy paths – especially near retirement and assisted care facilities.
Transport Costs	Greater use of path network	No action.

4.8 Coordinating New Path Infrastructure Provision

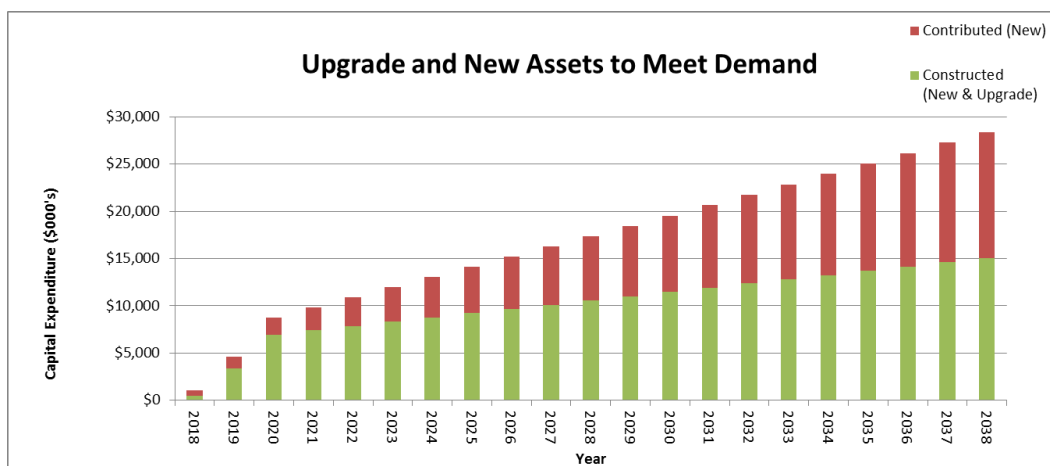
Council, in taking over new path and other related infrastructure from developers, will manage this process to ensure that the paths provided by developers meet Council requirements, that synergy is developed with other Council aims, that developers do not transfer responsibility for inappropriately constructed infrastructure onto Council.

4.9 Asset Programs To Meet Demand

The new assets required to meet growth will generally be acquired free of cost (gifted) from land developments and constructed/acquired by Council. New assets constructed by Council are shown below in Figure 4.6.

The cumulative value of new contributed and constructed assets will be further refined in future editions of this plan.

Figure 4.9.1- Upgrade and New Assets to meet demand (Cumulative)



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

5 LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

In order to estimate operational expenditure and focus planned maintenance activities, a quantitative desktop analysis has been conducted of available data including the current layers of data featured in the Geographical Information System (GIS) and Asset Management System (AMS) datasets.

5.2 Physical parameters

The assets covered by the PAMP and the associated data accuracy are shown in Table 5.2.1.

Table 5.2.1 - Assets covered by this Plan (as at 30 June 2017)

Asset Category		Length (Km)	Surface Area (000's m2)	Replacement Value "Brownfields"
High Usage	Concrete paths	55.2	112,276	\$11,494,024
	Asphalt Paths	0.9	2,752	\$242,084
	Bitumen Paths	0.0	0	\$0
	Paved Paths	3.1	11,944	\$1,256,802
	Gravel Paths	1.8	5,382	\$101,961
High Usage Paths		61.0	132,355	\$13,094,871
Medium Usage	Concrete paths	47.3	83,329	\$6,757,984
	Asphalt Paths	5.9	12,460	\$323,226
	Bitumen Paths	0.0	0	\$0
	Paved Paths	0.3	1,072	\$165,645
	Gravel Paths	2.8	8,250	\$56,695
Medium Usage Paths		56.2	105,111	\$7,303,550
Low usage	Concrete paths	619.7	950,739	\$95,495,015
	Asphalt paths	5.0	10,488	\$629,257
	Bitumen Paths	2.0	3,540	\$342,887
	Paved paths	1.0	1,734	\$361,608
	Gravel paths	39.1	80,609	\$3,904,239
Lower Usage		666.8	1,047,111	\$100,733,006
TOTAL PATH NETWORK		784.0	1,284,577	\$121,131,427

Due to a lack of information of suitable accuracy, this plan currently does not include assets listed in Table 5.2.2. Future iterations of this plan will be expanded to include these assets as appropriate.

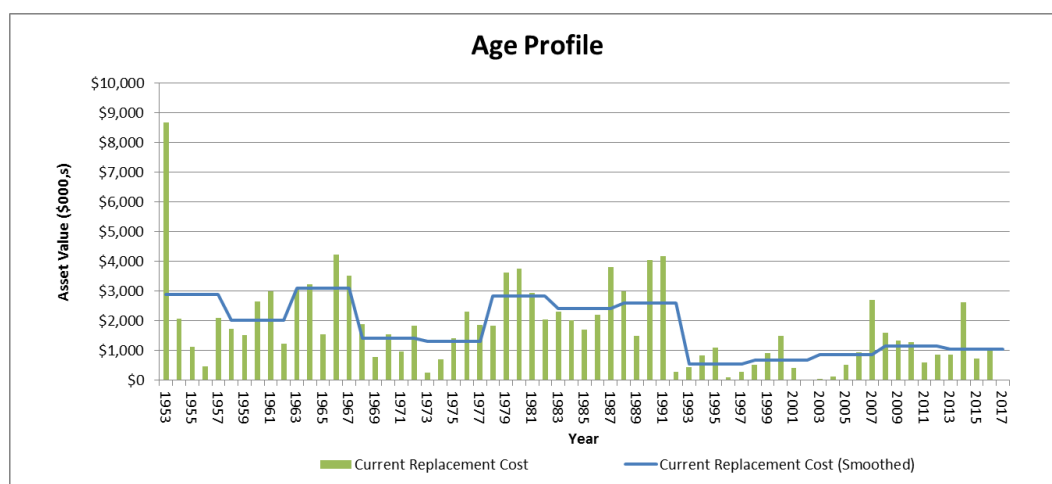
Table 5.2.2 - Assets not covered by this Plan (as at 30 June 2017)

Asset Type	Status
• Moe Caravan Park	Business Unit planning
• Hazelwood Caravan Park	Business Unit planning
• Lake Narracan Caravan Park	Business Unit planning
• Latrobe Valley Airport	Business Unit planning

The age profile of the assets included in the PAMP is shown in Figure 5.1.1. Age profile information has been recorded over many years and was migrated from the original pavement management system into the current asset management system and reviewed by long serving Council Officers to ensure accuracy. This is considered to be a high quality data set and well suited for the purposes of the plan.

The graph in Figure 5.1.1 also shows the total value of the assets for the year acquired or last renewed in each year values presented are in current day values.

Figure 5.2.1 - Asset Age Profile



The age profile information is of reasonable quality though there are occurrences within the data where the footpath condition is far better than that expected for the recorded age. It is most likely that the year of construction is invalid or that a rehabilitation of the footpath has been undertaken and not recorded. It is intended to further review the dates of construction to improve the data quality. That said, the incidences of such occurrences is low and the overall confidence in the age profile data is high.

Plans showing the path assets are:

- Available as a layer on the Latrobe City GIS.
- Available in the appendices of this PAMP.

For convenience of reference only, generalised snapshots of each major township are provided in Appendix G

5.3 Asset capacity and performance

The organisation's services are generally provided to meet design standards where these are available.

Table 5.3.1 - Suspected Service Performance Deficiencies

Location	Service Deficiency
Asphalt and Paved paths in CBDs.	<p>Asphalt and brick paving requires regular maintenance to manage the risks of trips and falls.</p> <p>Asphalt and brick paving paths in the CBDs may be progressively replaced with concrete as they either come to the end of their useful lives or when they require major maintenance.</p> <p>All new paths in the CBDs are to be constructed to the Latrobe City Council CBD standard as per LCC 411 Concrete Paving – CBD Standard Drawing.</p>
Non-CBD asphalt paths	Asphalt paths have a higher lifecycle cost than that of gravel or concrete and are best to be replaced with concrete or gravel depending up the hierarchy and/or utilisation of the paths.
Old style Pram Crossings	There are regular requests either the installation of additional pram crossing or improved pram crossings.

5.4 Asset condition

Condition has been monitored through video capture and condition assessment of key the defects of stepping, cracking, displacement and surface texture which is used to generate a condition score (SPI) of between 1 and 5 for each 10 metre segment of path. A score of zero represents paths that have not been rated for condition. Video assessment is planned at a 4 year cycle in line with the review of this AM Plan.

Table 5.4.1 - Known Asset Condition and other issues

Location	Service Deficiency
Nil	

Condition has been assessed using a 1 – 5 grading using the IIMM 1.0 (very good) – 5.0 (very poor) condition system¹ as detailed in Table 5.4.2.

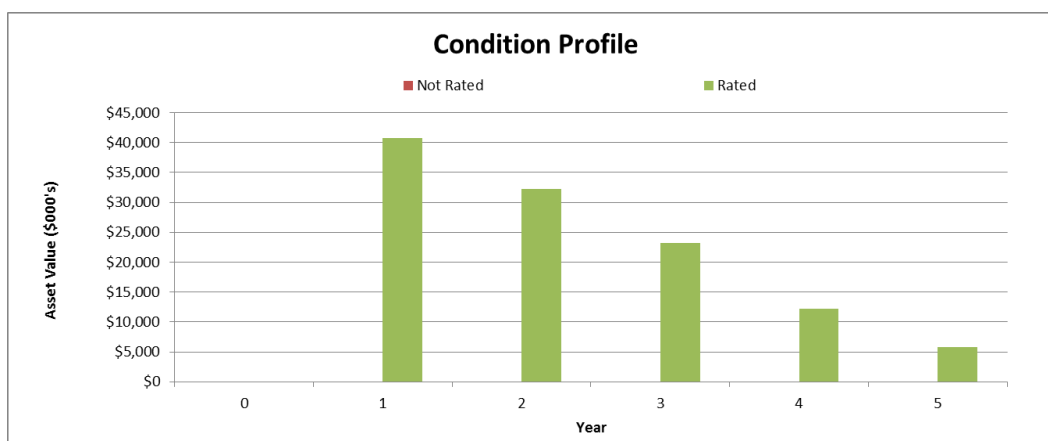
¹ IPWEA, 2015, IIMM

Table 5.4.2 - Simple Condition Grading Model

Condition Grading	Description of Condition
0	New Assets no maintenance planned
1	Very Good: only planned maintenance required
2	Good: minor maintenance required plus planned maintenance
3	Fair: significant maintenance required
4	Poor: significant renewal/rehabilitation required
5	Very Poor: physically unsound and/or beyond rehabilitation
6	End of Life: deteriorated such that the asset not fit and withdrawn from service

Figure 5.4.1 - Condition Profile (Average Condition is **2.2**) shows the condition profile for path assets. The graph shows the total value of assets for each condition grading where zero value represents asset that are new.

Figure 5.4.1 - Condition Profile (Average Condition is **2.2**)



5.5 Asset valuations

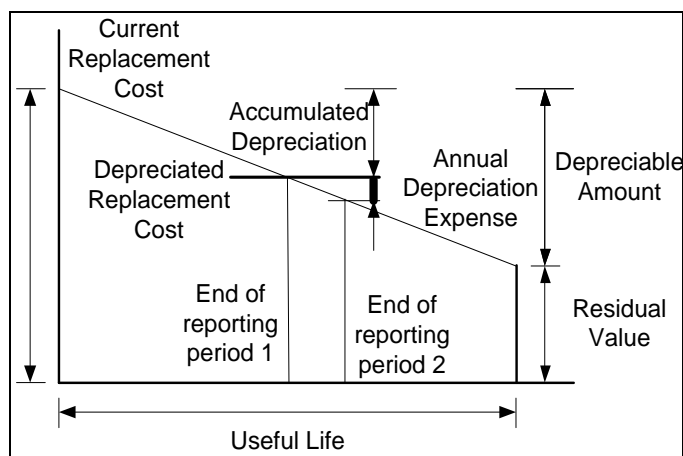
Asset valuations are of two types, depending on their application. 'Greenfields' based valuation is based on the cost to construct an asset in an undeveloped area and is required for Asset Valuation Reporting purposes. 'Brownfields' based valuation is based on the costs for construction in a developed situation and better reflects the actual cost to replace established assets and is used to determine the replacement costs for asset planning purposes. Care has been taken to note which figure is used in this plan.

Assets were last revalued at 30 June 2017. Assets are valued at Fair Value in accordance with AASB13 Fair Value Measurement. The values listed below are 'Greenfields' values with the associated "Brownfield" values presented for comparison.

Table 5.1.4a: Greenfield Financial Asset Reporting values

Latrobe City – PATHS	Greenfields	Brownfields
Value	\$000's	\$000's
Current Replacement Cost	\$114,166	\$122,427
Depreciable Amount (Residual Value = \$0)	\$114,166	
Depreciated Replacement Cost	\$56,506	
Annual Depreciation Expense	\$1,613	
Rate of Annual Asset Consumption (Depreciation/Depreciable Amount)	1.41%	
Rate of Annual Asset Renewal (Capital Renewal exp/Depreciable Amount)	0.90%	
Rate of Annual Asset Upgrade	0.00%	
Rate of Asset Upgrade (Including Contributed Assets)	0.53%	
Asset renewals as percentage of consumption	64.0%	
Percentage Increase in asset stock	0.53%	

Figure 5.5.1 - Asset Financial Reporting value explanation



Source: IPWEA

Useful lives (Table 5.5.1 - Asset Type Useful Lives) were independently reviewed in June 2015 by Assetic Pty Ltd as part of the independent advice for the asset valuation. Various ratios of asset consumption and expenditure have been prepared to help guide and gauge asset management performance and trends over time.

On a long-life asset, the rate of Annual Asset Consumption and rate of Annual Asset Renewal can misrepresent the immediate financial position by reflecting constant renewal when renewal demand does not occur until asset reach their useful life.

Council plans to renew assets at 64% of the rate they are being consumed and will be increasing its asset stock by 0.53 % in each year.

Table 5.5.1 - Asset Type Useful Lives

Asset Type	Default Useful Life (Yrs)	Estimated Useful Life (Yrs)	Difference	Confidence
Gravel Path	15	41	Plus 173%	Low date built information requires verification
Asphalt Path	18	39	Plus 117%	Low date built information requires verification
Bitumen Path	15	29	Plus 93%	Low date built information requires verification
Paved Path	50	58	Plus 16%	Moderate date build information reasonable
Concrete Path	67	78	Plus 16%	Moderate date build information reasonable
All Paths	62	74	Plus 20%	Moderate date build information reasonable

5.6 Historical Data

There is very little historical data held on the footpath assets, dates of construction are held within the asset management system though these have been derived from the adjacent road age for assets older than 25 years old these needs verifying. Past treatments have not been recorded hence gravel paths may well be beyond their useful lives which has not been recorded.

5.7 Infrastructure Risk Management Plan

An assessment of risks associated with service delivery from infrastructure assets has identified some of the critical risks. The typical 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.

Road assets play an important role in conveying the community throughout the municipality. Therefore, a failure of the assets will cause potential property and injury risks. Such risks are heightened when key access is denied to key services and where there is no alternative access.

In order to assess these risks, each path segment asset is assigned a Risk Rating derived from Table 5.7.1.

Table 5.7.1 - Risk Rating likelihood and consequence criteria and weighting

		Likelihood of Failure				
		Improbable	Remote	Occasional	Probable	Frequent
Consequence of Failure	Negligible	Acceptable	Acceptable	Acceptable	Moderate	Moderate
	Low	Acceptable	Moderate	Moderate	High	High
	Moderate	Acceptable	Moderate	High	High	Very High
	Significant	Moderate	High	High	Extreme	Extreme
	Catastrophic	Moderate	High	Very High	Extreme	Extreme

Critical risks, being those assessed as 'Extreme' - requiring immediate corrective action and 'Very High' – requiring prioritised corrective action identified in the Infrastructure Risk Management Plan, together with the estimated residual risk after the selected treatment plan is operational are summarised in Table 5.7.1.

5.7.1 Risk of path failure

An assessment of risks² 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, together with the estimated residual risk after the selected treatment plan is operational are summarised in. These risks are reported to management and Council.

Table 5.7.2 - Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating	Risk Treatment Plan	Residual Risk *	Treatment Costs
Accident or injury resulting from path defects	Injury resulting in insurance claims	H	Reactive maintenance and strong documentation of inspection regimes and response to inquiries and complaints	L	\$35,000 p.a.
Ageing of path Assets	Increased path defects above intervention	H	Increase level of asset maintenance and rehabilitation	M	2018-2028 \$1,036,000 p.a. included in this PAMP

Loss of access to these to critical emergency services facilities is unlikely but should be planned for. The most effective control is to maintain alternative access. The other aspect that should be explored is alternative access to these facilities that access different parts of the road network.

5.8 Insurance

Council has a process to report any incidents and claims that result from path incidents when they occur.

Council has successfully defended almost every claim in the last 5 years due to adhering to the inspection and repair regime.

5.9 Routine Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, e.g. street sweeping, grass mowing and street lighting electricity and operations costs. For paths there are few operational activities. Sweeping and litter cleaning are the main operational activities undertaken.

² Reference to the Organisation's Infrastructure Risk Management Plan

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. Maintenance excludes rehabilitation or renewal.

Maintenance Management 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.

Maintenance may be classified into Reactive, Planned and Specific maintenance work activities.

Reactive maintenance is unplanned repair work carried out in response to service requests and management/supervisory directions. Latrobe City has a history of addressing defects that are brought to Council's attention regardless of the planned maintenance program. The activity applied is almost universally to grind the higher section of footpath to remove a displacement.

Planned maintenance is repair work that is programmed in and undertaken as a program. Ideally this would be part of a maintenance management system.. Planned maintenance for paths is the routine grinding of path displacements not associated with a specific customer request.

Specific maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle. For roads this would include replacing guideposts, line marking and replacement of minor culverts. For paths this would be limited to signage and route markings.

This work falls below the capital/maintenance threshold but may require a specific budget allocation.

Actual past operational and maintenance expenditure associated with the path assets is shown in Table 5.3.1.

Table 5.3.1: Maintenance Expenditure Trends

Year	Maintenance Expenditure		
	Planned and Specific	Unplanned	Total
2017-2018	\$80,000	\$30,000	\$110,000
2016-2017	\$80,000	\$30,000	\$110,000
2015-2016	\$80,000	\$30,000	\$110,000
2014-2015	\$80,000	\$30,000	\$110,000
2013-2014	\$80,000	\$30,000	\$110,000
2012-2013	\$80,000	\$30,000	\$110,000

Planned maintenance work is approximately 75% of total maintenance expenditure.

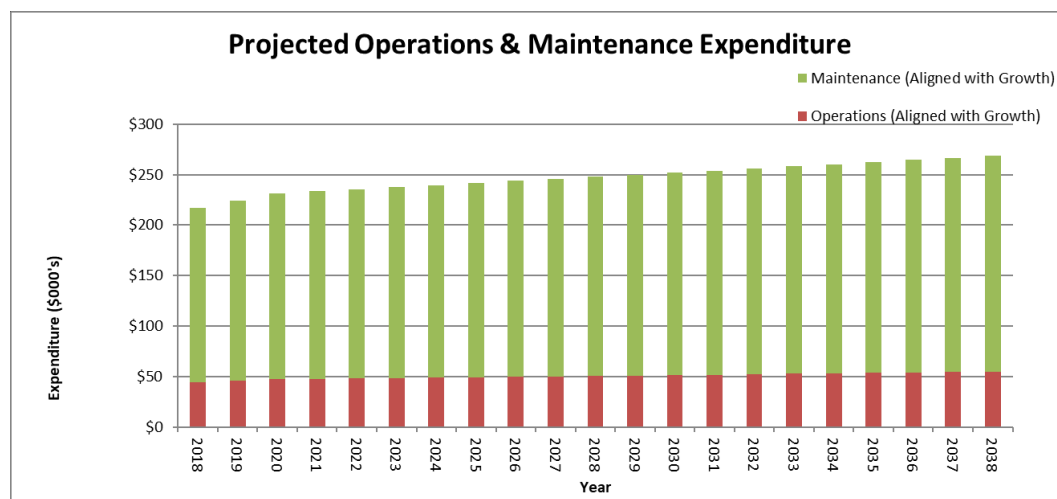
Assessment and prioritisation of reactive maintenance is undertaken by Council officers using past experience and considering a number of issues that had to be addresses through addition budget allocations (path washing in CBDs and topsoiling to reduce drop-offs along the edges of paths) an addition catch-up increase in the maintenance budget of \$60,000 per annum is required. As presented above the maintenance budget has been held static for many years.

The growth in the path network due to developer contributions, the Missing Links Program and the Linear Paths Program means the maintenance budget should increase by approximately \$2,000 per annum due to the growth of the network.

The added maintenance budget for the Traralgon to Morwell Shared Path will need to be determined. As it is a gravel path its maintenance is likely to be comparatively high as it will require regular inspection, pot-hole repair, weed control and surface levelling which is estimated to cost \$30,000 per annum.

Projected operations and maintenance expenditure inclusive of growth to maintain future assets is presented in Figure 5.1.

Fig 5.1: Projected Operating and Maintenance Expenditure



Maintenance expenditure levels are considered to be inadequate (\$6K p.a. shortfall) to meet projected service levels, which may be less than or equal to current service levels. Where maintenance expenditure levels are such that will result in a lesser level of service, the service consequences and service risks have been identified and service consequences highlighted in this AM Plan and service risks considered in the Infrastructure Risk Management Plan.

Reactive maintenance is carried out in accordance with response levels of service detailed in Appendix A

Additional maintenance allocation will be required for all new paths, but due to the significant increase in length, a quantum increase will be necessary due to the Morwell-Traralgon shared path.

5.10 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.

The RMA requires councils to set standards for provision and maintenance of assets and once these standards are adopted, a council must demonstrate it has carried out its duties and responsibilities in accordance with these standards. The path classification and maintenance standards vary across the municipality in line with relevant risk factors such as the nature and volume of users (both pedestrian and cyclists if applicable). The path classifications are defined as high usage, medium usage and low usage. This classification system enables more efficient use of resources by targeting funding to those footpaths that are of higher priority.

The organisation's service hierarchy is shown in Table 5.3.2.

Table 5.3.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
High Use Paths – Mapped in Red. Central business districts of the following major townships: Moe, Newborough, Morwell, Churchill and Traralgon. Main streets of the townships of Boolarra, Glengarry, Toongabbie, Tyres, Yallourn North and Yinnar. Areas identified as potential high risk due to the nature of and volume of pedestrian traffic associated with particular properties adjacent to Council footpaths. These properties include schools, pre-schools, medical precincts and elderly person precincts.	To maintain paths in a safe condition with consideration to the risk associated with the path hierarchy. Planned maintenance as a response to annual risk inspection of paths.
Medium Use Paths – Mapped in Blue. Constructed paths in residential and commercial areas, and rural residential areas; identified as potential moderate risk due to the nature of and volume of pedestrian traffic including concrete asphalt and gravel paths.	To maintain paths in a safe condition with consideration to the risk associated with the path hierarchy. Planned maintenance as a response to biennial risk inspection of paths.
Low Use Paths – Mapped in Green Constructed paths in residential and commercial areas, and rural residential areas; identified as potential low risk due to the nature of and volume of pedestrian traffic including concrete asphalt and gravel paths.	To maintain paths in a safe condition with consideration to the risk associated with the path hierarchy. Planned maintenance as a response to triennial risk inspection of paths.
Shared and Bicycle paths	Not differentiated in the hierarchy.

The path hierarchy maps are presented for the major townships and are included in Appendix A.

Critical Assets

Critical assets are those assets which have a high consequence of failure but not necessarily a high likelihood of failure. By identifying critical assets and critical failure modes, organisations can target and refine investigative activities, maintenance plans and capital expenditure plans at the appropriate time.

Operations and maintenance activities may be targeted to mitigate critical assets failure and maintain service levels. These activities may include increased inspection frequency, higher maintenance intervention levels, etc. Critical assets failure modes and required operations and maintenance activities are detailed in Table 5.3.2.1.

Table 5.3.2.1: Critical Assets and Service Level Objectives

Critical Assets	Critical Failure Mode	Operations & Maintenance Activities
Traralgon CBD paths	Trip Steps	See Appendix A
Morwell CBD paths	Trip Steps	See Appendix A
Moe CBD paths	Trip Steps	See Appendix A
Churchill CBD Paths	Trip Steps	See Appendix A

5.11 Renewal/Replacement Plan

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

The expected useful lives of assets were last reviewed in 2015 and have been used to develop projected asset renewal expenditures are shown in Table 5.5.1

Table 5.5.1: Useful Lives of Assets

Asset (Sub)Category	Useful life
Concrete Paths	67 years
Asphalt Paths	18 years
Bitumen Paths	15 years
Paved Paths	50 years
Gravel Paths	15 years

It should be noted that the useful lives used for the PAMP differ from those used in the Valuation. The useful lives in the PAMP reflect a relationship between surface texture, defects and trip-steps to assist in the programming of renewal.

5.12 Renewal and Replacement Strategies

As an asset ages the nature of the maintenance and eventual renewal interventions become greater and hence more expensive. Figure 5.5.2 portrays condition of an asset throughout its useful life and the nature of maintenance and renewal interventions.

Table 5.5.2: Renewal and Replacement Priority Ranking Criteria

Criteria	Weighting	Target Condition Score for Renewal
High Usage	10%	4.5
Medium Usage	8%	5.3
Low Usage	82%	6.0
Total	100%	5.8

5.13 Path Renewal Treatments

The bulk of Council paths are concrete. The common failure mechanism for concrete footpaths is not deterioration of the concrete but displacement at the edges of bays or at crack points which presents as discrete and repairable sections generally of one to four bays.

Because the remainder of the adjacent path is not affected by the discrete displacement, and the deterioration of the remaining adjacent path is not triggering replacement, where grinding is not appropriate (height of displacement or thickness of the concrete slab) the most cost-effective approach is to replace the one to four bay segment that has/have failed.

Because this technique is widespread and effectively returns the path for the street block back to the intended service level and nearly the design life, this has been considered to be major rehabilitation and classified as Renewal expenditure.

Similar to concrete paths, paved paths fail at discrete locations, and are similarly repaired where the failure has occurred and thus returning the asset to near design service level. It should be observed for the record that the footpaths in the Moe CBD show signs of aesthetic deteriorating due to the etching of the paver surfaces along the drip-lines of the verandas. Failures have generally been rectified at discrete locations through inverting and resetting the existing pavers. Some small sections have been replaced with concrete which leads to a fragments streetscape theme.

