Livingstone
SHIRE COUNCIL

# FOOTPATH ASSET MANAGEMENT PLAN

## 2024-2033

| DOCUMENT CONTROL | | | | | |
|---|---|---|---|---|---|
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| **11** | 18/07/2023 | Formally Adopted by Council | Matt Wilson | M Kriedemann | Councillors |

This asset management plan was developed by Livingstone Shire Council.

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**DISCLAIMER**

# EXECUTIVE SUMMARY

## BACKGROUND

The purpose of this Asset Management Plan (AMP) for Council's footpath assets is to assist Council in:

- Demonstrating responsible management.
- Clearly outlining the measurable service levels.
- Communicating and justifying funding requirements for the future.
- Complying with regulatory requirements.

This 'core' plan documents asset management planning information. It includes a review of strategic trends facing the Council and potential impacts on the asset stock; asset condition and performance against key indicators; long term financial forecasts; and an improvement plan for managing the assets. Financial implications for providing the required levels of service into the future are also provided based on the associated modelling.

## ASSETS

Footpath assets included in this plan comprise:

- 20,552 $m^2$ Asphalt Footpaths
- 158,346 $m^2$ Plain Concrete Footpaths
- 4,632 $m^2$ Coloured Concrete Footpaths
- 1,491 $m^2$ Stencilled Concrete Footpaths
- 2,229 $m^2$ Exposed Aggregate Footpaths
- 1,496 $m^2$ Coloured Exposed Aggregate Footpaths
- 1,953 $m^2$ Kerb Ramps
- 1,412 $m^2$ Fallow Granite Paving
- 174 $m^2$ Mallard Granite Paving
- 9,250 $m^2$ Spray Seal Footpaths
- 9,650 $m^2$ Paver Footpaths
- 842 $m^2$ Gravel Footpaths
- 411 $m^2$ Timber Decking

At the 30$^{th}$ June 2022 these assets have a current replacement cost of approximately $37.4 million and make up 2.5% of Councils entire asset base.

## LEVELS OF SERVICE

Council have developed practical service level measures for their major asset components to ensure that services are engaged to best fit customer expectations and to optimise expenditure. The levels of service form the basis of projected renewal over the life of the plan.

## FUTURE DEMAND AND CAPACITY

Future demand is catered for by expenditure for new works in the forward capital works program.

The main demands for new services are created by:

- Population Growth
- Demographic Change
- Change in Lifestyle / Leisure Trends

Additional actions which will have an effect on future demand include:

- Implementation of the findings from the Active Livingstone Strategy
- Implementation of the findings from the Keppel Bay Coastal Walk Study
- Implementation of the findings from the Livingstone Access and Inclusion Consultation Report
- Implementation of Principal Cycle Network Plans (DTMR)
- Implementation of Priority Route Maps for Cycle Network (DTMR)
- Implementation of the Towards 2050 (Livingstone Shire Council Community Plan)
- Adoption and Implementation of the Livingstone Shire Council Planning Scheme – Part 4 Local Government Infrastructure Plan (LGIP)

## LIFECYCLE EXPENDITURE

### OPERATIONS AND MAINTENANCE

The average of the previous 10 years maintenance is $60 thousand per annum with a projected maintenance expenditure of $51 thousand in 2023/2024.

### NEW AND UPGRADE WORKS

Planned (budgeted) new and upgrade works over the next 10 years to 2032/33 totals approximately $4.1 million, as outlined in Council's Forward Works Plan. These new works will increase annual depreciation and maintenance by approximately $38 thousand and $10 thousand respectively across the 10-year period.

### RENEWALS

Total 'planned' renewals spend (as detailed in Council's Forward Works Plan) is $349 thousand over the next 10 years.

The 'projected' renewals have been determined from a combination of the 2022 end of financial year values and the 2020-21 condition assessment of footpath assets. These are renewals based on the desired services or engineering life of assets and total approximately $318 thousand over the next 10 years or 0.9% of the current total footpath replacement cost.

At present, comparison between projected and planned renewals has identified a possible trend of overspending on renewals by approximately $3 thousand per annum over the 10-year life of the plan.

## IMPROVEMENT PROGRAM AND PLAN MONITORING

A 12-month Program is included in this AMP for implementing the improvement actions identified in preparing this plan. This AMP and Improvement Programme will be reviewed and updated annually.

## ASSET SUSTAINABILITY

A financial measure of satisfactory levels of expenditure on asset replacements is the Asset Sustainability Ratio - the net capital expenditure on replacements as a percentage of depreciation. It indicates whether the amount of replacement exceeds or is less than the amount of depreciation, that is, whether assets are being replaced at the rate they are wearing out.

# TABLE OF CONTENTS

# BACKGROUND

## PURPOSE OF THE PLAN

The purpose of this Asset Management Plan (AMP) is to assist Council in:

- Demonstrating responsible management.
- Clearly outlining the measurable service levels.
- Communicating and justify funding requirements for the future; and
- Complying with regulatory requirements.

This 'core' plan documents asset management planning information for the Footpath assets of the Livingstone Shire Council. This includes a review of strategic trends facing the Council and potential impacts on the asset stock, asset condition and performance against key indicators, long term financial forecasts for the 10-years 2023/24 to 2032/33 and an improvement plan for managing the assets. Financial implications for providing the required levels of service into the future are based on the associated separate spreadsheet model for the AMP.

