



# Draft Urban Forest Strategy

## 2021-2025

Bayside City Council acknowledges the Traditional Owners and custodians of this land, the Bunurong people, and we pay our respects to their Elders past, present and emerging.





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## Traditional Owners acknowledgement

Bayside City Council acknowledges the Traditional Owners and custodians of this land, the Bunurong people, and we pay our respects to their Elders past, present and emerging.

Indigenous culture and heritage is respected and appreciated by the Bayside community who will work together to create a better future for all Australians.

Bayside City Council recognises the distinctive relationship that Indigenous people have with local land and waters, including trees, hills and valleys, creeks and foreshore of Bayside.

**Photo of *Banksia integrifolia* – Coastal Banksia<sup>1</sup> (near Ricketts Point)**



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<sup>1</sup> Photo taken at the Bayside Coastal Trail Network

# Executive Summary

Across Bayside, tree retention and protection has become an increasingly urgent issue to address. There are many challenges that are impacting the Bayside Urban Forest. This document identifies actions for Council and the community to undertake to ensure we can increase and diversify our urban forest with new plantings, while also protecting and monitoring our existing trees and vegetation.

In December 2019, Bayside City Council declared a climate emergency and has since prepared a Climate Emergency Action Plan 2020-2025. The impacts of climate change will continue to be an emerging and evolving issue for the Bayside community to address. Expanding the Bayside Urban Forest is one way that we can help cool the urban environment in which our residents live. In addition, Bayside City Council has endorsed *Living Melbourne: Our Metropolitan Urban Forest* in 2019, which sets out regional targets for tree and vegetation canopy cover to be reached by 2030, 2040 and 2050.

The City of Bayside is admired for its open space, and a key attraction is our 17 kilometres of coastline. Bayside residents appreciate our parks and gardens for leisure and recreation. Protecting Bayside's tree canopy and vegetation is important to the community, especially for residents who live close to developing areas. This Draft Strategy has been developed to align with Council's existing Strategic Planning Framework while also setting the strategic direction for future years to ensure the continued expansion, diversification, good health and retention of a resilient urban forest.

Growing the health and resilience of the Bayside Urban Forest is recognised as both a key challenge and objective of this Draft Strategy. It is approximated that the City of Bayside has 16.07% tree canopy cover. To grow the urban forest, we must not only plant new trees, but also continue to monitor and retain existing trees to allow for improved survival rates and lifespan. Increasing the species diversity within the Bayside Urban Forest will assist in "future proofing" the urban forest in the face of a challenging climate which is predicted to be drier and windier.

This document has identified key challenges impacting the Bayside Urban Forest. These challenges were categorised into three major groups being Environmental, Development and Social challenges. To address these challenges, actions have been identified under five key themes; increase, diversify, monitor, retain and educate.

## Our Vision

***"Bayside's urban forest will support and contribute to a cooler, greener Bayside through increased vegetation and canopy cover, that provides areas of habitat for biodiversity with a focus on the locally endangered and native species, enhancing the amenity and character of the municipality."***

## Our Goal

The overarching goal of this Draft Strategy is to increase the urban tree canopy cover from the current 16% to 25% by 2030, and to continue this increase into the future. This will require an increase in tree canopy cover of 1% per year over the next 9 years. Following the

four-year life of this Strategy, actions listed will require review to continue further increase into the future, rising to 30% tree canopy cover by 2050.

## **Strategic Objectives of the Strategy**

This Strategy identifies the following Strategic Objectives:

- Increase tree canopy on public and private land, including retention of existing trees
- Support and enhance our local biodiversity by diversifying the tree population
- Adapt to climate change and maximise environmental outcomes
- Raise the level of community awareness and participation
- Maximise community health and wellbeing outcomes
- Strengthen Council's ability to retain and monitor trees on both public and private land

### **Key Action – Precinct Plans**

The Urban Forest Strategy identifies a range of actions to be undertaken over the next four years. A key focus is the preparation of Precinct Plans for each suburb in Bayside. Each Precinct Plan will be informed by community consultation and will provide set targets to respond to the individual needs, challenges and aspirations for the locality.

## **Introduction**

The Bayside community has a long and passionate history in protecting and actively caring for areas of natural habitat on public land, both on the foreshore and within the inland bushland reserves. Bayside's foreshore is highly valued for its combination of the beach and the associated coastal vegetation, whilst the inland bushland reserves contain important remnants of indigenous heathland vegetation. Conservation and retention of this indigenous vegetation has come about through the voluntary work of many people over the decades, in conjunction with Council and the Department of Environment Land Water and Planning. Bayside currently has 18 'Friends of' groups working in both coastal and bushland reserves whose members are hands-on volunteers caring for the local natural environment.

In 1978, the then Sandringham Council was one of the first municipalities in Australia to establish a nursery that collected seed from local vegetation communities to propagate and grow local indigenous plants. The nursery is still in operation and supplies around 10,000 tubes per year for use in managing and restoring local bushland and coastal vegetation, as well as retailing local plants for local private gardens.

Trees on private property make up a significant proportion of Bayside's urban forest. The removal of trees on private property is a significant and challenging issue to address as the management of "private" trees, to some extent, falls into the hands of individual property owners. There is, however, a regulatory framework that governs tree removal, which is primarily the Bayside Planning Scheme and Local Law No.2. In administering these frameworks, Council has encountered several challenges in how they operate and how data is recorded in relation to protecting trees and vegetation on private property. The Draft Urban Forest Strategy examines these processes and determines areas for improvement.

The frameworks often overlap, particularly when a planning process involves the removal of a Local Law protected tree. Further to this, there are limitations to regulating vegetation removal where tree protection becomes a challenge in the face of ongoing development pressure and individual (community) attitudes towards trees on private property.

By undertaking a number of process improvements and streamlining Council's biodiversity, tree and other related strategies, this will result in a more clarified set of outcomes that will increase the growth of Bayside's urban forest.

Undertaking a precinct-based approach to the protection, retention and enhancement of the urban forest will allow Council to consider the local opportunities for vegetation and tree plantings, process improvements and other locally specific issues.

This Draft Urban Forest Strategy is informed by the existing tree canopy cover data for the Bayside municipality, the health and conditions of the Council managed tree population, and tree removal data collection for local law and planning permits. The *Living Melbourne; Our Metropolitan Urban Forest*, as well as State and Local government plans, policies, strategies, guides and procedures have shaped the key themes and actions of this Draft Strategy.

## Bayside's Urban Forest

### What is an Urban Forest?

The urban forest encompasses all the trees and other vegetation – and the soil and water that support them – within Bayside, on both public and private land. The urban forest incorporates vegetation in streets, parks, gardens, plazas, campuses, river and creek embankments, wetlands, railway corridors, community gardens, home gardens, green walls, balconies and roofs.<sup>2</sup> Fauna is an important component too, with complex interrelations between animals and plants helping to maintain the urban forest.

For metropolitan Melbourne, the urban forest plays a significant role in making our city a place where we can all thrive. But Melbourne's urban forest is also under pressure. A denser urban form and concerns about the impact of trees on buildings will increasingly crowd out opportunities for trees, while a changing climate and higher urban temperatures put physical stress on the forest.

Bayside's urban forest is made up of native, indigenous, and exotic trees, shrubs, grasslands, and other vegetation, growing on public and private land, and the soil and groundwater that support them. This includes vegetation in parks, reserves, private gardens, along railways, waterways, main roads and local streets, and on other green infrastructure such as green walls and roofs. The urban forest provides habitat to a wide range of fauna.

Urban forest strategies have become increasingly recognised as important in addressing the issues associated with urbanisation and tree loss, combined with the emerging impacts of climate change, including urban heat islands created by a prevalence of hard surfaces.

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<sup>2</sup> Resilient Melbourne, Living Melbourne Strategy, 2018, available at: [https://resilientmelbourne.com.au/wp-content/uploads/2019/09/LivingMelbourne\\_Strategy\\_online3.pdf](https://resilientmelbourne.com.au/wp-content/uploads/2019/09/LivingMelbourne_Strategy_online3.pdf)

## Benefits of Urban Forest

Trees have an intrinsic value, from an environmental perspective, but also from an economic, amenity and character perspective. Trees and vegetation are an integral part of Bayside's neighbourhood and urban character, contributing to the liveability of our suburbs, encouraging active participation in the form of walking, running, cycling and social gatherings and interaction.

In Bayside, the urban forest plays a critical role in providing for a high amenity urban environment, fostering habitat and biodiversity, contributing to neighbourhood character, and providing a range of environmental benefits, which include:

- providing shade and cooling the urban environment,
- providing relief from (reducing) the urban heat island effect,
- filtering air pollutants,
- providing wind protection,
- locking up carbon and releasing oxygen into the air,
- reducing storm water run-off,
- providing habitat and connectivity corridors for wildlife,
- acting as a screen for privacy, dampening noise, reducing air temperature,
- preventing erosion and stabilizing the soil, particularly for coastal environments,
- lowering water tables, which reduces the risk of salinity,
- soften and beautify the urban environment,
- improving urban amenity and therefore community pride of place,
- providing cool green space for active and passive recreation,
- supporting our mental health and feeling of well-being, and
- protection/conservation of remnant indigenous vegetation.

## The existing Urban Forest in Bayside

In the City of Bayside, there is approximately 16.07% tree canopy cover (measured in 2018). Council owned parks and reserves notably provide for higher volumes of tree canopy cover, and this is identified in Map 1 below. In 2014, there was approximately 16.89% of tree canopy cover which has since decreased.

Council managed street and park trees are a major contributor to the Bayside Urban Forest. There are over 60,000 trees managed by Council, spread throughout the municipality.

Areas that provide the most opportunity for additional tree planting are those that currently comprise of a small percentage of tree canopy cover. This includes the Bayside Business District, housing growth areas and activity centres as well as along the foreshore and our golf courses. Many of our parks can also accommodate more tree planting with careful selection and placement. The redevelopment of the former Golf Course to a Nature Reserve at Elsternwick Park is an excellent example of a new opportunity for increased tree planting and biodiversity.



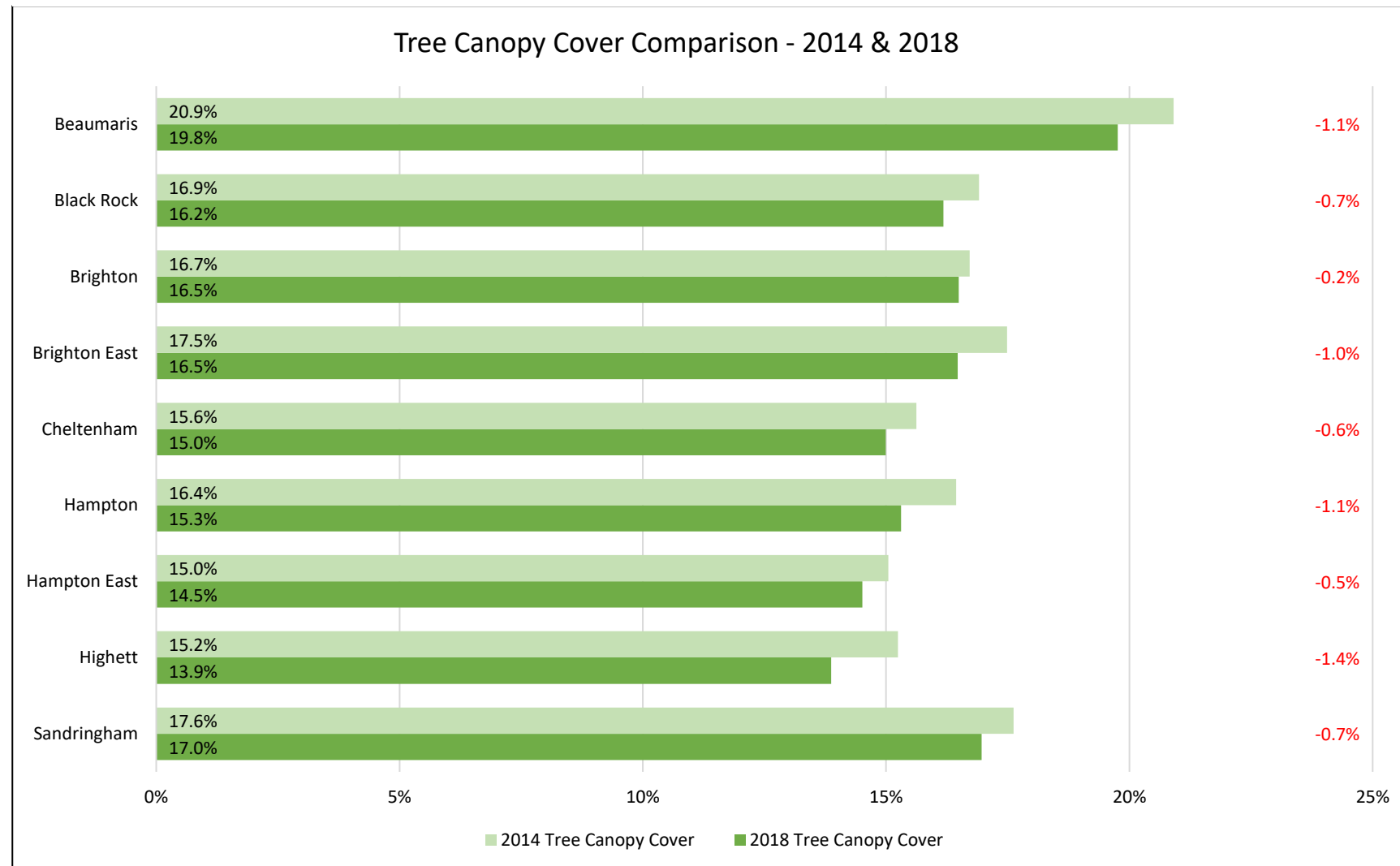
Map 1 Tree Canopy Cover in Bayside 2018





By utilising the State Government tree and vegetation canopy cover data from 2018, Council's GIS team was able to analyse and approximate the tree canopy cover per suburb and compare this to the tree canopy cover in 2014. The data identifies a slight decline in tree canopy cover, with the biggest changes being felt in Highett, Hampton, Beaumaris, and Brighton East.

