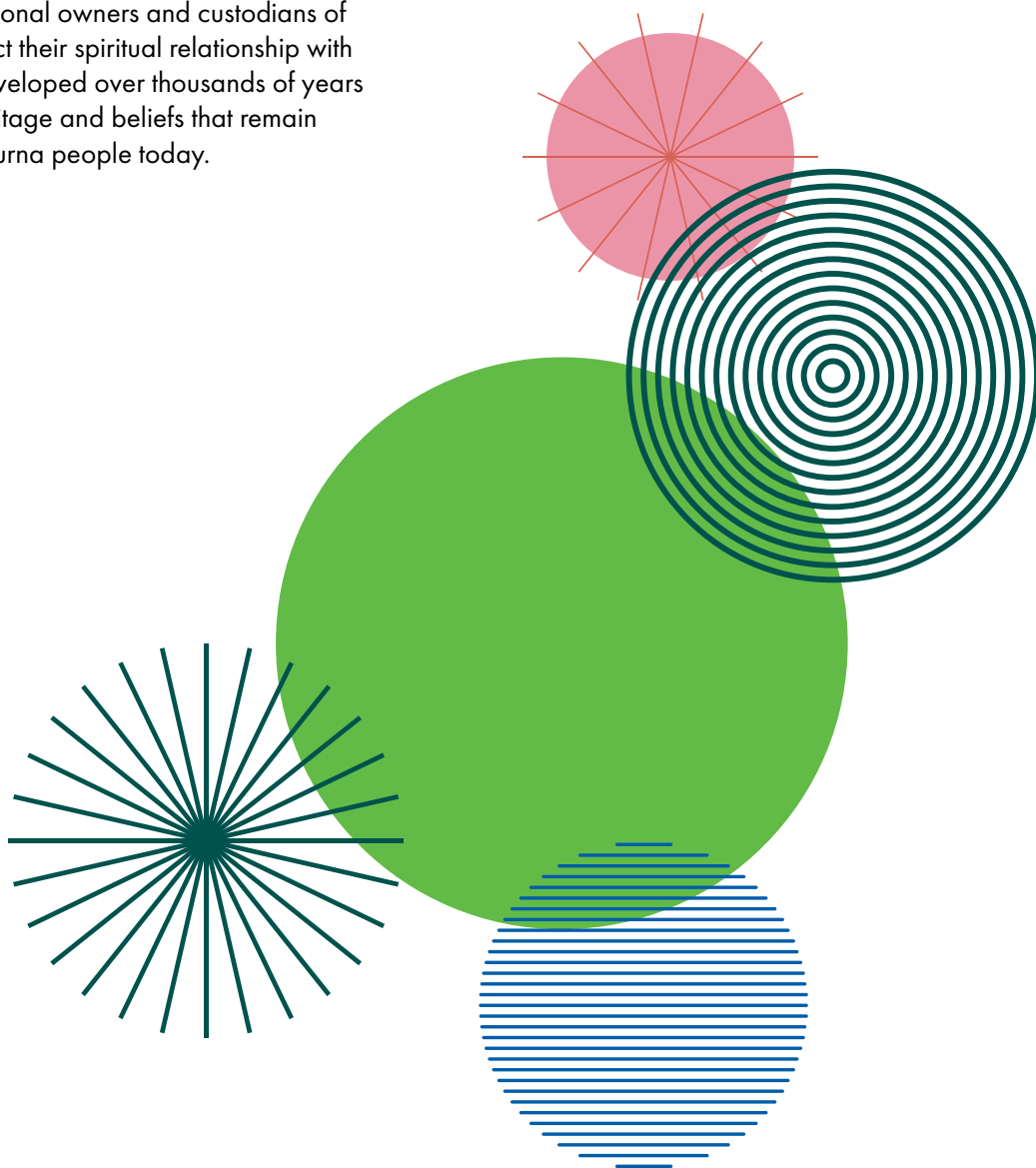


Tree Asset Management Plan 2026



Acknowledgement to Country

The City of Holdfast Bay acknowledges the Kaurna People as the traditional owners and custodians of the land. We respect their spiritual relationship with country that has developed over thousands of years and the cultural heritage and beliefs that remain important to the Kaurna people today.



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Executive Summary

The City of Holdfast Bay recognises the important contribution that trees and vegetation make to the city and our community. Together, these natural community assets create our urban forest and provide multiple benefits such as supporting flora and fauna, and reducing the impacts of climate change, while creating a liveable city that adds character and beauty to neighbourhoods and economic value to properties. This tree asset management plan (the Plan) focuses on the management of Council's trees.

The Plan aligns with our Urban Forest Plan to deliver on our urban forest vision for *'a beautiful, healthy and cool urban forest celebrated by our community for generations to come'*, and goals:

- › Grow a Great Urban Forest
- › Nurture Best Practice Tree Management
- › Cultivate Community Care for our Urban Forest.

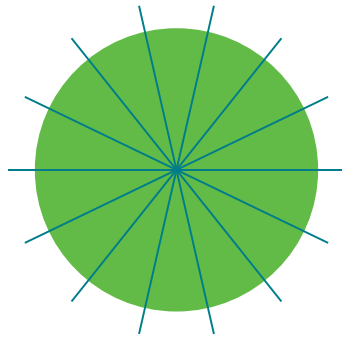
The objective of asset management is to provide the desired level of service in the most cost-effective manner for present and future generations. A strategic approach to tree management, aligning with asset management industry standards and best practice, has been undertaken to ensure Council's sustainability.

Effective, best practice asset management for trees, as demonstrated in this plan, is essential to achieving our target of increasing our tree canopy from 11.7% in 2018 to 16.6% in 2030, and to achieving Council's vision of *'protecting our heritage and beautiful coast, while creating a welcoming and healthy place for all in South Australia's most sustainable city.'*

To ensure our assets are providing the appropriate service to the community, levels of service are tracked each year. These levels of service are defined under quality, function, capacity and climate.

Asset lifecycle planning outlines how Council plans to manage trees in an optimised, cost-effective manner, while ensuring delivery of the agreed service levels. The lifecycle of assets can be defined in four stages:

1. Creation/acquisition (planning, planting)
2. Operations and maintenance (maintain, monitor)
3. Renewal/replacement
4. Decommission/removal.



The physical condition of our trees is a level of service indicator to ensure we are investing appropriately. Our targets include:

- › Overall average condition to be better than 2.0 (fair)
- › The percentage of trees in fair to good health and condition, to be above 90%.

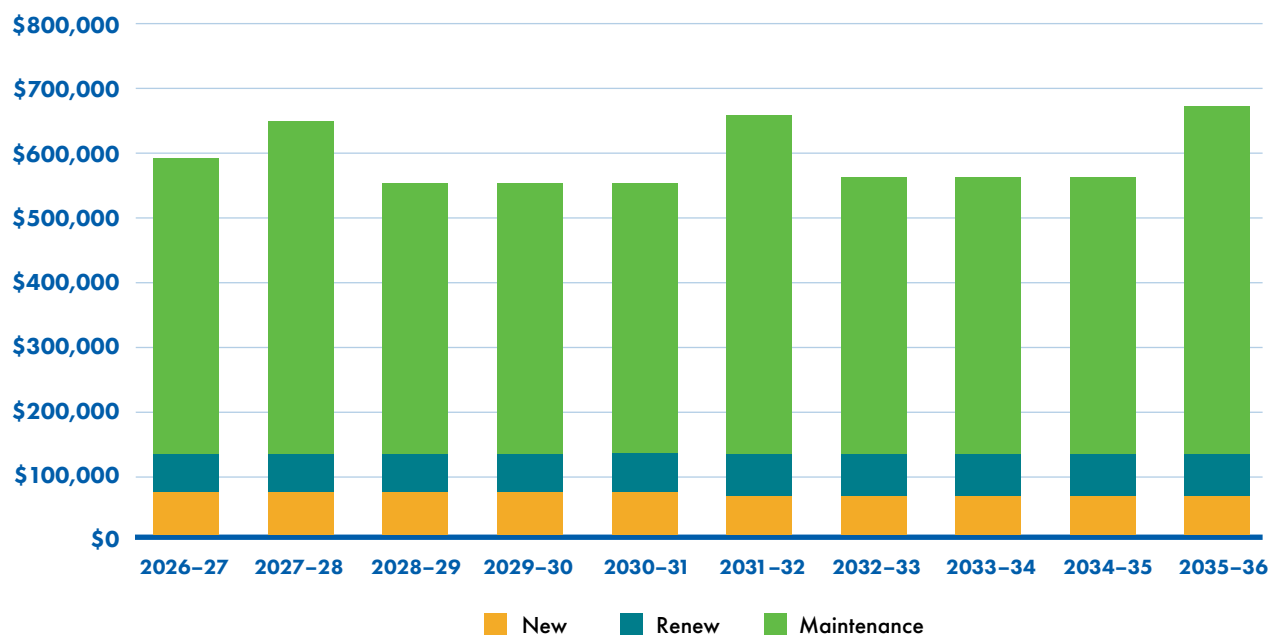
The current condition levels are:

- › Average health condition: 1.2 (good)
- › Average structure condition: 1.6 (good)
- › 96% of trees are in a fair to good health condition
- › 98% of trees are in a fair to good structural condition.

The expenditure forecast for all four stages of the asset lifecycle is summarised below, excluding new initiatives.

Council is committed to continuously improving the quality, efficiency and maturity of its tree management practices. The improvement program specifies its commitment to increase asset management maturity and data confidence. Key performance measures have been established to track Council's urban forest and asset management practices.

10-YEAR TREE FORECAST SUMMARY



1. Introduction



1.1 Purpose

Council recognises the important contribution that trees make to the city and our community.

Trees are highly valued natural assets, whether public or private, and together make up our urban forest. Trees provide multiple benefits, such as supporting flora and fauna, and reducing the impacts of climate change, while creating a liveable city that adds character and beauty to neighbourhoods and economic value to properties.

The Council commits significant resources to ensuring we have the best possible streetscape and open space environments through the effective management of trees and understory planting, while encouraging our community to also play a role. The management of trees is an important function of Council, as urban infill, populations, the impacts of climate change, and community expectations continually rise. Managing these important assets is becoming increasingly more challenging and complex.

The Plan has been developed to demonstrate proactive management of Council's assets (and services provided by assets), compliance with regulatory requirements and to communicate funding required to provide the required levels of service over a ten-year planning period.

This plan includes all Council-owned trees, including street trees and trees within open space and aims to:

- › Align with ISO 55000:2014 principles (international standard for asset management) without seeking accreditation as an ISO document or process
- › Align the delivery of tree management activities with the organisation's goals and objectives – this is known as the 'line of sight'
- › Create transparency and accountability through all aspects of asset management, ensuring all stakeholders understand their roles and responsibilities for achieving the Plan's aims.

1. Introduction

1.2 Strategic Context

In accordance with the *Local Government Act 1999* (the Act) and the Strategic Plan (*Our Holdfast 2050+*), Council provides a range of community services to the local community and visitors.

Assets are the foundation stones of the Council and management of assets is essential to achieve our Council's vision of:

Protecting our heritage and beautiful coast, while creating a welcoming and healthy place for all in South Australia's most sustainable city.

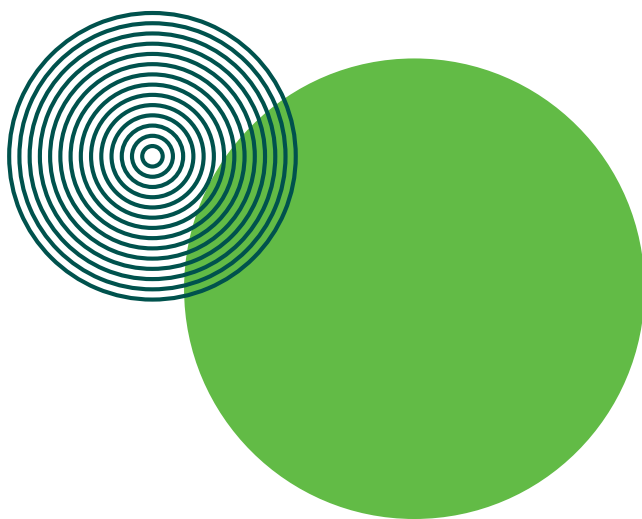
The plan is developed and implemented in conjunction with the following plans, strategies and policies:

- › *Strategic Plan (Our Holdfast 2050+)*
- › *Corporate Plan (in development)*
- › *Urban Forest Plan*
- › *Environment Strategy*
- › *Long-Term Financial Plan*
- › *Tree Management Policy*
- › *Asset Management Policy*
- › *Verge Management Policy.*

The Plan aligns directly with our *Urban Forest Plan* to deliver on our urban forest vision for 'a beautiful, healthy and cool urban forest celebrated by our community for generations to come' and goals to:

- › Grow a Great Urban Forest
- › Nurture Best Practice Tree Management
- › Cultivate Community Care for our Urban Forest.

The City of Holdfast Bay's planning framework is outlined in Figure 1.1.





1. Introduction

The *Greater Adelaide Regional Plan* (GARP) establishes a 30-year plan for the Greater Adelaide region, identifying where people will live and work, how they will move around, and where they will access services. The GARP also protects the features and characteristics that make the Greater Adelaide region so special, including premium food and wine areas, scenic landscapes and natural environment, cultural and built heritage, world-class beaches, and overall quality of life. The GARP aims for the following outcomes:

- › Outcome 1: More housing in the right places
- › Outcome 2: Liveable, accessible and inclusive communities
- › Outcome 3: A strong economy built on a smarter, cleaner future
- › Outcome 4: A greener, wilder and more climate-resilient environment
- › Outcome 5: An integrated and connected region
- › Outcome 6: Coordinated delivery of land use and infrastructure planning.

Outcome 4 is centred around environment, natural resources and landscapes. It identifies that the future prosperity, the liveability of our cities and towns, the health and wellbeing of our communities, and the resilience of our built and natural environment all depend on how well we adapt to and mitigate the impacts of climate change.

The GARP contains a target for urban green cover in metropolitan Adelaide. This target was reviewed in 2024 as part of the preparation of the *Urban Greening Strategy for Metropolitan Adelaide*. The target aims to achieve 30% tree canopy cover across metropolitan Adelaide by 2055.

The *Urban Greening Strategy for Metropolitan Adelaide 2025–2030* has a vision for a resilient and liveable Adelaide for all: leafier, cooler and more biodiverse.

The *Urban Greening Strategy* aims to reduce urban heat and improve plant species diversity to achieve a target of 30% urban tree canopy cover by 2055, through 6 priority areas:

- › Cooler, greener, and healthier development
- › Government leading by example
- › Building nature back in
- › Future-proofing our urban forest
- › Improving greening equity
- › Scaling up impact by working together.

The updates of the state government-led GARP and *Urban Greening Strategy* have been incorporated into Council's *Urban Forest Plan* and *Tree AMP*.

