



GANNAWARRA
SHIRE COUNCIL

D1: Footpath Asset Management Plan – July 2014



Document Format

This plan forms one part of a suite of Asset Management Plans that have been developed:

- A. Bridges
- B. Buildings
- C. Drainage
- D. **Footpath**
- E. Levee Banks
- F. Pools
- G. Recreation Reserves
- H. Roads

This asset management plan consists of two documents being:

- D1: This Footpath Asset Management Plan
- D2: Footpaths Supporting Information

Definitions

“Assets” in the context of this policy, refers to any resource with a financial value attached to it, normally acquired to ensure local service delivery.

“Footpath” in the context of this plan refers to a constructed path generally within a road reserve or park.

“Walking Track” refers to a path generally compacted gravel in some cases with a chipseal that was primarily constructed for recreational purposes.

“Segment” is generally a portion of a footpath that runs from intersection to intersection. Generally being a predetermined length of a footpath described in the Council’s footpath register.

“Rehabilitation” refers to works or activities (maintenance) to rebuild or replace an asset to restore it to a required functional condition and possibly extend its life.

“Renewal” refers to works or activities to upgrade, refurbish or replace existing infrastructure of equivalent capacity or performance capability.

“Disposal” refers to the process of removing the asset or conversion of the asset to a different form.

“Intervention Level” refers to the condition level at which it is deemed necessary under this plan to replace or dispose of the asset.

“Condition Rating” refers to the condition of the asset, generally related to age and wear and tear. A detailed image sample of condition ratings is provided in the supporting documentation.

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1 Summary

Council adopted the original Footpath Asset Management Plan in 2009. The plan was reviewed and updated in April 2011 following a significant investment in the footpath network.

This latest review has provided the opportunity to fully update the plan to reflect best practice for asset management plans and will fit among a suite of asset management plans to assist Council to appropriately manage key infrastructure. This Plan acts as a tool to support the ability of Council to deliver well targeted, responsive and value for money maintenance and operational services for the community as a whole.

The plan covers the proposed levels of service, future demand, routine maintenance, renewal/replacement, acquisition/creation/augmentation of footpath assets and disposal. It also outlines the financial requirements and the key assumptions made in the financial forecasts.

Information on the levels of service governing the management of our footpath assets has also been collected and analysed. This information identifies drivers affecting levels of service, key performance indicators, and comparisons between current and best practices.

This Footpath Asset Management Plan should be subjected to a formal review every four to five years.

Service Background			
Council Plan Area of Achievement	Healthy and Liveable Communities	Our community has access to a range of facilities and opportunities that promote active lifestyles	
Service Area	Infrastructure		
Budget Area	Infrastructure		
Service Purpose and Description	<p>The purpose of the service is to provide for the liveability of the community by:</p> <ul style="list-style-type: none"> • Providing a network that is accessible to all abilities • Providing access to key infrastructure within towns • Linking communities within townships • Providing passive recreation with walking trails <p>To achieve this Council will:</p> <ul style="list-style-type: none"> • Monitor and maintain the network to an agreed standard • Continue to identify opportunities for the construction of additional walking tracks and linkage footpaths 		
Service Planning Responsibilities (as specified in the Functional Matrix)	Strategic Planning Maintenance & Construction	Manager Design and Assets Manager Operational Services	
Service Costs 2013/14			
Maintenance Expenditure	\$90,988		
Capital Income	\$0		
Capital Expenditure	\$100,000	Capital as % of rates	1.1%
Total Net Cost	\$190,988	Overall as % of rates	2.1%

2 Plan Format and Definitions

The Footpath Asset Management Plan is designed to provide a framework for the efficient management of Council owned and controlled footpaths and walking tracks.

