TREE CANOPY STRATEGY
2024–2044

Yarra Ranges Council

Acknowledgements

Yarra Ranges Council acknowledges the Wurundjeri and other Kulin Nations as the Traditional Owners and Custodians of these lands and waterways.

We pay our respects to all Elders, past, present, and emerging, who have been, and always will be, integral to the story of our region.

We proudly share custodianship to care for Country together.

Many people have contributed information and ideas presented within this document, including the Yarra Ranges Sustainable Environment Advisory Committee (SEAC), the Yarra Ranges Indigenous Advisory Committee (IAC), Lilydale & District Historical Society (LDHS), Department of Energy Environment and Climate Action (DEECA), Living Melbourne, Uncle David Wandin (Wurundjeri Elder), Meg Caffin (Urban Forest Consulting) and Yarra Ranges Council staff.

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FOREWORD

Trees are extremely important to our people, the Wurundjeri. Our name is derived from ‘wurun’ meaning Manna Gum, which is common along ‘Birrarung’ (the Yarra River) and her estuaries. ‘Djeri’ is the name of the grub that lives in the Manna Gum and makes unique marks on the underside of bark. These markings are important identifying features of Wurundjeri shields and canoes. They hold great significance for our people and our identity.

Trees play an important part in our cultural life. The leaves of Manna Gum are used in smoking ceremonies to welcome people to Country. Trees direct our people to, and indicate, significant places. We consider the tree canopy to be sacred and protected—it is within the canopy that many of our ancestors and spirits live.

Trees help us to understand and read Country. They tell us about the soil, and in doing so what plants, food, medicine, insects, and animals should reside in that Country. Trees tell us what land management practices to undertake, such as the correct time to burn or when not to burn. They are a source of food, fibre and medicine, and are important for making tools such as spears, canoes, and shields. While we carve and harvest parts of trees, we do this respectfully to protect them from getting sick.

Parent tree is a term used for trees that have grown large and old. They are an important part of our Country, too often missing from today’s landscape. Parent trees should shade and connect our Country, helping to keep it cool. Too much hot fire has killed our parent trees, allowing the sun to penetrate and dry out the soil. Too much hot fire has turned our Country upside down and made it very sick. Without parent trees, healing Country is difficult. We need to look after our trees and help them grow old, so we can have a healthy Country again.

Uncle David Wandin

Wurundjeri Elder

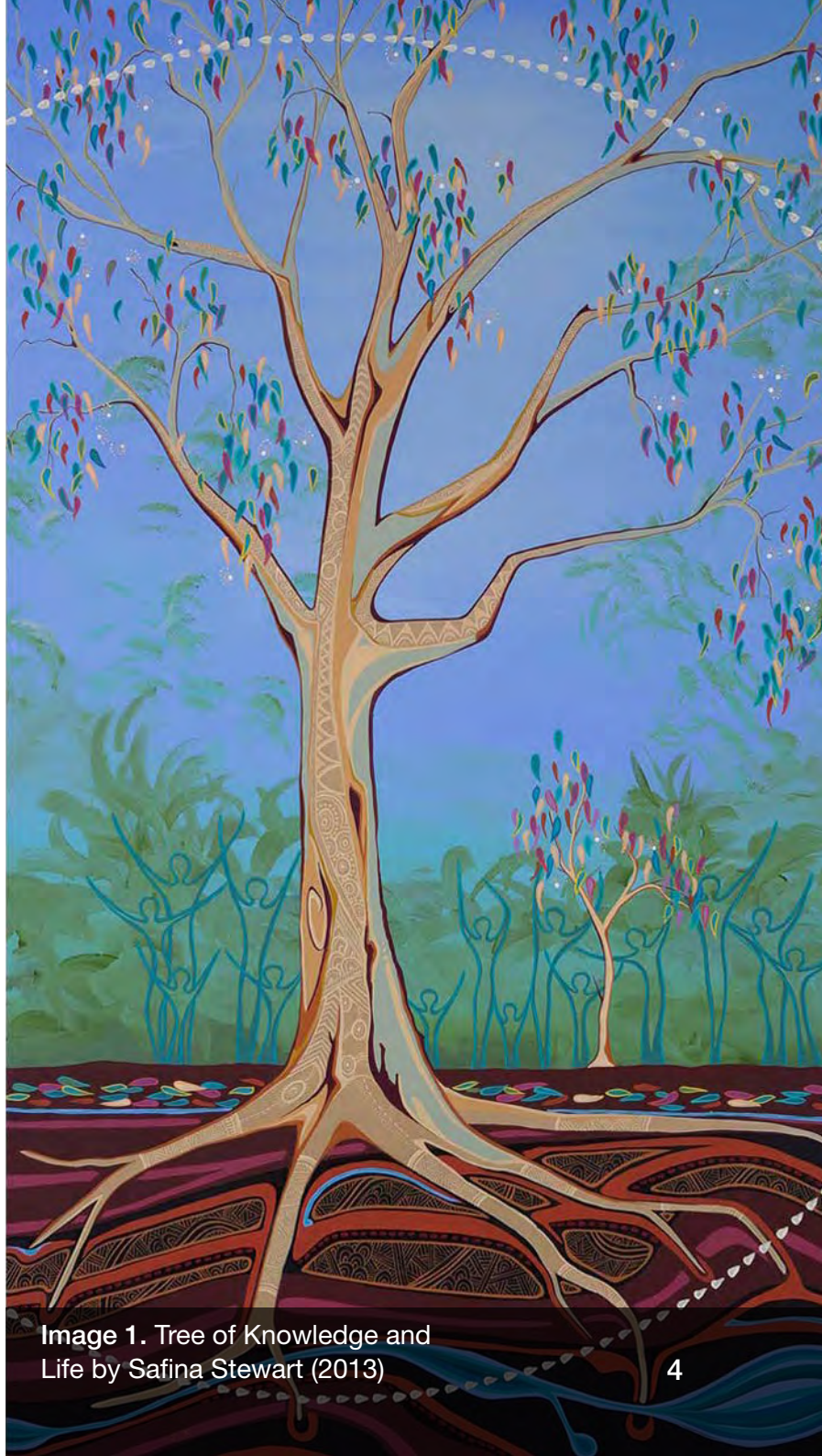


Image 1. Tree of Knowledge and Life by Safina Stewart (2013)

Image 2. Firestick burning undertaken as part of the National Indigenous Firestick Workshop in Barmah, Victoria (2019). **Credit:** Timothy Neale

EXECUTIVE SUMMARY

Trees are fundamental to the story of Yarra Ranges, shaping our cultures, values and communities. They are a prominent feature in our landscape, providing benefits to our health and wellbeing, community and culture, the environment, ecology and economy.

'Tree canopy' is our way of referring to Yarra Ranges' diverse tree population and is a way to consider the collective benefits of our trees. As the climate changes, and our cities and communities evolve, our tree canopy is in decline. This means less trees, but also unhealthier trees and increasing challenges for tree management. Issues contributing to this trend include the urban heat island effect, extreme weather, climate change, poor tree diversity and performance, inadequate tree planting, urban development, and competing infrastructure. Understanding these issues provides us with an opportunity to take action to reverse tree canopy decline.

This Strategy sets our vision, objectives and targets for the long-term protection, management and planting of trees in Yarra Ranges. Our tree planting will prioritise the urban parts of Yarra Ranges in built up areas where canopy cover is low or declining. By taking a strategic approach to protecting, managing and planting trees, we will maximise the benefits of our tree canopy and minimise tree risks, particularly tree risks associated with bushfires and storms, which are significant factors in Yarra Ranges.

VISION

Yarra Ranges Council will conserve and enhance our leafy character, culturally significant landscapes and unique biodiversity through the protection, management and planting of trees. Our tree canopy will improve liveability, support community health and wellbeing, maintain ecosystems and enhance local tourism.

OBJECTIVES

This Strategy sets a foundation to:

1. Value, protect and manage trees

2. Grow a healthy tree canopy

3. Conserve culturally significant trees and enhance local tourism

4. Improve tree canopy resilience to climate change

5. Support and enhance community health and wellbeing

6. Apply best practice tree management

TARGETS

Yarra Ranges Council will aim to achieve the following by 2044:

Our community will…

- ✓ Have a greater understanding of the role, function and importance of trees
- ✓ Have greater knowledge and appreciation of our culturally significant trees
- ✓ Increase their participation in greening and biodiversity programs.

Our tree planting will...

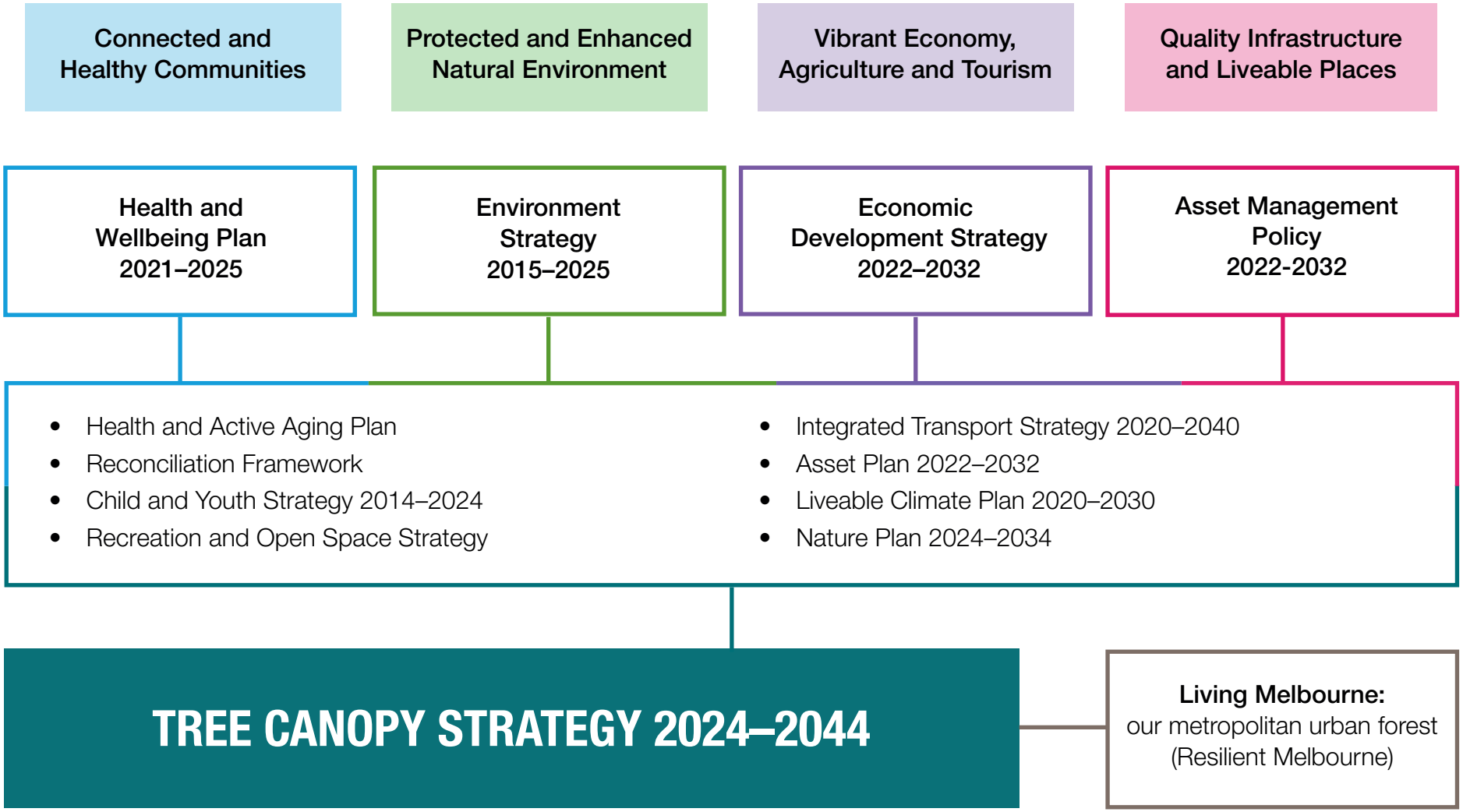
- ✓ Increase tree canopy cover from 31.68% to 35% on public land in built up areas
- ✓ Be fairly distributed, providing a minimum of 25% tree canopy cover on public land across all suburbs and towns
- ✓ Increase tree canopy cover for all activity centres, key pedestrian routes, playspaces and biolinks between areas with recognised biodiversity value
- ✓ Increase the diversity and resilience of Council managed trees.

Our tree management will...

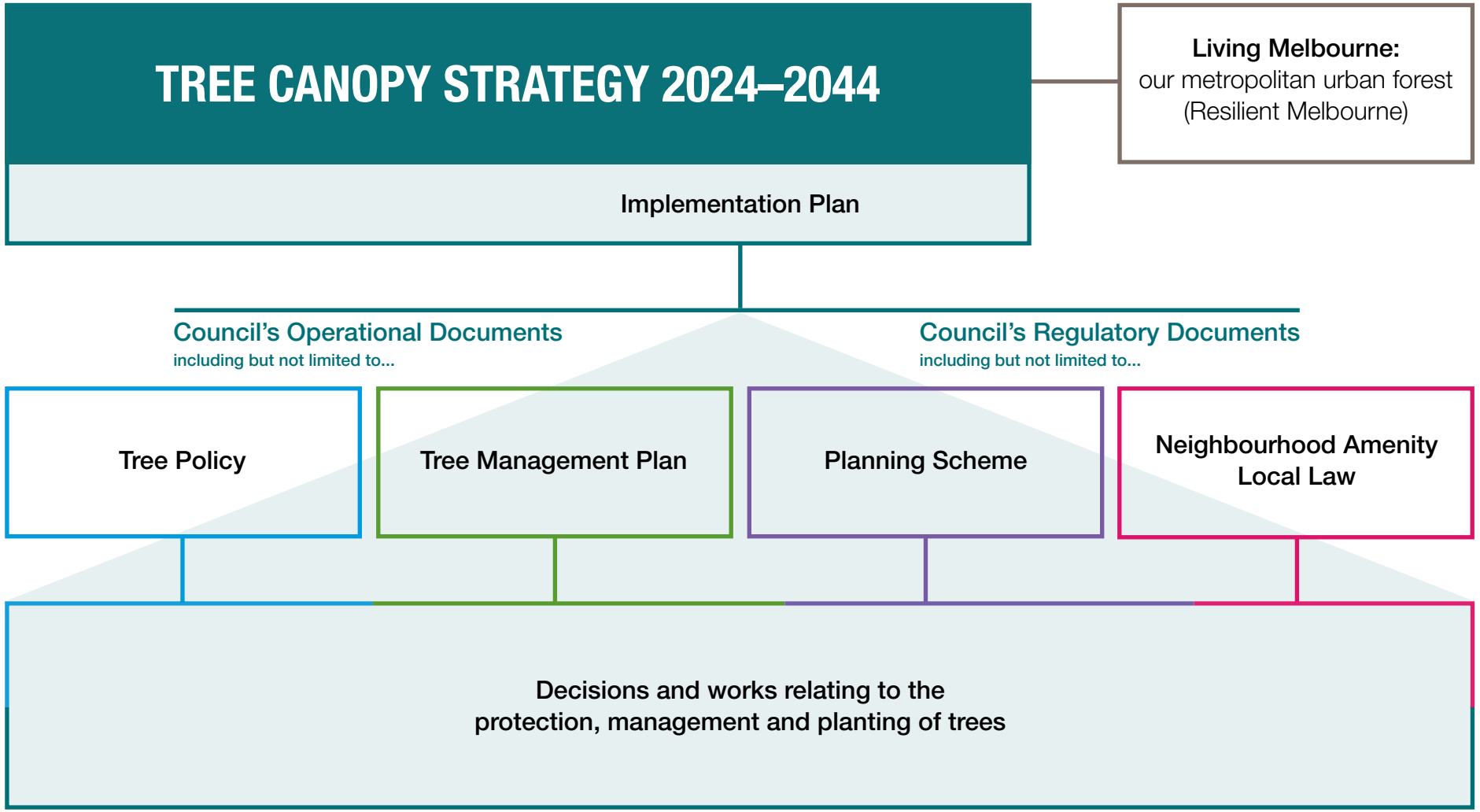
- ✓ Reduce hazardous trees along roadsides for bushfire preparedness
- ✓ Successfully establish 95% of new street tree plantings, inclusive of formative pruning
- ✓ Improve the condition of large habitat trees and culturally significant trees on public land
- ✓ Incorporate policies, plans, programs and tools informed by industry best practices.