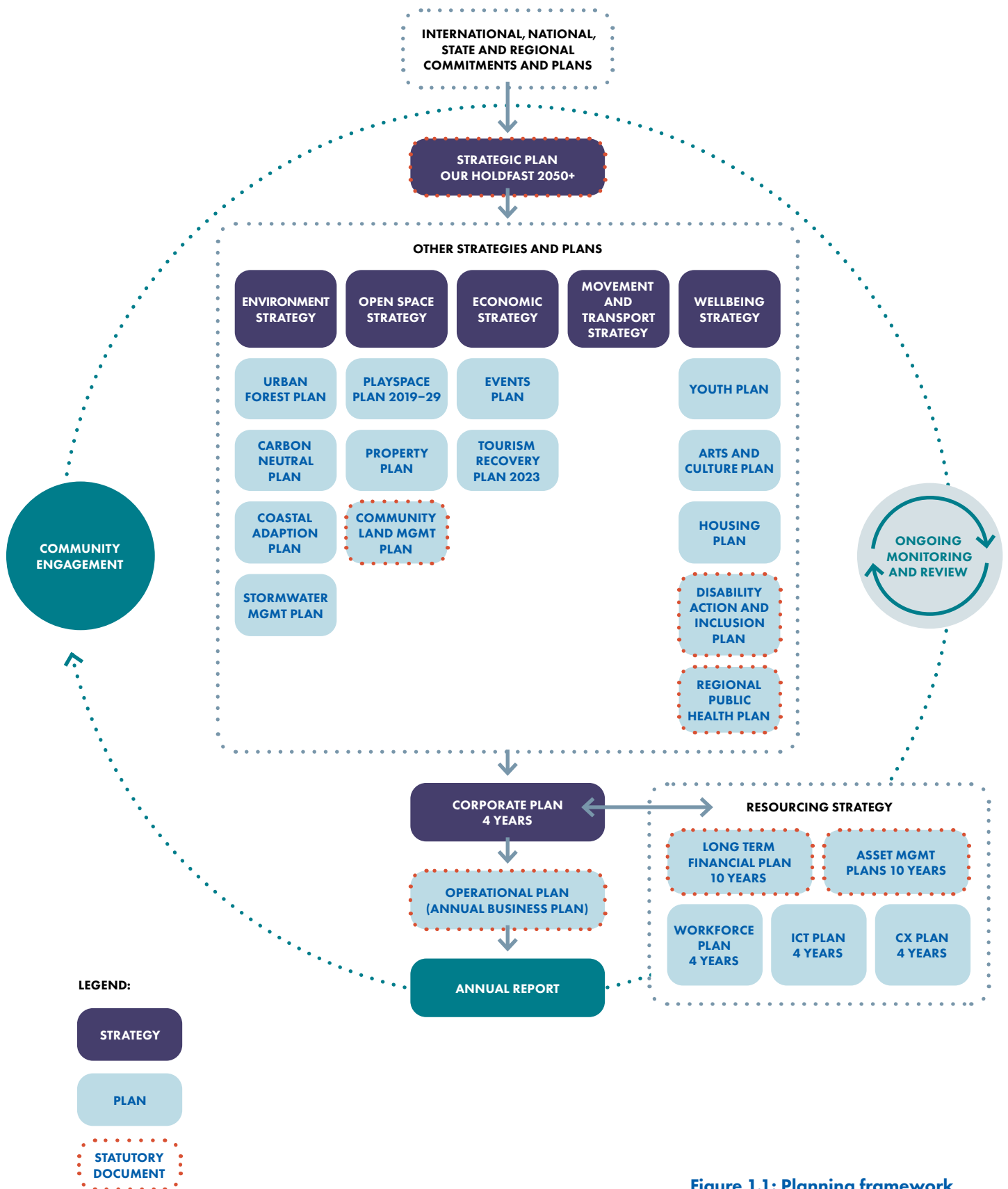


Figure 1.1: Planning framework

1. Introduction

1.3 Stakeholders

The key stakeholders responsible for asset management and end users of trees are outlined in the following table.

Key stakeholders	Role in Asset Management Plan
Residents /community	End users of the services provided directly and indirectly by the assets. Provide feedback collected throughout the year, including the annual satisfaction survey.
Elected Members	Act as custodians of community assets. Set asset management policy and vision. Allocate resources to meet council objectives in providing services while managing risks.
Audit Committee	Reviews and makes recommendations and observations to Council on the financial outcomes of the asset management plans.
Chief Executive Officer and Executive Leadership Team	Provide leadership and strategic direction regarding the management of assets and service provision. Review <i>Asset Management Policy</i> and <i>Asset Management Strategy</i> . Ensure community needs and agreed service levels are incorporated into asset management planning and the <i>Long Term Financial Plan</i> . Ensure councillors and staff are provided with training in financial and asset management practices. Ensure accurate and reliable information is presented to Council. Ensure appropriate delegations and approval processes are followed.



Key stakeholders	Role in Asset Management Plan
Manager Engineering	Manages the development, implementation and review of asset management plans, the <i>Asset Management Policy</i> and <i>Asset Management Strategy</i>. Responsible for advancing asset management within the organisation.
Environment & Coast Lead	Development of <i>Urban Forest Plan</i>.
Asset Management Lead	Manages the asset register and spatial systems. Provides technical asset management expertise to the organisation.
Manager Field Services	Responsible for annual renewal budget planning. Responsible for annual maintenance and monitoring of budget planning. Ensures the maintenance and works programs are achieving service standards. Ensures the delivery of improvement strategies. Responsible for the tree management information system.
Senior Urban Forest Officer	Undertakes data collection. Coordinates the annual planting program. Provides technical arboriculture expertise to the organisation.
Open Space Lead	Coordinates Council resources to deliver the maintenance program.

Table 1.1: Stakeholder responsibilities

Best practice includes sharing and coordinating with our neighbouring councils to ensure the best outcome for Adelaide's metropolitan forest. We do this by networking with other council arboricultural teams and through the Resilient South Regional Climate Partnership, which includes the Cities of Holdfast Bay, Marion, Mitcham and Onkaparinga, and the state government.

Best practice tree management integrates cooperation and coordination with other areas within Council. This is achieved by keeping existing trees when upgrading existing infrastructure and incorporating trees in new infrastructure and projects to create new treed green space.

1. Introduction

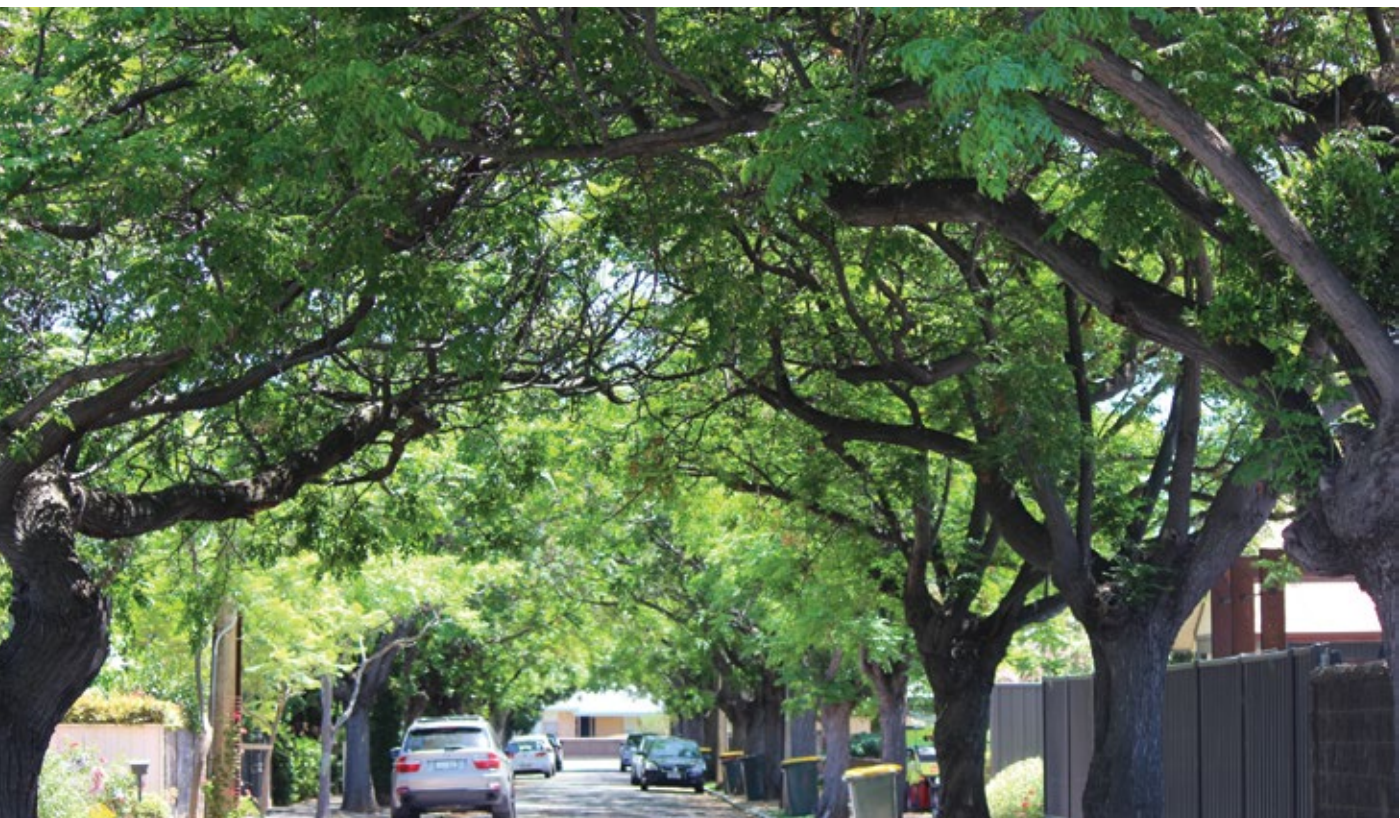
1.4 Asset Management Framework

The *Asset Management Strategy* aims to align the delivery of asset management activities with the organisation's goals and objectives ('line of sight').

The asset management framework consists of the three key asset management documents: the *Asset Management Policy*, *Asset Management Strategy* and *Asset Management Plans*. These documents create transparency and accountability through all aspects of asset management to

ensure all stakeholders understand their roles and responsibilities.

The Council's asset management system is outlined in Figure 1.2 Asset Management System and represents the end-to-end process of asset management within Council. The asset management framework connects Council's strategic vision and goals to the on-the-ground delivery of our services.



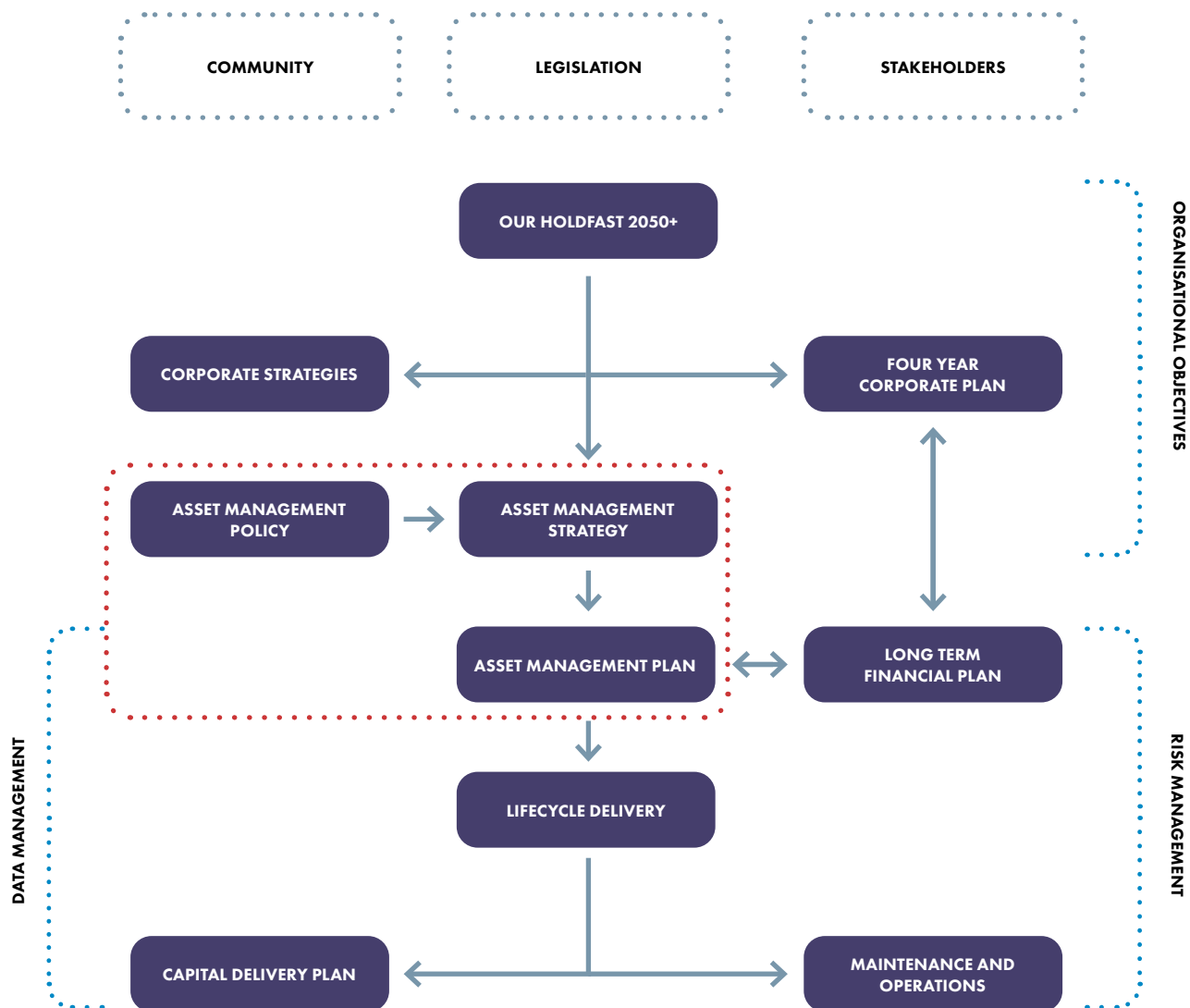


Figure 1.2: Asset management system



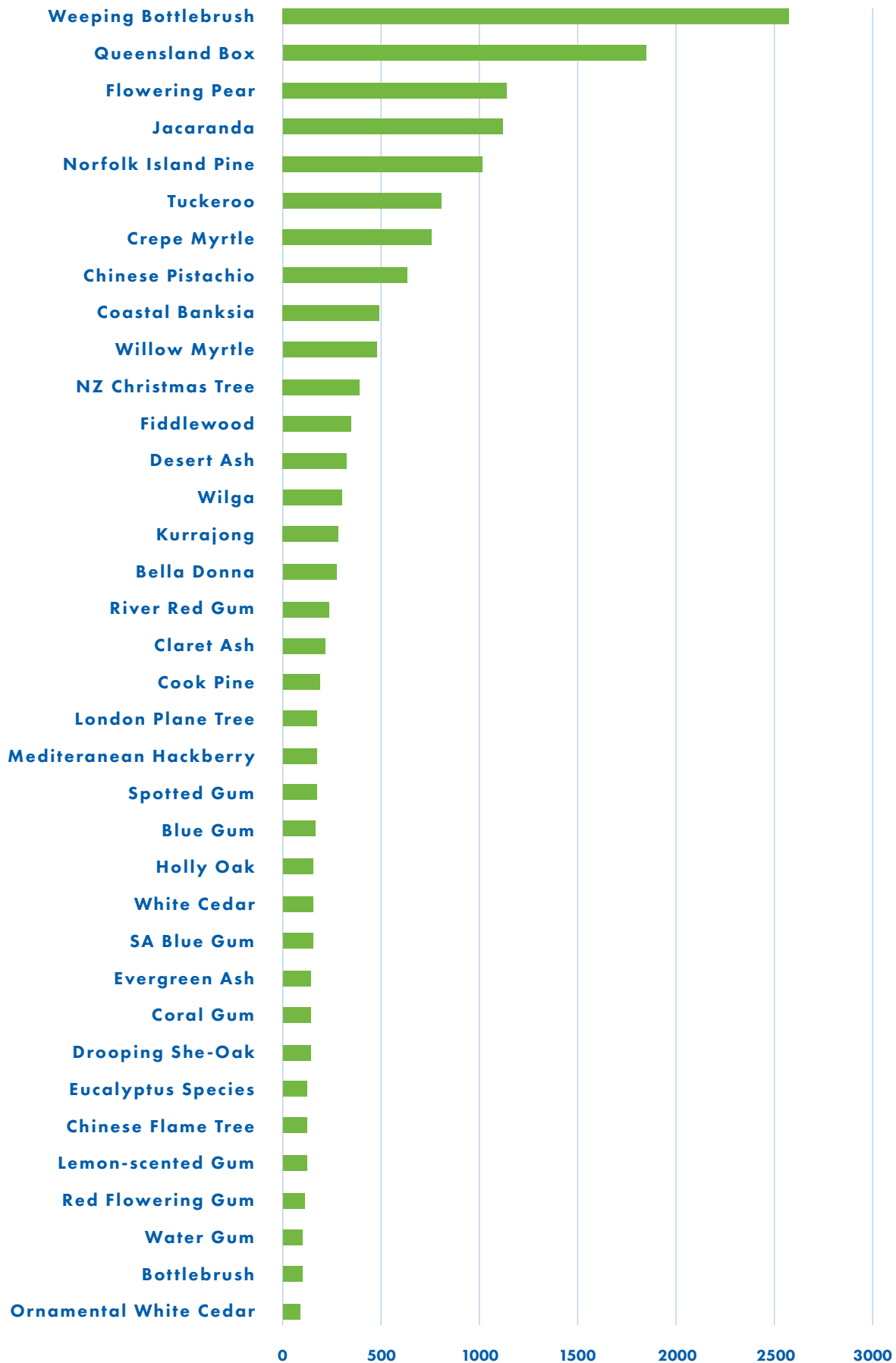
2. Urban Forest Information



In 2021–22 and 2022–23, a detailed audit of all street and open space trees within the City of Holdfast Bay was completed. This information is stored in our asset management system, which is continually updated as trees are planted, pruned, inspected, audited, watered and/or replaced. The audit provides a detailed baseline of the species diversity of our trees.