## THE COMMUNITY'S VISION

This asset management plan has been developed to align with Livingstone Shire Councils vision:

***"Working together for a thriving Livingstone"***

## COUNCIL'S GOAL

Council's 2020–2030 Corporate Plan is structured around the five (5) themes of the Livingstone Community Plan and outlines the following:

- Council's Statement of Intent
- Goals
- What we will do, and
- Performance Indicators

The five (5) key themes from the Corporate Plan are outlined below with the relevant statement of intent, however not all have a direct link to the assets contained within this asset management plan.

| Theme No. | Strategic Theme | Statement of Intent |
|---|---|---|
| **1** | **Liveable Livingstone** | A 'Liveable Livingstone' will support and advocate for services for the wellbeing of the people of Livingstone at any age and with any ability |
| **2** | **Thriving Livingstone** | A 'Thriving Livingstone' will prioritise the Traditional Owners and the importance of the place and country of Indigenous people; offer a diverse range of cultural activities and events; and develop and sustain a diverse economy |
| **3** | **Natural Livingstone** | A 'Natural Livingstone' will protect, sustainably manage and enhance the natural beauty, landscapes and resources of the country of the Darumbal and Woppaburra people in order to safeguard the sustainability and environmental resilience of the region into the future |
| **4** | **Leading Livingstone** | A 'Leading Livingstone' will provide transparent, accountable leadership which listens to the needs of the Livingstone community and advocates for Livingstone's interests to State and Federal Governments |
| **5** | **Future Livingstone** | A 'Future Livingstone' will become a resilient community prepared for future economic, social, environmental and infrastructure challenges to ensure Livingstone retains its unique character and thrives into the future |

## THE COMMUNITY'S GOAL

Livingstone Community Plan: Towards 2050 is a 30-year community planning project guided by the Livingstone community, for the community.

Livingstone Shire Council led a whole of community planning process to develop a 30-year vision with clear community priorities for the region. The process will shape and define the future priority projects and strategies which Council implements and / or influences.

The planning process identified where the community is now, as well as where it wants to be in the future. It provided a clear set of strategies with a view to achieving the community's priorities and aspirations for the future. The Goals and strategies that are particularly relevant to this AMP are:

| Community Plan Goal | Goal | Community Plan Action | Action |
|---|---|---|---|
| 1.2 | Supporting healthy living at any age | 1.2.1 | Build capacity to improve health and well-being in the community by providing fair and reasonable access to service and facilities |
| | | 1.2.2 | Plan for Livingstone's ageing demographics and partner with regional health and aged care sector |
| | | 1.2.3 | Plan, design and deliver community infrastructure which connects communities and encourages non-vehicular transport |
| | | 1.2.4 | Take action to enable the implementation of the Active Livingstone Strategy |
| 1.3 | Places for active and passive recreation | 1.3.1 | Undertake planning in conjunction with the review of Council's Local Government Infrastructure Plan to provide adequate open space and recreation areas to meet the future growth needs of the Shire |
| | | 1.3.2 | Optimise community benefit from the use of parklands and facilities by improving the quality, access to, and shared use of, public spaces and facilities for cultural, recreational, and community activities |
| 2.3 | A welcoming and desirable place to visit | 2.3.1 | Provide support to market Livingstone as a destination for commerce, tourism, and lifestyle |
| | | 2.3.2 | Council provides and maintains infrastructure which encourages business and tourism growth |
| 4.1 | Innovative and accountable leadership to achieve a shared future | 4.1.2 | Council produces and delivers against sustainable financial forecasts as a result of best practice Capital and Asset Management Plans which guide project planning and service delivery across the Shire |
| | | 4.1.6 | Risk management practices are embedded into decision making processes |
| 5.2 | Connected places, people and services | 5.2.2 | Reinforce sustainable building design principles |
| | | 5.2.3 | Adopt and implement a Connected Livingstone Strategy to foster investment opportunities in the region |

## KEY STAKEHOLDERS

The key stakeholders in the preparation, implementation and future revisions of this asset management plan are:

- Livingstone Shire Council Councillors
- Livingstone Shire Council Staff
- Community
- Developers
- Department of Roads and Main Roads (DTMR)
- Contractors/Consultants

## SUSTAINABLE MATERIAL SELECTION

*Council is committed to sustainable construction material selection when constructing new or renewing existing footpath assets. Council's goal is to increase recycled material content by investigating the use of recycled plastics, glass and other technologies.*

Council currently uses 'eco mesh' which is a 100% recycled Marco synthetic fibre for the reinforcement of all its concrete footpaths as well as 'modwood' which is composite material made up of recycled plastic and wood fibres in lieu of hardwood timber decking. In the future Council could also explore the use of recycled glass in concrete, or recycled tyres in our asphalt products. The considerations for material choice include asset life, structural integrity, whole of life cost (upfront & maintenance) and recycled material availability.

# UNDERSTANDING OUR ASSETS

## ASSET INVENTORY AT JULY 2022

| Asset Type | Dimension (m2) | Replacement Value ($) |
|---|---|---|
| Asphalt | 20,552 | 1,078,040 |
| Plain Concrete | 158,346 | 30,358,678 |
| Coloured Concrete | 4,632 | 856,347 |
| Stencilled Concrete | 1,491 | 275,811 |
| Exposed Aggregate | 2,229 | 794,922 |
| Coloured Exposed Aggregate | 1,496 | 533,425 |
| Kerb Ramp (Pram Ramp) | 1,953 | 981,434 |
| Fallow Granite Paving on Concrete Slab | 1,412 | 693,989 |
| Mallard Granite Paving on Concrete Slab | 174 | 85,501 |
| Footpath - Spray Seal | 9,250 | 188,120 |
| Pavers | 9,650 | 1,406,416 |
| Gravel/Crushed Pavers | 842 | 22,057 |
| Timber Decking | 411 | 105,180 |
| **Grand Total** | **212,438** | **37,379,919** |

## ASSET HIERARCHY

All path assets are classified according to a hierarchy that considers their specific function, types of users and user numbers. Council has developed the following hierarchies for the assets covered in this plan.