2.1 Relationship with Other Planning Documents

- Council Plan 2013-17
- Disability Action Plan
- Gannawarra 2025
- Victorian Health and Wellbeing Plan
- Tracks and Trails Strategy
- Positive Ageing Strategy
- Recreation Reserve Master Plans
- Road Management Plan
- Community Safety Plan
- Integrated Community Plan
- Tourism Strategy
- Environmental Sustainability Strategy 2013-16
- Community Plans
- Early Years Plan

2.2 Infrastructure Assets included in the plan

Asset Category	Asset Components	Assets Included
Pathways	Footpaths	Surface, ramps
	Walking Tracks	Walking tracks/trails, signs

Footpaths are generally provided along roadsides, and in some instances through parks and other recreational areas. Walking Tracks are generally constructed to link areas around towns or to provide passive recreation.

The plan covers municipal assets including:

- Footpaths constructed from
 - Pavers
 - Chip seal
 - Asphalt
 - Concrete
- Walking tracks constructed from
 - Gravel
 - Chip seal

2.3 Assets not included in this plan

Assets specifically excluded from this plan are:

- Culvert crossings providing access to private property are the responsibility of the land owner and are not included in this plan
- Driveway infills between the kerb and the footpath and between the footpath and the property
- Footbridges
- On-road bicycle paths
- Unformed paths and footways
- Pedestrian crossings (eg rail)

3 Levels of Service

The levels of service are the required performance standard for an asset. Levels of service determine an asset’s development, operation, maintenance, replacement and disposal. Factors that determine the level of service are primarily:

- Whether alternative access options exist
- Strategic and Corporate Goals - Council’s goals and values as stated in policies, strategies, and the Council Plan
- Number of pedestrians using the footpath and the rate of growth in the area
- The location of the path to various services
- Community safety
- Economic development potential

3.1 Customer Engagement and Expectations

Requirement	Example	How it is measured
Needs	Footpath in appropriate location	Customer/community feedback Review of network
Safety	Condition and defects within the path	Condition inspection Customer feedback Defect inspections to comply with the Road Management Act
Aesthetics	Unevenness, cracked and old pavers, colour	Customer feedback Condition inspections
Condition	Condition of the footpath and adjacent environment	Customer feedback Condition inspections Defect inspections

3.2 Key performance indicators

KPI	Levels of Service	Performance Measurement	Target Performance
Response to safety issue	Assets are safe to use and free of hazards	Response and repair in accordance with Road Management Plan	As detailed in the Road Management Plan
Condition	Maintained at the agreed level of service for that asset class	Footpaths at a condition no higher than intervention level	98% of the network within intervention level
Accessibility	Accessible paths at appropriate locations	Grinding or replacement of all “pram crossings” on the footpath network	95% compliance within each category by Category 1 – Dec 2014 Category 2 – Dec 2015 Category 3 – Dec 2016

Action: Review annually the path network to identify future expansion/linkages

3.3 Asset Hierarchy

The footpath hierarchy is divided into five categories, with Category 1 being the highest ranked as it has the highest user profile. In previous plans only three categories were afforded to the footpath network, however with the increased importance of providing a diversified walking track network, two new categories have now been included.

Classification	Definition
Category 1 Footpath High and commercial use areas	Constructed footpaths within a township's CBD.
Category 2 Footpath Strategic and intermediate use areas	Constructed footpaths that provide direct access to Hospitals, Churches, Schools, Aged Hostels, and strategic routes to areas of significance.
Category 3 Footpath Infrequently used	Any other constructed footpath within a township.
Category 4 Walking Track Sealed	A chip sealed or asphalt track specifically installed for recreational use
Category 5 Walking Track Unsealed	An unsealed gravel track specifically installed for recreational use

3.4 Levels of Service

The elements required to be considered for each individual segment are as follows:

- What level of service will be required in the short, medium and long term for the users of the footpath? How often will it be used?
- Are there other, alternative means of providing access? Can the footpath be removed / converted? Can it be converted to meet the suitability requirements of the future?
- What are the long term budget forecasts?