Council maintains 22,660 trees across the city, with 19,420 street trees and 3,240 trees in our open spaces. Figure 2.1 illustrates the most common species within the city.

CITY OF HOLDFAST BAY - TREE SPECIES



To improve the resilience of an urban forest, a suitable diversity of trees is highly desirable. This ensures resilience against climate change, and pests and diseases, as well as providing a wide range of habitats for animals. The City of Holdfast Bay has set two species diversity targets for 2050:

1. A species diversity mix of no more than 5% of any one species, no more than 10% of any one genus, and no more than 15% of any one family
2. Increase the top diversity index (TD50) from 6 to 10.

Currently, the three largest tree families in our urban forest are:

- › Myrtaceae (44%), includes bottlebrushes and paperbarks, eucalypts and Queensland box
- › Rosaceae (7%), includes pears and ornamental plums
- › Aracariaceae (7%), includes Norfolk and Cook Island pines.

There is one group – genus *Melaleuca* – that currently exceeds our genus diversity target (no more than 10% for any one genus).

There are several individual tree species that exceed, or are approaching, our species diversity targets of no more than 5% for any one species. These include weeping bottlebrush and Queensland box.

Diversity extends to species selection and species distribution. Consideration is given to using a mixed species palette for single streets rather than the more traditional use of single species avenues. Council will also participate in tree species trials to assess the performance and suitability of new tree species to include in the city's tree species palette.

We must also diversify the size mix of our tree species, to use more large canopy trees in places where it is feasible to do so. This will mainly be in our parks.

Planting plans will consider diversity planting as a major factor in ensuring a variety of species are planted, while focusing on optimal tree varieties, accounting for climate change.

3. Levels of Service



The *International Infrastructure Management Manual (IIMM)* describes Levels of Service (LoS) as “defined service quality for an activity or service area against which service performance may be measured”.

City of Holdfast Bay has two defined Levels of Service for trees:

- › Community Levels of Service
 - community perception of service
- › Technical Levels of Service
 - technical indicators of performance.

Community levels of service measure the community’s perception of Council’s service performance, while the technical levels of service measure against technical indicators of performance. These LoS are designed to support the continued performance and function of the tree assets. They are also intended to ensure that the future sustainability of the City of Holdfast Bay’s urban forest is considered. Community and technical Levels of Service are used as performance indicators.

The LoS will be constantly monitored and reviewed through the service key performance indicators (KPIs). It is anticipated that the next review will be in four years. Council’s LoS are captured in Tables 3.1 and 3.2.

3.1 Community Levels of Service

Council receives feedback from a variety of sources including:

- › Community enquiries and requests
- › *Urban Forest Plan* consultation
- › *Annual Business Plan* consultation
- › *Annual Community Survey*
- › Customer satisfaction surveys.

This feedback is built into all areas of the Plan, and we seek to measure our performance against community expectation through our service level links to customer request records and the *Annual Community Survey*.

3. Levels of Service

3.1 Community Levels of Service

Performance measure	Objective	Performance measure	Key performance indicator	2026 performance
Quality	Managing native vegetation and natural environment	Community Survey score	Greater than 7.5	7.5
Quality	Planting and maintaining the street trees	Community Survey score	Greater than 7.5	6.8

Table 3.1: Community levels of service

3.2 Technical Levels of Service

Technical levels of service are tracked through data collected and tracked by Council from a range of areas.

Performance measure	Objective	Performance measure	Key performance indicator	2026 performance
Quality (condition)	Physical state of trees: healthy and structurally sound	Average condition of trees	Average health condition less than 2.0 (fair)	1.2
			Average structural condition less than 2.0 (fair)	1.6

Performance measure	Objective	Performance measure	Key performance indicator	2026 performance
Quality (condition)	Physical state of trees: healthy and structurally sound	Percentage of poor or dead trees	Health percentage of poor trees below 10%	3.5%
			Structural percentage of poor trees below 10%	1.9%
Quality (renewal)	Sustainably managing the renewal of the urban forest	Asset renewal ratio (renewal expenditure over forecast budget)	90%–110% of planned renewals	TBC
Quality (creation)	Increase urban forest	Maintain planting numbers in line with targets	400 trees planted per year	TBC
Quality (responsiveness)	Responding and actioning work orders within determined response times	Time taken to respond to requests	Meet response times for priority 4 and 5 requests (90%)	TBC
Function (safety)	Reducing safety risk	Monitoring high-risk trees within recommended timeframes	100%	TBC
Capacity and utilisation	Increase canopy	Canopy increases every 4 years in line with targets	12.4% canopy by 2026 – city wide	TBC
			15.0% canopy by 2026 – council land	TBC
Climate (adaptation)	Resilient urban forest	No more than 5% of any species. No more than 10% of any one genus. No more than 15% of any one family.	Increase in tree diversification (every 4 years)	Diversity metric TBC

Table 3.2: Technical levels of service

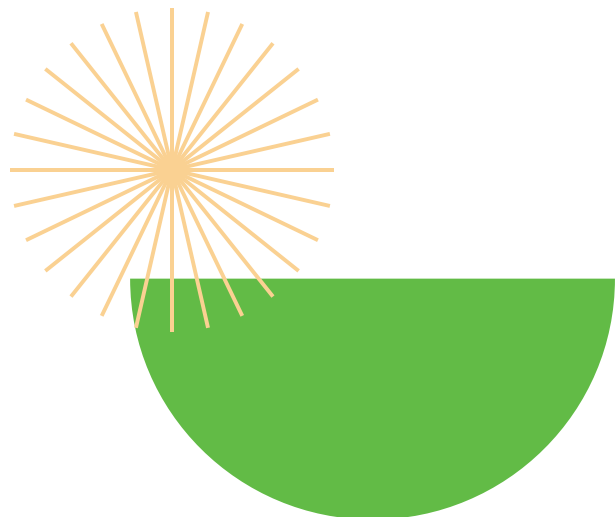
3. Levels of Service

All community and technical Levels of Service have been achieved with the following exceptions:

Service level	Response action
Quality – Planting and maintaining street trees: 6.8 (target 7.5)	Improvements in maintenance practices include increased budget for proactive maintenance (block pruning) and formative pruning. Ongoing monitoring programs. Reduction in trees planted, to ensure appropriate resourcing for tree care and maintenance.

Table 3.3: Response actions

Levels of service with 2026 performance labelled TBC (to be confirmed) do not currently have a baseline indicator. These will be measured and reported in the future.



3.3 Legislation and Relevant Acts

Council must meet many legislative requirements, including Commonwealth and state government legislation and regulations, as well as non-legislative requirements, such as Australian Standards and Council policies.



3. Levels of Service

Legislation	Requirements
<i>Aboriginal Heritage Act 1988 (SA)</i>	An Act to provide for the protection and preservation of the Aboriginal heritage; to repeal the <i>Aboriginal and Historic Relics Preservation Act 1965</i> and the <i>Aboriginal Heritage Act 1979</i> ; and for other purposes.
<i>Australian Accounting Standards</i>	Standards applied in preparing financial statements, relating to the valuation, revaluation and depreciation of open space assets.
<i>Biodiversity Act 2025 (SA)</i>	An Act to provide for the conservation, restoration and enhancement of biodiversity in the State for the benefit of current and future generations.
<i>Biosecurity Act 2015 (SA)</i>	An Act to protect South Australia from pests, diseases, and invasive species. It supports the management of plant pests and tree diseases that may impact on the urban forest.
<i>Electricity Act 1996 (SA)</i>	Framework for the electricity industry. Prescribes control of vegetation in the vicinity of power lines. Provides requirements for vegetation clearance around electricity infrastructure to maintain public safety and network reliability.
<i>Environment Protection Act 1993 (SA)</i>	An Act to provide the protection of the environment; to establish the Environment Protection Authority and define its functions and powers; and for other purposes. Consideration of this Act should be undertaken for the provision, development or management of transport assets.
<i>Environment Protection and Biodiversity Conservation Act 1999 (Federal)</i>	An Act that provides a framework for protection of the Australian environment, including its biodiversity and significant natural communities.
<i>Landscape South Australia Act 2019</i>	An Act to promote sustainable and integrated management of the state's natural resources; to make provision for the protection of the state's natural resources.
<i>Local Government Act 1999 (SA)</i>	Sets out the 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.
<i>Native Title Act (South Australia) 1994</i>	An Act that provides a framework for recognition and protection of native title rights and interests.
<i>Planning Development and Infrastructure Act 2016 (SA)</i>	An Act to provide for matters that are relevant to the use, development and management of land and buildings.
<i>SA Public Health Act 2011</i>	An Act to promote and to provide for the protection of the health of the public of South Australia and to reduce the incidence of preventable illness, injury and disability; and for other purposes.
<i>Telecommunications Act 1997 (Federal)</i>	An Act about telecommunications, and for related purposes. Provides guidance where tree, undergrowth or vegetation obstructs telecommunication facilities.
<i>Water Industry Act 2012 (SA)</i>	An Act to facilitate planning in connection with water demand and supply. Specifies powers in relation to tree removal.
<i>Work Health & Safety Act 2012 (SA)</i>	An Act to provide a safe work environment for workers on site.

Table 3.4: Legislative requirements

4. Demand Forecast

A community's demand for services may change over time depending on factors including environmental, technological and capacity requirements. Council may need to make changes to manage future demand for services.



4. Demand Forecast

Demand driver	Demand forecast	Demand impact on trees
Land use – urban infill	Greater urban infill limits plantable spaces on private property	Increase reliance on public trees to offset canopy loss on private land Reduction of overall potential canopy for the city
Land use – utilities	Restriction on tree planting around utilities such as electric, water, and gas.	Limits tree species selection Limits planting spaces
Social – increased population density	Increase in customer service enquiries regarding tree management, conflict with trees, and risk exposure	Higher demand to ensure trees are well maintained and safe
Technological – data-driven analysis	Requirements to have information to manage the urban forest, maintenance programs, delivery programs, and risk	Increase attribute, condition and risk data to inform decision making.
Climate – temperature	Maximum, minimum and average temperatures will increase Warmer spring temperatures Hotter and more frequent ‘hot’ days Longer heatwaves and longer heatwave season Higher community demand for tree canopy (cooling)	Trees become more susceptible to disease and pests Reduced establishment rates for young trees Evaporation increases across all seasons
Climate – rainfall	Declining rainfall Lower spring rainfall Extended and more frequent droughts	Increase the likelihood of branch or limb failures Increase the decline in tree health, establishment rates or ability for trees to reach their potential canopy
Climate – storms	Increase in intense and heavy rainfall events with intensified winds	Increase the likelihood of branch or limb failure More frequent reactive response and associated expenses



Demand management

Urban Forest Plan

Advocate to the state government for increased protection of private trees

Objectives: 1.2, 1.4, 2.4, 3.2, 3.3, 3.4

Undertake community incentive programs through the *Urban Forest Plan*

Advocate to the state government for increased tree protection

Objectives: 1.4, 2.2, 2.5, 2.6,

Ensure appropriate planting programs suited to existing infrastructure

Seek opportunities to relocate infrastructure (such as the *Power Line Environment Committee (PLEC)* program)

Monitoring programs

Objectives: 2.1, 2.2, 2.3, 2.5, 2.6, 3.2, 3.3, 3.4

Proactive monitoring programs

Monitoring and audit programs

Objectives: 2.5, 2.6

Improved asset system integration with financial and operational activities

Greater species diversity

Objectives: 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.5, 3.3, 3.4

Watering programs

Improved planting practices

Implementation of water-sensitive urban design (WSUD)

Monitoring programs

Monitoring programs

Objectives: 1.1, 1.3, 2.3, 2.5, 3.4

Watering programs

Implementation of WSUD

Trialling new species more resilient to low rainfall conditions

Proactive maintenance programs (block pruning)

Objectives: 1.3, 1.4, 2.1, 2.2, 2.3, 2.5, 2.6, 3.4

Proactive monitoring programs

Table 4.1: Demand forecast

5. Lifecycle Planning



Asset lifecycle planning details how the City of Holdfast Bay plans to manage its trees in an optimised, cost-effective manner, while ensuring delivery of agreed service levels

The lifecycle of assets can be defined in four stages:

- › Creation/acquisition (planning, planting)
- › Operations and maintenance (maintain, monitor)
- › Renewal/replacement
- › Decommission/removal.

Each of these stages is further detailed in this lifecycle planning section.

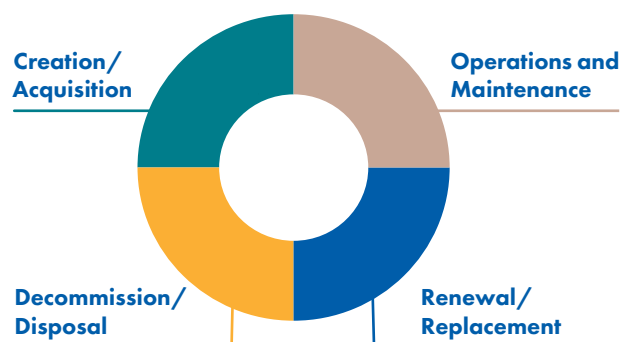


Figure 5.1: Asset lifecycle

Effective tree selection, planting and management reduces the risk of hazard development, branch failure, pathogen infection and premature death. Lifecycle planning and management can improve amenity, provide habitat, accommodate utility services, mitigate tree-related risk, and manage the structure and health of the tree.

5. Lifecycle Planning

5.1 Expected Life

The useful life of a tree is dependent on a number of factors, including its environment, maintenance, and external stresses. At each tree inspection, the remaining life is estimated by the arborist based on condition factors and the species.

Remaining life	Count	Percentage
Senescence	60	0%
Less than 5 years	919	5%
5 – 10 years	873	5%
10 – 20 years	14,049	81%
> 20 years	1,396	8%

Table 5.1: Remaining life

A significant proportion of Council's trees have 10 to 20 years of life remaining, which will be reflected in future renewal plans, incurring higher renewal rates and costs.

The impact of climate change on the useful life of trees is not yet quantified and may continue to change as increased temperature, heatwaves, droughts, and higher storm intensities progressively affect the useful life of a tree. These impacts have been identified in risk management and future demands.

Table 5.2 shows the remaining life of our most common trees. The remaining life is reviewed every 4–5 years during the city-wide tree assessment.



