Pathway
Asset Management Plan
2018

opportunity » growth » lifestyle

Document Control	Asset Management Plan

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1	16/05/2017	Draft	Luke Ure		
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NAMS.PLUS Asset Management Plan Templates

NAMS.Plus offers two Asset Management Plan templates – 'Concise' and 'Comprehensive'.

The Concise template is appropriate for those entities who wish to present their data and information clearly and in as few words as possible whilst complying with the ISO 55000 Standards approach and guidance contained in the International Infrastructure Management Manual.

The Comprehensive template is appropriate for those entities who wish to present their asset management plan and information in a more detailed manner.

The entity can choose either template to write/update their plan regardless of their level of asset management maturity and in some cases may even choose to use only the Executive Summary.

The illustrated content is suggested only and users should feel free to omit content as preferred (e.g. where info not currently available).

The concise Asset Management Plan may be used as a supporting document to inform an overarching Strategic Asset Management Plan.

This is the **Concise** Asset Management Plan template.

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1. EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

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

This asset management plan details information about infrastructure assets including actions required to provide an agreed level of service in the most cost effective manner while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide the services over a 20-year planning period.

This plan covers pathway infrastructure assets that are provided to support a number of key community services including sustainable transport options, recreation and leisure activities and connectivity throughout Frankston's municipality.

1.2 Asset Description

Within the City of Frankston there are 968kms of pathways for which Council is responsible of which 919.8kms are footpaths (95% overall) and 48.2kms are shared paths.

Council's pathways are contained within road reserves as well as open space areas and reserves. The majority of the shared and open space paths are on land managed by Council.

The Road Management Act 2004 defines a pathway as "a footpath, bicycle path or other area constructed or developed by a responsible road authority for use by members of the public other than with a motor vehicle but does not include any path which has not been constructed by a responsible road authority, or which connects to other land."

Frankston City's pathway network comprises of assets with the following material types:

- Asphalt Surface
- Concrete Surface
- Exposed Aggregate Surface
- Granitic Sand Surface
- Gravel Surface
- Paved Surface
- Spray Seal Surface
- Stamped Concrete Surface

These infrastructure assets have significant value estimated at **$106.87M**.

1.3 Levels of Service

Our present funding levels are sufficient to continue to provide existing services at current levels in the medium term. This includes the ability to meet the requirements under Council's Road Management Plan 2015.

Pathways within road reserves are governed under Council's Road Management Plan 2015 (RMP) which clearly defines levels of service that must be met in order for Council to satisfy its statutory obligations.

Under the current rate capped environment, it is important to consider the various service risks and consequences including the impact to levels of service and the overall performance of the pathway network should Council be unable to meet future funding requirements.

The main service consequences are:

- Reduction in overall pathway network performance including condition, functionality and capacity due to the overall funding shortfall from rate capping
- Reduced maintenance and upkeep of pathways not covered under the RMP, such as those within open space reserves.

1.4 Future Demand

The main demands for new services are created by:

- Population Change
- Demographic Change
- Fuel Prices

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

Strategies to address growing demands in the community include:

- All redevelopment sites required to renew paths with upgraded paths suitable for the proposed function and capacity.
- Review current development and transportation documents for impacts on walking and cycling through renewed strategies.
- Advocate the importance of the path network to community wellbeing, personal health and prosperity.
- Establish an 'Environmental Framework' for material selection in Council's Standard Drawings and work practices to negate impact of climate change on Council's pathway network.

1.5 Lifecycle Management Plan

What does it Cost?

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 $23.16M or $2.3M on average per year.

1.6 Financial Summary

What we will do

Estimated available funding for this period is $32.1M or $3.21M on average per year as per the long term financial plan and budget forecast. This is 147% of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the long-term financial plan can be provided. The emphasis of the Asset Management Plan is to communicate the consequences that this will have on the service provided and risks, so that decision making is "informed".

The allocated funding leaves a surplus of $898K on average per year of the projected expenditure required to provide services in the AM Plan compared with planned expenditure currently included in the Long Term Financial Plan. This is shown in the figure below.

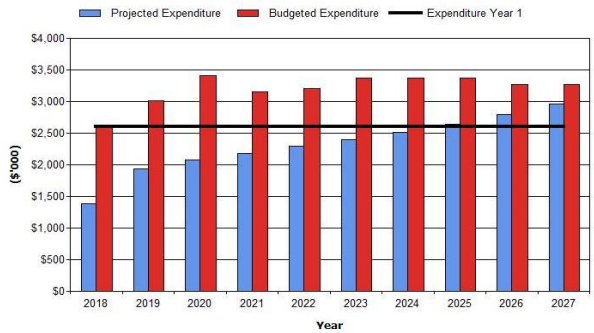


Figure values are in current (2018) dollars i.e. nominal values.

We plan to provide Pathway accessibility, connectivity and recreational services for the following:

- Operation, maintenance, renewal and upgrade of:
  - Key Central Activities Area Paths;
  - Key Access Route Paths;
  - Primary Shared Paths;
  - Secondary Shared Paths;
  - Local Access Pathways;
  - Industrial Access Pathways; and
  - Reserve Pathways,

  to meet service levels set by annual budgets.
- Bay Trail and other key access route enhancements and shared paths in the municipality and delivery of the Paths Development Plan during the 10-year planning period.

What we cannot do

We currently allocate sufficient funding to sustain these services at the desired standard but need to manage the expectation to provide all new services being sought. Works and services that may not be provided under present funding levels are:

- New pathways (missing links) identified in the Paths Development Plan in a ten-year period
- Upgrade of existing pathway assets as identified by various strategic corporate documents relevant to pathway services

Managing the Risks

Our present funding levels are sufficient to continue to manage risks in the medium term.

The main risk consequences if Council was unable to maintain funding levels are:

- Reduction in pathway service levels due to the overall funding shortfall from rate capping.
- Inadequate management of unsafe assets causing either an increasing likelihood of unexpected maintenance expenditure or asset failure resulting in service disruptions.
- Renewal of assets prior to reaching their desired intervention level due to a decline in asset functionality or utilisation.

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

- Undertaking appropriate service planning for pathway services to allocate sufficient resources effectively and plan for future demand.
- Develop and revise both community and technical levels of service to manage and maintain pathway services to an agreed standard.
- Review this Asset Management Plan every four to five years to document asset requirements in line with Council's Asset Management Strategy.
- Undertake a rolling condition audit program in line with the review of the Asset Management Plan to ensure updated asset data and accurate financial forecasting.
- Further develop pathway asset data in the Frankston Asset Management Information System (FAMIS) to provide a centralised and transparent asset register.

1.7 Asset Management Practices

Our systems to manage assets include:

- Infor Public Sector (IPS) – corporate asset management system (referred to as Frankston Asset Management Information System or FAMIS within this document)
- TechnologyOne – corporate finance system
- MapInfo Pro – Geographic Information System (GIS)
- Kern Mobile – data logging application used by staff in the field

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

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

Method 2 was used for this asset management plan.

1.8 Monitoring and Improvement Program

The next steps resulting from this asset management plan to improve asset management practices are:

- Develop pathway asset data within FAMIS to provide a single source of truth for asset management and financial accounting and to support field staff to provide accurate works management at asset level.
- Endorse renewal ranking criteria and weightings to prioritise asset renewals.
- Implement robust asset handover processes to ensure complete asset data capture and accurate asset capitalisation following the completion of capital works.
- Review the pathway capitalisation threshold as described in Council's Capitalisation Policy and Procedure to ensure appropriate capitalisation and expense of pathway works.
- Develop a pathway hierarchy for pathways located within Council reserves and open space areas to establish better alignment with hierarchy for pathways governed under Council's RMP.
- Undertake community satisfaction surveys to determine preferences around rate/service cuts and to obtain qualitative data around the provision of pathway services.
- Establish a construction standards committee to review current pathway standard drawings and develop drawings for the new CAA streetscape palette and shopping strips.
- Better capture of lifecycle costs (additional operations, maintenance, renewal requirements) in the development of the Capital Works Program for new or upgraded pathway assets.
- Undertake functionality and capacity/ utilisation assessments to enhance the asset register and drive renewal and upgrade projects based on condition, functionality and capacity, not just condition-based works programmes.

2. INTRODUCTION

2.1 Background

Frankston City Council is the responsible custodian of a vast network of infrastructure assets, which demands a high level of management in order to maintain services at the current standard.

This asset management plan was developed to demonstrate the responsible management of pathway assets (and services provided from assets), compliance with regulatory requirements, and to communicate funding needed to provide the required levels of service over a 20 year planning period.

The asset management plan follows the format for AM Plans recommended in Section 4.2.6 of the International Infrastructure Management Manual 2011.

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

- Frankston Bicycle Strategy 2010
- Frankston City Climate Change Impacts and Adaptation Plan 2011
- Frankston City Council Annual Budget 2017 – 2018
- Frankston City Council Long Term Financial Plan 2016/2017 to 2020/2021
- Frankston City Council Plan 2017 – 2021
- Frankston City Council Road Management Plan 2015
- Frankston City Council Roads Asset Management Plan 2010
- Frankston City Council State of the Assets Report 2014
- Frankston City Health and Wellbeing Plan 2017 – 2021
- Frankston City Integrated Transport Strategy 2013
- Frankston City Open Space Strategy 2016 – 2036
- Frankston City Recreation Strategy 2009 – 2014
- Frankston Paths Development Plan 2015
- Frankston Planning Scheme

The pathway infrastructure assets covered by this asset management plan are shown in Table 1. These assets provide an essential link to people and destinations and also offer a source of recreation. Pathways provide access and connectivity within the municipality. Shared paths are used for cycling, walking and jogging and promote health and well-being benefits.

Pathways and trails in Council reserves and open space support these services and with proper planning and management, can have minimal impact on the environment whilst supporting provision of open space to community.

Council understands the importance of maintaining pathway assets to ensure the ongoing provision of these vital services to the community. This Plan should be service centric and assets should be managed according to Council's hierarchical standards and service plans in order to achieve service objectives.

Future revisions of this Plan will be informed by relevant strategic service plans which provide a detailed assessment of future service demands, levels of service and asset functionality and utilisation.

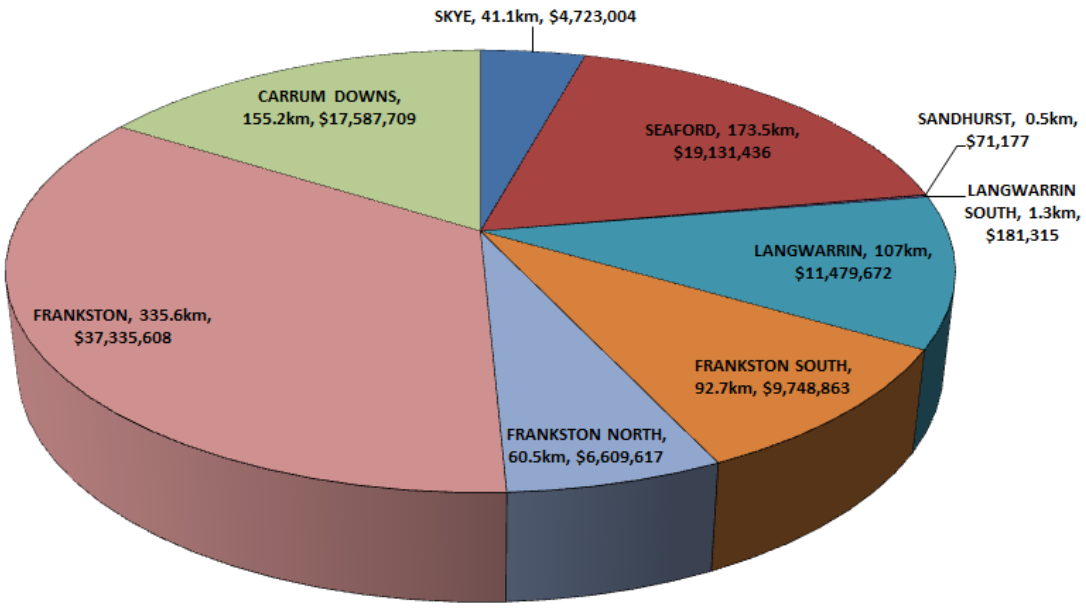
This asset management plan communicates the actions required for the responsive management of assets (and services provided from assets), compliance with regulatory requirements, and funding needed to provide the required levels of service over a 20-year planning period.

Table 1: Assets covered by this Plan

	Number of Segments	Length (m)	Area (m^2)	Replacement Value ($)
FOOTPATH	**22,139**	**919,772**	**1,365,453**	**$ 99,488,418**
Asphalt	239	9,155	33,432	$ 992,919
Concrete	20,605	860,295	1,216,060	$ 94,244,616
Exposed Aggregate	177	6,561	19,503	$ 2,340,370
Granitic Sand	276	10,873	16,492	$ 184,714
Gravel	752	29,488	66,525	$ 745,083
Paved	69	2,618	11,881	$ 913,057
Spray Seal	15	613	1,113	$ 33,070
Stamped Concrete	6	168	446	$ 34,590
SHARED PATH	**1,155**	**48,229**	**134,659**	**$ 7,379,983**
Asphalt	359	15,170	57,063	$ 1,694,780
Concrete	712	29,767	69,568	$ 5,391,491
Exposed Aggregate	8	342	1,027	$ 123,234
Granitic Sand	2	76	107	$ 1,193
Gravel	18	774	1,917	$ 21,474
Spray Seal	56	2,099	4,977	$ 147,810
Total	**23,294**	**968,001**	**1,500,111**	**$ 106,868,402**

A breakdown of the pathway quantities in each suburb within the municipality, as well as the respective current replacement costs (CRC) is provided in Figure 1.

Figure 1: Asset Quantities and Current Replacement Cost



2.2 Goals and Objectives of Asset Ownership

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

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

Other references to the benefits, fundamental principles and objectives of asset management are:

- International Infrastructure Management Manual 2015[1]
- ISO 55000[2]

2.3 Core and Advanced Asset Management

This asset management plan is prepared as a 'core' asset management plan over a 20 year planning period in accordance with the International Infrastructure Management Manual[3]. Core asset management is a 'top down' approach where analysis is applied at the system or network level. An 'advanced' asset management approach uses a 'bottom up' approach for gathering detailed asset information for individual assets.

3. LEVELS OF SERVICE

3.1 Customer Research and Expectations

Frankston City Council participates in the state-wide Local Government Community Satisfaction Survey conducted by an independent firm on an annual basis. The primary objective of the survey is to assess the performance of the organisation across a range of measures to gain insight into ways to improve service delivery and efficiency for the community. This telephone survey polls a sample of 400 residents on their level of satisfaction with Council's services.

Table 2 identifies the communities overall satisfaction with several service measures related to the pathway network managed by Council. Council uses this information in developing its Strategic Plan and in the allocation of budget resources. Pathway assets contribute to the performance results of these measures and they are indicative of community satisfaction with Frankston City Council.

[1] Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13
[2] ISO 55000 Overview, principles and terminology

[3] IPWEA, 2015, IIMM.

Table 2: Community Satisfaction Survey Levels

Performance Measure	Satisfaction Level Index Score (Out of 100)								
	2012	2013	2014	2015	2016	2017	FCC Average	Metro Average	6 Year Trend
Overall Performance	62	66	63	62	61	56	**62.8**	**63.8**	↓
Liveability	80	79	82	92	90	87	**84.6**	**N/A**	↑
Safety	52	55	57	57	58	48	**55.8**	**N/A**	↓
Image	63	65	65	61	60	59	**62.8**	**N/A**	↓
Condition of local streets and footpaths[4]	61	62	65	64	63	59	**63.0**	**62.4**	-
Traffic Management	55	62	60	-*	-*	-*	**59.0**	**56.0**	↑
Recreational Facilities	70	72	70	-*	-*	-*	**70.7**	**68.7**	-
Environmental Sustainability	65	66	65	-*	-*	-*	**65.3**	**64.7**	-

*Note: * denotes that the survey did not include these performance measures and no data is available.*

The overall performance of the organisation has shown a downward trend over the past 6 year period.

Despite this trend, survey results suggest that Frankston City is performing above average across traffic management and condition of local streets and footpaths which is reflective of the significant investment Council has made in recent years across its road and pathway assets.

Council has undertaken over $10.6M in pathway capital works between 2010/11 and 2015/16 which included the construction of new pathways, upgrade/widening of existing pathways and renewal of defective or old pathways.

Additionally, the Frankston Central Activity Area (CAA) is currently benefitting from substantive investment utilising both state and local government level funding and projects have begun to redevelop key access routes in the CAA. This area receives a higher level of service as per the RMP based on the increased level in utilisation by the community and local business.

Adherence to a design palette within the CAA will address a number of existing issues such as reducing the number of different material types and design standards being used currently, which will hopefully reflect positively in the community satisfaction results.

Whilst there is currently no specific research on customer expectations of the pathway network, there has been a level of community consultation via the reviews and updates of Council's Road Management Plan (RMP). Community consultation in these processes resulted in relatively high level feedback of the pathway network.

Community feedback on the expectations of the pathway network should be investigated for future updates of the asset management plan.

3.2 Strategic and Corporate Goals

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

[4] 'Condition of local streets and footpaths' performance measure was changed in 2015 to 'Condition of sealed local roads in your area'

Our vision:

"Lifestyle Capital of Victoria"

Our mission:

"We are driven by the privilege of serving our community, and providing leadership and visionary thinking to ensure Frankston City is recognised as the Lifestyle Capital of Victoria"

Our Pathway vision is:

"Having safe, convenient and well designed and maintained pathways are core community expectations for meeting the day to day walking needs of residents and their families. To meet these expectations, Frankston City Council is committed to planning, constructing and maintaining good quality paths throughout the City."

Council's pathway vision and strategy is encompassed by the objectives in the Integrated Transport Strategy, Paths Development Plan and the Bicycle Strategy.

The Integrated Transport Strategy was adopted by Council in April 2013. The purpose of the Strategy is to guide Council in undertaking actions which will increase the efficiency and effectiveness of the Frankston City transport network for moving people and goods.

The Paths Development Plan is a tactical plan that focuses on identifying and prioritising pathway projects which primarily provide an access function (as opposed to, for example, paths primarily used for recreation or leisure located in parks and reserves). It incorporates all paths that are within Council's responsibility, outside of the Frankston Major Activity Centre (paths in this area will be covered in separate planning process).

The Frankston Bicycle Strategy identifies a number of initiatives to provide safe and improved cycling facilities to encourage more cycling across Frankston City. In the development of the Strategy, due consideration was given to improving cycling safety and linking communities and facilities, as well the needs of all types of cyclists, regardless of their age, experience or reason for cycling.

Frankston's Recreation Strategy 2009 - 2014 addresses the broad scope of recreation provision defined as physical activity that is undertaken in the public realm for a personal sense of enjoyment. Recreation activity is defined as either competitive organised activity - often through teams and clubs - or the causal access of facilities that individuals freely pursue in their uncommitted time. Pillar 2 of the Recreation Strategy is of particular relevance to the Pathway Asset Management Plan and is as follows:

Pillar 2 - Connected communities through safe accessible transit and open space linkages.

"A safe trail network and the linking of open space within Frankston City for greater recreational amenity and better transit is of high priority for the community. "

Council's pathway vision supports the Frankston Planning Scheme, Health and Wellbeing Plan and Council's adopted long term outcomes as described in the Frankston City Council Plan.

The Frankston City Council Plan 2017 – 2021 outlines long term priorities and strategies to set the direction of the organisation over a four year period.

The Council Plan defines four Long Term Community Outcomes for Frankston City which are supported by specific themes, strategic indicators and corresponding four year priorities.

The Long Term Community Outcome themes and priority actions applicable to this PAMP are detailed in Table 3 below:

Table 3: Addressing Council Plan Themes and Priority Actions in this Plan

Theme	Priority Action	How goals and objectives are addressed in this AM Plan
1. A Planned City		
1.1 Community Infrastructure	1.1.6 Ensure community infrastructure and services match community needs	• Identify current technical and community levels of service for pathways. • Provide guidance into future service requirements based on the organisations current delivery framework and financial position. • Documentation of the future improvement actions specific to pathway service delivery. • Highlights the need for service planning to guide future decision making and funding allocation. • Highlights the need for improved community consultation to determine community needs and establish agreed levels of service.
2. A Liveable City		
2.2 Vibrant and Engaged	2.2.3 Engage and support Frankston City's local areas and diverse communities to optimise facility usage and enhance equitable access to services	• Maintain pathway amenity in Frankston City through appropriate planning and management of assets for current and future users. • Identify asset maintenance requirements to continue to provide current levels of service and maintain safe infrastructure. • Identify service deficiencies from internal and external consultation to guide the development of the Improvement Plan. • Align with Council's strategic documents to work towards achieving the organisational vision and mission.
	2.2.5 Improve the presentation and cleanliness of Frankston City	• Highlights the importance of reviewing service standards and asset intervention levels to govern maintenance and renewal planning in line with Council's Road Management Plan. • Identifies poor condition, aged and unserviceable assets to be included within capital planning or requiring maintenance. • Detail Council's pathways asset management approach to guide future decision making.
2.3 Health and Wellbeing	2.3.3 Enhance equitable access to sport and leisure opportunities	• Ensure a functional pathway network that provides desired recreation, transport and accessibility outcomes. • Help to develop and maintain pathway routes that are desirable for exercise and recreational activity to promote the health and well-being of users through passive and active recreational activity. • Highlights any gaps in the current pathway service delivery that can be enhanced to provide an improved service for the community.
4. A Well Managed City		
4.1 Services	4.1.1 Identify service assets and service levels required to meet future community needs	• Investigate future demand requirements to determine a medium to long-term funding strategy. • Utilise asset condition modelling to determine renewal funding requirements and optimal service delivery scenario.
	4.1.2 Implement a rolling service review program	• Identifies the need to review this Plan following the completion of an asset condition audit every 4 to 5 years as per Council's AM Strategy.
	4.1.4 Optimise the community's ability to access services and information	• Document and collate community consultation details and implement improvement actions as required. • Publicly accessible document available for comment.

Theme	Priority Action	How goals and objectives are addressed in this AM Plan
4.2 Systems	4.2.3 Facilitate informed decision making through improved reporting and data management	• Develop an understanding of current asset condition through the collation of recent audit data. • Highlight potential risks and consequences to Council from the improper management of key assets. • Documents an Improvement Plan to address gaps in service delivery. • Informs Council's Long Term Financial Plan and future capital works programs.
4.3 Resources	4.3.2 Undertake an ongoing review of Council's assets to ensure they meet community needs	• Establishes a premise to undertake a rolling asset condition auditing program every 4 to 5 years as per Council's Asset Management Strategy. • Highlights the need to undertake asset useful life assessments. • Highlights the need to continue to invest in Council's Asset Management Information System and asset management practices.

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

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. These include:

Table 4: Legislative Requirements

Legislation	Requirement
Crown Land (Reserves) Act 1978	Provide for the reservation of Crown Lands for certain purposes including the management of such reserves and their purposes.
Disability Discrimination Act 1992	To ensure that persons with disabilities have the same rights to equality before the law as the rest of the community and to eliminate discrimination in areas such as pathway accessibility
Environment Protection Act 1970	A framework for the protection of the environment in Victoria, in accordance with the principals of environmental protection. Includes the establishment of environmental objectives and programs to prevent pollution and environmental damage. Applicable to roadside conservation areas.
Frankston Planning Scheme & Municipal Strategic Statement (MSS)	Provides a framework in which decisions about the use and development of land in Frankston City, and allows for the implementation of State, regional and local policies affecting land use.
Heritage Act 1995	Provides for the protection and conservation of places and objects of cultural heritage significance and the registration of such places and objects.
Local Government Act 1989	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Occupational Health and Safety Act 2004	Governs the key principals, rights and duties in relation to occupational health and safety.
Occupational Health and Safety Regulations	Includes Asbestos 2003; Manual Handling 1999; Noise 2004; Prevention of Falls 2003; and Lead 2000.
Planning and Environment Act 1987	Establish a framework for planning the use, development and protection of land in Victoria in the present and long-term interests of all Victorians.
Public Health and Wellbeing Act 2008	Enact a new legislative scheme which promotes and protects public health and wellbeing in Victoria.

Legislation	Requirement
Road Management Act 2004	Purpose is to establish a coordinated management system for public roads (that includes footpaths) that will promote safe and efficient State and local public road networks and the responsible use of road reserves for other legitimate purposes, such as the provision of utility services. Defines the responsible authorities for all roads within the state. It makes Council the controlling authority for Public Local Roads, Boundary Roads and parts of Declared Roads within the municipal area and it is therefore responsible for managing the infrastructure assets within them. Establishes a statutory framework for the management of the road network which facilitates the coordination of the various uses of road reserves for roadways, pathways and infrastructure, including the construction, inspection, maintenance and repair of public roads. Sets Council's framework for the awarding of damages for economic loss and for issues relating to civil liability.
Road Safety Act 1986 & Road Safety (Road Rules) Regulations 1999	Safety requirements relating to the use and operation of the road network. Road Rules 250 & 251 relate to riding of bicycles on a pathway.
Subdivision Act 1988	Sets out the procedure for subdivision and consolidation of land and outlines the requirement of developer contribution of pathways where required by Council.
Transport Act 1983	Relates to the operation of the road network
VicRoads Standards	Used in conjunction with Council's Standards to determine minimum standards for road construction and maintenance
Wrongs Act 1958	The Act imposes several thresholds for the recovery of damages for economic and non-economic loss from personal injury and death in Victoria, as a result of negligence or fault. It defines Duty of Care and establishes the principles for determining negligence.
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.

The organisation will exercise its duty of care to ensure public safety in accordance with section 6 – Infrastructure Risk Management Plan.

3.4 Customer Levels of Service

Service levels are defined service levels in two terms, customer levels of service and technical levels of service. These are supplemented by organisational measures.

Customer Levels of Service measure how the customer receives the service and whether value to the customer is provided.

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

Quality How good is the service … *what is the condition or quality of the service?*

Function Is it suitable for its intended purpose …. *Is it the right service?*

Capacity/Use Is the service over or under used … *do we need more or less of these assets?*

The current and expected customer service levels are detailed in Table 5 and Table 7. Table 5 shows the expected levels of service based on resource levels in the current long-term financial plan.

Organisational measures are measures of fact related to the service delivery outcome e.g. number of occasions when service is not available, condition %'s of Very Poor, Poor/Average/Good, Very good.

These Organisational/Organizational measures provide a balance in comparison to the customer perception that may be more subjective.

