



Urban Forest Strategy 2040
Developing Evidence Based Targets.
Information from Community Workshops

Version	Date	Authors	For
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1. Setting Urban Forest Targets

City of Port Phillip is currently updating its Urban Forest Strategy in two phases.

- The first stage (March – October 2023) developed the vision and strategic directions.
- The second stage (July 2023 – April 2024) is developing the targets, action, implementation and evaluation plan.

With some astute consideration and planning from the outset, developing targets to track the **quantity** and **quality** of progress towards our vision can support adaptive management, bolster high-level support, and minimise unexpected costs, waste and distractions from on-ground delivery.

Urban forest targets¹ are commonly used to set a specific ambition for more urban trees and greening. The most commonly used targets are for percentage canopy cover and number of trees planted, but there is a growing global trend towards targets that are outcome-based (eg. equal access, health & wellbeing, active transport) or specific to land use types (residential, commercial) or tenures (public and private).

This process involves the gathering, analysis and testing of data from a range of sources to create a practical and impactful strategy that has evidence based targets. Alongside comprehensive community engagement, a suite of existing and new reports provides the evidence base for the development of the urban forest strategy. Information includes:

- Background and Benchmarking Report 2023²
- Tree Ledger Report 2012 – 2022
- Protecting Vegetation in the Private Realm Report 2022
- Biodiversity Study Discussion Paper 2020

This information has enabled us to identify gaps, opportunities and develop proposed new targets, in step 3 of the process outlined in Figure 1 below.

As part of the development of the Urban Forest Strategy we will continue to collect data to inform the final document. Key actions will also look to enhance our future data collection. Therefore this report is a point in time record of the rationale and baseline evidence used to develop the high level draft targets for the draft Strategy.



Figure 1. Process of integrating indicators and targets with policy and practice³.

¹ An indicator is a measure of something (eg. canopy cover), but a target is a numerical objective of the desired performance of that indicator (eg. increase tree canopy cover over the City of Port Phillip to 30% by 2040). To be effective, targets should be SMART – specific, measurable, attainable, relevant, and time bound.

² For ease of reading, this report repeats some target setting content from the *Background and Benchmarking Report 2023*

³ Adapted from the Connecting Nature Impact Assessment Framework (2021) *Framework Programme of the European Union Grant Agreement*

1.1. Our 2040 vision

In the City of Port Phillip,

urban greening is healthy and abundant, biodiversity is valued and supported, and nature connects community.

1.2. Our shared principles

Collectively with Council, community and industry partners:

1. We work **together** to value, protect, grow and care for healthy and sustainable greening everywhere.
2. We retain first, respecting established character, and adapt by adding more **resilient** plant species where they are most needed to reduce heat and flood vulnerabilities.
3. We prioritise **biodiversity**, supporting healthy ecosystems and creating habitat.
4. We invest in **thriving integrated** urban greening in streetscapes, buildings, parks and gardens.
5. We value the urban forest as a long-term asset that is critical to the health and wellbeing of our community and to our City's character and function, through **quality** design, construction and maintenance.

1.3. Draft targets and current baselines

These are the current proposed targets and baselines which will be refined as we develop the draft action, implementation and monitoring plan. The rest of this report includes detail on their rationale.

P1 Together - Canopy Cover	<ul style="list-style-type: none">Net increase of canopy coverage overall and in each neighbourhood and private land. Towards 30% on streets (more analysis required)Baseline: 17.17% overall and neighbourhood breakdowns Albert Park / Middle Park, 14%, Balaclava / St Kilda East, 20%, Elwood / Ripponlea, 25%, Montague, 8%, Port Melbourne, 16%, Sandridge / Wirraway, 8%, South Melbourne, 18%, St Kilda / St Kilda West, 19%, St Kilda Road, 16%.
P1 Together - Community led initiatives	<ul style="list-style-type: none">Target: Increase number and support of community led urban greening initiativesBaseline: 15 Friends Of and environmental groups, 5 community gardens, 7 public space plots, the Ecocentre and WestGate Biodiversity
P2 Resilient - Species diversity	<ul style="list-style-type: none">Target: No more than (5% - 10%) of a single species, 10% of a single genus and 35% of a single family.Baseline: 9% of a single species, 10% of a single genus and 31% of a single family
P3 Biodiversity - Ecologically diverse spaces	<ul style="list-style-type: none">Target: Net increase in ecologically diverse spaces across Port PhillipBaseline: 20 native vegetation sites and 6 remnant indigenous flora sites
P4 Integrated - Greening where it is needed most	<ul style="list-style-type: none">Target: Increase tree planting along key pedestrian routes and around public transport stopsTarget: 50% canopy coverage in parks and reserves (non-sports field areas)Baseline pending analysis of greening along public and active transport routes, parks and reserves (non-sports fields)
P5 Quality - Tree health	<ul style="list-style-type: none">Target: 90% trees healthy by 2035Baseline pending updated tree health audit results in 2024