**Figure 1 Suburb wide Tree Canopy Cover in 2014 and 2018**



# The Council managed tree population

There are over 60,000 trees in parks and streets in the City of Bayside. Each year, Council plants over 1,400 trees in streets, parks and reserves in Bayside. Depending on the number of street upgrades, proposed park planting and other opportunities that arise to plant trees, this can sometimes increase to over 2,000 trees per year.

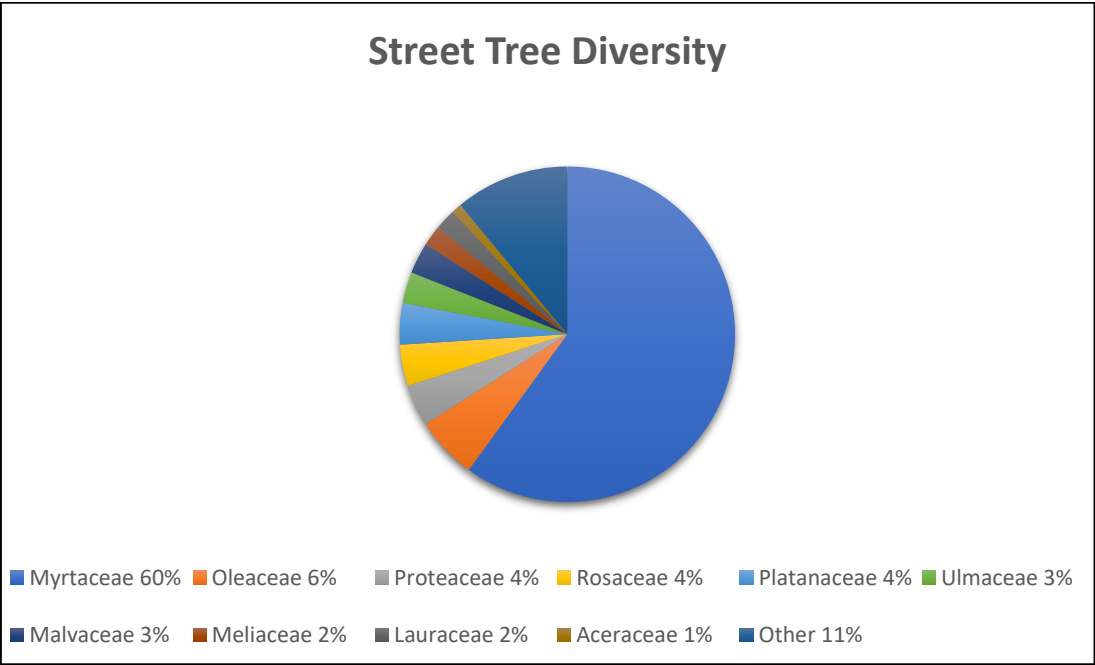
Council has a tree inventory to help Council officers manage and monitor the Council managed tree population in Bayside. The tree inventory is regularly updated as monitoring, pruning, removal and planting works on individual trees are undertaken. The species, age, health and estimated useful life expectancy of each tree is recorded in the inventory and this data has been used to develop a profile of the Council managed street and park trees in Bayside.

Factors such as tree species, health, maturity, and useful life expectancy play key roles in ensuring the longevity and resilience of the Council managed tree population, and have been utilised in this Draft Strategy to inform the key challenges, actions and objectives.

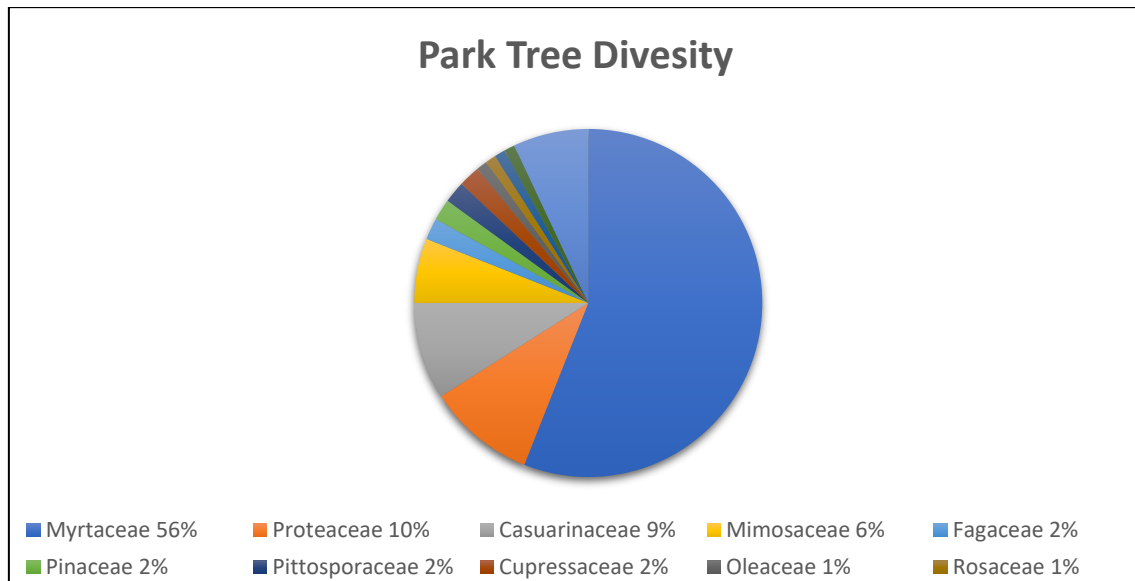
## Species Diversity

A resilient urban forest has a diverse range of species from different families. As seen in Figure 2 and 3, Bayside’s street and park tree population is largely dominated by the Myrtaceae family (eucalypts etc), making up 60% of all street trees and 56% of all park trees, with no other family making up more than 10%.

Figure 2 Street Tree Diversity



**Figure 3 Park Tree Diversity**



The Myrtaceae family has been so well utilized as it is known to have a number of native and indigenous species that are resilient and well suited to the conditions in Bayside. This over-use of a single family can leave the overall tree population at risk of mass decline if a pest or disease was to attack. Diversification of the family composition of the urban forest was a key challenge that was previously identified in Council's Tree Selection Guide.

It is therefore important that Bayside plants more suitable alternatives to species within the Myrtaceae family. Diversity targets will assist in setting future benchmarks for a more diverse tree population and the following families, which are already part of the tree planting program should be included in the species' diversity targets. To address this issue, the Tree Selection Guide should be reviewed to provide a list of native and indigenous species that are suitable as alternatives to species within the Myrtaceae family.

The following families currently form part of the overall tree population in Bayside's Streets and Parks at a significantly lower percentage than the Myrtaceae family. The inclusion and increase of these families should be targeted through the actions of this Draft Strategy and through the implementation of Precinct Plans for each suburb in Bayside, ensuring that different types of trees align with the neighbourhood character of the surrounding locality:

- Oleaceae (6%)
  - 3.3% of all trees planted since 2007; 1.5% from 2016-19
- Proteaceae (4%)
  - 10.5% of all trees planted since 2007; 13.1% from 2016-19
- Rosaceae (4%)
  - 3.5% of all trees planted since 2007; 2.4 % from 2016-19
- Platanaceae (4%)
  - 3% of all trees planted since 2007; 3.9% from 2016-19



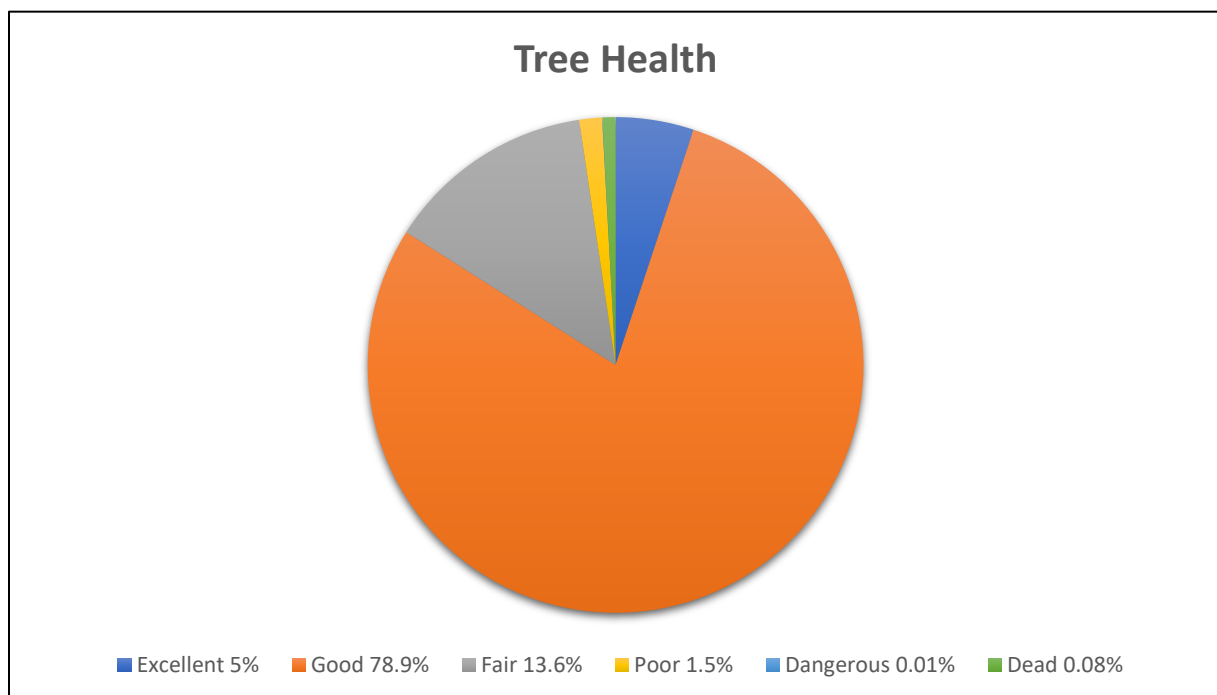
## Tree Health and Age

Urban environments can be very impactful on the health and condition of trees and ensuring these challenges can be appropriately addressed is key to a healthy and resilient urban forest.

The climate and soil conditions in Bayside can be challenging, and this affects a trees ability to grow and mature. Bayside soils are Sand and Clay Plains from the Cainozoic period which drain well but are low in nutrients. For tree planting, this may require frequent establishment watering. At the eastern and southern extremities of the municipality, a dark grey sand is more likely to be found. Drainage may sometimes be impeded by a clay subsoil or perched water table. These soil types have been considered when recommending species for each nature strip type. However, urban soils are generally highly disturbed, often highly compacted and the soil profile at any particular site may differ significantly from an adjacent site. Trees planted in streets close to Port Phillip Bay must be tolerant, to some extent, of salt spray and salinity.

In June 2020, 78.9% of the Council-owned street and park trees were classified as being in 'good health', while 5% was classified as 'excellent'. Trees that are classified as poor, dangerous or dead make up for 1.59% of street trees and trees in parks.

**Figure 4 Health of Council Managed Trees in Bayside**



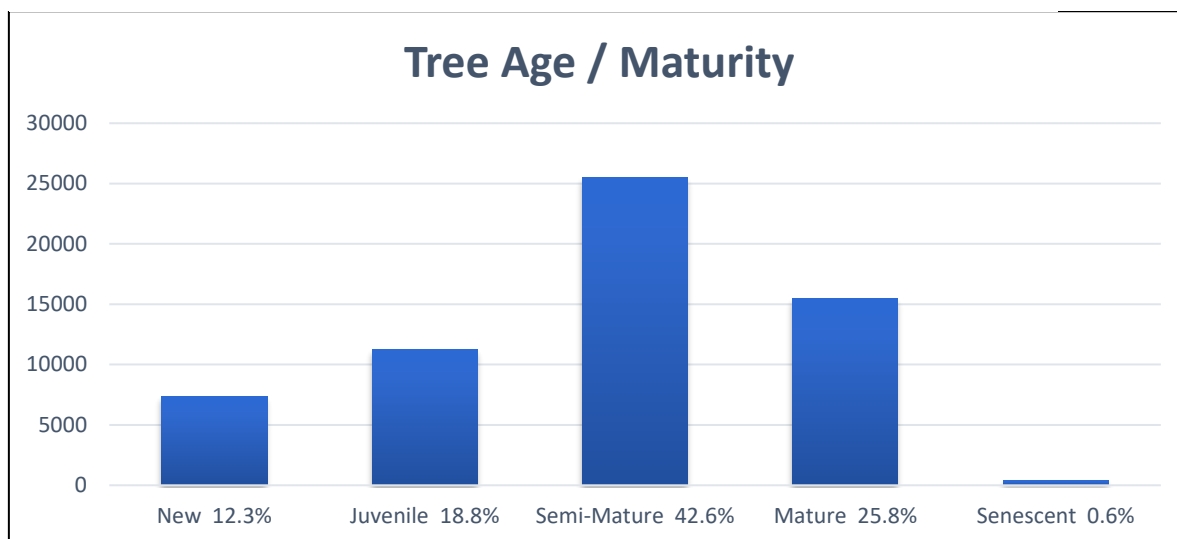
The following map identifies where trees that are below 'fair' health are located within Bayside which makes up for 1.59% of street trees and trees in parks. While most of these trees are scattered throughout the municipality, there are several locations where the number of trees in bad health are notably heightened.