STRATEGIC CONTEXT

Council's Key Strategic Objectives



STRATEGIC CONTEXT



INTRODUCTION

The Yarra Ranges is highly valued for its leafy character and culturally significant landscapes, with over 4.5 million tourists attracted to the region each year.[1] Trees are a storied part of our landscape and have shaped the cultures, values and communities of today. They are a prominent feature of our suburbs, towns, roadsides and trails.

Trees are commonly valued for their colour, scent, texture and shade, or as habitat and food for fauna. However, researchers are beginning to understand and quantify the significant environmental, economic and social benefits of trees. Increasingly, trees are viewed as critical infrastructure that improves the *liveability* of our communities.[2] Healthy trees are one of the most efficient and cost-effective solutions to support communities that are safe, resilient, healthy, inclusive and socially well connected. For these reasons, trees are valuable assets to be protected, managed and enhanced.

What is tree canopy?

'*Tree canopy*' is our way of referring to Yarra Ranges' tree population, and includes trees of all types and sizes across public and private land. Tree canopy is a way to consider the collective benefits of our diverse tree population.

Looking holistically at our tree canopy allows for deeper consideration of local issues and opportunities related to trees, such as community perceptions, *urban heat island effect*, *extreme weather, climate change*, tree diversity and performance, tree planting, urban development, competing infrastructure, infrastructure projects, culture, large trees, and *best practice tree management*.

The management of the tree canopy is often considered a local government responsibility but frequently extends well beyond that. Neighbourhoods, schools, community groups, developers, business, industry and State and Federal Government all have important roles to play. Every part of the community contributes in some way to the tree canopy as a whole.

Why do we need a strategy?

To respond to key challenges and opportunities shaping the future of our tree canopy, Council must adopt a more proactive stance to tree management. A strategy is needed to establish a clear vision, define objectives, and set measurable targets. Such an approach will offer the direction necessary to effectively plan, allocate resources and act to maximise the benefits of our tree canopy and to minimise risk.

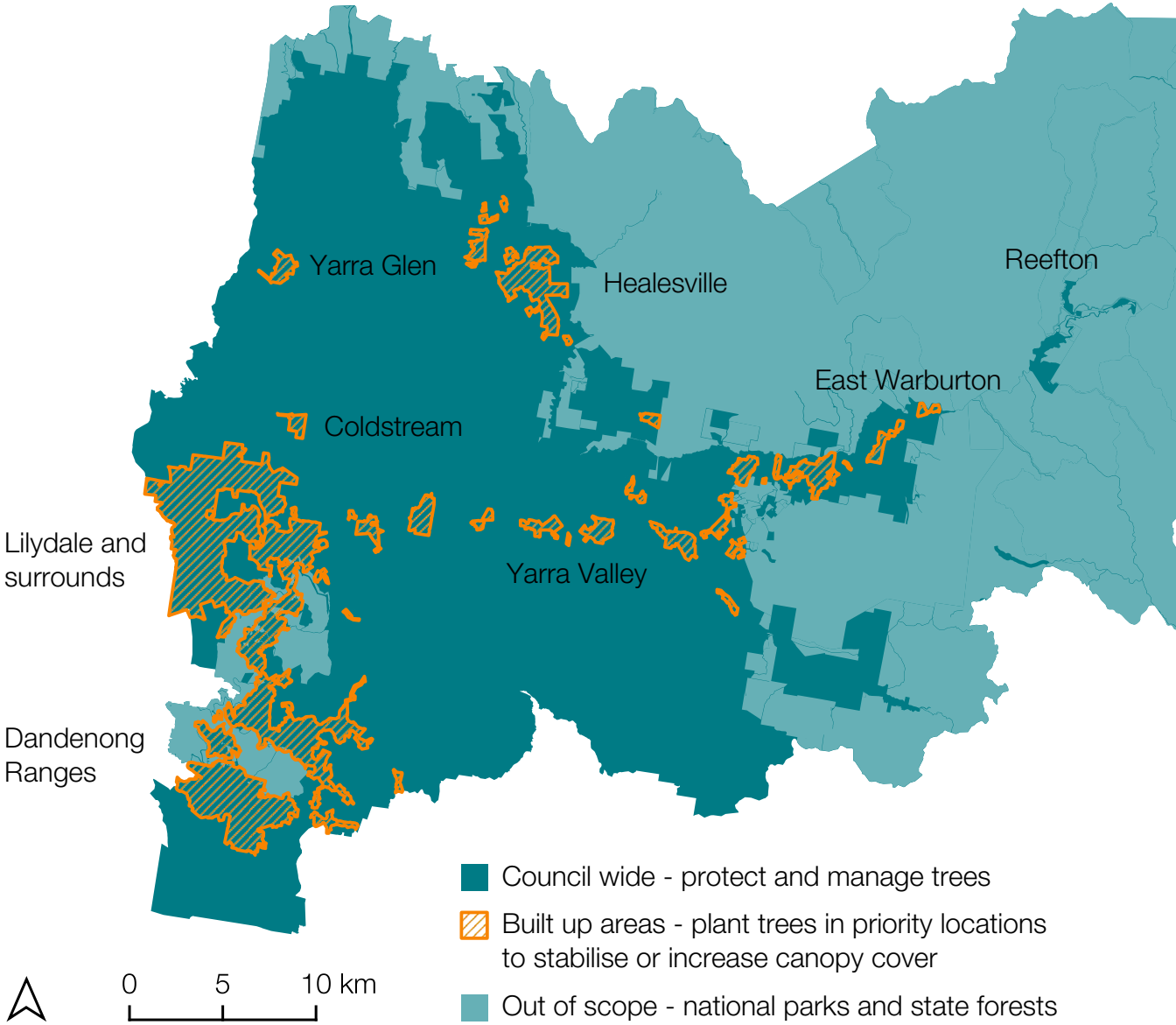
SCOPE

The Tree Canopy Strategy sets a foundation for the protection and management of trees across our municipality. This includes trees along roadsides, in parks and reserves, along trails and those on private land.

The Strategy also sets Council's direction for the planting of trees to stabilise or increase *canopy cover* on public land in *built up areas*. This includes identifying and planting priority locations where canopy cover is low or declining across Lilydale and its surrounding suburbs as well as the urban parts of Yarra Glen, Healesville and towns in the Dandenong Ranges and Yarra Valley.

The Strategy does not address the protection, management or planting of trees on land managed by other agencies, such as national parks and state forests.

Map 1. Areas within scope of the Tree Canopy Strategy



THE PAST

The Wurundjeri are a First Nations People, in the Kulin alliance, they are the Traditional Custodians of Yarra Ranges. Their ancestors have cared for the Yarra Valley and its waterways for millennia. Trees are central to the identity of the Wurundjeri people and their connection to Country. The term Wurundjeri is an association of place. In the Woi wurrung language the word 'wurun' means Manna Gum (*Eucalyptus viminalis*) and 'djeri' is the grub that lives in or is found near the tree. The ancestral lands are therefore the place where the Manna Gum and its associated grub occur.[3]

Trees have a profound and powerful connection to the spirituality and culture of the Wurundjeri. This connection can be partly understood in the way groups of tree species are affectionately referred to as 'mobs', a colloquial term for groups of people. There are mobs of Stringybark and Messmate, mobs of Gum, Ironbark mobs and sometimes mobs growing together such as Gums and Stringybark. Just like our diverse communities, different mobs of trees require different approaches to ensure their health and wellbeing. The tree canopy is sacred and protected—it is within the canopy that many Wurundjeri ancestors and spirits live.

Trees provide a wealth of resources for the Wurundjeri people's way of life, including food, fibre, medicine and materials for making tools such as spears, canoes and shields. Tree materials are carved and harvested respectfully to protect trees from getting sick. These cultural practices are the region's first example of sustainable timber usage.

Yarra Ranges is home to Mountain Ash (Eucalyptus regnans), one of the tallest flowering plants in the world. For this reason, following European arrival, the region was used as a main source of timber for Melbourne. The Victorian gold rush of the 1850s and 1860s increased the demand

Image 3. A Wurundjeri scar tree known as Yingabeal (Yinga meaning sing or song and beal is an Indigenous name for a redgum).
Credit: Nicholas Magree

for timber, resulting in large areas of the Yarra Ranges being opened up for harvesting. In 1901 the railway line was extended to Warburton to support the growing timber industry. Sawmills and timber tramways were constructed throughout the area. Timber mills provided work for many people, and towns such as Powelltown sprang up around the mills. The timber industry has shaped towns, communities and landscapes across the Yarra Ranges and is a rich part of our story.[4]

In Australia, commemorative trees have been planted in public places since the late nineteenth century, and stand as living connections to the past. From 1892-1920 the Lilydale Arbor Day committee organised an annual date where all other work ceased and the community gathered to plant trees. Planted in 1897, the Queen Victoria Jubilee Avenue in Lilydale, was one of the first commemorative tree avenues planned by the Arbor Day committee. Many of the original trees across Lilydale remain today, lining streets including Main Street, Cave Hill Road, Anderson Street, Castella Street and Clarke Street.[5]

During and after the First World War, avenues of trees were planted along streets to commemorate fallen soldiers. The Wandin North Avenue of Honour is one example that still stands in commemoration today. Officially opened in the 1920s, it comprises a row of Red-flowering Gums along the Warburton Highway and Beenak Road.[6]

Tourism emerged as a key industry in the 1920's with Healesville and the Dandenong Ranges famed for their natural beauty and forests. This led to an increase in permanent residents, who established stylised and exotic trees and gardens. Many of these trees and gardens draw tourists to the region today.

Image 4. Castella Street, Lilydale (1908)
Credit: Lilydale & District Historical Society Inc.

Image 5. Castella Street, Lilydale (2020)

THE PRESENT

In 2019, Yarra Ranges Council endorsed the *Living Melbourne: our metropolitan urban forest*, a strategy for a greener, more liveable Melbourne. Among its six recommended actions, the strategy includes regional targets for increasing tree canopy cover.

Following this, Council endorsed the *Liveable Climate Plan 2020-2030*, it envisages our suburbs and towns as leafy, green places, providing summer shade, year round beauty and walkable neighbourhoods. A key action of the Liveable Climate Plan is to prepare a strategy for growing healthy and *resilient trees,* and increasing tree canopy cover.

Yarra Ranges houses one of the most expansive tree populations across *metropolitan Melbourne*.[7] The majority of this tree canopy cover is provided by national parks and state forests. These are ecologically important areas that support habitat for a wide range of indigenous plants, animals and fungi, including the Victorian state emblems, the Leadbeater's Possum and Helmeted Honeyeater. In contrast, the Yarra Valley areas have the lowest tree canopy cover in the region. However, these areas are dominated by agriculture, vineyards and wineries, and are important for the local economy and tourism.

