City of Prospect Tree Strategy

2021 - 2026

CITY OF PROSPECT

Acknowledgement of Country

City of Prospect acknowledges that we are on the traditional country of the Kaurna people of the Adelaide Plains region and we pay our respect to Elders past and present. We recognise and respect their cultural heritage, beliefs and relationships with the land and we acknowledge that they are of continuing importance to the Kaurna people living today.

Contents

Introduction

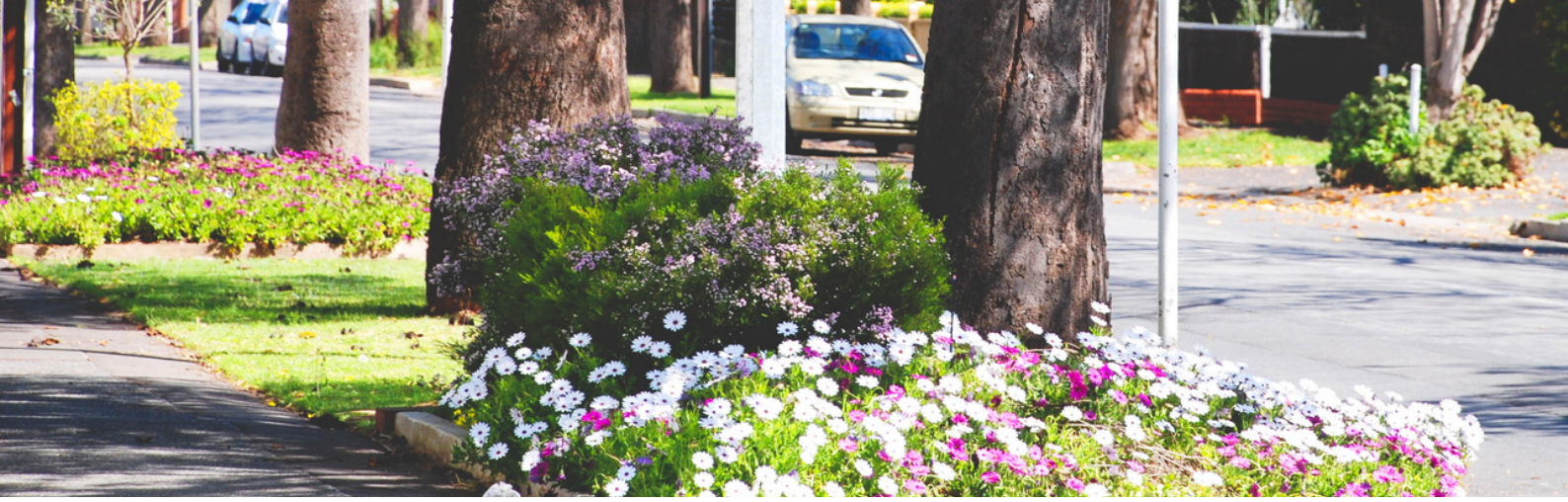
The Tree Strategy sets out a vision for protecting and enhancing City of Prospect's leafy character for future generations. The Strategy provides the framework for Council's roles and responsibilities to plant more trees while maintaining and protecting our existing trees, and engaging with our Community to protect and plant trees on private land.

The Tree Strategy is intended to be a foundational five year plan to set up an asset management framework for managing the City's trees as assets, to incorporate and prioritise the Green Tunnel Planting Program and to capture current issues, challenges and opportunities. The intention is for the Strategy to be reviewed every five years to meet changing priorities and incorporate new technologies and innovation.

Council recognises the important contribution trees and vegetation make to the City and our Community.These assets provide multiple benefits such as supporting flora and fauna, addressing the consequences of climate change while creating a living environment that adds character to the streetscape and economic value to properties.

City of Prospect commits significant resources to the planting, protection and management of local trees. Trees are important community assets that are becoming increasingly more challenging and complex to manage as competing interests from urban infill, population growth, the impacts of climate change and community expectations continually rise.

Actions listed in the Strategy capture Council's work in managing and maintaining trees on the ground and provide recommendations for engaging with and facilitating the local community and other stakeholders while fulfilling the initiatives of Council's *Our Community Plan*.