Table 5: Customer Level of Service

	Expectation	**Performance Measure Used**	**Current Performance**	**Expected Position in 10 Years based on the current budget.**
Service Objective: To provide a safe pathway network that meets the functional requirements for all pathway users.				
Quality	Provide paths of an appropriate standard and sound overall condition.	Condition profile of all Council owned and maintained paths in the municipal pathway network.	75% of paths with excellent/good condition rating (Level 1 or 2) as detailed in 5.1.3.	Maintain current position and address known backlog of poor condition assets to ensure all pathways are maintained at condition 3 (fair) or better.
	Provide a pathway network that is safe and does not present significant hazards to pathway users.	The number of customer service requests in 2015/16 relating to service quality, requesting maintenance/ repairs on the condition of existing paths.	Approximately 665 requests for the pathway network received from the community (measured through Council's Customer Request/ Asset Management Information System).	Desirable for no increase or a decline or maintained in the number of complaints over the 10-year planning period.
		Confidence levels	**High**	**High**
Function	Provide paths that meet user requirements.	Pathways identified/ requested to be upgraded. For example, a footpath that does not meet Council's standard width, or a footpath to be upgraded to a shared use path.	Functionality of existing paths not yet assessed and recorded in the asset register.	Functionality performance to be recorded in Council's asset register and inform the Capital Works projects (renewal and upgrade) so asset renewal driven by condition and functionality.
	Provide paths that provide connectivity and essential access to key locations and throughout the municipality.	Missing links identified in Council's Paths Development Plan 2015 and the Bicycle Strategy 2012.	153 projects have been identified to construct missing pathway links or provide an extension of current pathway assets.	Service requests for missing links reducing. Significant progress (greater than 50%) to be made in the implementation of the ~$8.5M in missing links to be delivered.
		Confidence levels	**Medium**	**Medium**

	Expectation	Performance Measure Used	Current Performance	Expected Position in 10 Years based on the current budget.
Capacity and Use	Provide paths that meet user requirements.	Requests about crowded paths, or for paths to be widened/upgraded. Eg; from a standard footpath width of 1.5m to a shared path width of a minimum of 2 metres.	Capacity of existing paths not yet assessed and recorded in the asset register.	Steady decline in the number of requests for path widening over the 10-year planning period.
		Confidence levels	**Low**	**Low**

Indications of community levels of service have been obtained from various sources. Primarily feedback has been sought and received from community consultation groups via recent reviews and updates of Council's RMP and the community consultation process involved in such initiatives; however, desired community levels of service have also been informed via residents' ongoing feedback to Councillors and staff, service requests in Council's asset management information system and incoming correspondence.

3.5 Technical Levels of Service

Technical Levels of Service - Supporting the customer service levels are technical measures of performance. These technical measures relate to the allocation of resources to service activities to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

- Operations – the regular activities to provide services (e.g. sweeping and pressure cleaning)
- Maintenance – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. grinding and wedges),
- Renewal – the activities that return the service capability of an asset up to that which it had originally (e.g. pathway bay replacements),
- Upgrade/New – the activities to provide a higher level of service (e.g. widening a footpath to become a shared path) or a new service that did not exist previously (e.g. constructing a new pathway).

Service and asset managers plan, implement and control technical service levels to influence the customer service levels.[5]

A pathway hierarchy has been established under Council's Road Management Plan to guide technical service levels and govern priority, inspection frequencies, intervention levels and rectification times of pathway maintenance within the road reserve. The pathway hierarchy is shown in Table 6.

[5] IPWEA, 2015, IIMM, p 2|28.

Table 6: Pathway Hierarchy

Path Hierarchy Classification	Desired Function/ Description	Desirable Surface Material	Desirable Width	Council's desired approach to managing these assets
FOOTPATHS				
Key Central Activity Area (CAA) Footpaths	Located within or adjacent to the Central Activity Area.[1] Cater for high to medium volume pedestrian traffic with diverse needs.	Asphalt or Concrete	1.4 to 2.4 m	Provide for safe movement of pedestrians within the Central Activity Area. Provide high quality, aesthetically pleasing sealed paths. Prioritise for DDA compliance.
Key Access Footpaths	Provide direct access to shopping and service precincts, transport hubs, schools, preschools, recreational facilities, parks, community centres, childcare centres tourist attractions, religious centres, hospitals, facilities for seniors, and other public attractions. Cater for high to medium pedestrian traffic volumes with diverse needs.	Asphalt or Concrete	1.4 to 2.4 m	Provide good quality sealed paths on both sides of the road. Provide safe access for pedestrians. Prioritise for DDA compliance.
Industrial Access Footpaths	Located within industrial precincts. Withstand heavy vehicles	Asphalt or Concrete	1.4 m	Provide safe access for pedestrians. Provide suitable construction to withstand occasional heavy vehicle usage. In low use areas provide path on one side of the road only.
Reserve Footpaths[2]	Located within Council open space reserves, including the Foreshore. Cater for variable volumes of pedestrian traffic.	Asphalt or Concrete or Unsealed or Timber	1.4 to 2.4 m	Provide safe access within Reserves. Provide suitable construction to withstand maintenance vehicle usage
Local Access Footpaths	Service predominantly suburban residential areas. Cater for low volume pedestrian traffic with diverse needs.	Asphalt or Concrete	1.4 m	Provide safe access for pedestrians. In low use areas provide paths on one side of the road.
SHARED PATHS				
Primary Shared Paths	Provide an alternative to the road system for pedestrians and cyclists travelling through the City. Cater for high to medium pedestrian and cyclist volumes and high speed cyclists.	Asphalt or Concrete	3.0 m	Provide a safe aesthetically pleasing environment for cyclists and pedestrians. Provide suitable construction to withstand maintenance vehicle usage.

Path Hierarchy Classification	Desired Function/ Description	Desirable Surface Material	Desirable Width	Council's desired approach to managing these assets
Secondary Shared Paths	Provide an alternative to the road system for pedestrians and cyclists travelling locally within the municipality. Cater for moderate pedestrian and cyclist volumes	Asphalt or Concrete	2.5 m	Provide a safe environment for cyclists and pedestrians. Provide suitable construction to withstand maintenance vehicle usage.

Table 7 shows the technical levels of service expected to be provided under this AM Plan. The 'Desired' position in the table documents the position being recommended in this AM Plan.

Table 7: Technical Levels of Service

Service Attribute	Service Activity Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **
Operations				
	To ensure a safe, clear and clean pathway network is provided to all pathway users.	Routine sweeping and pressure cleaning of sealed pathways. ***FP-ROU-001 CAA Footpath Pressure Cleaning*** ***FP-ROU-002 CAA Footpath Sweeping*** Clearing of obstructions to pathway users. ***SP-REA-005 Clear Obstructions - Shared Path*** ***F-REA-005 Clear Obstructions – Footpath*** F-001 Debris hazardous to pedestrians or obstructing drainage F-012 Dead Animal F-002 Dumped rubbish Percentage of routine defect asset inspections (RMP). Pathways account for 50% of asset inspectors time (2 EFT).	Pressure clean designated footpaths in Central Activity Area only – 6 monthly Sweeping designated footpaths in Central Activity Area only – Weekly Removal of dumped rubbish/ debris that poses a hazard to cyclists or pedestrians and/or obstructs stormwater flows. Removal of dumped rubbish that poses a hazard to pedestrians and/or obstructs stormwater flows and traffic movements.	Service standards are reviewed as part of the review of Council's RMP. This includes revising intervention levels, inspection frequencies and rectification timeframes.
		Budget	CAA Footpath Pressure Cleaning - $65,206 CAA Footpath Sweeping - $65,206 EFT Asset Inspectors - 2 x 0.5 - $90,568 **TOTAL - $220,980 per annum**	Operational requirements to remain steady over the next 10 years. Council will require $2,209,800 in operational expenditure over the next 10 years to continue to fund

<table>
<tr><th>Service Attribute</th><th>Service Activity Objective</th><th>Activity Measure Process</th><th>Current Performance *</th><th>Desired for Optimum Lifecycle Cost **</th></tr>
<tr><td></td><td></td><td></td><td></td><td>pathway operational activities.

TOTAL - $220,980 per annum</td></tr>
<tr><td colspan="5">Maintenance</td></tr>
<tr><td></td><td>Ensure that the path assets are well maintained, free of hazards for all pathway users.</td><td>F-REA-001 Concrete Footpath Maintenance
Provide temporary and/or permanent repair of vertical displacements, holes, edge breaks, lifted/ subsided/ distressed areas posing a potential hazard to pedestrians.
Treatment may involve wedging, grinding, crack sealing and/or bay replacement.
FC-001 Vertical displacement/ tripping hazard >25mm

FC-002 Dislodged wedge
FC-003 Cracks >10mm wide and 200mm long

F-REA-002 Asphalt Footpath Maintenance

Provide temporary and/or permanent repair of loose, missing and dislodged pavers posing a potential hazard to pedestrians.

FP-001 Vertical displacement/ tripping hazard >25mm
FP-002 Loose, missing or dislodged pavers with gaps >20mm</td><td>Performance results were compiled for the April 2017 review of Council’s Road Management Plan.

The following statistics represent the organisations performance in meeting the timeframes applicable for each maintenance activity for the initial assessment, temporary works (where applicable) and the rectification works.

The results have been summarised below for the period of 01 September 2015 to 31 March 2017:

<table><tr><th>Activity</th><th>14-15</th><th>15-16</th><th>16-17</th></tr><tr><td>Initial Assessment</td><td>71%</td><td>63%</td><td>61%</td></tr><tr><td>Temporary Works</td><td>62%</td><td>83%</td><td>51%</td></tr><tr><td>Rectification Works</td><td>89%</td><td>89%</td><td>82%</td></tr></table></td><td>A target of 90% compliance (± 10%) with the RMP has been set.</td></tr>
</table>

Service Attribute	Service Activity Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **
		F-REA-003 Paved Footpath Maintenance Provide temporary and/or permanent repair of loose, missing and dislodged pavers posing a potential hazard to pedestrians. FP-001 Vertical displacement/ tripping hazard >25mm FP-002 Loose, missing or dislodged pavers with gaps >20mm ***F-REA-004 Constructed Unsealed Footpath Maintenance*** Provide temporary and/or permanent repair of surface corrugations and/or potholes posing a potential hazard to pedestrians. Treatment may include grading and/or spot gravelling of constructed path with crushed rock. FU-001 Potholes >50mm deep and 150 mm diameter FU-002 Corrugations/ subsided areas >50mm deep ***F-REA-006 Path Edge Repair*** Provide temporary and/or permanent repair of depressions at the interface of the constructed paths and the surrounding ground Treatment may involve topping up with topsoil,		

<table>
<tr><th>Service Attribute</th><th>Service Activity Objective</th><th>Activity Measure Process</th><th>Current Performance *</th><th>Desired for Optimum Lifecycle Cost **</th></tr>
<tr><td></td><td></td><td>gravel or sand.

F-003 Path edge failures >75mm deep at the interface of the constructed path and adjacent ground

F-REA-007 Tactile Paver Repair

Provide temporary and/or permanent repair of tactile pavers.

F -014 Damaged tactile pavers (cracked or worn) that could be hazardous to pedestrians</td><td></td><td></td></tr>
<tr><td></td><td></td><td>Budget</td><td><u>Reactive Maintenance</u>
TOTAL - $ 422,650 p.a.</td><td><u>Reactive Maintenance</u>
TOTAL - $ 422,650 p.a.</td></tr>
<tr><td colspan="5">Renewal</td></tr>
<tr><td></td><td>Maintain a safe pathway network of connected walking and cycling routes for all pathway users.</td><td>Renewal of all poor condition paths (condition 4 and 5) identified through condition audits, routine zone works utilising the maintenance intervention levels under the Road Management Plan (RMP), reactive customer requests and internal maintenance referrals.

If >2 sq. m of pathway is damaged or distressed, temporary protection works are undertaken and the repair is prioritised as part</td><td>Council’s renewal budget is utilised to address defects found to be above the intervention level of RMP defects and where there is greater than 2m² of pathway being replaced.

The breakdown of pathway defects recorded in FAMIS since July 2014:
<table>
<tr><th>Defect Code</th><th>Activity Type</th><th>Defects</th><th>% of Total Defects</th></tr>
</table></td><td></td></tr>
</table>

<table>
<tr><th>Service Attribute</th><th>Service Activity Objective</th><th>Activity Measure Process</th><th colspan="4">Current Performance *</th><th>Desired for Optimum Lifecycle Cost **</th></tr>
<tr><td></td><td></td><td>of Council’s asset renewal program. Renewal may consider realignment of paths to minimise impact of trees.</td><td colspan="4"><table>
<tr><td>F-REA-001</td><td>Concrete Footpath Maintenance</td><td>3,323</td><td>62.53%</td></tr>
<tr><td>F-REA-002</td><td>Asphalt Footpath Maintenance</td><td>112</td><td>2.11%</td></tr>
<tr><td>F-REA-003</td><td>Paved Footpath Maintenance</td><td>150</td><td>2.82%</td></tr>
<tr><td>F-REA-004</td><td>Constructed Unsealed Footpath Maintenance</td><td>64</td><td>1.20%</td></tr>
<tr><td>F-REA-005</td><td>Clear Obstructions - Footpath</td><td>1,192</td><td>22.43%</td></tr>
<tr><td>F-REA-006</td><td>Path Edge Repair (nature strip top-up)</td><td>207</td><td>3.90%</td></tr>
<tr><td>F-REA-007</td><td>Tactile Paver Repair</td><td>4</td><td>0.08%</td></tr>
<tr><td>SP-REA-001</td><td>Concrete Shared Path Maintenance</td><td>101</td><td>1.90%</td></tr>
<tr><td>SP-REA-002</td><td>Asphalt Shared Path Maintenance</td><td>17</td><td>0.32%</td></tr>
<tr><td>SP-REA-003</td><td>Unsealed Shared Path Maintenance</td><td>6</td><td>0.11%</td></tr>
<tr><td>SP-REA-004</td><td>Sealed Shared Path Edge Repair</td><td>5</td><td>0.09%</td></tr>
<tr><td>SP-REA-005</td><td>Clear Obstructions - Shared Path</td><td>132</td><td>2.48%</td></tr>
<tr><td>SP-REA-006</td><td>Shared Path Line Marking Maintenance</td><td>1</td><td>0.02%</td></tr>
<tr><td></td><td></td><td>5,314</td><td>100.00%</td></tr>
</table></td><td></td></tr>
<tr><td></td><td></td><td>Budget</td><td colspan="4">2017/18 Renewal Budget</td><td>2017/18 Renewal</td></tr>
</table>

Service Attribute	Service Activity Objective	Activity Measure Process	Current Performance *	Desired for Optimum Lifecycle Cost **
			$ 1,540,000	Budget **$ 1,540,000**
Upgrade/New				
	Develop a safe network of well-connected walking and cycling routes. Pathways should meet the legislative requirement for Disability Discrimination Act access.	The number of square metres path replaced each year through path upgrade/new capital projects. Note: This excludes inherited path assets.	Pathway missing links identified through the Paths Development Plan, totalling 153 projects worth an estimated $8.5M of works. • 2014/15 – 3,679m of new/ upgraded pathways constructed by Council • 2015/16 – 2,645m of new/ upgraded pathways constructed by Council	All walking and cycling routes are constructed to meet Council's standards and are compliant with Australian Standards and with relevant legislative requirements.
		Budget	2017/18 New/ Upgrade Budget **$ 425,000**	2017/18 New/ Upgrade Budget **$ 425,000**

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)

Frankston City Council is yet to fully quantify desired levels of service. This will be addressed in future revisions of this Asset Management Plan.

It is important to monitor the service levels provided regularly as these will change. The current performance is influenced by work efficiencies and technology, and customer priorities will change over time. It is noted that review and establishment of the agreed position which achieves the best balance between service, risk and cost is essential.

4. FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include population change, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices and climate change.

4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets were identified and are documented in Table 8.

4.3 Demand Impact on Assets

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 8.

Table 8: Demand Drivers, Projections and Impact on Services

Demand drivers	Present position	Projection	Impact on Services
Population Change	Total Population – 126,446 (Australian Census, 2011) Current population growth rate is estimated to be 1.05% p.a.	Population growth rate in the City of Frankston is forecast to be on average 0.78% per annum until 2026.[6] Thus, by 2026 the population is expected to increase to approximately 142,090 or by 15,644 people, and by 2036 a population of 152,494. The annual rate of population growth within Frankston City municipality is forecast to reduce over the next 20 years from 1.05% in 2016 to only 0.42% in 2036. Population growth and increased urban density is expected to be concentrated around the Frankston city centre, neighbourhood activity centres, sustainable transport centres and residential opportunity sites with large areas of undeveloped land. Growth neighbourhoods include Carrum Downs, Frankston, Langwarrin and Seaford.	• Population growth will mean an increased use of the municipal pathway network, whilst a slowing population growth rate will mean a gradual decline in the need for new or upgraded pathways further into the future. • Urban development in growth neighbourhoods will increase demand on pathway connectivity. New pathways or upgrades to existing pathways will be necessary to ensure quality, interconnectivity to key destinations and services within the municipal area are easily accessible and fit for purpose.

[6] Population and demographic data obtained through 'forecast.id' and the Australian Bureau of Statistics

Demand drivers	Present position	Projection	Impact on Services
Demographic Change	Age distribution: 0 – 9 years = 12.9% or 16,312 people 10 – 19 years = 13% or 16,438 people 20 – 44 years = 35% or 44,256 people Over 45 years = 39.1% or 49,441 people People aged 60 years and over make up 19.1% of Frankston City's population.	A significant increase in the number of people aged between 65-79 years is expected over the next 10 years, equating to an average annual growth of 4.14%. By 2036, people aged 55 and over will represent an additional 4.51% of the total population as compared to 2011. All other ages have a lesser representation across the total population, except ages 5-9, which is expected to see an insignificant increase of 0.06% in representation. The predictions indicate an ageing demographic in Frankston City.	• An ageing demographic in Frankston will have an impact on the functionality of the pathway network. Pathway widths, gradients and cross falls will need to be compliant for elderly pathway users and the mobility impaired • Demand for improved accessibility to reserves and recreational facilities, to cater for residents with reduced mobility. • Ensure that growth areas are designed to facilitate the use of sustainable modes[7]
Fuel Price	40 week (July 2016 to April 2017) state average petrol prices (Australian Institute of Petroleum, 2017) Minimum: 104 cents per litre Maximum: 138 cents per litre	Historic trends show a gradual increase in the cost of crude oil resulting in an increase in fuel price over the long term.	• The increased running costs of motor vehicles could result in a reduced amount of vehicle ownership or use. This would impact the pathway network and put greater demand on connectivity to key destinations and public transport services. • Reduced vehicle ownership or use could expose 'walking gaps' and critical missing links in the pathway network, or assets where the existing level of service or functionality is not sufficient.

[7] Frankston Integrated Transport Strategy 2013

Demand drivers	Present position	Projection	Impact on Services
Customer Preferences	Substantial influx of people to the Frankston Foreshore can be expected during the summer months.	Increasing trend in the number of visitors to the foreshore areas due to population growth and increasing air temperatures from global warming. The importance of physical activity to people's wellbeing is well recognised and documented and so it is expected that Frankston's ageing population will continue to value pleasant and safe pathways which caters to a variety of needs.	• Pathway assets in and around the foreshore will experience heavier usage in summer months. These assets need to adequately provide connectivity to the Central Activity Area (CAA) as well as recreation and exercise. • Increased pressure on cleaning and maintenance services based on seasonal changes and high usage periods. • Demand on maintenance service levels to provide aesthetically pleasing and functional pathways. • Increased risk with heavier usage if any defects are not appropriately managed.
Leisure Trends	A growing technological society which inadvertently results in people reducing the amount of time spent outside for leisure purposes.	Increasing trend to people choosing to spend leisure time using technology instead of available recreational services.	• Possible underutilisation of pathway assets due to a lack of interest, accessibility issues or due to more attractive leisure alternatives.
Employment	<u>Total labour force = 64,215</u> Full time worker = 38,122 (59.4%) Part time worker = 18,642 (29%) Away from work = 3,818 (5.9%) Unemployed = 3,633 (5.7%)	An increased percentage of people working part time or working from home and an increase in the number of retirees. Increase in jobs in the Frankston CAA and industrial precincts as a result of various Council Plan initiatives for building future growth, liveable city and sustainable city.	• Increased utilisation of the pathway network, in particular Key Central Activities Area (KCAA) pathways, Industrial Area pathways and Key Access routes. • Heightened need for enhanced public transport connectivity.

Demand drivers	Present position	Projection	Impact on Services
Climate Change	Community awareness growing on the risks of climate change and the impact on community infrastructure. As a result, companies are required to become increasingly more environmentally responsible when developing products, undertaking construction processes etc.	Fluctuations in the average annual rainfall and catchment stream flows. Increased extreme weather events including droughts, storms, storm surges and number of extreme fire risk days. Progressive rise in sea level. New products will be developed which are more environmentally friendly and have a reduced embodied energy.	• Increased frequency and intensity of extreme rainfall events may damage or flood unsealed pathways. • Accelerated degradation of materials, structures and foundations may occur through increased ground movement and changes in groundwater. • Increased temperature and solar radiation could reduce the life of asphalt on asphalt pathway surfaces. • Increased temperature stresses the steel in reinforced pathways through expansion and increased movement. • Increased risk of wildfire can result in high risk for tree damage close to roadways (falling trees). • Change in construction standards as alternative products are developed.
More litigious society	Claims against Council for personal injury on paths are low.	Claims against Council for personal injury and incidence that occur on paths could increase.	• Increased cost in defending Council actions and payments to claimants. • Pressure to ensure maintenance standards are maintained as per Council's Road Management Plan.
Lifestyle changes	Community becoming more aware of health benefits of physical activity such as walking and cycling starting to undertake more of these activities.	Increasing recreational walking and cycling and public life activities on the path network. Potential for increased demand for shared pathways which support a variety of recreational and transport services.	• Change in path function and capacity, and increased demand for responsive maintenance, repairs and establishing cleaning and tidying services. • Increased investment into shared pathways as societal trends change.

4.4 Demand Management Plan

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

Opportunities identified to date for demand management are shown in Table 9. Further opportunities will be developed in future revisions of this asset management plan.

Table 9: Demand Management Plan Summary

Demand Driver	Impact on Services	Demand Management Plan
Population Change	Increased demand for an extension to the path network, change to path function and capacity.	All redevelopment sites required to renew paths with upgraded paths suitable for the proposed function and capacity. Review current development and transport documents for impacts on walking and cycling through renewed strategies.
Demographic Change	Increased width of paths and better compliance with Disability Discrimination Act design and construction requirements.	Increase basic widths of paths to suit two people with walking aids, or other mobility devices, so they can move along a path together. Improve controls and monitoring of building activities and associated driveway crossovers to ensure Disability Discrimination Act compliance in the walking/cycling area.
Fuel Price	Increased demand and utilisation of path network, connectivity to public transport services and alternative modes of transport.	With all predictions indicating that the price of oil is going to continue to increase people will be looking for cheaper forms of transport, the pathway network needs continued functionality and utilisation/ capacity assessment to ensure it is meeting a shifting landscape.
Customer Preferences	Increased pressure on cleaning and maintenance services based on seasonal changes and high usage periods. Demand on maintenance service levels to provide aesthetically pleasing and functional pathways.	Develop a service plan that identifies pathway service requirements and community expectation. Encourage the community to take responsibility for verge area outside their properties. Establish a path cleaning and edge tidying programs. Document community service levels to understand desired service outcomes.
Leisure Trends	Reduced use of the pathway network for walking, running and cycling as alternative leisure activities are sought by the community.	Advocate the importance of the path network to community wellbeing, personal health and prosperity.
Employment	A greater concentration of workers in Frankston CAA and industrial precinct, it is therefore likely there will be more pathway users and cyclists in Frankston.	Establish higher service standards for both design and function of pathway assets in heavily utilised areas, in particular the Frankston CAA.

Demand Driver	Impact on Services	Demand Management Plan
Climate Change	More rapid deterioration of paths, increasing frequency of inspections and maintenance and repairs. Growing need to become environmentally responsible.	Establish an 'Environmental Framework' for material selection and work practices. Increased frequency and intensity of extreme rainfall, wind and lightning events is likely to cause significant damage to sealed and unsealed pathways. Review design standards for unsealed pathways in reserves and determine suitable sites for their installation.
More litigious society	Increased cost in defending Council actions and payments to claimants.	Improve work recording and retrieval systems. Establish and implement agreed service standards with the community and then monitor the responsiveness and timelines of maintenance and repair activities.
Lifestyle changes	Change in path function and capacity, and increased demand for responsive maintenance, repairs and establishing cleaning and tidying services.	Pathway functionality to meet shifting requirement of a population with greater health awareness, seeking recreational use and exercise supported by the footpath and shared path network. Deliver on prioritised pathway projects as describe in the Frankston Paths Development Plan 2015.

4.5 Asset Programs to meet Demand

The new assets required to meet demand can be acquired, donated or constructed. Additional assets are discussed in Section 5.4. The summary of the cumulative value of additional asset is shown in Figure 2.

Figure 2: Upgrade and New Assets to meet Demand – (Cumulative)

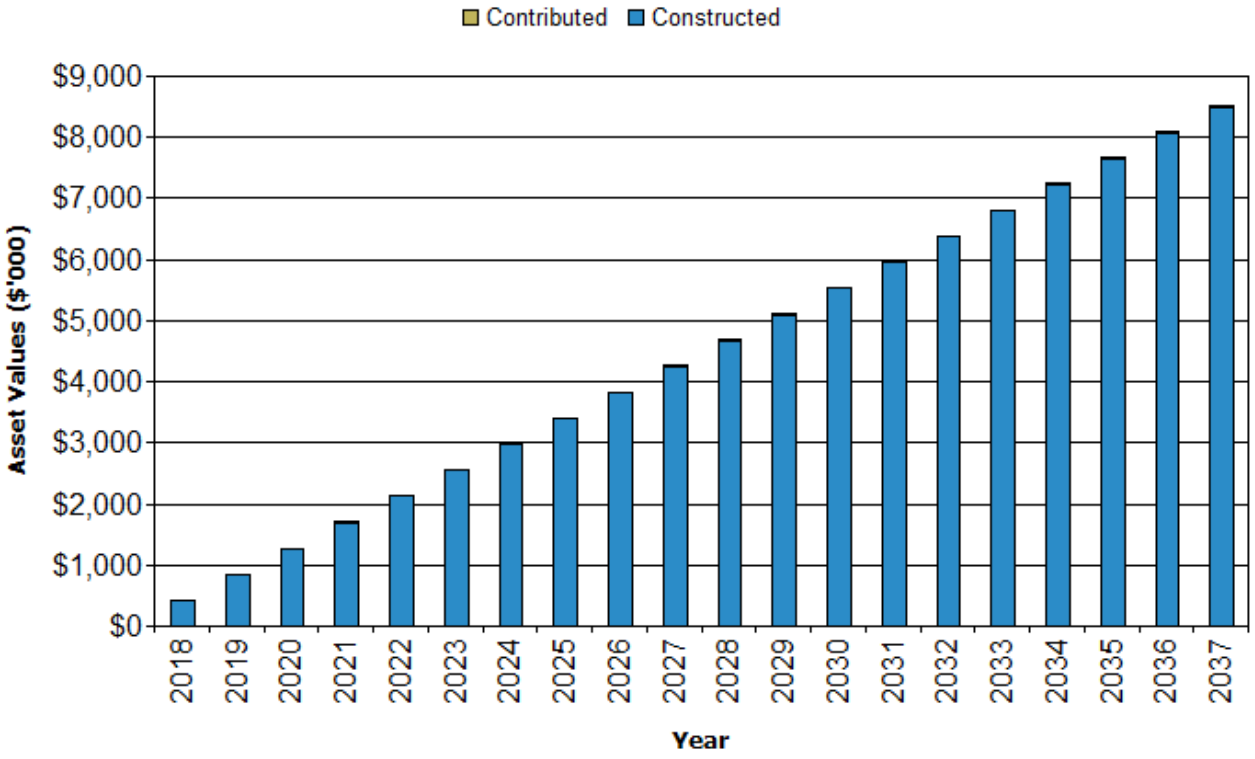


Figure values are in current (2018) dollars.