TREE CANOPY COVER DATA

A study undertaken by the Department of Environment, Land, Water and Planning (DELWP) in partnership with RMIT University, CSIRO, and the Clean Air and Urban Landscapes (CAUL) mapped and analysed vegetation, land use, and urban heat across Melbourne in 2014 and 2018.[8]

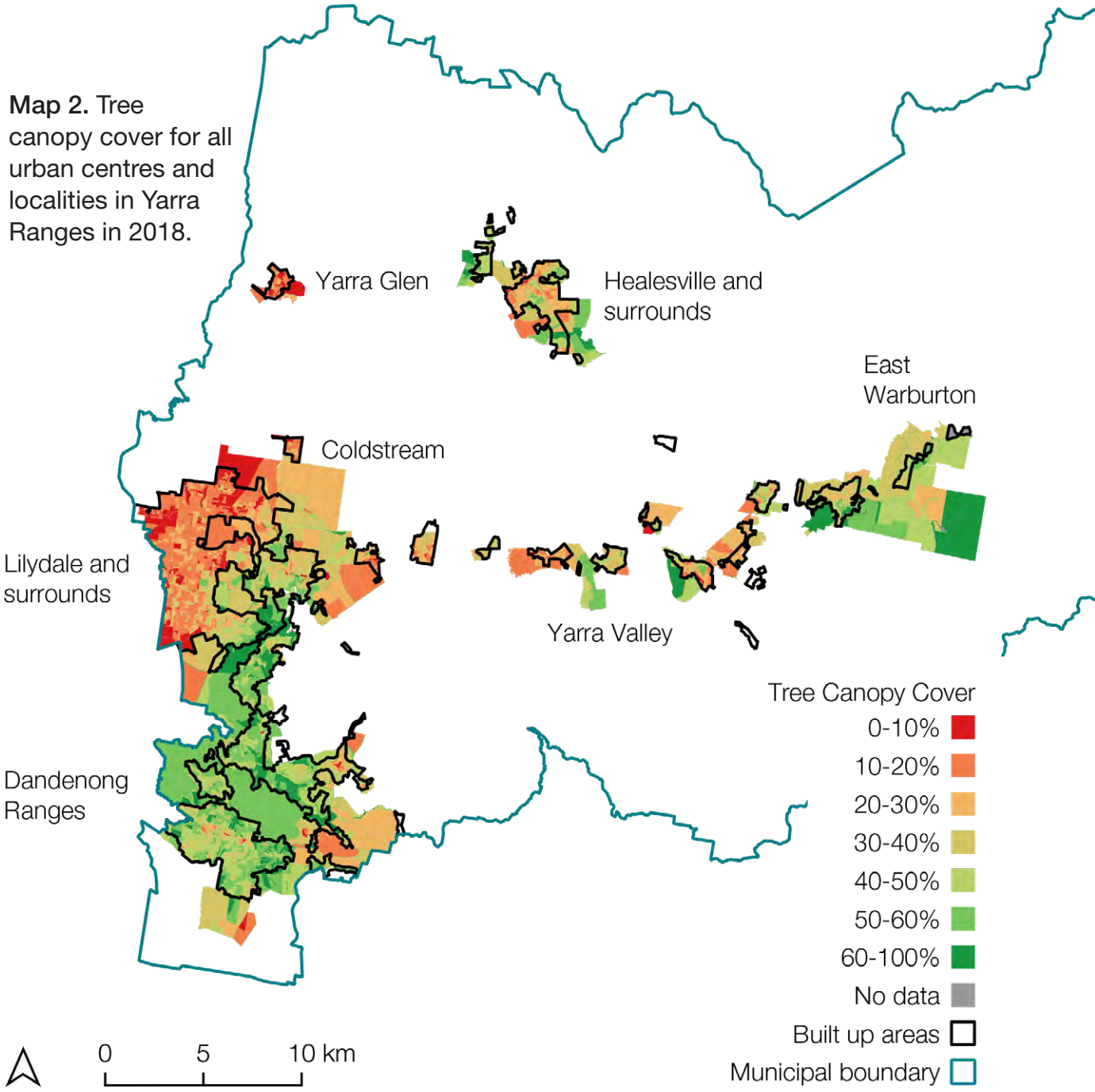
Following a major storm event in June 2021 that devastated communities across the Dandenong Ranges, Council mapped and analysed tree canopy cover before and after the storm.

The data associated with these studies have given us a detailed understanding of our tree canopy cover, along with its distribution and change over time.

What are built up areas?

Built up areas are places where the majority of our community reside. These include Lilydale and surrounds, Yarra Glen, Healesville and towns in the Dandenong Ranges and Yarra Valley. These are areas where people interact and connect with trees, and where trees make a vital contribution to the liveability of our communities. It is estimated that Council manages over 150,000 trees in streets and parks in built up areas.

Map 2. Tree canopy cover for all urban centres and localities in Yarra Ranges in 2018.



Public land

As at 2018, our tree canopy cover on public land in built up areas was 31.68%—the highest within metropolitan Melbourne. However, tree canopy cover across built up areas in suburbs and towns is not evenly distributed. A closer look at these areas reveals the suburbs of Chirnside Park (12%) and Mooroolbark (18%) have our lowest canopy cover, closely followed by Lilydale-Coldstream (20%) and Kilsyth (21%). On the other hand, towns in the Dandenong Ranges have considerable tree canopy cover (>40%).

Identifying areas of low canopy cover is an important step in understanding areas most in need of new tree plantings, in order to grow a more fairly distributed tree canopy. Conversely, areas with high canopy cover are where tree management and protection are a priority.

Private land

Trees on private land, in people's front and backyards, comprise over three quarters (77%) of our tree canopy cover within our built up areas.

Tree canopy cover on private land tends to closely follow that of public land, with private land generally slightly higher. Recognising the significant contribution of trees on private land to our total tree canopy, highlights the importance of private trees to the broader community.

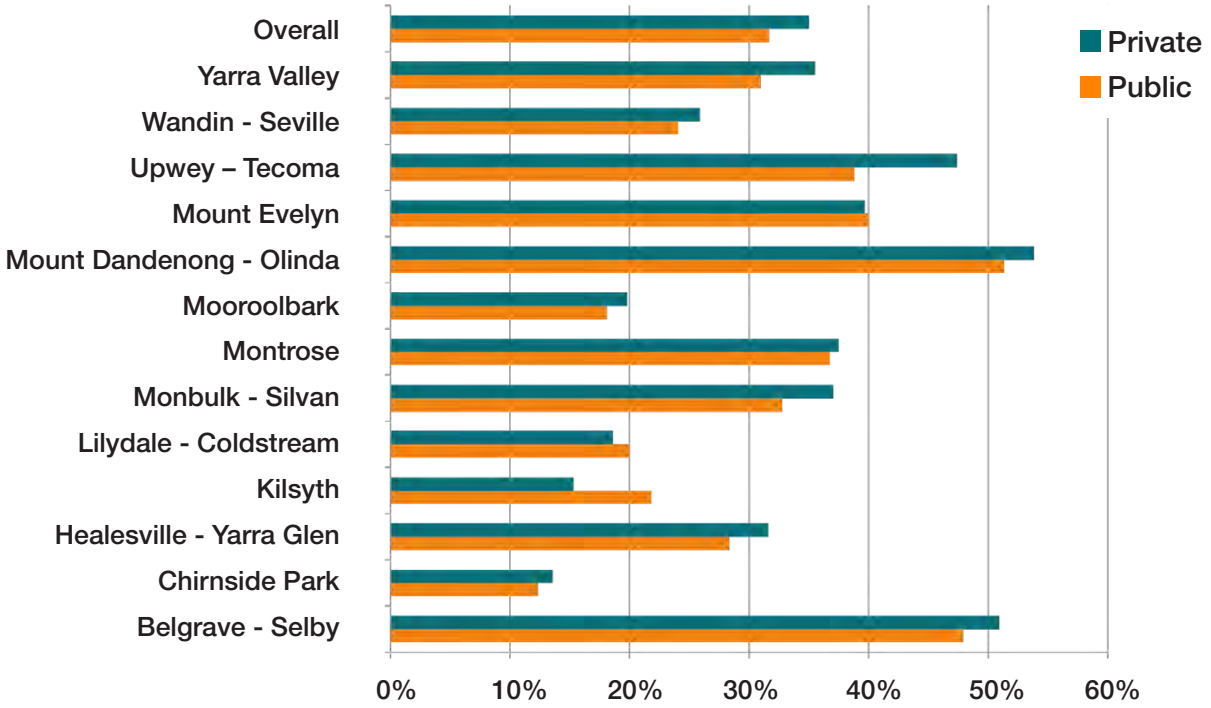


Figure 1. Tree canopy cover by locality for public and private land in 2018.

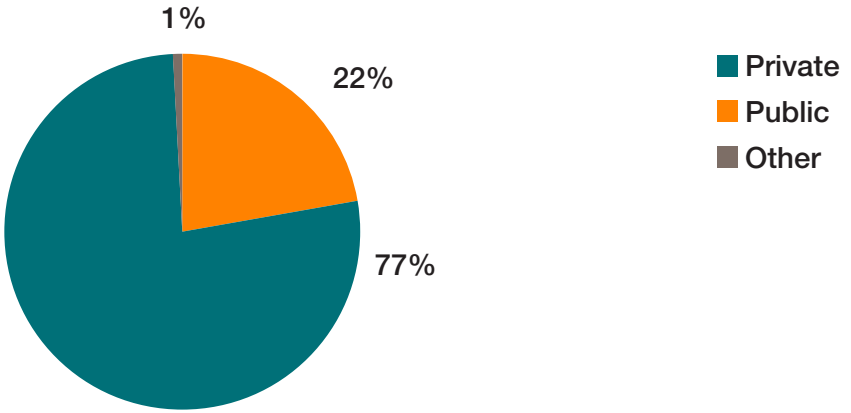
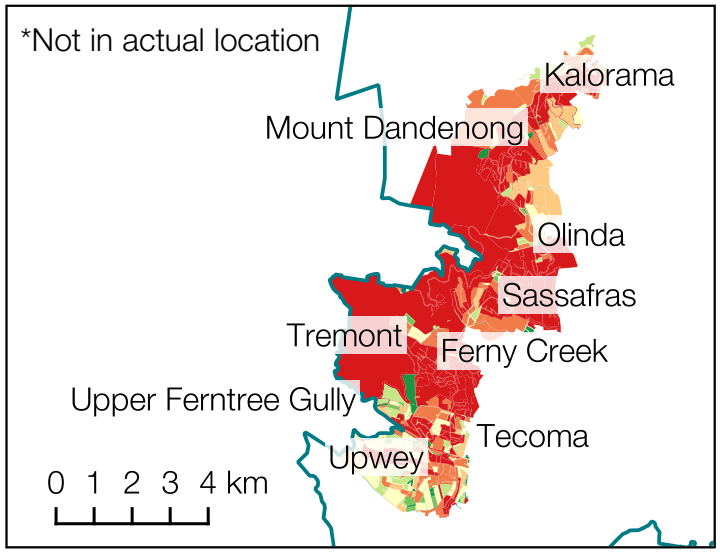


Figure 2. Tree canopy cover distribution between public and private land in 2018.

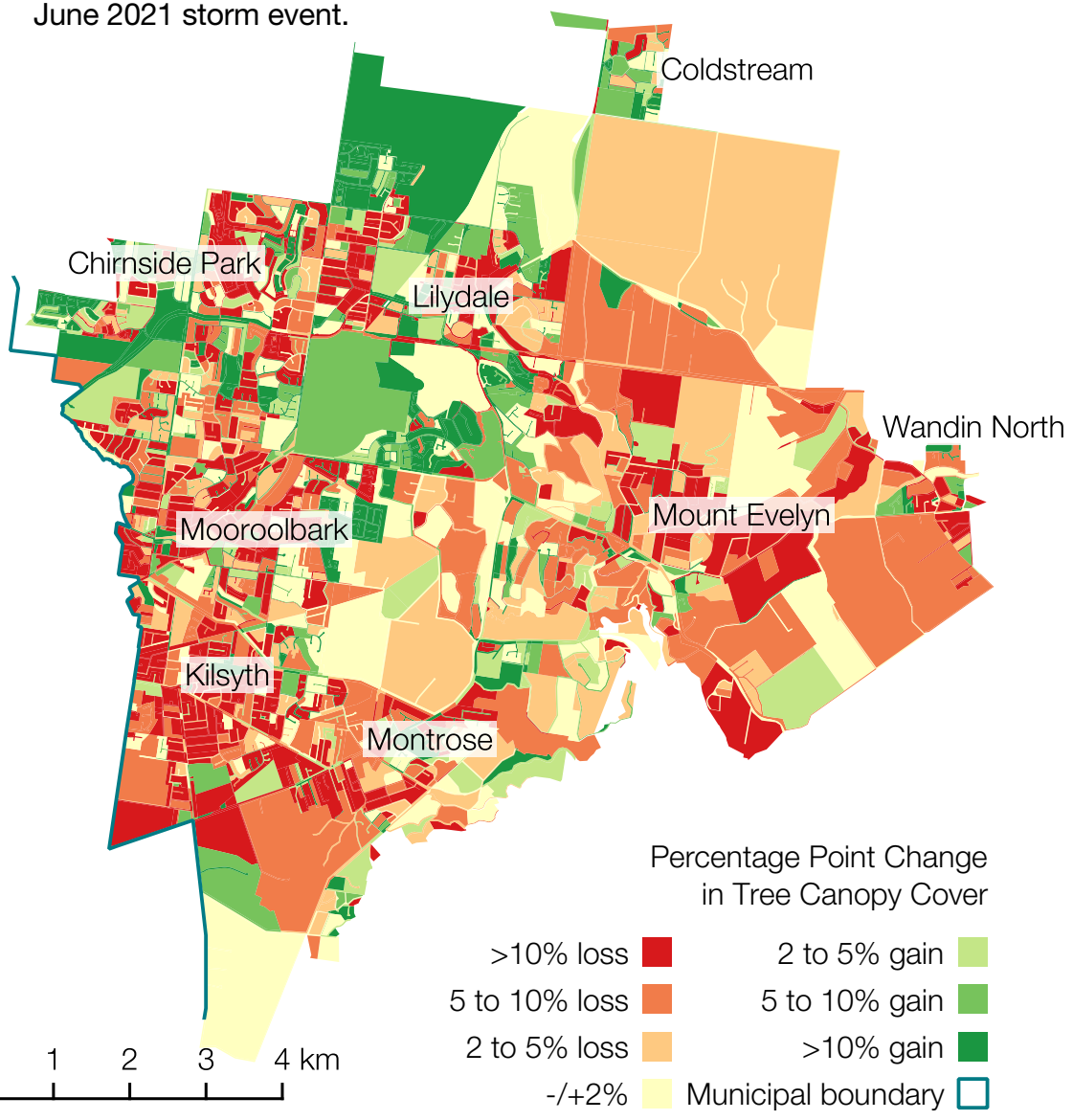
TREE CANOPY COVER CHANGE

Between 2014 and 2018, our tree canopy cover in built up areas declined 2.92 *percentage points* (33.73% to 30.81%). This loss equates to 186 hectares of tree canopy cover—roughly the equivalent size of 104 Melbourne Cricket Grounds. It is important to note that the 2014 data for this study only included partial coverage of our built up areas and did not include Yarra Glen, Healesville or most of the towns in the Yarra Valley. Areas of greatest loss were seen in the Dandenong Ranges, while Mount Evelyn, Mooroolbark, Chirnside, Kilsyth and Montrose also experienced less uniform, but notable, tree canopy cover loss.

A major storm event devastated the Dandenong Ranges in June 2021. Analysis of tree canopy cover data from before and after the storm shows that 229 hectares of canopy cover were lost in the Dandenong Ranges—roughly the equivalent size of 128 Melbourne Cricket Grounds.



Maps 3 and 4. Tree canopy cover change by percentage points between 2014 and 2018. This mapping excludes data collected after the June 2021 storm event.



Public land

Tree canopy cover change on public land between 2014 and 2018 was an overall loss of 1.96 percentage points (30.38% to 28.42%), with the Dandenongs experiencing the greatest losses, while Mount Evelyn, Monbulk-Silvan and Kilsyth experienced minor losses. In contrast, some of our more urbanised areas such as Mooroolbark, Montrose and Lilydale-Coldstream experienced minor increases in tree canopy cover.