3.4.1 Intervention Levels of Service

Category	Intervention Level
1	6
2	7
3	7
4	8
5	8

3.4.2 Footpath Levels of Service

Community Levels of Service	Technical Target	Technical Measure
Properties will have access to the footpath network	Constructed footpath present	Category 1 - Paths will be constructed adjacent to commercial properties within the CBD generally on both sides of the road Category 2 - Paths may be constructed on both sides of the road where required for network linkage Category 3 - Paths will generally be provided on one side of the road only
Paths will be wide enough for general use	Width of path	Category 1, 2 & 3 – New paths are a minimum of 1.2m wide
Paths will be safe to use	Compliance with the Road Management Plan	Category 1 - No footpath will be outside condition 6 Category 2 & 3 - No footpath will be outside condition 7
Opportunities for rest (eg seating)	Availability of Path furniture	Category 1 - Furniture may be provided in strategic locations to support surrounding uses Category 2 & 3 - No provision for furniture along paths
Path crossings to be accessible by a wheelchair or pram	Percentage of crossings with compliant DDA ramp either constructed or ground	95% compliance within each category by Category 1 – Dec 2014 Category 2 – Dec 2015 Category 3 – Dec 2016

3.4.3 Walking Track Levels of Service

Community Levels of Service	Technical Target	Technical Measure
Recreational tracks are provided for Health & Wellbeing	Walking tracks present	Category 4 & 5 Paths will be provided where there is a long term demonstrated need
Walking tracks that link one part of town to another	Link isolated estates within townships	Category 4 & 5 Identified areas will be assessed for the need for a path and a future construction schedule produced
Tracks will be wide enough for passive recreation	Width of path	Category 4 – A minimum clear width of 1.8m of seal will be provided where practical Category 5 - A minimum width of 1.5m wide clear gravel path will be provided where practical
Opportunities for rest (eg seating)	Availability of Path furniture	Category 4 & 5 Where indicated in a recreational master plan or deemed necessary due to excessive distance between locations.
Knowing where the tracks are and where they go	Signage and Maps	Category 4 & 5 All tracks are mapped and signs are located where appropriate.

Action – Identify future linking path networks

4 Future Demand

There are many factors influencing the future demand of assets from a changing population demographic to general community expectations as to what is acceptable. While Council will strive to meet demand for future asset expansion this must be done in a sustainable way that meets the needs of the community as a whole.

Factor Influencing Demand	Impact on the service, cost, timing	Demand Management Plan Actions
Ageing population	With the ageing population there is a corresponding growth in the use of scooters for mobility and a greater need for level well-constructed paths and crossings	Monitor and construct to DDA standards when reconstructing paths
Residential development	New residential developments generally have a permit condition requiring the construction of internal paths. These should be constructed according to the levels of service listed in this plan.	Ensure all residential developments have the requirement to construct path generally on one side of the road.
Disability Discrimination Act	The Act requires that Council provide equitable access for all. This requires Council when reconstructing to: <ul style="list-style-type: none"> • Improve pram crossings to remove obstacles created by the lip • Install tactile surface indicators • Ensure paths are constructed at a particular gradient 	When replacing paths ensure they are constructed to the required standard
Recreational tracks	It has been identified that a recreational track network is beneficial to a community. There have been a significant number of recreational tracks constructed in recent years and that should continue.	Continue to identify opportunities to improve linkages around townships and advocate for additional funds to construct these networks

4.1 Network Augmentation

Improvements and additions to the path network in particular walking tracks is an ongoing process to keep pace with a changing population and community expectations. While additions to the network are valuable to the community additional maintenance and replacement costs must be realised and included in future expenditure.

Ideally additions to the network will be balanced by the strategic decommissioning of category 2 and 3 footpaths within towns where they currently exist on both sides of the road and a single path caters for pedestrian traffic.

4.2 Identified Network Linkage Improvements

As this section of the plan will be continually assessed and additional projects added as the need is identified a list of identified improvements is included in the supporting information. This list will be updated as opportunities are identified.