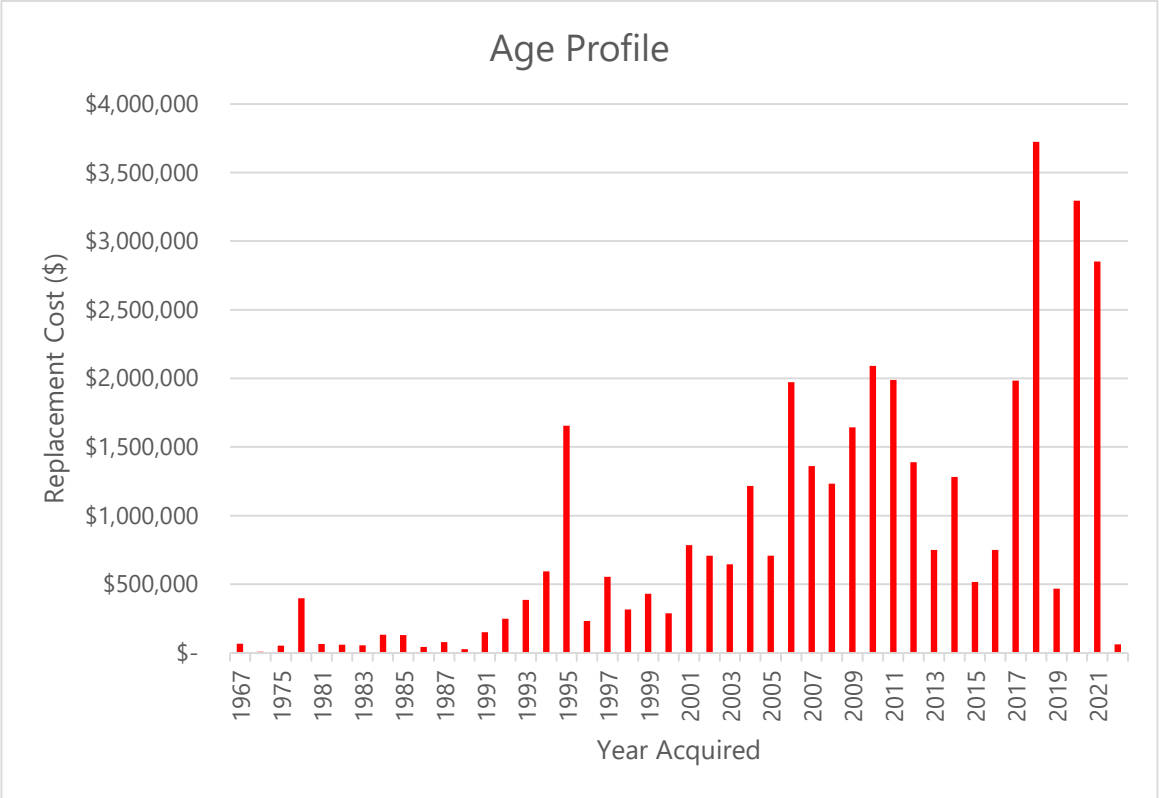
| Class | Description |
|---|---|
| 3 | Constructed high traffic footpaths around the CBD, Foreshore and bus interchanges |
| 2 | Constructed medium traffic footpaths around schools, hospitals, aged care and key identified exercise routes |
| 1 | All other footpaths |

The hierarchical classifications may be used to assist in the prioritisation of works programs as well as the development of intervention levels and response times to remedy defects.

## AGE AND CONDITION

Council has a network of mainly concrete footpaths comprising plain, exposed aggregate and stencilled types with a small proportion made up of asphalt, spray seal, pavers and gravel. The majority of the network is located along the coastal fringe in and around the townships of Yeppoon, Emu Park and Keppel Sands (and their surrounding suburbs) however there are also networks in the more rural areas of Cawarral, The Caves and Byfield.

The age profile of the assets included in this AM Plan is shown below.




Councils Asset Management System database indicates the footpath network commenced construction in 1967, with some sizable expansion taking place in the mid to late 1990's. Significant growth then took place between 2001 – 2014 through the development of significant parts of infill land in the areas of Yeppoon, Pacific Heights, Taranganba, Lammermoor, Taroomball, Mulambin, Hidden Valley and Zilzie. The network then grew again between by almost half between 2017 – 2020 with the commencement of the construction of the Capricorn Coast shared path network, with significant footpath connectors constructed between Yeppoon and Emu Park.

Council has adopted the following useful lives for its footpath assets:

| Asset Function | Useful Life (Years) |
|---|---|
| Asphalt | 35 |
| Plain Concrete | 80 |
| Exposed Aggregate Concrete | 80 |
| Stencilled Concrete | 80 |
| Gravel | 15 |
| Pavers | 40 |
| Spray Seal | 20 |
| Kerb Ramps | 80 |
| Timber Decking | 40 |

Footpath condition is monitored through an annual footpath inspection program. Currently the Assets and GIS team within Council undertake these inspections on foot throughout the Shire utilising ESRI's ArcCollector software to capture the overall footpath asset condition as well as any defects such as trip hazards, edge drop offs or overgrown vegetation.