Figure 2. Draft Targets and Baselines

2. Community engagement findings on canopy cover

Support for ambitious tree canopy targets

At the market pop-up consultations, 67.3% (of 202 participants) said Port Phillip is not green enough, and in the survey 93.5% (of 107 participants) supported increasing tree canopy across Port Phillip.

Most survey participants (66.4% of 107) supported an ambitious tree canopy target of *around 40% to 50% throughout the municipality* (currently it's 17.7%).

While all proposals were supported to achieve this, the top three actions most strongly supported (of 117 survey participants) were:

- 99.1% - Advocacy or joint projects to plant trees and green along state government roads
- 97.4% - Council property: Finding more space to plant more biodiverse areas in parks and reserves
- 94.7% - Private property: Strengthening vegetation requirements in new developments

The three actions that were supported, but to a lesser extent, were:

- 81.7% - Council property: Removing some on street car parking spaces to plant street trees
- 87.5% - Private property: Strengthening tree protection regulations and compliance
- 91.1% - Private property: Offering incentives to private landowners to keep trees

It is clear from this feedback there is appetite for ambitious canopy cover target.

In developing evidence based targets the canopy has been assessed to see what's possible, what we could do, and where we need to do more analysis. Section 4.1 in particular sets out this assessment work and discussion.

3. Target setting considerations

When setting practical and evidence based targets, there are a number of important considerations⁴:

- **Aligned** – Align targets with those in existing strategies (from local to global, where relevant).
- **Strategic** – Be clear on why the target is being set, with a clear link between strategic objectives and the selected indicators (only measure progress towards your desired goal).
- **A realistic stretch** – Balance the local context (including the baseline and constraints) with the desired outcomes and ambition (see more on this below).
- **Compelling** – Set indicators and targets that are easily understood and can be used to inform, engage and inspire stakeholders.
- **Transferable** – Gather indicator data that is useful for multiple purposes, including adaptive management that prioritises action and investment where it is needed most.
- **Cost-effective** – Be pragmatic and practical by only setting targets that can be measured using data that is already collected, or that can be collected in a cost-effective manner (including cost of staff time).
- **Credible** – Use indicators, targets and data collection methods that are widely accepted and supported by scientists and experts.
- **Long and short-term** – Balance indicators with long and short timescales (eg. canopy cover and tree planting).
- **SMART targets** – Specific, measurable, attainable, relevant, and time bound.

Baseline Data

Every quantifiable goal needs a baseline so we can measure our progress from an agreed starting point. If we don't have baseline data, a best guess target could be set, with gathering of baseline data assigned as an early action in the monitoring plan.

Existing Targets

Currently there are a range of targets set for greening and the urban forest across Council.

- *Greening Port Phillip Street Tree Planting Program 2017-2022*
- *Places for People: Public Space Strategy 2022-2032*
- *Act and Adapt: Sustainable Environment Strategy 2018-2028*
- *Move, Connect Live: Integrated Transport Strategy 2018-2028*
- *Council Plan 2021-31*

As the Urban Forest Strategy will be the lead document relating to urban greening and using new mapping data it is proposed that a set of new targets that will replace targets in all other strategies and plans, establishing a consistent suite. The targets will then be used to inform the development of Urban Forest Strategy actions, funding allocation, capital works programs and service delivery.

⁴ Inspired by European Commission, (2021) Evaluating the impact of nature-based solutions: A handbook for practitioners, accessed at https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/evaluating-impact-nature-based-solutions-handbook-practitioners-2021-05-06_en

4. Evidence base for target setting

The drafted targets have been nested to align under the five strategic principles.