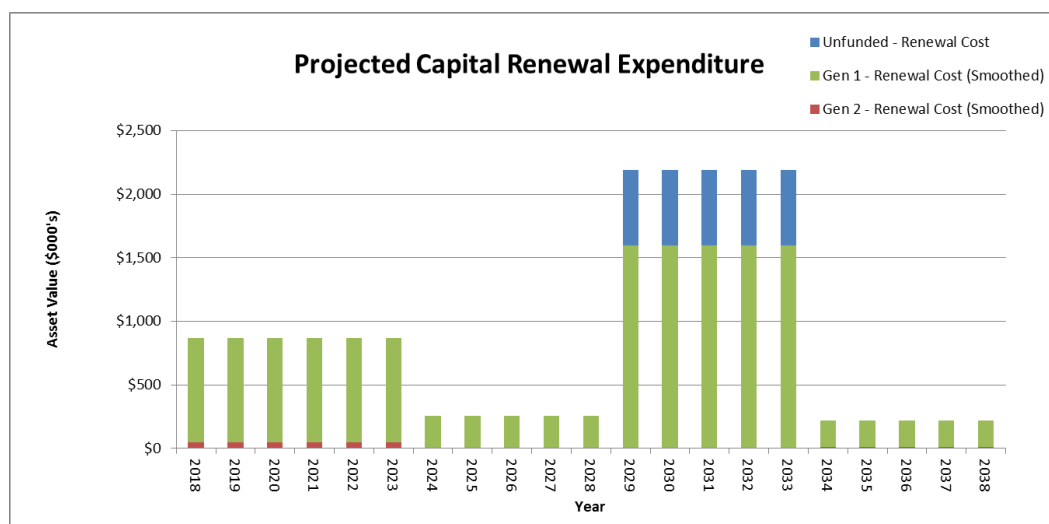
Asphalt and bitumen (Spray seal) paths (made from hot-mixed asphalt concrete) are more flexible than concrete and even pavers. An advantage of asphalt paths is its ability to deform with ground and even to move with root heave. They are not as strong however such deformations caused by roots etc. can be more frequent in asphalt and spray sealed.

Repairs include overlaying with more hot-mix or repair and reseal or repair with dig and replace. A key difference with asphalt and spray seal paths is they will deteriorate through UV damage and exhibit more minor cracking. Paths do not get the benefit of vehicular traffic which massages the surface and bitumen binders which slows the rate of oxidation. There are bitumen compositions that can be used that minimises these issues but are only economically available in metropolitan areas.

5.14 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time as the asset stock increases from growth. These are presented in Figure 5.5.3.

Fig 5.5.3: Projected Capital Renewal and Replacement Expenditure



Renewals and replacement expenditure in Latrobe City's capital works program will be accommodated in the long term financial plan. This is further discussed in Section 6.2.

5.15 Capital Investment Strategies

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

Planning and scheduling capital upgrade and new projects to deliver the defined level of service in the most efficient manner,

- Undertake project scoping for all capital upgrade/new projects to identify:
 - the service delivery 'deficiency', present risk and required timeline for delivery of the upgrade/new asset,
 - the project objectives to rectify the deficiency including value management for major projects,
 - the range of options, estimated capital and life cycle costs for each option that could address the service deficiency,
 - management of risks associated with alternative options,
 - and evaluate the options against evaluation criteria adopted by Council, and
 - select the best option to be included in capital upgrade/new programs,

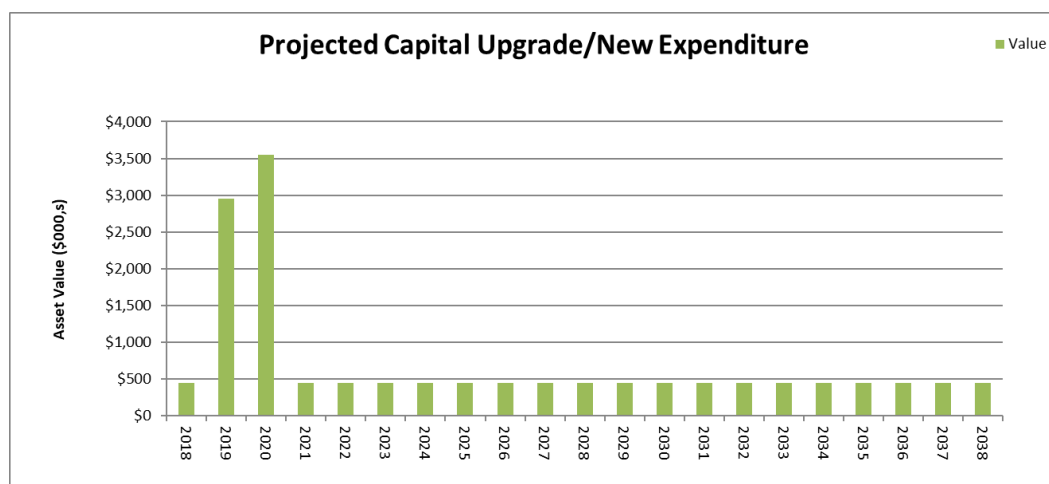
Review current and required skills base and implement training and development to meet required construction and project management needs, and

Review management of capital project management activities to ensure Council is obtaining best value for resources used.

5.16 Summary of future upgrade/new assets expenditure

Council is funding an expansion of the network under two programs that attract approximately \$450,000 pa which is subject to confirmation annually. The Traralgon to Morwell shared pathway is a project above that of the \$450,000 of new paths that is being delivered under State and federal funding.

Figure 5.5.5: Projected Capital Upgrade/New Asset Expenditure



The projected upgrade/new capital works program is shown in Appendix C.

Where upgrade/new projects have been identified, they will be funded as part of the current capital budget process. Projected upgrade/new asset expenditures are summarised in Fig 6. All amounts are shown in net real values (No inflation).

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

5.17 Disposal Plan

Disposal includes any activity associated with disposal of a decommissioned asset including sale, demolition or relocation. 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.

The revenue projected is not sufficient to be included in Council's long term financial plan. Currently there are no disposals identified.

6 FINANCIAL SUMMARY

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

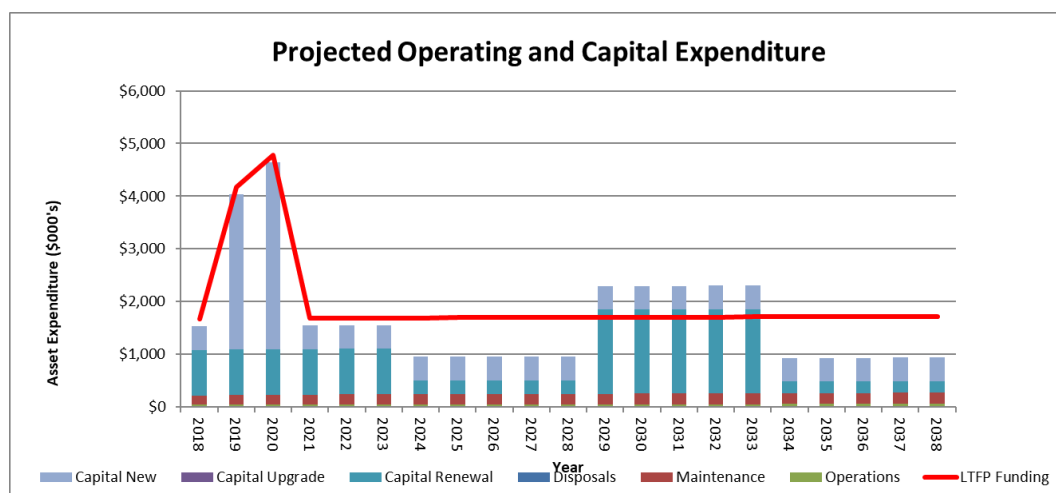
Table 6.1 : Financial Classification “Paths”

Financial Sub-Class	Valuation Input	Valuation Technique	June 2015 Replacement Valuation (\$000's)
Footpaths	Level 3	Cost Approach	\$114,116,155
Total Greenfields Valuation			\$114,116,155

6.1 Financial Statements and Projections

The financial projections are shown in Fig 6.1 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). All amounts are shown in net real values (No inflation).

Fig 6.1: Projected Operating and Capital Expenditure



The financial analysis presents a position that is well provided for the current year and for the five years after this year. The period from 2029 to 2033 is under provided but that is 10 years away and does not persist beyond that 5-year period. Experience to date is that the current bay replacement program is extending the life of the entire path segments though at some point the older paths will need to be renewed as complete segments particularly the higher use paths. This will require further analysis to fully understand to what extent. The increasing age of the path network will limit that which can be achieved and an increase in path renewal funding may be need on that transition to maintain the current level of service.

6.2 Sustainability of service delivery

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

Latrobe City - Paths	
Asset Renewal Funding Ratio	
Asset Renewal Funding Ratio: (LTFP Renewal/Forecast Renewal for next 20-years) <i>(Preferred)</i>	75%
Asset Renewal Funding Ratio: (LTFP Renewal/Depreciation entire for next 20-years)	629%
Short Term – 5-year financial planning period (Dollars in \$'000's per year)	
5-years average annual Operations, Maintenance & Renewal Projected Expenditure	\$1,247 p.a.
5-years average annual Operations, Maintenance & Renewal LTFP Budget Expenditure	\$1,154 p.a.
5-year annual financing shortfall [5 years projected expenditure - 5 years LTFP-Budget expenditure]	-\$93 p.a.
5-year financing indicator [5 years LTFP Budget expenditure / 5 years projected expenditure]	93%
Medium Term – 10-year financial planning period (Dollars in \$'000's per year)	
10-years average annual Operations, Maintenance & Renewal Projected Expenditure	\$1,247 p.a.
10-years average annual Operations, Maintenance & Renewal LTFP Budget Expenditure	\$1,154 p.a.
10-year annual financing shortfall [10-years projected expenditure – 10-years LTFP-Budget expenditure]	-\$93 p.a.
10-year financing indicator [10-years LTFP Budget expenditure / 10-years projected expenditure]	93%
Long Term - Life Cycle Costs (LCC) (Dollars in \$'000's per year based on first 20-years of plan)	
LCC : 20-years average annual projected operations, maintenance expenditure and depreciation	\$1,828 p.a.
20-years average annual LTFP- budget operations, maintenance & capital renewal expenditure	\$1,154 p.a.
Life Cycle Gap [average life cycle expenditure – average life cycle cost (-ve = gap)]	-\$647 p.a.
Life Cycle Indicator [life cycle expenditure / life cycle cost]	63%
All dollar values are in (\$'000)'s	

Note:

The 5-year and 10-year figures are equal due to the year one backlog is evenly distributed across the first 10-years

6.2.1.1 Asset Renewal Funding Ratio

Asset Renewal Funding Ratio³ **75%**

The Asset Renewal Funding Ratio is the most important indicator and reveals that over the next 20 years, Council is forecasting that it will have **75%** of the funds required for the optimal renewal and replacement of its path assets.

³ AIFMG, 2012, Version 1.3, Financial Sustainability Indicator 4, Sec 2.6, p 2.16

6.2.1.2 Long term - Lifecycle Cost

Lifecycle costs (or whole of life costs) are the average costs that are required to sustain the service levels over the asset life cycle. Lifecycle costs include operations and maintenance expenditure and asset consumption (depreciation expense). The lifecycle cost for the services covered in this asset management plan is **\$1,828,000** per year (average operations and maintenance expenditure plus depreciation expense projected over 20 years).

Lifecycle costs can be compared to life cycle expenditure to give an initial indicator of affordability of projected service levels when considered with age profiles. Life cycle expenditure includes operations, maintenance and capital renewal expenditure. Lifecycle expenditure will vary depending on the timing of asset renewals. The life cycle expenditure over the 20-year planning period is **\$1,154,000** per year (average operations and maintenance plus capital renewal budgeted expenditure in LTFP over 20-years).

A gap between life cycle cost and life cycle expenditure is the life cycle gap. The life cycle gap for services covered by this asset management plan is -ve **-\$647,000** per year (-ve = gap, +ve = surplus).

Life cycle expenditure is **63%** of life cycle costs.

The life cycle costs and life cycle expenditure comparison high-lights 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.

6.2.1.3 Medium term – ten 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 **\$1,247,000** on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is **\$1,154,000** on average per year giving a 10-year funding under-allocation of **-\$93,000** per year. This indicates that Council expects to have **93%** of the projected expenditures needed to provide the services documented in the PAMP.

6.2.1.4 Short Term – five year financial planning period

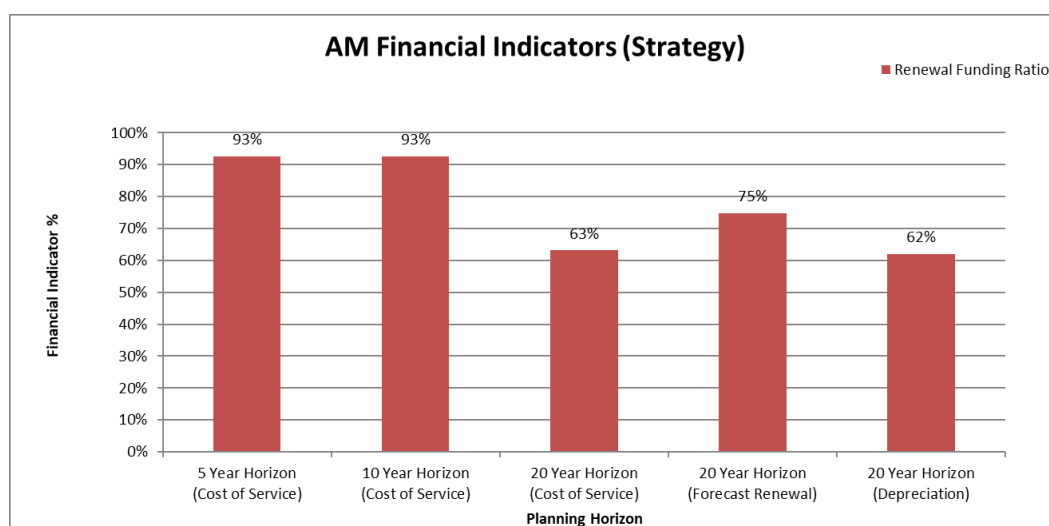
The projected operations, maintenance and capital renewal expenditure required over the first five years of the planning period is **\$1,247,000** on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is **\$1,154,000** on average per year giving a 5-year funding under-allocation of **-\$93,000**. This indicates that Council expects to have **93%** of projected expenditures required to provide the services shown in the PAMP.

6.2.1.5 Asset management financial indicators

Figure 6.1.2 shows the asset management financial indicators over the 10-year planning period and for the long-term life cycle.

Figure 6.1.2: Asset Management Financial Indicators



Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and financing to achieve a financial indicator of approximately 100% for the first years of the PAMP and ideally over the 10-year life of the Long Term Financial Plan.

Figure 6.1.3 shows the projected asset renewal and replacement expenditure over the 20- years of the PAMP. The projected asset renewal and replacement expenditure is compared to renewal and replacement expenditure in the capital works program, which is accommodated in the long-term financial plan.

Figure 6.1.3 Projected and Future Funding Provision

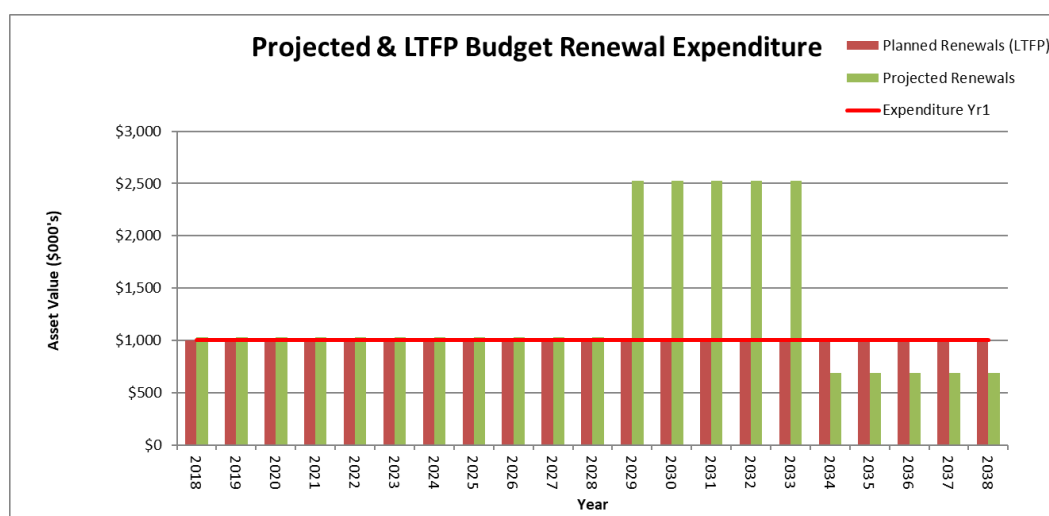


Table 6.1.3 shows the minor under-allocation between projected renewal and replacement expenditures and expenditure accommodated in long term financial plan. Budget expenditures accommodated in the long-term financial plan or extrapolated.

Table 6.1.3 : Projected and LTFP Budgeted Renewals and Financing Variances

Latrobe City - PATHS				
Year Ending Jun-30	Projected Renewals (\$'000)	LTFP Renewal Budget (\$'000)	Renewal Financing Variance (- gap, + surplus) (\$'000)	Cumulative Variance (- gap, + surplus) (\$'000)
2018	\$1,032	\$1,000	-\$32	-\$32
2019	\$1,032	\$1,000	-\$32	-\$64
2020	\$1,032	\$1,000	-\$32	-\$96
2021	\$1,032	\$1,000	-\$32	-\$128
2022	\$1,032	\$1,000	-\$32	-\$159
2023	\$1,032	\$1,000	-\$32	-\$191
2024	\$1,032	\$1,000	-\$32	-\$223
2025	\$1,032	\$1,000	-\$32	-\$255
2026	\$1,032	\$1,000	-\$32	-\$287
2027	\$1,032	\$1,000	-\$32	-\$319
2028	\$1,032	\$1,000	-\$32	-\$351
2029	\$2,524	\$1,000	-\$1,524	-\$1,875
2030	\$2,524	\$1,000	-\$1,524	-\$3,399
2031	\$2,524	\$1,000	-\$1,524	-\$4,923
2032	\$2,524	\$1,000	-\$1,524	-\$6,447
2033	\$2,524	\$1,000	-\$1,524	-\$7,971
2034	\$686	\$1,000	\$314	-\$7,657
2035	\$686	\$1,000	\$314	-\$7,343
2036	\$686	\$1,000	\$314	-\$7,030
2037	\$686	\$1,000	\$314	-\$6,716
2038	\$686	\$1,000	\$314	-\$6,403
All dollar values are in (\$'000)'s				

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

6.3 Projected expenditures for long term financial plan

Table 6.1.2 shows the projected expenditures for the 10- year long term financial plan. Expenditure projections are in 2018 real values.

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

Latrobe City - PATHS					
Year	Operations	Maintenance	Projected Capital Renewal	Capital Upgrade/New	Disposals
2018	\$44	\$171	\$1,032	\$450	\$0
2019	\$44	\$172	\$1,037	\$2,966	\$0
2020	\$44	\$173	\$1,043	\$3,588	\$0
2021	\$45	\$174	\$1,048	\$457	\$0
2022	\$45	\$175	\$1,054	\$460	\$0
2023	\$45	\$176	\$1,059	\$462	\$0
2024	\$45	\$177	\$1,065	\$464	\$0
2025	\$45	\$178	\$1,071	\$467	\$0
2026	\$46	\$179	\$1,076	\$469	\$0
2027	\$46	\$180	\$1,082	\$472	\$0
2028	\$46	\$181	\$1,088	\$474	\$0
2029	\$46	\$181	\$2,674	\$477	\$0
2030	\$47	\$182	\$2,689	\$479	\$0
2031	\$47	\$183	\$2,703	\$482	\$0
2032	\$47	\$184	\$2,717	\$484	\$0
2033	\$47	\$185	\$2,731	\$487	\$0
2034	\$48	\$186	\$747	\$490	\$0
2035	\$48	\$187	\$751	\$492	\$0
2036	\$48	\$188	\$755	\$495	\$0
2037	\$48	\$189	\$759	\$497	\$0
2038	\$49	\$190	\$763	\$500	\$0
All dollar values are in (\$'000)'s					

6.4 Funding Strategy

After reviewing service levels, as appropriate to ensure ongoing financial sustainability projected expenditures identified in Section 6.1.2 will be accommodated in the Council's 10-year long-term financial plan.

Figure 6.2: LTFP Expenditure Projections

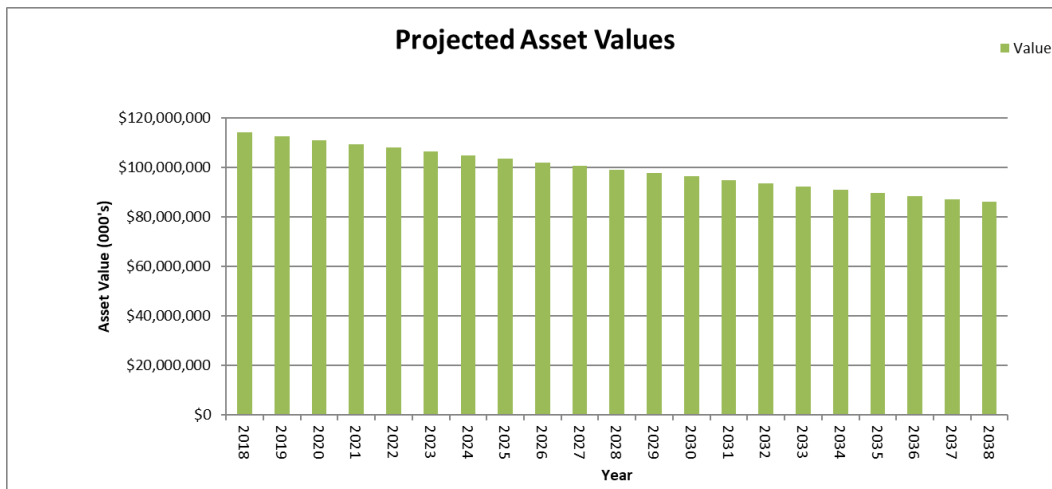
Latrobe City - PATHS										
Projected Expenditure (\$'000,s)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Capital Renewal of existing assets	\$1,032	\$1,032	\$1,032	\$1,032	\$1,032	\$1,032	\$1,032	\$1,032	\$1,032	\$1,032
Capital Upgrade/New assets	\$450	\$2,950	\$3,550	\$450	\$450	\$450	\$450	\$450	\$450	\$450
Operational cost of existing assets	\$44	\$44	\$44	\$44	\$44	\$44	\$44	\$44	\$44	\$44
Maintenance cost of existing assets	\$171	\$171	\$171	\$171	\$171	\$171	\$171	\$171	\$171	\$171
Operational cost of New assets	\$0	\$0	\$0	\$1	\$1	\$1	\$1	\$2	\$2	\$2
Maintenance cost of New assets	\$0	\$1	\$2	\$3	\$4	\$5	\$5	\$6	\$7	\$8
Disposal of Surplus assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Annual Funding Requirement	\$1,697	\$4,198	\$4,799	\$1,700	\$1,702	\$1,703	\$1,704	\$1,705	\$1,706	\$1,707
Average Funding Requirement			\$2,819					\$1,705		
All dollar values are in (\$'000)'s										

Maintenance and Operations figures for new assets are included, these costs increase in line with the growth in assets due to developer contributions and new and upgrade projects.

6.5 Valuation Forecasts

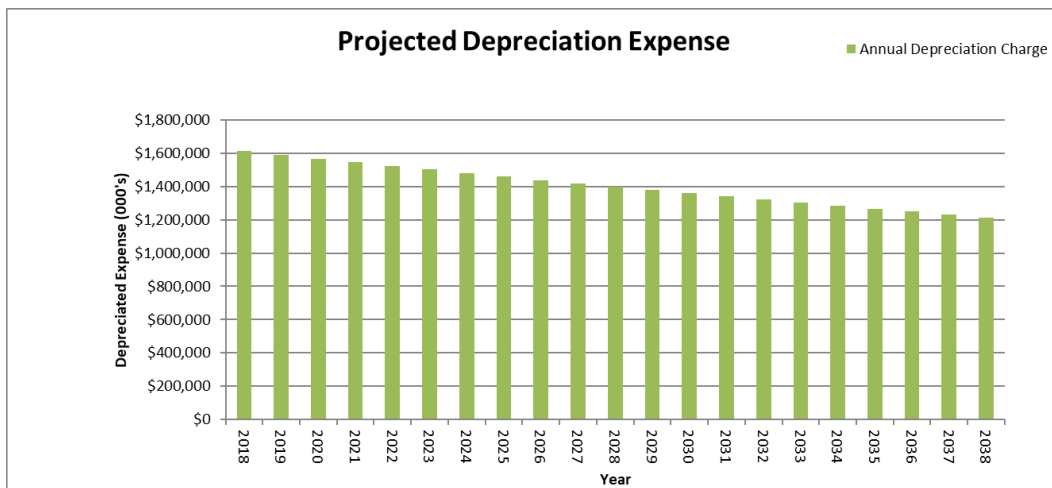
Asset values are forecast to decrease as additional assets are added to the asset stock from construction and acquisition by Council and from assets constructed by land developers and others and donated (gifted) to Council are less than the depreciation of existing assets. Figure 6.3a shows the projected asset value (Written Down Value) over the planning period in real values.

Figure 6.3a: Projected Asset Values



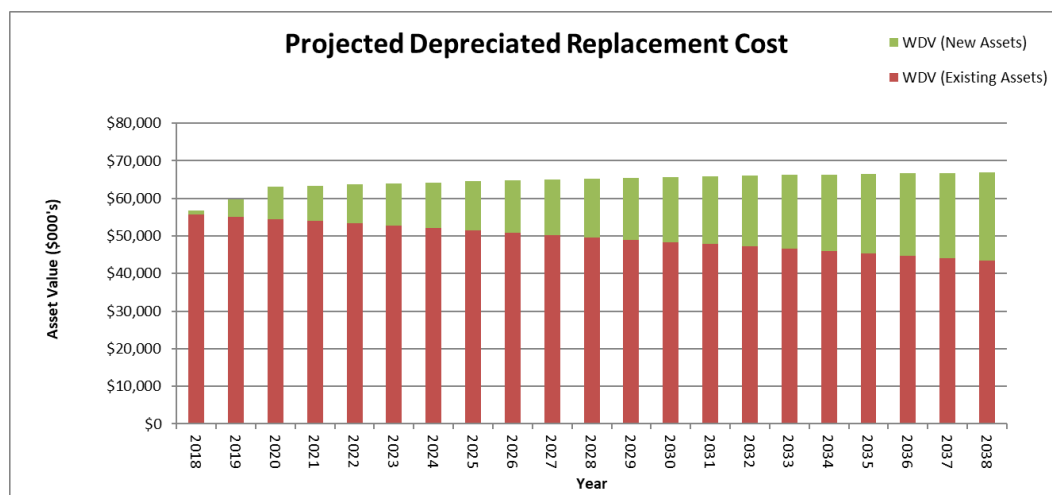
Depreciation expense values are forecast in line with asset values as shown in Figure 6.3.b.

Figure 6.3b: Projected Depreciation Expense



The depreciated replacement cost will vary over the forecast period depending on the rates of addition of new assets, disposal of old assets and consumption and renewal of existing assets. Forecast of the assets' depreciated replacement cost is shown in Figure 6.3c. The depreciated replacement cost of contributed and new assets is shown in the darker colour and in the lighter colour for existing assets.

Figure 6.3c: Projected Depreciated Replacement Cost



6.6 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 the PAMP and risks that these may change are shown in Table 6.4.