Action: Investigate opportunities to include new construction works in the Capital program

Action – Identify future linking path networks

4.3 Decommissioning of Paths

Where a footpath is in poor condition and prior to replacement the necessity of the footpath will be assessed. A footpath will be deemed as no longer required when it is a Category 3 path and another footpath exists on the other side of the road that is in reasonable condition and provides appropriate access. In this case the adjoining landowners would be advised of Council’s intention to remove the path and provided with the opportunity for comment.

5 Risk Management

The identified risks associated with footpaths and walking track assets included in this plan are monitored and controlled through Council’s Road Management Plan.

5.1 Risk Identification

Hazard	Cause	Main Area of Impact	Controls
Trip Hazard	<ul style="list-style-type: none"> • Joint misalignment • Rough uneven surface • Ground movement • Path edge drop off • Slippery surfaces • Service Pits • Weeds • Fallen branches 	Public health, safety and wellbeing	Inspections and hazard reduction as determined by Council’s Road Management Plan
Overhanging vegetation	Overgrown vegetation generally from adjoining property	Public health, safety and wellbeing	Inspections and hazard reduction to a minimum 300mm from the edge of the path and 2,500mm above the path
Damage caused by unauthorised vehicles	Heavy construction vehicles crossing paths that have insufficient strength	Public health, safety and wellbeing	Asset Protection Permits during construction phase and inspections
Conflict between pedestrian and bicycle users on shared paths / walking tracks	Inadequate signage / markings Poor design	Public health, safety and wellbeing	Signage Appropriate design width and sight distances
Pedestrian traffic utilising the road carriageway to travel *	No footpath available Choice	Public safety	Include identified locations in future linkage improvements list for construction when funding allows

* While it is acknowledged that some people choose to utilise a roads carriageway to travel it is not designed for this purpose and is discouraged. To prevent conflict between pedestrians and vehicles it is safer to travel on the nature strip.

5.2 Asset Criticality

Asset criticality addresses assets that are both a high consequence of failure (being a major or catastrophic consequence) and have a high risk of failure. There are no assets included in this plan that meet these criteria.

5.3 Legislative Requirements

The relevant legislation governing footpath construction and maintenance operations are listed below:

- Local Government Act 1989
- Road Management Act 2004
- Road Safety Act 1986
- Planning and Environment Act 1987
- Council's Road Management Plan
- Australian Standards and VicRoads guidelines

6 Lifecycle Management Plans

6.1 Asset Ownership

Council currently has 72.1km of constructed footpaths within the municipality and approximately 20km of recently constructed walking tracks, details of which are contained in Council's asset register. These footpaths are constructed of a variety of materials including concrete, asphalt, gravel and pavers. Reinforced concrete is the most common construction material for footpaths and compacted gravel in some cases with a chip seal for walking tracks.

6.2 Asset Quantities Footpaths

Location	Length
Cohuna Town	25,377m
Kerang Town	33,295m
Koondrook Town	2,050m
Lalbert Town	629m
Leitchville Town	5,279m
Murrabit Town	446m
Mystic Park	242m
Quambatook Town	4,786m
Total	72,104m

Material Type	Asphalt	Brick Pavers	Concrete Pavers	Reinforced Concrete
Area m²	2,243	2,270	11,238	86,210

6.3 Asset Quantities Walking Tracks

This table lists the walking tracks constructed over the past 2 years, additional mapping required of all walking tracks