Context:

City of Prospect's Trees - Past and Present

> ***"Prospect's name was chosen for the beautiful prospect the locality presented, well-timbered, with waving gums and shady trees."***

Trees have always played a significant role in the City of Prospect's identity. Prior to European settlement the area now known as Prospect was inhabited by the local Kaurna people, the traditional owners of the area. For thousands of year the landscape consisted of mallee box woodland featuring drooping sheaoks, golden wattle and southern cypress pine, leading into grassland in the north western corner of Prospect.




Mallee Box Woodland showing dominant species (L to R): Mallee Box, Drooping Sheoak, Golden Wattle, Southern Cyprus Pine

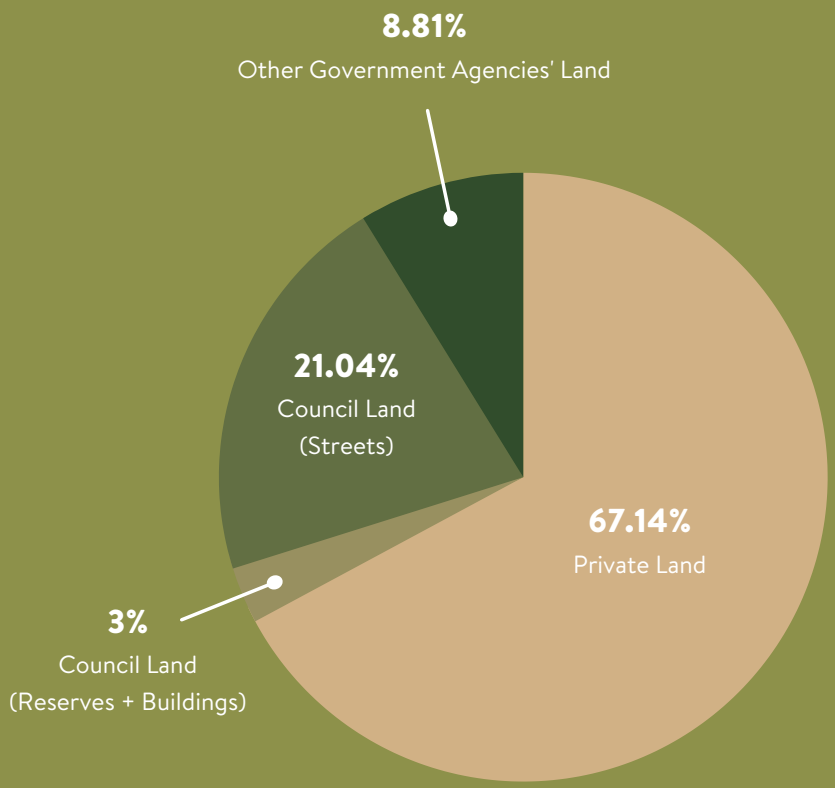
European settlement led to a rapid change of landscape. The City of Prospect is located on the edge of a plateau of limestone and dolomite and early settlers made good use of it. When Prospect Village was first established between 1840-50 the main land uses were agricultural wheat, dairy, lime industry and timber mills. Today there is no remnant vegetation from pre European times.

Over time the City of Prospect landscape changed from agricultural to residential as development increased and the land was subdivided for a housing boom. Today the City is dominated by residential development and is highly urbanised with less than 3% open space in public reserves. Our City's trees are mostly found on private land, in our parks and along our street verges.

A Snapshot of Trees in Prospect

The tree population in our City encompasses trees on private land and on land managed by the City of Prospect and is a shared responsibility.

Land Ownership in the City of Prospect



City or Prospect manages 24.04% of the total land area, 75.96% is managed privately or by other government agencies.

With over 75% of the City of Prospect's land owned by private landholders and other agencies, the City of Prospect cannot meet the State Government's target to increase canopy cover by focussing on Council land alone.

Tree canopy cover is an important way of measuring the extent the tree population in the City of Prospect. A single large tree can shade a larger area than several smaller ones, so percentage cover is a greater indication of tree cover than counting individual trees.