Table 6.4: Key Assumptions made in the PAMP

Key Assumptions
Additional maintenance funds will be made available to continue current services as Council's asset base grows from assets handed over from developers and asset upgrades.
Maintenance and renewal allocation are fully funded.
Forecasted financial plans are in today's dollars
Current maintenance levels of service will remain the status quo.
The funds raised via a Development Contribution Plan for the provision of new paths or upgrade (particularly in established areas) have been approximated in the growth factor and the timing of these expenditures has not been taken into consideration for this iteration of the PAMP as further investigation is required.
Renewal is based on replacement like for like for financial purposes.
Upgrade or increased capacity projects beyond those identified in this plan are subject to separate capital bids.

6.6.1.1 Inferred and reported condition

Current industry knowledge has been used to model adopted the life expectancy for path asset components as outlined in Table 5.4.

Condition and remaining life will be inferred by a degradation curve for long life concrete assets using the asset's construction date.

It is noted, however, that in Australia, work relating to age deterioration models is still in its infancy, and lifecycles can vary widely due to construction practices and external conditions. As condition information is added, and the network is calibrated to local conditions, a revised figure for asset consumption will be evaluated.

Table 6.4.1: Reconciled Useful Lives of Assets (Paths)

<i>Asset Class</i>	<i>Asset Category</i>	<i>Expected Useful life</i>	<i>Reconciled Useful Life from current Condition Assessment *preliminary sample data</i>
Footpaths	Surface – Concrete	67 years	78 years
Footpaths	Surface – Concrete Pavers	50 years	58 years
Footpaths	Surface - Asphalt Surface	18 years	39 years
Footpaths	Surface – Bitumen – (Spray Seal)	15 years	29 years
Footpaths	Surface – Gravel – (Crushed Granite)	15 years	41 years

It should be noted that the forecast useful lives are calculated based on the current assessed condition converted to a remaining useful life through the relevant degradation curve, then referenced to the year of last renewal for each asset to predict when the asset will reach the end of its useful life, hence the forecast age at the end of its useful life can be reset. These reported results are preliminary and require further scrutiny which will be undertaken in time for the next revision of this PAMP.

6.6.1.2 Current Conditions

It can be seen by examining available construction age data, there were three periods of intense construction activity – the mid-1950s and 1960s driven by residential support for the State Electricity Commission, in the mid-1970s and a steady decline in late-1980s until a recent increase in residential development. With this in mind, it is anticipated that significant renewals will occur between 2065 and 2090, and therefore a funding strategy needs to be developed with a 50-year vision from present.

It is known that paths constructed under good conditions may last longer than the current accounting lifespan. Therefore, improving path knowledge via the improvement plan, and moving to an evidence-based condition system has the potential to save residents significant long-term expenditure.

6.7 Forecast Reliability and Confidence

The expenditure and valuations projections in the PAMP are based on best available data. Currency and accuracy of data is critical to effective asset and financial management. Data confidence is classified on a five-level scale in accordance with Table 6.5.

Table 6.5: Data Confidence Grading System

Confidence Grade	Description
A Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and recognised as the best method of assessment. Dataset is complete and estimated to be accurate $\pm 2\%$
B Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate $\pm 10\%$
C Uncertain	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated $\pm 25\%$
D Very Uncertain	Data based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy $\pm 40\%$
E Unknown	None or very little data held.

The estimated confidence level for and reliability of data used in the PAMP is shown in Table 6.5.1.

Table 6.5.1: Data Confidence Assessment for Data used in the PAMP

Data	Confidence Assessment	Comment
Demand drivers	Uncertain	Require further testing and inclusion of DCP commitments to be included rather than estimated.
Growth projections	Reliable	Reliable source documents
Operations expenditures	Reliable	Obtained from Finance Department
Maintenance expenditures	Reliable	Obtained from Finance Department
Projected Renewal exps. - Asset values	Reliable	Modelled based on condition assessment with reconciled useful lives being reasonable for the level of current knowledge.
- Asset residual values	Reliable	No used consistent with valuation
- Asset useful lives	Reliable	Benchmarked against like Councils and reviewed in 2015 and preliminary reconciliation
- Condition modelling	Reliable	Relationship to useful life reasonable
- Defect repairs	Very Uncertain	No MMS to record outcomes
Upgrade/New expenditures	Reliable	Obtained from Finance Department

Over all data sources the data confidence is assessed as **Reliable** confidence level for data used in the preparation of the PAMP.

7 PLAN IMPROVEMENT AND MONITORING

7.1 Status of Asset Management Practices

7.2 Accounting and financial systems

Council uses FinanceOne from TechnologyOne as the finance system.

7.2.1.1 Accounting standards and regulations

The applicable accounting standards are AASBI 16 “Property, Plant, and Equipment”, AASBI 13 “Fair Value Measurement” and AASBI 38 “Intangible Assets”

7.2.1.2 Capital/maintenance threshold

Council has set a value of \$10,000 in expenditure before it is considered to be capitalised. This is the cost captured as renewal or upgrade as opposed to maintenance.

7.2.1.3 Required changes to accounting financial systems arising from the PAMP

No specific changes have been identified however with advances in Maintenance Management processes, the Finance system may be modified to better capture maintenance effort against the assets (as opposed to generally). This increased detail will assist in identifying maintenance and renewal needs.

7.3 Asset Management System

Council uses MyData Asset Management System from Assetic Pty Ltd. It is a sophisticated database system that allows detailed management of the data. A partner to this is MyPredictor Asset Modelling System also from Assetic that will, once implemented with the data and necessary algorithms, allow Council to model the deterioration of assets and improve the science of lifecycle costing.

7.3.1.1 Asset registers

The asset register relevant to the PAMP held in MyData include:

- Footpaths.

7.3.1.2 Linkage from asset management to financial system

This is currently a manual process through Microsoft Excel spreadsheets. There is no integration between financial and asset management systems.

7.3.1.3 Accountabilities for asset management system and data maintenance

Team Leader Asset Strategy and Co-ordinator Infrastructure Planning.

7.3.1.4 Required changes to asset management system arising from the PAMP

The AMS used is sophisticated and very capable. No changes are required to the system. Changes proposed are related to the data and information that reside in the system. This is discussed in Appendix H – PAMP Improvement Plan.

7.4 Geographic Information System (GIS)

Council’s road spatial data is contained and updated within separate GIS layers and can be viewed via the internal GIS viewer, IntraMaps.

7.5 Monitoring and Review Procedures

This asset management plan will be reviewed periodically and amended to recognise any material changes in service levels and/or resources available to provide those services as a result of budget decisions.

The PAMP will be updated to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values incorporated into the organisation's long term financial plan.

The financial model of this PAMP should be reviewed annually to adjust for changes to the network, and PAMP should be reviewed every 4 years at a minimum to ensure it represents the current service level, asset values, projected operations, maintenance, capital renewal and replacement, capital upgrade/new and asset disposal expenditures and projected expenditure values consistent with the organisation's long term financial plan.

7.6 Performance Measures

The effectiveness of the PAMP can be measured in the following ways:

- The degree to which the required projected expenditures identified in the PAMP are incorporated into Council's long term financial plan;
- The degree to which one to five year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by the PAMP.
- The degree to which the existing and projected service levels and service consequences (what we cannot do), risks and residual risks are incorporated into the Council's Strategic Plan and associated plans, and;
- The Asset Renewal Funding Ratio exceeding the actual **71%**.

8 REFERENCES

Documents referenced by the PAMP include:

IPWEA, 2015, 'International Infrastructure Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/IIMM

IPWEA, 2015, 'NAMS.PLUS Asset Management', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/namsplus.

IPWEA, 2015, 'Australian Infrastructure Financial Management Manual', Institute of Public Works Engineering Australasia, Sydney, www.ipwea.org/AIFMG.

Latrobe City Council Plan 2013-2017.

9 APPENDICES

Appendices attached to the PAMP include:

- Appendix A Proposed Maintenance Response Service Level Agreement
- Appendix B Projected Upgrade/New Expenditure 10 year Capital Works Program
- Appendix C Projected Upgrade/New Expenditure 10 year Capital Works Program
- Appendix D Budgeted Expenditures Accommodated
- Appendix E Abbreviations
- Appendix F *Glossary*
- Appendix G Path Network Plans
- Appendix H PAMP Improvement Plan

Appendix A - Proposed Renewal/Maintenance Response Service Level Agreement

1) Maintenance Standards

Latrobe City Council has identified the critical renewal/maintenance treatments for all paths for which it is responsible.

For each path stress, the following criteria have been developed:

1. The level at which the stress is a potential safety hazard.
2. The level at which a stress reaches a maximum point of treatment intervention.
3. The maximum time allowable for defects to be remedied.

Note:

Path stress points are sections of paths that start developing structural or mechanical damage weaknesses such as cracking, distortion, minor spalling, roughness or polishing of surfaces and minor vertical displacement. At given criteria such stresses are recognised as defects that warrant remedial treatment.

Standards vary across the network, in construction and material types as well as in intervention levels and response times. These differences are reflected against Latrobe City Council's footpath classification (Hierarchy) system.

The main stress identified for footpaths are trip steps which may be either transverse or longitudinal or caused by spalling. The 'Latrobe City Council - Footpath Marking and Maintenance Assessment Methodology Manual' details the inspection criteria, methods to measure and assess these stresses with methods and standard of response.

2) Intervention Levels and Response Times

The intervention levels and response times for proactive footpath inspections are included in the tables below. Although Latrobe City Council will make every endeavour to meet its obligations under this plan, circumstances may arise where Latrobe City Council may not meet all or any of its obligations.

If these circumstances are beyond the control of Latrobe City Council, then Latrobe City Council reserves its right to suspend this plan.

In the event of natural disasters and events such as fires, storms and floods, as well as human factors, but not limited to lack of Latrobe City Council staff or suitably qualified contractors, because of Section 83 of the Victorian Wrongs Act, 1958, as amended, Latrobe City Council reserves the right to suspend compliance with its Plan.

In the event that the Chief Executive Officer of Latrobe City Council, has to, pursuant to Section 83 of the Victorian Wrongs Act, considers the limited financial resources of Latrobe City Council and its other conflicting priorities, meaning Latrobe City Council's PAMP cannot be met, the Chief Executive Officer will write to inform the Latrobe City Council officer in charge of this plan that some or all of the timeframes and responses in Latrobe City Council's plan, are to be suspended.

Once the events beyond the control of Latrobe City Council have abated, or if the events have partly abated, Latrobe City Council's CEO will write to inform the Latrobe City Council officer responsible for Latrobe City Council's PAMP which parts of Latrobe City Council's PAMP are to be reactivated and when.

The service level tables include:

1. Defect/Activity Intervention Levels by Hierarchy.
2. Response Times by Hierarchy.
3. Response/Repair Activity.
4. Inspection Regime by Hierarchy to identify defects.

Latrobe City Council emphasises that the intervention levels are a maximum allowable for given stress.

Maintenance crews will attempt to repair stresses before they reach intervention levels and become defects in line with planned asset renewal practices aimed at extending asset useful life. It should also be noted that planned maintenance repairs may not be carried out on paths that are scheduled for replacement. In these instances temporary repairs such as asphalt patching may be carried out or alternately warning signs may be used to highlight defects until the permanent works are undertaken.

3) Proactive Inspection Hierarchies and Schedules

Latrobe City Council currently carries out annual safety inspections (as per Table 3) on a portion of the path network. The defects are logged into a Trimble unit and transferred into My-Data, the Asset Management System (AMS) currently being used at Latrobe City Council. When all the defects have been identified and collated, a lump sum contract is let for the repair of all of the defects. While there are certainly efficiencies to be gained by aggregating these defects into one lump sum contract, it also means that defects are not repaired for an extended period of time after they have been identified.

Inspection frequency is linked to the path hierarchy.

The following table is a guide to the classification (hierarchy) of Council's Paths. The path classification has been developed, based principally on the volume of usage (both pedestrian and cyclists if applicable). The path classifications are High Usage (FMC-H), Medium Usage (FMC-M) and Low Usage (FMC-L).

Appendix A – Table 1 – Latrobe City Path Hierarchy and Maintenance Category

Footpath Category	Footpath Maintenance Category (FMC)	Primary Function
Category H	FMC-H	Central Business Districts of the following major towns, Moe, Newborough, Churchill, & Traralgon.
Category M	FMC-M	Heavily pedestrianised areas: - minor-shopping areas, collector paths and some shared bicycle/pedestrian paths.
Category L	FMC-L	Constructed paths in residential and commercial areas, and rural residential areas; including concrete, asphalt, and gravel paths.

Proactive defect inspections shall be conducted in accordance with the following schedule. The frequency of inspections varies with the Footpath Category-Path Maintenance Category (FMC).

Appendix A – Table 2 – Latrobe City Proactive Inspection Timeframes

Footpath Category	Footpath Maintenance Category (FMC)	Proactive Hazard & Planned Maintenance Inspection Timeframes
Category H	FMC-H	one (1) inspection every 12 months .
Category M	FMC-M	one (1) inspection every 24 months
Category L	FMC-L	one (1) inspection every 36 months

The major towns of Moe, Morwell and Traralgon have been geographically divided into three separate zones for inspection purposes, while Churchill has been divided into two zones. All high usage paths are inspected every year. Medium usage paths are inspected on a two yearly cycle. Low usage paths are inspected on a three yearly cycle. The following table shows the breakdown of the inspection cycles.

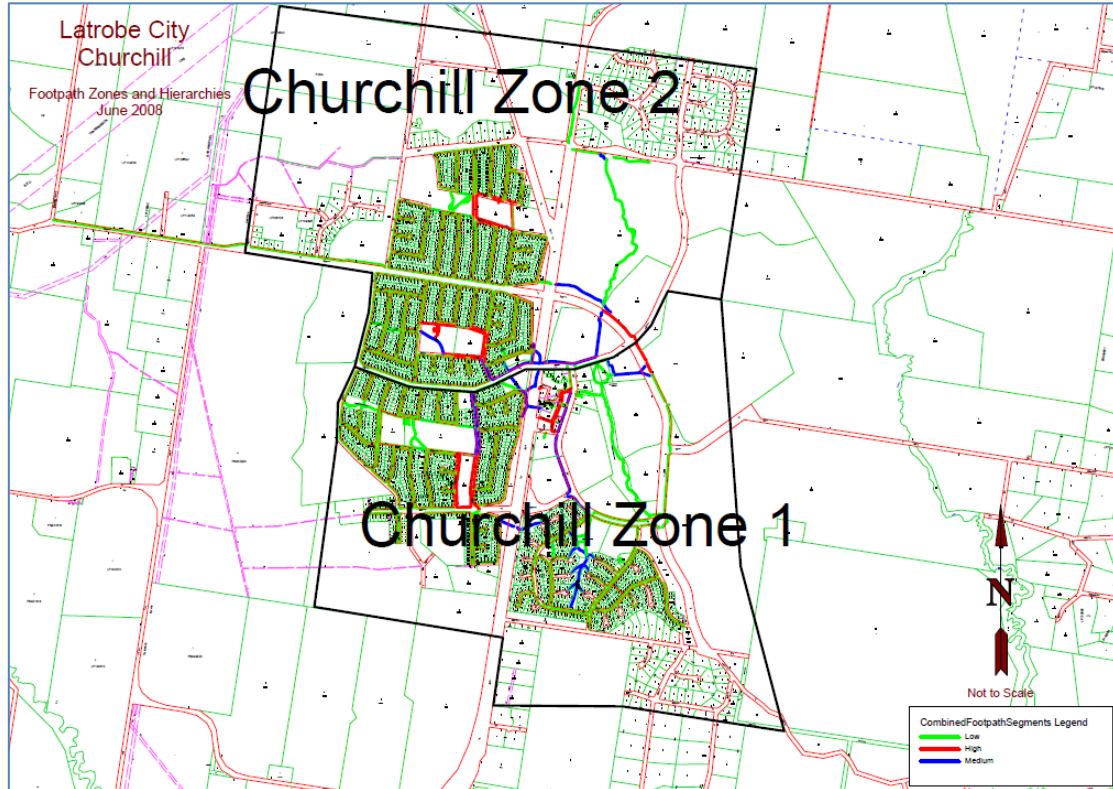
Appendix A - Table 3 – Proactive Inspection Schedule

Year	High Usage Area	Medium Usage Area	Low Usage Area
2017-2018	All High Use Areas	Zone 1 & 2	Zone 2 areas
2018-2019	All High Use Areas	Zone 3 & non zoned towns	Zone 3 & non zoned towns
2019-2020	All High Use Areas	Zone 1 & 2	Zone 1 areas
2020-2021	All High Use Areas	Zone 3 & non zoned towns	Zone 2 areas
2021-2022	All High Use Areas	Zone 1 & 2	Zone 3 & non zoned towns
2022-2023	All High Use Areas	Zone 3 & non zoned towns	Zone 1 areas

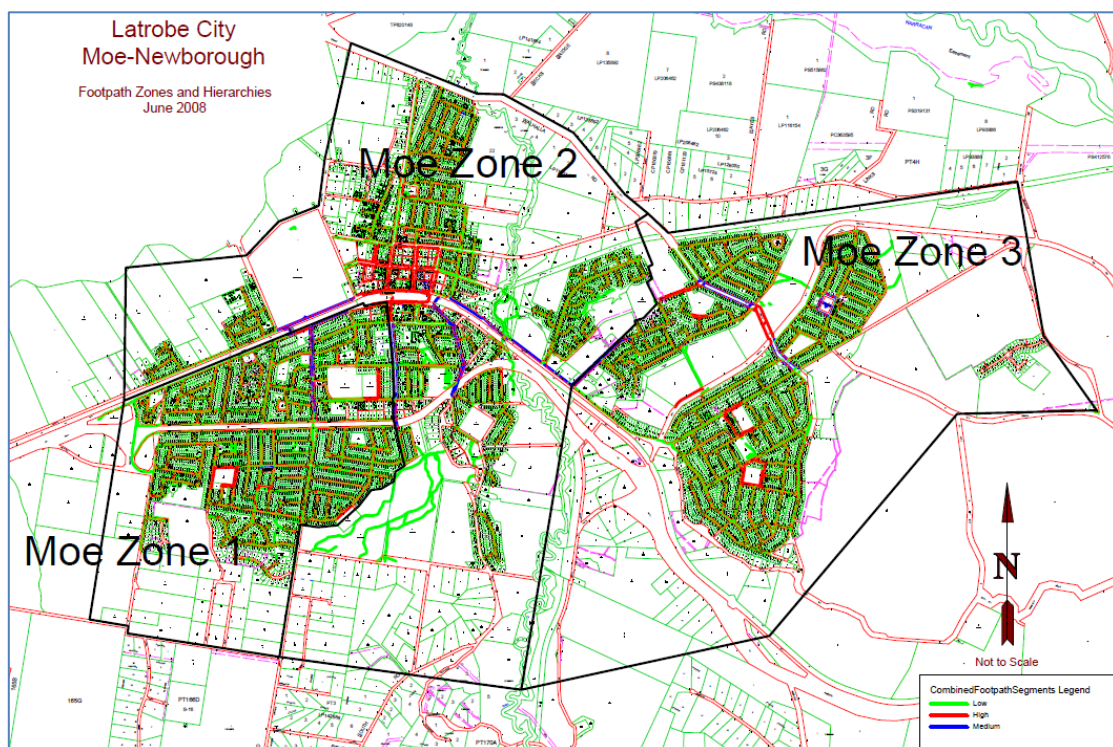
The Zone 3 paths include the seven small towns of Boolarra, Glengarry, Toongabbie, Traralgon South, Tyers, Yallourn North and Yinnar.

Zone and Footpath Hierarchy maps:

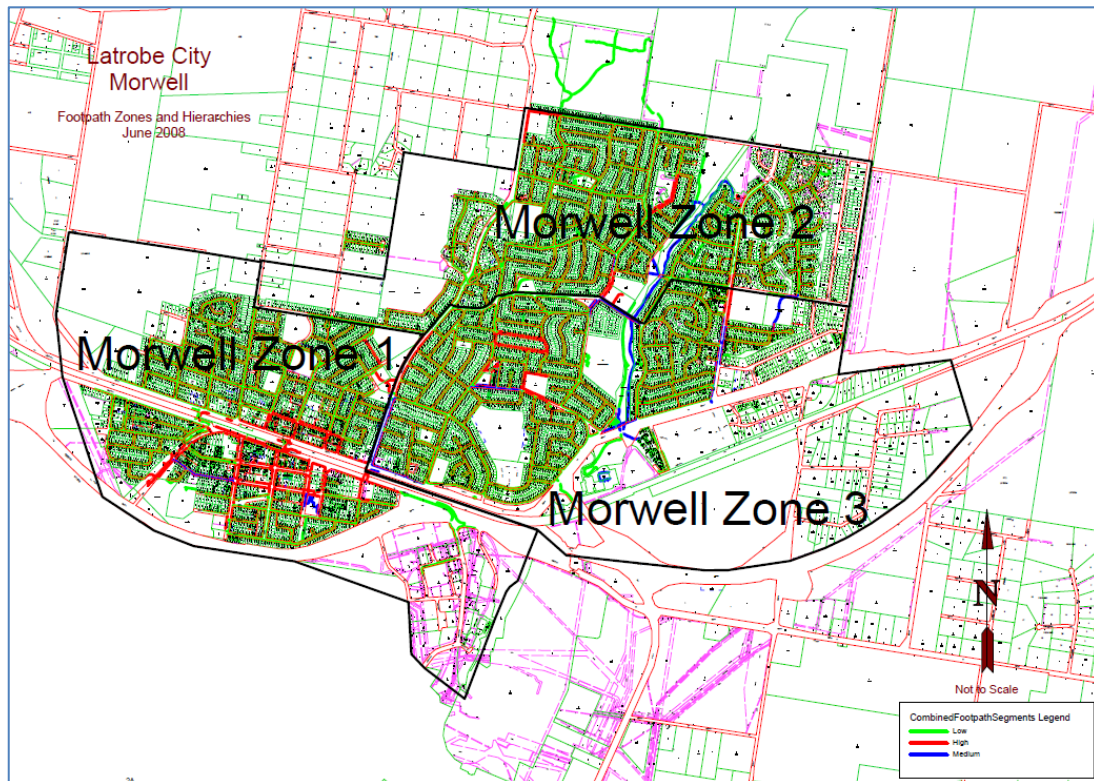
CHURCHILL



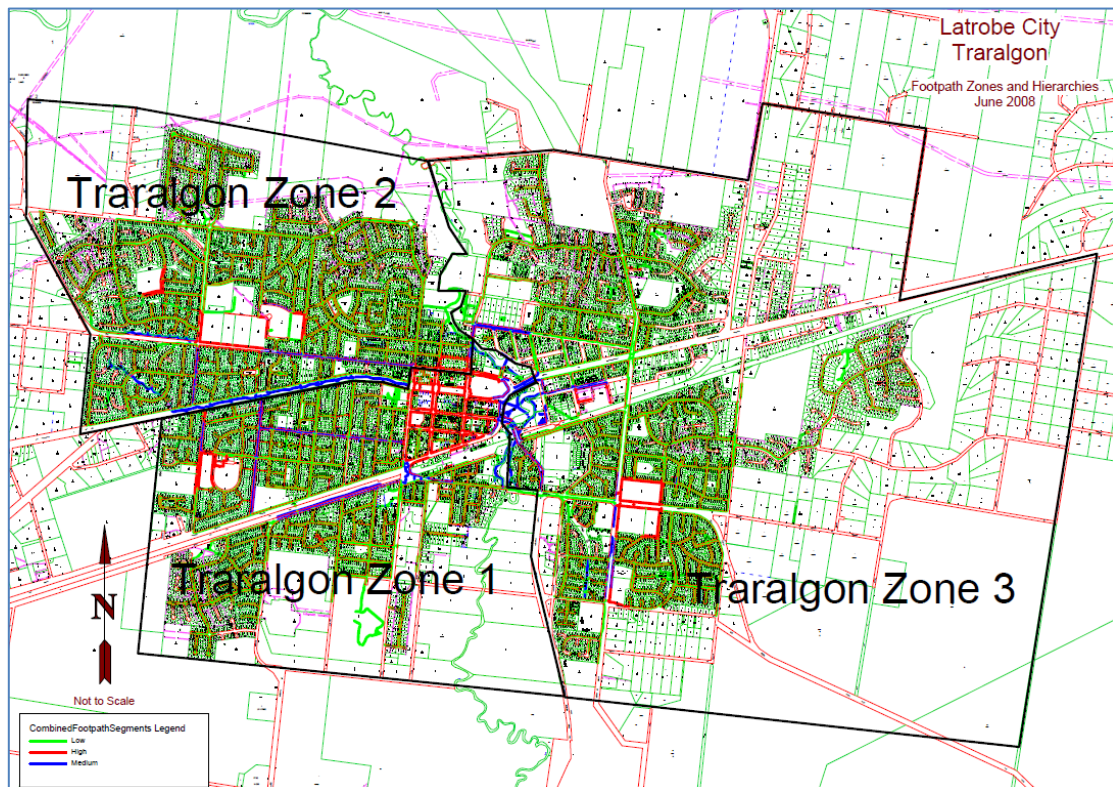
MOE-NEWBOROUGH



MORWELL



TRARALGON



4) Proactive Inspection Intervention Levels and Response Times

a. Path Defects Classified as Urgent

Trip Steps identified during proactive inspections are in the first incidence assessed against the criteria for Urgent Defects as outlined in Table 4. If determined to be an Urgent Defect the details of the defects are advised to Infrastructure Operations for Urgent Defect Response consistent with the requirements of Table 5.

Appendix A - Table 4 – Criteria for Classification as an Urgent defect from Proactive Inspections

Criteria for Urgent Defect	Assessment
A defect significantly exceeds intervention (i.e. 50mm plus).	Classified as Urgent Defect.
Obstruction to special users. <ul style="list-style-type: none"> • Special case with wheel chairs. • Special case with prams. 	Classified as Urgent Defect.
Defects at or above RMP Intervention at an easily identifiable location in the immediate vicinity of potentially vulnerable users e.g.: <ul style="list-style-type: none"> • Elderly. • Disabled. • Parents with prams. 	Classified as Urgent Defect.

Appendix A - Table 5 – Response Times for Urgent Defects identified during Proactive Inspections

Classification	Operational Inspection to determine Interim or permanent response	Response Time for Urgent Defects
High Usage	Inspect within one working day.	Provide reasonable warning signs, barricades or: <ul style="list-style-type: none"> • Interim repairs within three working days. • Repair within two weeks.
Medium Usage	Inspect within one working day.	Provide reasonable warning signs, barricades or: <ul style="list-style-type: none"> • Interim repairs within three working days. • Repair within four weeks.
Low Usage	Inspect within two working days.	Provide reasonable warning signs, barricades or: <ul style="list-style-type: none"> • Interim repairs within five working days. • Permanent Repair within eight weeks.

Note: Proactive Inspection data is collated by the last business day of the week and provided to Infrastructure Operation on the first business day of the following week.

b. Defects Assessed Against Road Management Plan (RMP) Intervention Levels

Trip Steps identified during proactive inspections are in the second incidence assessed against the RMP Intervention Levels outlined in Table 6 to determine if they are a RMP Defect.