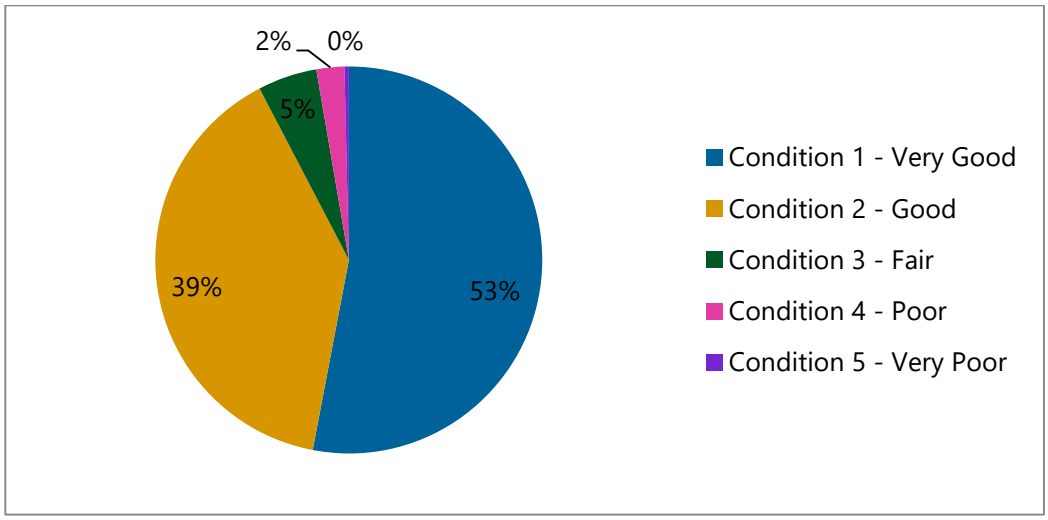
Assets are ranked by condition in accordance with the table attached below, the IPWEA Practice Note 1 v. 2 2014 for Footpaths and Cycle Ways was also consulted as a guide for the assessment process.

| FOOTPATH CONDITION RATING FACTORS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CRACKING | | | | DISPLACEMENT (JOINTS & CRACKS) | | | | SURFACE CONDITION | | |
| CONDITION RATING | Criteria | Width | Maximum Frequency | | % Area Cracked | Height | Maximum Frequency | | % Path Area Displaced | Concrete<br>% Surface worn / slippery / broken down | Asphalt<br>% Surface binding broken down | Pavers<br>% Pavers chipped / worn / loose |
| 1 | ALL FACTORS APPLY | < 2mm | 1 per 6m | AND | Neg. | Neg. | Neg. | AND | Neg. | Neg. | | |
| 2 | AT LEAST ONE FACTOR APPLIES | < 2mm | 1 per 4m | OR | < 5% | Up to 5mm | 1 per 20m | OR | < 10% | Up to 10% | | |
| 3 | AT LEAST ONE FACTOR APPLIES | < 2mm | 1 per 2m | | < 50% | Up to 10mm | 1 per 20m | | < 30% | Up to 30% | | |
| 4 | AT LEAST ONE FACTOR APPLIES | >2mm < 5mm | 1 per 2m | | < 70% | Up to 15mm | 1 per 20m | | < 60% | Up to 50% | | |
| 5 | AT LEAST ONE FACTOR APPLIES | > 5mm | 1 per 1.5m | | > 70% | Up to 15mm | 1 per 20m | | > 60% | > 50% | | |

At the completion of the inspections, the condition and defect data is then collated by the Assets and GIS team before being passed onto the Construction and Maintenance team for actioning.

In 2021 Council undertook a full and comprehensive condition and defect assessment of its footpath network. It identified that 92% of the network was in good or very good condition. 2022 saw only defect capture across the network.

The condition profile of the assets included in this AM Plan is shown below.




As illustrated in the pie graph above, condition is measured using a 1 - 5 rating system.
For each condition state there is an assumed corresponding percentage of remaining useful life, the number of years until an asset requires renewal. This relationship is summarised in the table below:

| Condition Rating | Description | |
|---|---|---|
| 1 | Very Good | 95% |
| 2 | Good | 75% |
| 3 | Fair | 50% |
| 4 | Poor | 20% |
| 5 | Very Poor | 5% |

An example to illustrate the above relationship would be a footpath asset (useful life of 80 years) assessed in condition 5 (very poor), has a percentage remaining useful life of 5%. 5% of 80 years is 4 years. Therefore, a footpath in condition 5 requires renewal in 4 years' time.

## VALUE

The value of assets included in this Asset Management Plan are shown below and are based on the information provided following completion of the 2022 end of financial year. Assets are valued at Fair Value in accordance with the relevant Australian Accounting Standards Board (AASB) Standards.

| | |
|---|---|
| Gross Replacement Cost | $37,379,919 |
| Depreciable Amount | $7,648,012 |
| Written Down Value | $29,731,907 |
| Annual Average Asset Consumption | $481,077 |

# SETTING STANDARDS & MEASURING PERFORMANCE

A key objective of asset management is to match the standard of service the organisation provides with what the community expects. To ensure we are meeting the expectations of our community it is important for Council to describe what level of service we intend to deliver and then to measure both what we have done to deliver that service and how well our community has received it.

## STATUTORY REQUIREMENTS

Statutory requirements often set the framework for minimum levels of service that infrastructure is required to meet. The following legislative instruments are relevant to this asset management plan.

The Local Government Act 2009 sets out the general principles for road management arrangements in Queensland. Under the act, Livingstone Shire Council is responsible for all roads within its Local Government area, except for any private road.

The Local Government Regulation 2012 sets out the mechanisms to enable local governments to develop their own approaches to meet communities' needs through rates and charges.

The Transport Infrastructure Act 1994 sets out a regime that allows for and encourages effective integrated planning and effective management of a system of transport infrastructure.

The Disability Discrimination Act 1992 provides protection for everyone in Australia against discrimination based on disability.

The Australian Accounting Standards set out the financial reporting standards relating to the valuation and depreciation of Councils infrastructure assets.

## LEVELS OF SERVICE

Levels of Service (LoS) are a key business driver and should influence all of Council's asset management decisions. Levels of service are defined in two terms, customer levels of service and technical levels of service.

**Customer Levels of Service** measure how the customer (i.e. the community) receives the service and whether value is provided to the customer.