Acquiring these new assets will commit ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the long term financial plan further in Section 5.

Based on recent year's total contributed assets from developments (gifted), it is forecast that the annual increase in pathway assets Council acquires via developer will be minimal.

5. LIFECYCLE MANAGEMENT PLAN

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

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this asset management plan are shown in Table 1.

Council's pathway networks consists of footpaths and shared paths that provide an essential link to people and destinations and also offer a source of recreation.

In addition to pathways that provide connectivity within the municipality, pathways are also a source for active and passive recreational activity used for walking, cycling and jogging and promote health and well-being benefits.

Pathways and trails in Council reserves and open space support these passive and structured recreational services and with proper planning and management, can have minimal impact on the environment whilst supporting provision of open space to community.

Pathway infrastructure located within the road reserve is routinely inspected and managed under Council's RMP. As part of Council's cyclic programme of condition audits of its major asset categories, a pathway condition audit was conducted of the full municipal network inclusive of all pathway assets owned and maintained by Frankston City Council in December 2016. This audit was undertaken in accordance with Council's Asset Management Strategy 2013 and Council's State of the Assets Report 2014.

The 2016 pathway condition audit was essential in the collation of asset data and has served as a significant data validation of Council's asset register, which underpins the writing of this Plan, revaluation of the asset category on Council's Balance Sheet, and for the upload into Council's corporate asset management system (FAMIS).

Despite the vast improvements to Council's pathway asset data, certain information such as the construction year still remains at a low confidence level due to a number of reasons as described throughout this Plan.

Assets covered within this Plan are typically short life (granitic sand and asphalt paths) and medium life (concrete and paved) assets.

The age profile of the assets included in this AM Plan are shown in Figure 3.

Figure 3: Asset Age Profile

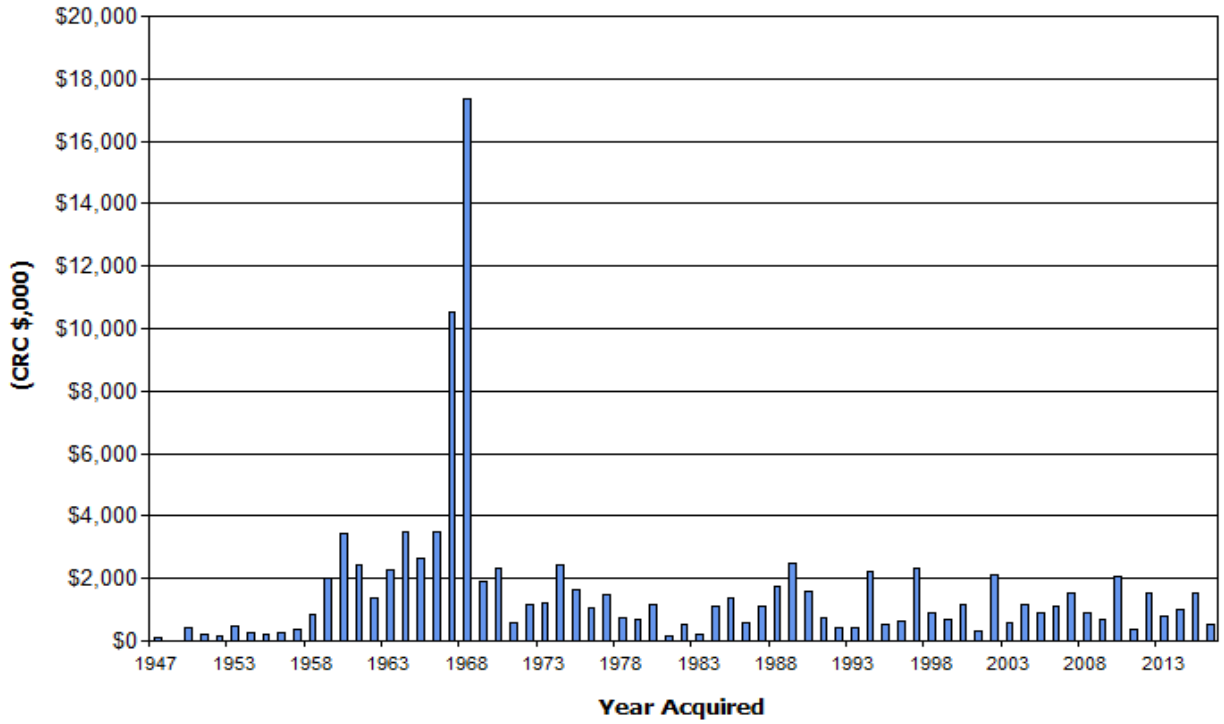


Figure values are in current (2018) dollars.

According to the asset age profile, 52.7% of pathway assets were constructed prior to 1976, with 32.9% of assets constructed between 1966 and 1975. 39.6% of pathway assets have been constructed since 1986.

When considering the age profile it should be noted that these construction years have been sourced from Council's SMEC Pavement Management System (PMS), a system used by Council to model pavement and surfaces of the road network. There is a reasonable level of confidence in the values of the year of construction for Council's roadways but due to a lack of data management for pathways located outside of the road reserve, much of the construction years of pathways located outside of the road reserve have been assumed from the condition.

Moreover, whilst the level of confidence in the original construction years is relatively high, there is concern over the lack of recorded treatments in the asset register that have been applied to the pathway network over many years of Council management. The issues that the lack of data management poses to the condition profile of the municipal pathway network are explored further in Section 5.1.3.

Figure 4: Asset Age Profile (grouped in 10 year periods)

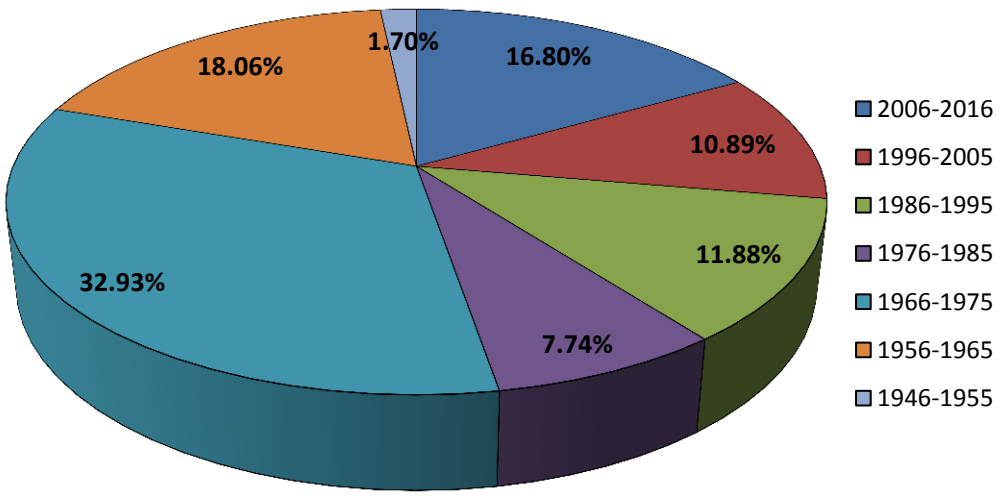


Figure 4 shows the spread of construction in 10-year periods. Further analysis indicates significant growth during the period of 1966 – 1975 that can be attributed to the significant development in the suburbs of Frankston, Frankston South, Frankston North and Seaford at the time.

5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available.

Pathway assets primarily exist to support connectivity and recreational services to the community. Council's services are generally provided to meet design standards where these are available.

Locations where deficiencies in service performance are known are detailed in Table 10.

Table 10: Known Service Performance Deficiencies

Location	Service Deficiency
Operations/ Maintenance Functional Work Flows	Maintenance and operational activities are carried out with service units split based on the service activity e.g. inspections, pathway grinds and wedges, maintenance zone works, etc. These practices need to be further investigated as to whether further efficiencies can be discovered and implemented and to ensure over-servicing of pathway assets is not occurring. An example of this is where regular maintenance zone works is being undertaken as a precautionary measure when defects are not exceeding intervention levels set out in the RMP.
Operations/ Maintenance Works Programming and Reporting	Since 2014, routine and reactive activities are being undertaken via FAMIS. Whilst these workflows are capturing significant data that can be used to inform future works programmes and launch advanced asset management strategies, the reporting functionality of the relatively infant asset management system is not being utilised to its full potential. Furthermore, there are some minor data deficiencies relating to the resources, defect location and details that are entered for certain work orders as a result of system/software restrictions and human error. Rollout of FAMIS to all maintenance crews dealing with pathways will ensure consistency in the approach to pathway maintenance i.e. path edge failures currently being referred to parks crews through PCS rather than FAMIS.
Asset Register	Council has only recently developed a spatial asset register for the pathway network. Asset data has been linked from the previous register stored in SMEC however this was limited to pathways located in road reserves and omitted paths and trails located in reserves, open space and other linkages. Following an external condition audit in 2016 many of the data deficiencies have been addressed. However, further data including functionality and utilisation assessments in accordance with strategic goals outlined in the Integrated Transport Strategy, Bicycle Strategy, etc. need to be developed.
Reserves Pathway Maintenance	Footpaths, shared paths and trails located outside the road reserve are not governed by the RMP and as such, have been managed much more sporadically and on an ad-hoc basis. In the absence of detailed service levels with refined frequencies, intervention levels and timeframes developed in consultation with the community, it is difficult to determine whether Council is currently falling short, meeting or exceeding community expectation in these open spaces.

Location	Service Deficiency
Reserves Pathway Construction	Many instances of granitic sand pathways that have not been constructed in accordance with Council's standard drawing for such assets (SD 335). Granitic sand pathways that have not been boxed or have been constructed where longitudinal grade are greater than 2% has resulted in pathways requiring more frequent maintenance and in some cases, pathways are failing to reach their full design life. Additionally, there are instances of unsealed pathways being constructed in flood plains and overland flow paths resulting in severely corrugated pathways following storm events.
Lodgement of Reactive Maintenance Requests	Inadequate service request information provided to operational staff at the time of their lodgement, causing confusion relating to specific location and type of work that is required. This is usually a result of a communication breakdown between the customer service unit and the operational staff carrying out the request.
Asset Handover	Council does not currently have a complete, detailed asset handover process to ensure constructed and gifted assets are accepted by a cross section of Council including the Asset Owner and Maintenance Manager.

The above service deficiencies were identified from various staffs expertise and knowledge.

5.1.3 Asset condition

Condition is monitored at an operational level through ongoing asset inspections in accordance with Council's RMP as well as via external condition audits on major asset categories conducted on a four-year cyclic programme.

External auditing has been completed to validate existing register data and to address known gaps in the asset condition data.

Frankston City Council's 'State of the Assets Report 2014' highlights several key issues with the pathway network, some of which are included in Table 10 above. Issues as follows:

Footpaths

- Historically gravel paths have been constructed with inadequate consideration of overland stormwater flows. As a result, when it rains, much of the gravel is washed away leaving a corrugated path that needs to be refilled and re-compacted by park maintenance crews after each storm at considerable cost to Council. This unnecessary cost could be avoided by altering the design of the paths to account for drainage requirements.

- There is a long history of minimal proactive maintenance of paths that are not located within the road reserve. Historically Council has had a poor understanding of the quantity of these assets.

- Design standards applied to subdivisions is not applied to Council projects.

- There is a lack of clarity regarding the definition of maintenance and renewal as it relates to paths. Council's path renewal intervention levels have not been documented. This makes it difficult to estimate the true maintenance and true renewal budget requirements.

- Footpath renewals are undertaken based on annual inspections. Predictive asset deterioration modelling and prioritisation is not undertaken by Council's Asset Planning team.

- Condition audit data collected in 2009 was incomplete and was not used to develop a footpath renewal program.

- Data validation using aerial photography identified additional footpaths which have not been previously valued.

- Available data suggests renewal is underfunded.

Shared Paths

- Shared path renewal is ad-hoc and reactive. Renewals are undertaken based on annual inspections. Predictive asset deterioration modelling and prioritisation is not undertaken by Council's Asset Planning team.

- Condition audit data collected in 2009 was incomplete and was not used to develop a shared path renewal program.

- There is a long history of minimal maintenance of paths that are not located in the road reserve.

- Shared path design standards have not been established.

- Data validation using aerial photography identified additional shared paths which have not been previously valued.

- Available data suggests renewal is underfunded.

The 2014 report identifies a number of priority actions to address the above issues. Actions and their current progress status based on the recent Asset Management Strategy Progress Report are shown in the table below:

Table 11: Recommendations from the State of the Assets Report 2014

Recommendation	Key Targets	Priority	Progress Status
Footpaths			
FAMIS Asset Register – Paths (Related AM Strategy Action ID 14, 15)	• Develop a Footpath Asset Register in FAMIS (linked to GIS). • Include all available data regarding hierarchy classification, condition, material and widths.	High	~75% complete
Revalue Footpaths (Related AM Strategy Action ID 9)	• Use quanitities from the revised footpath register data. • Review useful life assumptions for each material and hierarchy classification. • Document the valuation methodology.	Medium	~85% complete
Condition Audit (Related AM Strategy Action ID 18)	• Establish asset data collection specifications for the condition audit of all footpaths to ensure data collected meets all stakeholder needs and will be suitable for storage within FAMIS (with links to GIS). • This data specification must be used for all future data collection.	Medium	~90% complete
Establish design standards for footpaths (Related AM Strategy Action ID 8)	• Align the design standards with path hierarchy adopted in the Road Management Plan. • Include a standard for gravel paths that addresses known drainage problems.	Medium	~90% complete

Recommendation	Key Targets	Priority	Progress Status
NEW ACTION 9. Develop Annual Footpath Renewal Program and fund accordingly	• Use the 2009 footpath condition audit results until the next audit is undertaken. • Paths in open space are expected to require significant renewal funding in order to improve the condition profile. • The program should be delivered by a dedicated renewal budget.	High	Complete
Shared Paths			
FAMIS Asset Register – Paths (Related AM Strategy Action ID 14, 15)	• Develop a Shared path Asset Register in FAMIS (linked to GIS). • Validate and consolidate all existing data. • Include all available data regarding hierarchy, material and widths.	High	~75% complete
Develop Path Asset Valuation Policy (Related AM Strategy Action ID 20)	• As part of the development of an asset valuation policy consider adjusting the Financial Report to display the valuation of Shared Paths separate to Roads (Other).	High	Completed
Establish design standards for shared paths (Related AM Strategy Action ID 8)	• Align the design standards with path hierarchy adopted in the Road Management Plan (i.e. Primary and Secondary Shared Paths).	Medium	~90% complete
Condition Audit (Related AM Strategy Action ID 18)	• Establish asset data collection specifications for the condition audit of all shared paths to ensure data collected meets all stakeholder needs and will be suitable for storage within FAMIS (with links to GIS). • This data specification must be used for all future data collection.	High	~90% complete
Following a condition audit of the shared paths develop and fund an annual shared path renewal program.	• Following a condition audit of the shared paths develop and fund an annual shared path renewal program.	High	Complete

The report also details a pathway asset performance assessment based on an A – E rating system as shown in Figure 5.

Figure 5: 'Frankston City Council State of the Assets Report - 2014' Assessment Approach

Criterion	Description				
Data Reliability	This provides an indication of whether the asset data (quantity, valuation, condition) is complete, accurate and current. The reliability of Council's key asset data impacts all asset management decisions. In particular, it impacts the accuracy of estimated renewal funding required to maintain the condition of the asset portfolio at an appropriate standard.				
	A - Highly Reliable	**B - Reliable**	**C - Uncertain**	**D - Unreliable**	**E – Not Available**
Service & Asset Planning **Documentation Quality**	This provides an indication of whether the current and desired service levels (community, maintenance and renewal) are documented, measurable and based on community consultation findings. In order for Council to undertake reliable service, asset (and associated budget) planning it is important to have clarity regarding the services that Council assets are required to support. Without a clear understanding of service level requirements it is difficult to ensure appropriate investment in asset creation, upgrade, renewal and maintenance.				
	A – Excellent	**B – Good**	**C - Fair**	**D – Poor**	**E – Not Available**
Renewal Funding Adequacy	This indicates the extent to which the current renewal funding level dedicated to the asset group meets funding considered necessary to: • address any known backlog of "poor" condition assets, and • retain the current condition distribution of the asset class (i.e. keep pace with the natural rate of asset deterioration) As noted above, this is dependent on the quality of the underlying asset data (quantities, condition, replacement costs and life estimates.)				
	A – Excellent	**B – Good**	**C - Fair**	**D – Poor**	**E – Very Poor**

Figure 6 summarises the status of data reliability, documentation quality and renewal funding adequacy for Council assets (including pathways) based on the assessment approach as at 2014.

Figure 6: Current Asset Performance Summary

Asset Class / Sub-Class	Data Reliability			Service & Asset Planning Document Quality					Renewal Funding Adequacy
	Asset Quantity	Valuation (Est. Life & Replacement Cost)	Asset Condition	Service Plan	Community Service Levels	Asset Management Plan	Renewal Service Levels	Maintenance Service Levels	
Property									
Land	B	B	NA	D	D	C	NA	C	NA
Buildings	B	B	B	D	D	C	D	C	B
Infrastructure									
Bridges & Structures	A	A	A	D	D	C	B	B	A
Streetscape Infrastructure	C	C	C	D	D	C	B	A	C
Stormwater Infrastructure	B	B	A	D	D	C	B	A	C
Pathways	C	C	B	D	D	C	B	B	C
Open Space Infrastructure	D	D	D	D	C	C	D	D	D
Plant & Equipment									
Furniture & Equipment	D	E	NA	D	D	E	E	E	D
Plant & Machinery	B	B	NA	D	D	C	C	B	B

According to Figure 6, the Pathways infrastructure asset class received a fair performance assessment overall.

The lack of thorough auditing for pathways at the time resulted in significant gaps in the asset data.

Throughout the development and implementation of the Frankston Asset Management Information System (FAMIS), Council's initial focus has been on the development of Roads, Bridges, Facilities, Drainage and Pathway asset data, based on the relative risk, value and criticality of these asset classes.

Improvement in pathways data reliability is essential to driving asset planning, service planning and renewal funding requirements, which is necessary for the maturity of Council's asset management practices.

A full condition audit has been undertaken on pathway assets in response to Improvement Action 18 of the Asset Management Strategy 2013 – 2017; the development of a pathways condition audit methodology and the implementation of a rolling audit program.

The Pathways Asset Condition Audit was conducted in December 2016 on all Council owned and maintained pathway assets to address deficiencies in pathways asset data.

It is intended that the audit will guide and inform the process and methodology for all future collection of pathway asset condition data. Repeatability in the audit methodology will ensure data integrity, resulting in improved knowledge of physical assets, long term asset planning applications and help to inform future revisions of this Asset Management Plan.

Condition data sourced from the recent 2016 condition audits has a high level of data confidence, whilst asset construction year data derived from condition assessments has a low level of data confidence.

The condition profile of our assets is shown in Figure 7.

Figure 7: Asset Condition Profile

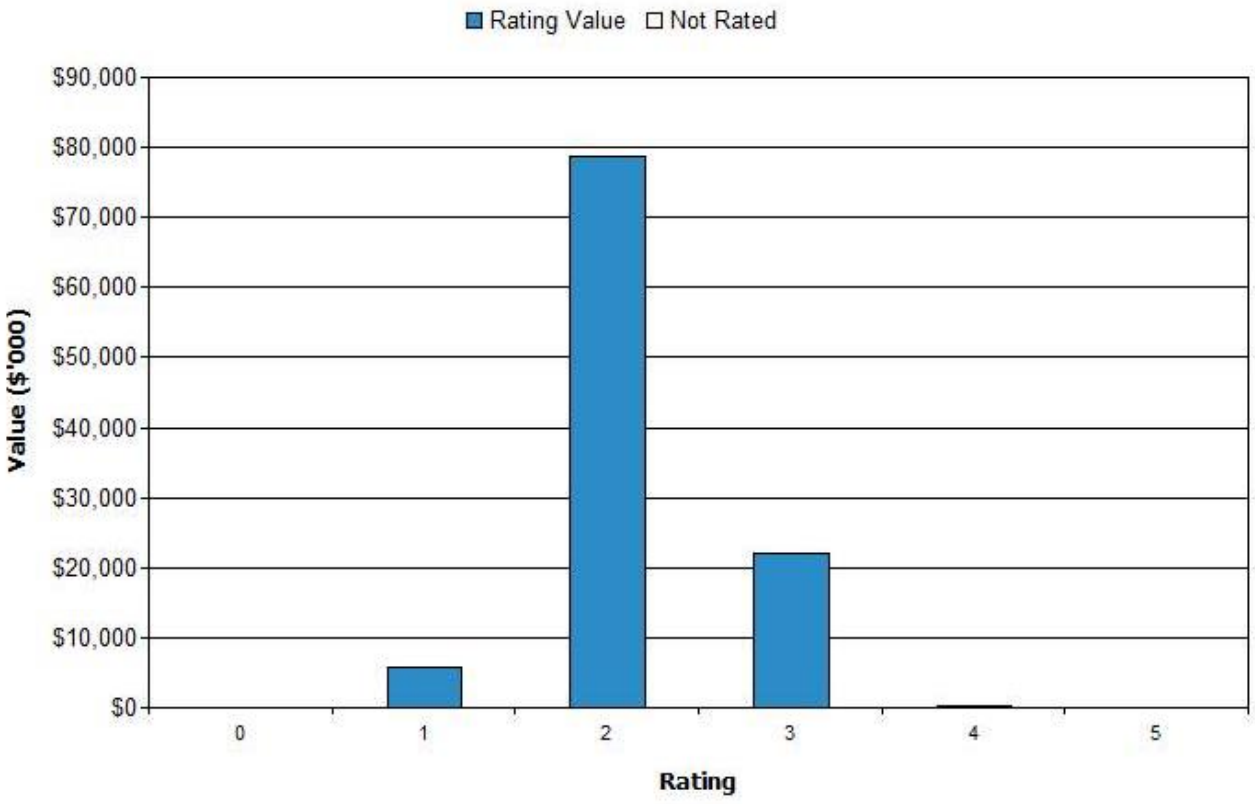


Figure Values are in current (2018) dollars.

Council has adopted a standard 'top-down' approach where asset condition is measured using a 1 – 5 grading system[8] as detailed in Table 12.

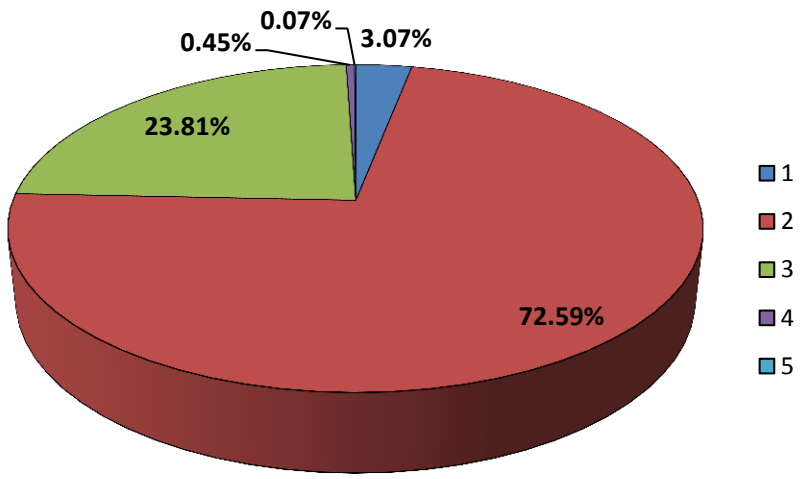
This 'Core' level approach is suitable for Council's pathways assets if data currency is maintained and visual assessment procedures can be standardised in the future.

Table 12: Condition Grading Model

Condition Rating	Description	Action	Estimated Remaining Life
1 – Excellent	Asset is as new	No additional maintenance required Continue current maintenance programs	95%
2 – Good	Asset is functional and displays superficial defects only	Minor maintenance intervention may be required No component replacement required	75%
3 – Fair	Asset is functional but shows signs of moderate wear and tear	Minor maintenance intervention and/or minor component replacement maybe required	50%
4 – Poor	Asset functionality is reduced Asset has significant defects affecting major components	Significant ongoing maintenance intervention or major component or asset replacement required	25%
5 – Failed	Asset is not functional	Asset requires decommissioning and/or replacement	5%

Results from the 2016 pathway condition audit indicate a healthy pathway network. Analysis of the pie chart below shows less than 1% of Council's pathway assets are in 'poor' or 'failed' condition whilst approximately 75% of the network has been assessed as being in 'excellent' or 'good' condition.

Figure 8: Pathway Network Condition



A total of 99.47% of Council owned pathways in the municipality are condition 3 (fair) or better indicating that there is very little renewal backlog of pathway assets.

[8] IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.

The results of the 2016 pathway condition audit indicate there is very little correlation between age (construction year) and condition. This highlights a significant issue with the construction year data and the disparity reveals that it is not appropriate for the purpose of modelling the renewal requirement of these assets. Additionally, it identifies the need to monitor and review asset useful lives.

The primary reason for this disparity is the nature of the pathway network and the way maintenance and renewal works have been managed in the asset register since the earliest known construction year of 1946. Many years of pathway works have been undertaken to the assets without processing these treatments in the asset register and monitoring these updates as they occur.

This has resulted in older pathway segments that were originally constructed many years ago but the numerous treatments over its useful life have resulted in a segment with a 'patchwork quilt' of treatments. As a result the pathway network consists of some assets that were constructed over 50 years ago that currently are still are flat, functional, and relatively void of defects. These assets may be showing signs of surface oxidation and look aged however from under the most recent condition assessment; have been rated condition 2 or 3 according to IPWEA's 'top-down' condition grading system.

For these reasons, pathway condition provides a reliable means for determining future asset renewal requirement.

Examples of old pathway segments that are in 'good' condition can be seen in the condition audit imagery below:

Figure 9: Image of Footpath Segment on Bangor Drive

Footpath 35540,1,3 – Bangor Drive, Frankston – Segment 42 years old, assessed as condition 2

Figure 10: Image of Footpath Segment on Jacana Avenue

Footpath 22070,1,1 – Jacana Avenue, Frankston – Segment is 50 years old, assessed as condition 2

Figure 11: Image of Footpath Segment on Armstrongs Road

Footpath 11090,1,1 – Armstrongs Road, Seaford – Segment 42 years old, assessed as condition 2

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services such as public health, safety and amenity, for example pressure cleaning, sweeping, rubbish collection.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating.