**Map 2: Council Managed Trees in Bayside below 'fair' health**



Diversity of tree age will ensure the Bayside urban forest is resilient and able to adapt to harsh climates. Data on tree age/maturity demonstrates a reasonable level of diversity in the age of Bayside's trees. As seen in Figure 5 the highest proportions are semi-mature and mature making up 42.5% and 25.8% respectively.

**Figure 5 Age / Maturity of Council Managed Trees in Bayside**



## Useful Life Expectancy

Estimating the useful life expectancy of the Council managed tree population is regularly undertaken and can inform the future management options for trees that have limited useful life left. The assessment of a tree's useful life expectancy provides an indication of health and tree appropriateness and involves an estimate of how long a tree is likely to remain in the landscape based on species, stage of life (cycle), health, amenity, environmental services contribution, conflicts with adjacent infrastructure and risk to the community. It is not a measure of the biological life of the tree within the natural range of the species, and more a measure of the health status and the tree's positive contribution to the urban landscape.<sup>3</sup>

There are approximately 7,799 trees managed by Council that will not survive or remain in the Bayside landscape after the next 10 years. By 2040, a total of 51,400 Council managed trees will have reached the end of their useful life expectancy and will need to be replaced. It is vital that the replacement trees are diverse in species and planted intermittently to enable for varying ages and maturity. Map 3 identifies the location of trees that have 1-5 years and 6-10 years of useful life left.

<sup>3</sup> Department of Health and Human Services, 'Arboricultural Assessment Holland Court, Flemington– 3.7 Useful Life Expectancy(ULE)', 2017, Available at [https://www.planning.vic.gov.au/data/assets/pdf\\_file/0011/105500/SHRP-SH1-15.a.-Tree-Logic-Rpt\\_Holland-Court,-Flemington.pdf](https://www.planning.vic.gov.au/data/assets/pdf_file/0011/105500/SHRP-SH1-15.a.-Tree-Logic-Rpt_Holland-Court,-Flemington.pdf)



Figure 6 Useful Life Expectancy (ULE) of Trees in Bayside

Suburb	NULL	1-5 Years	6-10 Years	11-20 Years	20+ Years	Grand Total
BEAUMARIS	1	157	815	4522	3088	8583
BLACK ROCK	72	52	279	3197	499	4099
BRIGHTON	806	196	1152	10313	1725	14192
BRIGHTON EAST	789	196	1052	8758	1426	12221
CHELTENHAM	10	52	165	2972	509	3708
HAMPTON	148	76	670	5168	1058	7120
HAMPTON EAST	66	64	218	2240	353	2941
HIGHETT		29	230	2131	901	3291
SANDRINGHAM	137	56	311	4300	1862	6666
<b>Grand Total</b>	<b>2029</b>	<b>878</b>	<b>4892</b>	<b>43601</b>	<b>11421</b>	<b>62821</b>

## Our Targets

Council aims to increase canopy cover across the City of Bayside to 25% by 2030, and to 30% by 2050. This will require an increase in tree canopy cover of 1% per year over the next 9 years.

To achieve this, a targeted and purposeful approach is required for Council's tree planting program to increase canopy over Council managed land, requiring new canopy tree plantings on private land, whilst minimising losses on private land and actively monitoring tree removal and replacement on private property.

Through this Strategy, Council has identified actions to overcome the key issues and challenges that impact the Bayside Urban Forest to allow for the increase of tree and vegetation canopy cover.

The preparation of Precinct Plans for each suburb within the Bayside municipality will provide the best opportunity to increase tree canopy cover and set quantifiable targets that respond to the needs, opportunities, and constraints of local areas.

# Planning Framework

Bayside City Council has a robust strategic planning framework in place which aligns with the preparation and implementation of an Urban Forest Strategy.

The *Bayside Community Vision 2050* is key to this framework, and highlights the community's wishes for increased protections for natural ecosystems, trees and vegetation, with the desire to improve the health of natural ecosystems, protect trees and vegetation from climate-change related impacts, and to enhance green spaces for the benefit of the broader community.

The Council Plan 2017-2021 has identified the improvement of green spaces and working with the community to improve preservation efforts for tree canopy and vegetation across Bayside as a key objective.

In **Appendix 1**, relevant State and local plans, policies and strategies have been grouped by theme to understand each of their broad connection to resilience, climate change, and the urban forest.

## Community Views

Through the various community engagement exercises Council has undertaken in recent years, it is clear that the Bayside community strongly values trees for their character, amenity and environmental values.

### Outcomes of Bayside Community Vision 2050 Engagement

Recent engagement results for the Bayside Community Vision 2050 revealed that the top 3 issues relate directly to the Urban Forest:

1. *Preserving our neighbourhoods (reducing congestion, noise, development)*
2. *Combatting heat and drought with more vegetation and tree cover*
3. *Protecting the biodiversity of the local area (flora, fauna, clean air/water)*

When asked what the people of Bayside wanted to keep in the future, the top three themes related to the local environment:

- *Open space / parkland*
- *Beaches / coastline / foreshore*
- *Trees / tree-lined streets / vegetation*

The group also considered a list of topics of interest to Bayside residents and ranked priorities from 1-5 in order of importance (1 = most important and 5 – least important). More tree cover protection – the biodiversity of the local area was identified as a 1st priority.

## Recent Feedback from Council's Local Law Review

Whilst developing the Urban Forest Strategy, Council has also been undertaking community consultation in relation to its Local Law (Tree Protection). There has been a range of feedback but importantly, the following views have been expressed:

- *many parks have space to add more trees (some hardly have any). I think the council should review all parks (mostly the smaller suburban parks) and take every opportunity to plant wherever it is possible.*
- *the current Local Law No 36 (part 2 – Tree Protection), should be urgently reviewed, as it is allowing too many large, canopy trees to be removed by property developers and residents.*

## Engagement with the Community

The Urban Forest Strategy primarily seeks to grow the urban forest through the retention of existing trees and an expanded tree planting program across Bayside. Community engagement will be essential in growing the urban forest on private land, and Council will continue to be proactive in communicating the benefits of trees and vegetation on private land.

Community engagement, education and awareness is an essential component to the success of the Bayside Urban Forest Strategy. Community involvement in the processes that will shape Bayside into the future will ensure that there is active participation in achieving the objectives of this strategy.

As part of the preparation of this Draft Strategy, Council has undertaken Focus Group Sessions for the first phase of engagement to better understand the varying community views. In the next phase council will undertake a much broader survey so that the entire community can participate in the decision-making process and Council can understand the views of the Bayside community.

## Outcomes of the Urban Forest Strategy Focus Group Sessions

To inform the finalisation of this Draft Urban Forest Strategy, Council requested Expressions of Interest from residents and community organisations to bring local expertise and lived experience into the Strategy. The self-nominated residents were independently selected by Activate Consulting through a stratified process to broadly represent the Bayside population in terms of suburb, age and gender. The community organisation focus group comprises up to two representatives from environmental/conservation focussed community groups and organisations in Bayside.

Participants from Focus Group 1 (individual residents) identified a range of potential actions to support the achievement of the following four objectives:



Increase	Diversify	Monitor	Maintain
<ul style="list-style-type: none"> <li>• Focus efforts on public space for significant canopy gains</li> <li>• Community education and support for private land owners</li> <li>• Incentivising tree planting and retention on private land</li> <li>• Stronger regulation and enforcement of development</li> <li>• More flexibility in council guidelines</li> <li>• Focussing on all types of planting (trees and vegetation)</li> </ul>	<ul style="list-style-type: none"> <li>• Council to lead by example, set and monitor targets</li> <li>• Ensure a pragmatic approach and carefully consider appropriate species</li> <li>• Provide resources, support and incentives for the community</li> <li>• Diversify the available local tree supply</li> <li>• Greater regulation and enforcement for developers</li> </ul>	<ul style="list-style-type: none"> <li>• Suggestions around different methods of monitoring</li> <li>• Recommendations about the type of data to collect and how it should be used</li> <li>• Considerations for an effective Urban Tree Monitoring Program</li> </ul>	<ul style="list-style-type: none"> <li>• More flexible approach to tree removal and replacement that is site specific</li> <li>• Education and support for the community</li> <li>• Greater enforcement capability coupled with incentives</li> <li>• Foster tree stewardship and pride</li> </ul>

Participants from both focus groups were asked to consider a series of key challenges and opportunities that were identified in the Urban Forest Strategy Background Report and identify actions or approaches to address them. The responses received have been summarised as themes (specific ideas have been listed in the Draft Urban Forest Background Report):

**Question 1:** Participants from both groups were asked *‘How can we support older people and vulnerable residents to manage trees on private property?’*

- Proactive communication and a flexible approach.
- Provision of free tree maintenance services, but mixed views on who should provide theme.
- Improving processes and information. Ideas included:

**Question 2:** Participants from both groups were asked *‘What is the acceptable level of Council regulation of trees and vegetation on private land?’* The feedback received by individual residents in comparison to the community organisation feedback varied.

### Individual resident feedback

A small number in this group cited issues with developers removing trees and the need for better regulations and follow up about new planting requirements, such as ‘enforcing larger minimum surface permeability and minimum of at least one tree per title (of appropriate size)’.

Yet, overall, this group **did not want any further Council regulation on private land** than currently exists: ‘Council has not paid for my property so why do they get so much say in how I use my property?’ and ‘The general pop(ulation) does not appreciate Council involvement on private land.’

A number of participants felt that **some regulation is acceptable** ‘as long as the property owner has some control and there is transparency’ around decision making. They wanted more flexibility to ‘allow for practical solutions’.

In addition some commented that **regulations should be consistent with Council practice**, for example 'Council assesses a tree to stay but on the other hand, the nature strip hardly has any tree', **and what developers are permitted to do**, 'We should not be penalising those that have bigger back yards by making them keep (and keep planting) inappropriate trees while others that subdivide blocks can easily get rid of their trees.'

The majority of participants agreed that Council should **focus canopy growth on public land**, 'Council would get more bang for its buck throwing resources at planting trees on public land' and 'Concentrate planting of canopy trees on public spaces, state schools, cemeteries, public housing vacant lands, car parks'. It was suggested on private land 'the focus shouldn't be solely on tree canopy, but also the garden density or the undergrowth.'

### **Community organisation feedback**

There was strong support and discussion **for greater Council regulation and enforcement around development** to protect, retain and replace trees, 'Council need to push harder to ensure design of development retains more trees' and 'ensure that appropriate space is provided to plant canopy trees and not just minimum landscaping/shrubs.' Suggestions proposed included:

- 'Need to get the balance right – developers need to be prepared to consider a lesser yield in favour of the greening outcome'.
- 'Tree canopy cover is a key element that needs to be integrated with development outcomes'.
- 'Decks and pools should be considered part of the building footprint and not the open space component for planning permits'
- 'Advocate for the removal of the VicSmart provisions'
- 'Increase enforcement and issue appropriate fines for trees being lost in protected areas' (vegetation Protection Overlay)

A popular suggestion was for **Council to put a financial value on trees**, 'put a \$ value on a tree to ensure that the financial element is considered.'

The group commented about the need for **Council's planning and local laws to be strong and aligned**, 'ensure that Planning Scheme and local laws are working together and are more robust, and consistent', **and appropriate for different areas**: 'not a one size fits all, different contexts require different approaches', for example parks, golf courses and schools.

It was also suggested that **incentivising tree retention** was important to complement regulation, 'how can we look at ways to ensure developers are getting what they need, while the environmental and landscape outcomes are being delivered.'

**Community education and communication about the need for trees** was also a strong suggestion, 'Aim to educate from the young upwards about the 'why''. This included 'emphasising appropriate trees in appropriate places', 'celebrating what is happening to encourage others to have an opinion, and 'raising awareness that developers have a responsibility'.

**Question 3:** Participants from both focus groups were asked '*How can we better incentivise tree protection and retention on private property?*' or '*How can we better encourage/achieve compliance with tree plantings on private property?*'

- Education and awareness activities around the benefits of trees.
- Financial incentives, short and long term.

- Ensuring regulation and incentives work together.
- Promote and align the community around a strong blue and green identity for Bayside.
- Council advice and support around planting and maintenance.
- Offer more flexible, tailored policies around tree planting and retention.
- Increasing and encouraging planting on nature strips.

**Question 4:** Participants from the Community Organisation focus group were asked *‘What are the strengths of our many community organisations and how can these be leveraged to increase Bayside’s urban forest?’*

- Education programs with schools and young people.
- Greater Council funding and strategic approach to planting and management.
- Council playing a coordination role between contractors, the Bayside Community Nursery and community organisations.
- Council facilitating community planting days.

Participants from Focus Group 2 (community organisations) were also asked *‘What is the change you would like to see through this Strategy?’*. The responses related to:

- An increased diversity of trees and vegetation
- Greater regulation, accountability, and transparency, particularly for developers
- A focus on more appropriate, native planting
- Greater community awareness, appreciation and commitment with the urban
- Habitat connectivity
- Appropriate rules for private property
- Prioritising protection of existing canopy and mature trees

#### **Other feedback and comments**

During the focus group, participants offered additional feedback and discussion not specifically related to a question, but important to capture to inform the draft Strategy. Key themes included:

- Tree canopy target – some participants commented that the proposed target of 25% tree canopy by 2030 should be more ambitious, citing Melbourne City Council’s target of 40% tree cover by 2040
- Tailored approach to planting by area – some participants commented that tailored plans should be developed broken down beyond suburb level to ensure each local neighbourhood is considered.
- Safety – where dense planting is undertaken it also needs to consider lighting and other related issues to ensure the community feel safe, especially women using the space
- Powerlines – a long-term consideration would be to move powerlines underground.

#### **Summary**

The feedback received from focus group participants indicated an overall support for the increase in tree canopy cover, however the enforcement of this increase and how Council meets this goal was of varying opinions.