Species	Senescence	Less than 5 years	5 – 10 years	10 – 20 years	> 20 years	TOTAL
Weeping bottlebrush	1	39	95	2,334	179	2,648
Queensland box	1	27	73	1,629	149	1,879
Flowering pear		15	13	1,016	88	1,132
Norfolk Island pine	1	70	117	849	17	1,054
Jacaranda	3	27	19	862	99	1,010
Tuckeroo		82	18	673	21	794
Not specified	9	51	51	390	63	564
Crepe myrtle	1	33	8	427	76	545
Willow myrtle	1	20	38	439	11	509
Chinese pistachio		74	4	328	41	447
NZ Christmas tree		13	23	344	23	403
Coastal banksia	1	16	8	281	82	388
Fiddlewood		1	5	344	1	351
Desert ash		14	21	259	28	322
Kurrajong	1	8	5	247	21	282
Claret ash	10	8	16	184	12	230
Cook pine		15	8	181	7	211
River red gum	3	2	14	123	49	191
London plane tree		2	6	111	71	190
Mediterranean hackberry	1	32	4	129	10	176
SA blue gum	1	13	3	150		167
Wilga		5	1	151	10	167

5. Lifecycle Planning

Species	Senescence	Less than 5 years	5 – 10 years	10 – 20 years	> 20 years	TOTAL
Holly oak	1	4	16	107	36	164
Evergreen ash		10	11	134	6	161
Coral gum	1	4	5	136	3	149
Blue gum	1	6	6	116	19	148
Spotted gum		16	32	80	18	146
Eucalyptus species	3	18	16	74	20	131
Lemon-scented gum	3	13	54	58	3	131
Red flowering gum		9	15	99	4	127
White cedar	1	6	10	92	11	120
Bottlebrush	2	1	3	99	3	108
Chinese flame tree		5	2	101		108
Ornamental white cedar		22	7	69	3	101
Platypus gum		2	14	81	1	98

Table 5.2: Remaining life – common tree species

The age profile of the urban forest reflects the remaining life, with a significant proportion (74%) of the urban forest in a young or mature age.

Age range	Percentage
Juvenile	22%
Young	35%
Mature	39%
Over mature	3%

Table 5.3: Tree age

Figure 5.3 shows the distribution of total trees and age profile by suburb.

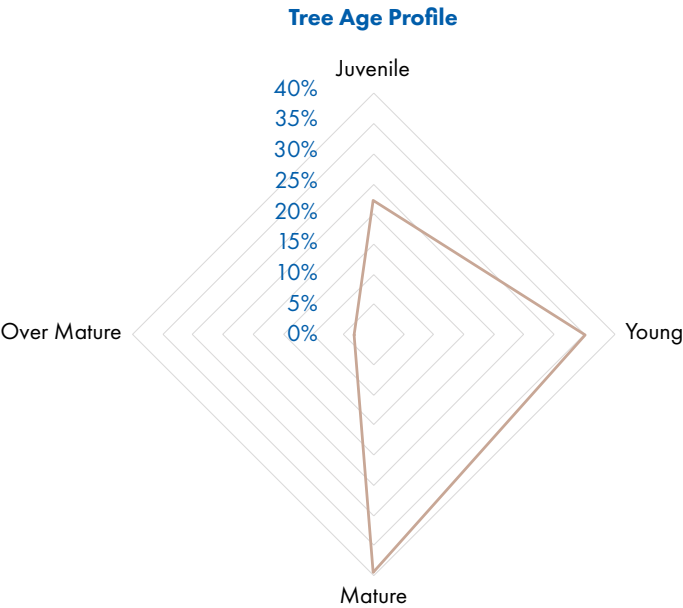


Figure 5.2: Tree age profile

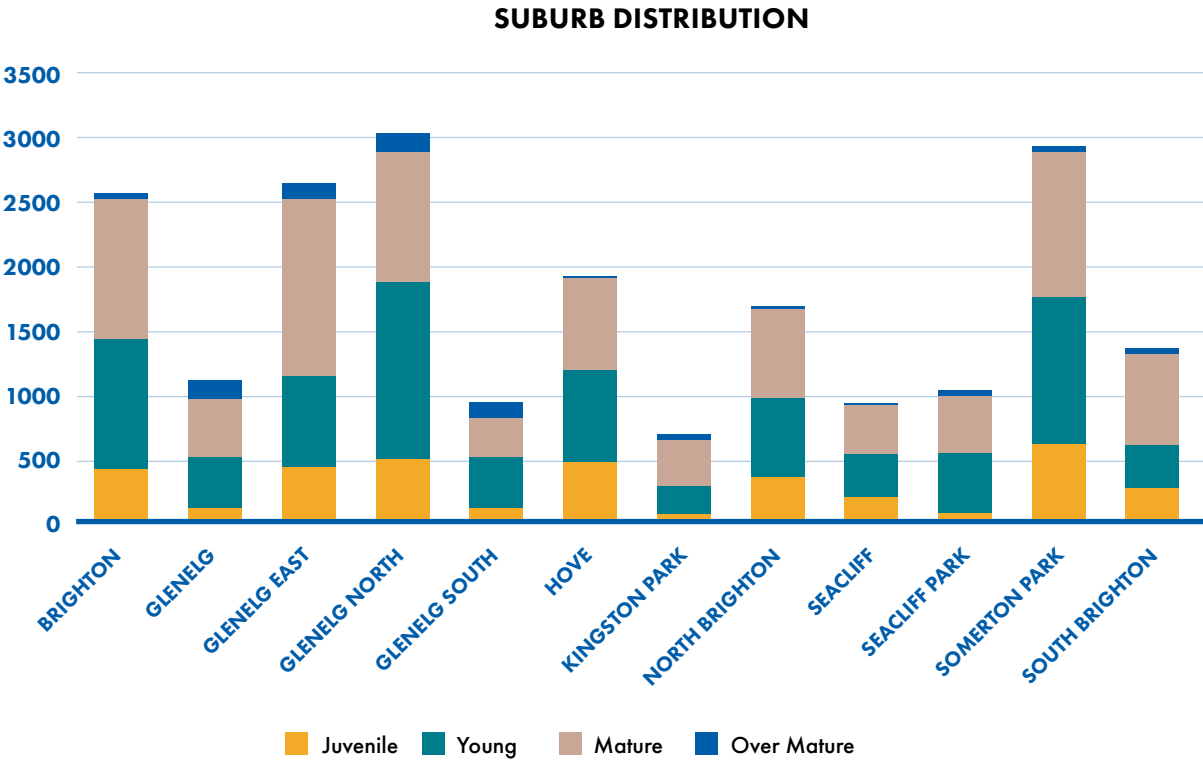


Figure 5.3: Suburb distribution – number of trees and age

5. Lifecycle Planning

5.2 Tree Size

The 2021–22 and 2022–23 condition audit captured thorough attribute data on all trees, including crown size (Table 5.4), tree height (Table 5.5) and trunk circumference (Table 5.6).

Crown	Count	Percentage
<2M	7,560	35%
2–5M	5,866	27%
5–10M	6,789	31%
10–15M	1,304	6%
>15M	341	2%
Not captured	225	

Table 5.4 Tree crown distribution

Height	Count	Percentage
<5M	11,940	55%
5–10M	7,717	35%
10–20M	1,753	8%
>20M	475	2%
Not captured	200	

Table 5.5: Tree height distribution

Circumference	Count	Percentage
Less than 150mm	5,166	34%
150mm - 300mm	2,257	15%
300mm - 450mm	1,983	13%
450mm - 600mm	1,710	11%
Greater than 600mm	3,595	23%
Equal to or greater than 2m	437	3%
Equal to or greater than 3m	172	1%
Not captured	9,587	

Table 5.6: Tree circumference distribution

This data indicates that the urban forest is skewed to a majority of small and very small trees. This is due to both the tree selection with limitations on space, and the tree age, with 57% of the urban forest being juvenile or young. Analysis has been undertaken on the size distribution of new stock relative to planting location, and the future tree planting program is maximising large and very large trees where possible.

5.3 Condition

The aim of a condition assessment is to provide sufficient information on asset condition to allow for informed strategic asset planning and asset management decisions. The condition rating is based on the collected asset audits undertaken through visual inspections by suitably qualified arborists. The condition audits focus on tree condition, age, species, risk, health, structure and management requirements.

The condition rating is based on the 2021–22 street tree audit and the 2022–23 open space tree audit, both of which collected information about tree condition in terms of health and structure. Tree condition assessments are completed on a cyclical basis, according to the needs of individual sites, trees or groups of trees. Annual inspections maybe required for some trees but for most four-yearly audits are suitable.

Audit data are collected in a GIS-based data system, which enables analysis to support proactive planning and implementation of required works.

Tree condition is measured using a rating system summarised in Tables 5.7 and 5.8.

Tree health refers to the biological vitality and vigor of a tree (how well it is living), while tree structure refers to its physical stability, form, and integrity (how well it is built).

Table 5.7 summarises observations of tree health made in the field.

Condition Grade	Health Condition	Health Condition Description	Action
1.0	Good	No visible signs of deterioration	No action required
2.0	Fair	Some crown dieback is evident	Maintenance is required to sustain the level of service
3.0	Poor	Lack of vigour displayed with >50% dieback	Consider renewal
4.0	Dead	Tree has died	Replace, dispose, or maintain dead tree for habitat

Table 5.7: Health condition score criteria

5. Lifecycle Planning

Table 5.8 summarises observations of the tree structure made in the field.

Condition Grade	Structure Condition	Structure Description	Action
1.0	Good	No visible signs of defects	No action required
2.0	Fair	Some minor defects	Maintenance is required to sustain the level of service
3.0	Poor	Structural defects compromising integrity	Consider renewal

Table 5.8: Structural condition score criteria

Tree retention decisions are not always based solely on condition ratings. For example, trees in poor or dead condition may still be retained due to their high habitat or ecological value in line with current arboricultural and biodiversity best practices.

In practice, actions are typically informed by risk assessments, which consider both tree condition and the level of human occupancy or exposure. This is why it is helpful to distinguish between health, structure, useful life expectancy, and risk, rather than relying on a singular condition rating.

See Section 7 - Risk Management for further information on tree risks.

Figure 5.4 illustrates the structural and health profiles of the tree portfolio.

Tree health is rated as 'good' for the majority of trees, whereas structure is rated as 'fair' to 'good' for the majority of trees.

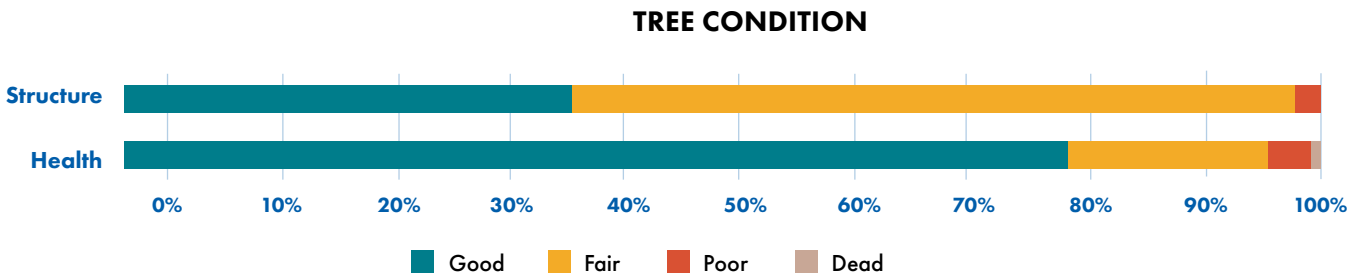


Figure 5.4: Tree structure and health profile

Species	Average Health Condition	Average Structure Condition	Target
Weeping bottlebrush	1.1	1.8	Less than 2.0
Queensland box	1.3	1.7	Less than 2.0
Flowering pear	1.1	1.8	Less than 2.0
Norfolk Island pine	1.7	1.2	Less than 2.0
Jacaranda	1.1	1.5	Less than 2.0
Tuckeroo	1.3	1.8	Less than 2.0
Other	1.4	1.8	Less than 2.0
Crepe myrtle	1.2	1.6	Less than 2.0
Willow myrtle	1.3	2.0	Less than 2.0
Chinese pistachio	1.0	1.2	Less than 2.0
NZ Christmas tree	1.4	1.9	Less than 2.0
Coastal banksia	1.2	1.6	Less than 2.0
Fiddlewood	1.1	1.9	Less than 2.0
Desert ash	1.4	1.8	Less than 2.0
Kurrajong	1.2	1.3	Less than 2.0
Claret ash	1.6	1.8	Less than 2.0
Cook pine	1.3	1.2	Less than 2.0
River red gum	1.4	1.7	Less than 2.0
London plane tree	1.2	1.5	Less than 2.0
Mediterranean hackberry	1.3	1.5	Less than 2.0
SA blue gum	1.1	1.4	Less than 2.0
Wilga	1.1	1.3	Less than 2.0
Holly oak	1.7	1.4	Less than 2.0

5. Lifecycle Planning

Species	Average Health Condition	Average Structure Condition	Target
Evergreen ash	1.3	1.7	Less than 2.0
Blue gum	1.2	1.6	Less than 2.0
Coral gum	1.2	1.6	Less than 2.0
Spotted gum	1.4	1.4	Less than 2.0
Eucalyptus species	1.6	1.7	Less than 2.0
Lemon-scented gum	1.6	1.5	Less than 2.0
Red flowering gum	1.4	1.6	Less than 2.0
White cedar	1.3	1.9	Less than 2.0
Bottlebrush	1.2	1.8	Less than 2.0
Chinese flame tree	1.2	1.4	Less than 2.0
Ornamental white cedar	1.3	1.7	Less than 2.0
Platypus gum	1.3	2.0	Less than 2.0

Table 5.9: Tree condition scores - most common species

Proactive and regular audits of the City's tree population are the best strategy to ensure Council understands the composition and condition of the urban forest and can plan for ongoing management and risk requirements.

Council commits to continuing regular and scheduled audits of the publicly owned urban forest. These will focus on tree condition, age and species diversity, risk and tree management requirements. The audit frequency is determined according to the needs of individual sites or groups of trees. For some sites or tree groups, an annual inspection may be required, but for most sites or groups of trees, up to five-yearly audits are suitable. Audits will be conducted by appropriately qualified arborists.

Tree audits will be recorded in a GIS-based tree data management system, which enables Council to analyse the data, then use the results to proactively plan and allocate work to relevant personnel.

Individual tree inspections may also be required on an ad hoc basis. Individual tree inspections will be assessed by appropriately qualified arborists.

5.4 Historical Expenditure

A review of Council's multi-year investment in tree planting, renewal, and maintenance has highlighted opportunities to strengthen how we support the healthy establishment of our urban forest. This analysis ensures funding is appropriately aligned with best-practice tree management and long-term canopy goals.

Recent years show that while Council has continued to invest in tree planting and care, the previous budget levels have made it challenging to consistently deliver all elements of best-practice urban forest management. This has included pressures on resources for proactive maintenance, such as block pruning (tree pruning within a defined maintenance area), and has contributed to inconsistent outcomes in young tree establishment.

Some establishment rates have been recorded at around 80%, indicating there is room to further enhance early-stage tree care. These findings reinforce the importance of continued investment and improvement, and they directly inform the recommendations and resourcing requirements outlined in this Plan.

Forward lifecycle planning is being undertaken within existing resourcing of approximately \$590,000 per year, which covers planting, young tree care, reactive maintenance, proactive maintenance and renewal of the existing urban forest. To ensure sufficient resources are available to support healthy tree establishment and both reactive and proactive maintenance, a reduction in the number of new trees planted will be required under current funding levels. If higher planting rates are preferred or proposed, additional investment beyond current resourcing will be necessary.

5. Lifecycle Planning

5.5 Operations and Maintenance Plan

Operations and maintenance are recurrent expenditure, which is periodically or sporadically required as part of the anticipated schedule of works to ensure the tree maintains its condition, achieves its useful life and provides the required level of service.

As the years progress, the maintenance budget is projected to increase as the urban forest grows in size and age. As new trees are planted each year in line with the *Urban Forest Plan* targets, additional resources will be required to ensure the tree stock remains healthy and is maintained throughout its life. As the canopy increases additional street sweeping has also been planned for to manage the quantity of debris on streets.

Trees required different management at different stages of the life cycle.

Newly planted juvenile trees need additional management during their establishment phases. Juvenile trees require watering at regular intervals for the first 3 to 4 years following planting. They need pruning to enhance form and structure, as well as staking and mulching to ensure the best growing conditions, which reduces mortality.

Throughout the lifespan of our trees, Council applies specialised management as needed, such as proactive and reactive pruning works, and treatment for pests or diseases. Further specialised management may include tree support systems, such as cabling, bracing, guying or propping of stems or branches to provide supplemental support or to mitigate risk.