Table 6 - Road Management Plan (RMP) Intervention Levels and Response Times for Permanent repair

Hierarchy Type	Footpath Maintenance Category (FMC)	Hazard Intervention Level	Response Time For Permanent Repair
Footpath	FMC-H	Pedestrian areas with a step greater than 10 mm	12 Months
Footpath	FMC-M	Pedestrian areas with a step greater than 20 mm	12 Months
Footpath	FMC-L	Pedestrian areas with a step greater than 20 mm	18 Months

Note 1: Council will not maintain nature strips and sweep footpaths of leaves, nuts and fruits from street trees. Inappropriate street trees that drop nuts and fruits on paths will be replaced under the appropriate tree management plan as funds become available.

Note 2: An appropriate interim repair is made when a RMP Defect to reduce the defect to below intervention such as applying asphalt, or may be to highlight the presence of the RMP Defect by methods such as painting or signage.

c. RMP Defects Response Actions

Trip Steps identified during proactive inspections assessed to be a RMP Defect are allocated an appropriate Response Action as outlined in Table 7. These actions are to be undertaken to bring each defect to below intervention levels within the timelines for Permanent Repair as outlines in Table 6.

Table 7 - Response Actions for RMP Defects Identified during Proactive Inspections.

Footpath Maintenance Category	Path Category	Response Action
FMC-H	Category H High Usage	Concrete : Grind step 10 -15 mm Replace step 10 -15 if previously ground Replace step > 15 mm Asphalt : Repair step >10 mm Brick Pavers : Reset areas with trip hazards >10 mm.
FMC-M	Category M Medium Usage	Concrete: Grind 20 -25 mm Replace step 20 -25 if previously ground Replace > 25 mm Asphalt: Repair steps >20 mm
FMC-L	Category L Low Usage	Concrete: Grind 20 -25 mm Replace step 20 -25 if previously ground Replace > 25 mm Asphalt: Repair steps >20 mm Gravel Paths: Repair erosion ruts to path >20 mm.

d. Path stress points below RMP Intervention Levels allocated an Asset Life-Cycle Action

All path stresses identified during proactive inspections are assessed against the Asset Life-Cycle Triggers with those above the triggers becoming points for Asset Life-Cycle Treatment and allocated an appropriate Asset Life-Cycle Action as outlined in Table 8. The points of treatment are to be scheduled as Priority 1, Priority 2, Priority 3 or Priority 4 based on the guidelines in Table 8. The ranking of the known treatment areas are re-ranked each year for treatment considering the treatment points remaining from previous years and the current year inspection are scheduled to the extent of the available budget.

Table 8 – Asset Renewal Actions and Priority by Path Category

Category	Asset Renewal Action	
Category H High Usage	Priority 1: Concrete : <ul style="list-style-type: none"> Seal Cracks >15 mm Replace sections with greater than 25% surface area with cracks > 15mm. Asphalt : <ul style="list-style-type: none"> Repair cracks > 5 mm Replace sections with greater than 25% surface area with cracks > 5mm. Brick Pavers : <ul style="list-style-type: none"> Reset sections with greater than 25% surface area with cracks > 5mm. 	Priority 3: Asphalt & Brick Pavers: <ul style="list-style-type: none"> Reset minor areas of surface distortion. Recurring distortion of high traffic areas to be progressively replaced with concrete in accordance with priority score, depending on available budget
Category M Medium Usage & Category L Low usage	Priority 2: Concrete: <ul style="list-style-type: none"> Replace steps > 15 mm Seal Cracks >15 mm Replace sections with greater than 25% surface area with cracks > 15mm. Asphalt: <ul style="list-style-type: none"> Repair steps >10 mm Repair cracks > 15 mm Replace sections with greater than 25% surface area with cracks > 15mm. Brick Pavers : <ul style="list-style-type: none"> Reset paved areas with steps 10-15 mm Reset sections with greater than 25% surface area with cracks > 15mm. Gravel Paths: <ul style="list-style-type: none"> Repair erosion ruts to path >30 mm. Weed control on gravel paths. 	Priority 4: Asphalt: <ul style="list-style-type: none"> Progressively replace with concrete in accordance with priority score, depending on available budget.

5) Reactive Response

Reactive inspections will be undertaken as a result of public requests, reported incidents or insurance claims. Latrobe City Council's customer request system, Pathway, records all requests from customers including details of faults and location. In accordance with this PAMP, Latrobe City Council officers will inspect a reported fault, incident or claim as per the times in Tables 10 and 11.

As is the case with any asset, footpath requests for work may be regarded as urgent by individuals. In accordance with the RMA, Latrobe City Council has determined a consistent, unbiased and repeatable method of determining urgency of repairs on the location of the defect and the degree of its severity and likely consequence. Table 9 below is a guide to Latrobe City Council's definition for 'urgent' classification.

Table 9 – Used to determine Urgent Repairs

Criteria	Assessment
Claim has been lodged with Latrobe City Council.	Classified as urgent. Latrobe City Council's philosophy is that whilst it does not acknowledge a claim as the sole basis to set default standards, it is attempting to reduce the risk of a subsequent fall. Similarly, the repair of a defect based on a claim, does not make Latrobe City Council liable to repair all other defects of that size and shape. Latrobe City Council continually reviews its intervention levels and urgency levels on the basis of insurance claims and incidents.
A defect significantly exceeds intervention (i.e. 50 mm plus).	Classified as urgent.
Obstruction to users. <ul style="list-style-type: none"> • Special case with wheel chairs. • Special case with prams. 	Classified as urgent.
Someone has legitimately tripped on the defect	Classified as urgent, refer claims above.
Easily identifiable location in the immediate vicinity of potentially vulnerable users e.g.: <ul style="list-style-type: none"> • Elderly. • Disabled. • Parents with prams. 	Classified as urgent.

Table 10 – Response Time for Response to Urgent Defects.

Classification	Operational Inspection to determine Interim or permanent response	Response Time for Urgent Defects
High Usage	Inspect within one working day.	Provide reasonable warning signs, barricades or: <ul style="list-style-type: none"> • Interim repairs within three working days. • Repair within two weeks.
Medium Usage	Inspect within one working day.	Provide reasonable warning signs, barricades or: <ul style="list-style-type: none"> • Interim repairs within three working days. • Repair within four weeks.
Low Usage	Inspect within two working days.	Provide reasonable warning signs, barricades or: <ul style="list-style-type: none"> • Interim repairs within five working days. • Permanent Repair within eight weeks.

Response times to investigate customer requests (Reactive inspection Response Time frames) are set out in the below table for the road and footpath maintenance categories.

Table 11 – Response Time for Emergency and Customer Requests

Footpath Maintenance Category (FMC)	Description	Control Mechanism	Emergency Inspection Times	Reactive Inspection Times
FMC-H	High Zone Footpath	Inspect rectify if possible, or provide appropriate warning	A (1 day)	A (1 day)
FMC-M	Medium Zone Footpath	Inspect rectify if possible, or provide appropriate warning	A (1 day)	B (2 Days)
FMC-L	Low Zone Footpath	Inspect rectify if possible, or provide appropriate warning	A (1 day)	C (5 days)

- Where, because of the nature of the repair required, level of resources required or workload, it is not possible to rectify within the time shown, appropriate warning of the hazard is to be provided until the repair can be completed. Appropriate warning could include, for example Provision of warning signs, Traffic control action, Diversion of pedestrian traffic around the site,
- Emergency Inspection times refer to a request for assistance (with relation to an Emergency situation) from an Emergency Service or other Government Department (i.e. SES, CFA, Fire Police, DELWP etc.)
 - Emergency Inspection Response Time as per the Response Codes outlined above
 - Reactive Response Time refer to a the response to a request from a customer/community member/Council Officer either via Pathway, ECM, Email, Social Media or Phone requests once formally logged within a system or formally notified.
 - Reactive Response Inspection Response Time as per the Response Codes outlined as per Appendix E Table

Table 8 – Intervention Levels and Response Times for Remedy of RMP Path Defects

Road Maintenance Category (FMC)	Intervention Level	Response Time For Interim Repairs resulting from Customer Requests	Response Time For Permanent Repair
FMC-H	Defective pedestrian areas with a step greater than 10 mm	D (2 weeks)	12 Months
FMC-M	Defective pedestrian areas with a step greater than 20 mm	D (2 weeks)	12 Months
FMC-L	Defective pedestrian areas with a step greater than 20 mm	E (4 weeks)	18 Months

Appendix B - Projected 10 year Capital Renewal and Replacement Works Program

The annual capital works are generated annually in conjunction with the Road Management Plan inspections to allow for the priority setting between urgent actions, RMP defect actions and the annual Asset renewal actions.

1) PATH – RMP-DEFECT TREATMENT 2017-18: (Redacted Program for example)

Hierarchy	Locality	Rd_name	Street_Number	Defect_Type	Defect_cause	Treatment_Work_Act
High Zone 2	CHURCHILL	MCINNES CRESCENT	Corner of Howard St	Trip 10-15mm	Soil Subsidence	Grind
Low Zone 1	CHURCHILL	CANTERBURY WAY	6	Trip 26-30mm	Nature Strip Tree	Grind
High Zone 1	CHURCHILL	AUCHTERLONIE CRES	Opposite 7	Trip 10-15mm	Property Tree	Grind
High Zone 1	CHURCHILL	CANTERBURY WAY	Nth cnr with Williams Ave	Trip 10-15mm	Property Tree	Grind
High Zone 1	CHURCHILL	CANTERBURY WAY	Nth cnr with Williams Ave	Trip 10-15mm	Property Tree	Grind
High Zone 1	CHURCHILL	CANTERBURY WAY	Nth cnr with Williams Ave	Trip 10-15mm	Property Tree	Grind
High Zone 1	CHURCHILL	WILLIAMS AVENUE	48	Trip 10-15mm	Property Tree	Grind
Low Zone 1	CHURCHILL	MANNING DRIVE	114	Trip 26-30mm	Property Tree	Grind
Low Zone 1	CHURCHILL	MCDONALD WAY	Behind the Churchill Leisure Centre	Trip 26-30mm	Soil Subsidence	Grind
Low Zone 1	CHURCHILL	CATTERICK CRESCENT	Opposite 11	Trip 26-30mm	Soil Subsidence	Grind
Low Zone 1	CHURCHILL	DUNBAR GROVE	2	Trip 26-30mm	Soil Subsidence	Grind
Low Zone 1	CHURCHILL	CATTERICK AVENUE	9	Trip 26-30mm	Soil Subsidence	Grind
Low Zone 1	CHURCHILL	IKARA WAY	44, empty block	Trip 26-30mm	Soil Subsidence	Grind
Low Zone 1	CHURCHILL	GOORAWIN PLACE	8	Trip 26-30mm	Property Tree	Grind
Low Zone 1	CHURCHILL	GOORAWIN PLACE	Next to 8	Trip 26-30mm	Property Tree	Grind
Low Zone 1	CHURCHILL	CHURINGA DRIVE	8	Trip 26-30mm	Property Tree	Grind
Low Zone 1	CHURCHILL	AMAROO WAY	Opposite 28	Trip 26-30mm	Soil Subsidence	Grind
Low Zone 1	CHURCHILL	IKARA WAY	8, next to sewer pit	Trip 26-30mm	Pit - Sewer	Grind
Low Zone 1	MOE	WATSONS ROAD SOUTH	Near Highway bridge	Trip 26-30mm	Soil Subsidence	Grind
Low Zone 1	MOE	VICTORIA STREET	40	Trip 26-30mm	Soil Subsidence	Grind
Low Zone 1	MOE	ROBERTS STREET	Opposite 9	Trip 26-30mm	Nature Strip Tree	Grind
Low Zone 1	MOE	ROBERTS STREET	7	Trip 26-30mm	Nature Strip Tree	Grind
Low Zone 1	MOE	VICTORIA STREET	1	Trip 26-30mm	Property Tree	Grind
Low Zone 1	MOE	TRUSCOTT ROAD	Opposite 15	Trip 26-30mm	Nature Strip Tree	Grind
Low Zone 1	MOE	VALE STREET	Opposite 51	Trip 26-30mm	Property Tree	Grind

2) PATH – ASSET RENEWAL TREATMENTS 2017-18: (Redacted Program for example)

Hierarchy	Locality	Rd_name	Street_Number	Defect_Type	Defect_cause	Treatment_Work_Act
High Zone 2	CHURCHILL	COOLABAH DRIVE	30m south of number 37	Trip 10-15mm	Vehicle Loading	Replace 100mm
High Zone 2	CHURCHILL	HOWARD AVENUE	Opposite 30	Trip 30mm+	Vehicle Loading	Replace 100mm
Low Zone 1	CHURCHILL	LATTER GROVE	11	Trip 26-30mm	Vehicle Loading	Replace 100mm
Low Zone 1	CHURCHILL	VARY COURT	2	Trip 26-30mm	Vehicle Loading	Replace 100mm
Low Zone 1	CHURCHILL	QUIGLEY CRESCENT	52	Trip 26-30mm	Vehicle Loading	Replace 100mm
Low Zone 1	CHURCHILL	QUIGLEY CRESCENT	52	Trip 26-30mm	Vehicle Loading	Replace 100mm
Low Zone 1	CHURCHILL	CANTERBURY WAY	18	Trip 26-30mm	Vehicle Loading	Replace 100mm
Low Zone 1	CHURCHILL	MCLEAN AVENUE	Next to 34. Path towards reserve	Trip 26-30mm	Soil Subsidence	Replace 100mm
Low Zone 1	CHURCHILL	CANTERBURY WAY	7	Trip 26-30mm	Vehicle Loading	Replace 125mm RC
Low Zone 1	CHURCHILL	CANTERBURY WAY	19	Trip 30mm+	Pit - Sewer	Replace 100mm
Low Zone 1	CHURCHILL	AUCHTERLONIE CRES	55	Trip 26-30mm	Vehicle Loading	Replace 100mm
Low Zone 1	CHURCHILL	MCCARTHY STREET	5	Trip 26-30mm	Vehicle Loading	Replace 125mm RC
Low Zone 1	CHURCHILL	MCDONALD WAY	Behind the Churchill Leisure Centre	Trip 26-30mm	Vehicle Loading	Replace Pram Xing
Low Zone 1	CHURCHILL	WALKER PARADE	2	Trip 26-30mm	Vehicle Loading	Replace 100mm
Low Zone 1	CHURCHILL	PHILIP PARADE	20m east of Churinga Drive	Trip 26-30mm	Vehicle Loading	Replace 100mm
Low Zone 1	CHURCHILL	IKARA WAY	38	Trip 26-30mm	Vehicle Loading	Replace 100mm
Low Zone 1	CHURCHILL	IKARA WAY	Next to 38	Trip 26-30mm	Vehicle Loading	Replace 100mm
Low Zone 1	CHURCHILL	IKARA WAY	Next to 38	Trip 26-30mm	Vehicle Loading	Replace 100mm

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

Upgrade and new projects incorporated in the PAMP plan include:

1) Project priority Assessment Tool:

Pathway Service Priority Ranking			
NETWORK HIERARCHY			
Select one only network hierarchy score	Score	Project Score	
Access within - Major town activity centre (CBD)			
A1 Within the bounds of the commercial precinct (blocks)	10		
Access within - Small town main street precinct			
A2 Within the bounds of the commercial precinct (linear)	9		
Access within - Major town local shopping precinct			
A3 Within the bounds of the commercial precinct (linear)	8		
Access to - Major town activity centres (CBD)			
B1 Priority access paths within 250 m of precinct boundary	7		
Access to - Small township main street precinct			
B2 Pedestrian paths along main street within 50 m of precinct boundary	6		
Access to - Major town local shopping precinct			
B3 Pedestrian paths along street within 50 m of precinct boundary	6		
Access between - Neighbourhood and Major town activity centres (CBD)			
C1 Strategic network paths within 1.0 km of precinct boundary	5		
C2 Strategic network paths 1.0 km to 2.0 km from precinct boundary	4		
C3 Strategic network paths greater than 2.0 km from precinct boundary	3		
Access within - Residential precincts			
D1 Residential access streets without paths	2		
D2 Paths through reserves linking access streets with paths	1		
D3 Residential access streets with existing path on one side	1		
D4 Residential courts	0		
D5 Low density rural and rural living zones	0		
NETWORK HIERARCHY SCORE			
SERVICE HIERARCHY			
Select one only from this group if applicable	Score	Project Score	
Transport networks			
Train station			
Within 50 m of station precincts	6		
Bus terminal			
Within 50 m of bus terminal precinct	6		
Local Bus Stop			
Within 20 m of local bus stop	3		
Cycling network/regional trails			
Link to regional rail trail	2		
Community precincts			
Elderly person precinct			
Within 50 m of elderly precincts	7		
Schools / preschools and childcare centres			
Within 250 m of school precinct	6		
Community centres and meeting places			
Within 50 m of community precinct	5		
Sports stadiums			
Within 50 m of sports stadium precincts	4		
Recreation reserves			
Recreation reserve street frontage	3		
Paths within active recreation reserves	2		
Paths within passive recreation reserves	1		
Community need / support			
Demonstrated community need/support			
Enhancement to pedestrian / cyclist safety	6		
Enhancement to disability access	6		
Use by community	4		
Multiple community requests	2		
SERVICE HIERARCHY SCORE			
TOTAL PROJECT PRIORITY SCORE			

Note: Projects assessed annually to consider new inclusions.

2) Missing Links Project List:

MISSING FOOTPATH LINKS							
Year	Score	Town	Project	Comment	STATUS	(m)	Est Cost
2017-18	17	Traralgon	Hunter Road	Liddiard Rd to Traralgon Creek Rd	Complete	375	\$45,000
2017-18	14	Traralgon	Hickox Street	Short link to bus stop	Complete	25	\$6,707
2017-18	14	Traralgon South	Keith Morgan Dr	From school to Cashmere Drive	Deferred	505	\$127,250
2017-18	12	Boolarra	Church Street A,	Monash Way to Mechanics Street	Cancelled	125	\$18,2701
2017-18	12	Boolarra	Church Street B	Mechanics Street to School	WIP	185	\$20,496
2017-18	12	Boolarra	Church Street C	Link to elderly units	WIP	20	\$3,700
2017-18	11	Traralgon	Argyle Street A	East from Masons Street	WIP	100	\$14,801
2017-18	11	Traralgon	Argyle Street B	Riggall Road to Wren Street	WIP	340	\$48,104
2017-18	11	Traralgon	Argyle Street C	Wren Street to McMahon Street	WIP	270	\$38,390
2017-18	11	Traralgon	Argyle Street D	Link to Traffic Lights	WIP	35	\$13,750
2017-18	11	Morwell	Patricia Street	Missing on South of Western end	Complete	85	\$13,750
2018-19	10	Morwell	Holmes Road	McDonald Street to Winifred Street		350	\$53,500
2018-19	10	Morwell	Harold Street A	Winifred Street to Hoyle Street		205	\$31,750
2018-19	10	Morwell	Harold Street B	Harold Street to McDonald Way		135	\$21,250
2018-19	10	Traralgon	McNairn Road A	South of Railway line to existing path	Deferred	225	\$57,250
2018-19	10	Traralgon	McNairn Road B	Level crossing (V-Track Quote)	Deferred	30	\$500,000
2018-19	10	Traralgon	McNairn Road B	Railway line to Princes Drive	Deferred	285	\$72,250
2018-19	10	Traralgon	Bank Street A	Hazelwood Road to E end of reserve		410	\$103,500
2018-19	10	Traralgon	Bank Street B	Bank Street Pedestrian refuge		20	\$16,000
2018-19	10	Traralgon	Bank Street C	Reserve frontage		180	\$46,000
2019-20	10	Traralgon	Bank Street D	Link at McNulty Drive		75	\$19,750
2019-20	10	Traralgon	Bank Street E	Reserve link to Connaught Way		90	\$23,500
2019-20	9	Tyres	Mount Hope Rd	Brown Coalmine Road to Shekiniah Dr	Cancelled	500	\$126,000
2019-20	6	Glengarry	Glengarry Rec	Traralgon-Maffra Rd to oval	Cancelled	115	\$29,750
2019-20	6	Morwell	Granya Grove	Granya Grove to McDonald Street		85	\$13,750
2019-20	6	Morwell	Crinigan Road	Symons Cres to Waterhole Hole Ck		275	\$69,750
2020-21	6	Moe south	Coalville Road	Cemetery Road to Wirrana Drive		115	\$18,250
2020-21	6	Moe south	Coalville Road	Wirrana Dr Nth to Wirrana Dr Sth		335	\$51,250
2020-21	6	Moe south	Coalville Road	Wirrana Dr Sth to Borrmans Street		110	\$17,500
2020-21	5	Moe south	Cemetery Road	Linkage to East and West bus stops		190	\$29,500
2020-21	5	Traralgon	Ormond Road	Ormond Rd to Shakespeare Street		450	\$113,500
2021-22	4	Newborough	Old Sale Road (W)	Haigh Street to Rail Trail		305	\$77,250
2021-22	4	Newborough	Old Sale Road (E)	Northern Avenue to Rail Trail		160	\$41,000
2021-22	3	Traralgon	Nefertiti Court	Nefertiti Crt to Traralgon-Maffra Rd		75	\$19,750
2021-22	2	Traralgon	Lachlan Close	Lachlan Cl, Oxley Cl, Ambler Place		250	\$63,500
2021-22	1	Glengarry	Rhodes Court	Rhodes Court to Hambrook Lane		85	\$22,250
2022-23	1	Churchill	Glendonald Road	Churinga Drive to Northways Road	Cancelled	555	\$84,250
2022-23	1	Churchill	Mackays Road	MacDonald Way to Winchester Way		65	\$17,250
2022-23		Traralgon	Rec Reserve	Path to rear of Play Group		55	\$10,000
2022-23		Morwell	Linden court	Path Sth Side near elderly units		60	\$12,000

Final Costing and priorities to be confirmed.

Difficult Projects may be **deferred** until logistic issues resolve (eg McNairn Road requires a rail crossing which is estimated to cost \$500,000)

Very difficult projects that have no solution to issues may be **cancelled** to allow deliverable projects to proceed.

3) Linear Paths Project List:

MISSING FOOTPATH LINKS								
Year	Town	Project	Comment	STATUS	Length	Width	Area	Est Cost
2016-17	Moe	Old Sale Road	Montane Estate Linkage (Separate funding)	Complete	2.5	515	1338	\$80,250
2016-17	Traralgon	Riverslea Boulevard	Linkage through green belt close to Schools	Complete	2.5	180	460	\$46,000
2016-17	Morwell	Holmes Rd	Linkage along front of reserve to existing network	Complete	1.5	200	320	\$32,000
2016-17	Churchill	Watson Park	Boundary paths along reserve	Complete	1.5	250	385	\$38,500
2016-17	Moe	Orion Court	Access through open space reserve	Complete	2.5	125	310	\$31,000
2016-17	Yinnar	Alfred St	Connect playground to existing networks & bus stop	Complete	2.5	125	323	\$32,250
2016-17	Morwell	The Boulevard	Formalise link to Waterhole creek path network	Complete	2.5	75	198	\$19,750
2017-18	Traralgon	Christensen Cl	Bonds Park – Christensen Close to Conway Court		190	1.5	300	\$30,000
2017-18	Morwell	Collins Street	Northern Reserve Morwell (Collins Street)		370	1.5	585	\$58,500
2017-18	Newborough	Dinwoodie Dr	Dinwoodie Drive, Newborough		145	2.5	370	\$37,000
2017-18	Church	Switchback Road	Gaskin Park (Switchback Rd) Churchill		265	2.5	665	\$66,500
2018-19	Morwell	McDonald Street	Sir Norman Brooks Park – McDonald Street to Margret Street				310	\$31,000
2018-19	Moe	Vary street	Joe Tabuteau Reserve (Park & PlayGround area) Moe				530	\$53,000
2018-19	Moe	Hawker street	Hawker Street to Bristol Street				510	\$51,000
2018-19	Traralgon	Tulloch Way	Tulloch Way to Liddiard Road (Think Big Reserve)				470	\$47,250
2018-19	Churchill	Williams Avenue	Walkley Park Play Space				200	\$20,000
2019-20	Traralgon	Inverness Way	Grubb Ave to Inverness Way		125	2.5	347	\$34,750
2019-20	Morwell	Barry Street	Barry Street Reserve (Play Space) from Cynthia Street through to Hyland Street		185	1.5	310	\$31,000
2019-20	Moe	Scott Avenue	Scott Ave Moe		185	1.5	470	\$47,000
2019-20	Yinnar	Main Street	Link Centenary Park to the Yinnar Skate Park		240	2.5	635	\$63,500
2020-21	Churchill	Birch Drive	Andrews park West		310	2.5	800	\$80,000
2020-21	Morwell	Berg Street	Berg Street Play Space		335	1.5	310	\$31,000
2020-21	Traralgon	Strathcole Drive	Medew Reserve (Play Space) connecting Strathcole, Pepperdine and Morgan		270	1.5	700	\$70,000
Final Costing and priorities to be confirmed.								
Difficult projects may be deferred until logistic issues resolved (eg McNairn Road requires a rail crossing which is estimated to cost \$500,000)								
Very difficult projects that have no solution to issues may be cancelled to allow deliverable projects to proceed.								

Appendix D - Budgeted Expenditures

Expenditure currently incorporated into annual budgets include:

BUDGET: (\$000's)

	2018	2019	2020	2021	2022
Management Overhead Budget	\$3	\$3	\$3	\$3	\$3
Asset Management Budget	\$18	\$18	\$18	\$18	\$18
Operations Budget	\$23	\$23	\$23	\$23	\$23
OPERATIONS BUDGET	\$44	\$44	\$44	\$44	\$44
Reactive Maintenance Budget	\$30	\$30	\$30	\$30	\$30
Routine Maintenance Budget	\$80	\$80	\$80	\$80	\$80
Specific Maintenance (Budget Shortfall)	\$0	\$0	\$0	\$0	\$0
MAINTENANCE BUDGET	\$110	\$110	\$110	\$110	\$110
Renewal LTFT/Budget	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Upgrade/Expansion Budget	\$0	\$0	\$0	\$0	\$0
Planned new LTFF/Budget	\$450	\$2,950	\$3,550	\$450	\$450
Planned Asset Disposal Budget	\$0	\$0	\$0	\$0	\$0
CAPITAL EXPENDITURE BUDGET	\$1,450	\$3,950	\$4,550	\$1,450	\$1,450
TOTAL EXPENDITURE (LTFP/BUDGET) Ops, Main, Capex	\$1,604	\$4,104	\$4,704	\$1,604	\$1,604

BUDGET: (\$000's)

	2023	2024	2025	2026	2027
Management Overhead Budget	\$3	\$3	\$3	\$3	\$3
Asset Management Budget	\$18	\$18	\$18	\$18	\$18
Operations Budget	\$23	\$23	\$23	\$23	\$23
OPERATIONS BUDGET	\$44	\$44	\$44	\$44	\$44
Reactive Maintenance Budget	\$30	\$30	\$30	\$30	\$30
Routine Maintenance Budget	\$80	\$80	\$80	\$80	\$80
Specific Maintenance (Budget Shortfall)	\$0	\$0	\$0	\$0	\$0
MAINTENANCE BUDGET	\$110	\$110	\$110	\$110	\$110
Renewal LTFT/Budget	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Upgrade/Expansion Budget	\$0	\$0	\$0	\$0	\$0
Planned new LTFF/Budget	\$450	\$450	\$450	\$450	\$450
Planned Asset Disposal Budget	\$0	\$0	\$0	\$0	\$0
CAPITAL EXPENDITURE BUDGET	\$1,450	\$1,450	\$1,450	\$1,450	\$1,450
TOTAL EXPENDITURE (LTFP/BUDGET) Ops, Main, Capex	\$1,604	\$1,604	\$1,604	\$1,604	\$1,604

Appendix E - Abbreviations

Abbreviations used in the PAMP include:

AAAC	Average annual asset consumption
AM	Asset Management
AEP	Annual Exceedance Probability
ASC	Annual service cost
BOD	Biochemical (biological) oxygen demand
CRC	Current replacement cost
CWMS	Community wastewater management systems
DA	Depreciable amount
PAMP	Road Asset Management Plan
DRC	Depreciated replacement cost
EF	Earthworks/formation
GPT	Gross Pollutant Trap
IRMP	Infrastructure risk management plan
LCC	Life Cycle cost
LCE	Life cycle expenditure
LTFP	Long term financial plan
MMS	Maintenance Management System
PCI	Pavement condition index
RV	Residual value
SoA	State of the Assets
vph	Vehicles per hour
WDCRC	Written down current replacement cost

Appendix F - Glossary

Annual service cost (ASC)

a) Reporting actual cost

The annual (accrual) cost of providing a service including operations, maintenance, depreciation, finance/opportunity and disposal costs less revenue.

b) For investment analysis and budgeting

An estimate of the cost that would be tendered, per annum, if tenders were called for the supply of a service to a performance specification for a fixed term. The Annual Service Cost includes operations, maintenance, depreciation, finance/opportunity and disposal costs, less revenue.