20.4%
total canopy cover
on all land

79.6%
of City of Prospect
is without natural shade

35%
canopy coverage
of streets and verges

16%
canopy coverage
of private land

Tree canopy now and in the future

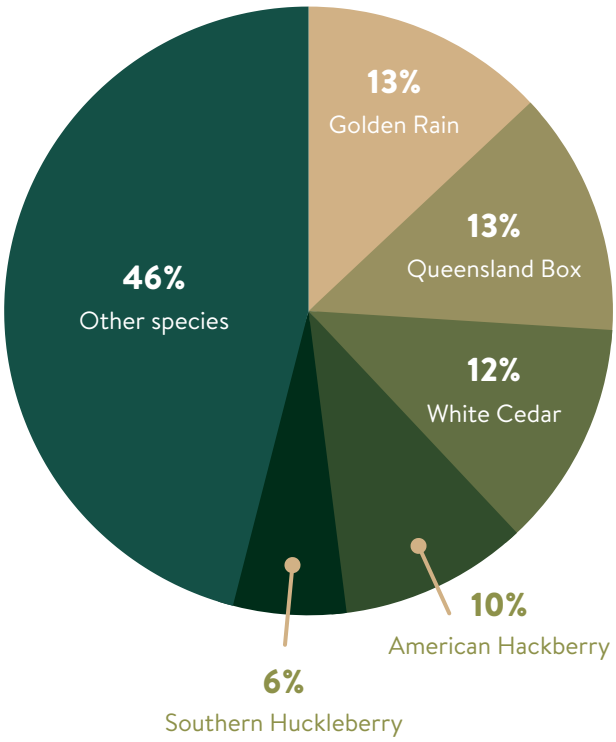
The State Government's 30 Year Plan for Greater Adelaide (2017) outlines key directions to create a greener city through an increase in green cover by 20% across metropolitan Adelaide by 2045. For City of Prospect an increase of 20% on the 2018 canopy baseline measure of 20.4% will provide a City-wide canopy target of 24.5% by 2045.

Our street trees

11,000
Number of street trees

105
Number of street tree species

300
Number of trees planted each year



54% of our tree population is represented by five species. 2012.

Strategic Context

Community Plan - Towards 2040

Tree Strategy

Open Space Strategy

Tree Strategy Deliverables 2021 - 2026

- Tree Management Policy
- Technical and Management Guidelines
- Tree Selection Guide and Planting Toolkit
- Green Tunnel Planting Plan
- Senescent Tree Replacement Plan

Influencing Strategies/Plans (Council + External)

- Long Term Financial Plan
- Reconciliation Action Plan
- Regional Public Health Plan
- Integrated Transport Plan (in development)
- Asset Management Plans
- Resilient East Regional Climate Change Adaptation Plan 2016
- Colllaborative Heat Mapping for Eastern and Northern Adelaide Project Report (2018)
- 30 Year Plan for Greater Adelaide, Government of South Australia
- Green Adelaide Regional Landscape Plan, Government of South Australia
- Legislative controls, particularly those relating to significant and regulated trees and regulated plantings around

Supporting Council Documents

- Annual Business Plan
- Environmental Action Plan 2018-2022
- Verge Development Policy
- Driveway Crossover Policy
- Significant Tree Grant Program
- Community Engagement and Consultation Policy
- Design Guidelines for Character Areas

Benefits of Trees in an Urban Environment

Issues and Challenges

The trees on our streets and parks managed by Council and on private property contribute significantly to the character, liveability and identity of the City of Prospect. Managing and maintaining healthy trees on public land is becoming increasingly more challenging and complex. If left unaddressed the challenges will negatively impact our tree population and increase environmental issues like the urban heat island. By addressing these challenges we will identify opportunities to minimise harm to our environment, maintain and improve our tree canopy.

Climate Change

Climate change impacts are already being felt across eastern Adelaide. Globally we are at 1°C of warming already, with the average for South Australia being higher at 1.3°C. By 2050, it is predicted that the City of Prospect will experience:

Average temperatures are expected to increase across all seasons by between 1.5° and 2.0°.