**Technical Levels of Service** support the customer service levels and are operational or 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, Maintenance, Renewal, Upgrade and New.

Levels of Service Objectives describe the outputs Council intend to deliver to the community in relation to services attributes such as quality, function, capacity and use.

Council has adopted the following Level of Service Objective in relation to its footpath assets:

*To provide a safe, continuous, fit for purpose footpath network accessible by all members of the community.*

| Customer Levels of Service | Technical Levels of Service | Performance Measure Process | Performance Target | Current Performance |
|---|---|---|---|---|
| Ensure the overall condition of the footpath network is maintained | Ensure the footpath network is in a safe, operational condition | Footpath condition and defect inspections | 80% of the network inspected annually | 100% of the network inspected annually |
| | Ensure the footpath network is well maintained and any hazards identified | Defects reviewed and rectification works programmed and complete | 80% of defects responded to within adopted maintenance intervention level timeframes | Unable to be currently measured |
| Provide a footpath network that is continuous, linking areas of high pedestrian traffic (i.e. CBD and Foreshore) | Maintain a safe footpath network of connected walking and cycling paths for all members of the community | All footpaths which require renewal as determined by condition assessments are shown within this document | 100% compliance | 100% compliance. |
| Provide a footpath network that is accessible to all members of the community | | Missing footpath network links identified as part of planning processes are identified for expansion / upgrade within this document | 100% compliance | 100% compliance |

# PLANNING FOR THE FUTURE

This section of the Footpath Asset Management Plan attempts to predict future demand for services in order to identify the most effective means of managing that demand. This allows Council to make optimised decisions regarding its asset investment proposals.

## DEMAND FORECASTS

It is important to note that demand forecasts are often proven wrong given the passage of time. Influences on demand such as changes in government policy, technological advances and community preferences cannot be predicted with certainty over long periods. As a consequence, assumptions made about factors may change between and during the development of forecasts. Assumptions are often based on judgements that consider past performance and the likelihood of future change. Therefore, the following forecasts should be treated with some caution and taken as possible future outcomes rather than definitive statements. Any assumptions essential to the following forecasts have been noted for each factor considered.

### POPULATION GROWTH

Population change is generally the key driver for growth in all areas and drives demand for services provided by Council and, in turn, the number and type of assets that are required to provide these services.

Livingstone Shire's population is projected to increase modestly over the next 10 years with an increase from the current 37,638 residents (in June 2018) to an estimated 46,623 residents (by June 2041) (**Source:** Qld Statistician's Office, Populations Projections LGA, 2018 edition).

This increase in population growth will lead to an increased use of the current footpath network. Expansion of the current network may also be required in order to formalise current pedestrian routes which may not follow existing footpath networks.

### DEMOGRAPHY CHANGE

One of the biggest challenges Council has to face over the next 20 years is the projected increase in elder residents and with them comes an increase in the services and infrastructure to support them.

Livingstone Shire's age demographic is expected to increase from 6,306 residents aged 65 years or older (at June 2016) to 13,688 residents aged 65 years or older (by June 2031) (**Source:** Qld Statistician's Office, Populations Projections LGA, 2018 edition).

An ageing demographic will mean footpath widths, gradients and cross falls will need to be made compliant for elderly users and the mobility impaired. Footpath connectivity to high pedestrian traffic areas such as the CBD and Foreshore will also need to be considered.

### CHANGE IN LIFESTYLE / LEISURE TRENDS

In 2018, the Active Livingstone Study identified that 69% of respondents undertook some form of footpath-based exercise (walking, jogging, running) at least once a week. This suggests there is significant demand for paths for active recreation purposes within the Shire.

Council will need to ensure that footpath functionality is reviewed to meet the shifting requirements of a population with greater health awareness, seeking recreational use and exercise supported by the footpath and shared path network.

## DEMAND MANAGEMENT

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. These actions are outlined further in this AMP.

# MAINTAINING THE FOOTPATH NETWORK

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.

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.

## MAINTENANCE EXPENDITURE TRENDS

A summary of Council's historical maintenance spend is shown below. Maintenance expenditure levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels.

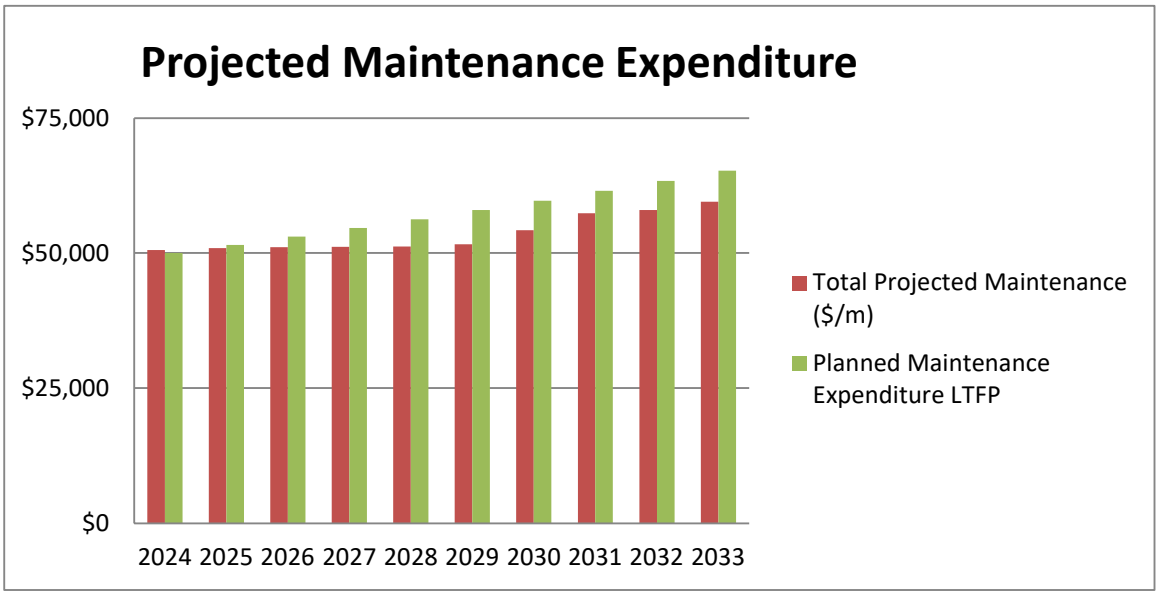
| Year | Maintenance Budget ($) |
|---|---|
| 2014 | 62,159 |
| 2015 | 64,910 |
| 2016 | 82,439 |
| 2017 | 72,057 |
| 2018 | 43,933 |
| 2019 | 112,607 |
| 2020 | 42,097 |
| 2021 | 53,000 |
| 2022 | 34,000 |
| 2023 | 34,000 |