The following sections outline each of the five strategic principles, discussion of potential targets related to it and existing baseline data if available.

4.1. Principle 1: Together

We work **together** to value, protect, grow and care for healthy and sustainable greening everywhere.

4.1.1. Canopy and green cover

The percentage of land covered by tree canopies (canopy cover) is the most used metric in urban greening strategies. Urban tree canopy is ideal for goal setting because it can represent the complex distribution and benefits of an urban forest within a single, simple metric⁵. It is readily assessed and tracked, easily communicated, and very persuasive.

It can also be broken down into specific, context-based targets, such as neighbourhoods, land tenure (public or private) and land type (roads vs open space). This can help to guide formulation of specific policies and projects that deliver appropriate and realistic outcomes for the different contexts.

Australian researchers Profs. Astell-Burt and Feng have found in numerous studies that a canopy cover of at least 30% resulted in higher health benefits (sleep patterns, mental health and overall health)⁶. Meanwhile, Ziter et al. (2019) found that local tree canopy should be at least 40% before substantial cooling effects are noted⁷.

Current canopy cover

Detailed canopy analysis was undertaken in 2023, using 2022 high definition aerial photography. The analysis measured tree canopy cover on roads, public land (parks and reserves, excluding Albert Park⁸), and private land. Results of this analysis are summarised in Figure 2.

In 2022, 17.17% of Port Phillip was covered by canopy from trees that are greater than 3 metres in height. Tree canopy cover is not evenly spread across the city. There is a general north west to south east transition from 8% through to 25%.

Overall, roads in Port Phillip have a canopy cover of about 26%, well above the average for inner city Melbourne, making street trees a fantastic asset of the city. Roads in Port Phillip make up about 27% of the total land area, and contribute about 44% of total canopy cover. By contrast, private land, which Council has far less control and influence over, there are no sections above 20% current cover.

On public land (parks and reserves, excluding Albert Park), canopy cover is less than streets. It ranges from 4% in Montague through to 31% in Balaclava/St Kilda East. There is certainly more disparity and room for improvement, but this includes sporting ovals and council buildings and the type and size of public space varies across the city.

⁵ Canopy cover is easy to track, but when setting targets, be aware that absolute canopy change is made up of gain (trees planted, natural regeneration, existing tree canopy growth), minus loss (trees removed for development or risk management, natural mortality, and maintenance reductions).

⁶ Astell-Burt and Feng (2019) *Association of Urban Green Space with Mental Health and General Health Among Adults in Australia*, *AMA Netw Open*;2(7):e198209

⁷ Ziter et al. (2019) *Scale-dependent interactions between tree canopy cover and impervious surfaces reduce daytime urban heat during summer*, *PNAS* vol116, n15

⁸ Albert Park is managed by Parks Victoria, not Council.