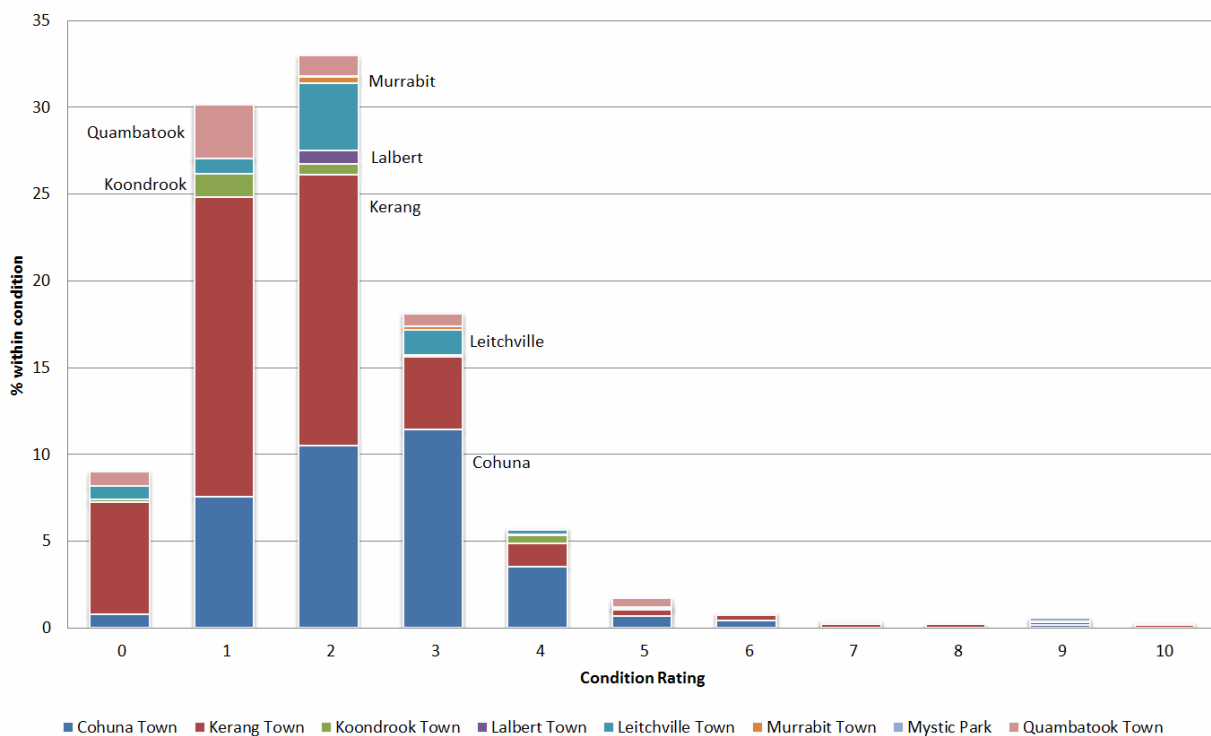
Location	Length	Chip Seal	Gravel
Cohuna *	3,700m	1,200m	2,500m
Kerang	530m	0m	530m
Koondrook	4,000m	0m	4,000m
Ibis Rookery	800m	0m	800m
Leitchville	5,000m	0m	5,000m
Murrabit *	3,230m	600m	2,630m
Kangaroo Lake	1,800m	0m	1,800m
Quambatook Town	1,200m	0m	1,200m
Total	20,260m	1,800m	18,460m

* Includes chip seal component

Action: Complete mapping of all existing tracks and trails

6.4 Asset Condition

Footpath Condition Distribution Data



This graph shows the percentage of constructed footpaths (Categories 1 – 3) within each condition rating by town. This is a typical bell shape condition distribution consistent with an asset that is in an overall very good condition. The small number of paths with a rating higher than 7 will be replaced in the near future.

Monitor: Update condition data for the network on an annual basis

Action: Develop a condition assessment criteria for walking tracks

6.5 Condition ratings for concrete paths

A visual criteria for assessing the condition of concrete footpaths is included in the supporting information document – D2.

Rating	Description	Years of life within condition	General descriptor		
			Wear	Separation	Cracking
0	New	4	None	None	None
1	Near new	9	None	None	None
2	Excellent	11	Very slight	None	None
3	Very Good	14	Slight	Very minor	None
4	Good	20	Some	Minor	Minor
5	Fair	10	Obvious	Some	Some
6	Fair to Poor	7	Obvious	Obvious	Obvious
7	Poor	3	Obvious	Obvious becoming displaced	Obvious becoming displaced
8	Very Poor	1	Extensive	Obvious and displaced	Obvious and displaced
9	Extremely Poor	1	Extreme	Extensive	Extensive crazy paving
10	Failed	0	Failure	Failure	Failure
Total life:		80 years			

6.6 Asset Replacement Costs

The current cost of replacing reinforced concrete paths is approximately \$115 per square meter or \$138 per lineal meter at a standard construction width of 1.2 metres.