Council recognises that regulating tree removal on private property will continue to be a balancing act into the future and throughout the implementation of this Strategy and its actions. The feedback received, especially those in relation to tailoring private property

regulation for different areas and circumstances has been considered by Council and has informed the actions set in this Strategy.

There was much discussion and feedback from the focus groups in relation to the types of financial incentives that Council could provide to enable greater tree retention and maintenance on private property. Council will continue to seek feedback on types of incentives through the broader community engagement period on this Draft Urban Forest Strategy.

The discussions had with both focus groups highlighted the need for a larger focus on community engagement, education, information, and resources. Council has taken this on board and identified 'educate' as a fifth key theme of this Draft Strategy. Through this key theme, Council will focus on how best to educate the community on the benefits of trees and vegetation, what is appropriate to plant and where, and how best to plant, care and maintain trees and vegetation.

## Key Issues and Challenges

This section of the Draft Strategy identifies key challenges to be addressed to ensure Council can increase, diversify, monitor, and maintain the Bayside Urban Forest while educating our community and continuing to foster care for trees across the municipality.

### Environmental Challenges

#### Impacts of climate change

Climate change is the long-term change in average weather patterns due to an increase in carbon in the atmosphere.<sup>4</sup> The impacts of climate change on the tree population are difficult to assess based on the available current data. However, reduced annual rainfall and hotter, drier summers are causing heat stress to many species of trees and vegetation and is assumed to have affected the survival rates of council managed street and park trees. The rate of tree attrition recorded from 2009 – 2019 has indicated that Council's current management of street and park trees needs to be greatly modified to enable the urban forest to provide increased canopy cover in future years, as the climate gets warmer and drier. Already, Council officers have utilised this data to justify and increase the establishment watering for trees each year.

Another impact of climate change on Bayside's tree population is the likelihood of extreme weather events (including heat waves, drought, floods, sea-level rise, and coastal erosion) occurring is forecasted to increase. Trees that are not prone to these extreme weather events will become increasingly sparse. Therefore, planning for the decline of the tree population is important and factoring in the effects of climate change, with heat stress and drought conditions predicted to be significant factors. It is important that Council continues to encourage residents to plant climate resilient trees and vegetation on their property and front nature strips. To support this, the provision of readily accessible information and useful tips on how to best plant these types of trees and vegetation will be of great value.

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<sup>4</sup> NASA, 'Overview: Weather, Global Warming and Climate Change', 2020, available at: <https://climate.nasa.gov/resources/global-warming-vs-climate-change/>

## **Tree Health, Age and Useful life expectancy**

Urban environments can be very impactful on the health and condition of trees.

Council has a reasonable level of trees that are semi-mature (42.5%) and mature (28.5%) that make up the Council managed tree population, and the health of these trees must be retained to ensure they can continue to provide a positive contribution to Bayside.

As aforementioned in this Draft Strategy, approximately 7,799 trees will reach the end of their useful life expectancy over the next 10 years and a total of 51,400 trees by 2040. This will likely result in tree loss and impact the Bayside Urban Forest and habitat. To combat this challenge, Council must undertake a more extensive and diverse tree planting program that is geographically spread and evenly paced in process to allow for a diversity of age and species. A diversity of tree age will allow for a more resilient and healthy urban forest.

## **Species diversity**

A resilient urban forest has a diverse range of species from different families. A limited list of successful species may provide good results in the short term but may result in a vulnerable tree population in the future if a pest or disease attack occurs to one or more of the selected species.

For the Bayside Urban Forest to become more resilient, there needs to be a transition away from the use of the Myrtaceae family in favour of other, less represented 'Australian native' and 'indigenous to the Sandbelt region for South Eastern Melbourne' species. An increase in species diversity across public tree plantings will ensure a range of species are incorporated to minimise the potential of large impacts of losses on Bayside's canopy.

Planting equally resilient trees that can mature and align with the character of streets is continuously strived for by Council and is a challenge previously identified in Council's Tree Selection Guide.

## **Bayside conditions impacting on tree survival**

Each tree's ability to grow to a mature age is impacted by a range of factors including soil conditions, rainfall and water retention, watering schedules, tree maintenance and impacts from climate change and urban heat island effect. Through this Draft Urban Forest Strategy, it is important that Council can recognise and address these factors that impact tree survival in Bayside. Further investigation into the different types of soils prevalent and identifying different tree species that are best suited to these soils will provide the best opportunity to reduce tree attrition rates.

A review of the maintenance program for new public trees should be undertaken to ensure Council is able to increase the survival rates of trees. Already, Council has amended the watering schedules. A review of the program should consider lengthening the current two-year maintenance period from when a tree is planted. It should also consider a lengthened management of trees that are inspected following the end of the maintenance period which appear to be in bad health.



## Development Challenges

### Population and Housing Growth

The City of Bayside Estimated Resident Population for 2021 is 109,376, with a population density of 28.92 persons per hectare. It is forecasted to grow to 128,169 by 2041.<sup>5</sup> With population growth comes housing growth, and the residential development forecasts assumes the number of dwellings in Bayside will increase by an average of 480 dwellings per annum to 53,273 in 2041 with the average household size falling from 2.57 to 2.49 by 2041.<sup>6</sup> This decrease in household size reflects the type of development that has started to occur in Bayside with dual occupancy, townhouse and apartment developments all becoming increasingly popular within and around Bayside's activity centres. Ensuring there is a diverse mix of household sizes in new developments will be important as group households, single-person households and couple households (without dependents) are all forecasted to increase within Bayside.

The *Bayside Housing Strategy* 2019 recognises that housing growth will occur at varying levels of density across the municipality, setting the direction of growth to Bayside's Activity centres, Housing Growth Areas and Strategic Redevelopment Sites.

The continuous increase in housing stock, especially high and medium density developments, has significant implications for Bayside's urban forest and neighbourhood character as various types of developments change the physical and aesthetic landscape of Bayside's suburbs, and contributes to the lack of tree canopy cover. For activity centres and other areas designated for higher density, localised controls are still supporting the provision of canopy trees and vegetation that align with the areas preferred character. However, there is scope for this to be expanded.

Recognising suburbs and activity centres that are most prone to housing growth is important as these locations will likely require more specific mechanisms to ensure the Urban Forest is enhanced, and not detrimentally impacted through development. It is recommended that Council prepare precinct based urban forest plans as a next step to specify actions to increase and diversify tree canopy cover in response to the makeup of private and public land, land uses and zoning designations for each suburb. Actions should be inclusive of and encourage the increased utilisation of green walls and green roofs in these areas as it is recognised that the provision of canopy trees can be challenging.

### Local law permits to remove trees on private land

Under the Local Law, a permit is required for the removal of a tree that is on the Significant Tree Register or a canopy tree that has a single or combined trunk greater than 155 centimetres measured at 1m above ground level. Between 2015 to 2020, there have been 1,537 local law tree removal permits approved, with the highest volume of approvals being in Brighton (437), followed by Brighton East (278), Hampton (217) and Sandringham (209).

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<sup>5</sup> i.d. Consultants, 'City of Bayside Population Forecast', 2016, available here:

<https://forecast.id.com.au/bayside/population-summary>

<sup>6</sup> i.d community, 'Residential Development', 2016, Available at: <https://forecast.id.com.au/bayside/residential-development>

## **Planning permits involving vegetation removal**

There are several mechanisms currently in place within the Bayside Planning Scheme that require a planning permit to be granted for tree removal. These mechanisms include but are not limited to the Vegetation Protection Overlay (VPO), Significant Landscape Overlay (SLO), Heritage Overlay (HO) and Erosion Management Overlay (EMO). In 2020, there were 112 requests for tree removal within the VPO3, 69 of which were approved.

It is difficult to approximate the number of trees removed from private land each year under a planning permit as this is not separately recorded (and one application can be for multiple tree removals), let alone the extent of tree removal that is legal or illegal. Impacts on the health of Council owned street trees due to construction activity from nearby or adjacent property development sites are also contributors to tree loss in Bayside.

## **Trees removed from public land due to vandalism**

Over the years, the Bayside foreshore has been prone to vandalism and has been earmarked as a location for replanting.

Between 2014 and 2019, the percentage of tree removals due to vandalism was recorded as 0.4%. While this is a relatively low figure, the loss it brings comes to a total of 40 trees across Bayside. In an effort to deter vandals, Council has adopted a strong stance on vandalism and has installed signs and advertised on social media platforms an offering of rewards for information when an act of vandalism has occurred.

## **Competing with surrounding infrastructure**

Within an urban environment, tree planting locations can become limited when competing with surrounding infrastructure and assets. Street trees are located alongside public and private assets which include footpaths, roads, fences, overhead powerlines, and underground services. In activity centres, there can also be conflict between the demand for car parking, shop awnings, street lighting and road signage, sight lines to bus stops and more.

These streetscape conflicts also exist outside of Bayside's activity centres and housing growth areas, providing challenges for street trees throughout the entire municipality. While there are management and design techniques that can mitigate most of these issues, it is not always easy, particularly with established trees. Established trees have larger roots that can impact footpaths and roads, creating potential hazards that need to be fixed. While conflicts occur with both new and established trees, Council must aim to minimise these conflicts by ensuring any new tree planting is undertaken appropriately.

## **Social Challenges**

When planning for the expansion of Bayside's Urban Forest, it is important to understand the challenges faced in both geographical areas as well as the population groups experiencing higher levels of vulnerability. Understanding how tree coverage can have both a positive and negative impact on our community is important and is recognised as a challenge within this Draft Strategy.

## **Socio-Economic vulnerability**

Increase in tree canopy cover is proven to mitigate urban heat island impacts, as well as improve mental health and wellbeing, cool the air and reducing the need for active household heating and cooling.

This is of particular importance for financially vulnerable communities who need to keep household costs to a minimum as ability to save money on energy consumption can be attributed to an increase in tree canopy cover, and may be living in a household that has limited private open space, and relies heavily on the surrounding locality for tree canopy cover and all its benefits.

The SEIFA index identifies that Highett and Hampton East have the highest level of disadvantage in Bayside.<sup>7</sup> These two suburbs also rank last and second-last in Bayside for tree canopy cover with Highett having approximately 13.9% and Hampton East having approximately 14.5% coverage in 2018 (Figure 1). It is expected that these suburbs, alongside Bayside's activity centres, schools, hospitals, public housing estates, kindergartens, medical centres and aged care facilities are areas that could benefit from increased tree canopy coverage.

## **Older people, children and people with disabilities and carers**

The largest increase in persons between 2016 and 2026 is forecast to be in ages 75 to 79, which is expected to increase by 1,537<sup>8</sup>. As of 2016, there were 3624 residents over 85 years of age, making up for 3.7% of the Bayside population, which exceeds Greater Melbourne average of 2%<sup>9</sup>. Already, Bayside's aging population has influenced local employment, with Health Care and Social Assistance being the largest employer in the City of Bayside, making up 17.3% of total employment.<sup>10</sup>

More vulnerable members of the community include older people, young children and people with disabilities and their carers. While trees bring many benefits, they can also create challenges for these population groups. Maintenance of trees can be challenging for older people or people living with disabilities. Particularly large trees that overhang private property or within the property that can become hazardous through debris that create trip and slip risks. Aging and/or disability can prevent some residents from being able to manage the debris from trees requiring the use of private gardening services.

Currently, there are limited subsidised services through the aged care system that provide garden and tree maintenance. Bayside has a significant aged population with one of the highest number of people aged over 85 years in Metropolitan Melbourne. Navigating the private system for reputable and affordable garden services is challenging. For those on a limited or low income such as a pension, the use of gardening services at the regularity required to maintain their property to maximise safety as well as independence is not possible. Council provides a limited range of gardening support through its Community

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<sup>7</sup> i.d. Consultants. City of Bayside, Index of Relative Socio-economic Advantage and Disadvantage. Available here: <https://atlas.id.com.au/bayside/maps/seifa-index>

<sup>8</sup> i.d. Consultants, 'City of Bayside Population Forecast', 2016, available here: <https://forecast.id.com.au/bayside/population-summary>

<sup>9</sup> i.d. Consultants, 'City of Bayside Five Year Age Groups', 2016, available here: <https://profile.id.com.au/bayside/five-year-age-groups>

<sup>10</sup> i.d. Consultants, 'City of Bayside Economic Profile', 2016, available here: <http://economy.id.com.au/bayside/employment-census>

Services Department under a specific set of eligibility criteria targeted at those most vulnerable. It is recommended that Council investigate a range of options to support older people and people with a disability to manage the impact of trees on their safety and independence, such as the establishment of a panel of private garden services that would charge a more affordable rate for vulnerable people as well as volunteer support for tree management.

Seeking information regarding tree management can also be challenging for older people and people with a disability. The management of trees is undertaken by a number of departments across Council which can create challenges in the consistency and accuracy of information provided. Information is increasingly available online and or required to be submitted electronically. This creates exclusion for those with limited or no access to the internet. Information should be made available on Council's website, in hard copy and in person at Bayside's Corporate Centre as well as more accessible through the use of plain language.

Older people and people with a disability can also require advocacy support to navigate the required tree management processes. Some vulnerable residents have a limited capacity to participate fully in tree management processes, such as form completion, gathering of evidence, (i.e. arborist reports) and meetings. Council could consider the establishment of an internal tree management committee to ensure that vulnerable residents experiencing an impact from trees are being provided the accurate and timely information in relation to their individual circumstances.

### **Women's safety**

The OECD Better Life Index found that only 61% of Australian women reported feeling safe when walking alone at night in the area where they live, compared to 77% of men.<sup>11</sup> There are a number of elements that contribute to women feeling unsafe including low visibility and lack of passive surveillance from nearby residents and/or other groups. Within streets, Council plants and maintains trees to be clean trunked, so there is no foliage to block sightlines. Trees can contribute to this problem if not managed correctly as they have the potential to block visibility from the street if planted too close together.<sup>12</sup> Tree locations may also provide areas that attackers can use to hide as well as block light on the space. It is vital that these factors, mostly sightlines, are considered when planting trees so that the Bayside community and visitors can feel safe. Increased focus on programs that seek to prevent violence against women also play a role here.