Identifying areas of tree canopy cover loss on public land is another important step in understanding areas where trees could be protected, managed or planted to maintain and increase canopy cover.

Private land

Tree canopy cover change on private land between 2014 and 2018 was an overall loss of 3.23 percentage points (34.7% to 31.47%), with Belgrave-Selby the only area experiencing a minor increase. The significant loss of tree canopy cover on private land highlights the need to educate private landowners on the importance of trees, and to offer them incentives to protect, maintain and plant trees.

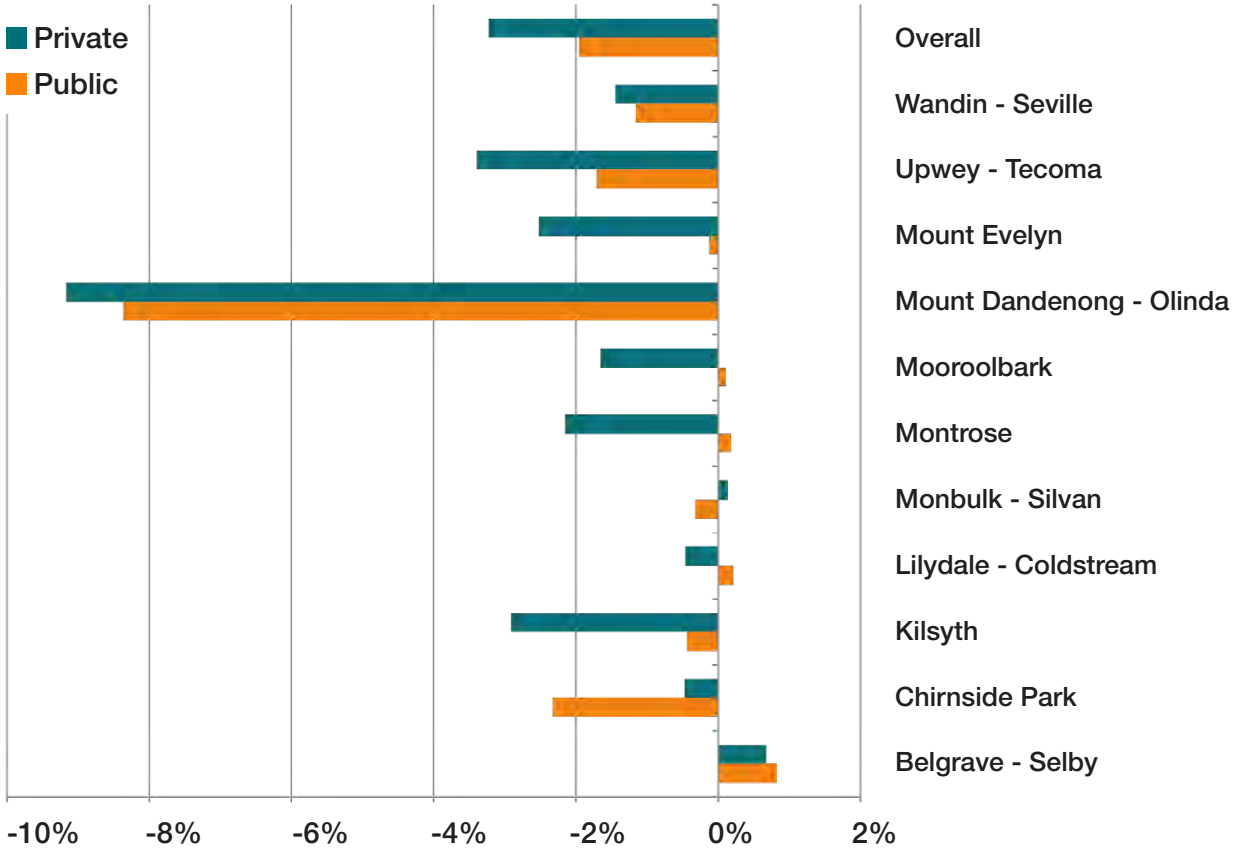


Figure 3. Tree canopy cover change (percentage points) by locality for public and private land between 2014 and 2018.

COUNCIL'S TREE MANAGEMENT

Council currently has robust tree management programs that respond to a range of guiding documents (see page 40), used to inform work practices and meet community expectations.

Current tree management programs include:

Trees on public land

Risk management

- Tree inspections and works in response to requests from customers, staff and public authorities
- Tree inspections and works to provide adequate clearance for road users
- *Proactive* tree inspections and works in and around Council parks and buildings
- Auditing trees and undertaking works to maintain clearance space around electric lines in *declared areas*
- *Fuel management* of vegetation along roadside reserves with high bushfire risk
- Coordinating with public authorities and utility service providers regarding tree inspections and works
- Biosecurity programs to reduce the threat of pests and diseases on the region's agricultural and horticultural industries.

Tree protection

- Providing advice relating to tree retention/removal for Council projects
- Providing advice for the protection of trees potentially impacted by Council projects, in accordance with the AS 4970-2009 *Protection of trees on development sites*
- Working with road authorities and utility service providers to minimise conflicts between trees and infrastructure
- Biosecurity programs to reduce the impact of pests and diseases on amenity trees.

Street tree planting

- Tree planting in response to customer requests
- Reviewing landscape plans and certifying tree installation and maintenance for new *greenfield subdivisions*.

Trees on private land

Planning applications

- Assessing trees on land subject to a planning application and providing advice relating to:
  - Tree removal/retention
  - Tree protection and management during development
- Fee-for-service tree inspections to establish permit exemption status.

Greening initiatives

- Ribbons of Green - offering free native plants for private properties (over 1 hectare), schools and community groups.

TREE
WORKS IN
PROGRESS
Yarra
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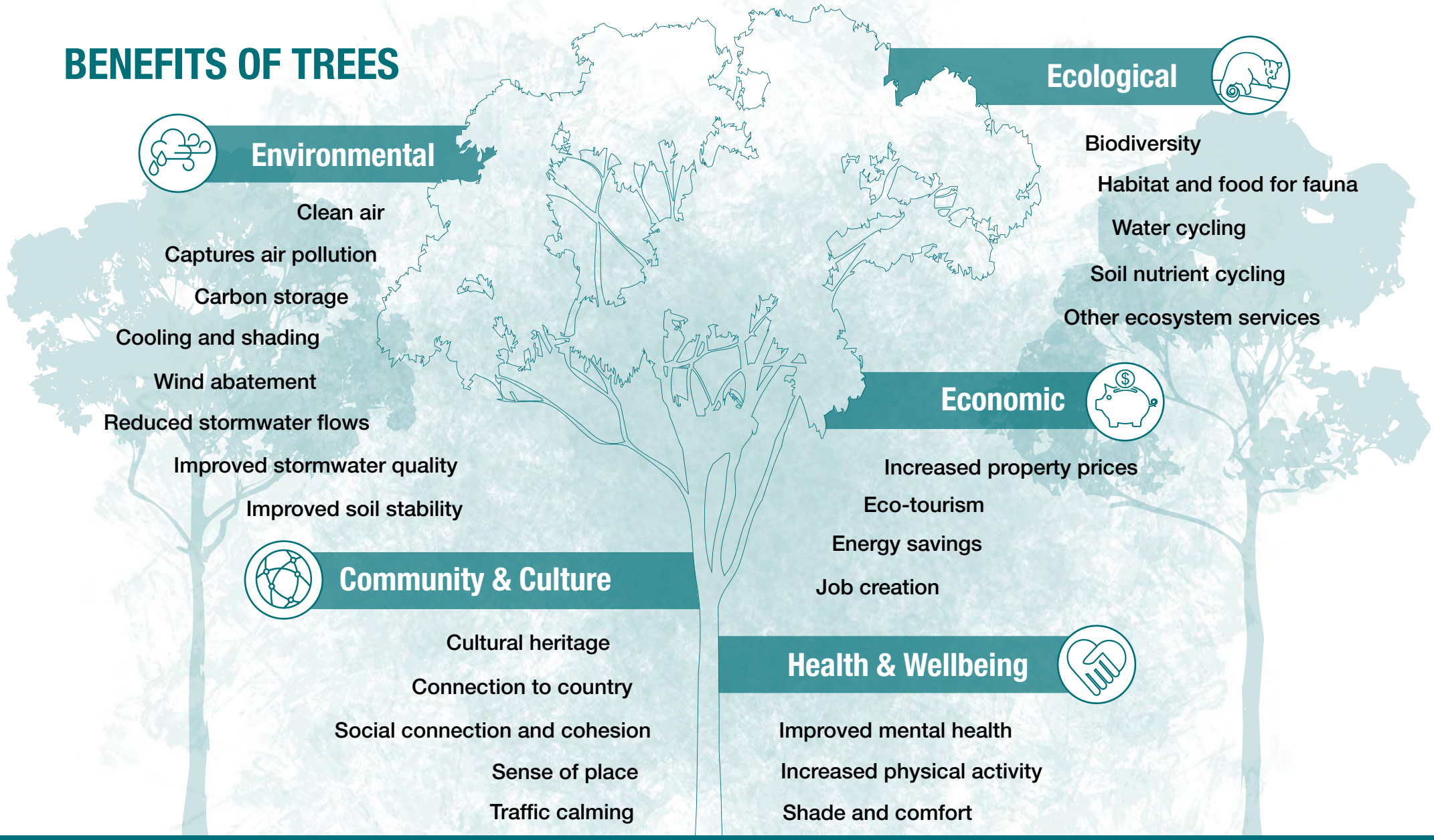
Council

BENEFITS OF TREES



Environmental

Clean air

Captures air pollution

Carbon storage

Cooling and shading

Wind abatement

Reduced stormwater flows

Improved stormwater quality

Improved soil stability

Ecological

Biodiversity

Habitat and food for fauna

Water cycling

Soil nutrient cycling

Other ecosystem services

Economic

Increased property prices

Eco-tourism

Energy savings

Job creation

Community & Culture

Cultural heritage

Connection to country

Social connection and cohesion

Sense of place

Traffic calming

Health & Wellbeing

Improved mental health

Increased physical activity

Shade and comfort

Trees are fundamental to the story of Yarra Ranges, shaping our cultures, values and communities. They are a prominent feature in our landscape, providing benefits to our health and wellbeing, community and culture, the environment, ecology and economy.[9,10,11]

ISSUES AND OPPORTUNITIES

In setting a future direction for our tree canopy, we first need to understand the key issues and recognise the opportunities within Yarra Ranges.

1. COMMUNITY PERCEPTIONS

Our community lives, works and plays amongst trees in our streets, parks and reserves, and are often the first to notice when a tree needs attention. However, public perceptions of trees are complex, varied and not always positive.[12,13] Building capacity and understanding of the role, function and importance of trees, is crucial for trees to become an accepted and valued part of our urban environments.

Community engagement programs involve, collaborate with, and empower the community and stakeholders in decision making. Councils throughout Australia have successfully adopted this approach for tree planting projects, partnering with the local communities to develop a shared vision for trees.

Council has the opportunity to address the community's perceptions of trees through:

- **Informing the community on the role, function and importance of trees**
- **Engaging with the local community on tree planting projects**
- **Involving the community in planting days and supporting community greening initiatives such as Ribbons of Green.**

Image 6. Coldstream Primary School students planting a frog bog at Margaret Lewis Reserve in 2017.

2. URBAN HEAT

The urban heat island (UHI) effect refers to warmer temperatures experienced in urbanised areas as compared to surrounding rural areas. UHI is primarily driven by the type of materials covering land surfaces, particularly hard surfaces such as asphalt, concrete and brick. Human activities such as traffic, industry, and electricity usage also generate heat that contributes to the UHI effect.[14]

Urban heat can increase the duration and intensity of heat waves, as hard surfaces absorb heat during the day and release it during the night. Higher night time temperatures provide less respite and limit the recovery of those suffering from *heat stress*. This can have a significant effect on vulnerable members of our community, such as young children, the elderly, or those with medical conditions.[15]

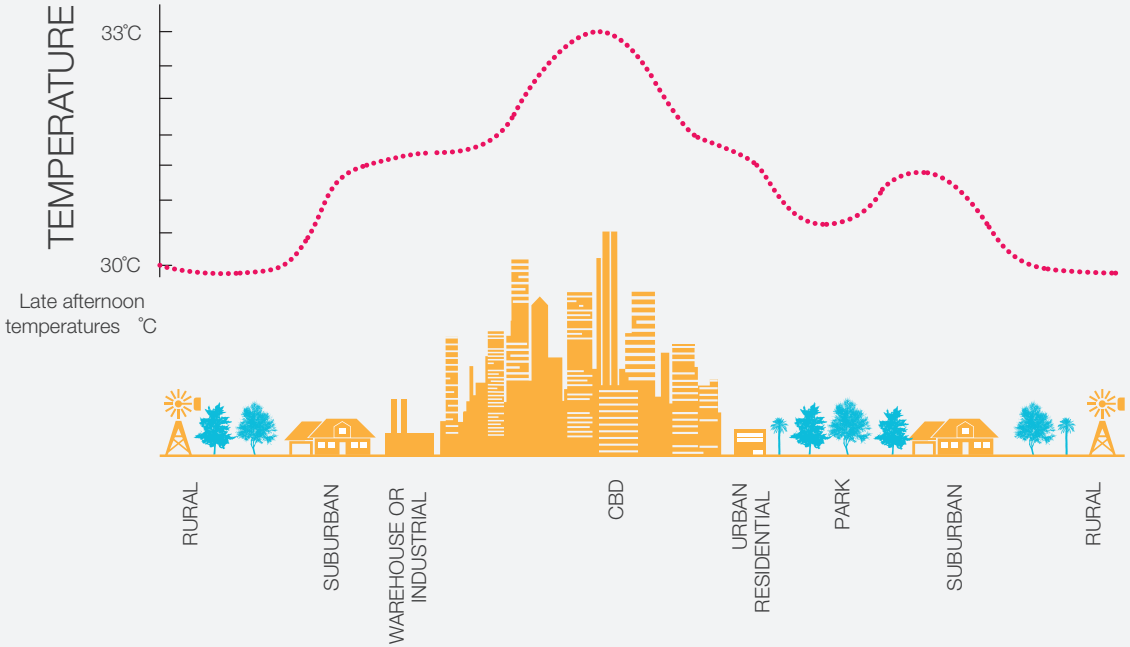


Figure 4. The urban heat island effect across different land use types.