The replacement cost of a gravel path is approximately \$20 per square meter.

6.7 Construction Standards

Classification	Standard
Category 1 Footpath High and commercial use areas	Minimum 1.2metre wide reinforced concrete, or Pavers or other high quality surface wider than 1.2m in CBD areas.
Category 2 Footpath Strategic and intermediate use areas	Minimum 1.2metre wide reinforced concrete
Category 3 Footpath Infrequently used.	Minimum 1.2metre wide reinforced concrete
Category 4 Walking Track Sealed walking track	Minimum 1.8m wide spray sealed track with 0.3m shoulders to provide a minimum 2.2m wide clear passage.
Category 5 Walking Track Unsealed Walking Track	Minimum 1.5m wide gravel track

6.8 Replacement Standards/Process

The annual replacement program for footpaths is generated through a combination of condition inspection data and defects identified through the regular inspection process. These areas of path will then be assessed depending on location and category, generally with a higher category being replaced in preference to a lower category.

Consideration will also be given to the length of path being replaced. Historically only areas of failure have been replaced leaving segments of paths with various widths and condition of path that may only be five to ten metres in length. This over time increases replacement costs as the remaining small segment will require replacement at a later date. Where practical and when the condition of path allows full segments should be replaced in their entirety. This will over time reduce the reconstruction costs as larger areas will reduce the unit rate of replacement.

6.9 Materials

Through previous materials testing the most cost effective and stable material for constructed footpaths is reinforced concrete, and fine crushed rock either sealed or unsealed for walking tracks. The use of pavers may be considered for use in a Category 1 path where a street scape plan recommends their use and the size, type and installation method has been selected to reduce future maintenance.

6.10 Coloured concrete

The use of coloured concrete shall be considered in areas where the use of standard grey concrete may detract from the natural environment or where the visual amenity of an area would be increased through its use such as in reserves or around playgrounds. It must be understood that the use of colour increases the cost of installation and should only be used where the benefits are shown to outweigh the increased cost.