## PROJECTED MAINTENANCE EXPENDITURE

Future maintenance expenditure is forecast to trend in line with the size of the asset stock as shown in the figure below. Note that all costs are shown in current 2022-dollar values (i.e. real values).

This figure shows the predicted maintenance expenditure compared with the forecast funding proposed in Councils Long Term Financial Plan (LTFP). The current allocation for maintenance in the LTFP of $573 thousand over the next 10 years is considered sufficient when compared to the projected maintenance forecast over that same period of $535 thousand.

The methodology that Council has used to determine future maintenance expenditures is a $ per metre rate based on historic spend across the network length.




## MAINTENANCE INTERVENTION LEVELS

When responding to maintenance defects on footpaths Council takes a safety-first approach, where there are clear implications for public safety Council will act to allay the danger. When the safety of the community is concerned Council will balance its responses based on available resources and funding.

Council response times to defects by Asset Hierarchy are summarised below:

| Footpath Hierarchy | Defect Description | Response Time |
|---|---|---|
| 3 | Tripping hazards >20mm, Edge Drop offs >55mm & Vegetation encroachment over footpath travel path | Make safe within 1 working day (if determined by C&M to be a clear risk to the community). Rectification works completed within 20 days for identified defects. |
| 2 | Tripping hazards >20mm, Edge Drop offs >55mm & Vegetation encroachment over footpath travel path | Make safe within 3 working days (if determined by C&M to be a clear risk to the community). Rectification works completed within 30 days for identified defects. |
| 1 | Tripping hazards >20mm, Edge Drop offs >55mm & Vegetation encroachment over footpath travel path | Make safe within 5 working days (if determined by C&M to be a clear risk to the community). Rectification works completed within 40 days for identified defects. |

# RENEWING AND EXPANDING THE FOOTPATH NETWORK

Capital expenditure is a relatively large (material) expenditure, which has benefits expected to last for more than 12 months. It includes expenditure to renew assets and to expand the network. Where capital projects involve a combination of renewal, expansion and/or upgrade expenditures, the total project cost needs to be allocated accordingly.

## UPGRADES AND EXPANSIONS

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. Assets may also be acquired at no cost. They may result from growth, social or environmental needs. Due to forecasts in population growth, an ageing population and changes in lifestyle and leisure trends as mentioned earlier, Council has adopted an upgrade / expansion program to meet this projected demand on the footpath network into the future. The projected upgrades and expansions expenditures are summarised below:

| Financial Year | Planned Expansion |
|---|---|
| 2023 – 2024 | $396,000 |
| 2024 – 2025 | $81,250 |
| 2025 – 2026 | $0 |
| 2026 – 2027 | $0 |
| 2027 – 2028 | $130,313 |
| 2028 – 2029 | $354,900 |
| 2029 – 2030 | $949,925 |
| 2030 – 2031 | $581,250 |
| 2031 – 2032 | $533,438 |
| 2032 – 2033 | $1,061,925 |
| **TOTAL** | **$4,109,001** |

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 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 by the assets is required. The increased maintenance burden caused by these assets is included in the above maintenance plan.

## RENEWAL AND REPLACEMENTS

Renewal 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.

To perform renewal works as they are required, Council needs to ensure it sets aside sufficient funds in its annual budget. The projected renewal and replacement expenditures based on recent asset condition assessments are summarised below:

| Financial Year | Projected Renewal |
|---|---|
| 2023-24 | $0 |
| 2024-25 | $0 |
| 2025-26 | $114,389 |
| 2026-27 | $131,646 |
| 2027-28 | $0 |
| 2028-29 | $0 |
| 2029-30 | $71,641 |
| 2030-31 | $0 |
| 2031-32 | $0 |
| 2032-33 | $0 |
| **TOTAL** | **$317,676** |

Renewal 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.