Asset

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

Asset category

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

Asset class

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

Asset condition assessment

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

Asset hierarchy

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

Asset management (AM)

The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost effective manner.

Asset renewal funding ratio

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

Average annual asset consumption (AAAC)*

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

Borrowings

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

Brownfields Valuation

Valuation method where the initial recognition and subsequent recognition of assets involves expensing those costs that are considered to be 'sunk' one-off costs for components that are expected to have an unlimited life such as earthworks and formation for roadworks and capitalising only those costs associated with ongoing renewal of the asset.

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, eg. resurfacing or resheeting a material part of a road network, replacing a material section of a drainage network with pipes of the same capacity, resurfacing an oval.

Capital expenditure - upgrade

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

Capital funding

Funding to pay for capital expenditure.

Capital grants

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

Capital investment expenditure

See capital expenditure definition

Capitalisation threshold

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

Carrying amount

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

Class of assets

See asset class definition.

Component

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

Core asset management

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

Cost of an asset

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

Critical assets

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

Current replacement cost (CRC)

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

Deferred maintenance

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

Depreciable amount

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

Depreciated replacement cost (DRC)

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

Depreciation / amortisation

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

Economic life

See useful life definition.

Expenditure

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

Expenses

Decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or increases in liabilities that result in decreases in equity, other than those relating to distributions to equity participants.

Fair value

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

Financing gap

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

Generation 1

First renewal of an asset after construction.

Generation 2

Subsequent renewal of asset after initial renewal.

Greenfields valuation

Valuation method where the initial recognition and subsequent revaluation of assets involves the capitalisation of all costs including those for components that are expected to have an unlimited life (such as earthworks and formation for roadwork).

Heritage asset

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

Impairment loss

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

Infrastructure assets

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

Investment property

Property held to earn rentals or for capital appreciation or both, rather than for:

- a) use in the production or supply of goods or services or for administrative purposes; or
- b) sale in the ordinary course of business.

Key performance indicator

A qualitative or quantitative measure of a service or activity used to compare actual performance against a standard or other target. Performance indicators commonly relate to statutory limits, safety, responsiveness, cost, comfort, asset performance, reliability, efficiency, environmental protection and customer satisfaction.

Level of service

The defined service quality for a particular service/activity against which service performance may be measured. Service levels usually relate to quality, quantity, reliability, responsiveness, environmental impact, acceptability and cost.

Life Cycle Cost * (LCC)

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

Life Cycle Expenditure

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

Loans / borrowings

See borrowings.

Maintenance

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

- **Planned maintenance**

Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.

- **Reactive maintenance**

Unplanned repair work that is carried out in response to service requests and management/ supervisory directions.

- **Specific maintenance**

Maintenance work to repair components or replace sub-components that needs to be identified as a specific maintenance item in the maintenance budget.

- **Unplanned maintenance**

Corrective work required in the short-term to restore an asset to working condition so it can continue to deliver the required service or to maintain its level of security and integrity.

Maintenance expenditure *

Recurrent expenditure which is periodically or regularly required as part of the anticipated schedule of works 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, mis-statement or non-disclosure has the potential, individually or collectively, to influence the economic decisions of users taken on the basis of the financial report or affect the discharge of accountability by the management or governing body of the entity.

Modern equivalent asset

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

Net present value (NPV)

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

Non-revenue generating investments

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

Operations

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

Operating expenditure

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

Operating expense

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

Operating expenses

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

Operations, maintenance and renewal financing ratio

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

Operations, maintenance and renewal gap

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

Pavement management system (PMS)

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

PMS Score

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

Rate of annual asset consumption *

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

Rate of annual asset renewal *

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

Rate of annual asset upgrade/new *

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

Recoverable amount

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

Recurrent expenditure

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

Recurrent funding

Funding to pay for recurrent expenditure.

Rehabilitation

See capital renewal expenditure definition above.

Remaining useful life

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

Renewal

See capital renewal expenditure definition above.

Residual value

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

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, eg 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).

Specific Maintenance

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

Strategic Longer-Term Plan

A plan covering the term of office of councillors (four 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.

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

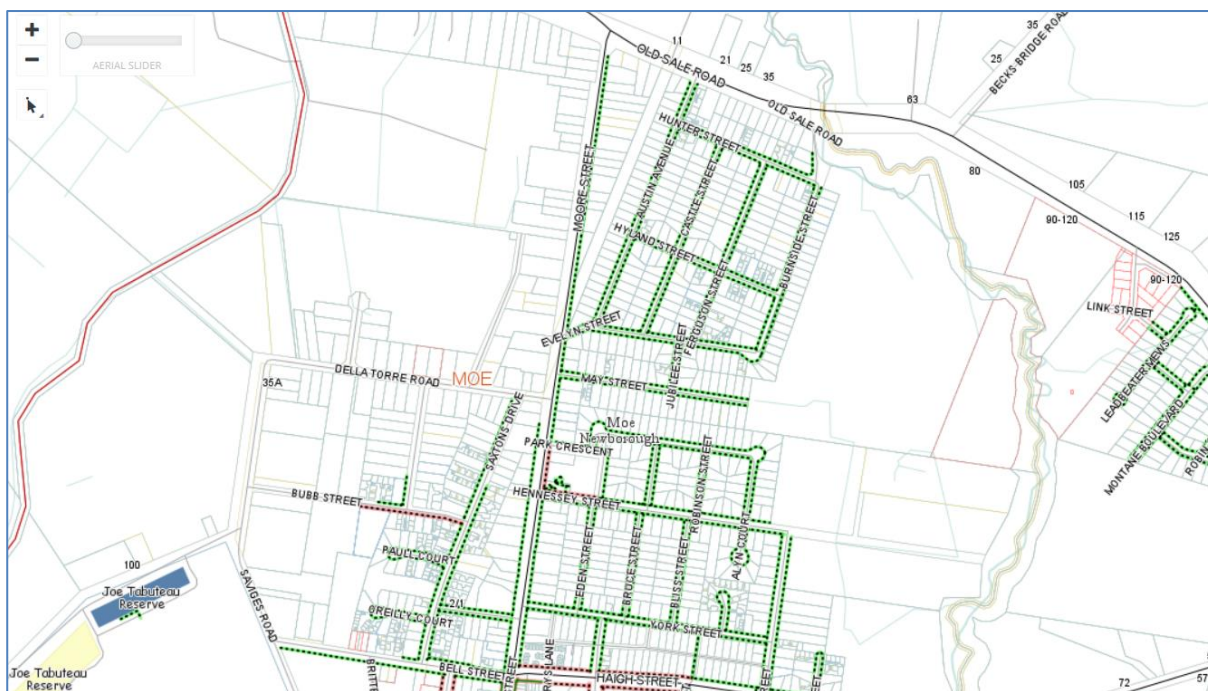
The present value of future cash flows expected to be derived from an asset or cash generating unit. It is deemed to be depreciated replacement cost (DRC) for those assets whose future economic benefits are not primarily dependent on the asset's ability to generate net cash inflows, where the entity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

Source: IPWEA, 2009, Glossary., Additional and modified glossary items shown *

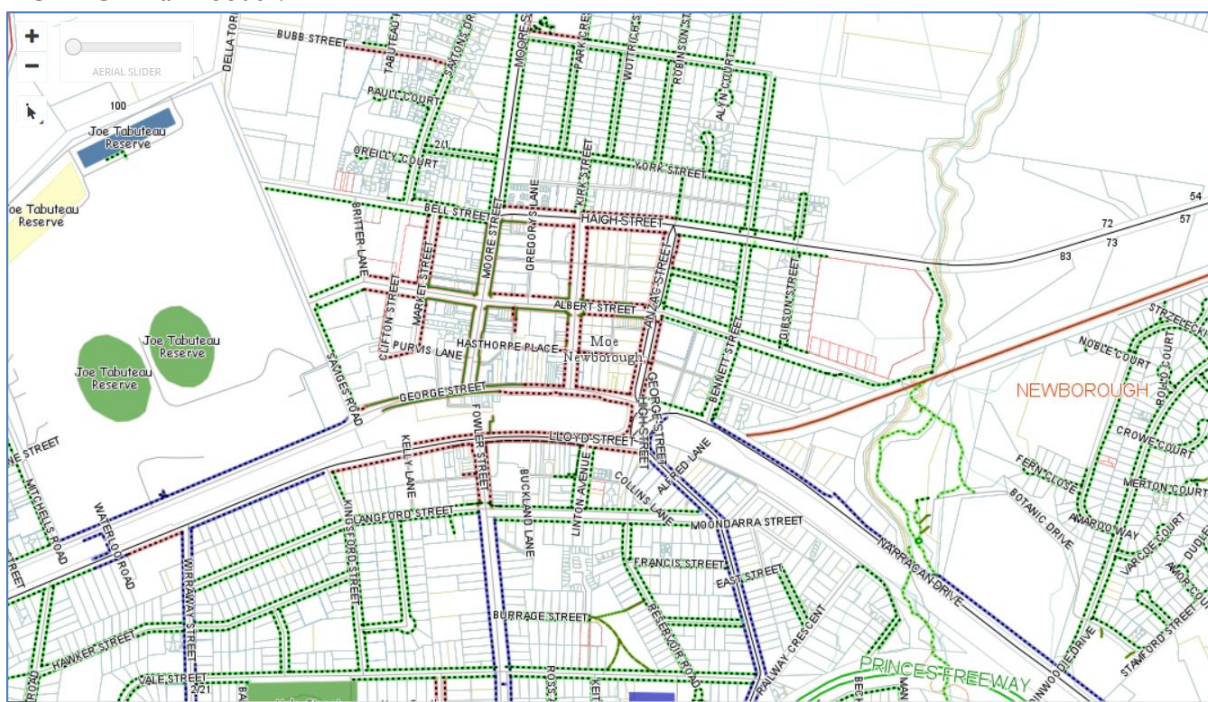
Appendix G - PATH Network Plans

Moe Township Path Network

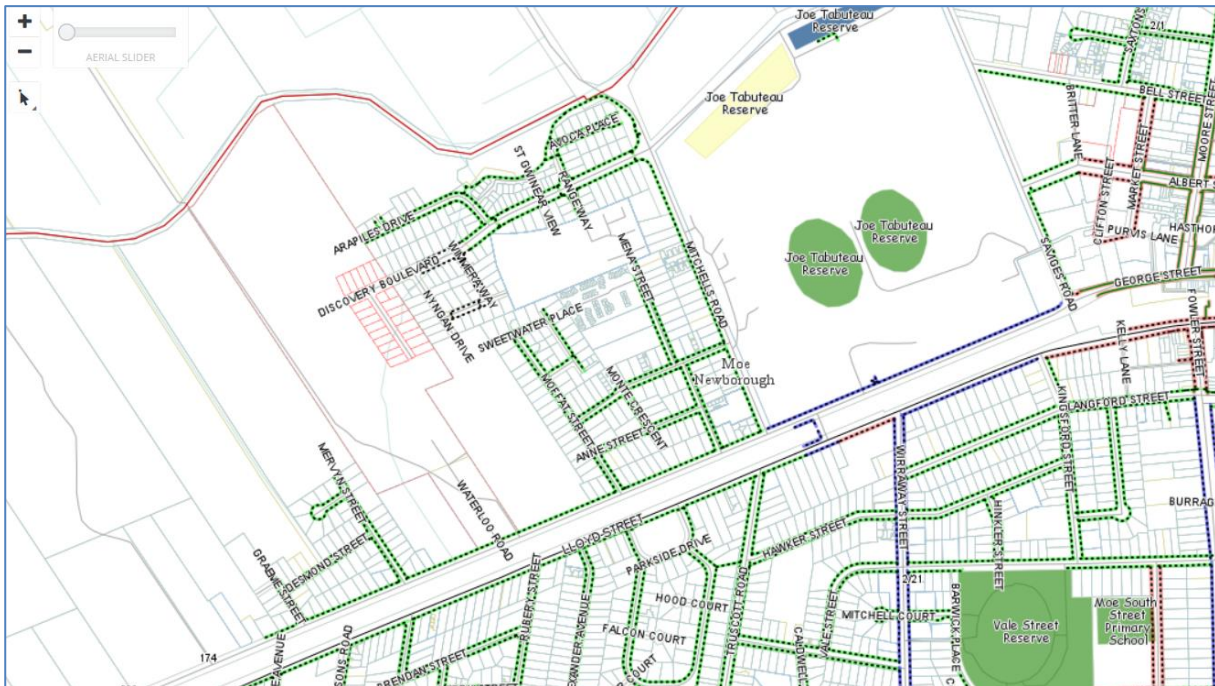
MOE - Northern Moore Street:



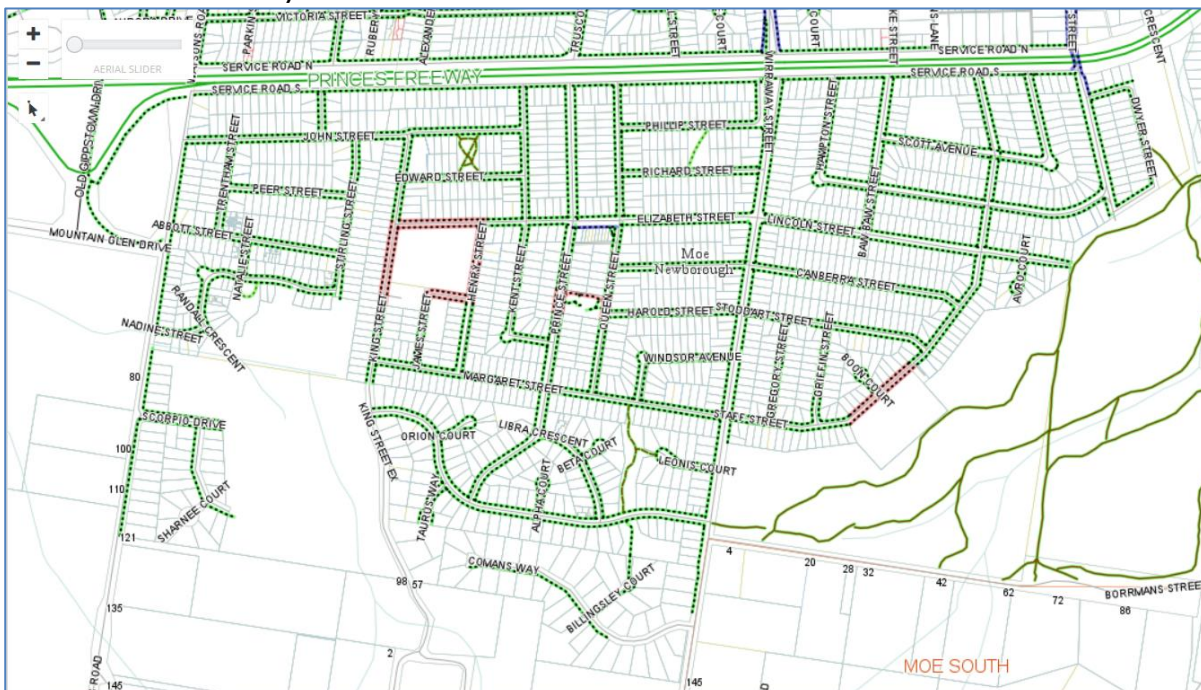
MOE - CBD and South:



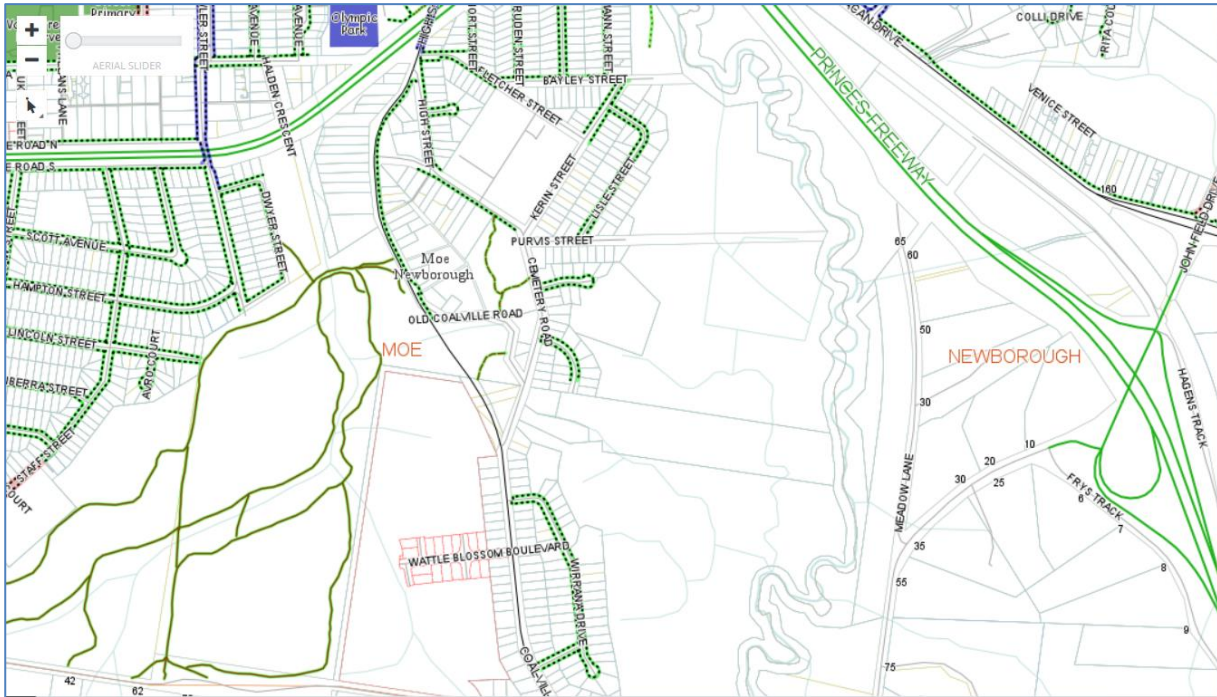
MOE - Mitchell Grove:



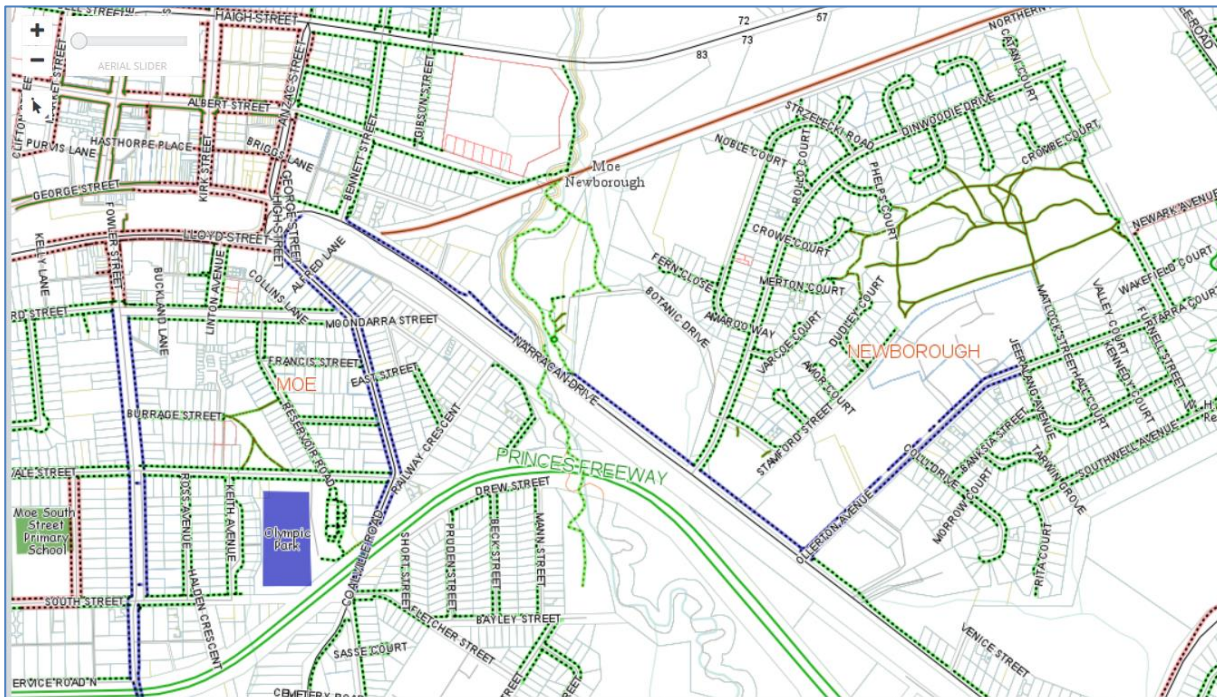
MOE - South of Freeway:



MOE - Coalville Road:

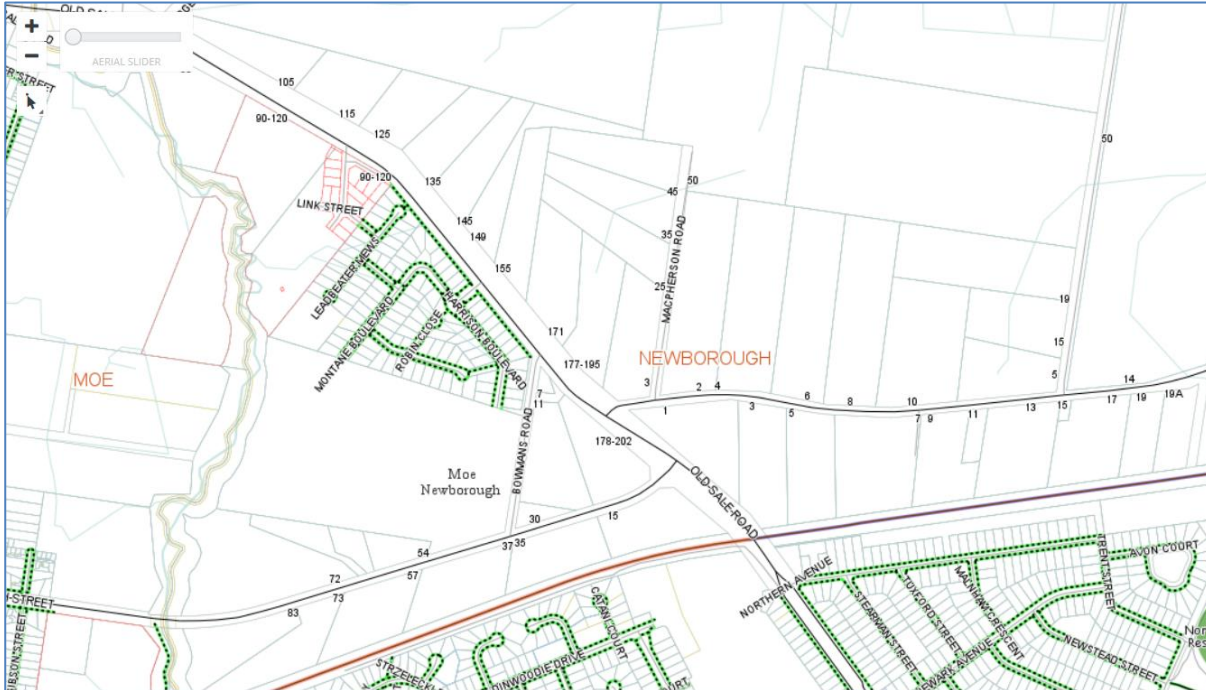


MOE - East of CBD:



Newborough Township Path Network

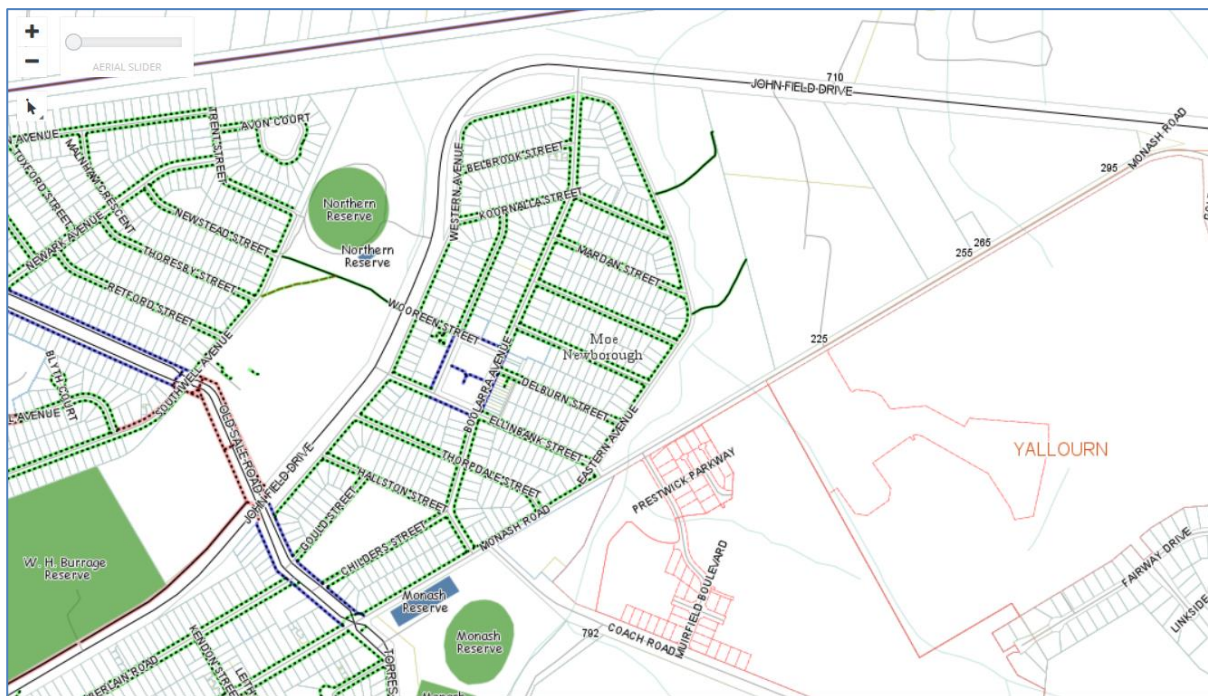
NEWBOROUGH – Montane Estate



NEWBOROUGH - West



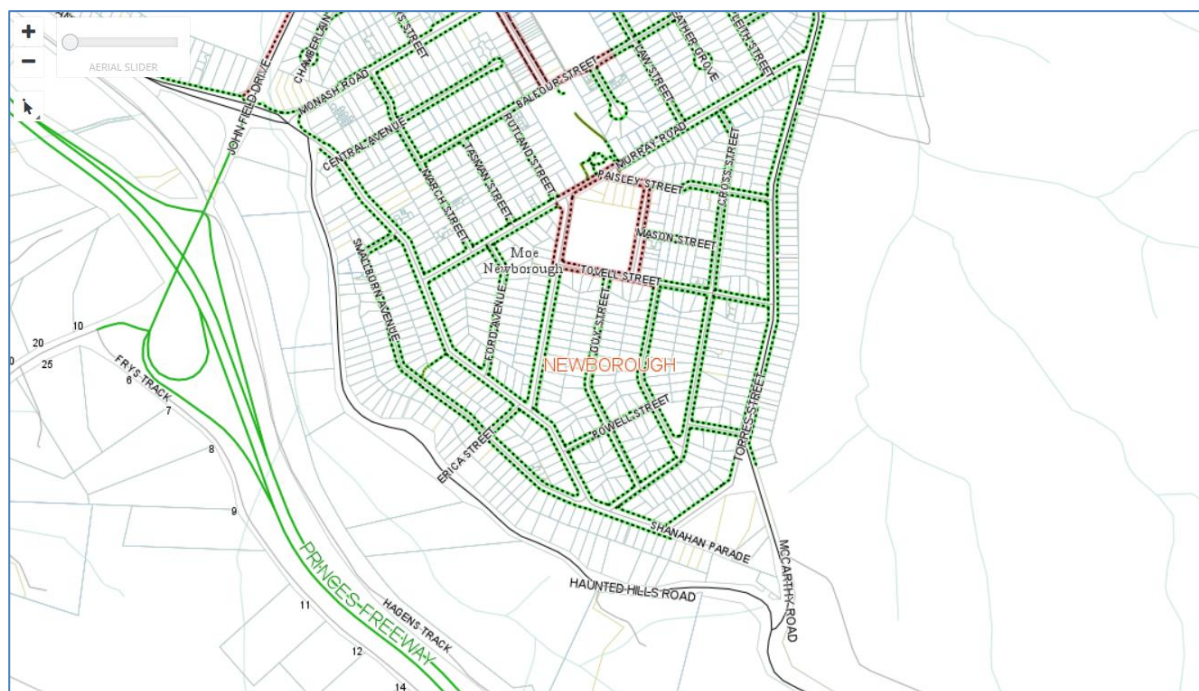
NEWBOROUGH - North



NEWBOROUGH - Central

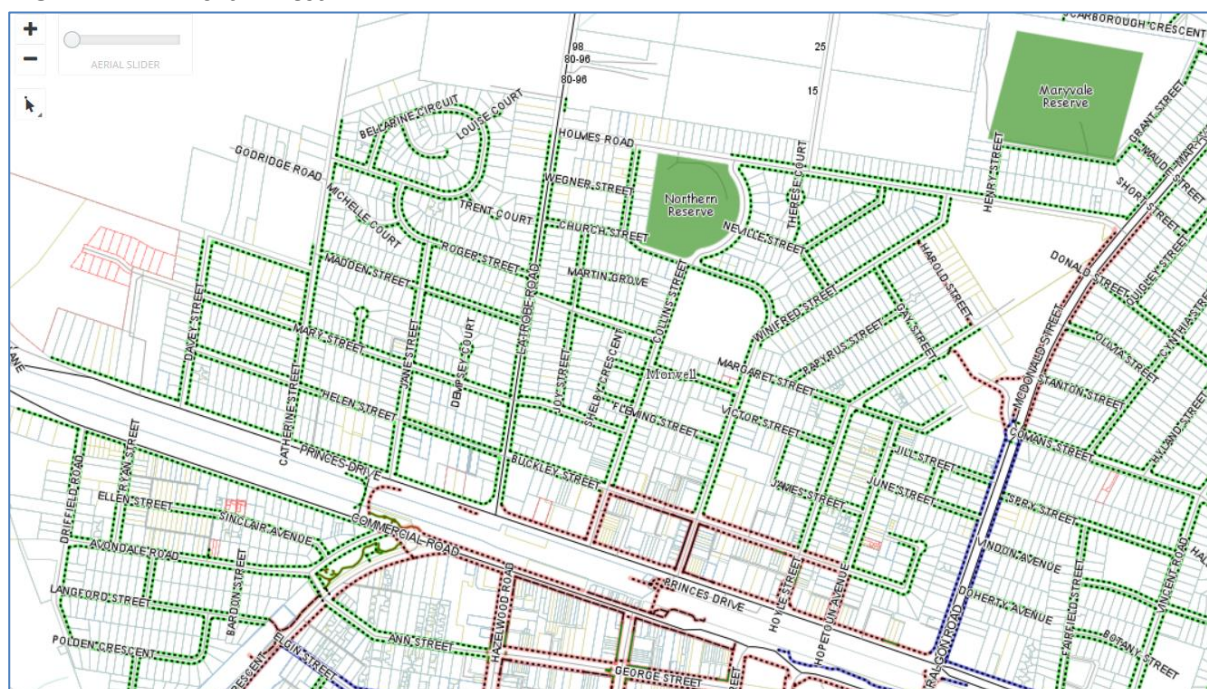


NEWBOROUGH - South

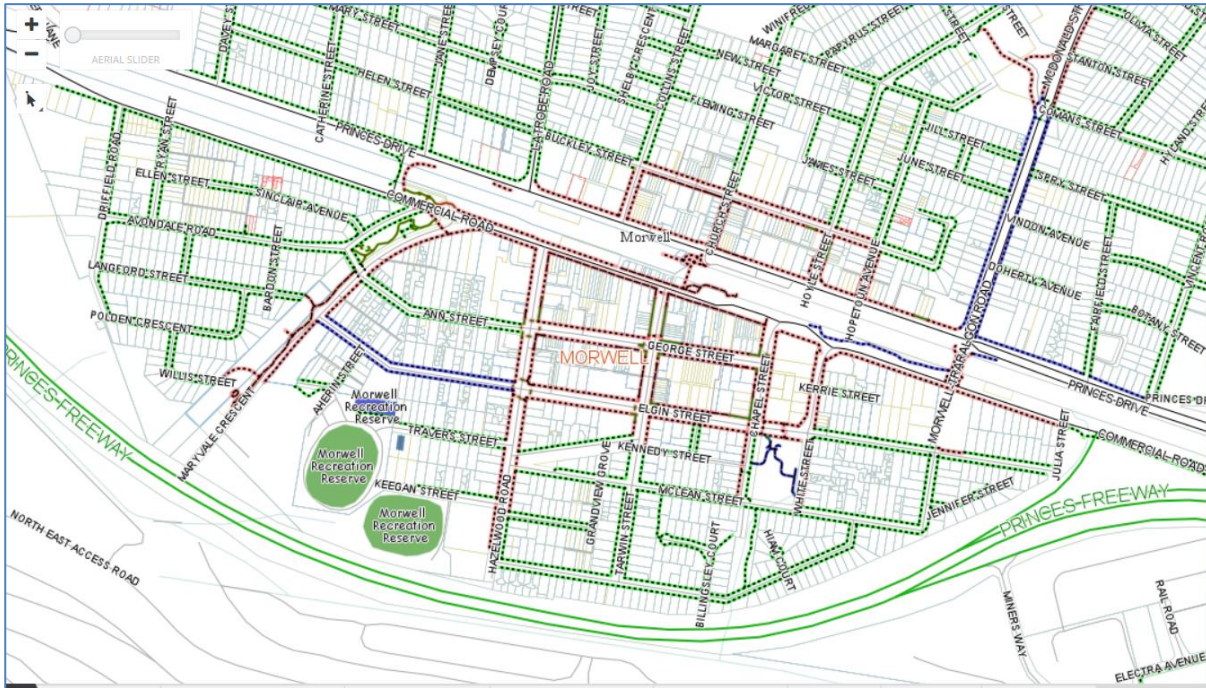


Morwell Township Path Network

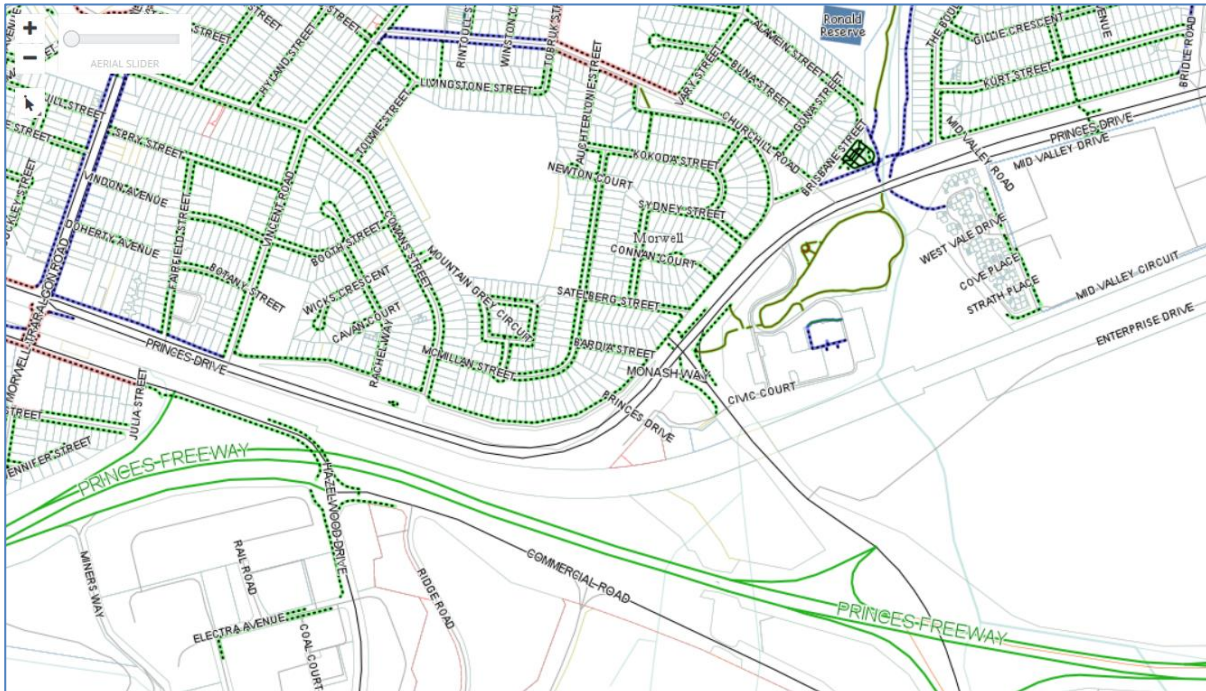
MORWELL – North West



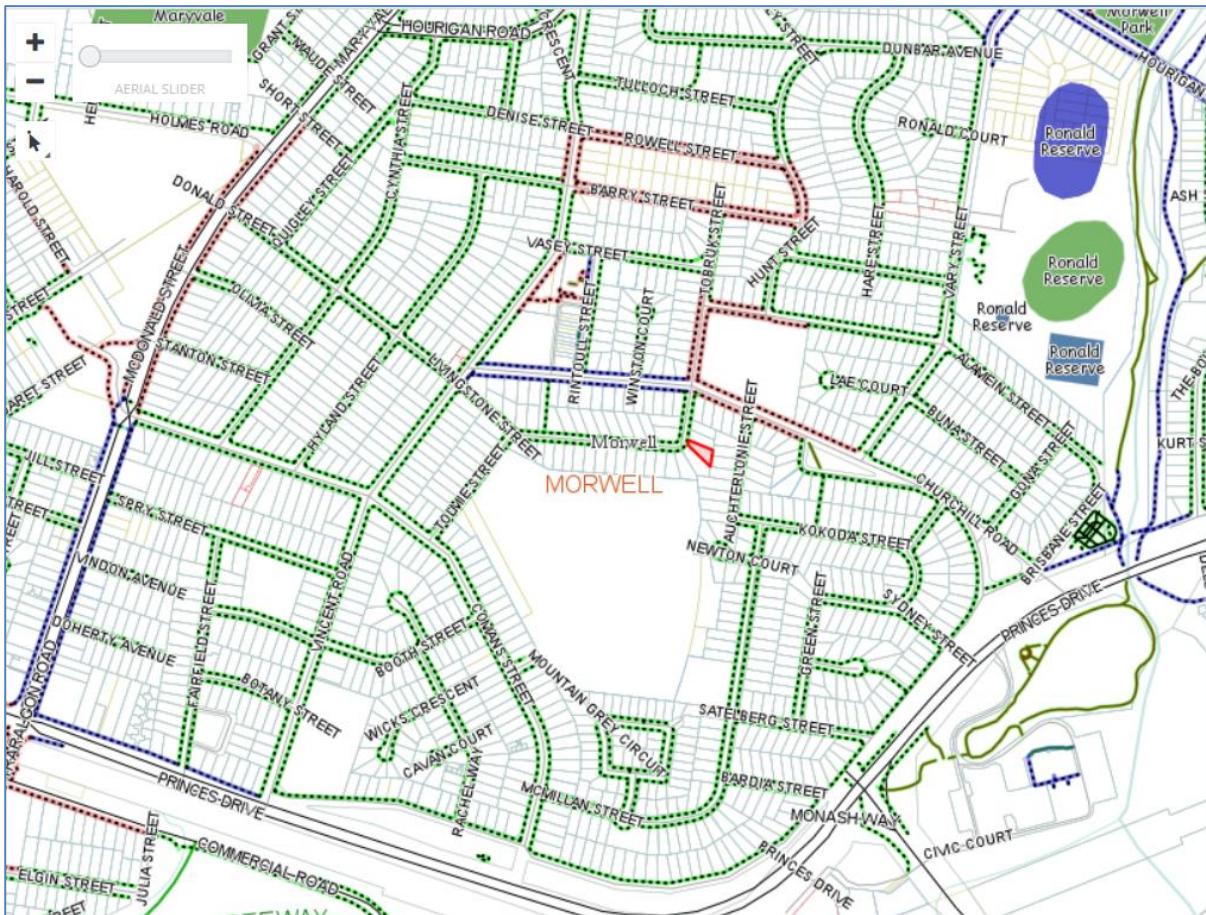
MORWELL – South West



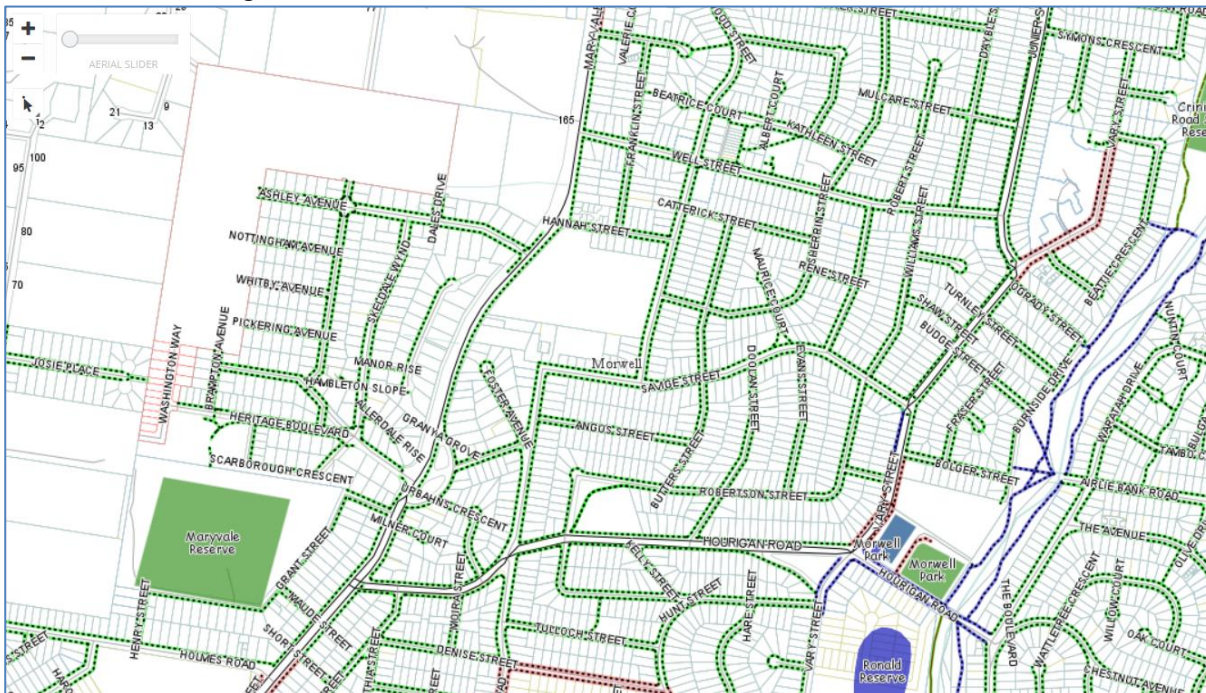
MORWELL – Mid-Valley



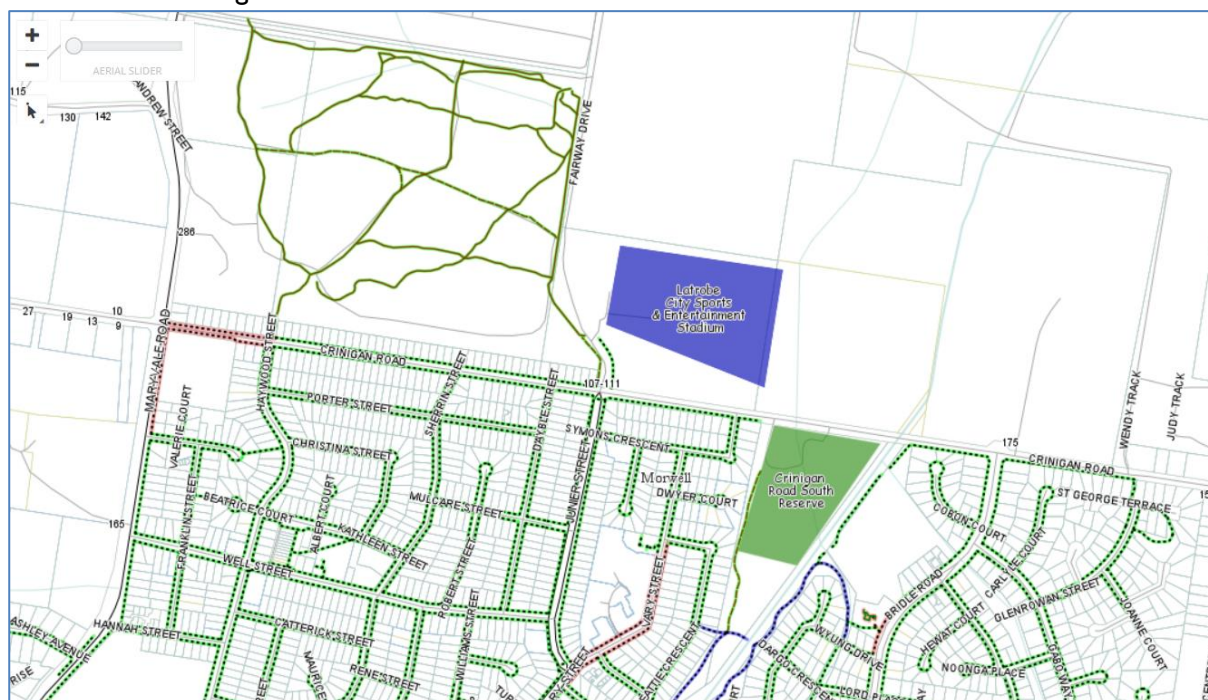
MORWELL – Vincent Road



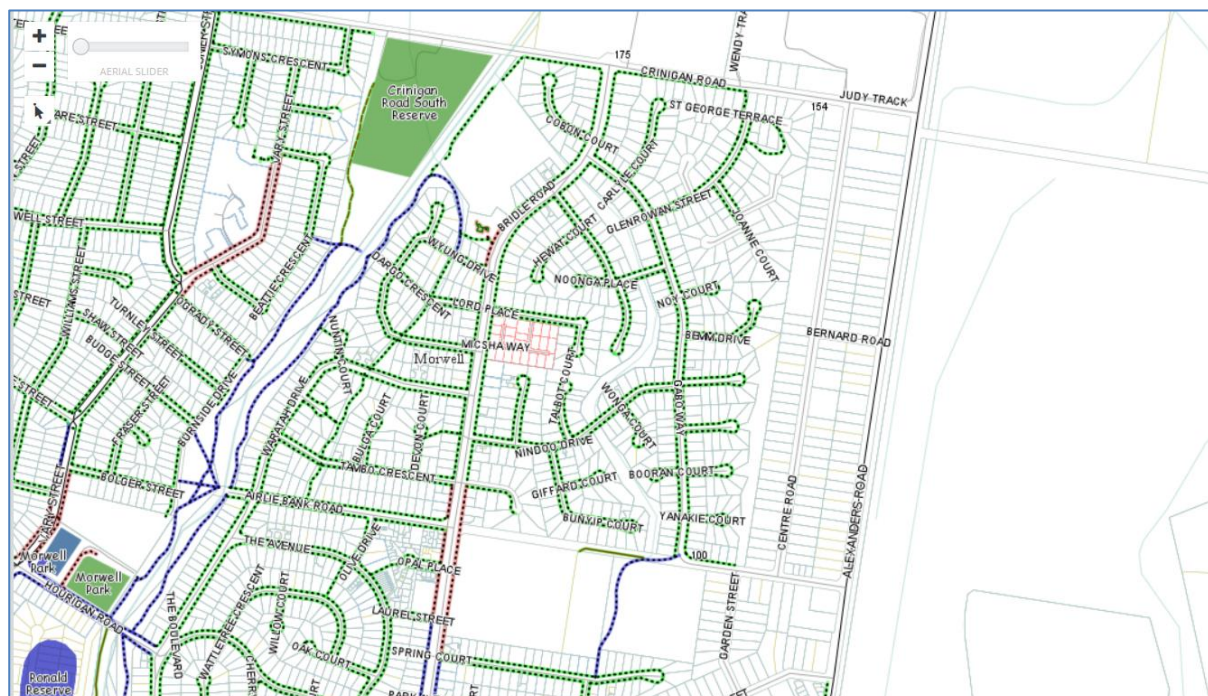