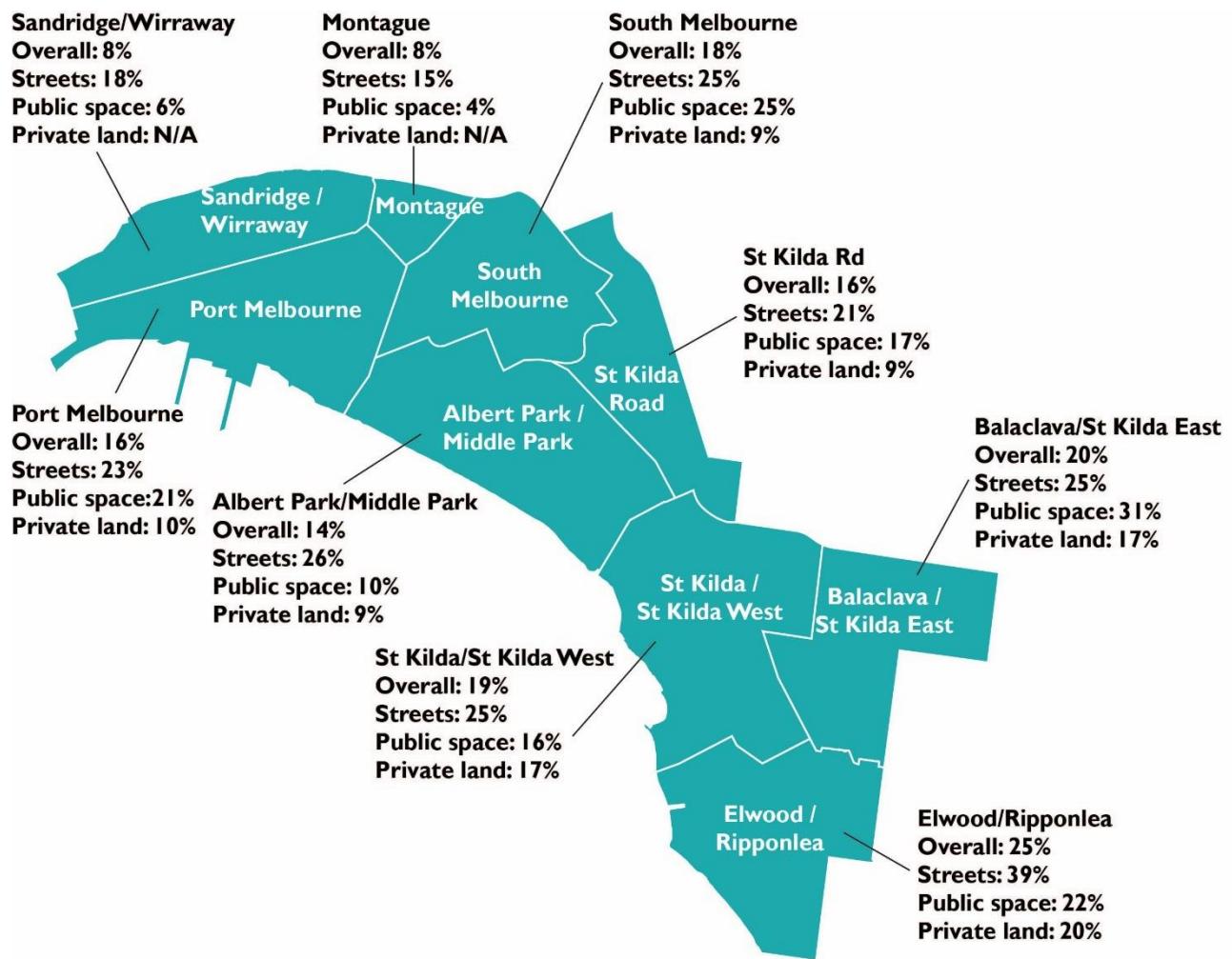


Figure 2. Current state of canopy cover (2022)

Converting canopy cover to indicative number of trees

When investigating what targets we can set for canopy cover, we need to consider how many trees we need to plant to reach a canopy target, and where there is space for additional tree planting. It can also be a useful way to visualise the task ahead and set smaller planting targets.

Setting a target for the number of trees Council will plant is a practical, easily measured metric and good option to use in between canopy assessments which might only be measured every five or so years.

A desktop assessment was completed to work out what typical tree sizes look like in City of Port Phillip. In reality trees come in all shapes and sizes, but this approach looked at what an indicative large and small tree sizes are to then extrapolate to work out how many extra trees would be needed to plant to reach potential canopy cover targets. We've used these typical tree sizes to get an idea of how many extra trees we need to plant.

Typical Small Tree
Canopy area = **70** square meters



Image 1 Crepe Myrtle:
<https://www.flickr.com/photos/35318832@N00/2244167622>

Examples;
Crepe myrtle, *Lagerstroemia indica*
Platypus Gum, *Eucalyptus platyphylla*

Typical Large Tree
Canopy area = **150** square meters

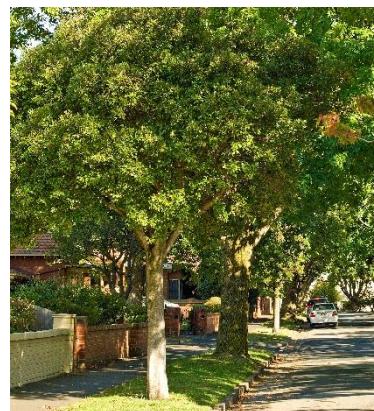


Image 2 Plane tree:
<https://www.elmsavers.com.au/news-blog/plane-tree-anthracnose-disease>