## **Expansion of Urban Forest – Key Directions**

As outlined in this Strategy, identifying opportunities to expand the urban forest can be challenging for a multitude of reasons. This section discusses various opportunities in line with the key principles of Urban Forest strategy to expand the tree canopy cover of Bayside.

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<sup>11</sup> OECD, 'OECD Better Life Index 2020', 2020, available at: <http://www.oecdbetterlifeindex.org/topics/safety/>

<sup>12</sup> Womens Health East, 'Creating Safe and Inclusive Public Spaces for Women', 2020, available at: [https://whe.org.au/wp-content/uploads/sites/3/2020/05/WHE-Creating-Safe-and-Inclusive-Public-Spaces-for-Women-Report\\_Digital.pdf](https://whe.org.au/wp-content/uploads/sites/3/2020/05/WHE-Creating-Safe-and-Inclusive-Public-Spaces-for-Women-Report_Digital.pdf)

## INCREASE

**Objective 1:** *Increasing tree canopy cover to reach 25% across the municipality by 2030.*

Identifying opportunities to plant more trees should be undertaken to increase habitat connectivity, advance neighbourhood character, and ensure the safety of the Bayside community and visitors is not lessened by low visibility, limited lighting, or lack of passive surveillance.

Both public and private land have a role to play in reaching the target and a nuanced approach tailored to the regulatory framework and conditions will be considered.

**Strategy 1.1:** *Consider the individual needs of Bayside's suburbs and ensure that the approach to increasing canopy cover and urban forest outcomes is tailored to the conditions of each area.*

- **Prepare Precinct based Urban Forest Plans to respond to site specific challenges and identify opportunities for increased planting**

In order to increase tree canopy cover across the entire municipality, it is important that Council understands and recognises the key challenges, especially those that are site specific and contributing to low canopy cover within that suburb. A key action of this Strategy will be to prepare precinct based urban forest plans to identify:

- priority areas for increased planting, including hotspots, areas of declining canopy or aging trees, highly trafficked pedestrian routes and gaps/vacancies in public planting;
- areas of significant landscape character,
- potential hotspots and potential habitat/biodiversity corridors across both public and private land.
- Opportunities for boulevard plantings and the creation of improved streetscape outcomes;

Once precinct based urban forest plans have been adopted by Council, a planning scheme amendment will be undertaken to implement these plans and to ensure the appropriate vegetation related controls are in place across Bayside.

- **Undertake strategic justification to amend the current Vegetation Protection Overlay in Beaumaris and Black Rock to strengthen protection of native vegetation and non-native species of existing canopy trees**

Housing growth and the redevelopment of residential properties to allow for larger dwellings on lots is having a negative impact on the Bayside Urban Forest. Whilst there are vegetation protection controls in place within Beaumaris and Black Rock, the removal of vegetation is still occurring at an increasing rate. To ensure both native and non-native vegetation is protected under these planning controls, Council should undertake an investigation to amend the Vegetation Protection Overlay to strengthen this protection.

- **Habitat Connectivity**

Bayside City Council currently manages a combined total of nearly 60,000 trees including more than 45,000 street trees and over 12,700 park trees. Bayside's reserves provide a high level of quality habitat, however this connectivity to other areas in Bayside is limited. Habitat connectivity has been identified as a key issue to address in the *Biodiversity Action Plan* and this involves identifying the suitable



locations in which to prioritise tree and understorey planting. Identifying potential habitat and biodiversity corridors across both public and private land will be further investigated through the preparation of precinct based urban forest plans.

**Strategy 1.2:** *Reframe Council's approach to major capital and infrastructure renewal projects as opportunities to increase urban forestry outcomes.*

- **Increasing tree and vegetation cover through Councils Capital Projects**

Site specific opportunities to scope tree planting in Councils Capital projects like streetscape upgrades and the renewal or development of community buildings and sports clubs can be undertaken to increase tree and vegetation cover in Bayside. These projects provide the best opportunities to increase tree canopy cover and planting new and diverse trees and vegetation should form part of the scope and delivery of these projects.

- **Opportunity for increased tree planting**

Council's contractor (Citywide) maintains a database of identified vacant sites that have become available or alternate sites to replace the trees that have been removed, and this database is used for future tree planting. There are currently 4,023 vacant sites identified in Council's database. This database will continue to be utilised as an 'easy wins' to identifying locations for increased tree planting in Bayside.

Through the preparation of precinct based urban forest plans, Council will identify more locations for new trees by setting priority to areas that have high urban heat vulnerability, low tree canopy cover, declining canopy or aging trees. Highly trafficked pedestrian routes and areas undergoing an increase in development will also be targeted as places for boulevard planting and improved streetscape opportunities.

Through promotion and incentivisation, Council will encourage the increase of tree planting on private land and share information and support on how to best manage and maintain trees.

**Strategy 1.3:** *Through the Bayside Planning Scheme, require development to provide increases to the number of canopy trees provided.*

- **Investigate an Amendment to the Neighbourhood Residential Zone Schedule**

Approximately 83% of the Bayside municipality is within the Neighbourhood Residential Zone. Greater requirements for increased tree canopy cover and retention of existing trees within this zoning designation has the most potential to create significant change to canopy cover on private property.

- **Once finalised and adopted, Council will incorporate the Precinct based Urban Forest Plans**

Where the Precinct plans have identified the need to amend or introduce new controls on a site or suburb specific basis, this will also be incorporated into the Bayside Planning Scheme alongside the Precinct Plans.

- **Incorporating the Bayside Landscape Guidelines in the Bayside Planning Scheme**

Council will update the Bayside Landscaping Guidelines to ensure they provide further guidance on species selection, sizes, and trees suitable for private property and introduce the guidelines into the Bayside Planning.

- **Increasing the ability to protect Significant Trees**

Council will also investigate options to strengthen the protection of Significant Trees through the planning scheme.

- **Encourage the inclusion of Environmentally Sustainable Development**

There are many opportunities to integrate living (green) walls and green roofs in high to medium density developments and the introduction of the State-wide ESD (Environmentally Sustainable Development) provision will assist the integration of ESD in Bayside.

## DIVERSIFY

**Objective 2:** *Create a diverse and healthy urban forest.*

A diverse mix of tree species is important to maintain a healthy and resilient urban forest. As the climate continues to change, it is important to provide a wider range of species that can tolerate harsher climates. A diverse range of tree species will also lessen the urban forests' vulnerability to pests and diseases.

**Strategy 2.1:** *Increase the tree and vegetation canopy cover that is of a diverse range of species across Bayside*

- **Update Council regulation to ensure a diverse range of species are being planted in Bayside**

Currently, Council has two guidelines in place to provide criteria of tree species for planting in Bayside.

- Tree Selection Guide, which applies to Council owned land; and
- Bayside Landscape Guidelines, which applies to private land.

While the current framework for both guidelines is already strong, it is recommended that both documents reflect the need to ensure that diverse species selection is achieved.

- **Increase the utilisation of different species in Councils Public Tree Planting Program**

Council plants approximately 1,400 trees per year in Streets and parks. As the number of trees being planted increases, so should the diversity in species. The public tree planting program provides a great opportunity to increase species diversity, habitat and local character.

While increasing the use of different species is of importance, it is equally imperative to note that in natural areas within Bayside, protection of indigenous flora is and will remain priority. Balancing these priorities will be an important aspect when preparing the Precinct based Urban Forest Plans for each suburb.

## MONITOR

**Objective 3:** *Improve the ability to monitor and track Bayside's urban forest.*

Expanding the Bayside Urban Forest while also ensuring its healthy and resilient status requires an effective and integrated approach across Council. It is important that practices and processes for administration, planning, delivery and knowledge sharing are of high standard and complement Council's ability to accurately monitor the Bayside Urban Forest as it grows and diversifies.

***Strategy 3.1: Improve, implement, and facilitate Council processes and procedures to assist the monitoring of the urban forest***

- **Implementing the Urban Tree Monitoring Project**

Council will continue to develop the Urban Tree Monitoring Project to ensure Council is able to track and measure tree canopy cover across Bayside. The Tool will allow Council to continue monitoring the loss and gain of trees over time, and health of the urban forest as new trees start to develop.

Following the implementation of the Tool, the data collected could expand to identify tree height and species on private property and identify and predict areas that are vulnerable to potential heat island effect.

- **Improving Council's Local Law and Planning Permit data collection**

To ensure Council can retain and look to increase tree and vegetation cover on private property, it is important that Council continue its enforcement and compliance program to ensure that replacement plantings are provided and retained.

Improvements to Council's data collection processes through both local law and planning permits should capture and monitor trends relating to locations and species for removal and ensure that all new replacement plantings are captured spatially and recorded as part of Council's Urban Tree Monitoring Project.

- **Monitoring the health of trees impacted by construction activity**

As development continues to increase, so does the impacts on trees due to construction activity. The number of Council owned street trees that have been indirectly impacted due to construction activity upon nearby or adjacent property development sites is unknown.

Council's ability to retain mature Council managed trees can be strengthened by undertaking a pilot project to observe the health of trees nearby development sites and whether any impacts are attained during the construction phase. The findings of this project would justify any strengthening of Council's asset protection and the application of tree bonds on street trees.

- **Enhancing our enforcement and compliance programs**

Continue Council's enforcement and compliance program for Local Law Tree Removal Permits to ensure that replacement plantings are provided and retained, at the point of completion for new development, and at 2 and 10 years after, with an aim for a minimum of 75% target compliance.

Currently, Council undertakes a landscape audit prior to issuing the Certificate of Occupancy. Similarly to the Local Law enforcement and compliance, Council should investigate the extension of the landscape audit and compliance to also be undertaken at 2 and 10 years after.

**Strategy 3.2:** *Celebrate and promote work undertaken by Council, State Government, Local Government, academics, and professionals.*

- **Knowledge and Data Sharing**

It is important to bring together industry, business, government, academia and individuals, providing tools, resources and networks necessary to reach our shared goal of greener and more climate friendly cities.

Programs that bring peers together to exchange and build knowledge have been and will be important to achieve our shared aspirations for a connected and enhanced urban forest.

## **MAINTAIN**

**Objective 4:** *Maintain our existing canopy cover on private property and avoid further decline.*

Whilst new planting of trees is a key tool to support increased canopy, it will not be sufficient to rely on new plantings alone to be able to meet canopy targets. Ensuring that the existing tree population does not decline will be an important avenue to meet targets and ensuring that Bayside's valued character is protected. In order to ensure that outcomes are delivered across both public and private land, it will be necessary to ensure that private land are delivering positive outcomes in terms of climate, canopy and biodiversity. There are a number of strategies to consider as part of maintaining the 16% canopy cover that currently exists across Bayside.

**Strategy 4.1:** *Ensure the tree removal process is transparent and equitable, and tree removal is a last resort.*

- **Develop a program to support vulnerable residents to assist the maintenance of canopy trees on their property**

There is opportunity to support the pruning and maintenance of these trees and Council should investigate the creation of a volunteer network to be able to support clean-up of debris and leaf litter. Given the aging population, maintenance of trees is expected to be an issue that continues to grow and ensuring that mechanisms are in place to reduce tree removal could be a key outcome from the Strategy.

Providing an advisory service to support residents that are considering whether to cut down trees with options around pruning and maintenance that may avoid the removal of the tree.

- **Provide an advisory service to support residents when considering whether to cut down trees with their options around pruning and maintenance that may avoid removal of the tree.**

Council must act proactively and provide upfront support to property owners that have a large tree on their property. Ensuring that residents have the right information when making a decision to remove a tree is key, and pruning and other maintenance should be considered before removal is proposed. Council could investigate the possibility to introduce a 'Tree Education Officer' to assist those residents that learn more on how to best maintain trees on their property, aiming to increase the education levels in the community about how important trees are in our urban environment.

**Strategy 4.2:** *Enhance Council's ability to retain existing trees on private property through increased regulation of tree removal.*

- **Tree protection and management on Private Property**

The most effective way of regulating tree removal will be through the Planning Scheme, however it will take resources and time to ensure that any changes to the Scheme are justified, before being tested by an independent Planning Panel. The Minister for Planning will make the final decision on any Planning Scheme changes so it will be important to ensure that Council's proposed changes are properly justified and considered.

In the interim, Council will investigate the current local law criteria for tree size requirements for tree removal permits to determine whether this should be varied whilst further planning controls are explored. Any amendment to the local law criteria should first undertake a comparative analysis to other municipalities. If the size requirements were to be amended, it should ensure the assessment of slender trunk trees to increase protection of more diverse species in Bayside.

Council will also update the Bayside Landscape Guidelines to ensure their application to both planning and local law permit applications. A review of the guidelines should also be undertaken to ensure advice on species selection and the outcomes expected on private property is well detailed and provides greater information to support a landscape character assessment, required through Clause 55.03-8.

- **Increasing the number of trees on the Significant Tree Register**

Council will undertake work to increase the number of trees of the Significant Tree Register on both private and public land. To ensure the protection of these trees is maximised, Council will investigate options to include significant trees within the Bayside Planning Scheme.

**Strategy 4.3:** *Support the maintenance and retention of trees on public land.*

- **Increase the survival rates of Council Street and Park trees**

A high proportion of street and park trees planted and have struggled to survive, either during or after their initial period of high maintenance (first 2 years).

Expanding the urban forest and increasing tree canopy coverage will be challenging, especially if high tree attrition continues to occur. If increased tree canopy coverage is to be achieved, the tree population must be increased and maintained at higher numbers and attrition rates of the Council managed tree population must be improved for this to occur.