The number of days over 40° is projected to double. The frequency and duration of heatwaves is projected to increase.

Average annual rainfall is projected to decrease by 7%. The greatest decline is predicted for Spring rainfall.

The intensity of heavy rainfall events is projected to increase by at least 10%.

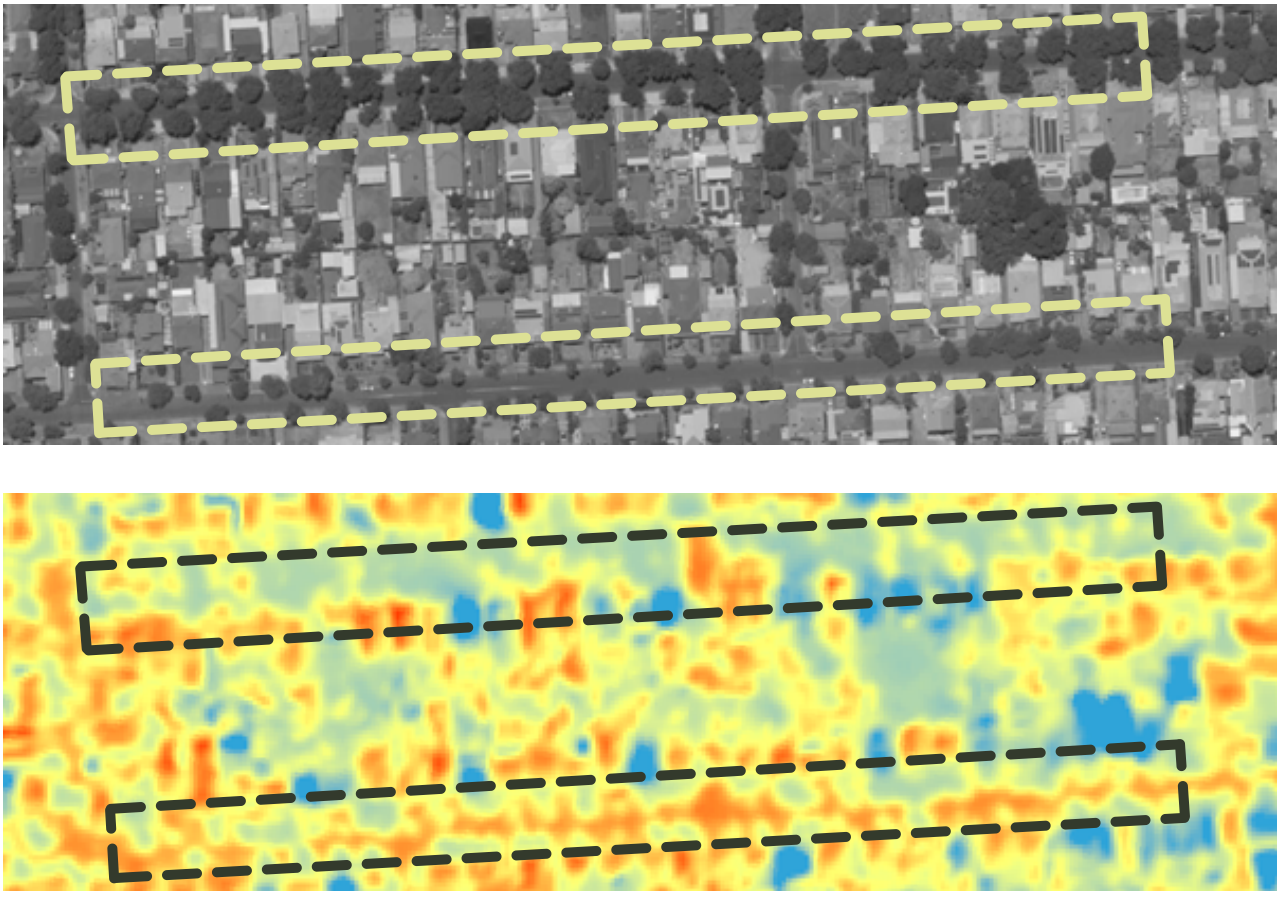
Related impacts of these climatic changes on trees include: increased stress on water resources and reduced water availability throughout the year, increasing demand for irrigation, loss of biodiversity, potential changes to growing season and plant growth, and increased range and migration of pest plants and animals.