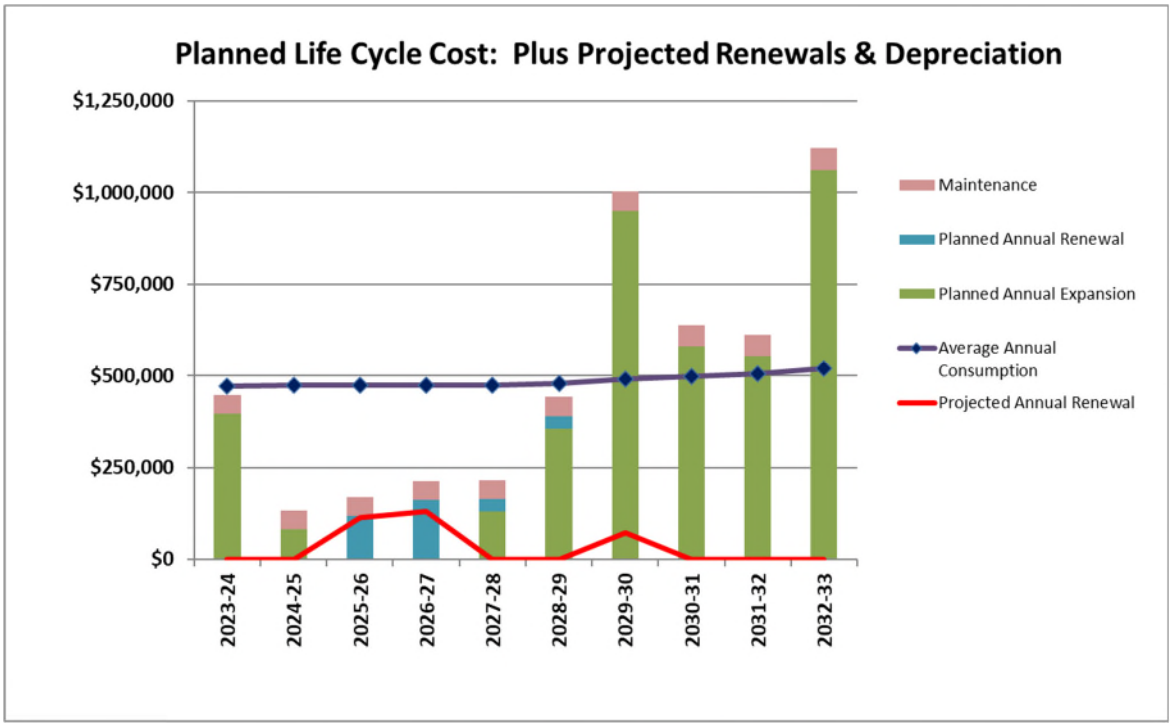
Council considered that the best approach for determining the required renewal funding for its footpath assets was for it to be based on asset condition as opposed to using the construction year (age), the outcome of this modelling is reflected in the table above.

Given the young age and healthy overall condition of the pathway network, the renewal requirement for 2023/24 is $0, steadily increasing over the next few years with a peak in 2026/27 of $131,646. With fluctuations such as these, it is prudent to assess the average annual asset consumption (AAAC) based on the formula below:

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

Using this measure, the total AAAC for pathways across each of the various material types and their respective useful lives is $481,077. Therefore, it is reasonable to assume a long-term annual renewal requirement of $481,077.

If the planned capital expansion programme outlined in this section of the plan is implemented over the next ten years, the annual required renewal expenditure will increase to around $518,612 per annum by 2033. This figure is based on the annual average asset consumption of the assets (i.e. annual depreciation) and is mostly affected by the adopted useful life Council has given this type of asset.




There is a significant gap between the depreciation line (average annual consumption) and the projected renewal over the 10-year period in the graph above, this is expected to level out over the longer term as approximately 92% of the footpath assets have a useful life of 80 years, with 53% of them assessed to be in 'very good condition'.

| Year End 30 June | Projected Capital Renewal Required ($) | Planned New / Upgrade Expenditure ($) | Planned Disposals ($) | Planned Capital Renewal ($) | Renewal Expenditure Shortfall / Surplus ($) | Cumulative Funding Shortfall / Surplus ($) |
|---|---|---|---|---|---|---|
| 2024 | 0 | 396,000 | 0 | 0 | 0 | 0 |
| 2025 | 0 | 81,250 | 0 | 0 | 0 | 0 |
| 2026 | 114,389 | 0 | 0 | 118,567 | 4,178 | 4,178 |
| 2027 | 131,646 | 0 | 0 | 160,880 | 29,234 | 33,412 |
| 2028 | 0 | 130,313 | 0 | 34,295 | -34,295 | -883 |
| 2029 | 0 | 354,900 | 0 | 35,346 | -35,346 | -36,229 |
| 2030 | 71,641 | 949,925 | 0 | 0 | 71,641 | 35,412 |
| 2031 | 0 | 581,250 | 0 | 0 | 0 | 35,412 |
| 2032 | 0 | 553,438 | 0 | 0 | 0 | 35,412 |
| 2033 | 0 | 1,061,925 | 0 | 0 | 0 | 35,412 |

There is currently sufficient renewal funding for Footpaths over the 10-year life of this plan.

# RISK MANAGEMENT

The purpose of infrastructure risk management is to document the results and recommendations resulting from the periodic identification, assessment and treatment of risk associated with providing services from infrastructure, using Council's Enterprise Risk Management Framework, Policy and Procedure as a guide.

Council's risk management process is detailed in these documents and is an analysis and problem-solving tool designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

Public safety risk assessments are undertaken by:

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

## 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.

Assessment of an Asset's criticality is fundamentally a risk management process and is undertaken following Council's Enterprise Risk Management Procedure (ERMP). Criticality is the consequence of the asset failing and as such is assessed using Council's Risk Consequence Table as included in Appendix 3 of the ERMP.

For some asset classes, the number of individual assets is relatively small, and assessment can be undertaken at the asset level. For network assets like footpaths this process would be arduous. Instead, these assets are assessed based on the information available in Council's Asset Management and Geographic Information Systems.

Council is currently developing an Asset Criticality Process and this plan will be updated to reflect the outcomes of that process as to the effects on Footpath assets. At present criticality is assumed to mirror the hierarchy explained above.