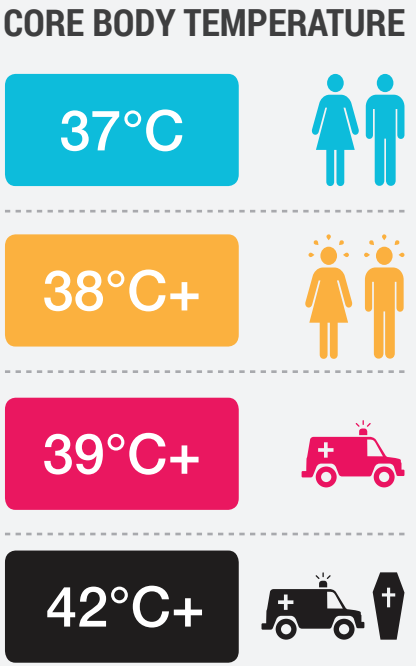


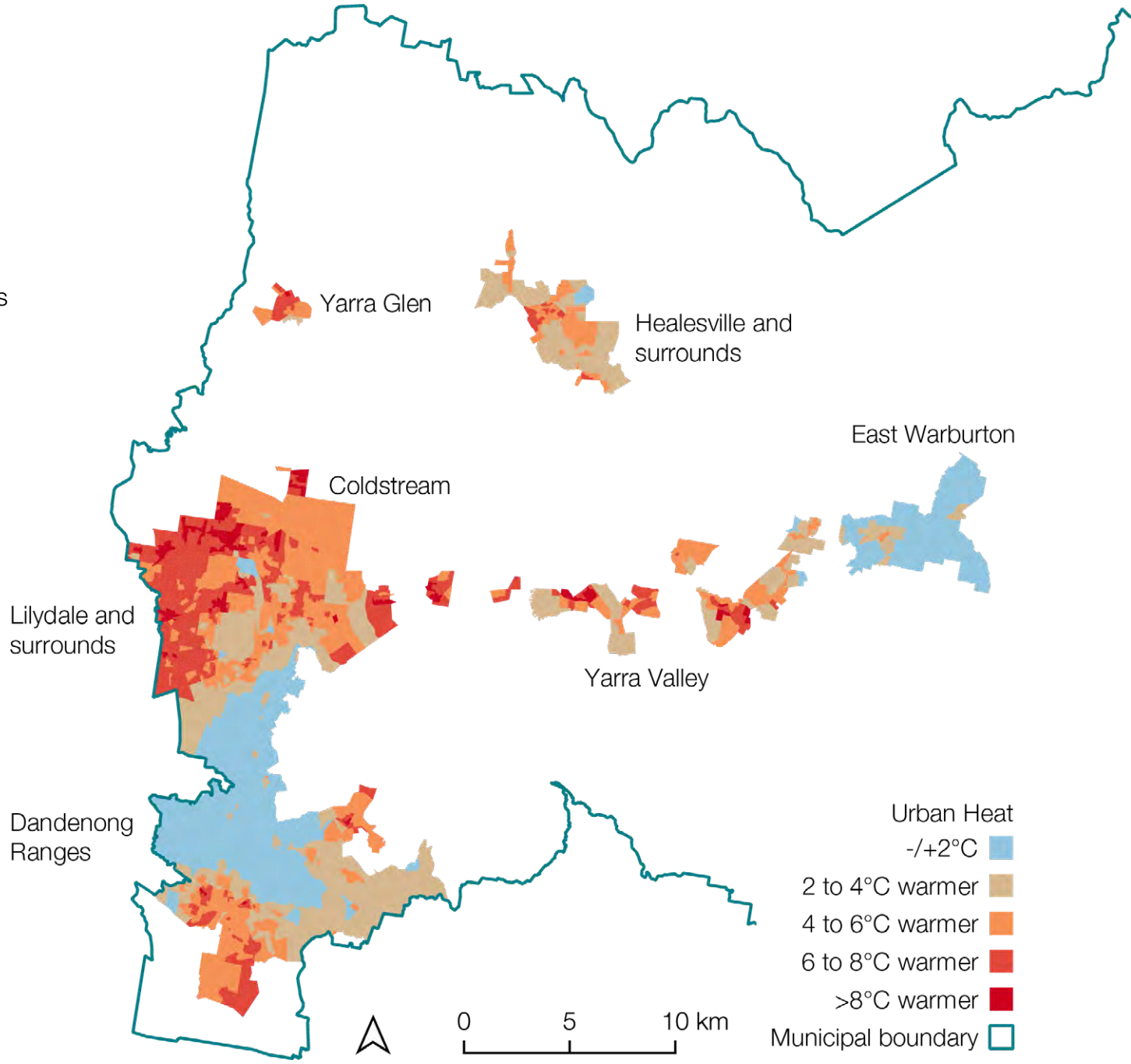
Figure 5. The impacts of heat stress on core body temperature (Hughes and McMichael 2011).

Credit: © Commonwealth of Australia (Department of Climate Change and Energy Efficiency)

Urban heat data

Thermal satellite data captured by the State Government during summer 2018 shows urbanised areas of Yarra Ranges experiencing the UHI effect. Lilydale, for example, had daytime *land surface temperatures* 6.9°C above the non-urban baseline, with some areas experiencing up to 10.6°C of urban heat.

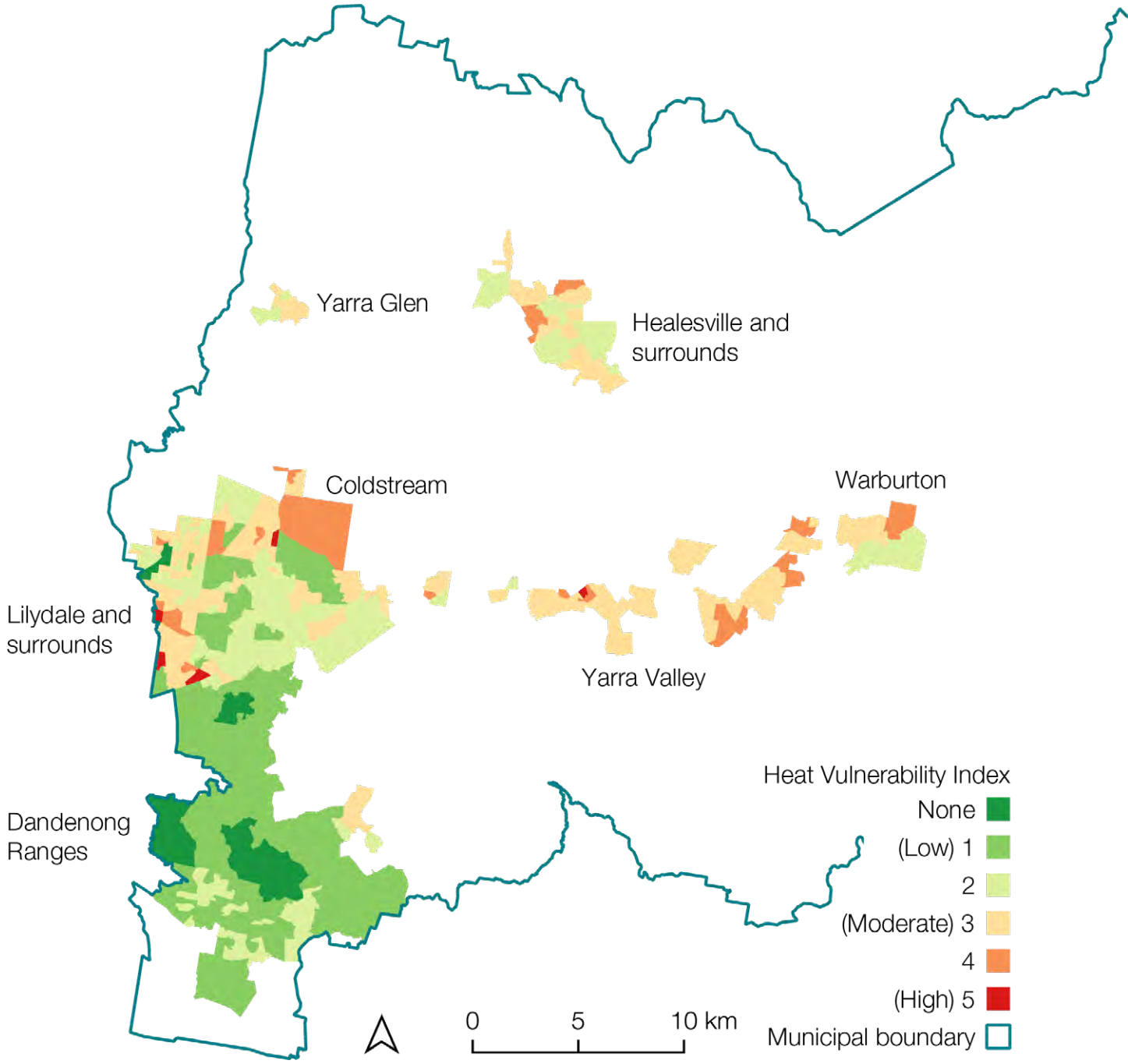
Map 5. Urban heat data (°C above the non-urban baseline) for all urban centres and localities in Yarra Ranges in 2018.



Heat vulnerability data

A heat vulnerability index (HVI) is a rating that indicates how vulnerable different parts of the community are to the effects of urban heat. HVI typically consists of three indicators: heat exposure, sensitivity to heat, and adaptive capability. A HVI developed by DELWP rated heat vulnerability on scale from 1 (low vulnerability) to 5 (high vulnerability).[16] The data shows some areas of Lilydale, Mooroolbark and Kilsyth as having moderately high (4) to high (5) heat vulnerability.

Map 6. Heat vulnerability indices for all urban centres and localities in Yarra Ranges in 2018.



Trees are cool

Vegetation can play an important role in reducing the urban heat island effect. Leafy tree canopies cool their surroundings by shading hard surfaces and *transpiring*.[17] Scientific studies conducted in inner Melbourne have demonstrated that street trees can reduce daytime summer air temperatures by between 1.5°C and 4°C.[18,19]

By planting trees to increase canopy cover to 25% on public land, suburbs and towns like Chirnside Park (currently 12%) can double the amount of tree canopy available to cool the urban heat island.

Figure 6: A representation showing the number of new trees required to increase canopy cover to at least 25% on public land in a suburban area of Yarra Ranges.

Council can take action to reduce urban heat and improve liveability by:

- **Valuing, protecting and managing existing trees to maintain healthy canopy cover**
- **Developing criteria to identify priority areas for *tree renewal* and planting**
- **Planting trees in priority areas to increase canopy cover**
- **Planting the *right tree in the right place* to maximise the cooling benefit.**

3. EXTREME WEATHER & CLIMATE CHANGE

Extreme weather events include heat waves, bushfires, storms, flooding and drought. In Australia, heatwaves and hot weather are responsible for the greatest number of deaths from any type of *natural disaster*, and contribute significantly to morbidity, particularly among the elderly.[20]

Trees are inextricably linked to the impacts of extreme weather, in particular in Yarra Ranges bushfires and storms are a significant risk. These events often result in *tree failures*, hazardous trees, property damage and sometimes the loss of life. Extreme weather cannot be controlled, but the risks posed to our communities can be managed to lessen the impact of these events.

Climate modelling suggests extreme weather events are likely to become more frequent and more severe, along with higher average annual temperatures and less rainfall during winter and spring.[21] These changes in climate will place persistent and widespread strain on our communities and landscapes.

Research suggests that many native and indigenous tree species are unlikely to cope with the increase in average temperatures.[22,23,24] With these changing conditions, there is also an increased risk of pest and pathogen incursions that will affect the health of trees in our landscapes.

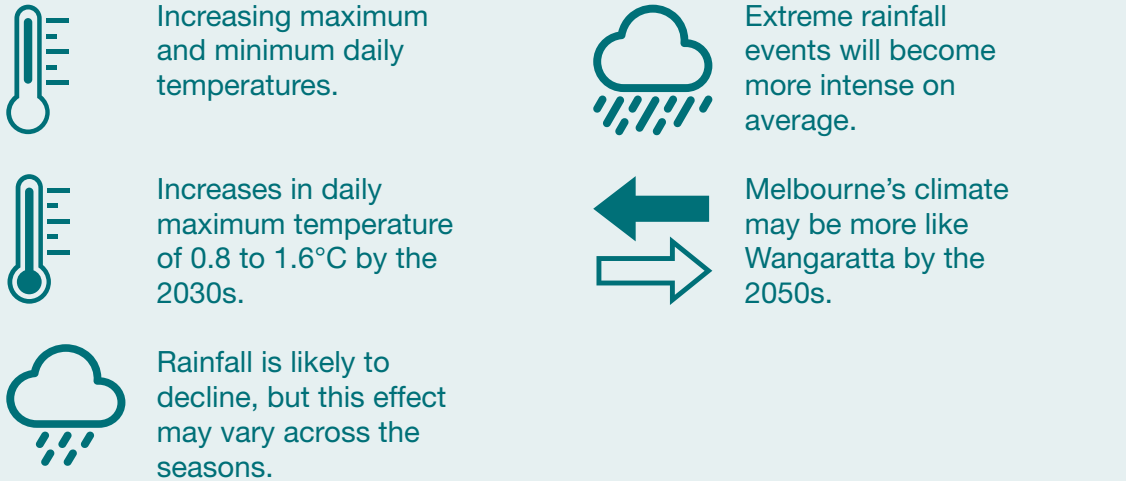


Figure 7: Climate regional projections (Clarke et al. 2019)
Credit: © State of Victoria (Department of Environment, Land, Water and Planning

Council can assist the community to adapt to the impacts of extreme weather and climate change by:

- **Managing hazardous trees along roadsides for bushfire preparedness**
- **Renewing poorly performing trees**
- **Actively monitoring for outbreaks of pests and pathogens**
- **Increasing tree diversity and planting trees better suited to a future climate**
- **Taking extreme weather into account when selecting and planting trees**
- **Incorporating *water sensitive urban design (WSUD)* principles into tree planting and tree management programs.**

4. TREE DIVERSITY & PERFORMANCE

Council collected a street tree inventory in 2002, which contains the details of 29,500 trees within the suburbs of Chirnside Park, Kilsyth, Lilydale and Mooroolbark. Analysis of this dataset indicates a tree canopy with low resilience, that lacks diversity in species and age, with a high proportion of poorly performing trees. These trends will present a significant challenge in the future, leading to increasing maintenance costs and diminishing *landscape character* and *amenity*.