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

Reactive maintenance is unplanned repair work carried out in response to ad-hoc service requests and management/ supervisory directions such as removal of vertical displacements, corrugations and edge break.

Planned maintenance is repair work that is identified and managed through a maintenance management system (MMS), such as the works management module in the Frankston Asset Management Information System (FAMIS). MMS activities include inspection, assessing the criticality of the risk (likelihood and consequence), prioritising, scheduling, actioning the work and reporting what was done to develop a transparent maintenance history and improve long-term maintenance and service delivery performance.

Specific maintenance is replacement of higher value components/sub-components of assets that is undertaken on a regular cycle including replacement or repair of various infrastructure components that fall under Council's capitalisation threshold. This work falls below the capital/maintenance threshold but may require a specific budget allocation.

Traditionally Council has utilised its operational and maintenance expenditure to manage inspections, operational activity such as clearing obstructions and minor pathway works such as footpath grinds and wedges. The majority of Council's pathway maintenance is funded from the capital renewal budget, a budget that is used in both minor pathway treatments (exceeding 2m²) and longer lineal lengths of pathway renewals.

There is an imbalance between the funding of maintenance and renewal works and an opportunity for improvement exists to better adhere to a capitalisation threshold for pathway works. This opportunity will need to be further investigated and any potential changes to Council's Capitalisation Policy and its pathway capitalisation threshold will require subsequent budget adjustments and an adherence to the revised threshold.

Expenditure has been classified as shown in the table below.

Table 13: Operational and Maintenance Expenditure Classification

Maintenance Expenditure	Operational Expenditure
Concrete Footpath Maintenance	Labour (incl. Oncosts)
Asphalt Footpath Maintenance	Inspections
Paved Footpath Maintenance	PPE, Uniforms, Tools, Equipment and Park Materials
Constructed Unsealed Footpath Maintenance	Utilities
Path Edge Repair (nature strip top-up)	Vehicle Expenses
Tactile Paver Repair	Overheads
Concrete Shared Path Maintenance	Routine Footpath Pressure Cleaning
Asphalt Shared Path Maintenance	Routine Footpath Sweeping

Maintenance Expenditure	Operational Expenditure
Unsealed Shared Path Maintenance	Clear Obstructions - Footpath
Sealed Shared Path Edge Repair	Clear Obstructions - Shared Path
	Shared Path Line Marking Maintenance

Based on the above classifications, Council's actual past maintenance expenditure is shown in Table 14.

Table 14: Maintenance Expenditure Trends

Year	Maintenance Expenditure ($,000's)	Operational Expenditure ($,000's)	Total Annual Expenditure ($,000's)	Annual Budget ($,000's)	Variance ($,000's)
2012/13	$ 363	$ 242	$ 605	$ 536	- $69
2013/14	$ 402	$ 230	$ 632	$ 601	- $31
2014/15	$ 377	$ 233	$ 610	$ 616	+ $6
2015/16	$ 365	$ 237	$ 602	$ 634	+ $32
2016/17	$ 418	$ 213	$ 631	$ 644	+ $13

Note: Positive variance indicates annual expenditure short of the budget figure, whilst negative variance indicates annual expenditure over the budget figure.

Historic maintenance and operational expenditure was obtained through Council's financial accounting system, based on the actual costs to deliver services for the corresponding year.

At present, Frankston City Council does not have adequately structured maintenance and operational accounts in its financial system to capture precise costs at an activity level for planned and reactive maintenance expenditures for pathway assets. Maintenance costs are being recorded in FAMIS via unit rate tables rather than utilising system integration between the finance system and the asset management system.

The integration between Council's financial and asset systems has been identified as a key improvement that will allow for expenditure classification at a detailed asset / activity level.

Information around the different types of maintenance expenditure (routine, reactive, planned, and specific) is currently being captured in FAMIS in the works management module but all costs are based on unit rates and there is no link to the actual costs incurred in Council's finance system. A future improvement opportunity exists to integrate the works management in FAMIS with the actual maintenance and operational costs in Council's finance system; Technology One.

This improvement aligns with Improvement Action 14 – *'Continue to Invest in Council's Asset Management Information System (AMIS) & Associated Business Process Improvements,'* from Councils Asset Management Strategy 2013 – 2017 and is included in Table 28: Improvement Plan.

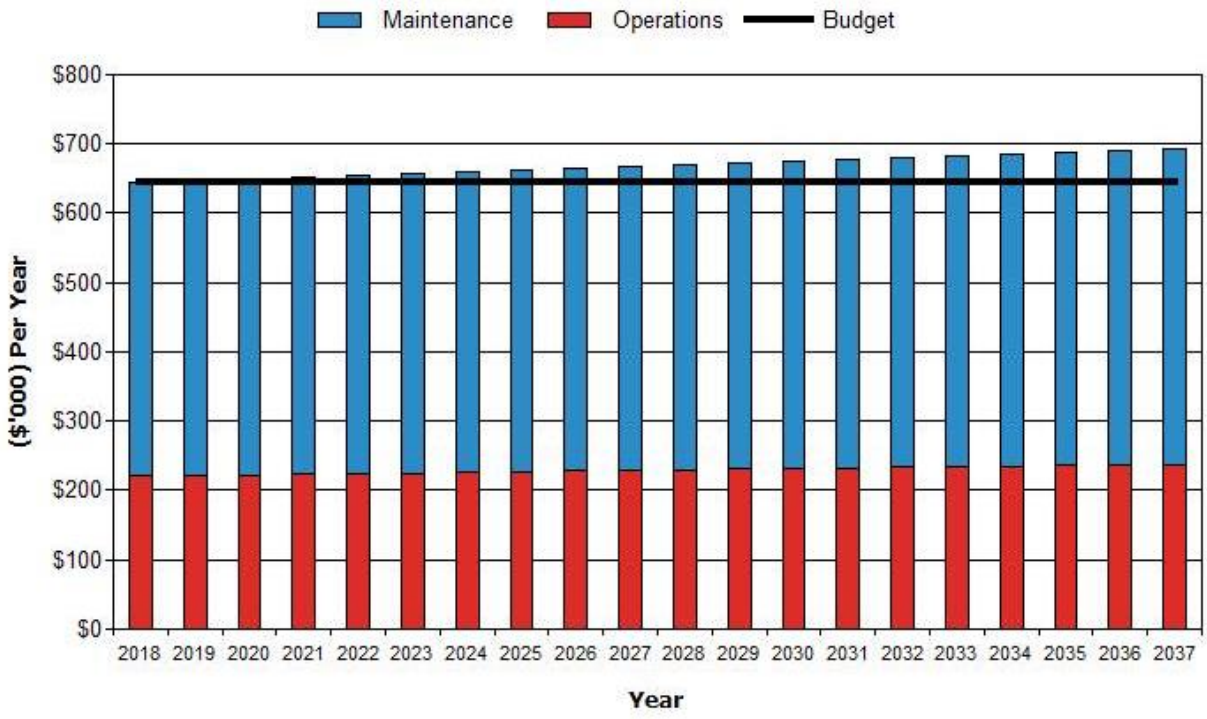
Maintenance expenditure levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance expenditure levels are such that they will result in a lesser level of service, the service consequences and service risks have been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

The levels of service detailed in Section 3.5 will be superseded by revised technical service levels following Council's review of the RMP in 2017 and subsequent amendments to be made to the Plan in 2018.

Summary of future operations and maintenance expenditures

Future operations and maintenance expenditure is forecast to trend in line with the value of the pathway asset stock as shown in Figure 12. Note that all costs are shown in current 2018 dollar values (nominal values).

Figure 12: Projected Operations and Maintenance Expenditure



As mentioned, there is an opportunity to better utilise a capitalisation threshold for pathway works so minor pathway maintenance is correctly funded from the maintenance budget. If a revised capitalisation threshold were implemented for pathway works there will be a requirement to make subsequent budget adjustments to enable adherence to the revised threshold.

This would allow officers to easily separate maintenance expenditure from renewal expenditure and increase the confidence and reliability of asset lifecycle forecasts and analysis.

Deferred maintenance, i.e. works that are identified for maintenance and unable to be funded are to be included in the risk assessment and analysis in the infrastructure risk management plan.

No maintenance activities have been identified for deferral given that Council's current funding capacity is sufficient to meet the current standards over the long term outlook.

In order to improve the above forecasts, Council must undertake appropriate lifecycle analysis of discretionary capital projects at the planning phase to understand the long term funding impacts.

Maintenance is funded from the operating budget where available. This is further discussed in Section 7.

5.3 Renewal/Replacement Plan

Renewal and replacement expenditure is major work which does not increase the asset's design capacity but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an upgrade/expansion or new work expenditure resulting in additional future operations and maintenance costs.

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

- Method 1 uses Asset Register data to project the renewal costs using acquisition year and useful life to determine the renewal year, or

- Method 2 uses capital renewal expenditure projections from external condition modelling systems (such as Pavement Management Systems or Moloney Modelling etc.), or

- Method 3 uses a combination of average network renewals plus defect repairs in the Renewal Plan and Defect Repair Plan worksheets on the 'Expenditure template'.

Method 2 has been used for the development of this asset management plan.

Asset Useful Life

As opposed to other asset categories where useful lives have been determined at a component and sub-component level, pathway asset useful lives have been assessed at a material level. This has resulted in a mix of useful lives based on the design life and strength of the various materials used in pathway construction.

Further investigation is required to establish useful lives that are not only applicable to the various pathway materials, but also to the pathway hierarchy as described in Council's Road Management Plan and individual pathway segments according to location and degradation trends.

An optimised Moloney condition model which closely represents Council's current long-term renewal practices has been utilised under the Method 2 approach for this Asset Management Plan.

Asset useful lives play an important role in the condition modelling and have a significant impact on the long term funding requirement for an asset. Further information on the limitations and assumptions of the condition modelling is provided in Section 7.

Pathways have been categorised under a Moloney asset set based on their materials and respective useful lives to execute the condition modelling. Due to the synergies within the modelling input where useful lives of different surface types aligned, different pathway assets have been rolled up into one of three asset sets which each have a nominated asset useful life, intervention level and asset degradation curve. Asset components with similar characteristics (useful life, asset degradation and intervention level) have been grouped to model accurate long term asset funding requirements.

The Moloney asset set and useful lives of assets used to develop projected asset renewal expenditures are shown in Table 15. Useful lives were recently reviewed following the Pathway Condition Audit 2016 and were determined based on analysis of the 2016 audit data, in conjunction with industry benchmarking, existing asset knowledge, staff expertise and guidance from IPWEA's 'Useful Life of Infrastructure' Practice Note 12, 2017.

Table 15: Useful Lives of Assets

Moloney Asset Set	Length (m)	Useful life (Years)	Modelled Useful Life (Years)
Concrete & Paved Paths	899,231	50	50
Asphalt & Spray Seal Paths	27,043	20	20
Gravel & Granitic Sand Pathways	41,205	10	10

Asset useful lives should reflect the actual service performance of an individual asset, and not the design life (IPWEA, 2016). It is recommended that useful life assessments are undertaken in the future to ensure ongoing refinement to capital renewal and financial planning and reporting.

Renewal and Replacement Strategies

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

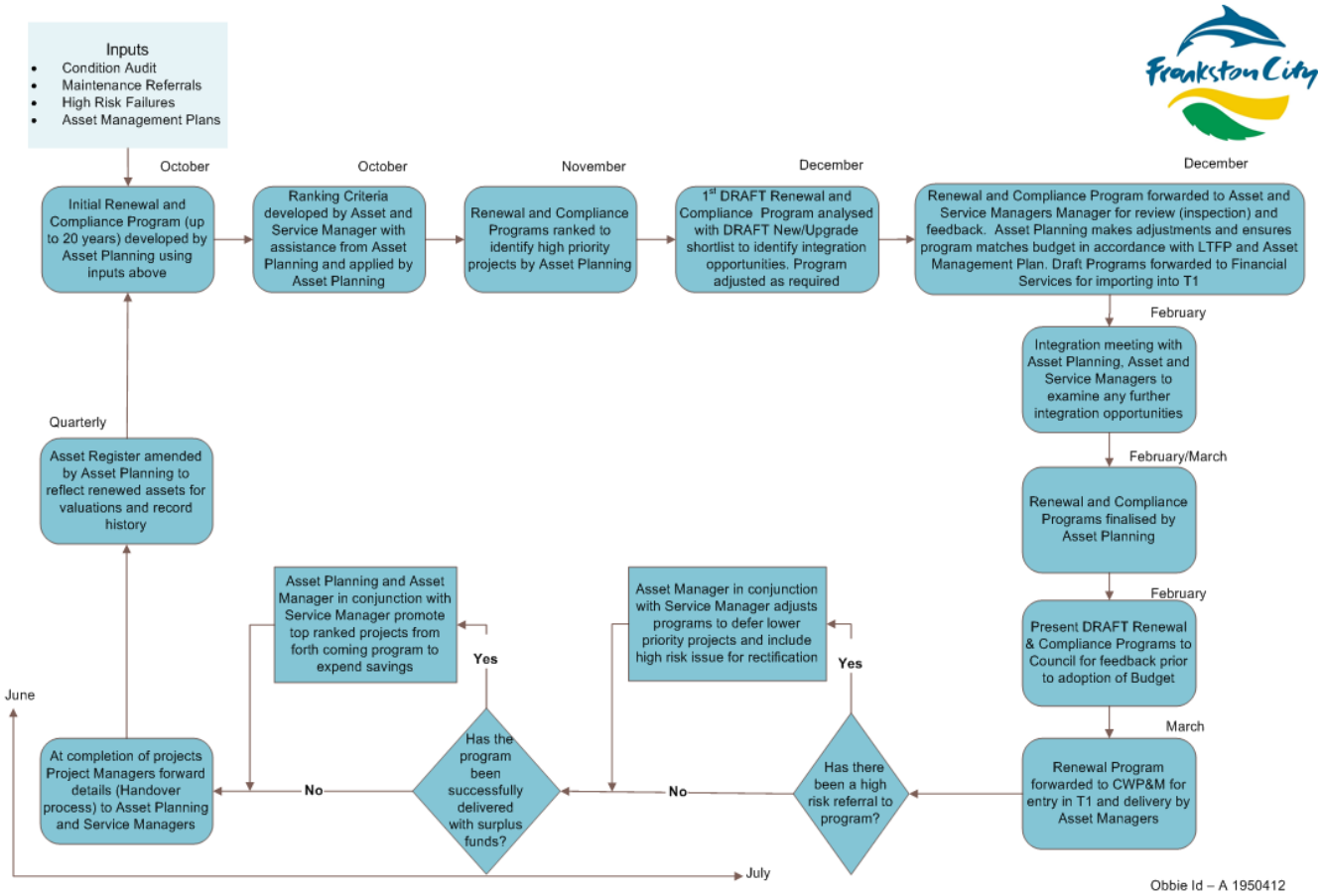
- Planning and scheduling renewal projects to deliver the defined level of service in the most efficient manner,
- Undertaking project scoping for all capital renewal and replacement projects to identify:

- the service delivery 'deficiency', present risk and optimum time for renewal/replacement;
- the project objectives to rectify the deficiency;
- the range of options, estimated capital and life cycle costs for each option that could address the service deficiency;
- evaluate the options against evaluation criteria adopted by the organisation;
- select the best option to be included in capital renewal programs;

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

Council's non-discretionary CWP development process is shown in Figure 13.

Figure 13: Non-Discretionary Capital Works Planning Process



5.3.1 Renewal ranking criteria

Asset renewal and replacement is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. reconstructing a pathway to continue to facilitate connectivity, exercise and recreation), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. longitudinal and transverse cracking in a footpath)[9].

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

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be greatest,
- Have a total value representing the greatest net value,
- Have the highest average age relative to their expected lives,
- Are identified in the AM Plan as key cost factors,
- Have high operational or maintenance costs, and
- Have replacement with a modern equivalent asset that would provide the equivalent service at a savings[10].

The current ranking criteria used to determine priority of identified renewal and replacement proposals is detailed in Table 16.

Table 16: Renewal and Replacement Priority Ranking Criteria

Criteria	Weighting
Condition/Risk	No Ranking Criteria Adopted
Hierarchy	No Ranking Criteria Adopted
Functionality	No Ranking Criteria Adopted
Corporate/Strategic Objectives	No Ranking Criteria Adopted
Total	**100%**

Historically, Council has undertaken the renewal of pathway assets focusing on pathways in poor condition and pathways that pose the greatest risk to users and/or Council. Typically pathway assets in poor condition will expose Council and the community to some form of risk.

Pathway hierarchy, corporate/strategic objectives and functionality are secondary criteria and have been used to prioritise those assets of similar condition and risk factor.

All future project ranking and prioritisation, including both non-discretionary and discretionary projects, will be governed by the Frankston City Council Capital Works Project Evaluation and Ranking Procedure, which is in a draft state and is due to be adopted in 2018.

This procedure adopts a method to evaluate and rank each proposed project, within a sub-program, against criteria for achievement of a Quadruple Bottom-Line (QBL) outcome categorised by:

- Governance;
- Social;

[9] IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.
[10] Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

- Economic; and
- Environmental requirements and benefits.

Under this procedure, non-discretionary pathway works will be split into 2 subprograms; (1) Footpaths Compliance and Safety Upgrades Via Citywide Footpath Inspection and (2) Footpaths Renewal Program.

The relevant asset manager, program objectives and ranking criteria for projects that fall within the two non-discretionary pathway subprograms are as follows:

1. FOOTPATHS COMPLIANCE AND SAFETY UPGRADES VIA CITYWIDE FOOTPATH INSPECTION

Asset Manager: Manager Engineering Services

Program Objectives
The objective of this program is to improve safety for all pedestrians and to ensure compliance with the Road Management Plan.

Table 17: Footpath Compliance and Safety Project Ranking Criteria

Assessment Criteria	Rating	Score
Governance (Go) – 10% Weighting (Pa + Au)		
How well does the project align with program objectives (Pa)	Significantly Moderately Slightly Not at all	8 4 2 0
Has the facility been audited? (Au)	OHS&RMP&DDA OHS or RMP or DDA Assessed by staff No	8 6 3 0
Social Outcome (So) – 50% Weighting (Co + Rf)		
How well does the project improve Safety Compliance (Co)	Significantly Moderately Slightly Not at all	8 4 2 0
Path Hierarchy (Rf)	Key CAA Footpaths Key Access Path Primary Shared Secondary Shared Local Access Industrial Access	8 7 6 5 4 7
Economic Assessment (Ec) – 30% Weighting (Vm+Ac)		
Asset Condition being rectified (Ac)	Failed Poor Fair Good Excellent No change to condition	5 4 3 1 0 0
Cost of the Repairs/km (Cr)	$000s/km	NA
Value for Money (Vm)	(So+Rf+Ac+Ea)/Cr	8 to 1
Environmental Assessment (Ea) – 10% Weighting (En)		
To what extent does the project benefit the environment considering energy reduction/efficiency, reduction of greenhouse gas emissions, water consumption, the use of recycled materials and minimising the use of resources? Are there positive environmental initiatives in the project? (En)	Significantly Moderately Slightly Not at all	8 4 2 0

2. FOOTPATHS RENEWAL PROGRAM

Asset Manager: Manager Engineering Services

Program Objectives
The objective of this program is to replace damaged, dangerous and aged footpaths across the municipality, as determined from condition audits.

Table 18: Footpath Renewal Program Project Ranking Criteria

Assessment Criteria	Rating	Score
Governance (Go) – 10% Weighting (Pa + Au)		
How well does the project align with program objectives (Pa)?	Significantly Moderately Slightly Not at all	8 4 2 0
Has the facility been audited (Au)?	OHS&RMP OHS or RMP Assessed by staff Other	8 4 2 0
Social Outcome – 60% Weighting (Sa + Rf)		
How well does the project contribute to: • safety improvements • DDA Compliance • Improved Function (Sa)	Significantly Moderately Slightly Not at all	8 4 2 0
Economic Assessment (Ec) – 20% Weighting (Vm+Ac)		
Road Function (Rf)	Key CAA Footpaths Key Access Path Primary Shared Secondary Shared Local Access Industrial Access	8 7 6 5 4 7
Asset Condition being rectified (Ac)	Failed Poor Fair Good Excellent No change to condition	5 4 3 1 0 0
Cost of the Repairs/sqm (Cr)	$000s/sqm	NA
Value for Money (Vm)	(So+Ac+Ea)/Cr	5 to 1
Environmental Assessment (Ea) – 10% Weighting (En)		
To what extent does the project benefit the environment considering energy reduction/efficiency, reduction of greenhouse gas emissions, water consumption, the use of recycled materials and minimising the use of resources? Are there positive environmental initiatives in the project? (En)	Significantly Moderately Slightly Not at all	8 4 2 0

It is important that future renewals are strictly based on the adopted renewal and replacement priority ranking criteria to ensure all aspects of an asset are considered prior to renewal. Given the health of the current municipal pathway network, an improvement for future revisions of this plan is to incorporate functionality and utilisation assessments in the asset register to drive renewals based on functionality and not just condition i.e. development of fit for purpose pathways.

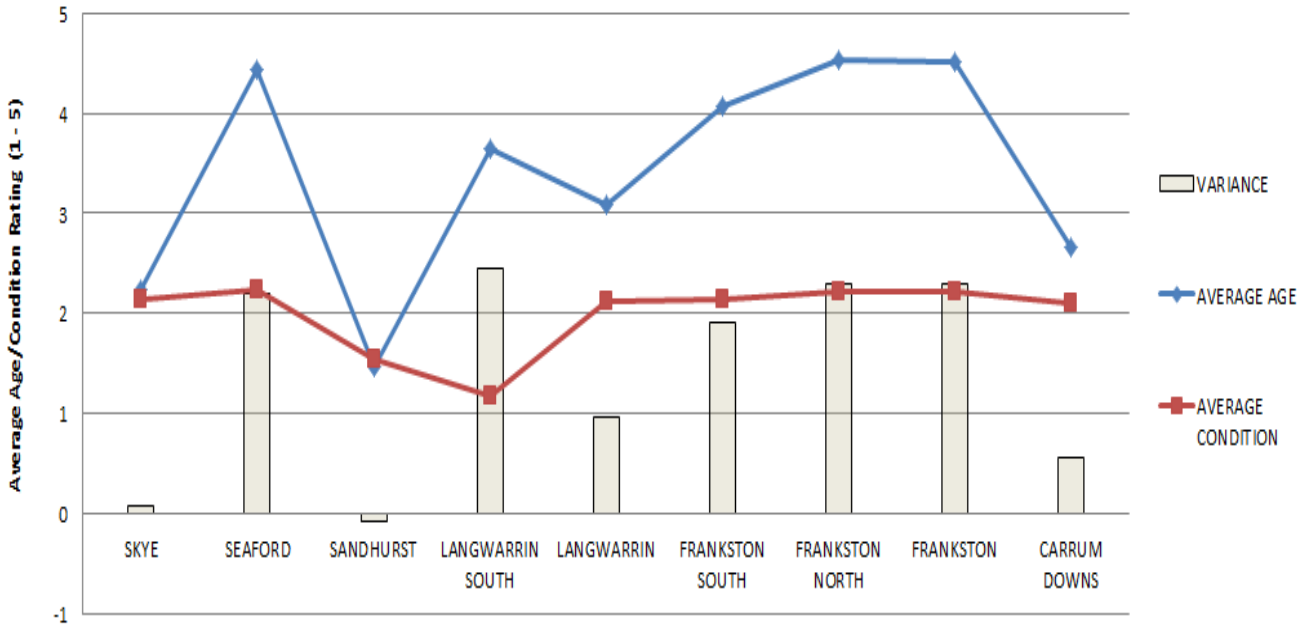
When considering the prioritisation of pathway asset renewals, it is important to identify the difference between an "aged" asset and an asset which is in a poor condition.

"Aged" assets may be visually unappealing however may still be in a relatively good condition and may remain functional and not require renewal for several years, as supported by 2016 condition audit data.

An asset which is in poor condition can be identified by having reduced functionality and/or significant defects to major components of the asset requiring prompt attention as described in Section 5.1.3.

An assessment of asset age against asset condition was undertaken on 2016 condition audit results and is shown in Figure 14. As with the condition rating of pathways, the age assessment of pathways is such that a rating of 1 is 'as new' and a rating of 5 is 'aged' or 'dilapidated'.

Figure 14: Average Asset Age Assessment Compared to Average Asset Condition Assessment on a 1 – 5 Rating



The graph above analyses the concrete and paved pathway group which constitutes 92.2% of pathway assets (892.68km). Consistently across the individual suburbs in the Frankston municipality, the current condition of pathway assets is significantly better than the condition derived from the age profile of the same assets. The variance in older, more established suburbs such as Frankston, Frankston North, Frankston South and Seaford is significant. This further illustrates the need to model the renewal requirement based on condition and not the construction year as treatments over the years have not been adequately monitored and processed into the asset register.

Council may wish to renew an old asset despite it being in acceptable condition, if it is of significant importance to the community or service it is supporting, in order to maintain high visual appearance, amenity and level of service to meet community expectations in high profile areas throughout the municipality.

The next step to developing advanced renewal programmes is to determine the priority and timing of works through assessing pathways with consideration of its hierarchy, service planning and service levels, and combining this assessment with the asset performance of the pathway segment.