MORWELL – Hourigan Road



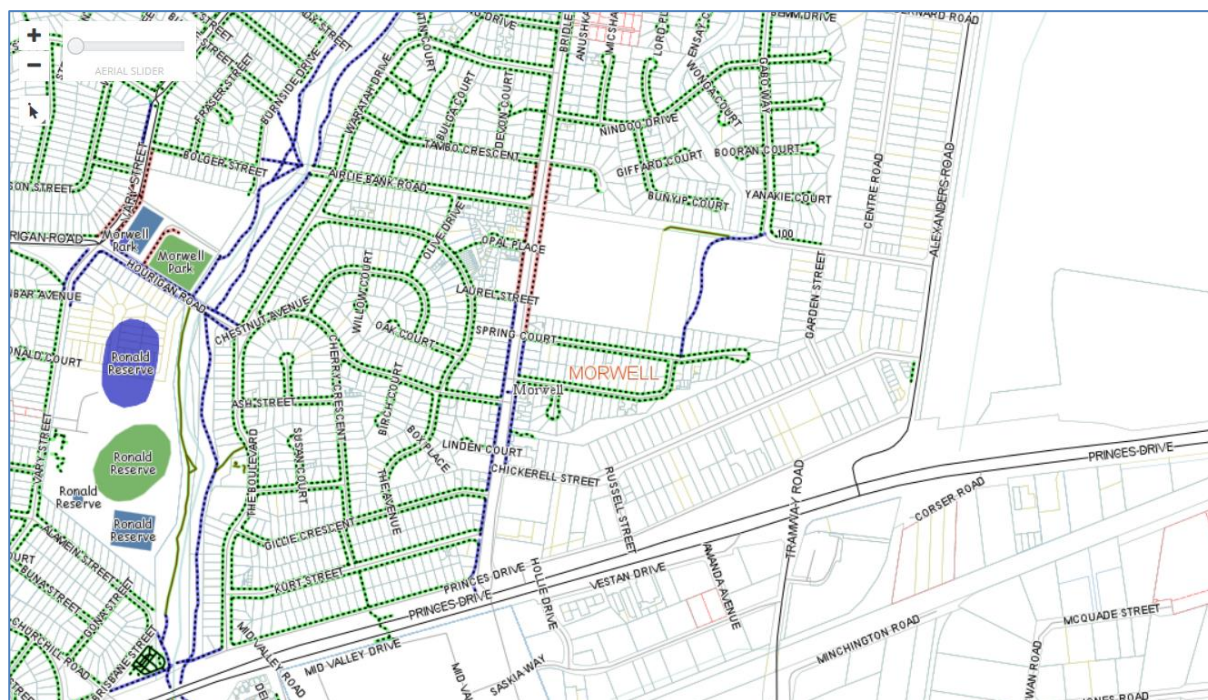
MORWELL – Crinigan Road



MORWELL – Bridle Road

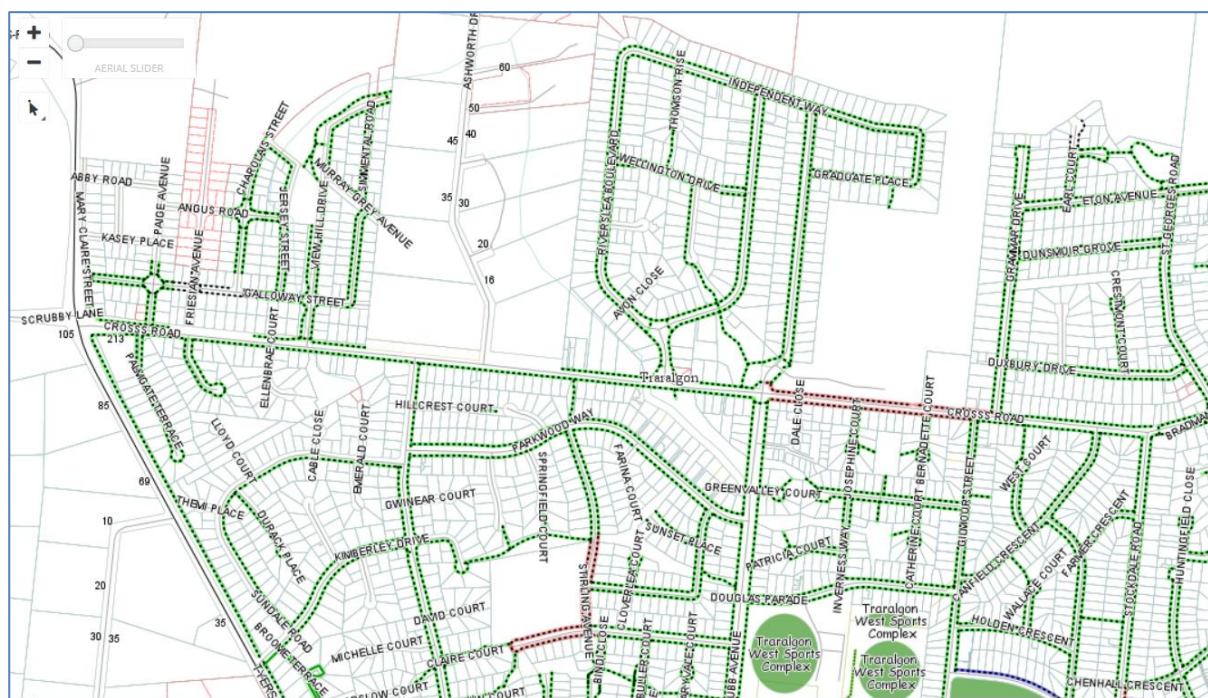


MORWELL - East

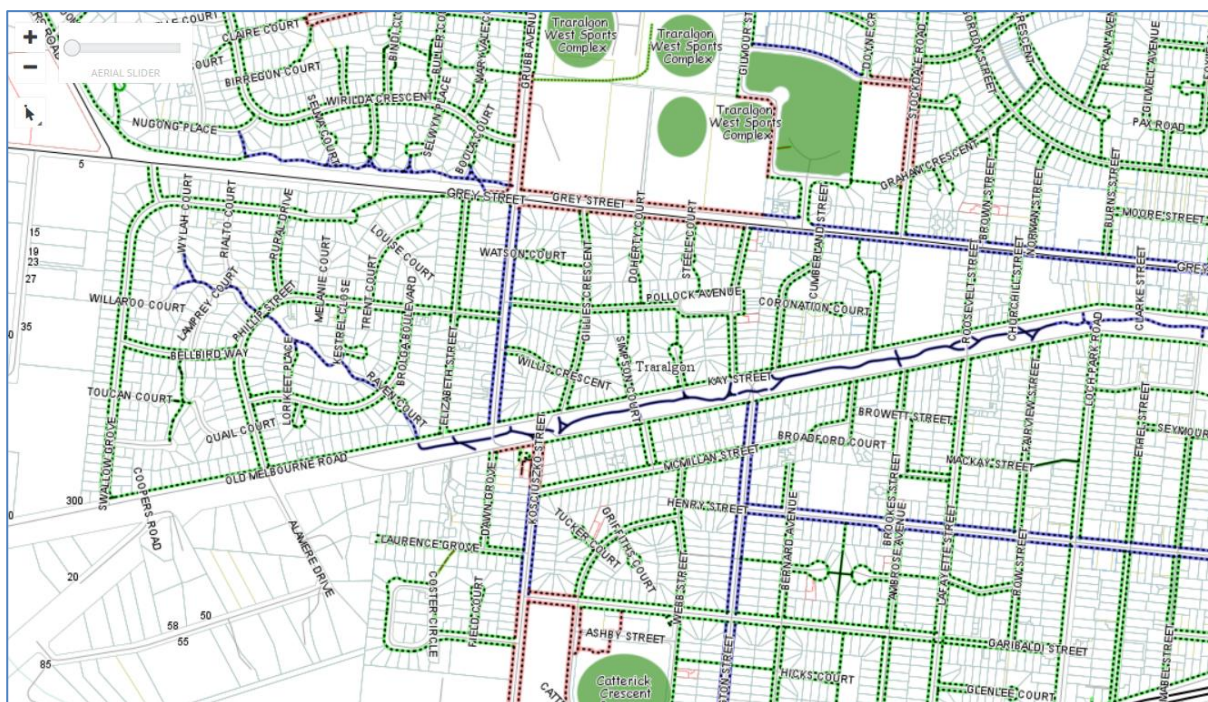


Traralgon Township Path Network

TRARALGON – North West



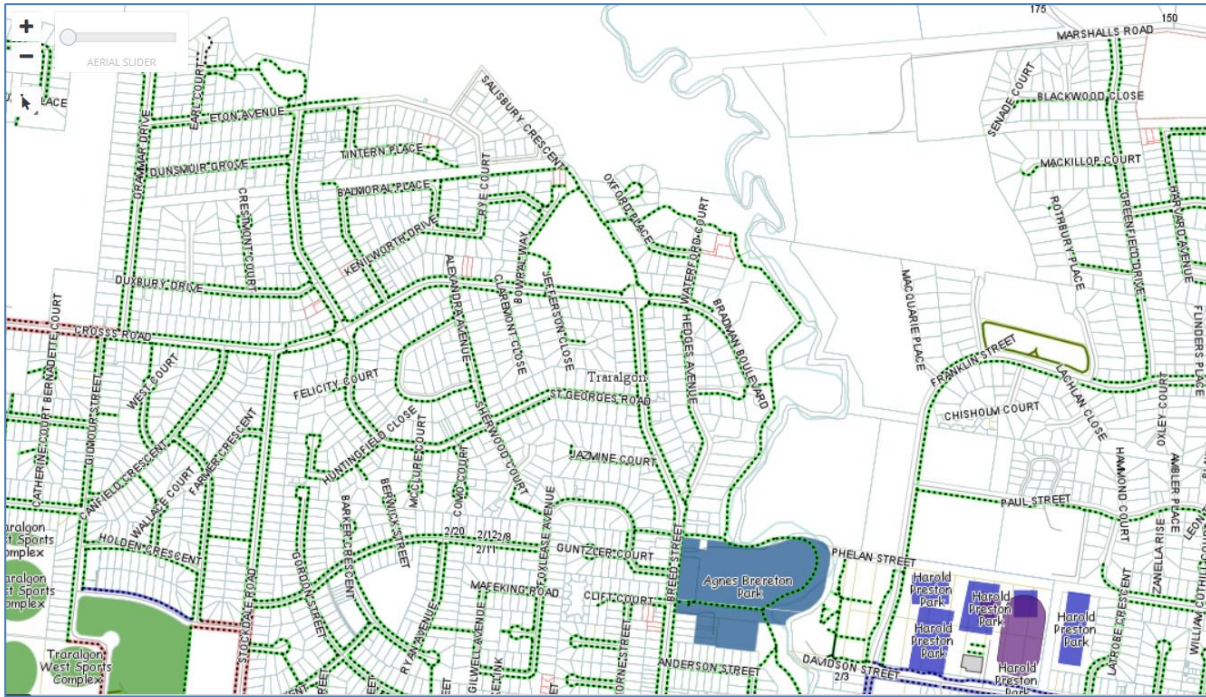
TRARALGON – Old Melbourne Road



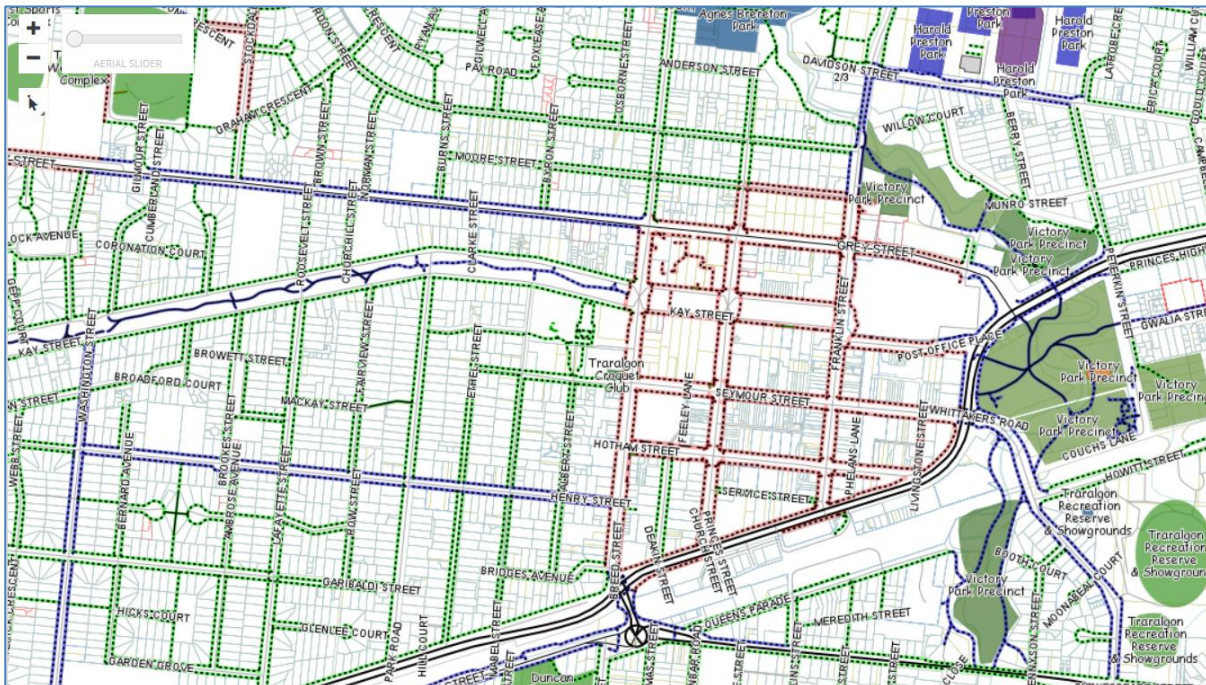
TRARALGON – Bank Street



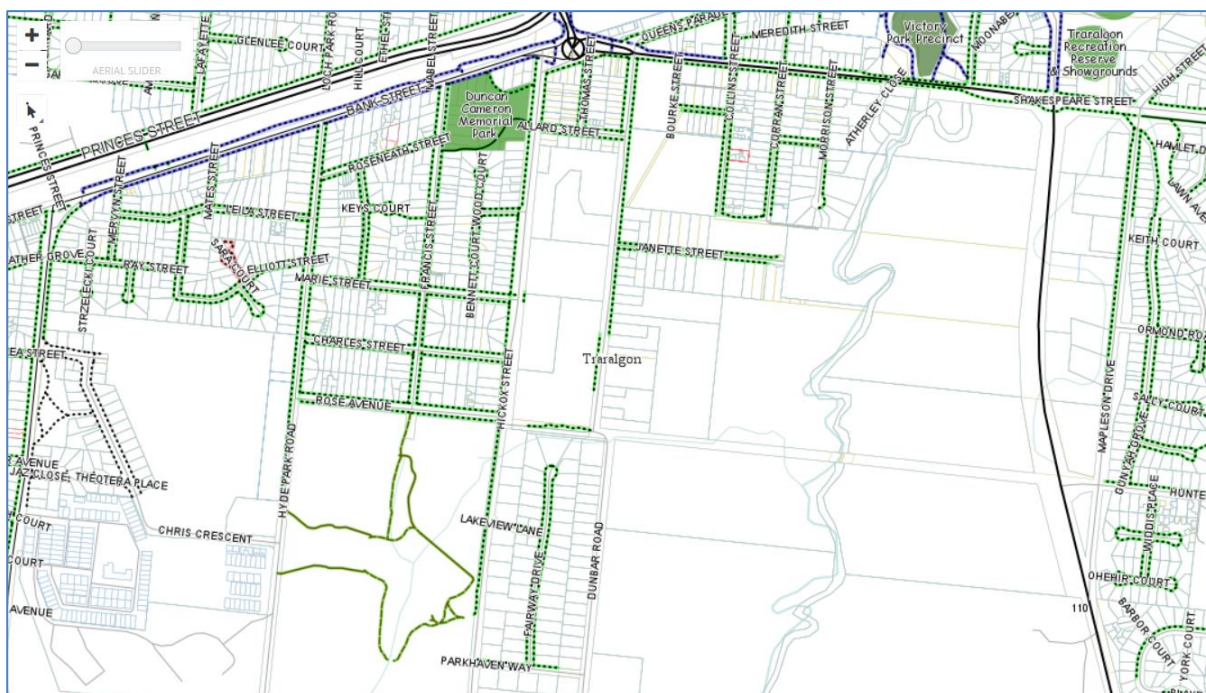
TRARALGON – North Breed Street



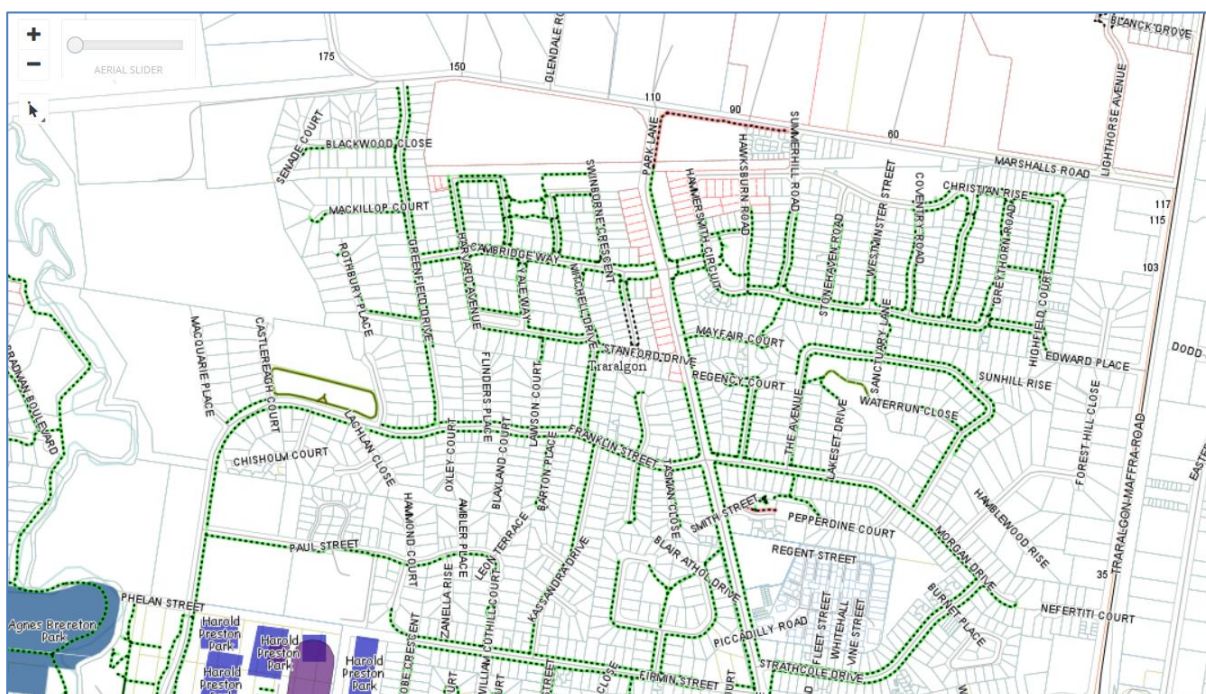
TRARALGON - CBD

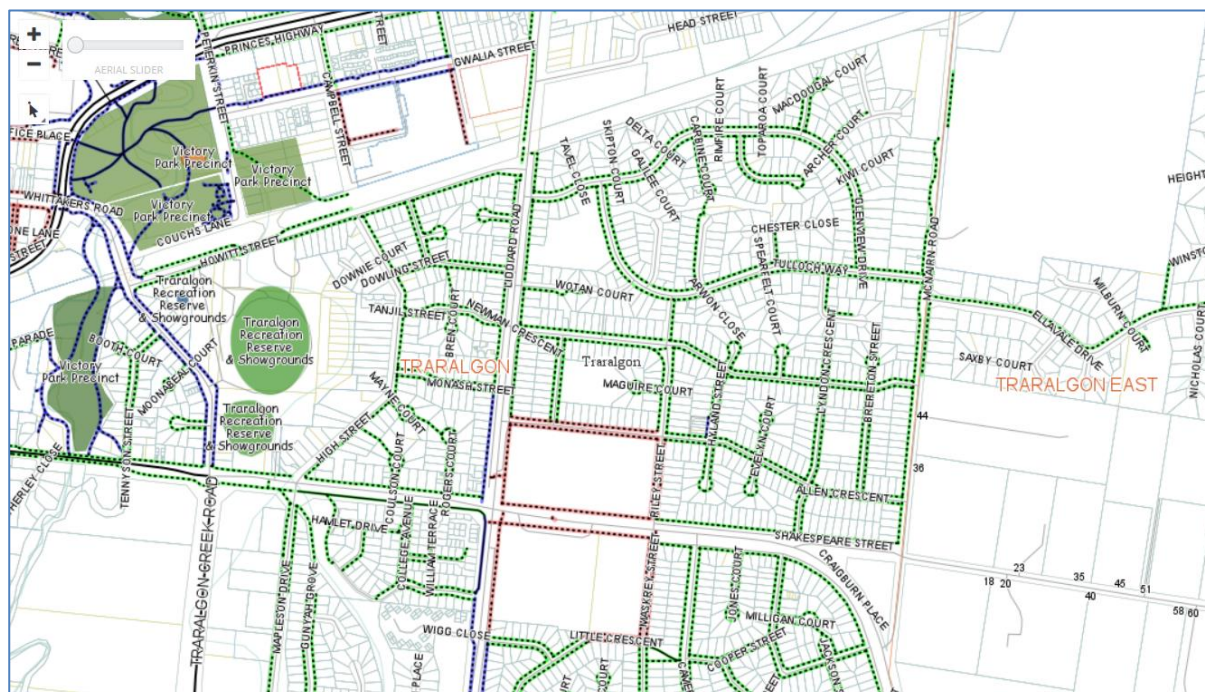
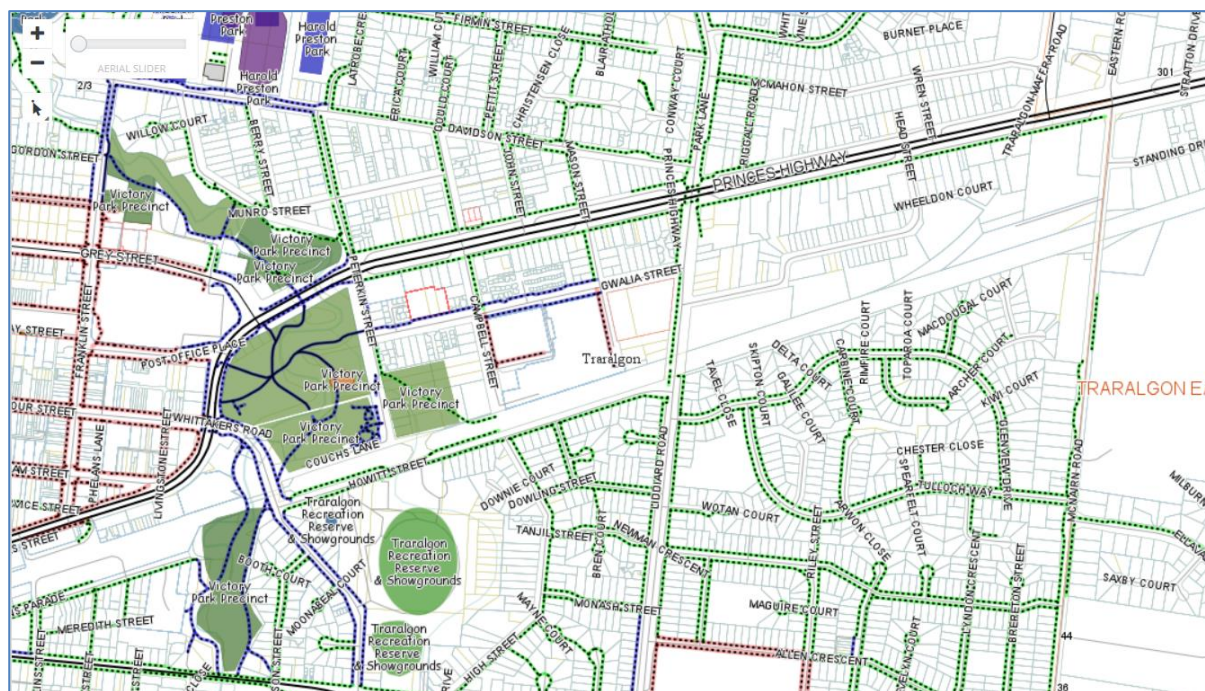