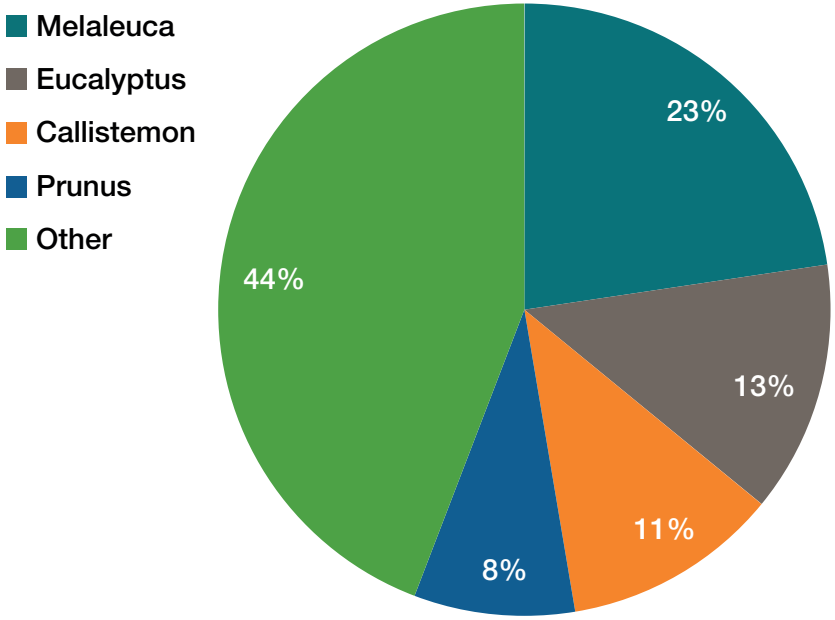


Figure 8: Tree genus diversity.

Council can reverse these trends and address tree canopy resilience issues by:

- **Renewing poorly performing trees**
- ***Formatively pruning* trees during *establishment* and semi-maturity**
- **Increasing tree diversity and planting the right tree in the right place**
- **Incorporating water sensitive urban design (WSUD) principles into tree planting and tree management programs.**

Table 1: Top ten tree species in the Yarra Ranges Council street tree inventory (2002).

Botanic Name (Common Name)	Percentage of population
Melaleuca linariifolia (Snow-in-Summer)	11.7%
Melaleuca styphelioides (Prickly-leaved Paperbark)	8.7%
Prunus cerasifera cvs. (Cherry-plum)	5.2%
Callistemon salignus (Willow Bottlebrush)	4.4%
Callistemon viminalis (Weeping Bottlebrush)	3.0%
Callistemon spp. (Bottlebrush)	2.3%
Corymbia ficifolia (Red-flowering Gum)	2.0%
Eucalyptus leucoxylon (Yellow Gum)	1.9%
Eucalyptus nicholii (Willow-leaved Peppermint)	1.8%
Hakea salicifolia (Willow-leaved Hakea)	1.7%
Total	**42.6%**

5. VACANT STREET TREE SITES

Vacant sites are places on Council land, such as nature strips and roadsides that are suitable for a mature tree. Council's mapping of vacant sites for Lilydale and surrounds show there are over 16,000 vacant sites. Planting these vacant sites with medium sized trees would equate to over 50 hectares of additional canopy cover at maturity.

Table 2: Vacant street tree sites by suburb.

Suburb	Vacant sites
Chirnside Park	2872
Kilsyth	3143
Lilydale	3344
Mooroolbark	7040
Grand Total	**16399**

Council can increase tree canopy cover by:

- **Planting the right tree in the right place to fill vacant sites.**

6. URBAN DEVELOPMENT

The Yarra Ranges population is expected to grow by 15.23% to 185,902 by 2041.[25] Residential development associated with this change will put pressure on public and private trees. For example, street trees may be damaged during construction, or require removal to allow for new crossovers or car parking. In other cases, private trees may be removed and replaced with denser housing, leaving limited space for new trees. Over-time the cumulative impact of tree loss associated with development may be significant.

The Yarra Ranges Planning Scheme sets out objectives, policies and provisions that regulate the use and development of all land in the municipality. Planning zones, overlays and provisions within the Planning Scheme specify when a planning permit is required, and criteria for Council to consider before a permit is granted.

Through the Planning Scheme, Council plays a key role in protecting, managing and increasing tree canopy across public and private land. Two examples of provisions that impact our tree canopy include:

- Significant landscape overlays (SLO) that aim to conserve and enhance the character of significant landscapes
- Particular provisions, such as Clause 55, that includes landscaping standards for developments to provide for the retention or planting of trees, where these are part of the character of the neighbourhood.

Image 7. Before (2014) and after (2020) aerial photographs of residential land in Mooroolbark that has been developed for medium-density town-houses.

Council can improve the ways trees are incorporated and protected within new developments by:

- **Educating the community on the role, function and importance of trees**
- **Providing guidance on designing developments to support trees**
- **Enforcing tree protection and landscaping requirements.**

7. COMPETING INFRASTRUCTURE

Urban *streetscapes* can be crowded places. That's true both above-ground with roads, parking, footpaths, street furniture power lines and trees, and below-ground with stormwater drains, power, water, sewerage, gas and telecommunication services. Planting and managing street trees amongst this competing infrastructure is challenging.[26]

Urban environments that are paved with hard surfaces, such as concrete and asphalt, hinder the establishment and growth of trees. Hard surfaces radiate heat, are impermeable to water, and limit *soil-atmosphere gas exchange*. The soil below is often compacted, nutrient-poor and lacks biological activity. These factors often lead to poor growth and the premature death of trees. Healthy trees with shady canopies require adequate healthy soil volume and soil moisture.

The Electricity Safety (Electric Line Clearance) Regulations 2020 require trees near power lines to be pruned to specific requirements for the safety and reliability of the electricity network. This pruning can render trees of poor structure and aesthetics, and is often at odds with community expectations.

Council can grow healthy trees in our urban environments through:

- **Providing adequate healthy soil volume**
- **Incorporating water sensitive urban design (WSUD) principles**
- **Planting the right tree in the right place, considering the protection of infrastructure and buildings.**
- **Advocating infrastructure solutions for the coexistence of healthy trees near utility services.**

Image 8. An example of poor practice tree pruning for power line clearance.
Credit: Judy Murphy

8. INFRASTRUCTURE PROJECTS

As Melbourne continues to grow, new infrastructure, upgrades and maintenance projects delivered by Council and State Government authorities (such as the Department of Transport, Major Road Projects Victoria, the Level Crossing Removal Project and Melbourne Water) will be required to accommodate the movement, work requirements and social services of the population. These projects often require tree removal and result in tree canopy cover loss. However, these projects may also provide opportunities for new landscaping and tree planting.

Council can influence tree canopy outcomes for infrastructure projects through:

- **Best practice tree management and protection for Council projects**
- **Advocating for state-based projects to avoid tree removal and minimise tree impacts**
- **Collaborating with authorities to deliver new landscaping and tree planting.**

Image 9. Level crossing removal works in Lilydale.
Credit: © State of Victoria (Level Crossing Removal Project)

9. MANAGING CULTURALLY SIGNIFICANT TREES

Trees have a profound and powerful connection to culture. For the Wurundjeri people, trees help to understand and read Country. They indicate what land management practices to undertake, are a source of food, fibre and medicine, and are important for making tools such as spears, canoes, and shields. The scarred trees along local waterways, left by Wurundjeri craftspeople, stand testament to this cultural connection.[27]

Since European settlement, trees have been planted to commemorate significant or historical events. For example, from 1892-1920 the Lilydale Arbor Day committee planted trees to beautify the town and commemorate significant events.[28] Today, many of these trees are heritage listed and remain a defining feature of Lilydale's streets and parks.

As our cities and communities evolve, our most culturally significant trees and landscapes are too often forgotten or undervalued when confronted with the pressures of urbanisation. In Yarra Ranges, the loss of these trees will have long-term adverse impacts on our community and local tourism.

Council can conserve and enhance the value and benefits of culturally significant trees by:

- **Defining and identifying culturally significant trees**
- **Capturing and maintaining an inventory of culturally significant trees**
- **Valuing, protecting and managing culturally significant trees, including renewing poorly performing trees**
- **Educating the community about the value of culturally significant trees.**

Image 10. The Cork Oak (*Quercus suber*) at Lilydale Station was the only surviving plant from the original garden, established circa 1882. It was classified as a 'significant tree' by the National Trust in 2017. However, the impacts of encroaching transport infrastructure contributed to its decline, and it was removed in 2018.

10. MANAGING LARGE HABITAT TREES

Large habitat trees occur throughout Yarra Ranges and are *keystone organisms* that support the natural systems so valued by our community and tourists. They are especially valuable because they develop hollows through a process of decay that animals can live in. Mountain Ash, such as those in the Dandenong Ranges, can take between 170-190 years to develop hollows large enough to provide habitat for animals such as possums, gliders and birds.[29] As large trees *senesce* and ultimately die, they continue to provide critical habitat for animals, insects and fungi. If properly managed, dead habitat trees can be retained in the landscape to provide ecosystem services for decades, or even centuries.

Due to their size, large trees have the potential to cause severe impacts to property or life when they fail or drop branches. When large trees are removed after failure, or because they pose an unacceptable risk, they are seldom replaced like for like.

Council can address the issues facing large habitat trees by:

- **Informing the community on the role, function and importance of trees**
- **Actively managing large habitat trees to prolong their longevity**
- **Managing senescing or dead habitat trees to minimise risk**
- **Planting large tree species for future generations.**

Credit: © Parks Victoria

11. BEST PRACTICE TREE MANAGEMENT

Public trees are important assets managed by Council on behalf of the community. Best practice tree management involves managing trees in a structured and coordinated way.[30,31] Like other Council assets, such as roads and footpaths, trees can be managed to optimise their performance (benefits), risks and expenditure (costs) over their lifecycle. Tree management, such as formative pruning, can increase the life of a tree in the landscape and reduce future maintenance costs.[32]

A *strategic asset management* approach to trees is necessary to ensure Council meets legislative and regulatory requirements such as the Electricity Safety Act 1998, Road Management Act 2004, Planning and Environment Act 1987, and the Local Government Act 2020.

Tree inventories are a key component of best practice tree management.[33] A tree inventory is a database that holds information on the location, species, size, age and other attributes of each tree. This data is then maintained with up-to-date information such as inspections, watering, pruning and removal.

The extensive tree population within Yarra Ranges means that collecting and maintaining a complete tree inventory would be costly and time consuming. Tree inventories can take many forms, from a complete inventory of every tree, to a partial inventory based on management criteria such as risk or significance. Tree inventory data and spatial data can also be used with tools such as iTree—a tool for quantifying the benefits and values of trees.

Council can demonstrate best practice tree management by applying strategic asset management principles through:

- **Capturing and maintaining a partial tree inventory for our built up areas**
- **Developing a tree planting and renewal program and planting the right tree in the right place**
- **Developing a formative pruning program.**

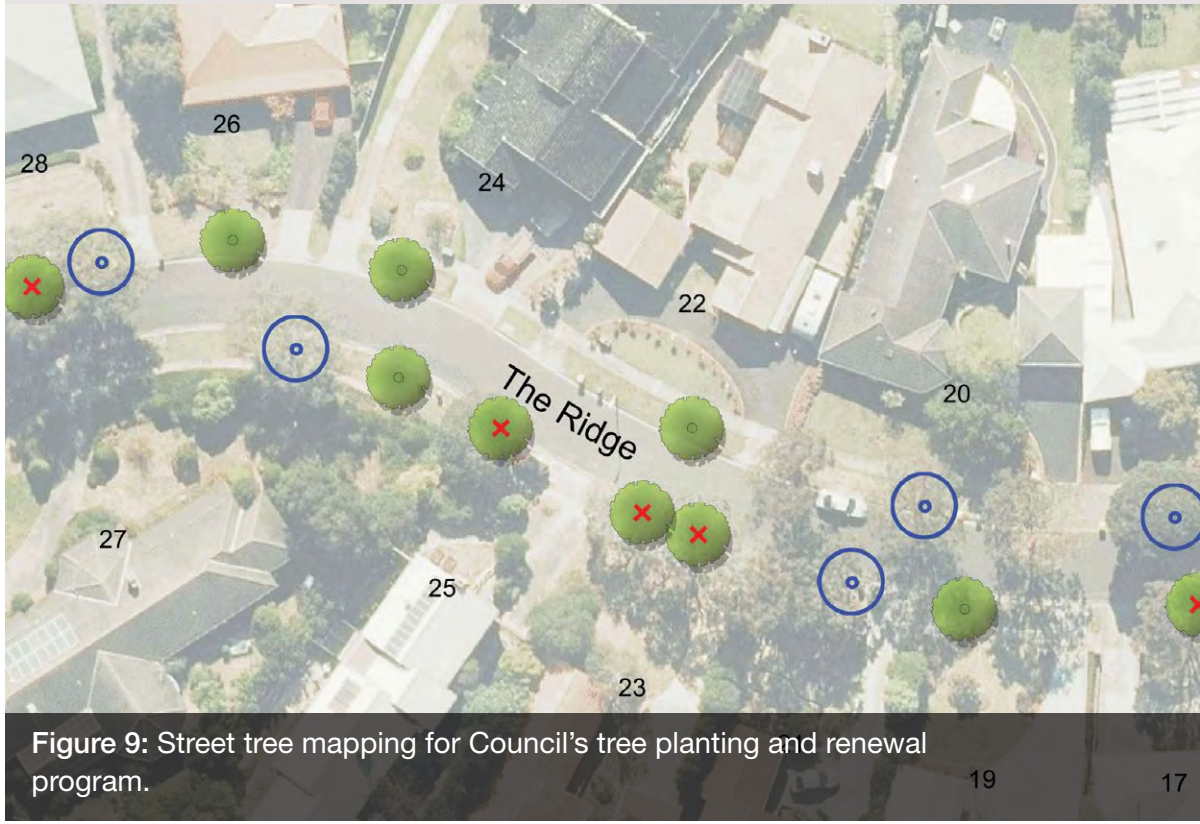


Figure 9: Street tree mapping for Council's tree planting and renewal program.

WHAT WE'VE HEARD

The draft Tree Canopy Strategy was exhibited to the community for feedback between August and September 2022. The feedback indicated broad support for the draft Strategy, and for Council to do more to protect, manage and grow the tree canopy.

Common feedback raised by the community included:

- Too many trees are being cut down for new development
- Tree canopy cover targets aren't enough
- Planting native trees versus planting exotic trees
- Emphasise and consider the biodiversity value of trees
- Incentivise tree retention and tree planting on private land
- Planting more trees could increase the risk of bushfire
- Ill-considered tree management and tree planting decisions can pose a risk to people and property
- Use up-to-date tree canopy cover data to inform tree management decisions
- Significant trees are not being adequately protected or managed
- The Strategy should be periodically reviewed to address changes and emerging trends.