Maintenance includes planned and reactive work activities, such as;

- › Planned and scheduled maintenance for establishing trees, including watering and formative pruning
- › Planned and scheduled proactive area cyclical pruning for the established urban forest, ensuring our urban forest remains of good structure and health
- › Reactive maintenance and unplanned work carried out in response to customer service requests and management decisions (e.g. fallen branches, requests for pruning).

Pruning of Council's trees is undertaken using the *Australian Standard 4373–2007: Pruning of Amenity Trees*. This ensures the trees' health, structure, safety and overall condition.

A full urban forest audit is undertaken every four years, providing a robust summary of the status of every public tree. As an outcome of the audit, higher-risk trees are recommended for more frequent monitoring, and associated budget has been allocated for annual monitoring. A one-off audit of the cultural significant trees estimated at \$20,000 is to be included in the next urban forest audit in 2027–28.

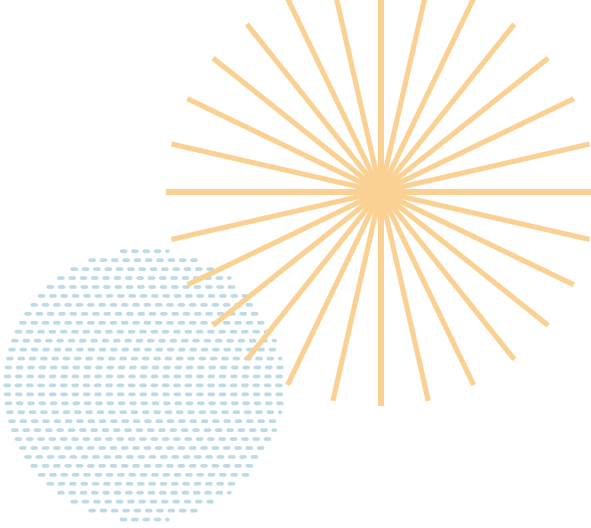


Figure 5.5 outlines the maintenance expenditure forecast over the next ten years. It has been projected to account for additional annual tree plantings. Operations and maintenance are split into four categories:

- › Reactive works
- › Formative pruning
- › Proactive maintenance
- › Monitoring.

Extreme and catastrophic emergency recovery has not been planned for in annual budgets. The expenditure for the response to these events will be funded through emergency management processes.

Another area affected by increased tree canopy is the street-sweeping budget. As Council plans for canopy cover on Council-managed land to grow by 20.1% by 2050, a proportional increase in street-sweeping requirements is expected. This equates to an estimated ongoing additional cost of approximately \$3,000 per year through to 2050. The additional costs are outlined in table 6.3.

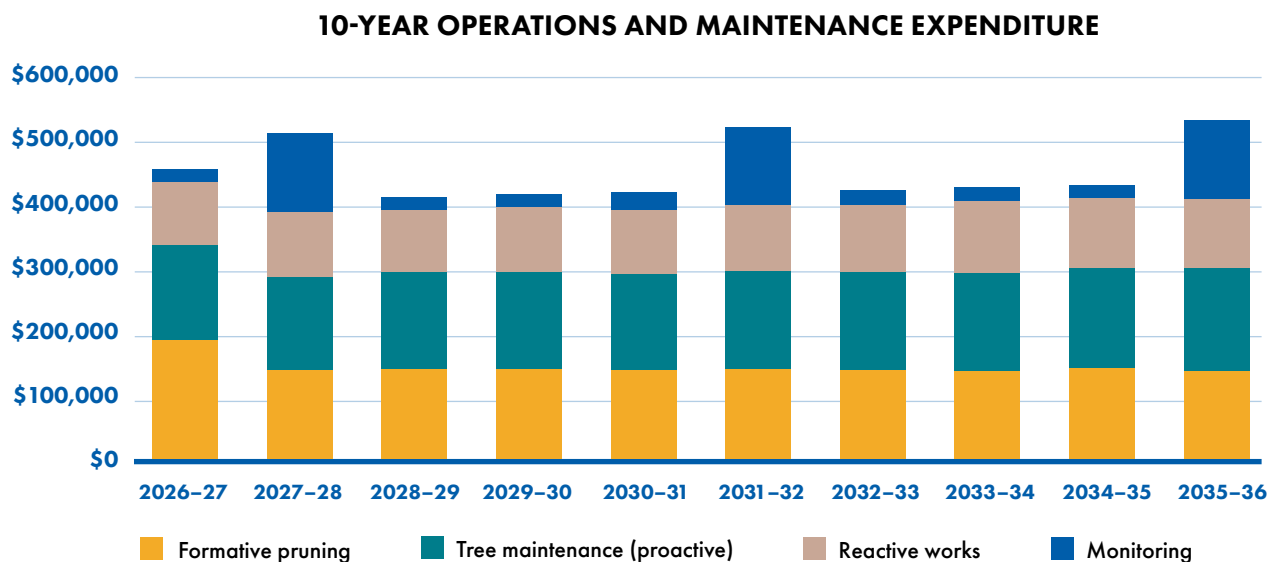


Figure 5.5: Ten-year operations and maintenance plan

5. Lifecycle Planning

5.6 Renewal Plan

Renewal is the replacement of an existing tree. Renewal planning is necessary to ensure adequate funding is available. The *Tree Management Policy* outlines that there will be no net loss when removing Council trees.

Renewals may not necessarily be planted immediately in the same location, to maximise operational efficiency through watering and formative pruning. The renewal plan identifies the number of trees expected to be removed with an equivalent number planted to replace them in a given year.

Projected future renewal expenditures are forecast to increase over time as the asset portfolio grows in size, complexity and age.

Tree species for renewal are chosen using a wide range of criteria such as climate and soil suitability, aesthetics, species diversity, infrastructure considerations, future climate scenarios, and drought and heat tolerance. Council uses the *Australian Standard 2303:2018 - Tree Stock for Landscape Use* to guide its choice of specific tree stock for purchase. More resilient replacement species will be chosen where applicable.

The renewal program is based on a bottom-up approach with a high confidence in asset data. The renewal program is identified via asset monitoring, prioritisation, and tree replacements are allocated using the tree audit data.

Renewal will also occur ad hoc each year as trees are damaged or removed due to external factors, within the limitations of infrastructure and the *Tree Management Policy*.

Tree renewal activities are considered 'operational' for financial purposes.

The projected future renewals are summarised in Figures 5.6 and 5.7.

It is recognised that matching condition-based renewal fluctuations from year to year is not generally possible from both a budget and resourcing perspective. Distributing the renewal costs evenly over the ten-year timeframe is preferable from a budget and resourcing standpoint.

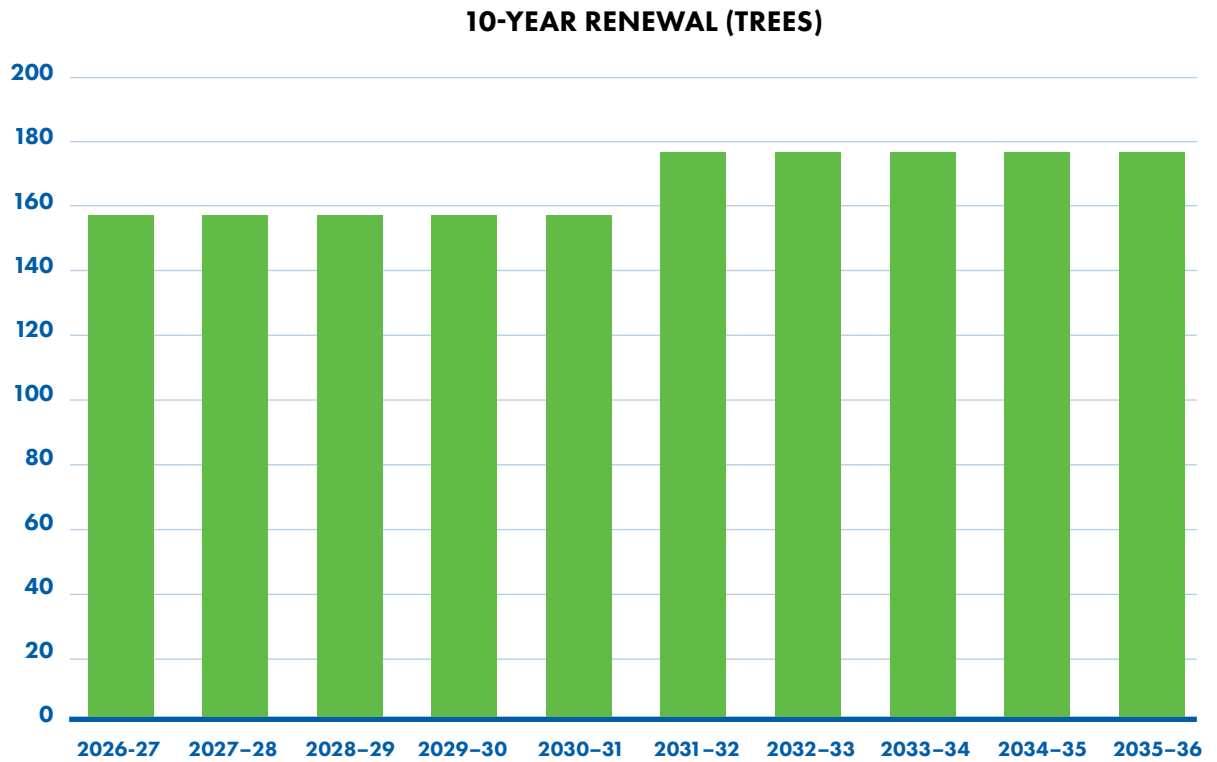


Figure 5.6: Ten-year renewal plan - tree renewals

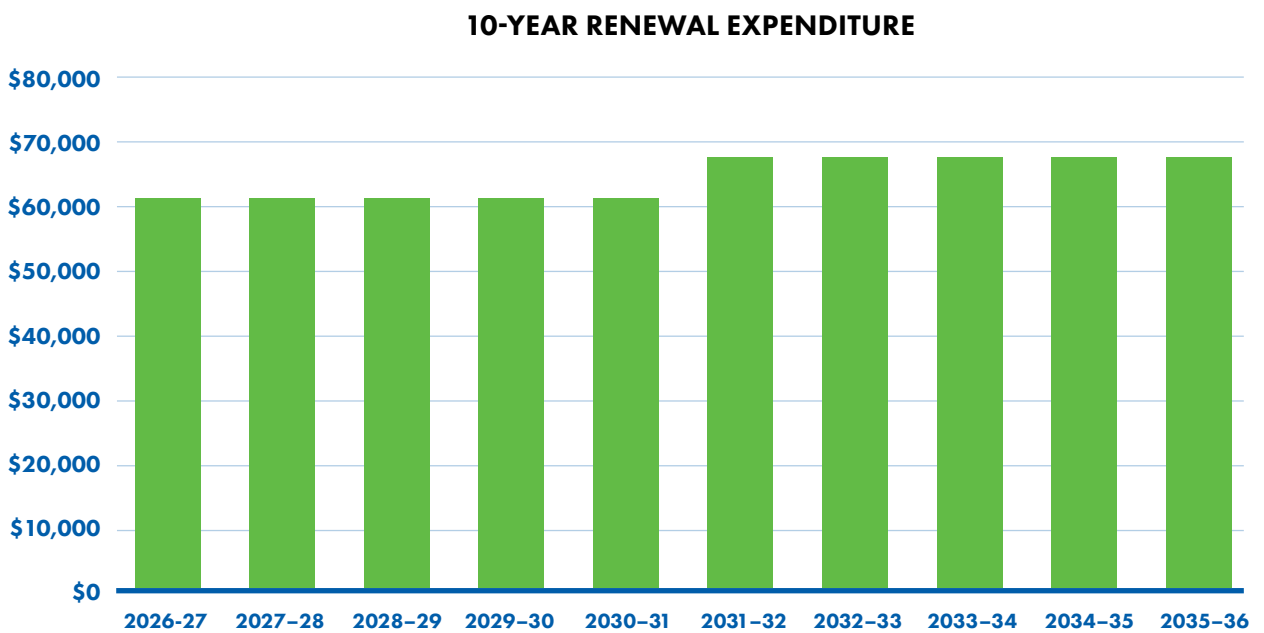


Figure 5.7: Ten-year renewal plan - expenditure

5. Lifecycle Planning

5.6.1 Brighton Road Trees

There have been 72 trees located in the median strip of Brighton Road between Glenelg South and Seacliff. In June 2025, Council completed a comprehensive arboricultural assessment of all these trees. The assessment reviewed each tree's condition, assigned a risk rating, evaluated its suitability for retention within the median, and outlined a two-year management approach through to 2027.

These trees, identified as mature specimens of *Corymbia maculata* (spotted gum) and *Corymbia citriodora* (lemon-scented gum), were found to be in fair to poor condition. Their age, size, and the constrained, poor-quality growing medium in which they were originally established have contributed to ongoing structural issues. These include repeated branch failures, poor trunk taper, atypical root development, root-deflector-related abnormalities, and in some instances, partial or complete tree failure.

Council applies a risk-based approach to managing the urban forest. As part of this commitment to community safety, three high-risk trees have already been removed from the median. The assessment confirmed that many of the remaining trees have outgrown the limited space available, and without sufficient room for healthy root development, their condition and stability will continue to decline. In this environment, pruning cannot meaningfully address the underlying structural risks.

Given these factors, tree removal and replacement is the safest and most responsible option. Removals will occur progressively over the next two years in line with the Annual Business Plan, with annual monitoring undertaken until all trees are replaced.

While the removal of 72 trees is regrettable, Council is planning for a stronger, healthier canopy in the long term. Up to 106 new trees are proposed for planting in the Brighton Road median between ANZAC Highway and Scholefield Road. This represents a significant net increase in plantings and will support improved canopy cover, increased urban cooling, and a more resilient streetscape.

To ensure long-term success, median remediation works will be required before replanting. This includes:

- › Removing historic road base beneath existing tree pits
- › Removing artificial turf from all root zones
- › Creating an engineered growing environment at each new planting location to support strong root development.

The removal, replanting, and establishment costs, including an additional \$500 per tree per year for the first four years for watering and formative care, are included in Council's budget considerations. All costs related to the Brighton Road median trees remain subject to Annual Business Plan approval.

5.6.2 Norfolk Island Pines

The health and sustainability of our iconic Norfolk Island pine tree population is declining due to a combination of factors, including poor plant selection from nursery stock, planting techniques, sub-optimal urban growing environments, and approaching the upper boundary of their temperature tolerance in a warming climate.

There are 1,056 Norfolk Island pines planted on public land within the City of Holdfast Bay. They make a significant contribution to the character and aesthetic amenity of the city. Of these, 173 (16%) will require replacement in the next 10 years.

To ensure this tree species remains a sustainable feature in the Council area, the following management actions will be considered:

- › Identify and maintain key plantings of Norfolk Island pines where achievable and appropriate
- › Improve, where possible, the growing conditions for Norfolk Island pines in challenging street locations, with increased growing space, improved permeability and/or water-sensitive urban design strategies
- › Review tree nursery supplies of new Norfolk Island pines for street plantings, to ensure they meet relevant standards and are free of disease issues identified in existing tree stock
- › Avoid planting or replacing Norfolk Island pines in street verges with insufficient growing area to accommodate their large trunks
- › Plant additional Norfolk Island pines where more favourable growing conditions are currently available (e.g., Patawilya Reserve and Patawalonga Reserve)
- › Undertake treatment of known pests and diseases where suitable treatments and environmental conditions for efficacy are available.

5. Lifecycle Planning

5.7 Acquisition Plan (New Planting Plan)

New planting relates to tree planting where there was previously no tree.

Planning for a sustainable, healthy and diverse urban forest means considering several factors, including age and species diversity, increasing the numbers of larger trees (and making room for them) and paying attention to urban heat islands, water availability and biodiversity.

Planting new trees will follow these guidelines:

- › Tree stock for new plantings will meet Australian Standard AS2303:2015 Tree stock for landscape use
- › New tree plantings will adhere to current best practice ground preparation and planting techniques
- › Tree stakes will continue to be used to provide supplementary support and protection and will be removed at the appropriate stage of development to allow trees to be self-supporting.