Council officers will continue its review of the maintenance program for new public trees to ensure Council is able to increase the survival rates of trees. Already, Council has amended the watering schedules for these trees. Through Council infrastructure projects, the utilisation of stormwater to irrigate Council managed trees in streets, parks and reserves, is becoming more common. This is an action identified within the 'Water for Bayside' *Integrated Water Management Plan 2019-2039* which will assist keeping these trees alive for longer while also reducing Councils potable water use.

A review of Councils maintenance program should consider lengthening the current two-year period from when a tree is planted. It should also consider a lengthened



management of trees that are inspected following the end of the maintenance period which appear to be in bad health.

- **Prioritise the retention of tree and vegetation cover through Councils Capital Projects**

There is a need to reframe and place higher value on the retention of trees and vegetation as part of Council Capital projects like streetscape upgrades and the renewal or development of community buildings and sports clubs. By reframing these projects to put the urban forest as the first consideration, it will allow for various forms of capital delivery to be primarily focused on the contribution it can make to the urban ecology through the works. This could be through the siting of a building to have the minimum environmental footprint, or for streetscape renewal works to prioritise the planting of trees, water sensitive infrastructure and other opportunities to improve urban forest outcomes in the public realm.

## EDUCATE

**Objective 5:** *Educate and encourage greater care and protection of the Bayside Urban Forest*

Educating and encouraging greater care and protection of the Bayside Urban Forest is recognised as a key objective that supports Councils ability to both increase tree canopy cover and retain existing tree canopy cover in Bayside. Delivering a resilient and healthy urban forest relies on community acceptance, participation, and awareness. The outcomes from this Strategy are not something that Council can deliver on its own – all Bayside residents will have a role to play in increasing, diversifying and maintaining our urban forest and the role of education and support will continue to grow. Bayside has a strong network of volunteer organisations and can leverage their support to drive change across Bayside.

**Strategy 5.1:** *Increase Council's capacity to provide advice and build community sentiment to tree planting in Bayside*

- **Preparation and Implementation of a Communications and Engagement Strategy targeted to private property and business owners**

Through information sharing, partnering with community groups and through community participation in tree planting on private and public land, the Bayside Urban Forest will flourish. Involving the community in tree planting can provide educational benefits as it can teach the community what needs to be done to ensure trees grow to be healthy and resilient. It can also increase neighbourhood ties, sense of community, and lead to a positive social effect.<sup>13</sup>

Engaging the community in activities such as tree plantings and maintenance can have a great impact on Bayside's tree population. It provides residents with a platform to become involved with Bayside's urban forest while also educating them on the best ways to care for their own trees at home. This will provide Council with a pathway to influence the tree population that exists on private land and help residents maintain

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<sup>13</sup> Plants People Planet, 'The Benefits of Trees for Liveable and Sustainable Communities', 2019, <https://nph.onlinelibrary.wiley.com/doi/full/10.1002/ppp3.39>

their health. Bayside already has a strong network of 'Friends of' groups and community volunteers who carry out tree and vegetation plantings and would be great allies in this work.

Council will encourage landowner participation in greening, particularly for areas identified as having lesser canopy cover. This will be undertaken through a coordinated urban forest communications and engagement strategy that has a focus on education, awareness of the benefits of trees, and participation in increased tree planting through nominated planting days, giveaways, and information seminars.

**Strategy 5.2:** *Continue to build Council's green image and utilise this platform to advocate for greener outcomes*

- **Advocate for greener community infrastructure**

Council should look to partner with State Government to increase tree and vegetation cover on Government owned schools, public housing, cemeteries, VicTrack and VicRoads land.

As the types of land uses that are owned by State Government departments are of varying kinds, any actions to increase tree and vegetation cover will require Council to liaise with relevant agencies to advocate and promote tree planting and greening initiatives. Council has been involved in many conversations with the State Government in relation to various working groups on different projects where the proposal of increased tree canopy cover can be discussed.

**Strategy 5.3:** *Leverage from the strengths of our network of volunteers to support the delivery of community education.*

- **Partnering with our community groups** will allow Council to draw upon our highly engaged network of volunteers to support the delivery of programs and information across our community. There is a range of skills and experience available within these groups that Council can draw upon to promote and educate people on the benefits of a healthy urban forest and the role that they can play.

## Action Plan

The implementation of actions from this Urban Forest Strategy is to be undertaken over a 4-year time frame. The actions of this Draft Strategy should be undertaken to complement the existing Council strategies and policies in place by:

- a) Reviewing the actions of the Biodiversity Action Plan to ensure these have regard to the Climate Emergency Action Plan and the Urban Forest Strategy.
- b) Reviewing relevant policies relating to tree protection and local laws to ensure consistency with the strategic direction and actions from the Urban Forest Strategy.

### Theme 1: INCREASE

Strategic objective: Increase Tree Canopy Cover across the City of Bayside to 25% by 2030			
	Actions	Timeframe	Responsible
1	Adopt an approach where trees are prioritised in planning for Council capital projects (including civil renewal/upgrades)	Quick Win	Project Services
2	Increase the number of trees planted across public land to 2000+ per annum.	Year 2 onwards	Open Space, Recreation and Wellbeing
3	Prepare precinct based urban forest plans to identify: <ul style="list-style-type: none"> <li>a) priority areas for increased planting, including hotspots, areas of declining canopy or aging trees, highly trafficked pedestrian routes and gaps/vacancies in public planting;</li> <li>b) areas of significant landscape character;</li> <li>c) connections to conservation reserves and areas with high biodiversity value/attributes;</li> <li>d) strategic opportunities for the undergrounding of powerlines;</li> <li>e) potential hotspots and potential habitat/biodiversity corridors across both public and private land; and</li> </ul>	Quick win	Urban Strategy

	f) Opportunities for boulevard plantings and the creation of improved streetscape outcomes.		
4	Undertake the strategic justification to amend the current Vegetation Protection Overlay in Beaumaris and Black Rock to strengthen protection of Native Vegetation and non-native species of existing canopy trees	Year 1 onwards	Urban Strategy and Development Services
5	Undertake a planning scheme amendment to implement the Precinct Plans and to ensure the appropriate vegetation related controls are in place across Bayside.	Year 2 onwards	Urban Strategy
6	Undertake a planning scheme amendment to introduce the Bayside Landscape Guidelines into the Bayside Planning Scheme.	Year 2 onwards	Urban Strategy and Development Services
7	Increase the utilisation of green walls and roofs in Activity Centres, particularly where the planting of canopy trees are more constrained or where large walls are significant views from neighbouring properties.	Ongoing	Development Services
8	Ensure new development provides opportunities for canopy tree planting within development sites, including appropriate land set aside for root growth.	Ongoing	Development Services
9	Prepare and implement plans to create conservation reserves for public land at Elsternwick Park Nature Reserve and Highett Grassy Woodland (the former CSIRO site) in Highett.	Ongoing	Urban Strategy, Open Space, Recreation and Wellbeing
10	Identify open space areas that can be rezoned to the Public Conservation and Resource Zone for the purpose of conservation and to promote biodiversity within these areas as Ecological Vegetation Communities.	Year 1 onwards	Urban Strategy and Open Space, Recreation and Wellbeing
11	Investigate opportunities to create new public open space, ensuring that the design of these spaces are contributing to Bayside's urban forest outcomes.	Year 1 onwards	Open Space, Recreation and Wellbeing and Property Services

## Theme 2: DIVERSIFY

Strategic objective: Grow a diverse and healthy urban forest			
	Actions	Timeframe	Responsible
12	Increase species (genus) diversity across public tree plantings to ensure a range of species are incorporated to minimise the potential of large impacts of losses on Bayside's canopy.	Year 1 onwards	Open Space, Recreation and Wellbeing
13	Update the Street and Park Tree Selection Guide to ensure that indigenous plantings and diverse species selection is achieved.	Year 1 onwards	Open Space, Recreation and Wellbeing
14	Undertake a review of the Bayside Landscape guidelines to require greater emphasis on native plantings.	Year 1 onwards	Development Services, Open Space, Recreation and Wellbeing and Amenity Protection
15	Increase the species cover in nature strips by: <ul style="list-style-type: none"> <li>a) Reviewing the appropriate species lists for plantings in nature strips;</li> <li>b) Requiring new development to provide landscaped nature strips as part of landscaping plans, in accordance with relevant nature strip planting policies and guidelines;</li> <li>c) Identifying opportunities for planting of additional trees;</li> <li>d) Having regard to trees/species nearing the end of their useful life;</li> </ul>	Ongoing	Urban Strategy, Development Services, Open Space, Recreation and Wellbeing and Amenity Protection
16	Ensure that new habitat and biodiversity outcomes are building on the direction provided in Council's Biodiversity Action Plan.	Ongoing	Open Space, Recreation and Wellbeing

### Theme 3: MONITOR

Strategic objective: Implement an Urban Tree Monitoring Program which provides an integrated approach to monitoring the urban forest			
	Actions	Timeframe	Responsible
17	<p>Continue to develop the Urban Tree Monitoring Tool to ensure Council can:</p> <ul style="list-style-type: none"> <li>a) Track and measure canopy cover and tree numbers</li> <li>b) Strengthen the model to aim to create modelling and forecasting scenarios</li> <li>c) Aim to expand the software to be able to identify tree height and species in the longer term.</li> <li>d) Aim to embed a heat mapping tool within the model to be able to predict future areas vulnerable to potential urban heat island effect.</li> <li>e) Present the spatial representation of tree species and diversity across Bayside.</li> </ul>	Year 1 onwards	Information Services
18	Develop a health and wellbeing indicator related to trees and the urban forest in future revisions to Council's Municipal Health and Wellbeing Plan.	Year 2 onwards	Open Space, Recreation and Wellbeing
19	<p>Improve Council's data collection processes through its local law permit capture to monitor trends in relation to:</p> <ul style="list-style-type: none"> <li>a) Reasons for tree removal,</li> <li>b) Identify trends and track locations and species for removal.</li> <li>c) Ensure new replacement plantings are captured spatially and recorded into Council's GIS/Urban Tree Monitoring Tool</li> </ul>	Year 1 onwards	Amenity Protection and Information Services
20	<p>Improve Council's data collection processes through planning permit and asset protection capture and monitor trends in relation to:</p> <ul style="list-style-type: none"> <li>a) Reasons for tree removal</li> <li>b) Trends, locations and species for removal</li> </ul>	Year 1 onwards	Development Services and Information Services



	c) The health of trees impacted by construction activity within Tree Protection Zones.		
21	Ensure that the reasons for the removal of public trees are captured and recorded to monitor trends.	Year 1 onwards	Open Space, Recreation and Wellbeing and Information Services
22	Create an Urban Forest Officer position within Council to oversee the delivery of the Urban Forest Strategy projects and embed the changes required to deliver the actions within the organisation.	Year 1 onwards	Urban Strategy
23	Continue Council's enforcement and compliance program to ensure that replacement plantings are provided and retained, at the point of completion for new development, and at 2 and 10 years after. Aim for a minimum of 75% target compliance.	Ongoing	Asset Protection
24	Continue Council's landscape auditing program for landscape plans prior to issuing Certificate of Occupancy. Investigate Council's ability to expand this auditing to undertake an enforcement and compliance program to landscaping plans 2 and 10 years after.	Year 1 onwards	Amenity Protection

## Theme 4: MAINTAIN

**Strategic objective: Retain tree and vegetation cover by strengthening our regulation of tree removal on private property and educating on the benefits of the Bayside Urban Forest**

	<b>Actions</b>	<b>Timeframe</b>	<b>Responsible</b>
25	Review the Local Law tree size requirements for a tree removal permit to capture the assessment of slender trunk trees to increase protection of more diverse species in Bayside.	Year 1 onwards	Asset Protection

26	Appropriately assess planning applications for new development to ensure lighting does not impact conservation areas and is designed to minimise impacts on reserves, whilst ensuring safety is not compromised.	Ongoing	Development Services
27	Investigate options through the Planning Scheme to strengthen protection for trees by: <ul style="list-style-type: none"> <li>• Incorporating the Significant Tree Register within the Bayside Planning Scheme;</li> <li>• Undertaking a review of the types of vegetation that requires a planning permit to be removed (native and exotic);</li> <li>• Exploring the extent of the planning controls related to vegetation removal and whether these are meeting their intended purpose.</li> </ul>	Year 2 onwards	Urban Strategy and Development Services
28	For newly planted Council managed trees, Council should minimise conflicts between these new plantings and the above and below ground infrastructure.	Ongoing	Open Space, Recreation and Wellbeing
29	Update the Landscape Guidelines to: <ul style="list-style-type: none"> <li>• Ensure their application to both planning and local law permit applications;</li> <li>• Provide detailed advice on species selection and the outcomes expected on private property; and</li> <li>• provide greater information to support a landscape character assessment, required through Clause 55.03-8.</li> </ul>	Year 2 onwards	Development Services
30	Minimise the amount of trees and vegetation removed through the redevelopment process, and work with applicants at all stages of the development process to ensure that vegetation is retained wherever possible.	Ongoing	Development Services
31	Review the maintenance program for new public trees to ensure that we are increasing survival rates including post-establishment period inspections.	Ongoing	Open Space, Recreation and Wellbeing
32	Ensure that prioritised planting locations have regard to the risks of decline of canopy trees across Bayside and strengthening biodiversity corridors and habitat links.	Ongoing	Open Space, Recreation and Wellbeing