Renewal and replacement standards

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

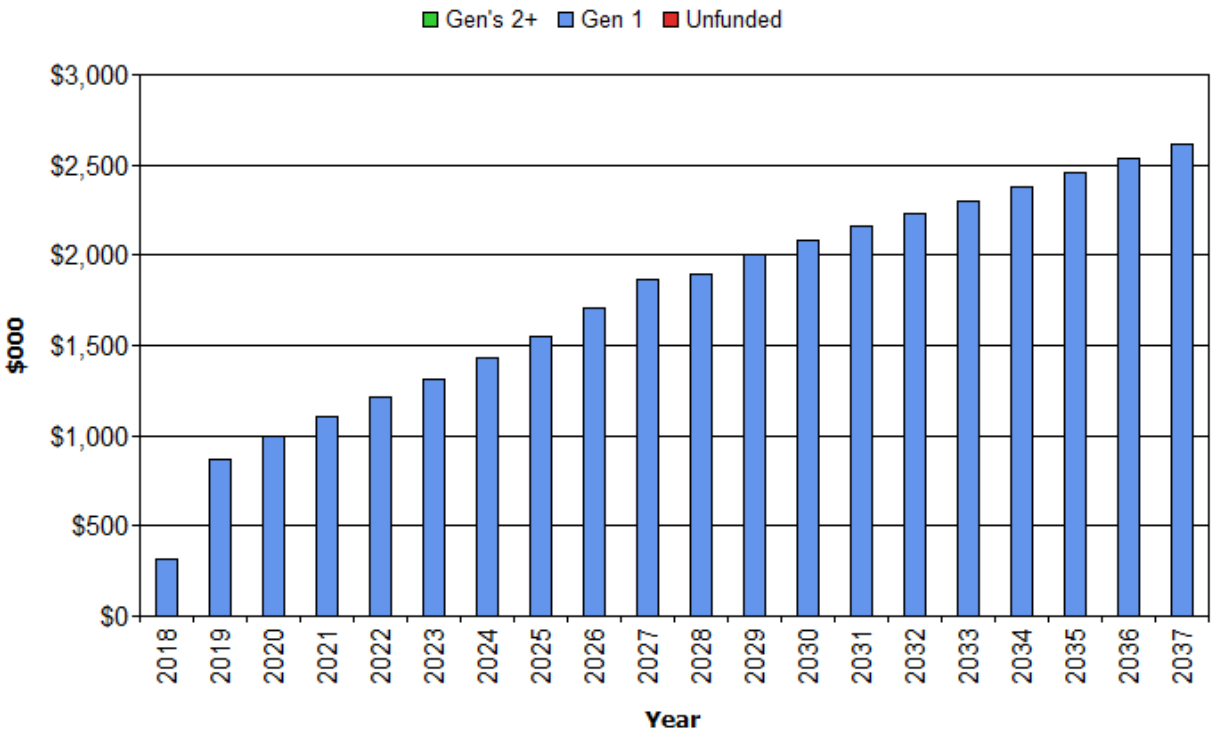
- AS/NZS ISO 31000:2018 Risk management - Guidelines
- Frankston City Council Standard Drawings June 2013
- Austroads Guide to Road Design and Guide to Traffic Management
- VicRoads Traffic Engineering Manual Volume 1, 2 and 3
- Relevant VicRoads Road Design Notes and supplements to the Austroads Guide to Road Design

5.3.2 Summary of future renewal and replacement expenditure

Projected future renewal and replacement expenditures are forecast to increase over time when the asset stock increases. The expenditure required is shown in Figure 15.

The projected capital renewal and replacement program is shown in Appendix B.

Figure 15: Projected Capital Renewal and Replacement Expenditure



Replacement expenditure forecasts are expected to fluctuate annually as different assets reach the end of their useful lives at different times and require renewal, upgrade or disposal.

The Moloney Modelling tool has been considered the best approach when determining the capital outlays required for Council's pathway assets given it is based on asset condition as opposed to using the construction year (age).

Figure 15 shows the capital renewal requirements over the next 20 years based on the output from Moloney Modelling, as well as the expected consequential renewal as a result of discretionary capital works. Note that all amounts shown are nominal values which have not been adjusted for inflation.

Given the healthy overall condition of the pathway network, the renewal requirement for 2018/19 is $865K, steadily increasing over the 20 year profile to $2.62M in 2036/37. With these fluctuations, it is prudent to assess the average annual asset consumption (AAAC) based on the formula below:

$$Average\ Annual\ Asset\ Consumption\ (AAAC) = \frac{Current\ Replacement\ Cost\ (CRC)}{Useful\ Life}$$

Equation 1: Average Annual Asset Consumption (AAAC)

Using this measure, the total AAAC for pathways across each of the various material types and their respective useful lives is $2,299,622.59. Therefore it is reasonable to assume a long-term annual renewal requirement of ~$2.3M.

The long-term 50 year renewal modelling requirement, plotted against the 20-year budget model of the draft 20-year Capital Works Program is detailed in Appendix D.

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

Renewals and replacement expenditure in the capital works program will be accommodated in the Long Term Financial Plan (LTFP). This is further discussed in Section 7.

It is critical to ensure that there are sufficient resources to deliver renewal works as a significant risk to Council is being unable to deliver the required program.

5.4 Creation/Acquisition/Upgrade Plan

New works are those that create a new asset that did not previously exist, or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, social or environmental needs. Assets may also be acquired at no cost. These additional assets are considered in Section 4.5.

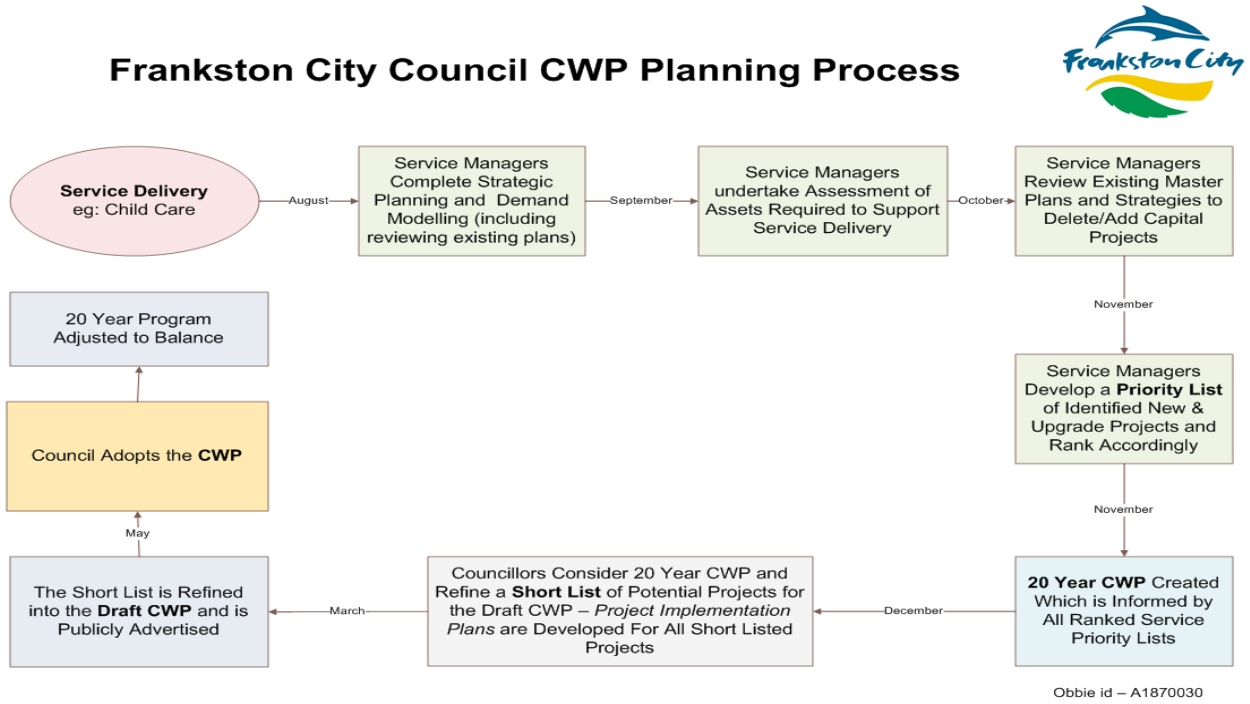
Council constructs new assets or upgrades/expands existing assets based on the 20 year discretionary Capital Works Program (CWP). Discretionary capital works typically result from the need to address growing demands of the community, deliver higher levels of service, deliver a new service or address a known gap in an existing service.

Council's 20 year discretionary CWP requires several improvements beyond the 5 year planning period for pathway initiatives, where projects and funding have not yet been nominated or committed to. In particular, the requirement for missing links scheduled to be constructed under the Paths Development Plan totalled $8.5M in works. To deliver on this plan an average of $425K will need to be spent per annum on constructing new pathway links over a 20 year long-term period.

Approximately $143M has been delivered through Council's discretionary CWP over the past 6 years comprising of 2.25% or $3.2M in pathway discretionary expenditure.

Council's discretionary CWP planning process is shown in Figure 16.

Figure 16: Discretionary Capital Works Planning Process



5.4.1 Selection criteria

New assets and upgrade/expansion of existing assets are identified from various sources such as community requests, proposals identified by strategic plans (including masterplans) or from the service manager. Capital works project proposals are reviewed to verify need and to develop a preliminary lifecycle cost estimates. Verified proposals are ranked by priority and available funds and scheduled in future works programmes.

The Paths Development Plan 2015 has prioritised the construction of missing pathway links throughout the municipality through the use of a simplified multi criteria assessment method.

The criteria categories for the prioritisation are:

- Safety
- Connectivity
- Amenity
- Strategic Objectives

Table 19 shows the criteria and scoring used for evaluating new pathway projects identified under the Paths Development Plan.

Table 19: Paths Development Plan Project Ranking Criteria

Category		Criteria	Explanation	Scoring
ACCIDENT RISK (Current)	1	Traffic Volumes	A higher volume of traffic using a street or road increases the risk to pedestrians	20 14 10 6 4 2
	2	Pedestrian and Cyclist Density	The higher the density of pedestrians and cyclists the higher the risk of accidents with passing vehicles (current, mainly comparative pedestrian, volumes)	10 8 6 4 2 0
	3	Posted speed limit	The higher the speed of vehicles the greater the risk of accidents with pedestrians and cyclists and greater the severity	20 16 12 8 4
	4	Road and Pedestrian Environment	The road and verge environment influence how close pedestrians and cyclist may be to vehicles, and affect the visibility and manoeuvrability for both pedestrians/cyclists and motorists. Factors include number of lanes, road width, sightlines and gradient. Poorer environments score higher as they will benefit most from improvement.	10 8 5 2 0
	5	Alternative Access	Availability of alternative access, such as a pathway on one side of the road, may influence whether pedestrians/cyclists walk or cycle along the road carriageway.	5 2 0
				65
				25%
CONNECTIVITY (Potential)	6	Activity Node 1	Activity nodes attract both pedestrians and cyclists. More intense activities generate higher demand which increases with proximity to the activity centre. Some activities, such as schools and retirement villages, are also accessed by the more vulnerable and require a higher standard of pathway.(Select highest score and if example not listed use similar activity)	10 8 8 4 4 2 0
	7	Activity Node 2	(as for Activity Node 1)	10
	8	Adjacent Land Use	The type and density of adjacent land use influences the level of demand for pathway connections. Higher density areas require a higher standard of pedestrian and cyclist's access to support the surrounding land use.	10 10 8 5 4 4 2
				30
				25%

Category		Criteria	Explanation	Scoring
STRATEGIC	9	Contributes to completion of existing network(s)	Proposed pathway may contribute to building up or completing a planned walking or cycling network	10
				7
				3
	10	Supports land use and other Council plans	Proposed pathway may be essential or contribute to a planned area development or land use activity	5
				3
				1
				15
				25%
AMENITY	11	Current amenity for pedestrians and cyclists	A new or improved pathway will improve the amenity for users and for adjacent land uses. Locations with currently poor amenity will benefit most from pathway construction or upgrading	10 8 6 4 0
				10
				25%
				100.0%

The Manager of Engineering Services is the Service Manager responsible for the prioritisation of all pathway discretionary projects.

Pathway discretionary projects are ranked and prioritised under the following Capital Works Program sub-service programs:

- Pathways Initiatives
- Bicycle Initiatives

It should be noted that there are often pathways constructed or upgraded as part of other capital works programs such as roads, open space and streetscapes.

Council's draft Capital Works Project Evaluation and Ranking Procedure outlines the method to evaluate and rank each proposed discretionary pathway capital works project based on a QBL approach. Future discretionary pathway projects will be prioritised using this procedure.

The relevant asset manager, program objectives and ranking criteria for projects that fall within the Pathways Service Program are as follows:

1. PATHWAYS – NEW & UPGRADE CAPITAL WORKS

Asset Manager: Manager Engineering Services

Program Objectives (proposed)
The objective of this program is the creation or upgrade of paths to link with existing pathways, new paths and bus stops.

Assessment Criteria	Rating	Score
Governance (Go) – 10% Weighting (Pa+Pd)		
How well does the project align with program objectives (Pa)?	Significantly Moderately Slightly Not at all	8 4 2 0
How well does the project align with the Paths Development Plan (Pd)?	Significantly Moderately Slightly Not at all	8 4 2 0
Social Outcome (So) – 60% Weighting (Ps+Pc+Cp+Li)		
Is the path within 400m of the following facilities (Ps): 1. Serves Schools 2. Recreational Facilities 3. Public Transport 4. Retirement Villages (Note – scores cumulative)	 Yes Yes Yes Yes	 3 3 3 3
Path Hierarchy (Pc)	Key CAA Footpaths Key Access Path Primary Shared Secondary Shared Local Access Industrial Access	8 7 6 5 4 7
Is the path a combined pedestrian/bike path (Cp)?	Yes No	2 0
Does the path connect other pathways (Li)?	Yes No	2 0
Economic Assessment (Ec)– 20% Weighting (Pe + Vm)		
Is the path within 400m of the following facilities (Pe): 1. Shops 2. Places of business 3. Provides connections to activity centres 4. Major commuter route 5. Access to industry (Note – scores cumulative)	 Yes Yes Yes Yes Yes	 3 3 3 3 3
Cost of the path	$000's	
Length of path	km	
Cost of the Path/km (Cp)	$000s/km	NA
Value for Money (Vm)	(So+Pe+Ea)/Cp	8 to 1
Environmental Assessment (Ea) – 10% Weighting (En)		
To what extent does the project benefit the environment considering energy reduction/efficiency, reduction of greenhouse gas emissions, water consumption, the use of recycled materials and minimising the use of resources? Are there positive environmental initiatives in the project? (En)	Significant Moderate Slightly Not at all	8 4 2 0

2. BICYCLE FACILITIES – NEW & UPGRADE CAPITAL WORKS

Asset Manager: Manager Engineering Services

Program Objectives (Proposed)
The objective of this program is to create or upgrade on-road and off-road bicycle routes and improve bicycle facilities in order to promote cycling.

Assessment Criteria	Rating	Score
Governance (Go) – 10% Weighting (Pa + Bp)		
How well does the project align with program objectives (Pa)?	Significantly Moderately Slightly Not at all	8 4 2 0
Is the path included in Councils Cycling Strategy and/or Bicycle Plan (Bp)?	Yes No	8 0
Social Outcome (So) – 50% Weighting (Pf+Pc+Or)		
What is the function of the path (Pf): 1. Serves Schools 2. Recreational Route 3. Links to Public Transport 4. Links to a broader network (Note – scores cumulative)	 Yes Yes Yes Yes	 3 3 3 3
Path Classification (Pc)	Key CAA Path Key Access Path Primary Shared Path Secondary Shared Path Local Access Path Industrial Access Paths	8765 4 7
On Road/Off Road Path (Or)	Off Road On Road	3 2
Economic Assessment (Ec)– 30% Weighting (Pa+Vm)		
What is the function of the path: 1. Provides connections to activity centres 2. Major commuter route 3. Access to industry (Note – scores cumulative) (Pa)	 Yes Yes Yes	 3 3 3
Cost of the path	$000's	
Length of path	km	
Cost of the Path/km (Cp)	$000s/km	NA
Value for Money (Vm)	(So+Pa+Ea)/Cp	5 to 1
Environmental Assessment (Ea) – 10% Weighting (En)		
To what extent does the project benefit the environment considering energy reduction/efficiency, reduction of greenhouse gas emissions, water consumption, the use of recycled materials and minimising the use of resources? Are there positive environmental initiatives in the project? (En)	Significant Moderate Slightly Not at all	8 4 2 0

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 options that could address the service deficiency,
    - management of risks associated with alternative options,
    - 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,
- Review management of capital project management activities to ensure Council is obtaining best value for resources used.

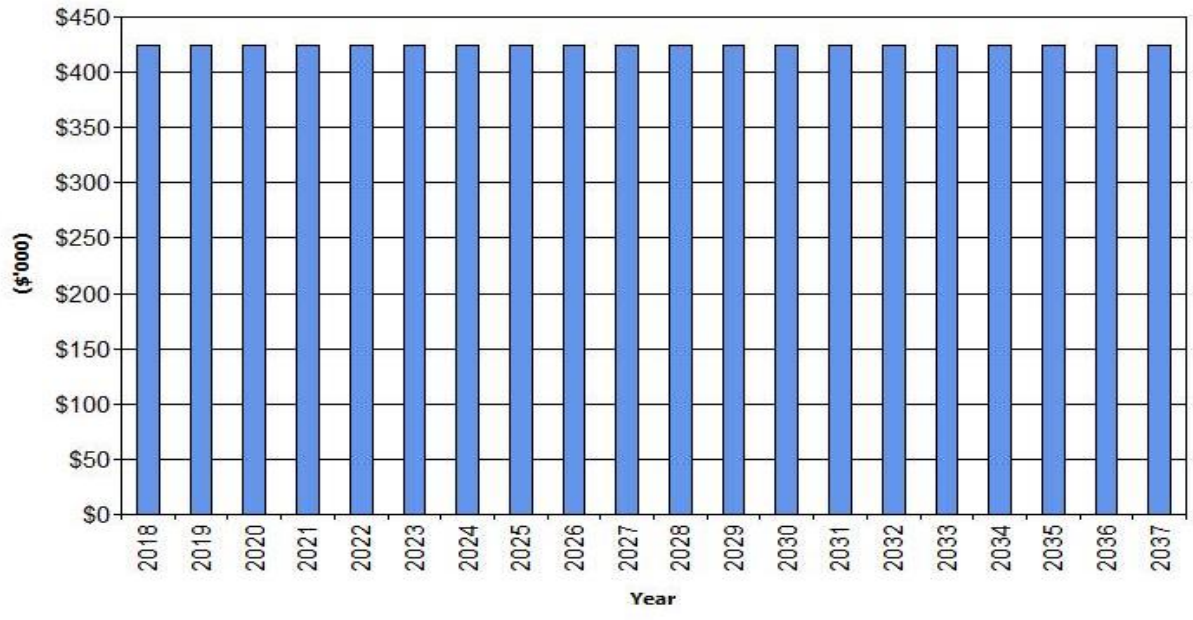
5.4.2 Summary of future upgrade/new assets expenditure

Projected upgrade/new/expansion asset expenditures from Council's 20 year discretionary Capital Works Program (CWP) are summarised in Figure 17. All amounts are shown in 2018 values.

Forecasts for the first 5 years of the planning period fluctuate in the draft Capital Works Program due to the number of competing priorities and available funding. For the purposes of this plan the long-term average of $425K per annum has been applied due to the lack of long-term discretionary capital planning available. This figure also balances with the long-term requirement to deliver on the estimated $8.5M required in missing links identified in the Paths Development Plan.

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

Figure 17: Projected Capital Upgrade/New Asset Expenditure



Expenditure on new assets and services in the capital works program will be accommodated in Council's Long Term Financial Plan but only to the extent of the available funds. The acquisition of new assets via the discretionary Capital Works Program will have lifecycle cost implications, as the organisation will need to commit to the funding of ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required.

Discretionary projects and budgets will be most susceptible to change under the rate capped environment, with renewal and compliance (non-discretionary) capital works being a priority.

5.4.3 Summary of asset expenditure requirements

The financial projections from this asset plan are shown in

Figure 18 for projected operating (operations and maintenance) and capital expenditure (renewal and upgrade/expansion/new assets). Note that all costs are shown in 2018 values and no cost escalation factor for inflation has been applied.

The bars in the graphs represent the anticipated budget needs required to achieve lowest lifecycle costs whilst the budget line indicates what is currently available. The gap between these informs the discussion on achieving the balance between services, costs and risk to achieve the best value outcome.

Figure 18: Projected Operating and Capital Expenditure

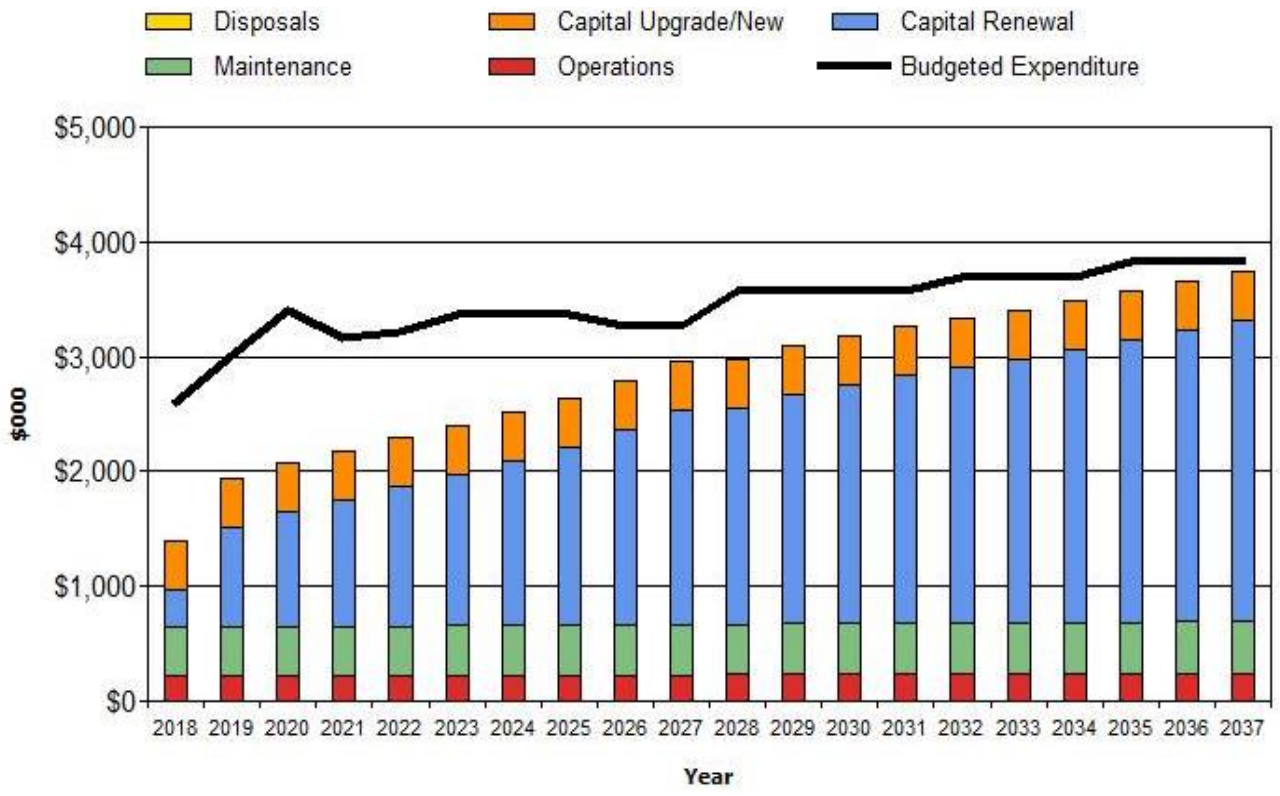


Figure 18 data is shown in Table 20 below.

Table 20: Projected Operating and Capital Expenditure ($'000)

Year	Maintenance	Operations	20 Year Discretionary CWP	Capital Renewal (Moloney Model)	Required Expenditure (Opex & Capex)	Budgeted Expenditure (Opex & Capex)	Annual Variance (Shortfall / Surplus)
2018	$423	$221	$425	$320	$1,389	$2,609	$1,220
2019	$424	$222	$425	$865	$1,936	$3,011	$1,075
2020	$426	$223	$425	$1,000	$2,074	$3,414	$1,340
2021	$428	$224	$425	$1,105	$2,182	$3,167	$985
2022	$429	$225	$425	$1,210	$2,289	$3,219	$930
2023	$431	$225	$425	$1,315	$2,396	$3,381	$985
2024	$433	$226	$425	$1,430	$2,514	$3,384	$870
2025	$434	$227	$425	$1,550	$2,636	$3,386	$750
2026	$436	$228	$425	$1,705	$2,794	$3,289	$495
2027	$438	$229	$425	$1,865	$2,957	$3,292	$335
2028	$440	$230	$425	$1,890	$2,985	$3,595	$610
2029	$441	$231	$425	$2,000	$3,097	$3,597	$500
2030	$443	$232	$425	$2,080	$3,180	$3,600	$420
2031	$445	$232	$425	$2,160	$3,262	$3,602	$340
2032	$446	$233	$425	$2,230	$3,334	$3,729	$395
2033	$448	$234	$425	$2,300	$3,407	$3,732	$325
2034	$450	$235	$425	$2,380	$3,490	$3,735	$245
2035	$451	$236	$425	$2,460	$3,572	$3,862	$290
2036	$453	$237	$425	$2,540	$3,655	$3,865	$210
2037	$455	$238	$425	$2,620	$3,738	$3,868	$130
TOTAL	**$8,774**	**$4,588**	**$8,500**	**$35,025**	**$56,887**	**$69,337**	**$12,450**

Forecast values were determined through a number of key inputs into the NAMS.Plus Expenditure Template Form 3 (see Appendix C Budgeted Expenditures Accommodated in LTFP).

Maintenance and operational forecasts were determined as per Section 5.2 and do not include the maintenance and operational requirement for new assets (constructed or gifted) acquired during the planning period.

Capital new and upgrade requirements have been determined using Council's 20 year discretionary CWP by averaging all pathways project budgets from the first 5 years of the planning period due to gaps in the long term planning after 5 years.

Capital renewal has been determined using Moloney Condition Modelling. Forecasts also incorporate compliance requirements from Council's 20 year non-discretionary CWP along with capital renewal requirements of the current asset stock from the asset condition modelling.

Budget expenditure combines Council's discretionary and non-discretionary CWP including compliance and the 2017/18 pathways operating budget of $644K.

Figure 18 above shows a funding surplus in each year of the long-term expenditure profile. The annual variance is significant in the first 10 years, culminating in a total budget surplus of $12.45M over 20 years. This is indicative of the lack of condition data available to the organisation prior to the 2016 condition audit, which has proven that Council pathway assets are in a healthy condition and do not require significant renewal during this period.

Further reasoning of the budget surplus is Council's previous practices were to model the asset register using pre-defined degradation curves in the Moloney Modelling software tool. Previous financial projections were based on the 'Average' pre-defined condition spread in the software. Without the overall health of the network known to Council, renewal modelling results were producing figures to be utilised for the renewal of condition 4 and 5 pathways in the current period when in fact, this renewal requirement is not expected to be felt for another 10 years.

As detailed in Section 5.3.2 of this plan, it is prudent to assess the AAAC for pathways as a means of gauging the average long-term renewal requirement. Whilst the budget level far exceeds the renewal requirement in

Figure 18, particularly in earlier years, the average projected renewal funding of $2.37M in the 20 year CWP is consistent with the AAAC of $2.3M.

On analysis of the updated renewal requirement following the results of the 2016 condition audit, a redistribution of renewal funding over the 20 year period is required to eliminate the significant surplus in the budgeted expenditure profile.

It is recommended that surplus renewal funds as identified in Section 7.1 are reduced to align the budgeted expenditure profile with the renewal requirement profile. A proposed funding strategy is shown in Table 24 which attempts to align budgets to asset requirements based on available information.

5.5 Disposal Plan

The disposal of assets is a critical part of the asset lifecycle and should be considered throughout service planning processes. It enables Council to reduce its asset management liabilities once assets have reached their useful lives or have become obsolete, as well as create opportunity for new assets and services to fill the gaps identified within service plans.