Trees directly help by mitigating the causes of climate change by absorbing carbon dioxide from the air and adapting to changes in the climate by helping cool our City. Integrating water sensitive urban design into infrastructure upgrades will support healthy tree populations.

Urban Heat Island

Urban Heat Islands are areas that retain more heat than the surrounding landscape. They have three main causes: impervious hard surfaces, human activity and low vegetation coverage. These areas absorb the sun's heat, causing the surface and ambient temperatures to rise and they retain the heat longer, meaning the areas don't cool down at night. This phenomenon occurs all year around, but is more acute during hot weather and of more concern as extreme heat leads to greater mortality than any other natural hazard. The 2018 Heat Mapping project identified hot spot areas for priority tree planting. As urban infill increases actions must be taken to reduce the impact of the urban heat island. Increasing canopy cover and supporting green infrastructure is the most effective way of cooling our neighbourhoods.

Urban cooling effects of street trees



An aerial map (top) and a heat map (bottom) comparing two parallel streets in Prospect - Victoria Street (tree-lined) and Beatrice Street (bare). The cooler surfaces are blue and the hotter areas are red.

Urban infill and competition for space

The State Government's 30 Year Plan for Greater Adelaide commits to managing housing growth within the existing urban footprint. Currently, 82% of new housing growth in Adelaide is in within established suburbs. As the population increases and new housing is built, the demand for quality green space increases.

Available space on private property, in parks and along streets is shrinking, and as a result finding space to plants trees becomes increasingly challenging. Trees needs space above and below ground to grow to maturity for us to enjoy the benefits they provide and Council has to balance competing land use priorities of development, residents, and public infrastructure including gas, electricity, communications, sewerage and stormwater.

Allan Street, Prospect - 2013 (L) and 2021 (R)

Planning for resilient urban trees

Healthy tree populations in urban environments are those that have a diversity of species and a diversity of ages. Public trees are important community assets and require ongoing and proactive management to ensure they are maintained and thrive, and need a programmed succession plan to manage the potential impact to the streetscape as they reach the end of their lifespan. These actions will ensure our leafy, tree lined streetscapes continue into the future.

Best practice dictates that no one species should be more than 5 - 10% the population. Increasing diversity of trees and other plants – both native and exotic – will provide food sources and shelter for our native wildlife to enable safe movement through our neighbourhoods and will improve the long term resilience to pests, diseases and a changing climate.