6.11 Programming and recording of works undertaken

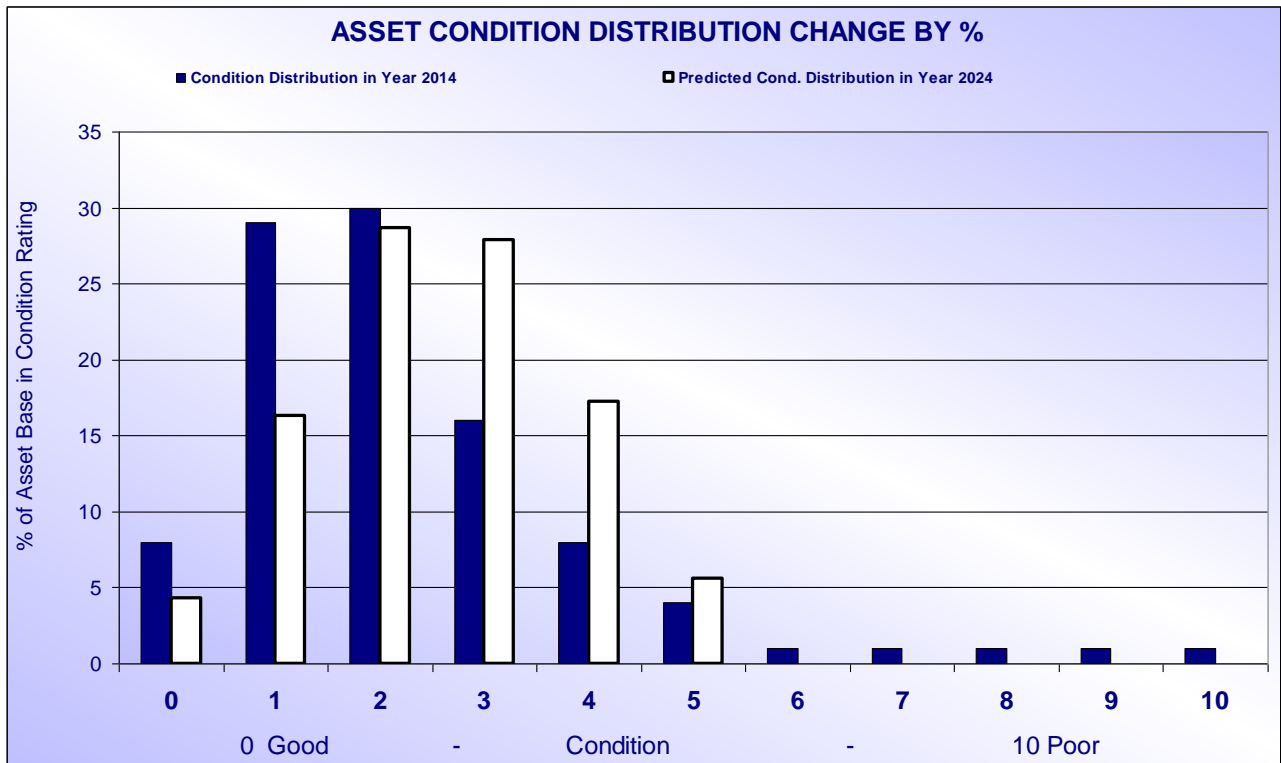
All defect and condition inspections are recorded utilising Councils asset management software "Confirm". This will ensure an up to date and accurate record of the state of the network at any given time. Any works that are conducted in field, whether pro-active or reactive must be issued with a corresponding accurate works order to enable recording of network improvements.

Monitor: *Conduct regular audits on works undertaken to ensure orders are placed*

6.12 Predicted future condition

At the start of 2009 it was estimated that Gannawarra Shire had 4.24% of the footpath network nearing or outside intervention levels (defined as a condition rating of 7 and above). A program of replacement was initiated to address a large backlog of outstanding works. This program has now been completed and the works schedule has returned to normal levels. There is now only 1.5% of the network that is deemed to be at or outside of intervention. This is evident by the large bias of paths within conditions 1 and 2.

The modelling shown indicates at the predicted annual expenditure of \$100,000 plus CPI the network can be maintained within the required condition. This is demonstrated by the even condition distribution predicted by 2024 at that level of replacement.



Note: The above graph includes the currently identified 20km of walking tracks. As mapping of the remaining network is completed this profile will be reviewed.

6.13 Proposed Capital Budget

Year	Capital Requirement	Maintenance Requirement
2014/15	\$100,000	\$100,788
2015/16	\$103,000	\$105,827
2016/17	\$106,090	\$111,119
2017/18	\$109,273	\$116,675
2018/19	\$112,551	\$122,508
2019/20	\$115,927	\$128,634
2020/21	\$119,405	\$135,066
2021/22	\$122,987	\$141,819
2022/23	\$126,677	\$148,910
2023/24	\$130,477	\$156,355

The maintenance figure above includes maintenance and replacement costs for an additional 12km of walking tracks over the next 10 years. It is important to note that these costs do not include the initial construction costs.

7 Plan Improvements and Monitoring

Improvement actions identified during the development of this plan are summarised below:

1. **Action:** Complete mapping of all existing walking tracks
2. **Action:** Investigate opportunities to include new construction works in the Capital program
3. **Action:** Identify future linking path networks
4. **Action:** Review annually the path network to identify future expansion/linkages
5. **Action:** Develop a condition assessment criteria for walking tracks
6. **Monitor:** Maintain accurate and up to date asset management system
7. **Monitor:** Update condition data for the network on an annual basis
8. **Monitor:** Conduct regular audits on works undertaken to ensure orders are placed

8 Supporting information

Refer to separate documents

- Footpath Asset Management Plan Supporting Information