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Any costs or revenue gained from asset disposals is accommodated in Council's Long Term Financial Plan (LTFP).

Council's Asset Options Policy and Procedure are in the final stages of development and are planned for adoption in the near future.

The Asset Options Policy is intended to guide decision making around the assessment, rationalisation and disposal of Council owned assets in line with community needs and expectations.

The Asset Options Procedure will provide guidance to Council officers implementing the Asset Options Policy, and will focus primarily on steps to take to assess, rationalise, transfer and dispose high value, physical assets.

The adoption of the Policy and Procedure will provide the framework to determine assets which require rationalisation and disposal.

At this stage, no pathway assets have been identified for disposal or rationalisation.

Under the new Policy and Procedure, there will be an opportunity to assess and rationalise surplus pathway assets that are in dead end streets and not currently serving a purpose for the community or pathways in local road reserves where a pathway may exist on both sides of the road.

Pathway assets will be further investigated to determine the required levels of service and alternative options for service delivery, if any.

6. RISK MANAGEMENT PLAN

The purpose of infrastructure risk management is to document the results and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Guidelines.

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control an organisation with regard to risk'[11].

[11] ISO 31000:2018, p 2

An assessment of risks[12] associated with service delivery from infrastructure assets has identified critical risks that will result in loss or reduction in service from infrastructure assets or a 'financial shock' to Council. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, develops a risk rating, evaluates the risk and develops a risk treatment plan for non-acceptable risks.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Similarly, critical failure modes are those which have the highest consequences.

Critical assets have been identified and their typical failure mode and the impact on service delivery are as follows:

Table 21: Critical Assets

Critical Asset(s)	Failure Mode	Impact
Key Central Activity Area (CAA) Footpaths	Damage from vehicles, developers, fallen trees, tree roots, significant asset failures and climate change events. Personal injury or public liability claims due to hazards exceeding intervention levels as set out in Council's Road Management Plan.	Safe movement of pedestrians within the Central Activity Area may be affected, resulting in disruption of businesses and services in the Frankston CAA. Organisation not meeting the desired service level of providing high quality, aesthetically pleasing sealed paths in the CAA. Risk to people (particularly those with mobility issues) and property non-compliance to regulations (such as DDA).
Key Access Footpaths	Damage from vehicles, developers, fallen trees, tree roots, significant asset failures and climate change events. Personal injury or public liability claims due to hazards exceeding intervention levels as set out in Council's Road Management Plan.	Safe movement of pedestrians on key access routes throughout the municipality resulting in disruption of connectivity to key destinations and services such as schools, shopping centres, hospitals, public transport, etc. Organisation not meeting the desired service level of providing high quality paths in key access routes. Risk to people (particularly those with mobility issues) and property non-compliance to regulations (such as DDA).
Primary Shared Paths	Damage from vehicles, developers, fallen trees, tree roots, significant asset failures and climate change events. Personal injury or public liability claims due to hazards exceeding intervention levels as set out in Council's Road Management Plan.	Safe movement of pedestrians and cyclists on primary shared paths throughout the municipality. Organisation not meeting the desired service level of providing high quality paths in key access routes. Risk to people (particularly those with mobility issues) and property non-compliance to regulations (such as DDA).
Tactile Ground Surface Indicators (TGSIs)	Damaged, displaced, worn, vandalised or non-compliant TGSIs can result in personal injury and public liability claims. Failure may result in a number of people being unable to utilise the pathway network.	Visually impaired people may rely on TGSI to safely navigate Council's pathway network.

By identifying critical assets and failure modes investigative activities, condition inspection programs, maintenance and capital expenditure plans can be targeted at the critical areas.

[12] Corporate Risk & OH&S Workplace Hazard Register

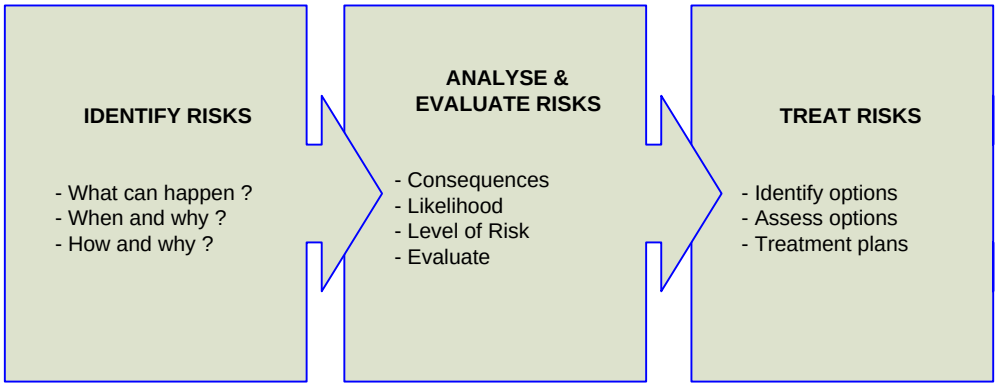
6.2 Risk Assessment

The risk management process used in this project is shown in Figure 19 below.

It is an analysis and problem solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of the ISO risk assessment standard ISO 31000:2018.

Figure 19: Risk Management Process – Abridged



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.

An assessment of risks[13] associated with service delivery from infrastructure assets has identified the critical risks that will result in significant loss, 'financial shock' or a reduction in service.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment cost after the selected treatment plan is implemented is shown in Table 23. These risks and costs are reported to management and Council.

Under Council's Road Management Plan (RMP), all defects are given a public safety risk rating which is used to prioritise works and identify if temporary protection works are required. A public safety risk assessment process has been developed in accordance with AS/NZS ISO 31000:2018 to assist staff in the consistent assessment of risks. The risk assessment process, focuses on public safety risk, and is consistent with Council's Safety Management System. The risk assessment process is detailed in Table 22.

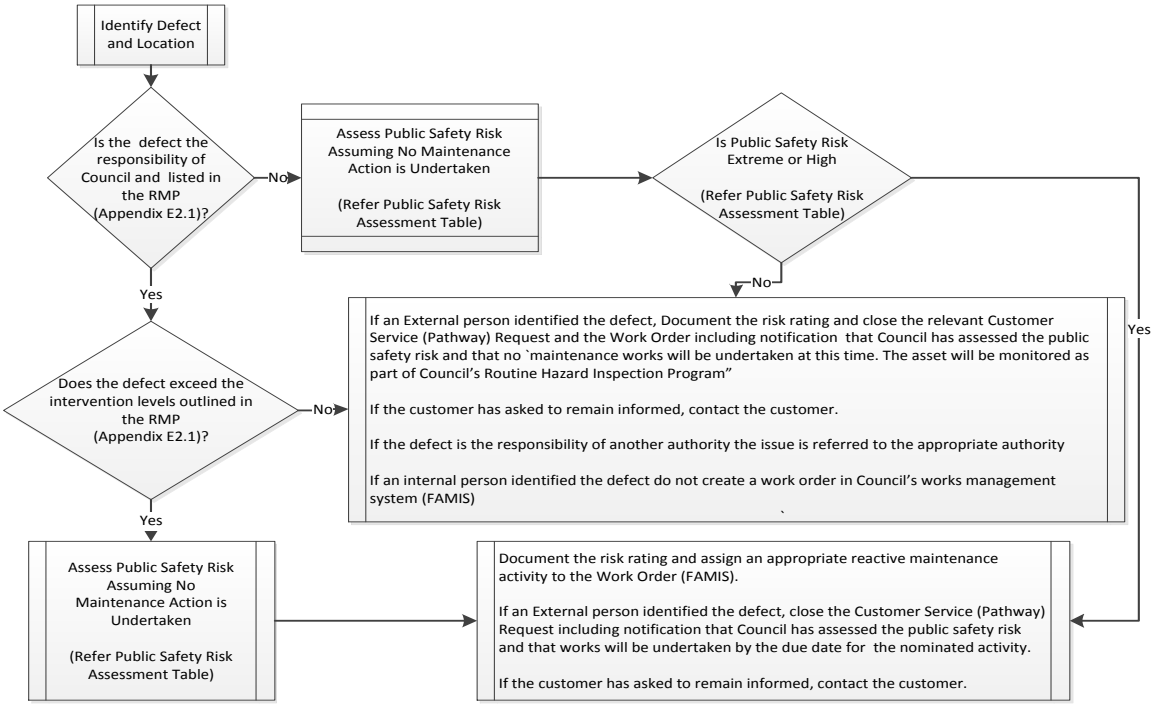
Public safety risk assessments are undertaken by:

- Council's routine defect inspector(s) as part of the routine defect inspections described in this document;
- Council officers, with responsibility for asset maintenance, when potential hazards are brought to their attention via requests logged into Council's customer service system (Pathways);
- Council officers, with responsibility for asset maintenance, when undertaking ad hoc inspections, while undertaking other duties on site.

[13] Corporate Risk & OH&S Workplace Hazard Register

The detailed public safety risk assessment process is illustrated in the figure below. Officers use this process to assess the consequences and likelihood of a potential hazard. The risk rating is assigned to the resulting work order and is an indication of the risk if no action was to be undertaken by Council.

Figure 20: Public Safety Risk Assessment Process



The assigned risk level determines whether temporary protection works are required and is used to create prioritised schedules of rectification works with the objective of meeting the reactive maintenance activity timeframes set out in this document and within Council's Road Management Plan. Wherever possible, ensuring that higher risks are addressed ahead of lower public safety risks.

When making the risk assessment Council Officers consider the needs of vulnerable road users. In a situation where a defect may cause travel in a mobility aid to be unsafe, the risk is automatically assessed 'High'. This triggers the requirement for temporary works to mitigate the risk.

Table 22: Public Safety Risk Assessment Process

1. NOMINATE THE MOST LIKELY PUBLIC SAFETY CONSEQUENCE	
CONSEQUENCE	**DESCRIPTION**
CRITICAL	An incident caused by the defect is likely to result in death, permanent disability or disease.
MAJOR	An incident caused by the defect is likely to result in extensive injury, long-term illness or require admission to hospital
MODERATE	An incident caused by the defect is likely to result in medical attention. Injured person will need to visit a doctor or hospital casualty wars
MINOR	An incident caused by the defect is likely to result in first aid treatment.
INSIGNIFICANT	An incident caused by the defect is likely to result in no injury.
2. FOR THE CONSEQUENCE SELECTED IN STEP 1, NOMINATE THE LIKELIHOOD	

ALMOST CERTAIN	A negative public safety consequence is expected to occur in most circumstances. For example: • Defect exceeds intervention level specified in the RMP • The size/ extent of the defect exceeds the intervention level specified in the RMP by more than 100% • Defect is in an area which is not illuminated at all • Asset user has little or no opportunity to identify and safely avoid the defect or hazard • High usage of the asset by frail individuals including the elderly/ children/ disabled • The nature of the defect would make it difficult to identify at night
PROBABLE	A negative public safety consequence will probably occur in most circumstances. For example: • Defect exceeds intervention level specified in the RMP • The size/ extent of the defect exceeds the intervention level specified in the RMP by 75% to 100% • Defect is in an area which is poorly illuminated. • Asset user has minimal opportunity to identify and safely avoid the defect or hazard • Moderate to high usage of the asset by frail individuals including the elderly/ children/ disabled • The nature of the defect would make it difficult to identify at night
POSSIBLE	A negative public safety consequence should occur at some time. For example: • Defect exceeds intervention level specified in the RMP • The size/ extent of the defect exceeds the intervention level specified in the RMP by 50% to 75% • Defect is in an area with variable/ restricted visibility • Asset user has some opportunity to avoid the defect Grade is variable • Moderate usage of the asset by frail individuals including the elderly/ children/ disabled
UNLIKELY	A negative public safety consequence could occur at some time. For example: • Defect exceeds intervention level specified in the RMP • The size/ extent of the defect exceeds the intervention level specified in the RMP by less than 50% • Defect is in an area with good visibility • Asset user can easily avoid the defect • Asset usage is low and infrequent • Occasional usage of the asset by frail individuals including the elderly/ children/ disabled
RARE	A negative public safety consequence may only occur in exceptional circumstances • Defect exceeds intervention level specified in the RMP • The size/ extent of the defect is equal to the intervention level specified in the RMP • Defect is in an area with good visibility • Defect is easily avoidable • Rare usage of the asset by frail individuals including the elderly/ children/ disabled

3. EVALUATE THE RISK					
LIKELIHOOD	**CONSEQUENCE**				
	INSIGNIFICANT	**MINOR**	**MODERATE**	**MAJOR**	**CRITICAL**
ALMOST CERTAIN	MEDIUM	MEDIUM	HIGH	EXTREME	EXTREME
PROBABLE	LOW	MEDIUM	HIGH	HIGH	EXTREME
POSSIBLE	LOW	MEDIUM	MEDIUM	HIGH	HIGH
UNLIKELY	LOW	LOW	MEDIUM	MEDIUM	MEDIUM
RARE	LOW	LOW	LOW	LOW	MEDIUM

This risk assessment process recognises the need for Council to mitigate all extreme and high public safety risks, regardless of whether the defect is described in the Road Management Plan. For officers responsible for delivering day-to-day maintenance, it reinforces the importance of addressing higher risk defects ahead of lower risk defects given funding and other practical constraints.

Whenever a maintenance issue is rated as an Extreme or High risk, Council will undertake works to mitigate the risk and provide temporary protection to the community. Temporary risk mitigation works will occur, within 1 or 5 days respectively. The target completion date for temporary works is calculated in actual days from the date the issue was identified by a routine or ad hoc defect inspection. In the case of community requests, the target completion date is calculated from the date a Council maintenance officer commenced the initial assessment of the request.

Temporary works may take the form of providing protection from the defect through the use of signs, barriers or other temporary repair measures. When undertaking temporary works, officers recognise that the needs of all road users must be accommodated, including people with special needs.

Table 23: Critical Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (Extreme, High)	Risk Treatment Plan	Residual Risk*	Treatment Costs
Pathway Services	Reduction in overall pathway network performance due to the overall funding shortfall from rate capping.	High	• Undertake appropriate service planning for pathway services to allocate available resources effectively and plan for future demand. • Develop and implement pathways service standards with community involvement, through Council's Asset Management Information System. • Develop a Long Term Infrastructure Plan (LTIP) to document future capital works and expenditure needs.	Medium	Allowance already made within existing resources.
Pathway Services	Inadequate management of unsafe assets causing either an increasing likelihood of unexpected maintenance expenditure or asset failure resulting in service disruptions.	High	• Improvement of the pathway asset register and works programming in FAMIS to continue to develop the centralised asset management system. • Review the Asset Management Plan every four to five years and document asset requirements in line with Council's Asset Management Strategy. • Undertake a rolling condition audit program to coincide with the review of the Asset Management Plan to ensure updated asset data and accurate financial forecasting is reported. • Council's Road Management Plan is used as a policy defence against public liability claims associated with the management of the pathway network. The document outlines intervention levels and work timeframes which ensures unsafe assets are addressed appropriately.	Low	$76K FAMIS Consultancy Fees / Vendor Support $153K licensing and mobile hardware.
Pathway Services	Supporting pathway infrastructure including tactiles, line marking, grip handles, signage etc. that does no longer comply with standards.	High	• Establish a design standards committee to regularly review and update all design standards and standard drawings related to pathway infrastructure, ensuring that the replacement and installation of new pathway infrastructure is compliant with current day requirements.	Low	$0 Staff Time

Service or Asset at Risk	What can Happen	Risk Rating (Extreme, High)	Risk Treatment Plan	Residual Risk*	Treatment Costs
Pathway Services	Renewal of assets prior to reaching their desired intervention level due to a decline in asset functionality, utilisation or appearance.	High	• Assess pathway functionality and utilisation as part of the development of a pathways service plan to connect asset requirements with service levels and assist in capital works prioritisation. • Utilise the Pathways Asset Management Plan to guide decision making and to inform the LTFP to achieve long term sustainability.	Low	$0 Staff Time
Pathway Services	Ineffective community engagement to support the decision making process regarding planning; service delivery and capital works.	High	• Utilise the current Community Engagement Policy, Community Engagement Strategy and Local Area Plans. • Undertake Service Planning and Service Review to address future demands.	Medium	$0 Staff Time
Pathway Services	Continued investment in infrastructure that is not fit for purpose or no longer needed by the community.	High	• Endorse and implement the Asset Options Policy and Procedure. • Undertake Service Planning and Service Review to identify assets which require rationalisation. • Carry out a desktop review and detailed investigation of assets that are identified as not being fit for purpose as per the Asset Options Policy and Procedure.	Medium	$0 Staff Time
Pathway Services	Changing climate leading to more extreme weather events including sea level rise, storm surges, bushfires etc.	High	• Carry out the remaining prioritised Adaptation Actions listed within Council's Climate Change Impacts and Adaptation Plan 2011 and review/develop a new plan. • Continue to update, monitor and act on Council's Strategic Risk Register and treatment plans. • Ongoing progress reporting of climate change indicators and Council's Adaptation Actions. • Establish a Construction Standards Committee to review and update standards for pathways in Council managed reserves to ensure the construction of suitable (sealed or unsealed) pathways. • Consideration of overland flow paths, retarding basins, detention systems and flood prone areas when renewing or constructing a new pathway.	Medium	Approximately $3 – 5M to deliver Adaptation Actions associated with climate change over 10 years as of 2014/15.

Note * The residual risk is the risk remaining after the selected risk treatment plan is operational.
Pathway assets which have been assessed as having a high inherent risk are considered as critical assets and are described in Section 6.1.

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to our customers and the services we provide. To adapt to changing conditions and grow over time we need to understand our capacity to respond to possible disruptions and be positioned to absorb disturbance and act effectively in a crisis to ensure continuity of service.

Resilience is built on aspects such as response and recovery planning, financial capacity and crisis leadership.

Our current measure of resilience is detailed in Section 6.2 of this Plan.

6.4 Service and Risk Trade-Offs

The decisions made in adopting this AM Plan are based on the objective to achieve the optimum benefits for the community from the available resources.

6.4.1 What we cannot do

The organisation is well placed to avoid service and risk trade-offs as the current budget in the LTFP for pathways operations, maintenance, and renewal is sufficient to meet the current long term funding requirements. Despite this, long-term financial projections and needs can quickly change under a rate-capped environment and it is important to consider impacts of being unable to sustain current service levels.

In the case of being unable to maintain required funding levels, Council will preserve non-discretionary budget allowances over discretionary budget outlays in the first instance. The construction of new pathways (missing links) and upgrade or enhancement of existing pathway assets would be deferred to ensure renewal and compliance works are prioritised.

It is possible that Council would need to adjust its current levels of service for operations and maintenance activities and indeed, renewal projects. This could include:

- Routine defect inspection
- Routine maintenance – intervention levels and timeframes
- Reactive maintenance – intervention levels and timeframes
- Operations – High pressure cleaning and sweeping, removal of pathways obstructions
- Pathway renewals – potential review and adjustment in asset useful lives, less renewal replacements

6.4.2 Service trade-off

Operations and maintenance activities and capital projects that cannot be undertaken will maintain or create service consequences for users. Service trade-offs due to a lack of available funding may include:

- Reduction of new and upgraded pathways in the municipality
- Delayed renewal / replacement of existing pathways (adjustment in pathway asset useful lives)
- Reduced inspection frequency of higher priority pathways based on the pathway hierarchy
- Longer duration of temporary and rectification works
- Longer duration for obstructions including dumped rubbish to be removed from pathways
- RMP intervention levels for pathway hazards may need to be reviewed and increased

6.4.3 Risk trade-off

The operations and maintenance activities and capital projects that cannot be undertaken may maintain or create risk consequences. These include:

- Poorer quality pathway assets at each respective level of the pathway hierarchy
- RMP intervention levels for pathway hazards may need to be reviewed and increased
- Temporary works such as pathway closures may have a longer duration and cause disruption of services
- Less provision of shared pathways to the community

These actions and expenditures are considered in the projected expenditures, and where developed are included in the Risk Management Plan.

7. FINANCIAL SUMMARY

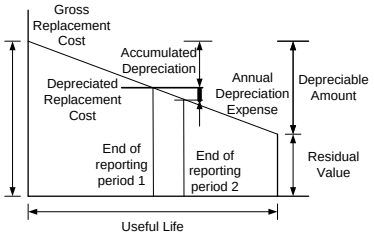
This section contains the financial requirements resulting from all the information presented in the previous sections of this asset management plan. The financial projections will be improved as further information becomes available on desired levels of service and current and projected future asset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

7.1 Financial Statements and Projections

7.1.1 Asset valuations

The best available estimate of the value of assets included in this asset management plan are shown below. Assets are valued at fair value at cost to replace service capacity.

Gross Replacement Cost	$ 106,868,401.54
Depreciable Amount	$ 106,868,401.54
Depreciated Replacement Cost[14]	$ 60,753,736.09
Annual Average Asset Consumption	$ 2,299,622.59



7.1.1 Sustainability of service delivery

Two 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, and
- medium term budgeted expenditures/projected expenditure (over 10 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[15] 178%

The Asset Renewal Funding Ratio is the most important indicator and indicates that over the next 10 years of the forecasting that we expect to have 147% of the funds required for the optimal renewal and replacement of assets.

Whilst the current level of funding is excessively high in comparison to the requirement, this is due to a lack of detailed condition data that is only recently available to Council following the condition audit of the full municipal pathway network in December 2016.

Medium term – 10 year financial planning period

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

[14] Also reported as Written Down Value, Carrying or Net Book Value.
[15] AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

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.

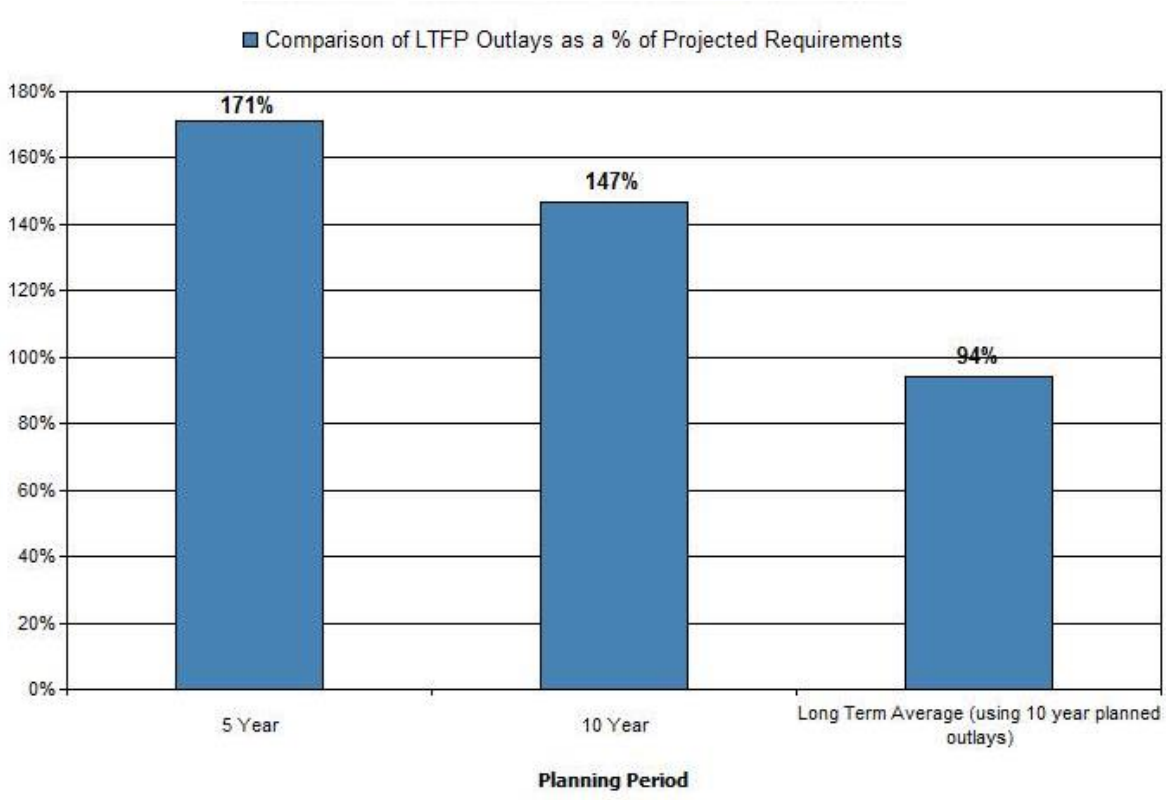
The projected operations, maintenance and capital renewal expenditure required over the 10 year planning period is $2,317,000 on average per year.

Estimated (budget) operations, maintenance and capital renewal funding is $3,215,000 on average per year giving a 10 year funding surplus of $898,000 per year. This is 138% of the projected expenditures needed to provide the services documented in the asset management plan (excluding upgrade and new assets delivered under Council's discretionary capital works program).

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

Figure 21 shows the asset management financial indicators over the 10 year planning period and for the long term lifecycle based on the current budget.

Figure 21: Asset Management Financial Indicators



7.1.2 Projected expenditures for long term financial plan

Table 24 shows the projected expenditures for the long term financial plan.

Expenditure projections are in 2018 values.