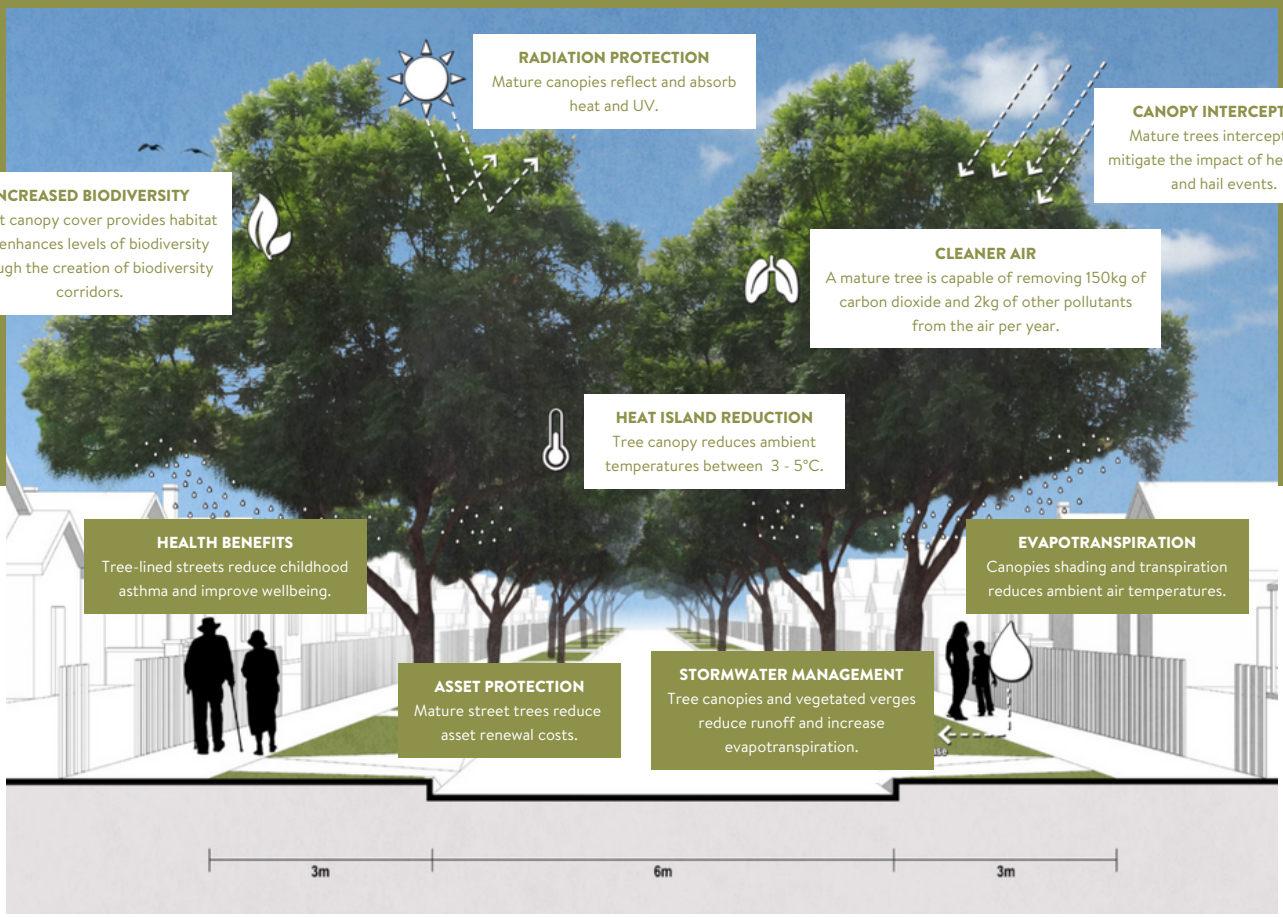
Our Green Tunnels

Attractive tree-lined streets with beautiful leafy canopies are a well-known feature of the City of Prospect. Our iconic Green Tunnels, streets lined with trees where their canopies grow to touch across the street, are fundamental to creating a sense of place and increasing health and wellbeing across the City of Prospect.

City of Prospect's Green Tunnel Planting Program is a commitment of $9.4 million over 30 years to ensure our Green Tunnel streets remain a strong part of the City's future. The program is a key priority of the Strategy and will prioritise the protection and expansion of green tunnel streets across Prospect as new street trees are planted.

Increasing tree canopy cover through planting Green Tunnels will address the impacts of the challenges presented in this strategy through: increasing biodiversity, cleaning the air and capturing carbon dioxide, reducing the heat island effect, protecting infrastructure assets, managing stormwater, providing shade, improving health and wellbeing, and cooling our City.

Proposed - Athol Avenue, Prospect



Existing

6.2m wide road with verges of approx. 3m
Current green tunnel - 50% achieved
Dominant species 1 - Jacaranda mimosifolia
Dominant species 2 - Melia azedarach
Additional planting opportunities in verge area

Existing tree canopy increase after 30 years

Proposed tree canopy increase after 30 years

Green Tunnel 2050

Vision

The City of Prospect's Tree Strategy captures Council's vision for trees on public and private land. Three goals will help deliver this vision: Grow and Maintain, Plan and Support, and Connect. Our Action Plan includes immediate activities that will contribute to better planning and management as well as longer term actions that will fulfil the aims of each of the goals.