The street tree audit undertaken in 2021–22 and 2022–23 identified 5,400 potential tree planting locations across the Council within our verges.

The Urban Forest Plan outlines a canopy target of using existing resourcing:

- › 16.6% city-wide (public and private), an increase from 11.7% in 2022
- › 21.0% on Council-owned land, an increase from 14.5% in 2022.

This target was established in our current resourcing, considering maintenance, renewal and planting costs.

For budgeting purposes, the following costs have been associated to tree planting:

- › \$385 per tree for a new tree within an identified plantable space
- › \$3,000 per tree for a new tree in a challenging space (costs can vary from \$2,000-\$10,000/tree)
- › \$150 per tree for 'Adopt-a-Tree'.

To reach these targets, we will need to increase the net number of trees by an average of 234 for the first 10 years, while maintaining and renewing our existing urban forest. Figure 5.8 outlines the projected future spend through new tree planting.

Figure 5.9 outlines the tree planting plan numbers, including the Adopt-a-Tree program.

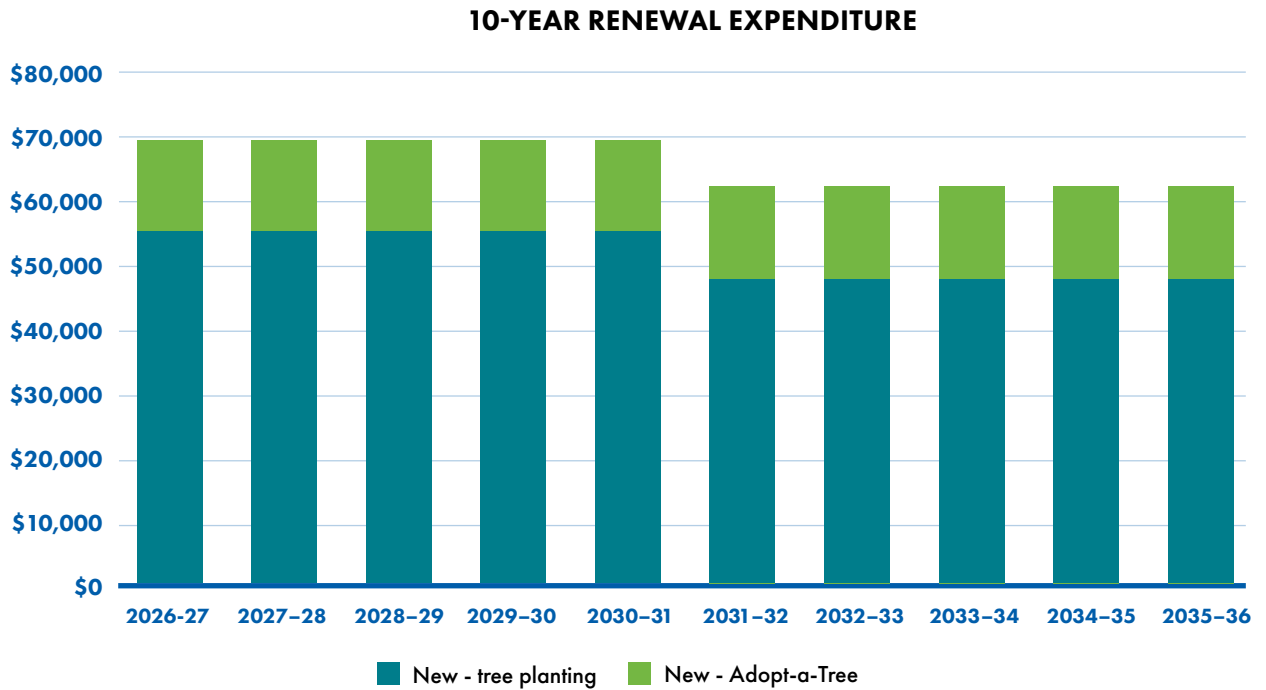


Figure 5.8: Ten-year planting plan - expenditure

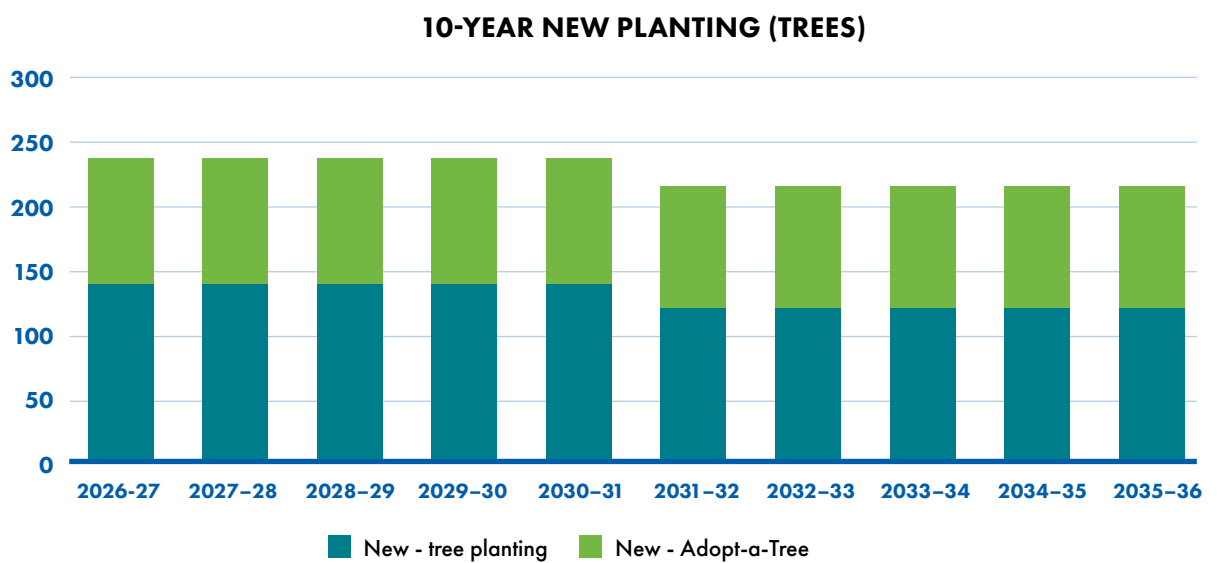


Figure 5.9: Ten-year planting plan - tree numbers

5. Lifecycle Planning

Based on existing resourcing, Council has the capacity to plant and maintain 400 trees per year. On average, there will be 166 renewals per year in the next 10 years, leaving an average of 234 trees to be planted via new planting and the Adopt-a-Tree program (100 trees).

The annual average budget over the next 10 years will be \$67,000 for new plantings including the adopt-a-tree program.

Prioritisation of tree planting has been identified through a modelling system considering factors including canopy analysis, plantable spaces, and urban heat and social vulnerability, to maximise the co-benefits provided by trees.

New trees are chosen using a wide range of criteria such as future climate scenarios and soil suitability, aesthetics, species diversity, infrastructure considerations, and drought and heat tolerance. Council uses the *Australian Standard 2303:2018 - Tree Stock for Landscape Use* to guide its choice of specific tree stock for purchase.

Council enables community stewardship of our street trees via the Adopt-a-Tree program. Residents can apply to have a street tree planted in front of their property, in return for which the resident agrees to water the tree for the first three summers of its life. The program is currently capped at 100 trees per year. Even though this program will continue, requests may decrease over time as vacant planting spaces are filled. The program is reviewed annually and may be

amended at any time.

The street tree audit in 2021–22 and 2022–23 identified approximately 5,400 possible verge planting locations. It is noted however, that some locations will not be able to be planted due to site conditions, including underground services, approved development, and site conditions.

Based on current planting rates and renewals, it is expected that all planting locations will be exhausted by 2044. Once these locations are expended, new tree planting will be required in challenging places such as road reserves and car parks, increasing the capital cost.

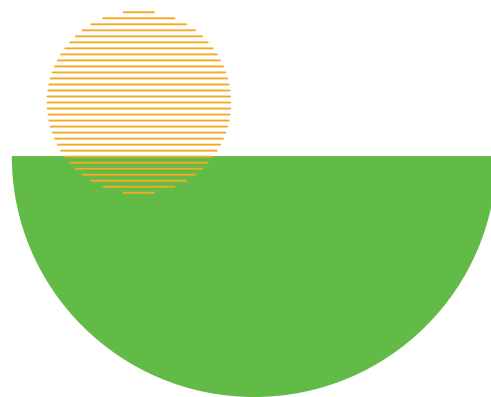
5.8 Disposal (Tree Removal)

The final management stage for trees that are no longer suitable for their environment is removal, which usually involves the removal of all above-ground limbs and trunks. Council will only remove public trees that are dead, badly diseased or dying (and cannot be treated), or if the tree species or location is inappropriate, and/ or the tree poses an unacceptable risk to the public, as assessed by a suitably qualified arborist.

Disposal refers to activities associated with removing trees without replacement. There are no tree removals without renewals allocated within this plan. When a renewal occurs, the costs associated with removal and disposal of the trees and stumps are allocated to the operations and maintenance budget.

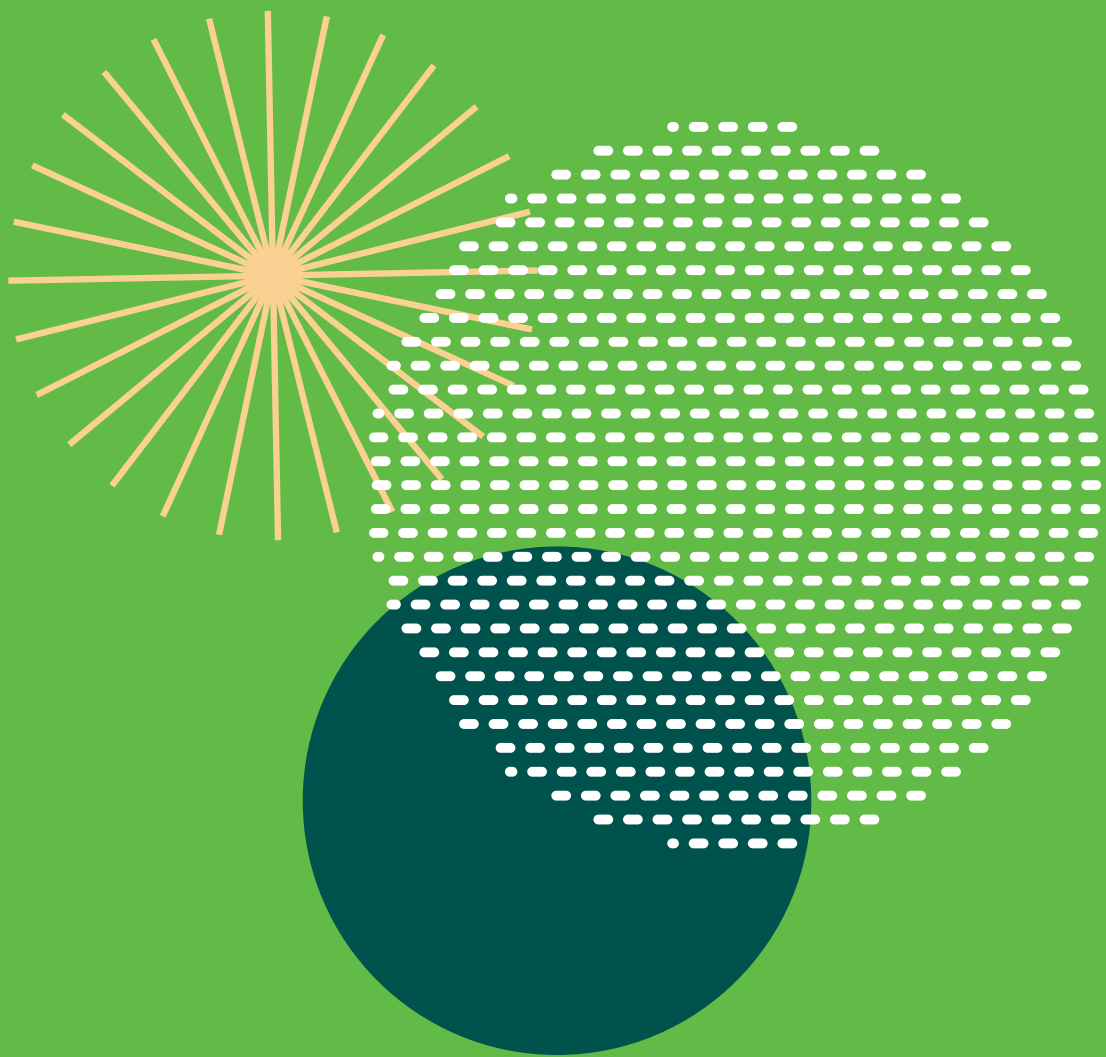
In cases where habitat value can be safely retained in dead or dying trees, Council incorporates the creation of habitat hollows. This enhances urban biodiversity by supporting native fauna, such as rosellas, that rely on tree hollows, which are limited in urban environments. These trees are included in our existing tree asset management system to ensure that each habitat tree is recorded, assessed, and monitored over time.

The *Tree Management Policy* stipulates that there will be no net loss when removing Council trees. The policy identifies situations where Council trees can be removed and the process for removal. Typically, if a tree cannot be replaced within the same location, a location will be sought nearby, to maintain the local urban forest numbers.



6. Financial Summary

This section outlines the financial requirements for the public urban forest.



6.1 Tree Valuation

Trees are not classified as an 'asset' under the City of Holdfast Bay Asset Accounting Policy. Therefore, trees do not incur a capital value or depreciation for Council's accounting purposes.

Council recognises the intrinsic value that trees hold to the community, and the amenity valuation of a tree used by Council is based on the revised Burnley Method of Tree Valuation as outlined in Council's Tree Management Policy.

Amenity tree evaluation systems are widely used throughout Australia and the world to place a monetary value on trees, typically for insurance, compensation, litigation or decision-making purposes.

The tree monetary amenity value is calculated using the following factors:

- › Tree volume (m3)
- › Base Value (\$)
- › Form and vigour (factor)
- › Location (factor).

Using the revised Burnley Method, a total amenity value of \$178.4M can be placed on the City of Holdfast Bay's urban forest.

6.2 Expenditure Forecast Summary

The overall expenditure for tree maintenance, tree renewal and new trees is provided in Figure 6.1, with a financial breakdown provided in Tables 6.1 and 6.2. Figure 6.1 excludes the Brighton Road new initiative funding, which will be funded through the annual business planning process.