TRARALGON - South



TRARALGON – Marshalls Road





TRARALGON – South East

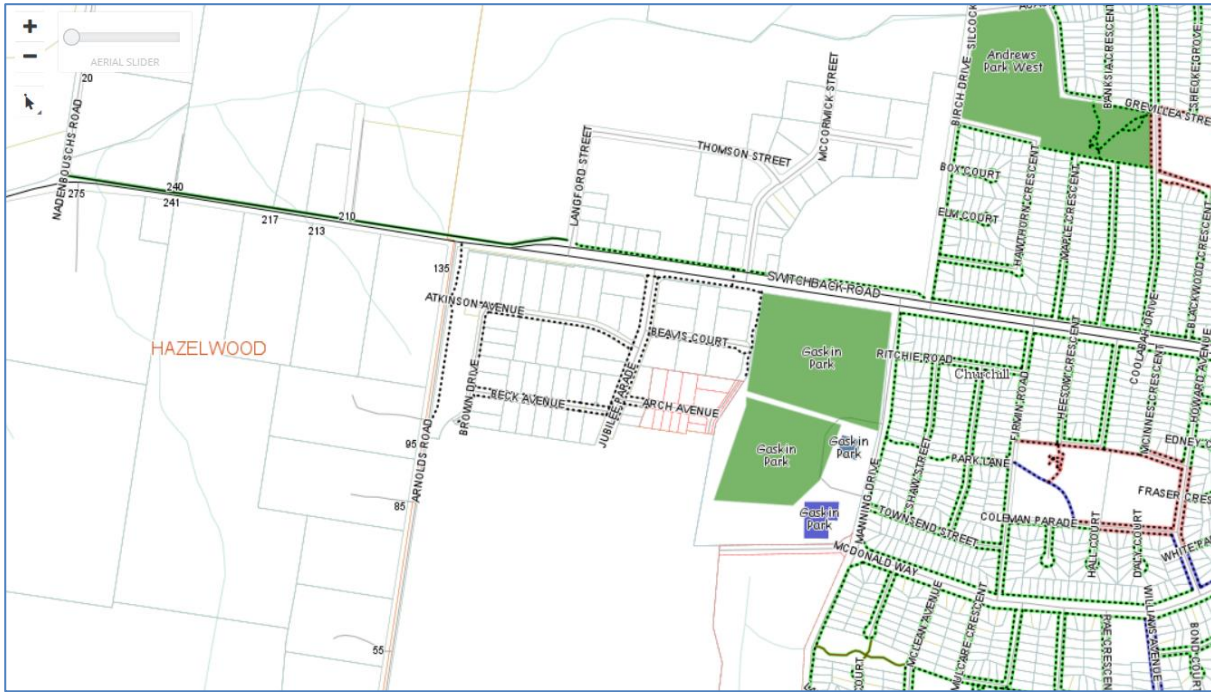


TRARALGON - Ellavale

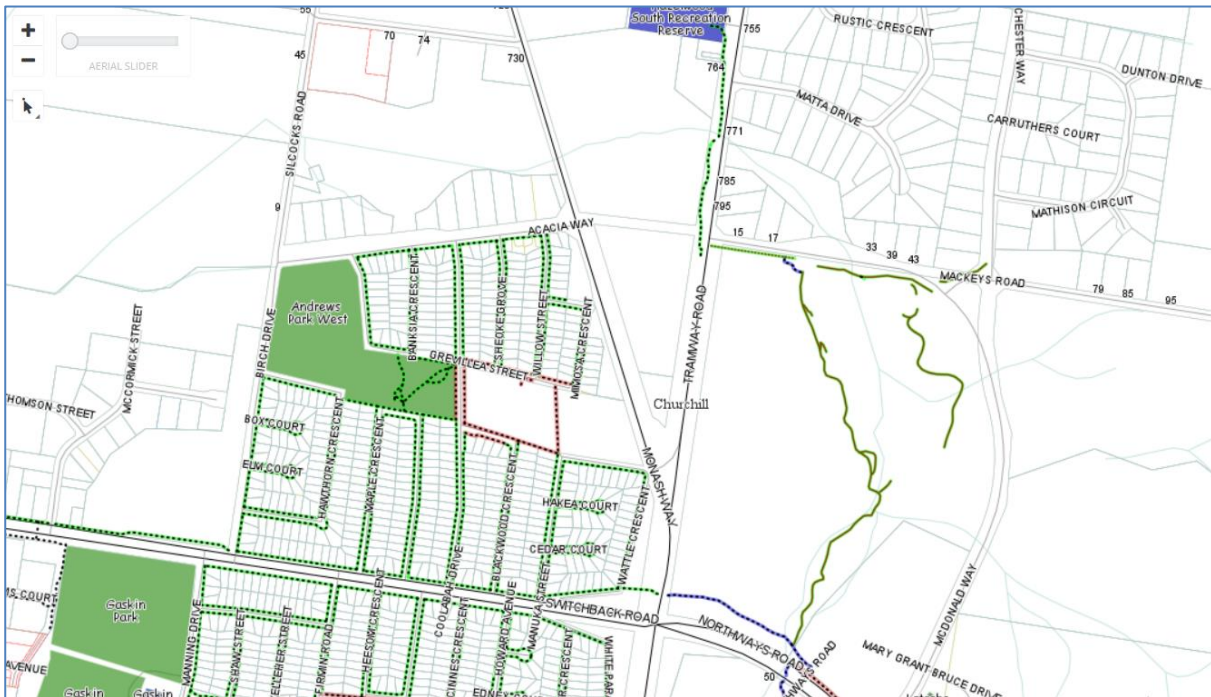


Churchill Township Path Network

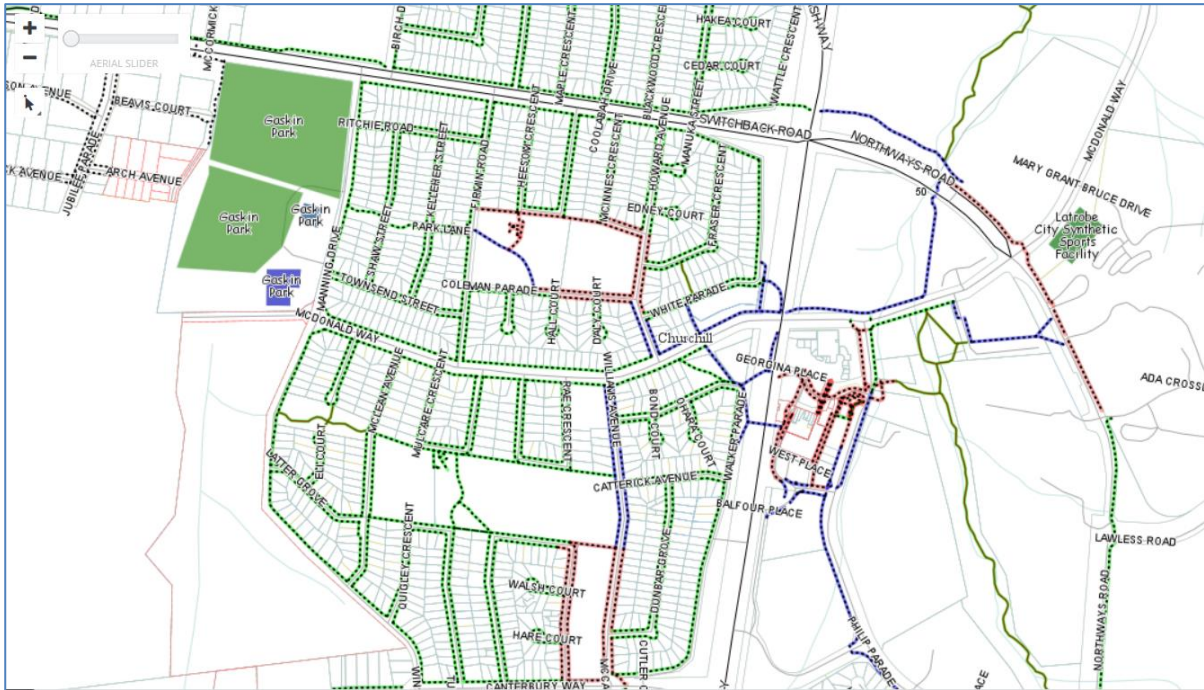
CHURCHILL - West



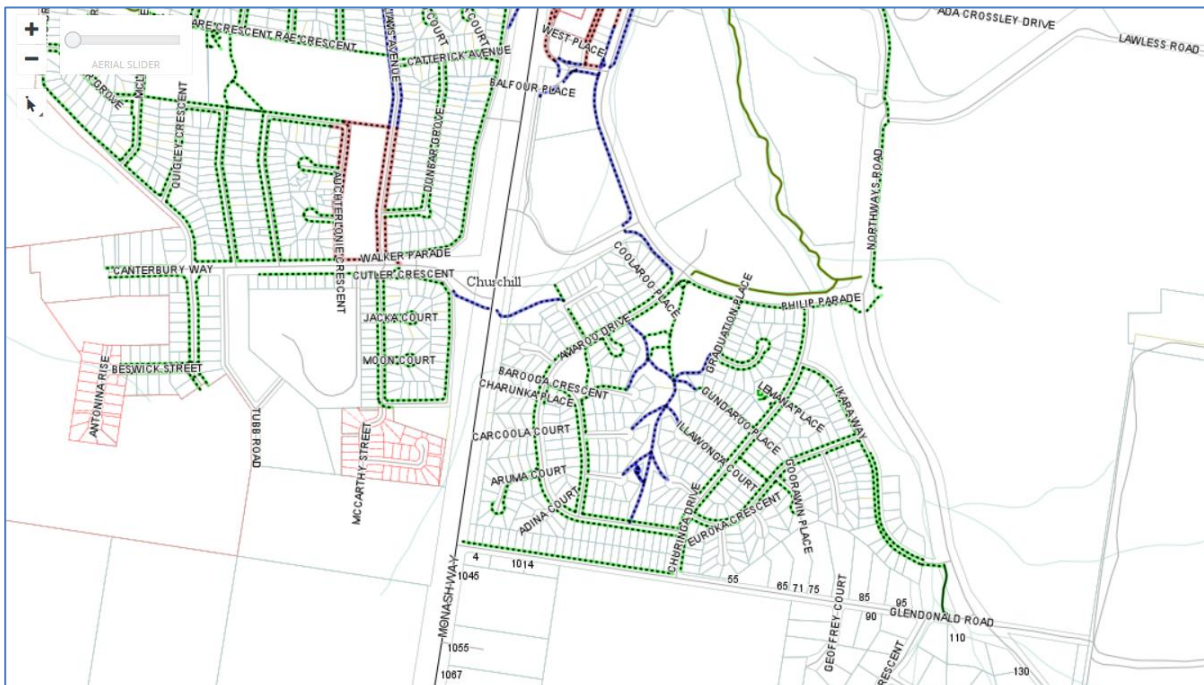
CHURCHILL – Switchback Road



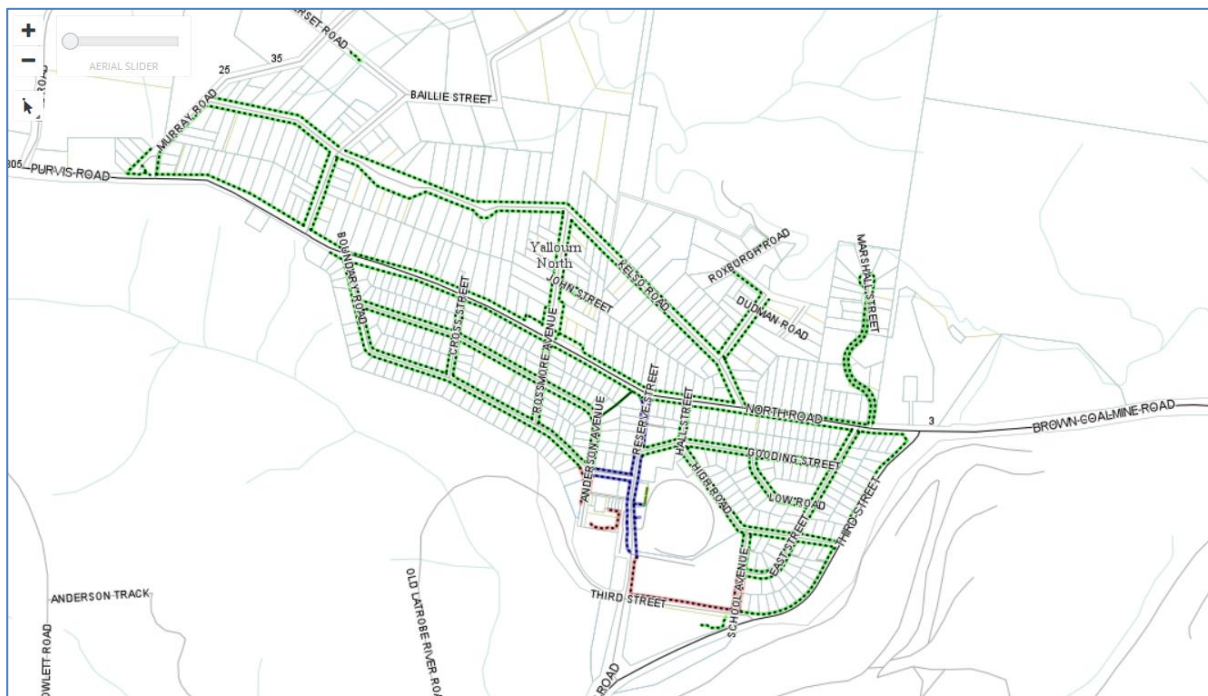
CHURCHILL - Central



CHURCHILL - Glendonald

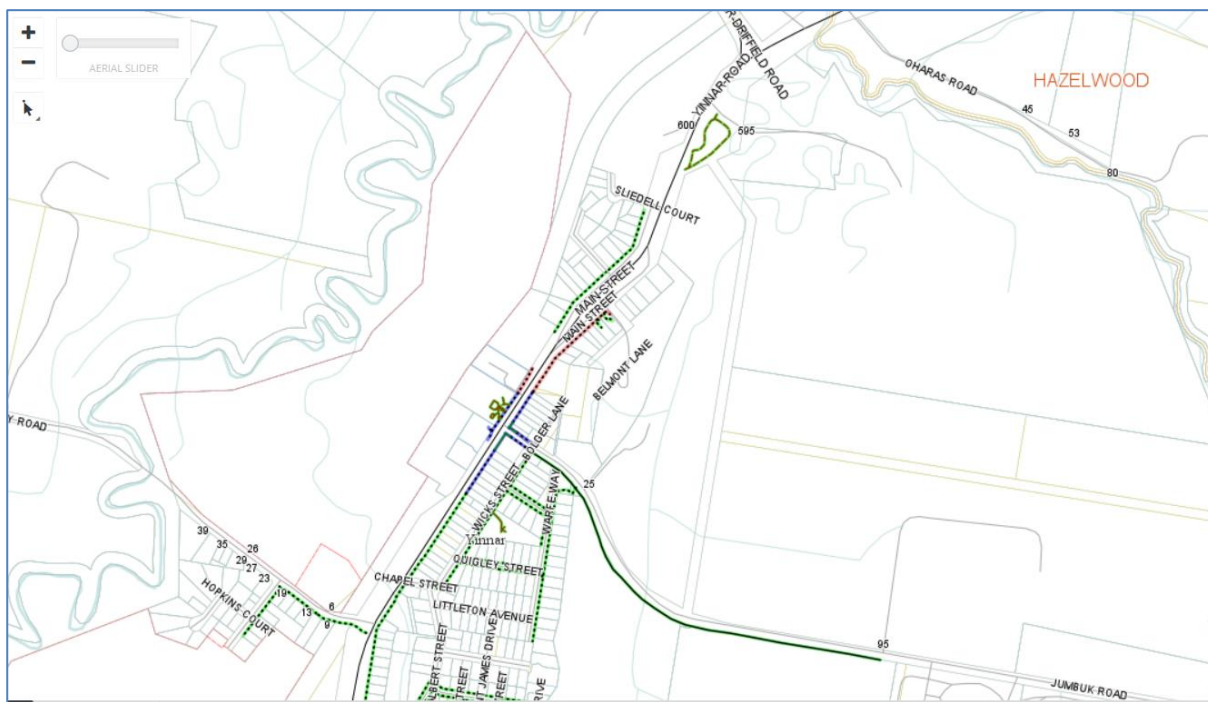


Yallourn North Township Path Network

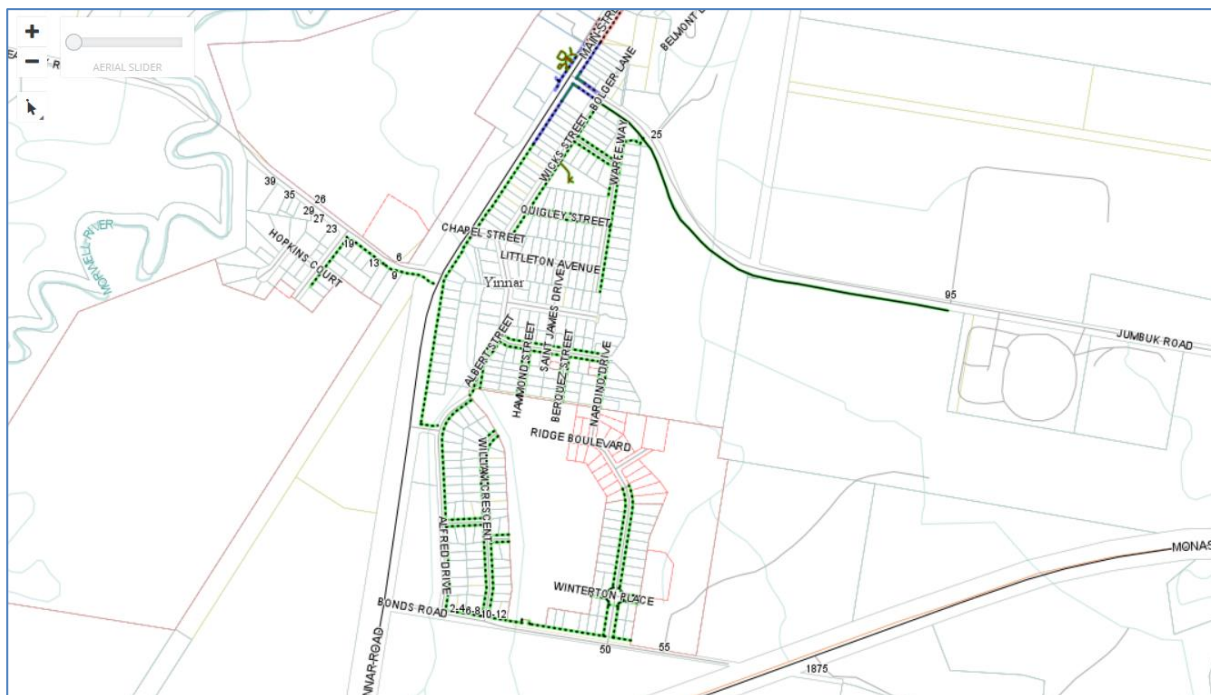


Yinnar Township Path Network

YINNAR - North

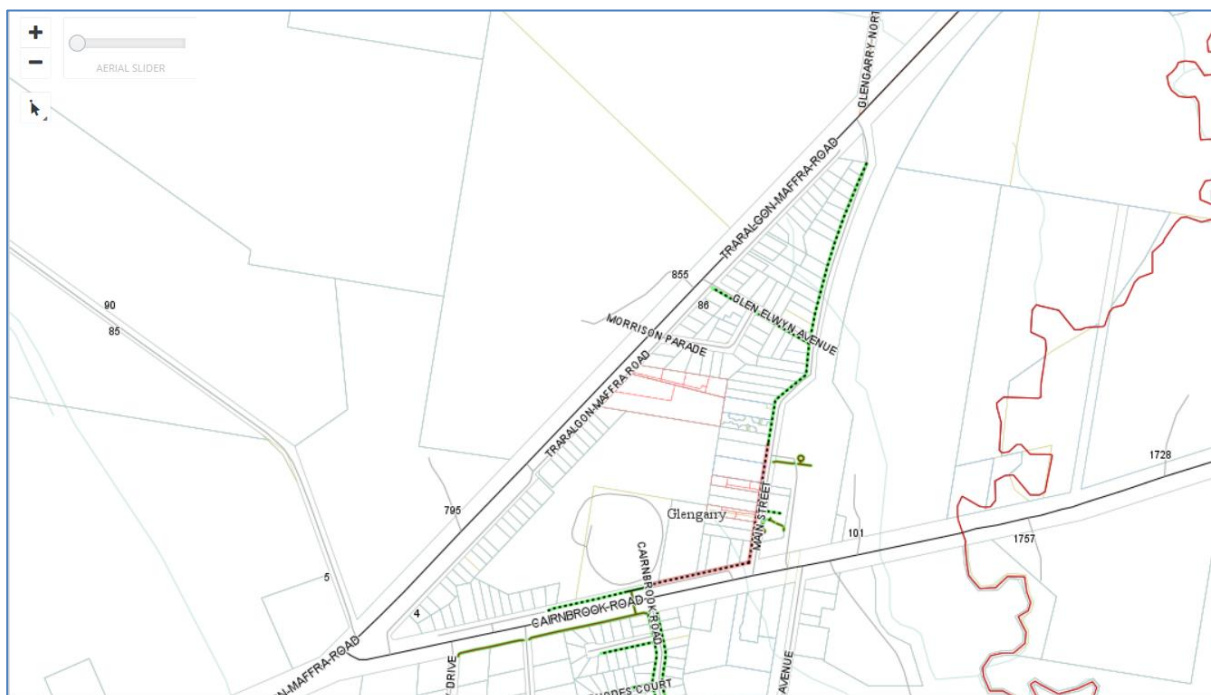


YINNAR - South

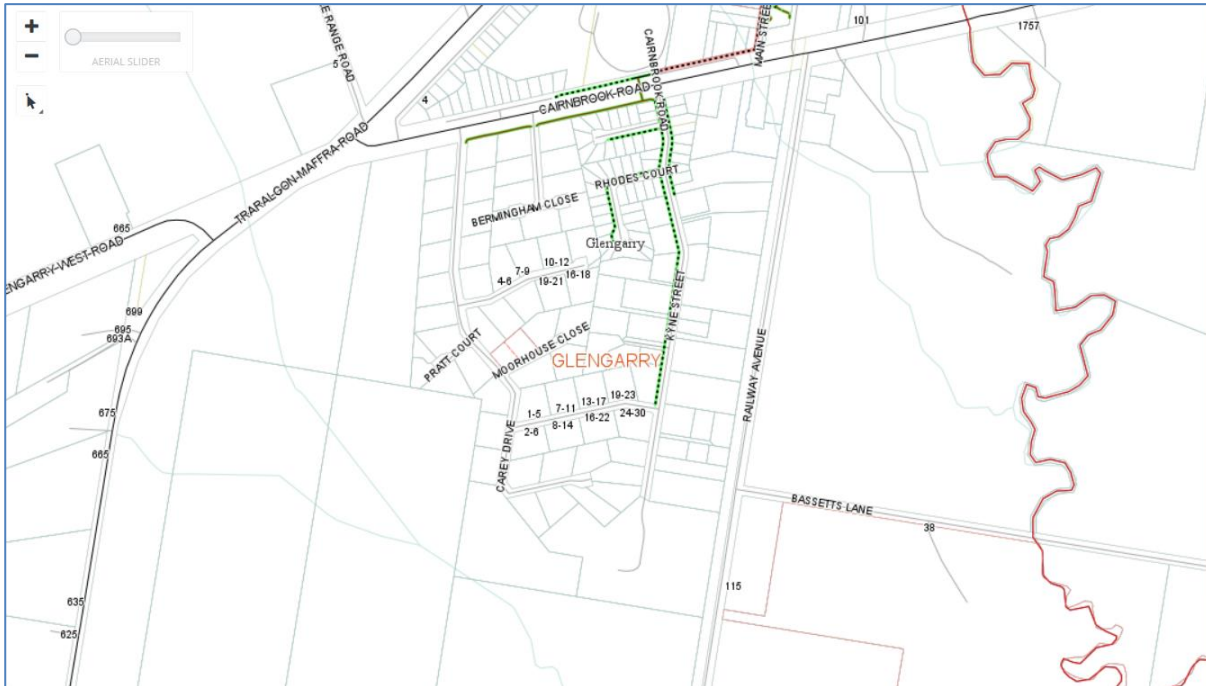


Glengarry Township Path Network

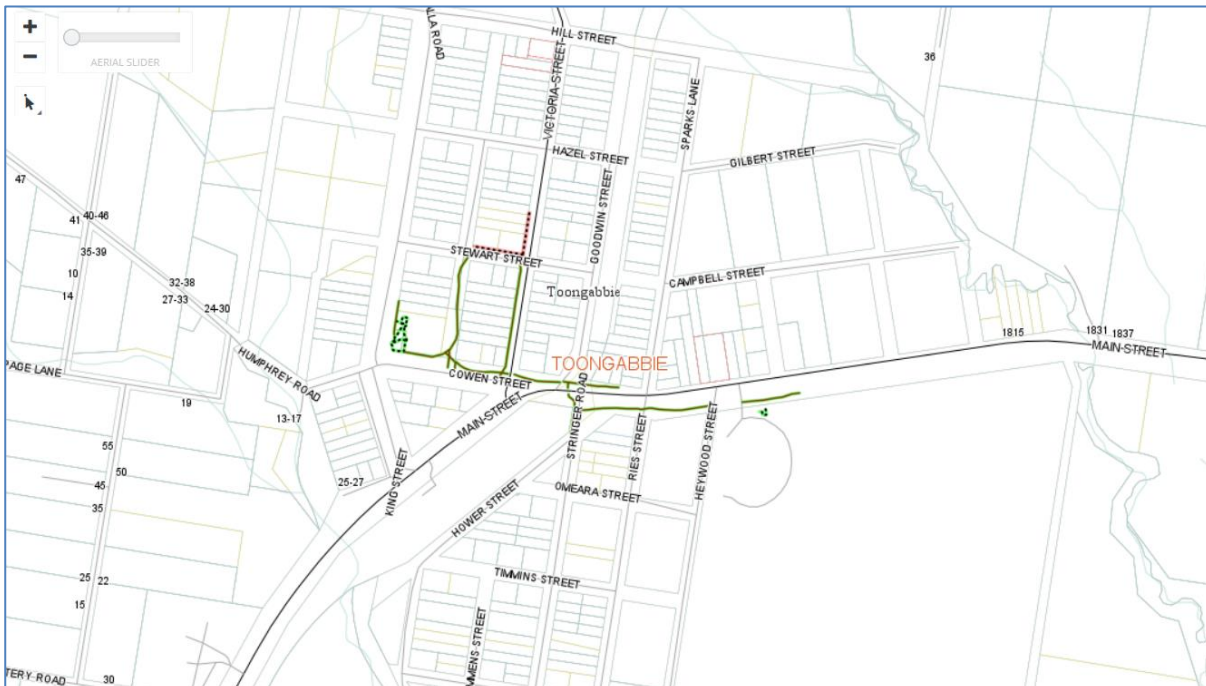
GLENGARRY – North of Cairnbrook Road



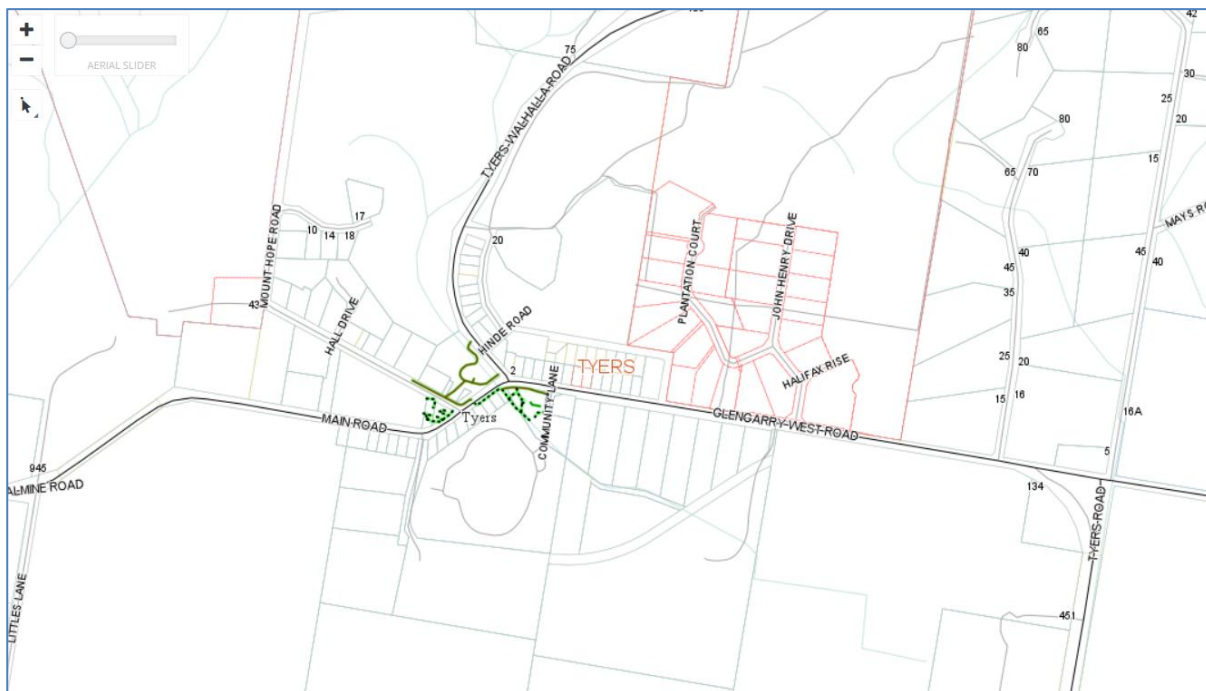
GLENGARRY – South of Cairnbrook Road



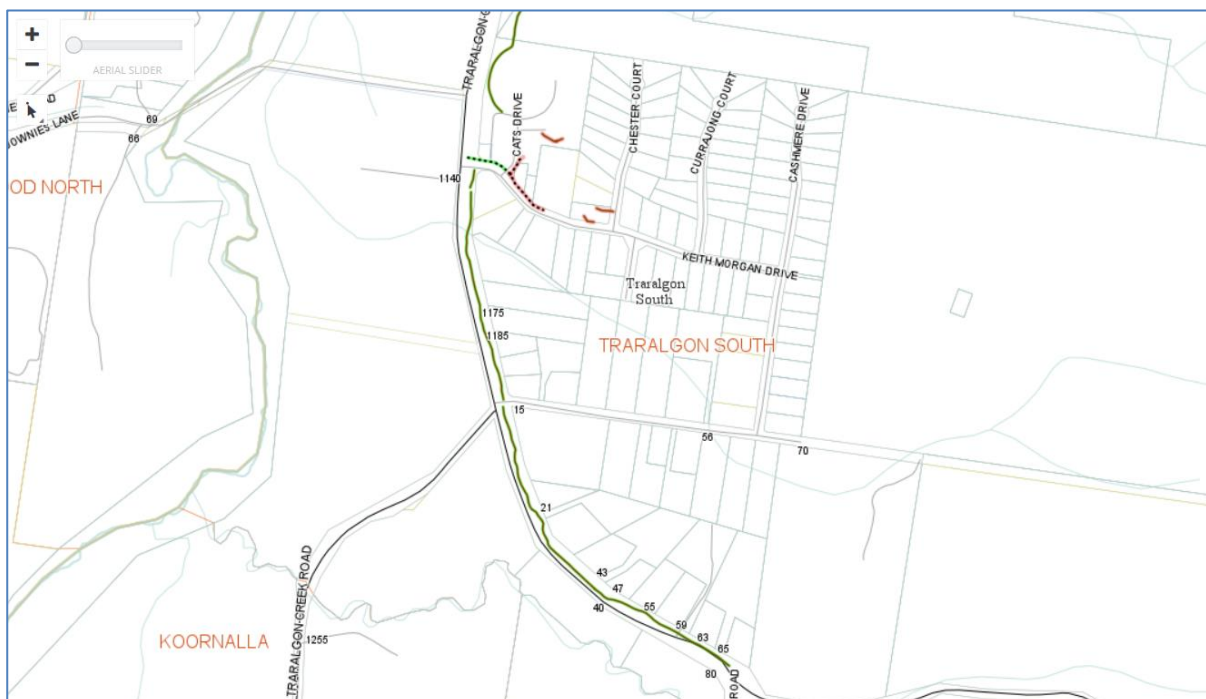
Toongabbie Township Path Network



Tyers Township Path Network



Traralgon South Township Path Network



Boolarra Township Path Network



Appendix H - PAMP Improvement Plan

The asset management improvement plan is shown below

Item	Priority	Resources	
		BAU \$	New \$
Define Roles and Responsibilities for the Footpath Service.	High	BAU	
Undertake Service Planning..	High	BAU	
Redefine the asset segmentation, hierarchy and create inventory for the missing elements of the footpath network to provide for future service planning.	Low	\$15,000	
Footpath Condition Assessment	High	\$140,000	
Investigate re-segmentation via Video assessment	High		\$15,000\$
Check Hierarchy and Criticality	Medium	BAU	\$
Review Special Charge Policy and Procedure	Medium	BAU	\$
Consult with the community and develop service level measures	Medium	BAU\$	\$
Develop maintenance service level agreements	Medium	BAU	\$
Develop and Implement of Maintenance Management System	High	\$	\$20,000
MyPredictor Asset Modelling	High	\$7,500	\$
Review data against the 'AustRoads' Standard	Medium	BAU	\$
Review of Useful Lives and Unit Rates	Medium	BAU	\$
TOTAL EXTERNAL RESOURCES/FUNDING REQUIRED		\$162,500	\$35,000