33	Develop a program to support vulnerable residents to be able to maintain canopy trees that considers:  a) Opportunities to support the pruning and maintenance of trees; b) Creation of volunteer networks to be able to support clean-up of debris and leaf litter.	Year 2 onwards	Community Services
34	Set a minimum target for street and park trees within the 'good' or 'fair' condition	Year 2 onwards	Open Space, Recreation and Wellbeing
35	Provide an advisory service to support residents when considering whether to cut down trees with their options around pruning and maintenance that may avoid removal of the tree.	Year 2 onwards	Asset Protection
36	Ensure new development that provides a landscape plan references the preferred landscape character of an area	Ongoing	Development Services
37	The design of development to be delivered as a Council capital project should encourage the retention of established trees on public land.	Ongoing	Project Services

## Theme 4: EDUCATE

**Strategic objective: Educate and encourage greater care and protection of the Bayside Urban Forest through information sharing, partnering with community groups and through community participation in tree planting on private and public land**

	<b>Actions</b>	<b>Timeframe</b>	<b>Responsible</b>
38	Prepare a Communications and Engagement Strategy targeted to private property owners to:  a) Increase awareness of the role of landscape character in neighbourhoods, and how residents can contribute to and enhance the landscape character of an area; b) Increase awareness of the cost savings and benefits that trees provide; c) Appropriate species selection;	Year 1 onwards	Communications and Engagement

	<ul style="list-style-type: none"> <li>d) Case studies and examples of good practice gardening;</li> <li>e) Understanding the risks, benefits and protections for canopy trees;</li> <li>f) Advice on pruning, maintenance and volunteering opportunities;</li> <li>g) Advice on how to grow the urban forest on residential land;</li> <li>h) The support available to residents to assess whether a tree poses a risk to life or property;</li> <li>i) Minimisation of tree vandalism</li> <li>j) How surfaces can be changed to provide more permeable solutions in gardens and driveways</li> </ul>		
39	Advocate and Partner with the State Government to increase tree and vegetation cover on Government owned schools, public housing, cemeteries, VicTrack and VicRoads land.	Year 1 onwards	Urban Strategy, Open Space, Recreation and Wellbeing, Community Services
40	Partner with community groups to ensure that the objectives from the Urban Forest Strategy are embedded in Council's operating processes and public spaces.	Ongoing	Urban Strategy
41	Advocate to the State government to fund the undergrounding of powerlines in identified priority locations.	Year 3 onwards	Urban Strategy
42	Partner with community groups to support residents to preserve and maintain significant vegetation on private property.	Year 3 onwards	Urban Strategy, Open Space, Recreation and Wellbeing, Community Services



## Appendix 1: Policy Context

### Bayside Council Strategies relating to the Urban Forest Strategy:

State Policy Context	
POLICY	OBJECTIVE
Plan Melbourne 2017-2050	<i>Plan Melbourne 2017-2050</i> is a strategy that identifies key areas of importance for improvement of the Melbourne metropolitan area into the future. Plan Melbourne acknowledges that Melbourne's environment will change along with climate-change, impacting vulnerable demographic groups and challenging natural environments. Protection of natural environments (including trees, groundcover vegetation and ecosystems) and biodiversity are identified as essential to the protection for Melbourne to remain a healthy and productive city.
Living Melbourne: Our Metropolitan Urban Forest Strategy	The <i>Living Melbourne: Our Metropolitan Urban Forest Strategy</i> is a strategy which identifies a common metropolitan vision for an urban forest. The strategy seeks to identify and address a series of challenges that are currently, and projected, to be impacting the viability and health of the urban forest across metropolitan Melbourne. The strategy highlights protection of trees and groundcover vegetation, enhancement of existing environmental assets, collaboration with other stakeholders to plan forest strategies into the future and underpin a broad consensus on what the urban forest should look like.
Bayside Planning Scheme – State Planning Policy Framework	<p>The following Clauses in the Planning Policy Framework relate to the protection and enhance of green spaces, tree canopies and natural ecosystems:</p> <ul style="list-style-type: none"> <li>- Clause 13 – Environmental Risks and Amenity;</li> <li>- Clause 13.01 – Climate Change Impacts;</li> <li>- Clause 13.01-1S – Natural Hazards and Climate Change; and</li> <li>- Clause 13.01-2S – Coastal Inundation and Erosion.</li> </ul>
Council Policy and Framework	
POLICY	OBJECTIVE



Bayside Council Plan 2017-2021	The <i>Bayside Council Plan 2017-2021</i> has identified the improvement of green spaces and working with the community to improve preservation efforts for tree canopy and vegetation across Bayside as key objectives.
Bayside Community Plan 2025	The <i>Bayside Community Plan 2025</i> has identified that improvements to open and green spaces, and the importance of protecting and supporting the natural ecosystem, are key aspirations identified by the community for the future. Residents also indicated their aspiration to protect both mature and established trees, along a stronger enhancement in garden landscapes to protect tree canopies and vegetation.
Bayside Community Vision 2050	The <i>Bayside Community Vision 2050</i> highlights the community's wishes for increased protections for natural ecosystems, trees and vegetation, with the desire to improve the health of natural ecosystems, protect trees and vegetation from climate-change related impacts, and to enhance green spaces for the benefit of the broader community.
<b>Health and Wellbeing</b>	
Wellbeing for all Ages and Abilities Strategy 2017-21	The <i>Bayside Wellbeing for all Ages and Abilities Strategy 2017-21</i> identifies improvements to environmental sustainability through actioning on climate change responsive policies and preserving ecosystems as key objectives to improving the wellbeing of residents across Bayside.
Healthy Ageing Action Plan 2017-2021	The <i>Bayside Healthy Ageing Action Plan 2017-2021</i> identifies outcomes and actions to improve environmental sustainability, and to promote resiliency to extreme weather events. This strategy relates to the Urban Forest Strategy through actions that seek to improve environments and vegetation that can respond to extreme weather events and create environmental resiliency in response to climate change related issues.
<b>Planning and Housing</b>	
Housing Strategy 2019	The <i>Bayside Housing Strategy 2019</i> identifies the key challenges of climate change – including recognition of the urban heat island effect - and sustainable development. The Strategy recognizes sustainable design and inclusion of plants and trees in new developments as key objectives that can improve tree canopy and vegetation cover as well as enhance natural ecosystems.
Neighbourhood Character Review 2011	The <i>Bayside Neighbourhood Character Review 2011</i> identifies the protection and enhancement of street trees and vegetation as key approach to maintain neighbourhood character.

Bayside Planning Scheme – Planning Policy Framework	<p>The <i>Bayside Planning Scheme – Planning Policy Framework</i> identifies the following as key local planning policies relating to the protection and enhance of green spaces, tree canopies and natural ecosystems:</p> <ul style="list-style-type: none"> <li>12.01-1L Protection of Biodiversity; and</li> <li>12.02-1L Protection of Coastal Areas</li> <li>15.01-1L: Urban Design;</li> <li>15.01-2L: Building Design;</li> <li>15.01-3L: Subdivision Design;</li> <li>15.01-5L: Neighbourhood Character;</li> <li>15.02-1L: Energy and Resource Efficiency; and</li> <li>15.03-1L: Heritage Conservation</li> </ul>
<b>Economy and Business Activity</b>	
Retail, Commercial and Employment Strategy 2016	The <i>Bayside Retail, Commercial and Employment Strategy 2016</i> identifies key areas for retention and enhancement of greenspaces (including tree canopies) in the improvement of retail, commercial and employment opportunities across Bayside.
Economic Development Strategy 2014	The <i>Bayside Economic Development Strategy 2014</i> identifies measures relating to addressing climate change and enhancing local livability through concerted efforts to maintain and protect natural resources and ecosystems in the face of economic development.
Bayside Tourism Strategy 2013	The <i>Bayside Tourism Strategy 2013</i> identifies environmental assets critical to the enhancement and promotion of tourism across Bayside, specifically relating to natural assets such as parks and neighbourhood character (specifically trees and vegetation), and emphasises continued efforts to protect, enhance and grow natural elements across Bayside.
<b>Mobility, Access, and Participation</b>	

Integrated Transport Strategy 2018-28	The <i>Bayside Integrated Transport Strategy 2018-28</i> identifies key areas relating to transport, specifically emphasising the need to address climate change, and the promotion of transport methods that reduce the impact on the environment.
Bayside Walking Strategy 2015	The <i>Bayside Walking Strategy 2015</i> identifies the protection and enhancement of natural assets such as trees, groundcover vegetation and significant ecosystems, to aid in the promotion of walking and create natural environments that influence sustainable methods of exercise and travel.
<b>Environment, Sustainability and Public Spaces</b>	
Bayside Climate Emergency Action Plan 2020-25	The <i>Bayside Climate Emergency Action Plan 2020-25</i> prioritises addressing climate change through measures that increase tree canopies, protect groundcover vegetation, and emphasis the importance of strong and healthy ecosystems that can aid in the responses to climate change and its effects. A Theme of the action plan seeks to address the finalisation and implementation of the Urban Forest Strategy, with goals to minimise the effects of the urban heat island effect, increasing tree canopy and strengthening ecosystems.
Environmental Sustainability Framework Action Plan 2019-23	The <i>Bayside Environmental Sustainability Framework Action Plan 2019-23</i> identifies actions to prioritise environmental sustainability, with the aim to maintain and enhance environmental assets, protect existing vegetation and natural assets, and grow tree canopies and groundcover vegetation.
Bayside Biodiversity Action Plan 2018-2027	The <i>Bayside Biodiversity Action Plan 2018-2027</i> identifies the need to protect and enhance the biodiversity of green spaces across Bayside, with particular attention to the diversity of trees in public environments, enhancement of groundcover vegetation species and promotion of strong and healthy ecosystems that can adapt to the changing environment in the face of climate change.
Bayside Coastal Management Plan 2014	The <i>Bayside Coastal Management Plan 2014</i> identifies environmental issues relating to the coastal areas of Bayside, highlighting the need for continued protections of coastal tree and groundcover species, and the enhancement of green spaces to adapt to continued coastal challenges, and climate change.
Open Space Strategy 2012	The <i>Bayside Open Space Strategy 2012</i> outlines key policy responses on how open spaces can be improved across Bayside, with the protection of green spaces (inclusive of trees and ground cover vegetation) highlighted as a key component of protecting and enhancing open space across Bayside.

Bayside Tree Strategy	The <i>Bayside Tree Strategy</i> defines key issues currently facing trees across Bayside, with climate change, insufficient growth space and natural characteristics (disease, insects, etc.) being significant contributing factors to the health and sustainability of tree coverage across Bayside.
Sustainability Infrastructure Policy 2017	The <i>Bayside Sustainability Infrastructure Policy 2017</i> sets out Council's commitment and approach to Environmentally Sustainable Design (ESD) principles in the design, construction, operation and maintenance of Council owned/managed infrastructure. This includes objectives around urban ecology such as the protection of existing canopy trees and guidelines around landscaping and plant selections.

## Appendix 2: Glossary

**Biodiversity:** ‘all components of the living world: the number and variety of plants, animals and other living things (including fungi and micro-organisms) across our land, rivers, coast, and ocean. It includes the diversity of their genetic information, the habitats and ecosystems within which they live, and their connections with other life forms and the natural world’.<sup>14</sup>

**Canopy cover** is the layer formed by the branches and crowns of plants or **trees**. The **cover** can be continuous, as in primary forests, or discontinuous - with gaps as in an urban area. Canopy is defined in Living Melbourne as vegetation above three metres in height <sup>15</sup>

**Canopy tree** - A tree which has, or at maturity is likely to have, sufficient height and canopy characteristics to make a positive contribution to local amenity, sense of place, microclimate and/or biodiversity. Minimum 8 x 4 metres.

**Climate change** refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer.<sup>16</sup>

**Climate change adaptation** is the process of adjustment to actual or expected climate and its effects.<sup>17</sup>

**Climate change mitigation** is the human intervention to reduce the sources or enhance the sinks of greenhouse gases.<sup>17</sup>

**Climate Emergency** refers to the catastrophic changes to the climate brought about by human activity that poses a dangerous threat to all life on the planet.<sup>17</sup>

**Environmentally Sustainable Development:** using, conserving and enhancing the community’s resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.<sup>18</sup>

**General Residential Zone (GRZ)** is applied to land in areas where growth and housing diversity is anticipated. It is expected that the type of housing provided will evolve over time to provide more diverse forms of housing, but not at the expense of existing open garden character.<sup>19</sup>

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<sup>14</sup> The State of Victoria Department of Environment, Land, Water and Planning, ‘Protecting Victoria’s Environment – Biodiversity 2037’, 2017, Available at <https://www.environment.vic.gov.au/biodiversity/biodiversity-plan>

<sup>15</sup> CID Bio-Science, ‘Forest and Plant Canopy Analysis – Tools and Methods’, 2019, Available at <https://cid-inc.com/blog/forest-plant-canopy-analysis-tools-methods/>

<sup>16</sup> Definition has been sourced from ‘Bayside’s Climate Emergency Action Plan 2020-2025 – Glossary’, 2019, Available at [https://www.bayside.vic.gov.au/sites/default/files/sustainability\\_and\\_environment/climate\\_emergency\\_action\\_plan\\_v1.2\\_140920\\_for\\_web.pdf](https://www.bayside.vic.gov.au/sites/default/files/sustainability_and_environment/climate_emergency_action_plan_v1.2_140920_for_web.pdf)

<sup>17</sup> Department of Health and Human Services, ‘Arboricultural Assessment Holland Court, Flemington– 3.7 Useful Life Expectancy(ULE)’, 2017, available at [https://www.planning.vic.gov.au/\\_data/assets/pdf\\_file/0011/105500/SHRP-SH1-15.a.-Tree-Logic-Rpt\\_Holland-Court,-Flemington.pdf](https://www.planning.vic.gov.au/_data/assets/pdf_file/0011/105500/SHRP-SH1-15.a.-Tree-Logic-Rpt_Holland-Court,-Flemington.pdf)