# MONITORING AND IMPROVING THE PLAN

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

- The degree to which the required cash flows identified in this plan are incorporated into council's long term financial plan.
- The degree to which 1–3-year detailed works programs, budgets, business plans and organisational structures take into account the 'global' works program trends provided by this plan;
- The degree to which sustainability ratios outlined below meet their targets
- Progress toward achieving the outcomes listed in the Improvement Plan

Providing services from infrastructure in a sustainable manner requires the matching and managing of service levels, risks, projected expenditures and funding to achieve financial sustainability over the life of the Asset Management Plan. The following ratios provide a set of Key Performance Indicators that will enable Council to measure and report its overall asset management sustainability more readily.

## ASSET SUSTAINABILITY RATIO

A financial measure of satisfactory levels of expenditure on asset replacements is the Asset Sustainability Ratio - the net capital expenditure on replacements as a percentage of the depreciation. It indicates whether the amount of replacement exceeds or is less than the amount of depreciation, that is, whether assets are being replaced at the rate they are wearing out.

An index of less than 100% on an ongoing basis indicates that capital expenditure levels are not being optimised so as to minimise whole of life cycle costs of assets or that assets may be deteriorating at a greater rate than spending on their renewal. The Department of Infrastructure, Local Government and Planning propose a conservative target of equal to or greater than 90%.

**Asset Sustainability Ratio = 7%**

Due to the relatively young age and good overall condition of council's assets the above sustainability ratio is to be expected. However, over time if renewal funding for footpaths is not increased it could lead to potential reductions in levels of service and an increased burden on future ratepayers.

## IMPROVEMENT PROGRAM

A 12-month asset management improvement plan is included for implementing the improvement actions identified in preparing this plan. This AMP and Improvement Plan will be reviewed annually.

| Action ID | Action | Outcome | Responsibility | Due Date |
|---|---|---|---|---|
| 1 | Complete full condition and defect assessment of the entire footpath network | | Assets Engineer | October 2023 |
| 2 | Consider including beach accesses and other footpath structures (pedestrian viewing platforms, bridges etc) in this AM Plan in future revisions | To be implemented as part of the data migration to the Merlin solution | Assets Engineer | As part of next AMP review (March 2024) |
| 4 | Implement a footpath asset hierarchy based on levels of use into the AMS | To be implemented as part of the data migration to the Merlin solution | Assets Engineer | As part of next AMP review (March 2024) |
| 5 | Align AMP hazard risk matrix, footpath hierarchy and levels of service in new footpath condition assessment work-instruction | To be included as a new business process within the works management module of the Merlin solution | Assets Engineer & Assets Officer | As part of next AMP review (March 2024) |
| 6 | Develop a work procedure in conjunction with Construction and Maintenance administration to ensure footpath defect work orders are logged in the AMS in such a way that allows the measurement of response times based on footpath hierarchy | To be included as a new business process within the works management module of the Merlin solution | Assets Engineer | As part of next AMP review (March 2024) |

# REFERENCES

Queensland Government Statistician's Office. (2020). *Queensland Regional Profiles; Resident Profile for Livingstone (S) Local Government Area*. Retrieved February 10, 2020, from Queensland Treasury: https://statistics.qgso.qld.gov.au/qld-regional-profiles

## Appendix A: Projected 10-year Renewal Works Program

| Asset ID | Asset Type | Asset Function Description | Location | Planned Renewal Year | Replacement Cost |
|---|---|---|---|---|---|
| 1040897 | Plain Concrete | Footpaths | Whitman Street | 2026 | $4,687.32 |
| 894497 | Plain Concrete | Footpaths | Hill Street - Yeppoon | 2026 | $5,946.51 |
| 894363 | Plain Concrete | Footpaths | Macaulay Way | 2026 | $12,734.61 |
| 894567 | Plain Concrete | Footpaths | Raymond Terrace | 2026 | $22,506.13 |
| 894481 | Plain Concrete | Footpaths | Seaview Road | 2026 | $35,505.24 |
| 894752 | Pavers | Footpaths | Hill Street - Yeppoon | 2026 | $12,752.87 |
| 1040829 | Pavers | Shared Pathways | Hill Street - Yeppoon | 2026 | $20,256.54 |
| 894751 | Pavers | Footpaths | James Street | 2027 | $130,326.76 |
| 1112214 | Gravel/Crushed Pavers | Footpaths | Matthew Flinders Drive | 2027 | $1,319.32 |
| 1040998 | Kerb Ramp (Pram Ramp) | Footpaths | Arthur Street | 2030 | $1,215.83 |
| 1040774 | Gravel/Crushed Pavers | Footpaths | Lorikeet Avenue | 2030 | $1,954.89 |
| 1041004 | Gravel/Crushed Pavers | Footpaths | Bowls Street | 2030 | $2,400.96 |
| 1106472 | Footpath - Top coat Spray Seal | Footpaths | Byfield Road | 2030 | $4,055.14 |
| 1073772 | Gravel/Crushed Pavers | Footpaths | Sypher Drive | 2030 | $4,746.78 |
| 1052676 | Gravel/Crushed Pavers | Footpaths | Rail Trail | 2030 | $8,478.46 |
| 1106473 | Footpath - Base coat - Spray Seal | Footpaths | Byfield Road | 2030 | $13,279.48 |
| 894556 | Footpath - Top coat Spray Seal | Footpaths | Anzac Parade | 2030 | $73.80 |
| 894250 | Footpath - Top coat Spray Seal | Footpaths | Hartley Street | 2030 | $470.63 |
| 1112215 | Gravel/Crushed Pavers | Footpaths | Matthew Flinders Drive | 2030 | $534.01 |
| 1112216 | Gravel/Crushed Pavers | Footpaths | Matthew Flinders Drive | 2030 | $2,622.93 |
| 894674 | Footpath - Top coat Spray Seal | Footpaths | Farnborough Road | 2030 | $3,697.95 |
| 1108585 | Asphalt | Footpaths | Scenic Highway | 2030 | $28,110.00 |