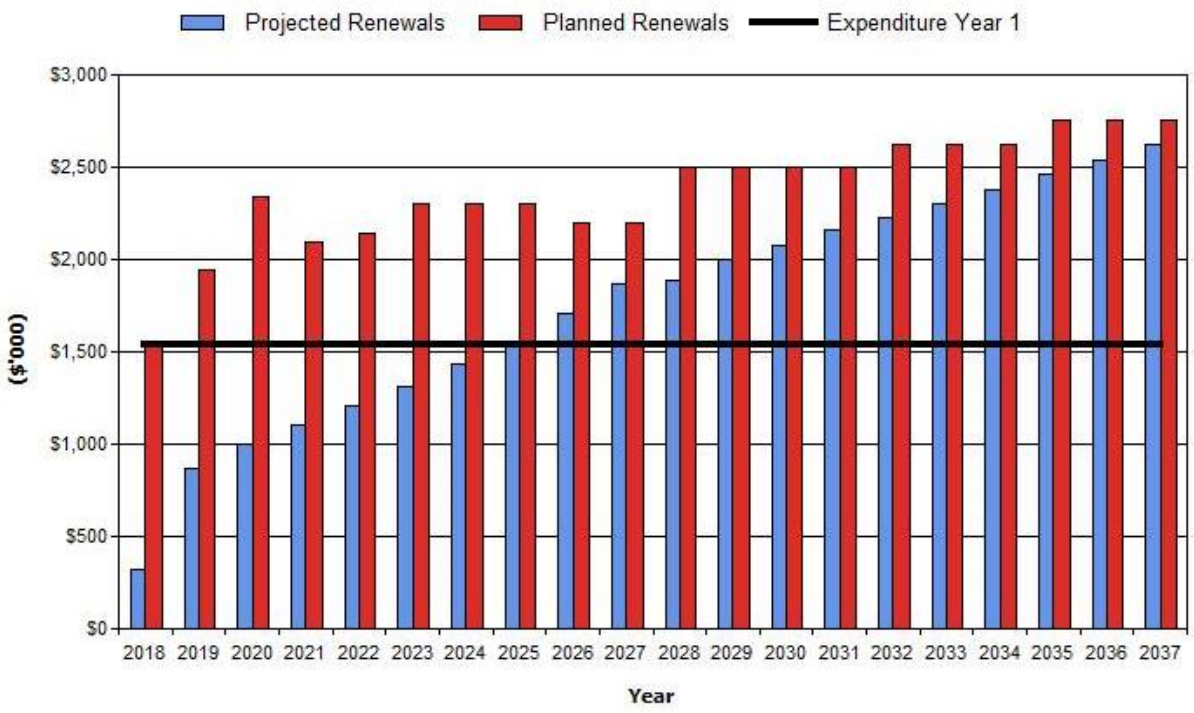
Table 24: Projected Expenditures for Long Term Financial Plan ($000)

Year	Operations ($000)	Maintenance ($000)	Projected Capital Renewal ($000)	Capital Upgrade/ New ($000)	Disposals ($000)	Proposed Annual Budget ($000)
2017	$221	$423	$320	$425	$0	**$1,389**
2018	$222	$424	$865	$425	$0	**$1,936**
2019	$223	$426	$1,000	$425	$0	**$2,074**
2020	$224	$428	$1,105	$425	$0	**$2,182**
2021	$225	$429	$1,210	$425	$0	**$2,289**
2022	$225	$431	$1,315	$425	$0	**$2,396**
2023	$226	$433	$1,430	$425	$0	**$2,514**
2024	$227	$434	$1,550	$425	$0	**$2,636**
2025	$228	$436	$1,705	$425	$0	**$2,794**
2026	$229	$438	$1,865	$425	$0	**$2,957**
2027	$230	$440	$1,890	$425	$0	**$2,985**
2028	$231	$441	$2,000	$425	$0	**$3,097**
2029	$232	$443	$2,080	$425	$0	**$3,180**
2030	$232	$445	$2,160	$425	$0	**$3,262**
2031	$233	$446	$2,230	$425	$0	**$3,334**
2032	$234	$448	$2,300	$425	$0	**$3,407**
2033	$235	$450	$2,380	$425	$0	**$3,490**
2034	$236	$451	$2,460	$425	$0	**$3,572**
2035	$237	$453	$2,540	$425	$0	**$3,655**
2036	$238	$455	$2,620	$425	$0	**$3,738**
TOTAL	**$4,588**	**$8,774**	**$35,025**	**$8,500**	**$0**	**$56,887**

Providing services in an optimised and cost effective manner will require reconciling the projected asset renewal and replacement requirement to meet agreed service levels with the corresponding Capital Works Program budgets accommodated in the long term financial plan.

Figure 22 shows the projected asset renewal and replacement expenditure over the 20 years of the AM Plan. The projected asset renewal and replacement expenditure is compared to renewal and replacement expenditure in the capital works program, which is accommodated in the long term financial plan. Project asset renewal and replacement expenditure over the 20 year period have been determined through Moloney Condition Modelling utilising 2016 pathway condition audit results.

Figure 22: Projected and LTFP Budgeted Renewal Expenditure



7.2 Funding Strategy

Funding for assets is provided from the budget and long term financial plan.

The financial strategy of the entity determines how funding will be provided, whereas the asset management plan communicates how and when this will be spent, along with the service and risk consequences of differing options.

7.3 Valuation Forecasts

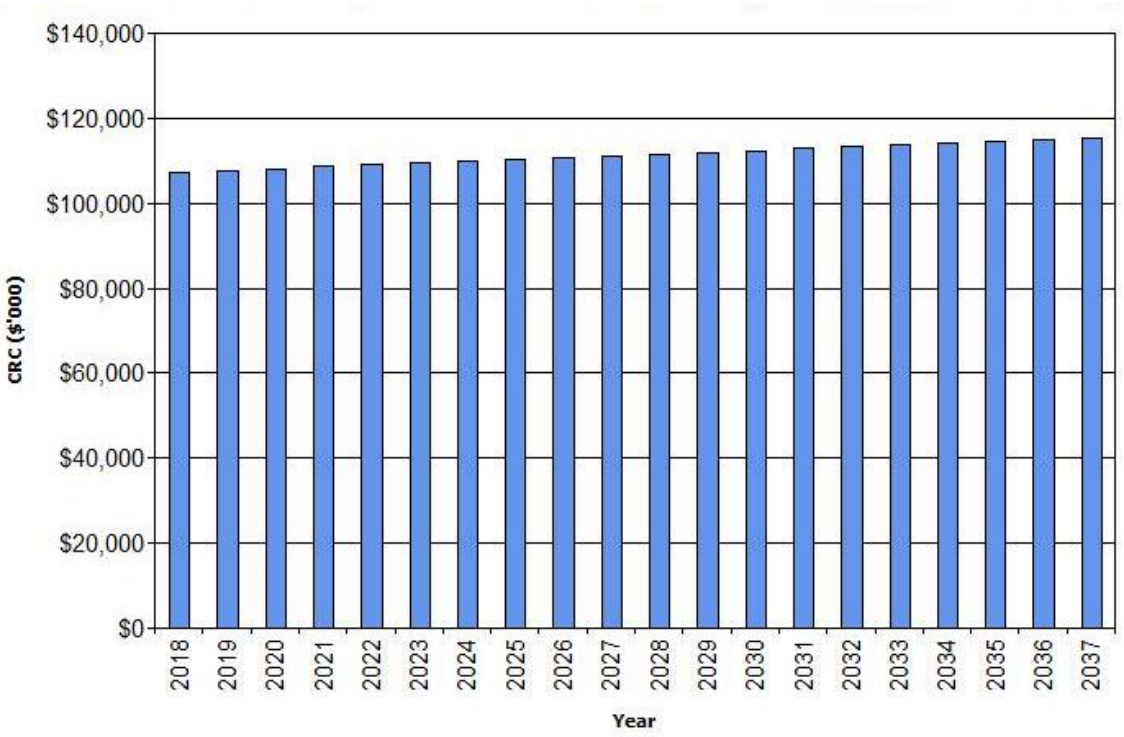
Asset values are forecast to increase as additional assets are added to the municipal pathway network from construction and acquisition by Council and from gifted assets constructed by land developers and others and donated to Council.

Additional assets will generally add to the operations and maintenance needs in the longer term, as well as the need for future renewal. Additional assets will also add to future depreciation forecasts.

Council will continue to construct and upgrade pathway assets to support services and growing community demands as described in Section 4. Population growth and changing demographics are primary drivers for Council to improve and expand its municipal pathway network. Service plans and other strategic documents such as the Integrated Transport Strategy and the Paths Development Plan will be used to guide pathway discretionary works to meet service needs and to maintain adequate provision of quality pathways assets.

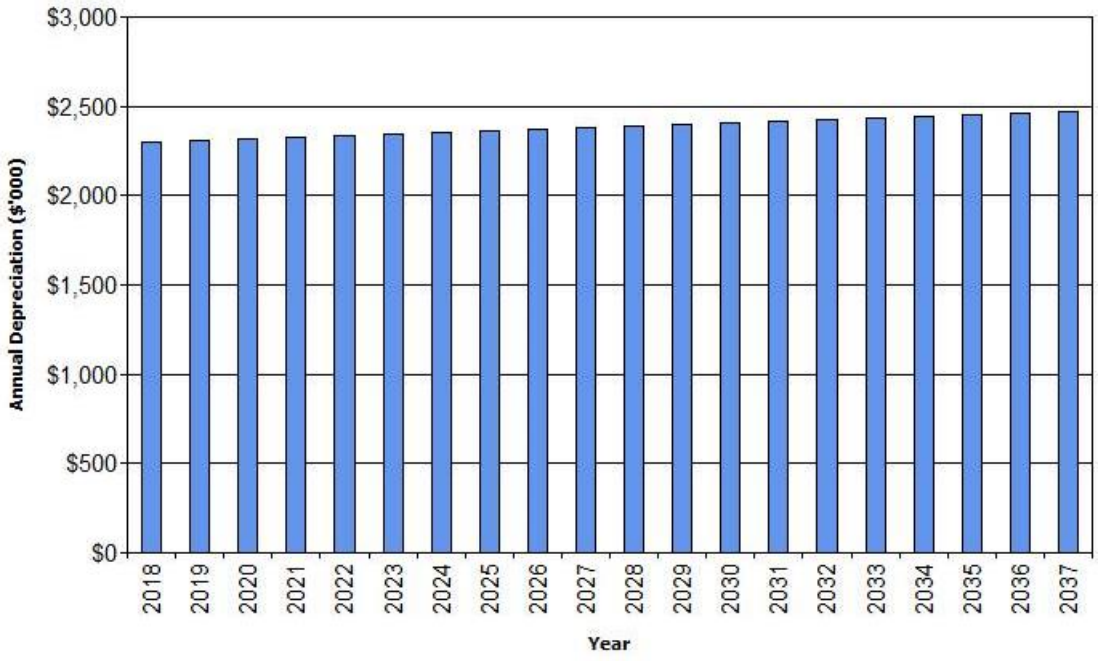
Figure 23 shows the projected asset values over the planning period (nominal values, not adjusted for inflation).

Figure 23: Projected Asset Value – Current Replacement Cost



Depreciation expense values are forecast in line with asset values as shown in Figure 24.

Figure 24: Projected Depreciation Expense – Annual Depreciation

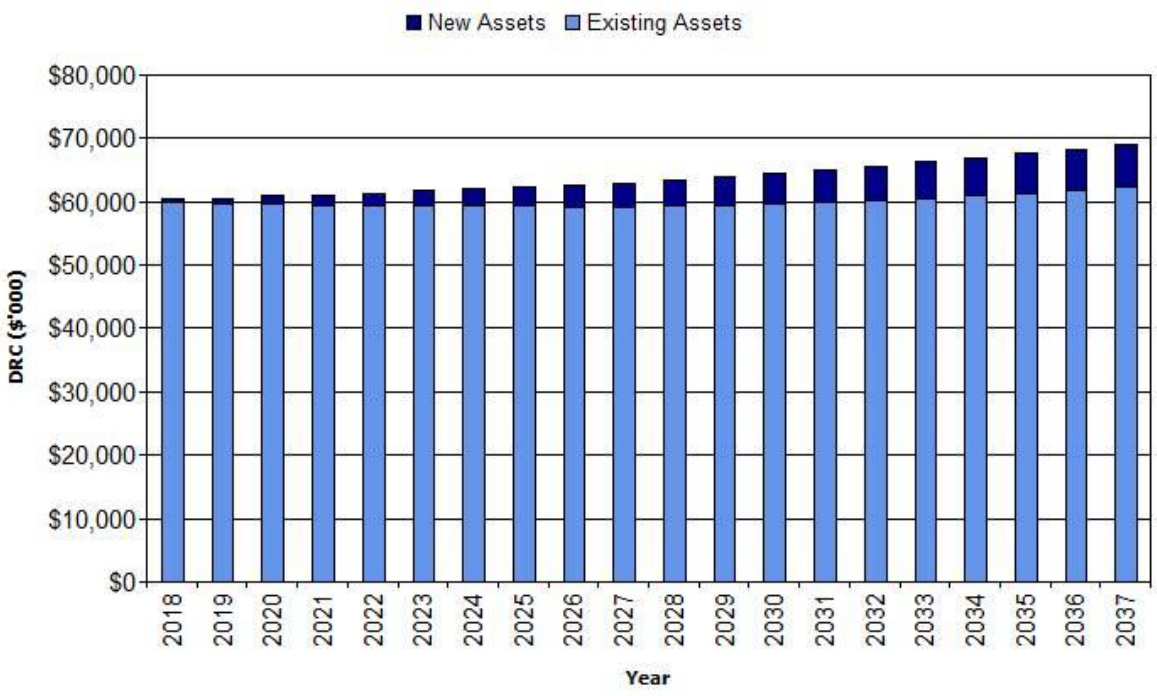


The increase in projected depreciation expense is due to additions to the asset stock from constructed assets based on Council's 20 year discretionary CWP and gifted assets acquired via developments. Discretionary expenditure has been averaged across the long-term profile due to insufficient project information for discretionary works beyond 5 years.

In order to accurately forecast projected asset values and depreciation expense, the renewal apportionment from the discretionary works was omitted to ensure only the upgrade, new and expansion aspects of the project were reflected in the forecasts.

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 25. The depreciated replacement cost of contributed and new assets is shown in the darker colour and in the lighter colour for existing assets.

Figure 25: Projected Depreciated Replacement Cost – Written Down Value



Existing asset depreciated replacement cost has been determined using the current depreciated replacement cost of assets plus budgeted renewal expenditure less their annual depreciation.

New asset depreciated replacement costs have been determined using Council's 20 year discretionary CWP.

An increasing projected depreciated replacement cost in existing assets (lighter colour), indicates that annual (budgeted) renewal funding is currently exceeding annual asset depreciation over the 20 year planning period, resulting in an increased carrying value of the asset portfolio.

To maintain existing asset depreciation replacement cost and hence maintain existing assets at their current condition/value, Council must better align its renewal funding with the current requirement of the asset stock. Current funding in line with the Average Annual Asset Consumption (AAAC) is resulting in overfunding renewals to the current requirement. Better alignment of renewal funding to the renewal requirement will ensure the carrying value of Council's pathway network assets remain relatively constant.

7.4 Key Assumptions Made in Financial Forecasts

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

Key assumptions made in this asset management plan and risks that these may change are shown below in Table 25.

Table 25: Key Assumptions made in AM Plan and Risks of Change

Key Assumptions	Risks of Change to Assumptions
Utilising a Method 2 approach (Moloney Condition Model) to provide more accurate renewal funding requirements instead of Method 1 (Asset Register).	**Moderate Risk** Ideally, Method 1 would be utilised as it determines funding requirements based on the asset register and individual asset useful lives.
Forecasts within the Plan have been based on an intervention level of 7 out of 10 where 0 is 'new' and 10 is 'unserviceable'.	**Low Risk** Scenario 2 provides the most cost effective funding strategy for Council based on current asset condition.
0.001% asset growth from donated or contributed assets to the organisation free-of-cost.	**Low Risk** Frankston City is not experiencing significant growth and development.
All assets within Council's pathway network will remain in Council's ownership throughout the planning period.	**Low Risk** Asset handover is a possibility however infrastructure assets are likely to remain under Council's ownership.
Additional maintenance and operational expenditure requirements from new/upgraded assets have been assumed negligible over this planning period due to the low ongoing costs required for most pathways infrastructure assets.	**Moderate Risk** The addition of new assets can have some effect on operational/maintenance requirements, due consideration of asset lifecycle costs should be given to capital projects raised under the discretionary capital works program.
Agreed technical and community levels of service will remain constant throughout the planning period.	**High Risk** Significant budget constraints due to rate capping could result in the need to reduce some pathways service standards or the need to rationalise existing pathway assets.
Asset age and remaining life was assumed based on useful lives from industry standards and asset condition, which was determined based on Council's condition grading model.	**Medium Risk** Significant variance in asset useful lives and hence the remaining life of an asset can influence the renewal modelling and will affect asset funding requirements.
Modelling assumed that an asset renewal returns the asset to an 'as new' condition.	**Low Risk** All pathway assets are typically renewed to an 'as new' condition.
Capital works to renew assets based on perceived functionality have not been considered within forecasted requirements.	**Medium Risk** Council is yet to manage renewals based on functionality as well as condition but this could increase in future practice.
Renewal works contained within Council's 20 year non-discretionary CWP has no upgrade or expansion component.	**Low Risk** Renewal programs can sometimes include some minor aspect of expansion or upgrade works.

7.5 Forecast Reliability and Confidence

The expenditure and valuations projections in this AM Plan 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 5 level scale[16] in accordance with Table 26.

Table 26: Data Confidence Grading System

Confidence Grade	Description
A Highly reliable	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 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 ± 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 ± 25%
D Very Uncertain	Data is 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 ± 40%
E Unknown	None or very little data held.

A data confidence assessment has been undertaken on key elements of this AM Plan and is shown in Table 27.

The estimated confidence level for and reliability of data used in this AM Plan is considered to be B – Reliable.

Table 27: Data Confidence Assessment for Data used in AM Plan

Data	Confidence Assessment	Comment
Demand drivers	C	Estimated and sourced from Council's Integrated Transport Strategy and Paths Development Plan. Service planning is required to improve confidence.
Growth projections	B	Frankston City online profile and 2011 Census data used.
Operations expenditures	C	Determined using past actual expenditures. Expenditure type classification remains uncertain.
Maintenance expenditures	C	Determined using past actual expenditures. Expenditure type classification remains uncertain.
Projected renewal expenditure. - Asset values	B	20 year non-discretionary capital works program based on asset condition modelling. Need to incorporate functionality and utilisation assessments to improve forecasting.
- Asset residual values	C	Estimated using straight line depreciation. Reliant on useful life asset data.
- Asset useful lives	B	Sourced from analysis of external Pathway Condition Audit 2016, staff knowledge and industry guidelines/ benchmarking including the Useful Life of Infrastructure Practice Note 12, 2017.

[16] IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

Data	Confidence Assessment	Comment
- Condition modelling	B	Based on Moloney Condition Modelling revised in April 2017.
- Network renewals	B	Based on Moloney Condition Modelling revised in April 2017.
- Defect repairs	C	Workflows managed in FAMIS, integration between financial system is still required.
Upgrade/New expenditures	C	Short to medium term (5 years) planning available. New pathways are informed by the Paths Development Plan.
Disposal expenditures	D	Asset Options Policy & Procedure documents to be used to generate a 5 year rationalisation plan.

Asset data used in the preparation of this AM Plan is assessed as having a high confidence level aside from construction year data which has a low confidence level. There are known gaps in the data such as pathway functionality and utilisation assessments and a specific action has been included within Table 28: Improvement Plan to address this gap.

In order to improve data confidence and reliability of this asset management plan, tasks in the Improvement Plan should be carried out within their given timelines and documented in future revisions of this Plan.

8. PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[17]

8.1.1 Accounting and financial data sources

Financial transactions, budgets and forecasts are recorded in Council's corporate financial system TechnologyOne (T1).

Accountabilities for financial systems

Finance Officers and Financial Accountants under the Financial Services Department are accountable for the management of the financial system.

Accounting standards, regulations and guidelines

Local Government Act 1989, Section 131 Annual report – contents

Australian Accounting Board Standards (AASB):

- AASB 13 Fair Value Measurement
- AASB 108 Accounting Policies, Changes in Accounting Estimates and Errors
- AASB 116 Property, Plant and Equipment
- AASB 2015-7 Amendments to Australian Accounting Standards – Fair Value Disclosures of Not-for-Profit Public Sector Entities
- Interpretation 1030 Depreciation of Long-Lived Physical Assets: Condition Based Depreciation and Related Methods

Australian Infrastructure Financial Management Guidelines, IPWEA Australian Edition 2015

[17] ISO 55000 Refers to this the Asset Management System

Capital/maintenance threshold

Where work is carried out on an asset which increases the capacity beyond its original design capacity or service potential and the area of works is greater than 2m², it will be considered as capital improvement. The financial threshold for capitalisation of pathway works and utilisation of this threshold has been identified as an area for improvement for the organisation and has been included in Table 28: Improvement Plan.

This capitalisation threshold is subject to review prior to the next revision of this Plan.

Required changes to accounting financial systems arising from this AM Plan

- The chart of accounts can be improved through enabling the clear separation of operational, maintenance and renewal expenditure.
- Allow the split of maintenance expenditures into planned and reactive classification.
- Improved reporting on capital expenditures as renewal or upgrade/new/expansion including the apportionment of renewal expenditure from discretionary projects, and the apportionment of new/upgrade/expansion expenditure from renewal projects.
- Continued input and development of a single corporate pathways asset register to provide transparency in asset data, and to allow for financial calculations such as depreciation, for asset valuations.

8.1.2 Asset management data sources

Council's pathway assets have traditionally been managed using inventory situated in Microsoft Excel spreadsheets and in Council's Geographical Information System, MapInfo. Pathway asset data is in the process of being further developed for migration into Council's asset management system.

Council is finalising the implementing of an Asset Management Information System (AMIS) **Infor Public Sector (IPS)** from the vendor 'Infor'. This system is known to internal Council staff as the Frankston Asset Management Information System (FAMIS).

FAMIS will be the source of truth for the pathway asset register and Maintenance Management System. FAMIS is facilitated by Kern Mobile enabling staff to log maintenance and inspection data whilst in the field. Additionally, the system can be used to undertake condition audits, store, verify and analyse asset data.

It is recognised that ongoing system improvements and configuration will be required after the final system rollout as business processes and reporting requirements evolve.

Asset registers

Historically a pathway asset register has existed but is has been incomplete and pathway treatments were not adequately managed and processed in the asset register. The development of a centralised pathway asset register is driven by Improvement Action 15 of Council's Asset Management Strategy 2013 – 2017.

Whilst works management on pathways is occurring in FAMIS, the defects and subsequent rectification works are yet to be processed against the pathway segments and are still being actioned against the road reserve. This has been identified as a future improvement to the system and is documented within Table 28: Improvement Plan.

Linkage from asset management to financial system

- Identification and accountability of Council asset data and financial transactions to ensure compliance with accounting standards and other regulatory requirements.
- Provision of an asset register that stores the data needed for asset valuations and predictive condition-based asset deterioration modelling.
- Support asset valuation processes including updates of the asset register details and inputs into financial reports.

- Integration of FAMIS with relevant financial information systems i.e. TechnologyOne.

Accountabilities for asset management system and data maintenance

AMIS Officers and Asset Planning Officers under the Sustainable Assets Department are accountable for the management and data maintenance of FAMIS.

Required changes to asset management system arising from this AM Plan

- Pathway asset data development and migration to FAMIS to establish a centralised asset register that supports operational works management.
- Generate pathways works programs to the individual pathway segments through FAMIS for the Operations Department to streamline and enhance maintenance operations.
- Record defects and condition of pathways to the individual pathway segments.
- Appropriate capitalisation of pathway assets to capture construction/renewal dates at a pathway segment level.
- Monitor and record useful lives of individual assets to refine valuations and renewal modelling.

8.2 Improvement Plan

The asset management improvement plan generated from this asset management plan is shown in Table 28.

Table 28: Improvement Plan

Task No	Task	Responsibility	Resources Required	Timeline
1.	Consolidate pathway asset data and migrate into FAMIS to provide a single source of truth for asset management, financial accounting and for the Road Management Plan. It will also support field staff to provide accurate works management at asset level.	Technical Staff	Staff Time, FAMIS	2018/19
2.	Endorse renewal ranking criteria and weightings to prioritise pathway asset renewals.	Executive & Technical Staff	Staff Time	2018/19
3.	Establish a committee of internal stakeholders to annually review, monitor and amend Council's construction standards.	Executive & Technical Staff	Staff Time	2018/19
4.	Review the pathway capitalisation threshold in Council's Capitalisation Policy and Procedure to ensure to appropriate capitalisation and expense of pathway works.	Technical Staff	Staff Time	2018/19
5.	Improve internal processes around the collection of reactive request information to attain all necessary information to carry out the works without delays.	Technical Staff	Staff Time	2018/19
6.	Develop a pathway hierarchy for pathways located within Council reserves and open space areas to establish better alignment with hierarchy for pathways governed under Council's RMP.	Technical Staff	Staff Time	2018/19
7.	Implement robust asset handover processes to ensure complete asset data capture and accurate asset capitalisation following the completion of capital works.	Executive & Technical Staff	Staff Time	2019/20
8.	Undertake community satisfaction surveys to determine preferences around rate/ service cuts and to obtain qualitative data around the provision of pathway services.	Technical Staff	Staff Time	2019/20

Task No	Task	Responsibility	Resources Required	Timeline
9.	Better capture of lifecycle costs (additional operations, maintenance, renewal requirements) in the development of the Capital Works Program for new or upgraded pathway assets.	Technical Staff	Staff Time	2019/20
10.	Update accounting structure in TechnologyOne so that the actual costs for planned and reactive maintenance, renewal, new and upgrade works can be more accurately determined to enhance asset accounting and ensure compliance.	Technical Staff	Staff Time	2019/20
11.	Develop a Pathways Infrastructure Risk Management Plan.	Technical Staff	Staff Time	2019/20
12.	Develop a Long Term Infrastructure Plan (LTIP) to document key pathway initiatives over the 10 year period.	Executive & Technical Staff	Staff Time	2019/20
13.	Refine Council's 1-10-20 year discretionary capital works program and align with the Long Term Financial Plan and strategic requirements for the pathway network.	Executive & Technical Staff	Staff Time	2019/20
14.	Develop standard drawings for the new CAA Streetscape Palette and shopping strips.	Executive & Technical Staff	Staff time	2020/21
15.	Undertake functionality and capacity/ utilisation assessments to enhance the asset register and drive renewal and upgrade projects based on condition, functionality and capacity, not just condition-based works programmes.	Technical Staff	Staff Time	2020/21
16.	Integrate asset management system with the financial system to ensure actual costs associated with works management, inspections, reactive and planned maintenance are captured against the various activities.	Technical Staff	Staff Time	2020/21
17.	Carry out community consultation to determine community levels of service and agreed technical levels of service, following trade-offs and consideration of risks.	Executive & Technical Staff	Staff Time	2020/21
18.	Adopt and implement Council's Asset Options Policy and Procedure to govern asset disposals. Develop a 5 year asset rationalisation plan to identify any assets for disposal or re-purposing.	Executive & Technical Staff	Staff Time, Asset Options Policy & Procedure	2020/21
19.	Develop a Pathways service plan to manage demand and provide strategic direction for Council's pathway network.	Executive & Technical Staff	Staff Time	2021/22
20.	Utilise 'scenario' based modelling in the Moloney Modelling software tool to provide various funding strategies for future revisions of this asset management plan.	Technical Staff	Staff Time	2021/22
21.	Develop a useful life assessment report for all pathway assets using the 'Remaining/Useful Life Assessment template developed by IPWEA. Assessments to be conducted based on individual asset circumstances including asset type, desired level of service, financial consideration and environmental factors.	Technical Staff	Staff Time, IPWEA Template	2021/22
22.	Continue to monitor and improve the accuracy and validity of pathway asset data to improve confidence levels.	Technical Staff	Staff Time	Ongoing
23.	Continue to monitor deliverability across capital works and maintenance programs to ensure Council is reaching defined Key Performance Indicators (KPIs).	Technical Staff	Staff Time, FAMIS	Ongoing

8.3 Monitoring and Review Procedures

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

The AM Plan will be updated every 4-5 years in line with the rolling condition audit program, 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 Council's Long Term Financial Plan.

The AM Plan has a life of 4-5 years (Council election cycle) and is due for complete revision and updating within 2 years of each Council election.