The draft Tree Canopy Strategy was subsequently updated to address concerns and recommendations raised in the feedback. There were some limitations on addressing all feedback because of misalignment with established Council strategies and policy, or a lack of consensus.

By taking a considered and strategic approach to protecting, managing and planting trees, we will maximise the benefits of our tree canopy and minimise tree risks, particularly tree risks associated with bushfires and storms, which are significant factors in Yarra Ranges.

THE FUTURE

As the Traditional Custodians of these lands, the Wurundjeri people understand that we are the trees and nature and the trees and nature are us. We are altogether part of one system that creates our place. This message moves across time and illuminates the way for the future—if we care for Country, Country will care for us.

The Tree Canopy Strategy aims to set the long-term direction for the protection, management and planting of trees in Yarra Ranges. The Strategy is structured around six objectives in pursuit of the vision. Actions to achieve each objective are detailed in the Implementation Plan (Appendix 1).

VISION

Yarra Ranges Council will conserve and enhance our leafy character, culturally significant landscapes and unique biodiversity through the protection, management and planting of trees. Our tree canopy will improve liveability, support community health and wellbeing, maintain ecosystems and enhance local tourism.

OBJECTIVES

1. Value, protect and manage trees

Healthy mature trees take decades to grow and provide great benefit to the community and the environment. We will value and protect trees to minimise canopy cover loss, and manage our trees to maximise their benefits and minimise risk. Our community will be well informed and understand the role, function and importance of trees.

2. Grow a healthy tree canopy

We will strive to grow healthy and resilient trees on public land. Our tree planting will plant the right tree in the right place, be fairly distributed, increase canopy cover, support areas of recognised biodiversity value and integrate with urban infrastructure.

3. Conserve culturally significant trees and enhance local tourism

Culturally significant trees are an important part of the landscape that shapes the identity of Yarra Ranges and makes it a tourism destination. We will aim to conserve and enhance culturally significant trees through best practice tree management, and enhance culture and tourism with new tree plantings.

4. Improve tree canopy resilience to climate change

Trees will play an increasingly important role as our community seeks to adapt to the effects of climate change. We will grow a more diverse and resilient tree canopy, better suited to a future climate, and investigate ways to improve landscape resilience.

5. Support and enhance community health and wellbeing

We will manage our trees to maximise their cooling benefit and enhance the liveability of our urban areas. Our tree planting will prioritise locations with low or declining canopy cover, particularly those vulnerable to heat. We will continue to implement and adapt our management practices to minimise the risks associated with extreme weather and bushfire.

6. Apply best practice tree management

We will strategically manage public trees as important community assets. We will be accountable and transparent in meeting our targets, and demonstrate best practice in delivering tree programs and projects that benefit our community.

TARGETS

Yarra Ranges Council will aim to achieve the following by 2044:

Our community will…

- ✓ Have a greater understanding of the role, function and importance of trees
- ✓ Have greater knowledge and appreciation of our culturally significant trees
- ✓ Increase their participation in greening and biodiversity programs.

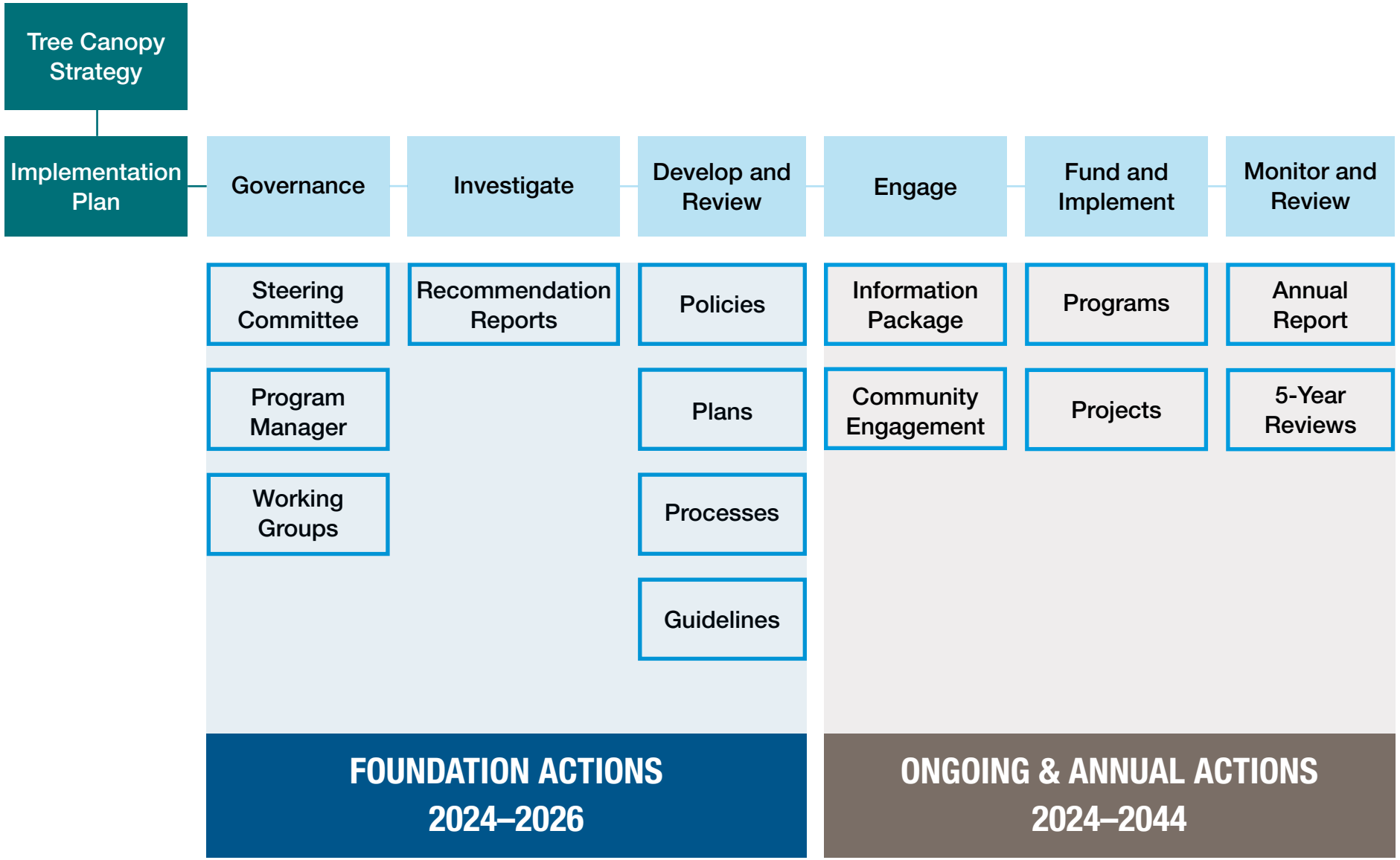
Our tree planting will...

- ✓ Increase tree canopy cover from 31.68% to 35% on public land in built up areas
- ✓ Be fairly distributed, providing a minimum of 25% tree canopy cover on public land across all suburbs and towns
- ✓ Increase tree canopy cover for all activity centres, key pedestrian routes, playspaces and biolinks between areas with recognised biodiversity value
- ✓ Increase the diversity and resilience of Council managed trees.

Our tree management will...

- ✓ Reduce hazardous trees along roadsides for bushfire preparedness
- ✓ Successfully establish 95% of new street tree plantings, inclusive of formative pruning
- ✓ Improve the condition of large habitat trees and culturally significant trees on public land
- ✓ Incorporate policies, plans, programs and tools informed by industry best practices.

THE NEXT STEPS



Credit: Jeannie Cerato

GUIDING DOCUMENTS

Council currently has robust tree management programs that respond to a range of guiding documents, used to inform work practices and meet community expectations. These guiding documents include:

Legislation

- Environment Protection and Biodiversity Conservation Act 1999
- Flora and Fauna Guarantee Act 1988
- Catchment and Land Protection Act 1994
- Electrical Safety Act 1998
- Electricity Safety (Electric Line Clearance) Regulations 2020
- Planning and Environment Act 1987
- Yarra Ranges Planning Scheme
- Local Government Act 2020
- Neighbourhood Amenity Local Law 2020
- Road Management Act 2004
- Water Act 1989
- Wildlife Act 1975
- Aboriginal Heritage Act 2006
- Heritage Act 1995.

Australian standards

- AS 4970-2009 *Protection of trees on development sites*
- AS 4373-2007 *Pruning of amenity trees*
- AS ISO 31000:2018 *Risk management - Guidelines.*

Council policies and plans

- Tree Policy 2016
- Tree Management Plan 2009
- Code of Environmental Practice 2016
- Community Engagement Policy 2021
- Managing fruit fly in Victoria Action Plan 2015-2020.

GLOSSARY

Amenity: The pleasantness or attractiveness of a place.

Best practice tree management: Structured and coordinated tree management using up-to-date industry accepted methods, tools and resources.

Built up areas: An area of dense/moderately dense housing and buildings with definite boundaries. Built up areas referred to in this Strategy were derived from spatial data maintained by the Department of Environment, Land, Water and Planning.

Canopy cover: The proportion of an area covered by the vertical projection of tree crowns, typically expressed as percentage.

Climate change: A long-term change in the average weather patterns that have come to define Earth's local, regional and global climates.

Community engagement: A purposeful, planned process of working with identified groups of people, whether connected by geography, demography or interests, to inform decision making, build relationships and strengthen community.

Declared area: Urban areas declared under the Electricity Safety Act 1998, typically having a 'low' fire hazard rating as determined by the Country Fire Authority.

Extreme weather: Unexpected, unusual, severe, or unseasonal weather at the extremes of the historical distribution.

Formative pruning: The process of pruning a young tree to achieve a desired shape as it grows and matures.

Fuel management: Activities undertaken to reduce bushfire risk, such as planned burning (lighting and managing fires) and mechanical treatment (mowing, slashing, mulching and using herbicides).

Greenfield subdivisions: Real estate projects on previously undeveloped land, such as unused or agricultural land.

Hazardous tree: A tree identified as a likely source of harm.

Heat stress: When the body is unable to cool itself enough to maintain a healthy temperature.

Heatwave: When the maximum and the minimum temperatures are unusually hot over a three-day period at a location.

Keystone organisms: Organisms that help define an entire ecosystem. Without its keystone organisms, the ecosystem would be dramatically different or cease to exist.

Land surface temperature: The radiative temperature of land, typically measured by a satellite.

Landscape character: The distinct, recognisable and consistent pattern of elements in the landscape. It is these patterns that give each locality its 'sense of place', making one landscape different from another, rather than better or worse.

Liveability: The sum of the factors that add up to a community's quality of life, including the built and natural environments, economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities.

Metropolitan Melbourne: The geographical area that defines Melbourne as a city, that includes 31 local government areas.

Natural disaster: A major adverse event resulting from natural processes of the Earth; examples include floods, hurricanes, tornadoes, volcanic eruptions, earthquakes, tsunamis, storms, and other geologic processes.

Percentage point: The simple numerical difference between two percentages. For example, moving up from 40% to 44% is a 4 percentage point increase.

Proactive: Taking action in advance of a future situation, as opposed to acting reactively.

Resilient trees: Trees that are able to tolerate or quickly recover from unfavourable environmental conditions.

Right tree in the right place: A performance-based approach to deliver quality tree planting that considers tree species selection, planting location, planting reason and planting method. Typical tree planting considerations may include the desired tree performance/function, climate, soil type, available soil volume, available space above ground, landscape character, biodiversity value, infrastructure, buildings, sight lines, maintenance, community expectations and sensory appeal.

Senescence: The condition or process of deterioration with age.

Soil-atmosphere gas exchange: The processes of gas exchange between soil and atmosphere. Important for tree root growth and soil microbial activity.

Strategic asset management: Approach to asset management for long-term planning of maintenance and operations.

Streetscape: The visual elements of a street, including the road, adjoining buildings, street furniture, trees and open spaces, etc, that combine to form the street's character.

Transpiration: The process of water movement through a plant and its evaporation from aerial parts, such as leaves, stems and flowers.

Tree canopy: Our term for referring to Yarra Ranges' diverse tree population, and includes trees of all types and sizes across public and private land. It is a way to consider the collective benefits of our trees

Tree establishment: The period following the transplanting of nursery stock into the landscape. A tree is considered established when its growth rates become more or less consistent from one year to the next.

Tree failure: The structural deterioration or breakage of any part of a tree, including the roots, trunk, or branches.

Tree renewal: Removing and replanting trees.

Urban heat island effect: The phenomenon where urban areas are significantly warmer compared to surrounding rural areas due to human activities.

Urban trees: Trees in urban environments including remnant and planted specimens.

Water sensitive urban design (WSUD): An approach to planning and designing urban areas to make use of water as a valuable resource and reduce the harm it causes to rivers and creeks.

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APPENDIX 1 - IMPLEMENTATION PLAN

Timeframes

Foundation actions: are high-priority actions to be delivered within two years of Strategy endorsement. Typically, these actions will inform or affect the progression of ongoing and annual actions.

Ongoing actions: are to be delivered periodically over the life of the Strategy.

Annual actions: are to be delivered each year over the life of the Strategy.

Governance

Governance for the Implementation Plan consists of a steering committee to oversee, a program manager to coordinate and working groups to implement.

Working groups of internal staff representing key stakeholders across Council will deliver the Implementation Plan. Where relevant, working groups will collaborate with Council committees, the community, other agencies and will be assisted by various specialist consultants as required.

The Program Manager will convene quarterly meetings of the working groups. The Program Manager will monitor and review the progress of the Implementation Plan and prepare quarterly project status reports to the Steering Committee and annual reports to Council.

The Tree Canopy Strategy and Implementation Plan will be reviewed every five years.

Objective 1. Value, protect and manage trees

Targets:

- Our community will have a greater understanding of the role, function and importance of trees
- Reduce hazardous trees along roadsides for bushfire preparedness
- Improve the condition of large habitat trees on public land
- Our tree management will incorporate policies, plans, programs and tools informed by industry best practices.

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
1.1[1]	Review the Tree Management Plan and include best practice guidelines to maximise the benefits of council trees and minimise risk.	Parks Trees & Trails	Foundation action by 2026	$30,000	Existing internal budget	Tree Management Plan updated
1.2	Develop a management plan for large habitat trees on council managed land in built up areas. Biolinks between large habitat trees to form part of the plan.	Climate & Nature, Parks Trees & Trails	Foundation action by 2026	$10,000	Existing internal budget	Large habitat tree management plan
1.3[2]	Develop a 'living with trees' communication package explaining the role, function, and importance of trees, why trees on private property are important and how to care for them.	Communications & Engagement, Parks Trees & Trails	Foundation action by 2026	$10,000	Existing internal budget	Communications package

[1] Also aligns with Objective 6.