<sup>18</sup> SDAPP Fact Sheet by IMAP, available at: <https://www.bayside.vic.gov.au/sustainable-design>

<sup>19</sup> Victorian Planning Authority, ‘Reformed Residential Zones – General Residential Zone’, 2017, Available at [https://www.planning.vic.gov.au/\\_data/assets/pdf\\_file/0023/103865/General-Residential-Zone.pdf](https://www.planning.vic.gov.au/_data/assets/pdf_file/0023/103865/General-Residential-Zone.pdf)

**Habitat** - All the physical and biological things that collectively make up the place where a plant or animal lives.<sup>20</sup>

**Habitat Corridor** - A habitat corridor is a linear two-dimensional landscape element that differs from the surrounding vegetation, in both vegetation structure and form, and connects two or more patches, of otherwise isolated, habitat that have been connected in historical time, this is meant to function as a conduit for both plants and animals.<sup>21</sup>

**Heat Vulnerability Index** – The heat vulnerability index (HVI) is represented by a scale of 1 to 5 based on quintiles, with 1 representing low exposure, low sensitivity or high adaptive capacity and 5 representing high exposure, high sensitivity or low adaptive capacity. We integrated indicators of heat vulnerability to calculate a Heat Vulnerability Index (HVI) at SA1 level. The index consists of three component layers: heat exposure, sensitivity to heat, and adaptive capability. Integration was accomplished by summing the scores from the three vulnerability components, dividing the SA1s into quintiles, and attributing SA1s with a Heat Vulnerability Rating scaled from 1 to 5.<sup>22</sup>

**Neighbourhood Residential Zone (NRZ)** is applied to land that has been identified as having specific neighbourhood, heritage, environmental or landscape character values that distinguish the land from other parts of the municipality or surrounding area.<sup>23</sup>

**Permeability** - The readiness with which a surface, whether man-made (such as a paved road) or natural (such as soil or rock) allows water, air or plant roots to penetrate or pass through.<sup>24</sup>

**Residential Growth Zone (RGZ)** is considered a substantial change area where medium density housing growth and diversity of housing types is encouraged for example townhouses and apartments around activity centres and close to train stations.<sup>25</sup>

**Resilience:** the capacity of individuals, institutions, businesses and systems within a city to adapt, survive and thrive no matter what kind of chronic stresses and acute shocks they experience.<sup>17</sup>

**SEIFA:** Socio-Economic Indexes for Areas (SEIFA) measures the relative level of socio-economic disadvantage and/or advantage based on a range of Census characteristics.<sup>26</sup>

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<sup>20</sup> Resilient Melbourne and The Nature Conservancy, 'Living Melbourne – Our metropolitan Urban Forest', 2019, Available at [https://resilientmelbourne.com.au/wp-content/uploads/2019/05/LivingMelbourne\\_Strategy\\_online.pdf](https://resilientmelbourne.com.au/wp-content/uploads/2019/05/LivingMelbourne_Strategy_online.pdf)

<sup>21</sup> Definition as used in 'Corridors for Habitat and Biodiversity Conservation in the Act with Links to the Region' from 'The theory of wildlife corridor capability – in Nature Conservation 2: The role of corridors', 1991 by Soulé, M. E. and M. E. Gilpin, Available at [https://www.parliament.act.gov.au/\\_data/assets/pdf\\_file/0008/381077/PE\\_06\\_Environment\\_attach.pdf](https://www.parliament.act.gov.au/_data/assets/pdf_file/0008/381077/PE_06_Environment_attach.pdf)

<sup>22</sup> Department of Environment, Land, Water and Planning, Victorian Government 'Urban Vegetation, Urban Heat Islands and Heat Vulnerability Assessment in Melbourne, 2018', Available at [https://www.planning.vic.gov.au/\\_data/assets/pdf\\_file/0018/440181/UHI-and-HVI2018\\_Report\\_v1.pdf](https://www.planning.vic.gov.au/_data/assets/pdf_file/0018/440181/UHI-and-HVI2018_Report_v1.pdf)

<sup>23</sup> Victorian Planning Authority, 'Using the residential zones – Planning Practice Note 91, Clause 32.09', 2019, Available at [https://www.planning.vic.gov.au/\\_data/assets/pdf\\_file/0033/445389/PPN91-Using-the-residential-zones.pdf](https://www.planning.vic.gov.au/_data/assets/pdf_file/0033/445389/PPN91-Using-the-residential-zones.pdf)

<sup>24</sup> DELWP, 'Land for Wildlife' available at: <https://www.wildlife.vic.gov.au/protecting-wildlife/land-for-wildlife>

<sup>25</sup> Victorian Planning Authority website, 'Frequently Asked Questions – What is a Residential Growth Zone (RGZ)', 2017, Available at <https://vpa.vic.gov.au/faq/berwick-residential-growth-zone-rgz/>

<sup>26</sup> Id community, 'Demographic Resources', Available at <https://profile.id.com.au/bayside/seifa-disadvantage-small-area?WebID=10>



**Senescence** - Senescence is the process by which cells irreversibly stop dividing and enter a state of permanent growth arrest without undergoing cell death.<sup>27</sup>

**Significant Landscape Overlay (SLO)** - The Significant Landscape Overlay (SLO) is the most appropriate planning scheme tool for protecting and managing significant landscapes. Its purpose is to identify significant landscapes, and conserve and enhance their character. The SLO can require a permit to construct a building or construct or carry out works, construct a fence, and remove, destroy or lop any vegetation.<sup>28</sup>

**Significant Tree** - Some trees, through age, size, and rarity of planting or association with historical events achieve a higher level of importance on private or public land. identifies the following the categories used to define significant trees as scientific, social, historic, and aesthetic.<sup>29</sup>

**Tree Canopy** - The uppermost trees or branches of trees in a forest, forming an almost continuous layer of foliage. The topmost layer of bioactivity in a forest setting.<sup>24</sup>

**Urban Forest** - All of the trees and other vegetation – and the soil and water that support them. Urban forest incorporates vegetation in streets, parks, gardens, plazas, campuses, river and creek embankments, wetlands, railway corridors, community gardens, green walls, balconies and roofs.<sup>24</sup>

**Urban Heat Island Effect** - The phenomenon of dense urban areas having significantly warmer air and land surface temperatures than surrounding rural areas.<sup>24</sup>

**Useful Life Expectancy (ULE)** - Assessment of useful life expectancy provides an indication of health and tree appropriateness and involves an estimate of how long a tree is likely to remain in the landscape based on species, stage of life (cycle), health, amenity, environmental services contribution, conflicts with adjacent infrastructure and risk to the community. It is not a measure of the biological life of the tree within the natural range of the species. It is more a measure of the health status and the tree's positive contribution to the urban landscape.<sup>30</sup>

**Vegetation Protection Overlay (VPO)** - The VPO focuses on the protection of significant vegetation, including native and introduced vegetation in urban environments. The overlay can be applied to individual trees, groups of trees or areas of significant vegetation. It requires a landowner to obtain a permit to remove, destroy or lop any vegetation specified in a schedule to the overlay subject to a list of exemptions. Some of those exemptions apply to

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<sup>27</sup> CSIRO Linked Data Registry, 'Definition of Senescence', Available at <http://registry.it.csiro.au/def/keyword/nature/subjects/senescence>

<sup>28</sup> Victorian Planning Authority, 'DPCD South West Victoria Landscape Assessment Study – Regional Overview Report', 2013, Available at [https://www.planning.vic.gov.au/\\_data/assets/pdf\\_file/0023/94820/ROR-Chapter-5-Implementation-Part-2.pdf](https://www.planning.vic.gov.au/_data/assets/pdf_file/0023/94820/ROR-Chapter-5-Implementation-Part-2.pdf)

<sup>29</sup> Bayside City Council, 'Significant Tree Management Policy 2020', 2020, Available at [https://www.bayside.vic.gov.au/sites/default/files/trees\\_parks\\_and\\_beaches/significant\\_tree\\_management\\_policy\\_2020.pdf](https://www.bayside.vic.gov.au/sites/default/files/trees_parks_and_beaches/significant_tree_management_policy_2020.pdf)

<sup>30</sup> Department of Health and Human Services, 'Arboricultural Assessment Holland Court, Flemington– 3.7 Useful Life Expectancy(ULE)', 2017, Available at [https://www.planning.vic.gov.au/\\_data/assets/pdf\\_file/0011/105500/SHRP-SH1-15.a.-Tree-Logic-Rpt\\_Holland-Court,-Flemington.pdf](https://www.planning.vic.gov.au/_data/assets/pdf_file/0011/105500/SHRP-SH1-15.a.-Tree-Logic-Rpt_Holland-Court,-Flemington.pdf)

particular types of vegetation and others apply to specific situations, for example, to clear vegetation from electricity lines and to ensure emergency access.<sup>31</sup>

**Vulnerability** – Exposure to contingencies and stress, and the difficulty in coping with them. This can apply to ecosystems, trees, people and places.<sup>32</sup>

**Water Sensitive Urban Design (WSUD)** is a more sustainable approach to urban planning and design to make use of stormwater and reduce the harm it causes to our natural waterways.<sup>33</sup>

## Appendix 3: Methodology & Stakeholders

The Draft Urban Forest Strategy assesses the level of tree canopy cover across the Bayside municipality to determine whether there are varying levels of change across different locations and land types, and to address the issues that are affecting Bayside's urban forest, and changes in canopy cover that have been observed through analysis. This was undertaken by preparing and utilising the following data and research:

- Tree canopy data has been utilised from the State Government's aerial imagery and has been analysed by Council's GIS (Geographical Information System) to determine an approximate level of tree and vegetation canopy cover per suburb.
- Council's tree planting and removal data reveals a number of different data sets that have helped inform key topics such as tree selection and species diversity, tree health and age, and planting attrition rates.
- Planning permit analysis which has assisted in understanding the key trends in terms of tree removal in the Vegetation Protection Overlay Schedule 3.
- Local Law tree removal application process which has provided insights into the number of permits approved each year, and tree replanting that subsequently occurs.

### **Key stakeholders**

This Draft Urban Forest Strategy has been created with the assistance and input from the following units within Council:

#### **Urban Strategy**

The Urban Strategy team prepares and implements strategies and plans to guide Bayside's urban landscape. The team has developed this strategy, with the assistance of the key internal stakeholders listed below.

#### **Development Services**

Development Services have been responsible for implementing Council's decision making in relation to development and tree removal through planning permits. There are several planning ordinances and overlays within the Bayside Planning Scheme related to vegetation protection including the Heritage Overlay, Significant Landscape Overlay and Vegetation Protection Overlay. The Development Services Team assisted in the preparation of this

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<sup>31</sup> Victorian Law Reform Commission, '4. Planning law and regulation affecting trees on private land - Vegetation Protection Overlay, Available at <https://lawreform.vic.gov.au/content/introduction-34>

<sup>32</sup> GreenFacts, 'Vulnerability (in ecosystems), available at: <https://www.greenfacts.org/glossary/tuv/vulnerability-ecosystems.htm>

<sup>33</sup> Melbourne Water, 'Introduction to WSUD', available at: <https://www.melbournewater.com.au/building-and-works/stormwater-management/introduction-wsud>

strategy by providing Planning Permit data on tree and vegetation removal. This was broken down into the number of applications that were refused and approved over recent years.

### **Amenity Protection**

The Amenity Protection team assist in the regulation of Local Law policy, specifically neighbourhood amenity. The team has assisted in the preparation of this strategy by providing data on Local Law tree removal applications and the number of applications that have been refused and approved over recent years.

### **Open Space, Recreation and Wellbeing**

The Open Space team is responsible for the development and implementation of the Biodiversity Action Plan and works alongside Council's contractor CityWide who undertakes tree planting, maintenance and removal. The team also undertakes masterplan works at parks and reserves and identifies opportunities for tree planting and habitat connectivity.

### **Sustainability and Transport**

The Sustainability and Transport team has developed the Climate Emergency Action Plan 2020. This Plan identifies the actions Council will take to respond to the Climate Emergency and support our local community to take action to reduce their impact on the environment. A key action identified in the Action Plan is the implementation of Bayside's Urban Forest Strategy by 2025.

### **Community Services**

The Community Services Team provides a comprehensive and integrated range of assistance to support Bayside residents who are experiencing vulnerability to connect them with the specialist services that they require. The Community Services team regularly responds to issues regarding tree maintenance and removal on or near private property where the owner has limited mobility and/or has been impacted upon by a tree. The team's input and ability to share the experience of vulnerable residents has identified the need to expand our assistance and support in relation to this issue.

### **IT (GIS Specialist)**

The GIS team has assisted the development of this strategy by preparing and providing maps which display the tree and vegetation canopy cover for Bayside. The GIS team has also implemented data from council's contractor, CityWide which has allowed Council to identify tree health, age, species diversity, useful life expectancy and vacant tree sites in Bayside.

This Draft Strategy assesses the level of tree canopy cover across the Bayside municipality to determine whether there are varying levels of change across different locations and land types, and to address the issues that are affecting Bayside's urban forest, and changes in canopy cover that have been observed through analysis. This was undertaken by preparing and utilising the following data and research:

- Tree canopy data has been utilised from the State Government's aerial imagery and has been analysed by Council's GIS (Geographical Information System) to determine an approximate level of tree and vegetation canopy cover per suburb.

- Council's tree planting and removal data reveals a number of different data sets that have helped inform key topics such as tree selection and species diversity, tree health and age, and planting attrition rates.
- Planning permit analysis which has assisted in understanding the key trends in terms of tree removal in the Vegetation Protection Overlay Schedule 3.
- Local Law tree removal application process which has provided insights into the number of permits approved each year, and tree replanting that subsequently occurs.
- There has been internal consultation with various stakeholders within Council on the key issues that have emerged during the creation of this report.