8.4 Performance Measures

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

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

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10. APPENDICES

Appendix A Projected 10 year Capital Renewal and Replacement Works Program

Appendix B Projected 10 year Capital Upgrade/New Works Program

Appendix C LTFP Budgeted Expenditures Accommodated in AM Plan

Appendix D Projected 50-year Capital Renewal and Replacement Works Program

Appendix E Road Management Plan 2015 – Footpath Maintenance Activities

Appendix F Central Activity Area Boundary – Zone 0

Appendix G Glossary

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

10 year Projected Capital Renewal and Replacement Program from Moloney Model. The 50 year renewal and replacement profile is detailed in Appendix D.

Frankston CC
Projected Capital Renewal Works Program - Pathways_S2_V1

($000)

Year	Item	Description	Estimate
2018		**Network Renewals**	
	1	Moloney Modelling - Pathway Condition Data - Renewal Requirement	$230
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2018		**Defect Repairs**	
	1	CWP 3440 - Footpath Compliance Service Programme - Bicycle Chicane Upgrades	$30
	2	CWP 3562 - Footpath Compliance Service Programme - Crossings Programme	$60
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2018		**Total**	**$320**

2019		**Network Renewals**	
	1	Moloney Modelling - Pathway Condition Data - Renewal Requirement	$775
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2019		**Defect Repairs**	
	1	CWP 3440 - Footpath Compliance Service Programme - Bicycle Chicane Upgrades	$30

	2	CWP 3562 - Footpath Compliance Service Programme - Crossings Programme	$60
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2019		**Total**	**$865**

($000)

Year	Item	Description	Estimate
2020		**Network Renewals**	
	1	Moloney Modelling - Pathway Condition Data - Renewal Requirement	$910
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2020		**Defect Repairs**	
	1	CWP 3440 - Footpath Compliance Service Programme - Bicycle Chicane Upgrades	$30
	2	CWP 3562 - Footpath Compliance Service Programme - Crossings Programme	$60
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2020		**Total**	**$1,000**

2021		**Network Renewals**	Estimate
	1	Moloney Modelling - Pathway Condition Data - Renewal Requirement	$1,010
	2		
	3		
	4		
	5		
	6		
	7		
	8		

	9		
	10		
2021		**Defect Repairs**	
	1	CWP 3440 - Footpath Compliance Service Programme - Bicycle Chicane Upgrades	$30
	2	CWP 3562 - Footpath Compliance Service Programme - Crossings Programme	$65
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2021		**Total**	**$1,105**

($000)

Year	Item	Description	Estimate
2022		**Network Renewals**	
	1	Moloney Modelling - Pathway Condition Data - Renewal Requirement	$1,115
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2022		**Defect Repairs**	
	1	CWP 3440 - Footpath Compliance Service Programme - Bicycle Chicane Upgrades	$30
	2	CWP 3562 - Footpath Compliance Service Programme - Crossings Programme	$65
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2022		**Total**	**$1,210**

2023		**Network Renewals**	
	1	Moloney Modelling - Pathway Condition Data - Renewal Requirement	$1,220
	2		
	3		
	4		

	5		
	6		
	7		
	8		
	9		
	10		
2023		**Defect Repairs**	
	1	CWP 3440 - Footpath Compliance Service Programme - Bicycle Chicane Upgrades	$30
	2	CWP 3562 - Footpath Compliance Service Programme - Crossings Programme	$65
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2023		**Total**	**$1,315**

($000)

Year	Item	Description	Estimate
2024		**Network Renewals**	
	1	Moloney Modelling - Pathway Condition Data - Renewal Requirement	$1,330
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2024		**Defect Repairs**	
	1	CWP 3440 - Footpath Compliance Service Programme - Bicycle Chicane Upgrades	$30
	2	CWP 3562 - Footpath Compliance Service Programme - Crossings Programme	$70
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2024		**Total**	**$1,430**

2025		**Network Renewals**	

	1	Moloney Modelling - Pathway Condition Data - Renewal Requirement	$1,450
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2025		**Defect Repairs**	
	1	CWP 3440 - Footpath Compliance Service Programme - Bicycle Chicane Upgrades	$30
	2	CWP 3562 - Footpath Compliance Service Programme - Crossings Programme	$70
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2025		**Total**	**$1,550**

($000)

Year	Item	Description	Estimate
2026		**Network Renewals**	
	1	Moloney Modelling - Pathway Condition Data - Renewal Requirement	$1,600
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2026		**Defect Repairs**	
	1	CWP 3440 - Footpath Compliance Service Programme - Bicycle Chicane Upgrades	$30
	2	CWP 3562 - Footpath Compliance Service Programme - Crossings Programme	$75
	3		
	4		
	5		
	6		
	7		
	8		
	9		

	10		
2026		**Total**	**$1,705**

2027		**Network Renewals**	
	1	Moloney Modelling - Pathway Condition Data - Renewal Requirement	$1,760
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2027		**Defect Repairs**	
	1	CWP 3440 - Footpath Compliance Service Programme - Bicycle Chicane Upgrades	$30
	2	CWP 3562 - Footpath Compliance Service Programme - Crossings Programme	$75
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2027		**Total**	**$1,865**

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

10 year Projected Capital Upgrade/New Program from Worksheet - *Upgrade-New Program* on the NAMS.PLUS Expenditure Template

Frankston CC

Projected Capital Upgrade/New Works Program - Pathways_S2_V1

($000)

Year	Item	Description	Estimate
2018	1	CWP - Pathways Service Programme - Paths Development Plan	$425
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2018		**Total**	**$425**

($000)

Year	Item	Description	Estimate
2019	1	CWP - Pathways Service Programme - Paths Development Plan	$425
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2019		**Total**	**$425**

($000)

Year	Item	Description	Estimate
2020	1	CWP - Pathways Service Programme - Paths Development Plan	$425
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		

	10		
2020		**Total**	**$425**

($000)

Year	Item	Description	Estimate
2021	1	CWP - Pathways Service Programme - Paths Development Plan	$425
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2021		**Total**	**$425**

($000)

Year	Item	Description	Estimate
2022	1	CWP - Pathways Service Programme - Pathway Development Plan	$425
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2022		**Total**	**$425**

($000)

Year	Item	Description	Estimate
2023	1	CWP - Pathways Service Programme - Paths Development Plan	$425
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2023		**Total**	**$425**

($000)

Year	Item	Description	Estimate
2024	1	CWP - Pathways Service Programme - Paths Development Plan	$425
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2024		**Total**	**$425**

($000)

Year	Item	Description	Estimate
2025	1	CWP - Pathways Service Programme - Paths Development Plan	$425
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2025		**Total**	**$425**

($000)

Year	Item	Description	Estimate
2026	1	CWP - Pathways Service Programme - Paths Development Plan	$425
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2026		**Total**	**$425**

($000)

Year	Item	Description	Estimate

2027	1	CWP - Pathways Service Programme - Paths Development Plan	$425
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
2027		**Total**	**$425**

Appendix C Budgeted Expenditures Accommodated in LTFP

10 year Budgeted Expenditures from Worksheet - *Form 3 Expenditure Planning* on the NAMS.PLUS3 Expenditure Template.

NAMS.PLUS3 Asset Management **Frankston CC**

Pathways_S2_V1 **Asset Management Plan**

IPWEA INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALASIA JRA

First year of expenditure projections **2018** (financial yr ending)

Pathways

Asset values at start of planning period

Current replacement cost	$106,868	(000)	Calc CRC from Asset Register: $0 (000)
Depreciable amount	$106,868	(000)	This is a check for you.
Depreciated replacement cost	$60,753	(000)	
Annual depreciation expense	$2,299	(000)	

Operations and Maintenance Costs for New Assets

	% of asset value
Additional operations costs	0.21%
Additional maintenance	0.40%
Additional depreciation	2.15%

Planned renewal budget (information only)

You may use these values calculated from your data or overwrite the links.

Planned Expenditures from LTFP

20 Year Expenditure Projections Note: Enter all values in current **2018** values

Financial year ending	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000
Expenditure Outlays included in Long Term Financial Plan (in current $ values)										
Operations										
Operations **budget**	$221	$221	$221	$221	$221	$221	$221	$221	$221	$221
Management **budget**		$0	$0	$0	$0	$0	$0	$0	$0	$0
AM systems **budget**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total operations	$221	$221	$221	$221	$221	$221	$221	$221	$221	$221
Maintenance										
Reactive maintenance **budget**	$423	$423	$423	$423	$423	$423	$423	$423	$423	$423
Planned maintenance **budget**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Specific maintenance items **budget**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total maintenance	$423	$423	$423	$423	$423	$423	$423	$423	$423	$423
Capital										
Planned renewal **budget**	$1,540	$1,940	$2,340	$2,090	$2,140	$2,300	$2,300	$2,300	$2,200	$2,200
Planned upgrade/new **budget**	$425	$425	$425	$425	$425	$425	$425	$425	$425	$425
Non-growth contributed asset value	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Asset Disposals										
Est Cost to dispose of assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Carrying value (DRC) of disposed assets	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

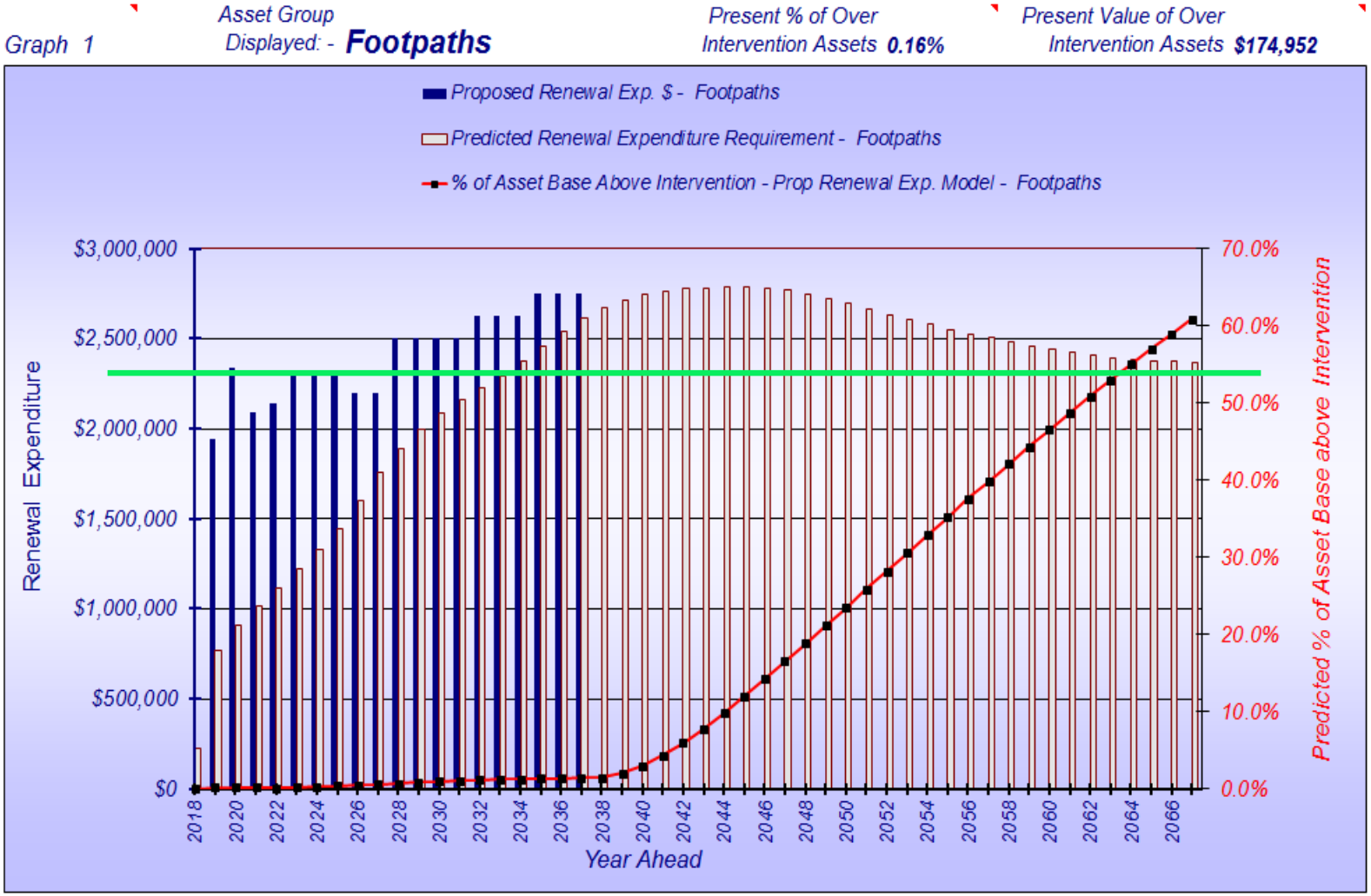
Additional Expenditure Outlays Requirements (e.g from Infrastructure Risk Management Plan)

Additional Expenditure Outlays required and not included above	2018 $000	2019 $000	2020 $000	2021 $000	2022 $000	2023 $000	2024 $000	2025 $000	2026 $000	2027 $000
Operations	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Maintenance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Capital Renewal	to be incorporated into Forms 2 & 2.1 (where Method 1 is used) OR Form 2B Defect Repairs (where Method 2 or 3 is used)									
Capital Upgrade	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
User Comments #2										

Forecasts for Capital Renewal using Methods 2 & 3 (Form 2A & 2B) & Capital Upgrade (Form 2C)

	2018 $000	2019 $000	2020 $000	2021 $000	2022 $000	2023 $000	2024 $000	2025 $000	2026 $000	2027 $000
Forecast Capital Renewal from Forms 2A & 2B	$320	$865	$1,000	$1,105	$1,210	$1,315	$1,430	$1,550	$1,705	$1,865
Forecast Capital Upgrade from Form 2C	$425	$425	$425	$425	$425	$425	$425	$425	$425	$425

Appendix D Projected 50-year Projected Capital Renewal and Replacement Works Program Using Moloney Model



Appendix E Road Management Plan 2015 – Pathway Maintenance Activities

Reactive maintenance is undertaken as described in the Road Management Plan section E.4.1.

REACTIVE MAINTENANCE ACTIVITY TITLE/ DESCRIPTION	DEFECT INTERVENTION LEVELS	TARGET RESPONSE TIMES	
		INITIAL ASSESSMENT (Working Days)	RECTIFICATION WORKS (Working Days)
FOOTPATHS			
F-REA-001 Concrete Footpath Maintenance Provide temporary and/or permanent repair of vertical displacements, holes, edge breaks, lifted/ subsided/ distressed areas posing a potential hazard to pedestrians. Treatment may involve wedging, grinding, crack sealing and/or bay replacement. *>2 sq. m are damaged, temporary protection works are undertaken and the repair is prioritised as part of Council's asset renewal program. Renewal may consider realignment of paths to minimise impact of trees.*	FC-001 Vertical displacement/ tripping hazard >25mm FC-002 Dislodged wedge FC-003 Cracks >10mm wide and 200mm long	2 days	45 days
F-REA-002 Asphalt Footpath Maintenance Provide temporary and/or permanent repair of holes, edge breaks, lifted// subsided/ distressed areas posing a potential hazard to pedestrians. *If the distressed area is >2 sq. m. temporary protection works are undertaken and the repair is prioritised as part of Council's asset renewal program. Renewal may consider realignment of paths to minimise impact of trees.*	FA-001 Potholes >25mm deep and 150 mm diameter FA-002 Mounding/ undulations >100mm resulting from tree root uplift FA-003 Cracks >10mm wide and 200mm long	2 days	45 days
F-REA-003 Paved Footpath Maintenance Provide temporary and/or permanent repair of loose, missing and dislodged pavers posing a potential hazard to pedestrians. *If the distressed area is >2 sq.m temporary protection works are undertaken and the repair is prioritised as part of Council's asset renewal program. Renewal may consider realignment of paths to minimise impact of trees.*	FP-001 Vertical displacement/ tripping hazard >25mm FP-002 Loose, missing or dislodged pavers with gaps >20mm	2 days	45 days

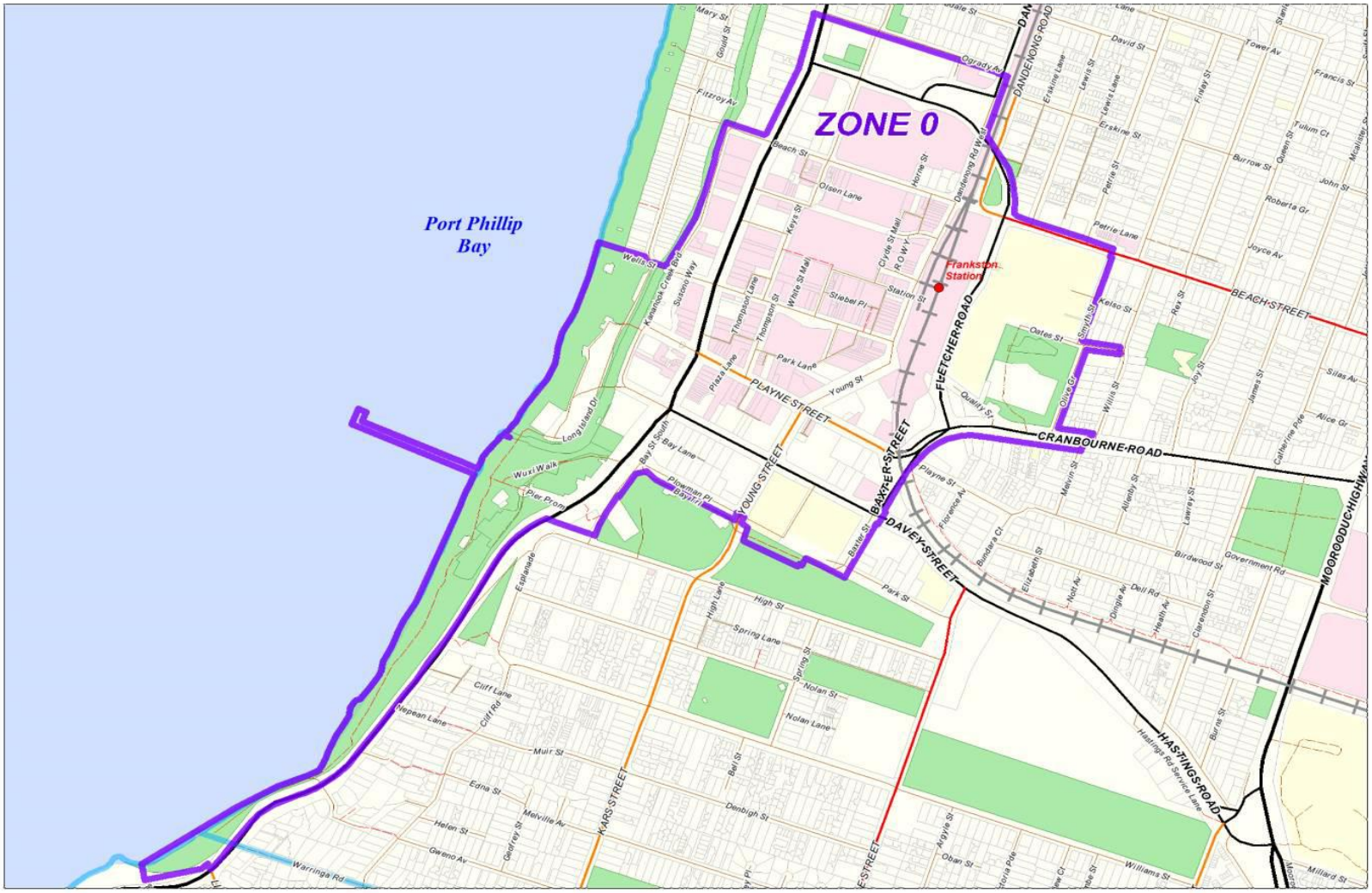
REACTIVE MAINTENANCE ACTIVITY TITLE/ DESCRIPTION	DEFECT INTERVENTION LEVELS	TARGET RESPONSE TIMES	
		INITIAL ASSESSMENT (Working Days)	RECTIFICATION WORKS (Working Days)
F-REA-004 Constructed Unsealed Footpath Maintenance Provide temporary and/or permanent repair of surface corrugations and/or potholes posing a potential hazard to pedestrians. Treatment may include grading and/or spot gravelling of constructed path with crushed rock.	FU-001 Potholes >50mm deep and 150 mm diameter FU-002 Corrugations/ subsided areas >50mm deep	2 days	45 days
F-REA-005 Clear Obstructions - Footpath Removal of dumped rubbish that poses a hazard to pedestrians and/or obstructs stormwater flows and traffic movements.	F-001 Debris hazardous to pedestrians or obstructing drainage F-012 Dead Animal F-002 Dumped rubbish	2 days	14 days
F-REA-006 Path Edge Repair Provide temporary and/or permanent repair of depressions at the interface of the constructed paths and the surrounding ground Treatment may involve topping up with topsoil, gravel or sand.	F-003 Path edge failures >75mm deep at the interface of the constructed path and adjacent ground	3 days	60 days
F-REA-007 Tactile Paver Repair Provide temporary and/or permanent repair of tactile pavers.	F -014 Damaged tactile pavers (cracked or worn) that could be hazardous to pedestrians	2 days	45 days
SHARED PATH			
SP-REA-001 Concrete Shared Path Maintenance Provide temporary and/or permanent repair of vertical displacements, holes, edge breaks, lifted// subsided/ distressed areas posing a potential hazard to cyclists or pedestrians. Treatment may involve wedging, grinding, crack sealing and/or bay replacement. *If >2 sq. m are damaged, temporary protection works are undertaken and the repair is prioritised as part of Council's asset renewal program. Renewal may consider realignment of paths to minimise impact of trees.*	SPC-001 Vertical displacement/ tripping hazard >25mm in sealed path SPC-002 Dislodged wedge SPC-003 Cracks >10mm wide and 1m long	2 days	40 days

REACTIVE MAINTENANCE ACTIVITY TITLE/ DESCRIPTION	DEFECT INTERVENTION LEVELS	TARGET RESPONSE TIMES	
		INITIAL ASSESSMENT (Working Days)	RECTIFICATION WORKS (Working Days)
SP-REA-002 Asphalt Shared Path Maintenance Provide temporary and/or permanent repair of holes, edge breaks, lifted// subsided/ distressed areas posing a potential hazard to cyclists or pedestrians. If the distressed area is >2 sq. m. temporary protection works are undertaken and the repair is prioritised as part of Council's asset renewal program. Renewal may consider realignment of paths to minimise impact of trees.	SPA-001 Potholes >50mm deep and 150 mm diameter SPA-002 Mounding/ Undulations >100mm resulting from tree root uplift SPA-003 Cracks >10mm wide and 1m long	2 days	40 days
SP-REA-003 Unsealed Shared Path Maintenance Provide temporary and/or permanent repair of surface corrugations and/or potholes posing a potential hazard to cyclists or pedestrians. Treatment may include grading and/or spot gravelling with crushed rock.	SPU-001 Potholes >50mm deep and 150 mm diameter SPU-002 Corrugations/ potholes >50mm deep	3 days	60 days
SP-REA-004 Sealed Shared Path Edge Repair Provide temporary and/or permanent repair of depressions at the interface of the constructed shared paths and the surrounding ground Treatment may involve topping up with topsoil, gravel or sand.	SP-001 Path edge failures >75mm deep at the interface of the constructed path and adjacent ground	3 days	60 days
SP-REA-005 Clear Obstructions - Shared Path Removal of dumped rubbish/ debris that poses a hazard to cyclists or pedestrians and/or obstructs stormwater flows.	SP-003 Dirt/ silt/ debris likely to cause slipping or obstruct stormwater flow SP-012 Dead Animal SP-002 Dumped Rubbish	2 days	14 days
SP-REA-006 Shared Path Line Marking Maintenance Replace damaged/ dislodged or missing pavement markers (RRPMs & RPMs). Reinstate faded regulatory line marking.	SP-007 Damaged/ dislodged or missing pavement markers (RRPMs & RPMs); SP-008 Faded shared path line marking (<50% effective reflectivity)	2 days	30 days

Routine maintenance is undertaken as described in the Road Management Plan section E.4.2.

ASSET CATEGORY	ROUTINE MAINTENANCE ACTIVITY TITLE	ACTIVITY DESCRIPTION	FREQUENCY
FOOTPATHS	FP-ROU-001 CAA Footpath Pressure Cleaning	Pressure clean designated footpaths in Central Activity Area only.	6 monthly
FOOTPATHS	FP-ROU-002 CAA Footpath Sweeping	Sweeping designated footpaths in Central Activity Area only.	weekly

Appendix F Central Activity Area Boundary – Zone 0



Appendix G Glossary

Annual service cost (ASC)

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

Asset

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

Asset category

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

Asset class

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

Asset condition assessment

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

Asset hierarchy

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

Asset management (AM)

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

Asset renewal funding ratio

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

Average annual asset consumption (AAAC)

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

Borrowings

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

Capital expenditure

Relatively large (material) expenditure, which has benefits, expected to last for more than 12 months. Capital expenditure includes renewal, expansion and upgrade. Where capital projects involve a combination of renewal,

expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly. Capital expenditure includes discretionary expenditure (optional) and non-discretionary expenditure (required).

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

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

Capital funding
Funding to pay for capital expenditure.

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

Capital investment expenditure
See capital expenditure definition

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

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

Class of assets
See asset class definition

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

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 noncritical 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**.**

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

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

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

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

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

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

Life Cycle 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, e.g. road patching but excluding rehabilitation or renewal. It is operating expenditure required to ensure that the asset reaches its expected useful life.

- **Planned maintenance**
  Repair work that is identified and managed through a maintenance management system (MMS). MMS activities include inspection, assessing the condition against failure/breakdown criteria/experience, prioritising scheduling, actioning the work and reporting what was done to develop a maintenance history and improve maintenance and service delivery performance.
- **Reactive maintenance**
  Unplanned repair work that is carried out in response to service requests and management/ supervisory directions.
- **Specific maintenance**
  Maintenance work to repair components or replace sub-components that need 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.

Materiality
The notion of materiality guides the margin of error acceptable, the degree of precision required and the extent of the disclosure required when preparing general purpose financial reports. Information is material if its omission, misstatement or non-disclosure has the potential, individually or collectively, to influence the economic decisions of

users taken on the basis of the financial report or affect the discharge of accountability by the management or governing body of the entity.

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

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

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

Operations
Regular activities to provide services such as public health, safety and amenity, e.g. 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, e.g. power, fuel, staff, plant equipment, on-costs and overheads but excludes maintenance and depreciation. Maintenance and depreciation is on the other hand included in operating expenses.

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

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 (e.g. 5, 10 and 15 years).

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

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

Quadruple Bottom Line (QBL)
Approach to assessing an organisation’s performance through consideration of their economic, environmental, social and cultural sustainability.

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

Recurrent expenditure

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

Recurrent funding
Funding to pay for recurrent expenditure.

Rehabilitation
See capital renewal expenditure definition above.

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

Renewal
See capital renewal expenditure definition above.

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

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

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

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

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

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

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

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

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

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