10-YEAR TREE FORECAST SUMMARY

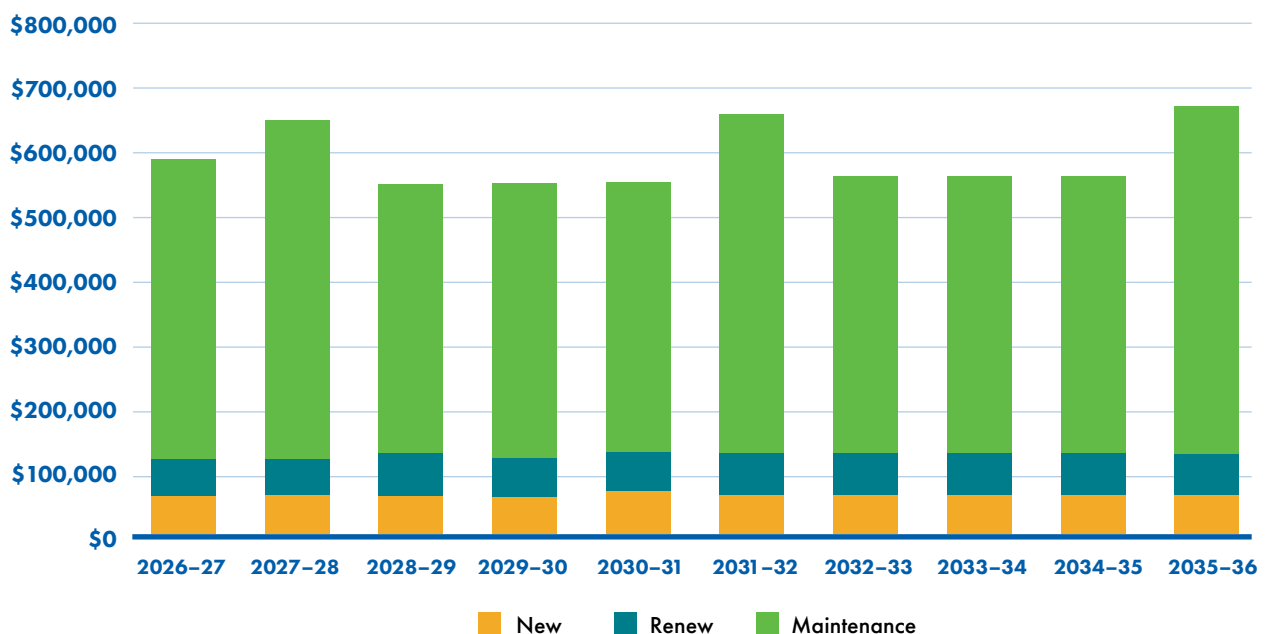


Figure 6.1: Ten-year forecast summary

6. Financial Summary

Financial year	2026-27	2027-28	2028-29	2029-30
New	\$69,670	\$69,670	\$69,670	\$69,670
Renew	\$60,830	\$60,830	\$60,830	\$60,830
Maintenance	\$461,683	\$536,366	\$419,049	\$421,732
Council Funding Required	\$592,183	\$666,866	\$549,549	\$552,232

Brighton Road*	\$427,000	\$1,006,000	\$53,000	\$53,000
Council funding required*	\$1,019,183	\$1,672,866	\$602,549	\$605,232

Financial year	2026-27	2027-28	2028-29	2029-30
New - tree planting	\$54,670	\$54,670	\$54,670	\$54,670
New - Adopt-a-Tree	\$15,000	\$15,000	\$15,000	\$15,000
Renewal planting	\$60,830	\$60,830	\$60,830	\$60,830
Formative pruning	\$192,000	\$144,000	\$144,000	\$144,000
Tree maintenance (proactive)	\$151,629	\$153,259	\$156,517	\$156,517
Reactive works	\$98,054	\$99,107	\$101,215	\$101,215
Monitoring	\$20,000	\$140,000	\$20,000	\$20,000
Brighton Road*	\$427,000	\$1,006,000	\$53,000	\$53,000
Council funding required	\$1,019,183	\$1,672,866	\$602,549	\$605,232

Financial year	2026-27	2027-28	2028-29	2029-30
Street sweeping	\$3,000	\$6,000	\$9,000	\$12,000



2030–31	2031–32	2032–33	2033–34	2034–35	2035–36
\$69,670	\$63,510	\$63,510	\$63,510	\$63,510	\$63,510
\$60,830	\$66,990	\$66,990	\$66,990	\$66,990	\$66,990
\$424,415	\$526,920	\$429,426	\$431,932	\$434,437	\$536,943
\$554,915	\$657,420	\$559,926	\$562,432	\$564,937	\$667,443
\$53,000					
\$607,915	\$657,420	\$559,926	\$562,432	\$564,937	\$667,443

Table 6.1: Lifecycle forecast expenditure

2030–31	2031–32	2032–33	2033–34	2034–35	2035–36
\$54,670	\$48,510	\$48,510	\$48,510	\$48,510	\$48,510
\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
\$60,830	\$66,990	\$66,990	\$66,990	\$66,990	\$66,990
\$144,000	\$144,000	\$144,000	\$144,000	\$144,000	\$144,000
\$158,147	\$159,668	\$161,190	\$162,712	\$164,233	\$165,755
\$102,268	\$103,252	\$104,236	\$105,220	\$106,204	\$107,188
\$20,000	\$120,000	\$20,000	\$20,000	\$20,000	\$120,000
\$53,000					
\$607,915	\$657,420	\$559,926	\$562,432	\$564,937	\$667,443

Table 6.2: Forecast expenditure breakdown

2030–31	2031–32	2032–33	2033–34	2034–35	2035–36
\$15,000	\$18,000	\$21,000	\$24,000	\$27,000	\$30,000

Table 6.3: Street sweeping forecast expenditure increase

*Brighton Road costs subject to Annual Business Plan

6. Financial Summary

6.3 Assumptions

The assumptions and data used in presenting this forecast information were:

- › Condition data derived from condition assessment 2021-22 and 2022-23
- › All tree works will be operational in nature
- › Council income will remain consistent with LTFP
- › Natural disaster funding has been excluded from this plan
- › All costs within this plan are in 2025-26 dollars.

6.4 Data Confidence

The expenditure projections are based on the best available data. Data confidence is critical for an accurate expenditure projection. As new data becomes available, the forward plans will be updated. There are five levels that measure data confidence, as described in Table 6.1.

Council's tree data confidence is currently rated 'A – *Highly Reliable*' across condition and spatial data. The confidence level is due to the recent completion of the street tree audit.

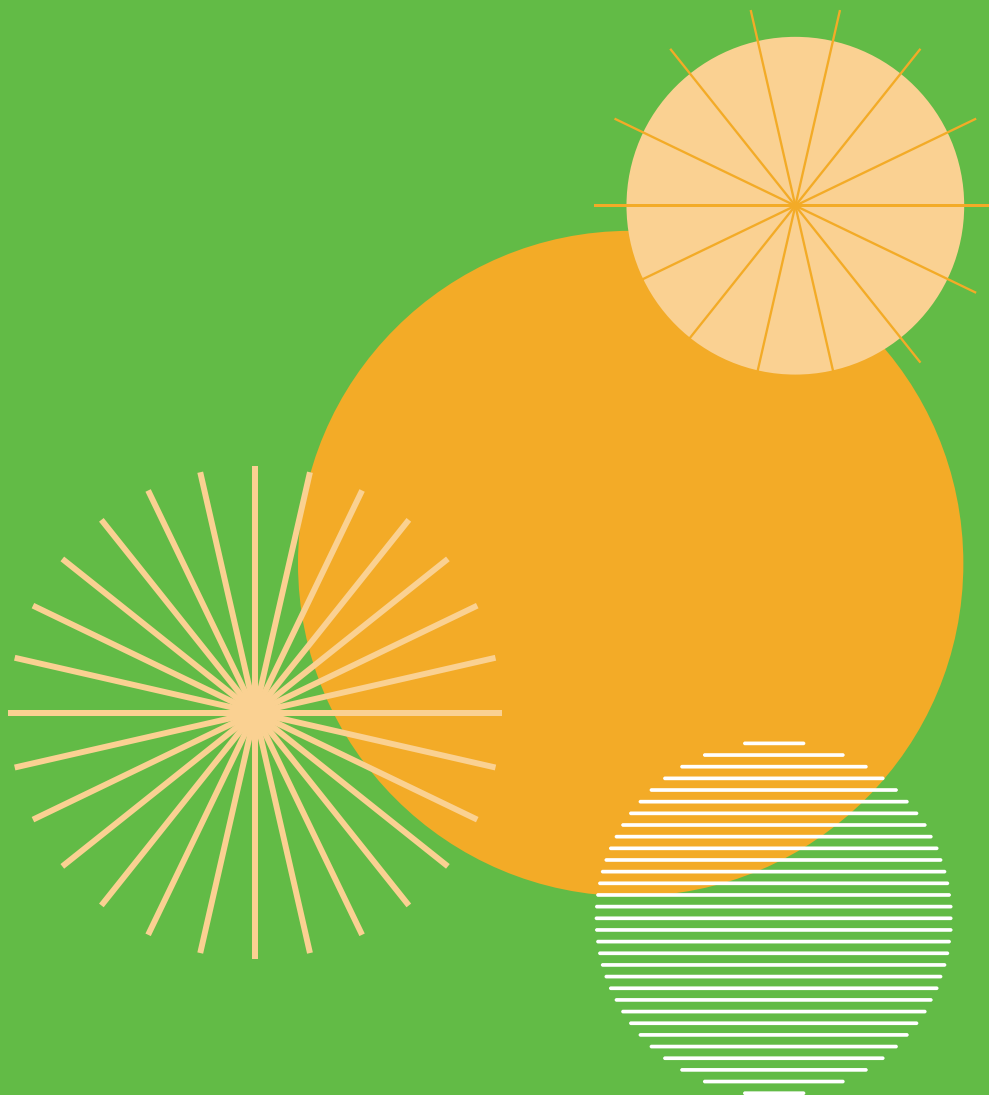


Confidence Level**Description**

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 to $\pm 2\%$.
B - Reliable	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, e.g. 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 to $\pm 10\%$.
C - Uncertain	Data based on sound records, procedures, investigations and analysis, which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete, but up to 50% is extrapolated data and accuracy is estimated to $\pm 25\%$.
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 to $\pm 40\%$.
E - Unknown	None or very little data held.

Table 6.3: Data confidence level

7. Risk Management



The aim of the risk management process is to ensure all significant asset management risks are identified and assessed

Following a risk assessment and consideration of both likelihood and consequence, risks identified as 'high' or 'very high' in the short- to medium-term are investigated. Strategies and treatments are implemented to mitigate or address unacceptable risks.

The process for managing Council's risks is consistent with the *International Risk Management Standard ISO 31000:2018*. The aim of the risk management process for trees is to ensure that:

- › All significant operational and organisational risks are understood and identified
- › The highest risks that need to be addressed in the short-to medium-term are identified
- › Strategies and treatments to address risks are identified and applied.

An assessment of risks associated with service delivery has identified the most critical risks to Council. The risk assessment process identifies and assesses risks, develops a risk rating, and develops a risk treatment plan for non-acceptable risks.

Individual tree risk is assessed using the Quantified Tree Risk Assessment method. This is an international standard, which is repeatable, auditable and transparent. The condition audit conducted in November 2022, found that 98.4% of Council's trees present a low risk, with 82 trees recorded as medium

risk and no trees presenting a high or extreme risk, as summarised in Table 7.1.

Subsequently high-risk trees have been identified through an independent assessment for all the trees within the Brighton Road median, see section 5.6.1 Brighton Road Trees. Trees with medium, high, or extreme risks recorded have been identified for appropriate risk management treatments and monitoring.

Risk Level	Percentage of trees
Low	98.6%
Medium	0.2%
High	0.0%
Extreme	0.0%
TBD	1.1%

Table 7.1: Individual tree risk assessment summary

An assessment of risks associated with the urban forest using Council's risk matrix (Figure 7.1), has identified, analysed and evaluated tree-related risks. Table 7.1 outlines Council's risk management for trees and is to be reviewed annually at a minimum outside of this plan.

Risks identified in Table 7.1 feed into the Strategic Risk Register, including:

- › AD01 Strategic - Poor or ineffective management of the impacts of climate change
- › AD02 Strategic - Insufficient or ineffective asset management planning
- › 81 Operational - Asset management plans with high- or very high-risk actions to be completed within two years.

		CONSEQUENCE				
		Catastrophic	Major	Moderate	Minor	Insignificant
LIKELIHOOD	Rare	Medium	Medium	Low	Low	Low
	Unlikely	High	Medium	Medium	Low	Low
	Possible	High	High	Medium	Medium	Low
	Likely	Extreme	High	High	Medium	Medium
	Almost Certain	Extreme	Extreme	High	High	Medium

Figure 7.1 Risk matrix

7. Risk Management

Ref	Risk Description <i>Event or potential event focused and its impact upon objectives</i>	INHERENT RISK <i>Level of risk with NO controls in place</i>			Controls <u>already</u> in place <i>What existing controls are in place to prevent and/or manage the risk?</i>	Are the controls effective at managing the risk?
		Consequence	Likelihood	Risk Rating		
1	Unsustainable management of trees due to poor quality data within the asset management system	Major	Likely	High	Periodic delivery of condition assessments and re-evaluations in line with industry standards.	Majority effective
2	Council is unable to fund maintenance due to economic downturn.	Moderate	Likely	High	Program outlined in Asset Management Plan (AMP) is funded in line with AMP to achieve service levels.	Majority effective
3	Climate change is not appropriately planned for with respect to asset management.	Major	Likely	High	Climate change is addressed in the <i>Urban Forest Plan</i> with respect to Council's impact on climate as well as the climate's impact on trees. Tree species selection will affect our urban forest's resilience to climate change.	Partially effective
4	Level of service and community expectations are raised to unsustainable standards.	Moderate	Likely	High	Review and update operations and maintenance budgets to meet future levels of service against asset upgrades.	Majority effective

	RESIDUAL RISK			Is the Residual Risk Rating tolerable?	Treatments/ additional controls Additional controls that can be implemented to further reduce the level of risk	Treatment owner and timing <u>Who</u> is responsible for implementing the treatment and <u>when</u> it should be implemented/completed	RISK LEVEL after treatments		
	Consequence	Likelihood	Risk Rating				Consequence	Likelihood	Risk Rating
	Major	Possible	High	No	Continuous improvements in asset and data management maturity and activities through the improvement program.	Engineering Field Services See improvement actions 1 and 3 (Section 8)	Major	Unlikely	Medium
	Moderate	Rare	Low	Yes	Review Tree AMP every 4 years. Ability to reduce levels of service.	Engineering Field Services See improvement action 6 (Section 8)	N/A	N/A	N/A
	Major	Possible	High	No	Climate is constantly changing. Ongoing monitoring of climate conditions and impact on trees. Organisational climate risk assessment to assess risks and prioritise actions.	Environment and Coast June 2027	Major	Possible	High
	Moderate	Possible	Medium	Yes	Review Tree AMP every 4 years. Ability to review levels of service and resourcing.	Engineering Field Services See improvement action 6 (Section 8)	N/A	N/A	N/A

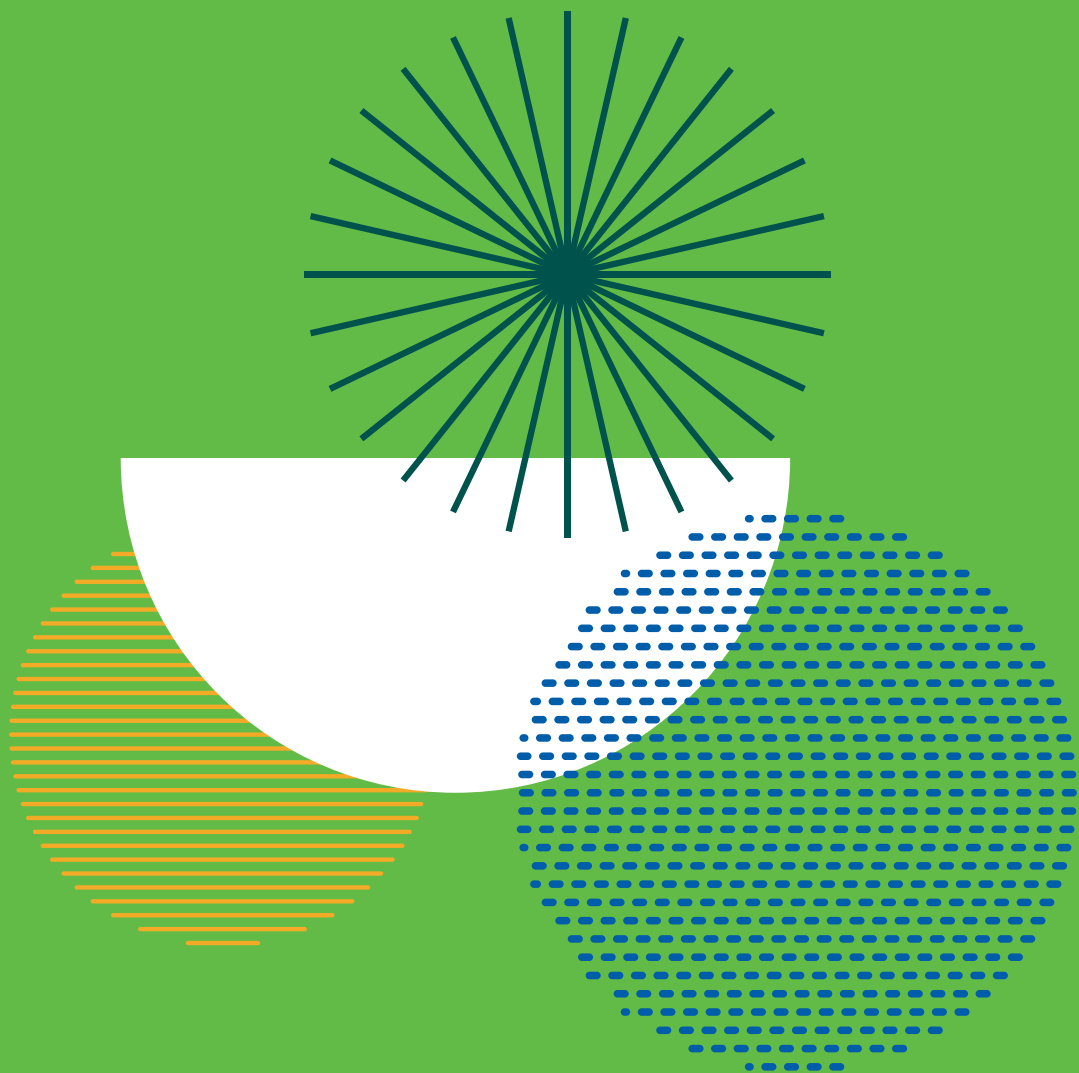
7. Risk Management

Ref Risk Description <i>Event or potential event focused and its impact upon objectives</i>	INHERENT RISK <i>Level of risk with NO controls in place</i>			Controls <u>already</u> in place <i>What existing controls are in place to prevent and/or manage the risk?</i>	Are the controls effective at managing the risk?
	Consequence	Likelihood	Risk Rating		
5 Falling limbs of trees causing injury.	Major	Likely	High	Cyclical and proactive inspection programs in place to monitor tree health. Maintenance programs, including tree trimming and pruning. Improve tree growing environment. Reducing public exposure to individual high-risk trees through changes to the landscape.	Majority effective
6 Root damage to public/private infrastructure from public trees	Moderate	Likely	High	<i>Tree Policy.</i> Choosing appropriate trees with respect to location and environment around the trees.	Partially effective
7 Storm Damage – damage to trees, impact on public and property, and cleanup activities	Major	Likely	High	Cyclical and proactive inspection programs in place to monitor tree health. Maintenance programs, including tree trimming and pruning. Emergency storms are funded through Council on a case-by-case basis.	Partially effective
8 Loss of large numbers of trees due to new pests and diseases.	Major	Likely	High	Cyclical and proactive inspection programs in place to monitor tree health and identify emerging problems early. Tree tool hygiene protocol.	Partially effective