[2] Also aligns with Objective 2.

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
1.4[3]	Develop a monetary valuation method and policy for trees on public land.	Parks Trees & Trails	Foundation action by 2025	$0		Tree valuation method and policy adopted by Council
1.5	Investigate incentives for private landowners to protect and manage large habitat trees on private land.	Climate & Nature, Parks Trees & Trails	Foundation action by 2025	$0		Recommendations report
1.6[4]	Review of current process, practice and resourcing for the protection and management of trees on council projects.	Climate & Nature, Design & Delivery, Infrastructure Maintenance, Major Projects, Parks Trees & Trails, Recreation & Sport, Urban Design & Landscape Architecture	Foundation action by 2025	$0		Recommendations report
1.7[5]	Review current process, practice, and resourcing for the enforcement of tree protection as required by council planning permits and local laws.	Development Compliance, Parks Trees & Trails, Safer Communities	Foundation action by 2025	$0		Recommendations report
1.8	Advocate infrastructure solutions for the coexistence of healthy trees near utility services.	Design & Delivery, Infrastructure Maintenance, Parks Trees & Trails	Ongoing 2024-2044	$0		Records of communication

[3] Also aligns with Objective 6.
[4] Also aligns with Objective 6.
[5] Also aligns with Objective 6.

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
1.9	Continue to advocate for State Government infrastructure projects to avoid tree removal and minimise tree impacts.	Climate & Nature, Parks Trees & Trails	Ongoing 2024-2044	$0		Records of communication
1.10[6]	Develop and maintain an inventory of large habitat trees on council managed land in built up areas.	Enterprise Systems, Parks Trees & Trails	Annually 2026-2044	$0		Large habitat tree inventory
1.11[7]	Develop and implement a program to manage large habitat trees on council managed land in built up areas. The program is to include the management of biolinks between large habitat trees.	Climate & Nature, Parks Trees & Trails	Annually 2026-2044	$75,000/year	Existing internal budget	Large habitat tree management program
1.12[8]	Develop and implement a program to manage hazardous trees along council managed roadsides for bushfire preparedness in collaboration with other bushfire reduction works and relevant agencies.	Climate & Nature, Parks Trees & Trails	Annually 2024-2044	$150,000/year	Existing internal budget	Bushfire preparedness tree management program
1.13[9]	Develop and implement an integrated pest and disease management plan (IPDM) to proactively monitor and treat tree pests and disease outbreaks.	Parks Trees & Trails	Annually 2025-2044	$75,000/year	Existing internal budget supplemented by external funding from partner agencies	IPDM Plan

[6] Also aligns with Objective 6.
[7] Also aligns with Objective 6.
[8] Also aligns with Objective 5.
[9] Also aligns with Objectives 4 and 6.

Objective 2. Grow a healthy tree canopy

Targets:

- Increase tree canopy cover from 31.68% to 35% on public land in built up areas
- Tree planting will be fairly distributed, providing a minimum of 25% tree canopy cover on public land across all suburbs and towns
- Increase tree canopy cover for all activity centres, key pedestrian routes, playspaces and biolinks between areas with recognised biodiversity value.
- Successfully establish 95% of new street tree plantings, inclusive of formative pruning

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
2.1[10]	Develop criteria and identify priority areas for tree planting and renewal. Biodiversity value and bushfire risk to be included as criteria for consideration.	Climate & Nature, Parks Trees & Trails	Foundation action by 2025	$20,000	Existing internal budget	Priority area maps
2.2[11]	Develop and implement a community engagement plan for tree planting and renewal projects.	Communications & Engagement, Parks Trees & Trails	Ongoing 2025-2044	$0		Community engagement survey
2.3	Investigate incentives for private landowners to plant trees on private land.	Climate & Nature, Parks Trees & Trails	Foundation action by 2025	$0		Recommendations report

[10] Also aligns with Objective 5.

[11] Also aligns with Objective 6.

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
2.4[12]	Review existing council design guidelines for developments on private land. Include best practice advice for incorporating trees into developments, to reduce the urban heat island effect through shading and cooling.	Parks Trees & Trails, Strategic Planning, Urban Design & Landscape Architecture	Foundation action by 2026	$30,000	Existing internal budget (may be shared across Planning & Sustainable Futures Directorate)	Design guidelines updated
2.5	Investigate opportunities to improve compliance with endorsed landscape plans for development sites, particularly the planting of trees.	Development Compliance, Urban Design & Landscape Architecture	Foundation action by 2025	$0		Recommendations report
2.6	Update the Yarra Ranges Planning Scheme to include references to the Tree Canopy Strategy in the Municipal Planning Strategy (MPS) and Planning Policy Framework (PPF).	Strategic Planning	Foundation action by 2026	$0		Recommendations report
2.7[13]	Investigate urban design and engineering solutions to enhance healthy soil volume for tree growth and function, and to protect infrastructure and buildings.	Parks Trees & Trails, Storm Water Traffic & Transport, Urban Design & Landscape Architecture	Foundation action by 2025	$0		Recommendations report

[12] Also aligns with Objective 6.

[13] Also aligns with Objectives 4 & 6.

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
2.8[14]	Develop and implement a tree planting and renewal program for priority areas selecting the right tree for the right place, inclusive of two years of establishment maintenance.	Parks Trees & Trails	Annually 2024-2044	$450,000/year	Existing internal budget	Two year rolling program
2.9[15]	Develop and implement a formative pruning program for all new street tree plantings.	Parks Trees & Trails	Annually 2024-2044	$0 (Existing Officer hours)		Four year rolling program
2.10 [16]	Seek opportunities for partnership with the Department of Transport for planting projects along major tourist routes.	Parks Trees & Trails, Storm Water Traffic & Transport, Urban Design & Landscape Architecture	Ongoing 2024-2044	$0		Records of communication
2.11	Collaborate with the eastern region councils to achieve the goals of the *Living Melbourne: Our Metropolitan Urban Forest* strategy.	Climate & Nature, Parks Trees & Trails	Ongoing 2024-2044	$0		Records of communication
2.12 [17]	Review contract specifications for tree planting and establishment. Incorporate guidance for the selection of the right tree for the right place.	Parks Trees & Trails	Foundation action by 2024	$0		Contract specifications updated

[14] Also aligns with Objectives 4 & 6.
[15] Also aligns with Objective 4 & 6.
[16] Also aligns with Objective 3.
[17] Also aligns with Objective 6.

Objective 3. Conserve culturally significant trees and enhance local tourism

Targets:

- Our community will have greater knowledge and appreciation of our culturally significant trees.
- Improve the condition of culturally significant trees on public land.

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
3.1[18]	Develop a management plan for culturally significant trees on council managed land.	Indigenous Development, Parks Trees & Trails	Foundation action by 2025	$10,000	Existing internal budget	Culturally significant tree management plan
3.2	Develop and implement a community engagement plan for culturally significant trees with consideration of indigenous ways of knowing, being and doing. Develop in partnership with the Indigenous Advisory Committee, Lilydale Historical Society and Yarra Ranges Tourism.	Business & Tourism, Indigenous Development, Communications & Engagement, Parks Trees & Trails	Ongoing 2026-2044	$15,000	Existing internal budget (Tree Management)	Community engagement survey
3.3[19]	Develop and maintain an inventory of culturally significant trees on council managed land.	Enterprise Systems, Indigenous Development, Parks Trees & Trails	Annually 2025-2044	$0		Culturally significant tree inventory
3.4[20]	Develop and implement a program to manage culturally significant trees on council managed land, including renewing poorly performing trees.	Indigenous Development, Parks Trees & Trails	Annually 2026-2044	$75,000/year	Existing internal budget	Culturally significant tree management program

[18] Also aligns with Objective 6.
[19] Also aligns with Objective 6.
[20] Also aligns with Objective 6.

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
3.5	Investigate opportunities to update Planning Scheme heritage controls with reference to the culturally significant tree inventory.	Strategic Planning	Foundation action by 2026	$0		Recommendations report
3.6	Investigate opportunities to embed Indigenous references to Country and culture into playspace designs and playspace planting, through collaboration with the Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation.	Indigenous Development, Parks Trees & Trails, Urban Design & Landscape Architecture	Ongoing 2024-2044	$0		Indigenous references to Country and culture feature in our playspaces
3.7	Investigate opportunities to plant tree lined streets as part of 'Welcome to...' gateways into towns.	Parks Trees & Trails, Storm Water Traffic & Transport, Urban Design & Landscape Architecture	Ongoing 2024-2044	$0		Records of communication

Objective 4. Improve tree canopy resilience to climate change

Target:

- Increase the diversity and resilience of Council managed trees.

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
4.1	Develop a tree planting palette for built up areas with consideration of biodiversity values, species diversity and future climate suitability.	Climate & Nature, Parks Trees & Trails	Foundation action by 2025	$10,000	Existing internal budget	Tree planting palette
4.2	Develop a concept plan and grant proposal for a future climate arboretum.	Parks Trees & Trails, Urban Design & Landscape Architecture	Foundation action by 2026	$20,000	Existing internal budget (may be shared across responsible teams)	Concept plan and grant proposal
4.3	Collaborate with researchers and tree growers to trial tree species that may be more suitable for a future climate.	Climate & Nature, Parks Trees & Trails	Ongoing 2024-2028	$50,000	Existing internal budget/external funding opportunity	Tree species trial project
4.4	Investigate opportunities to incorporate water sensitive urban design (WSUD) principles as part of tree planting and tree management programs.	Parks Trees & Trails, Storm Water Traffic & Transport	Foundation action by 2026	$0		Recommendations report

Objective 5. Support and enhance community health and wellbeing

Targets:

- Increase tree canopy cover for all activity centres, key pedestrian routes, playspaces and biolinks between areas with recognised biodiversity value.
- Our community will increase their participation in greening and biodiversity programs.

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
5.1	Integrate tree canopy cover targets for all activity centres.	Strategic Planning, Urban Design & Landscape Architecture	Ongoing 2024-2044	$0		All new Structure Plans include tree canopy cover targets
5.2	Integrate shade and cooling principles into the Paths and Trails Strategy/Plan (under development).	Parks Trees & Trails, Recreation & Sport	Foundation action by 2026	$0		Shade or cool refuge targets in the Paths and Trails Strategy/Plan
5.3	Review landscape guidelines for Council capital works projects and integrate targets for tree planting and/or tree canopy cover. Tree canopy cover targets for new playspaces to be included.	Parks Trees & Trails, Urban Design & Landscape Architecture	Foundation action by 2025	$0		Landscape guidelines for Council capital works projects updated

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
5.4[21]	Incorporate trees for cooler and greener streets as part of streetscape revitalisation and car park projects.	Design & Delivery, Parks Trees & Trails, Storm Water Traffic & Transport, Urban Design & Landscape Architecture	Ongoing 2024-2044	See action 2.8	Existing internal budget	Tree canopy is a feature of revitalised streetscapes and car parks
5.5[22]	Incorporate trees for cooler and greener playspaces as part of the tree planting and renewal program.	Parks Trees & Trails, Urban Design & Landscape Architecture	Ongoing 2024-2044	See action 2.8	Existing internal budget	Tree canopy is a feature of playspaces
5.6[23]	Continue to advocate for tree planting as part of State Government infrastructure projects, to support and enhance community health and wellbeing.	Parks Trees & Trails, Storm Water Traffic & Transport, Urban Design & Landscape Architecture,	Ongoing 2024-2044	$0		Records of communication
5.7	Continue to organise tree planting days to engage community members and groups.	Climate & Nature	Ongoing 2024-2044	$0	Existing internal budget	Community engagement survey
5.8	As per Council's Nature Plan - Action 2.1, increase support to the community through the Ribbons of Green program, to deliver a revitalised incentive program and implement the Biolinks Plan.	Climate & Nature	Ongoing 2026-2034	$250,000/year	New operational budget (40%) supplemented by external funding from partner agencies (60%)	Community engagement survey, connectivity of biolinks

[21] Also aligns with Objective 2.
[22] Also aligns with Objective 2.
[23] Also aligns with Objective 2.

Objective 6. Apply best practice tree management

Target:

- Our tree management will incorporate policies, plans, programs and tools informed by industry best practices.

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
6.1	Develop a business case and position description for a program manager to coordinate the delivery of the Tree Canopy Strategy.	Parks Trees & Trails	Within 6 months of strategy endorsement	Subject to business case	Subject to business case	Program Manager business case and position description
6.2	Develop a business case and position description for a technical officer to assist the delivery of the Tree Canopy Strategy.	Parks Trees & Trails	Within 6 months of strategy endorsement	Subject to business case	Subject to business case	Technical Officer business case and position description
6.3	Program Manager to convene a steering committee to oversee, and working groups to implement the Tree Canopy Strategy.	Tree Canopy Strategy Program Manager, key stakeholders	Within 12 months of strategy endorsement	Subject to Program Manager business case	Subject to Program Manager business case	Minutes from quarterly meetings with the Steering Committee and working groups
6.4	Program Manager to monitor, review and report on the progress of the Implementation Plan. Review the Tree Canopy Strategy every 5 years.	Tree Canopy Strategy Program Manager	Annually 2025-2044	Subject to Program Manager business case	Subject to Program Manager business case	Annual report to Steering Committee and 5-yearly reviews.

	Action	Key stakeholders	Timeframe	Estimated cost	Funding source (subject to review)	Measure
6.5	Review the Tree Policy and include reference to the Tree Canopy Strategy and key policy statements (e.g., tree protection, electrical line clearance and species selection).	Parks Trees & Trails	Foundation action by 2024	$0		Tree Policy updated
6.6	Develop a strategic asset management plan for Council managed trees in built up areas.	Asset Planning & Investment, Parks Trees & Trails	Foundation action by 2026	$0		Tree asset management plan
6.7	Update the Council website to include information on the Tree Canopy Strategy and provide progress updates.	Communications & Engagement, Tree Canopy Strategy Program Manager	Ongoing 2024-2044	$0		Council website updated
6.8	Develop and maintain a partial tree inventory, including for all new trees planted in built up areas.	Enterprise Systems, Parks Trees & Trails	Annually 2025-2044	$0		Tree inventory
6.9	Partner with the State Government and neighbouring councils on acquiring, or Council to acquire its own periodic tree canopy cover data.	Enterprise Systems, Parks Trees & Trails	Ongoing 2024-2044	$200,00-480,000 ($50,000-120,000 every 5 years)	Within existing budget (funding to be shared across organisation through packaged purchase of spatial data)	Data acquired every 5 years