Action Plan

Goal 1: Grow and maintain

We will enhance the local character and amenity in City of Prospect by:

- Planting more trees
- Creating space for more trees
- Ensuring there is a diversity of tree species
- Maintaining our trees for future generations

OBJECTIVE		ACTION		TIMEFRAME
G1	Green Tunnels are an iconic component of the City's streets	G1.1	Identify existing and proposed Green Tunnel streets and corridors that link places and provide opportunity for habitat and biodiversity.	12 months
		G1.2	Update the Urban Street Tree Guide with criteria and preferred species for achieving Green Tunnel streets.	12 months
		G1.3	Grow a network of Green Tunnels through implementing Green Tunnel Planting Plan.	2 - 3 years
G2	Increase tree canopy cover across the City	G2.1	Identify number of trees that need to be planted to increase canopy cover to 24.5% by 2045.	1 - 2 years
		G2.2	Identify number of plantable spaces available and number of opportunities to increase plantable space with engineering applications.	12 months
		G2.3	Determine appropriate species list for maximum canopy growth for each street given spatial, legislative and climatic conditions.	1 - 2 years
		G2.4	Implement senescent tree replacement program to ensure canopy loss is minimised through planned removal and replacement.	4 - 5 years
		G2.5	Encourage increased canopy cover in the private realm through incentives.	4 - 5 years

OBJECTIVE		ACTION		TIMEFRAME
G3	Increase species diversity and improve the age spread of street tree plantings	G3.1	Ensure the Urban Street Tree Guide and tree planting program aligns to best practice for species and age diversity.	12 months
		G3.2	Update the Urban Street Tree Guide using a toolkit approach to include a diverse choice of species that considers Green Tunnel criteria, varying infrastructure conditions, service and footpath requirements, climate change resilience and opportunities to support the City's native wildlife.	12 months
		G3.3	Encourage residents to support species diversity by planting and caring for verges and street tree plantings as described in our Verge Management Policy.	2 - 3 years
G4	Increase canopy cover and species diversity in the City's open spaces	G4.1	Plant larger canopy trees in the City's parks and gardens.	Ongoing
		G4.2	Plant trees and associated understorey plantings that support the City's native animal populations.	2 - 3 years
G5	Trees are proactively planted, maintained and protected using industry standard techniques and methods	G5.1	Develop Tree Management Policy.	12 months
		G5.2	Develop Tree Management, Maintenance and Watering Guidelines.	12 months
		G5.3	Manage a proactive maintenance schedule for longevity of Council's trees addressing potential nuisance issues before they arise.	2 - 3 years
		G5.4	Refine tree removal criteria and develop clear process for tree removal requests with delegated approvals and reporting.	12 months
		G5.5	Develop clear links to Council documents that direct and influence the Tree Strategy.	12 months
		G5.6	Link tree planting and replacement program to development approvals and infrastructure program.	2 - 3 years
		G5.7	Maintain a register of Significant and Regulated trees in the City.	Ongoing
		G5.8	Support residents to maintain Significant trees on private property.	Ongoing
		G5.9	Use Driveway Crossover Policy to protect and retain street trees as urban infill increases.	Ongoing

OBJECTIVE		ACTION		TIMEFRAME
G6	Integrate green infrastructure with infrastructure renewals and upgrades	G6.1	Identify where tree plantings and other greening approaches can influence traffic management outcomes through introducing new plantable space (i.e. central medians, slow points, protuberances).	2 - 3 years
		G6.2	Align Green Tunnel planting program with integration of design and construct phases of infrastructure renewal/upgrade programs	2 - 3 years
G7	Use innovative Water Sensitive Urban Design (WSUD) techniques for flourishing trees	G7.1	Integrate infrastructure projects with WSUD features and approaches where viable and beneficial to existing or new trees.	2 -3 years
G8	Minimise conflict between street trees and above and below ground infrastructure	G8.1	Use Urban Street Tree Guide to select the appropriate species for a site to reduce future conflicts.	2 - 3 years
		G8.2	Work with service providers to explore opportunities to use innovative practices to reduce conflicts.	2 - 3 years
		G8.3	Increase plantable space using engineering solutions to avoid conflicts.	4 -5 years

Goal 2: Plan and support

We will manage our trees to ensure they continue to thrive for future generations by:

- Establishing a framework for managing trees as assets
- Developing systems and plans
- Funding the Tree Strategy
- Building ongoing relationships

OBJECTIVE		ACTION		TIMEFRAME
P1	Prepare a Green Tunnel Planting program	P1.1	Develop a 5 year planting plan with a focus on growing the network of Green Tunnel streets, and includes site validations and is regularly reviewed and adapted as conditions change.	12 months
		P1.2	Select streets identified as hotspots in the Heat Mapping Report (2018) for prioritised planting.	12 months
		P1.3	Use spatial analysis to identify areas of low canopy cover and include selected areas in the Green Tunnel planting program.	12 months
		P1.4	Improve heat mapping results across the city by delivering 50% of all streets planted to be capable of forming green tunnels.	4 - 5 years
P2	Develop an active data management system for the City's trees using an asset management approach	P2.1	Conduct Tree Condition Assessment Audits on all Council trees in a rolling 4 year program. The rolling program will divide the City into zones and audit trees in each zone on a rolling basis to capture health and maintenance actions to be implemented before the next zone is audited.	12 months
		P2.2	Integrate Tree Condition Assessment Audit data with Forestree database for a single source of tree data.	2 - 3 years
		P2.3	Develop procedures for Forestree and train users to ensure consistency in data collection	12 months
		P2.4	Integrate field operating systems (Forestree) with CRM and other Council systems.	2 - 3 years

OBJECTIVE		ACTION		TIMEFRAME
P3	Street trees are replaced with minimal impact on streetscape and amenity	P3.1	Use Tree Condition Assessment Audit to develop a senescent tree replacement program.	2 - 3 years
P4	Secure nursery stock for ongoing and uninterrupted planting	P4.1	Use 5 year planting plan to order stock up to 3 years in advance.	2 - 3 years
		P4.2	Increase diversity of suppliers to have guaranteed stock available.	2 - 3 years
P5	Review outcomes of Tree Strategy and performance of tree planting after 5 years	P5.1	Establish reporting framework for objectives and actions.	2 - 3 years
		P5.2	Use street tree condition audit and spatial data to determine whether canopy targets are being met.	4 - 5 years
		P5.3	Plan to adapt to changing conditions to ensure targets are on track.	4 - 5 years
		P5.4	Commit to ongoing canopy cover and thermal imagery surveys.	4 - 5 years
		P5.5	Use outcome of review to provide strategic planning guidance and reporting on tree investment.	4 - 5 years
P6	Council supports the financial requirements of the Tree Strategy	P6.1	Identify future resourcing requirements, including staffing and training, for tree strategy actions.	2 - 3 years
		P6.2	The Tree Strategy informs the annual business plan and budget process towards Capital, Operating and Recurrent budgets for tree planting and maintenance.	Ongoing
P7	Identify partnerships and apply for grants that support tree strategy actions	P7.1	Seek partnerships with State Government and other agencies to collaborate on education, managing risks and increasing new plantings and/or projects.	Ongoing
P8	Encourage and support research into urban trees	P8.1	Partner with local research institutions to investigate and trial activities that will encourage the City's trees to thrive.	Ongoing

Goal 3: Connect

Our community shares stewardship of the City's trees by:

- Supporting our vision
- Advocating for trees
- Protecting and planting trees on private land

OBJECTIVE		ACTION		TIMEFRAME
C1	Our Community is informed and involved	C1.1	Notify residents of upcoming tree planting projects in their streets and encourage them to help care for our trees.	Ongoing
		C1.2	Promote the City's trees through the City's communication channels.	Ongoing
		C1.3	Update the trees information on Council's website to reflect the updated knowledge and practices adopted within this strategy.	Ongoing
C2	Promote the benefits and advocate for trees in our City	C2.1	Provide activities that promote the protection and planting of trees and other greening on private land.	2 - 3 years
		C2.2	Provide activities for community to celebrate and value trees.	2 - 3 years
		C2.3	Inform residents of the number of trees planted annually.	12 months
C3	Gain recognition as a Tree City of the World	C3.1	Apply for recognition.	4 - 5 years