	RESIDUAL RISK			Is the Residual Risk Rating tolerable?	Treatments/ additional controls Additional controls that can be implemented to further reduce the level of risk	Treatment owner and timing <u>Who</u> is responsible for implementing the treatment and <u>when</u> it should be implemented/completed	RISK LEVEL after treatments		
	Consequence	Likelihood	Risk Rating				Consequence	Likelihood	Risk Rating
	Major	Rare	Medium	Yes	Review Tree AMP every 4 years. Ability to review resourcing or levels of service for responsiveness and safety.	Engineering Field Services See improvement action 6 (Section 8)	N/A	N/A	N/A
	Moderate	Possible	Medium	No	Ensure appropriate replacement trees for their environment and impact on infrastructure. Improve planting conditions through permeable surfaces and WSUD.	Field Services Ongoing	Moderate	Possible	Medium
	Major	Rare	Medium	Yes	Review Tree AMP every 4 years. Ability to review levels of service and resourcing.	Engineering Field Services See improvement action 6 (Section 8)	Major	Rare	Medium
	Major	Possible	Medium	No	Increase tree species diversity, including consideration of disease-resistant cultivars.	Field Services Ongoing	Major	Rare	Medium

Table 7.2: Risk assessment

8. Improvement Plan



Council is committed to improving the management of trees by implementing actions within the improvement program in Table 8.1.

Task No	Task	Responsible officer	Resources Required	Due Date
1	Review and update of the asset register	SUFO	Internal	Ongoing
2	Cyclical tree audits	SUFO	External	Every 4 to 5 years or as recommended based on risk factors
3	Integration of tree assets with the asset management system and the finance module in Technology One	MFS	Internal	2025–26
5	Review of the <i>Tree Management Policy</i>	ECL	Internal	2025–26
6	Review of the <i>Urban Forest Plan</i> and <i>Tree Asset Management Plan</i>	ECL AML	Internal/External	2029–30
7	Incorporate the findings from the Enabling Resilient Asset Management (ERAP) project into tree planning.	AML	Internal	2029–30

Table 8.1: Improvement program

A future improvement is to make the urban forest management information readily available to the community via an online public interface. This interface may show planting plans, management actions such as pruning and watering, and trees that have been planted.

Council will schedule the *Tree Asset Management Plan's* review into its strategic and annual planning and budget processes. This plan has a life of 4 years.

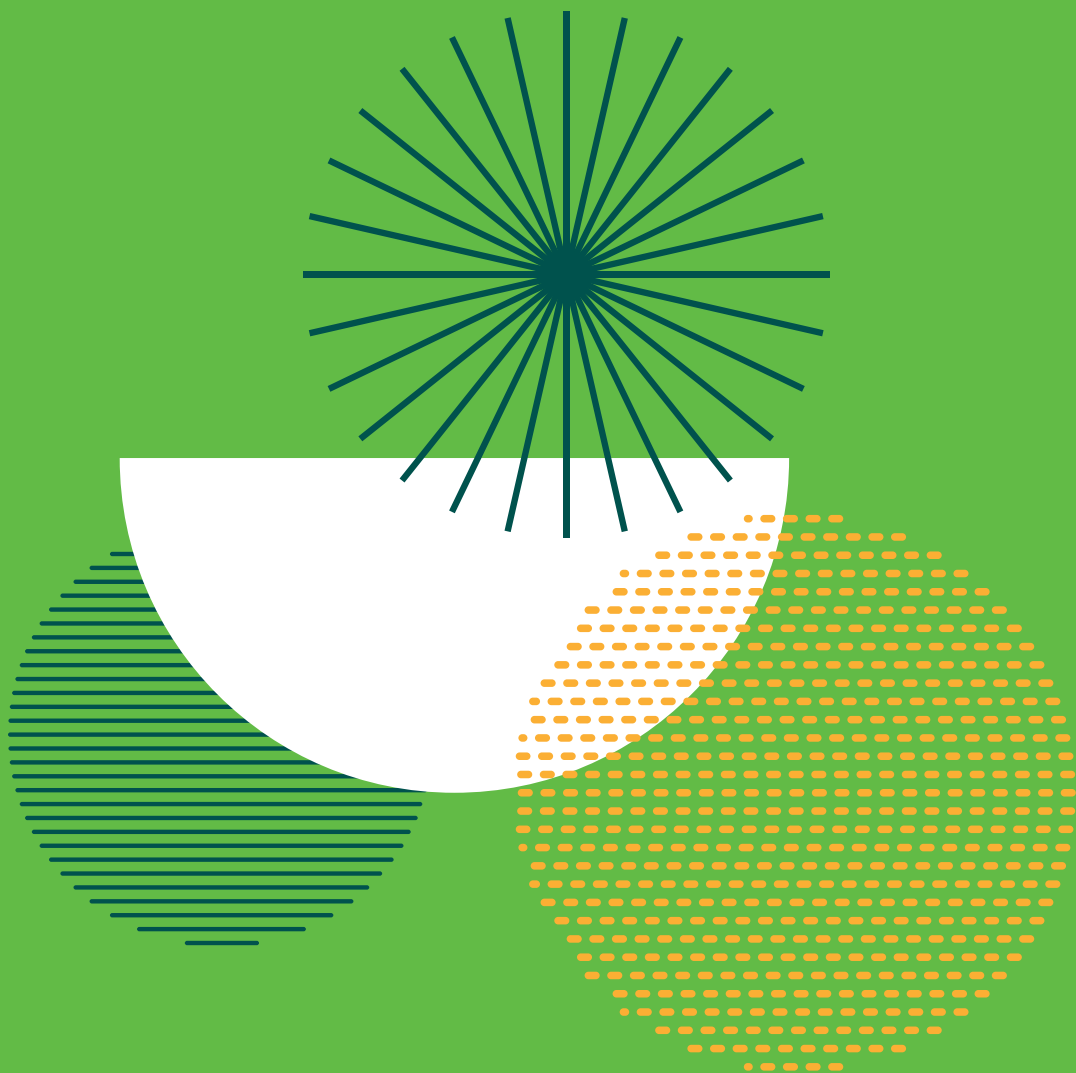
The *Urban Forest Plan Action Plan* outlines improvement actions for trees. Any actions requiring

additional resourcing have been excluded from the *Tree Asset Management Plan*.

Council will track the performance of the Plan through the following performance measures:

1. Level of Service Key Performance Indicators (KPIs)
2. Delivery of improvement program
3. Maintaining high data confidence
4. Review of the Plan every four years (at minimum).

Glossary of Terms



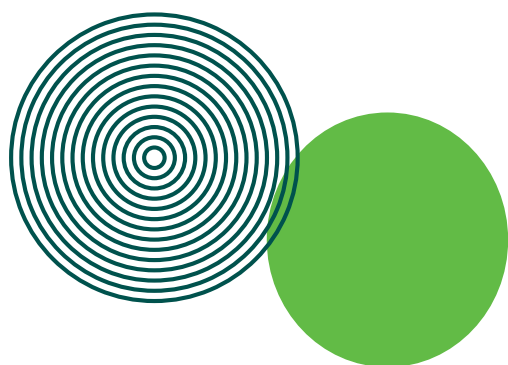


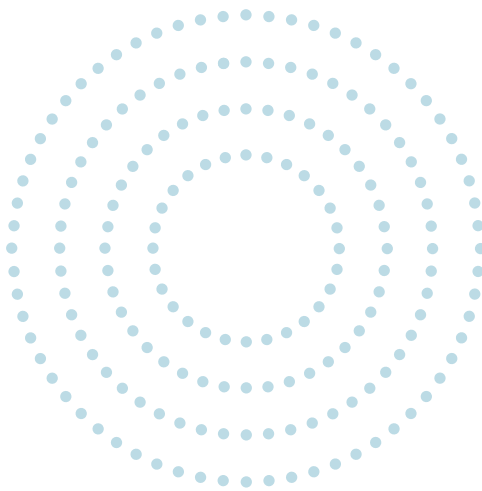
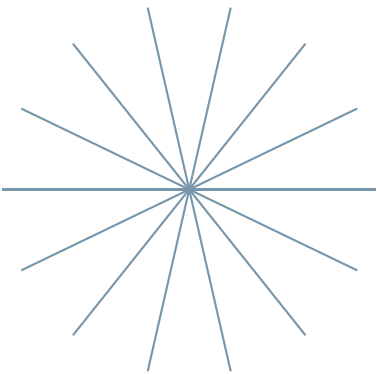
Key Term	Definition
Arboriculture	The management, assessment and cultivation of trees.
Asset	An individual or group of physical objects, which has value and enables services to be provided. This typically includes buildings, plant and equipment, playgrounds, sporting infrastructure, roads, pathways, stormwater drainage, and infrastructure.
Asset Category	Second tier in the data structure, a subset of assets with similar attributes.
Asset Class	An asset class is a grouping of assets of a similar nature and use. First tier in the data structure in line with the five asset management plans.
Asset Lifecycle	The lifecycle of assets can be defined in four stages: creation/acquisition, operations and maintenance, capital renewal/replacement, and decommission/disposal.
Asset Management	The combination of management, financial, economic, engineering and other practices applied to assets with the objective of providing the required service level in the most cost-effective manner.
Asset Management Framework	The Asset Management Framework consists of the three key asset management documents, the <i>Asset Management Policy</i> , the <i>Asset Management Strategy</i> , and the <i>Asset Management Plans</i> .
Asset Management Plan	Long-term plans (usually 10 years) that outline the asset activities and programs for each asset class and resources applied to provide a defined level of service in the most cost-effective way.
Asset Management Strategy	The Asset Management Strategy outlines the high-level, strategic approach to asset management. In other words, how it proposes to manage its assets.
Asset Management System	Encompasses all processes and interactions of asset management activities – inclusive of organisational strategy, objectives, processes and procedures, asset register and software, data management, risk, and asset lifecycle activities.
Asset Sub-Category	Third tier in the data structure, a further second subset of assets with similar attributes.
Asset Type	Specific attribute with a unit rate used for valuation.
Biodiversity	The variety of all life forms: the different plants, animals and micro-organisms and the ecosystems of which they are a part.

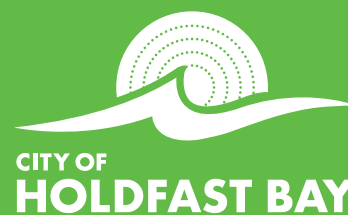
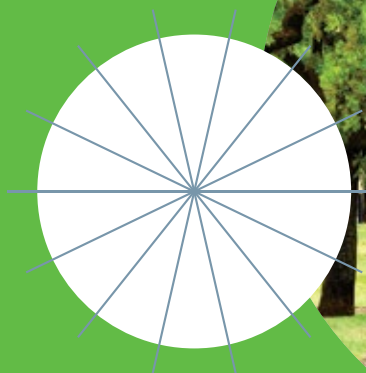
Glossary of Terms

Key Term	Definition
Canopy Cover	The proportion of land area occupied by the tree's crown or canopy when visualised from directly above. It is the two-dimensional horizontal extent of the combined canopies on a given land area, often expressed as a percentage or the total area covered. (City of Sydney Urban Forest Strategy 2013).
Carbon Sequestration	When carbon dioxide is removed from the atmosphere and stored by trees and other biological or chemical processes.
Family	A scientific term for a group of related animals or plants, e.g. Myrtaceae is the family that contains all the eucalypts and bottlebrushes.
Genus	A scientific term for a group of related animals or plants, e.g. <i>Eucalyptus</i> (gum trees).
IIMM	The <i>International Infrastructure Management Manual</i> provides guidelines for best management practices for infrastructure assets.
ISO 55000	The <i>ISO 55000</i> international standard for asset management provides terminology, requirements and guidance for implementing, maintaining and improving an effective asset management system.
Level of service	The defined service quality for a particular service/activity against which service performance may be measured.
Liveability	An assessment of what a place is like to live in. It considers environmental quality, crime and safety, education and health provision, access to shops and services, transport facilities, recreational facilities, and cultural activities.
Long-term financial plan (LTFP)	Council's financial plan for a period of 10 years. Demonstrates financial sustainability in the medium- to long-term, while achieving the objectives in the <i>Strategic Plan</i> .
Maintenance Expenditure	Any activity performed on an asset to ensure it can deliver an expected level of service until it is scheduled to be renewed, replaced or disposed of.
Operational Expenditure	Ongoing expenditure for activities throughout an asset's life, such as electricity, fuel, cleaning and inspections.
Senescence	The late stage of a tree's life, characterised by a decline in the growth, canopy volume and overall health of a tree.

Key Term	Definition
Species	A scientific term for a specific type of organism, e.g. <i>Eucalyptus camaldulensis</i> (river red gum).
Tree Planting Predictor ^s	An Excel-based modelling tool developed by Edge Impact to aid decision-makers in setting canopy cover targets. Through a series of algorithm models based on several input variable parameters, the tool estimates the aggregate growth profile of new and existing tree plantings within a given area.
Urban Forest	All trees in a specified area on all land types.
Urban Heat Island	Urban areas are warmer than rural areas due to the heat retention of hard surfaces. This stored heat is radiated at night, increasing air temperatures, which can have serious consequences for the health of humans and nature, particularly during heatwaves. An urban heat island is an area where this effect is particularly noticeable due to the types of infrastructure materials and/or lack of shading. The most cost-effective and efficient mitigation of urban heat is an increase in tree canopy cover.
Useful Life	The useful life (UL) of an asset is the estimated length of time during which the asset is likely to be able to deliver a satisfactory level of service.
Water-sensitive urban design (WSUD)	Water sensitive urban design (WSUD) is a means of using water to mimic the natural process of retaining, filtering and infiltrating stormwater near where it falls. This approach promotes the capture and use of water to support healthy vegetation in streetscapes and constrained urban areas.







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