Examples;
London plane, *Platanus x acerifolia*
Lemon-scented gum, *Corymbia citrodora*

Table 1 Estimated trees to reach 30 & 40% across all streets

Neighbourhood	Gap to reach 30%	Small trees	Large trees	Gap to reach 40%	Small trees	Large trees
Albert Park / Middle Park	4.11%	592	276	14.11%	2033	949
Balaclava / St Kilda East	5.00%	402	187	15.00%	1205	562
Elwood / Ripponlea	0.00%			1.31%	127	59
Montague	15.02%	362	169	25.02%	604	282
Port Melbourne	6.95%	939	438	16.95%	2288	1068
Sandridge / Wirraway	11.61%	697	325	21.61%	1297	605
South Melbourne	4.51%	567	264	14.51%	1823	851
St Kilda / St Kilda West	4.84%	609	284	14.84%	1866	871
St Kilda Road	8.69%	442	206	18.69%	951	444
	Total	4609	2151	Total	12194	5691

Table 2 Private land - Estimated trees to reach 30 & 40% across all Private Land

Neighbourhood	Gap to reach 30%	Small trees	Large trees	Gap to reach 40%	Small trees	Large trees
Albert Park / Middle Park	20.65%	3188	1488	30.65%	6174	2881
Balaclava / St Kilda East	13.43%	2889	1348	23.43%	8607	4017
Elwood / Ripponlea	10.28%	2221	1036	20.28%	8641	4032
Montague						
Port Melbourne	20.40%	3793	1770	30.40%	7437	3471
Sandridge / Wirraway						
South Melbourne	21.22%	2777	1296	31.22%	5235	2443
St Kilda / St Kilda West	13.09%	3290	1535	23.09%	10057	4693
St Kilda Road	21.32%	1434	669	31.32%	2691	1256
Total	19593	9143	Total	48842	22793	

Tables 1&2 extrapolate the number of trees we would need to plant in each neighbourhood to reach 30 or 40% canopy cover on streets and on private land.

This data provides a useful indicator of the scale of work required to improve canopy coverage, however should not be taken as a reflection of trees we can actually plant in the ground.

For example, wider streets in South Melbourne and Port Melbourne may mean we cannot achieve 30 or 40% canopy coverage due to trees not being able to shade full street widths. In St Kilda, East St Kilda and Balaclava, we may struggle to find adequate space for the number of trees required due to driveways, narrow road reserves and footpaths and infrastructure. We are currently undertaking more analysis to assess how we could achieve a 30% canopy cover on streets.

On private land, building envelopes, built form and lot size will influence the availability of space to plant trees. Port Phillip has a prevalence of small lots, small garden areas and apartment buildings which restrict space for tree planting. We estimate we would need to plant an additional 10,000 to 20,000 trees on private land to achieve an overall 30% canopy cover target, and with the current built form that is unlikely to be achieved.

There are other urban greening options such as green walls and climbers, but in the context of setting an overall canopy cover target a more realistic goal is recommended.

Proposed targets:

- Net increase overall, and net increase for each neighbourhood and on private land.
- Further analysis to set a target for streets, towards 30% canopy coverage.

Baseline: 17.17% overall and neighbourhood breakdowns as per Figure 3

How: Consistent summer capture aerial imagery and analysis every 5 years.

4.1.2. Together – our community

Residents and landholders play an important role in greening neighbourhoods in Port Phillip. As do the many local environmental advocates and groups that partner with Council to care for green spaces for the benefit of the whole community.

Council and community need to work together to green private land and to ensure our public spaces thrive. We have a range of Friends of groups, community gardens and groups planting in public spaces who undertake valuable roles in promoting, improving, maintaining and monitoring our urban green spaces.

Our City currently has:

- 5 licensed community gardens,
- 7 plots in public space,
- 6 Friends of groups,
- 9 community environmental groups,
- the Ecocentre
- WestGate Biodiversity (not in CoPP, but strongly linked).
- Several citizen science activities

We are proposing a target that celebrates community led greening. Setting a target that is monitored and reported on like this demonstrates that the council has a commitment to work with and support the important work that community groups and residents do.

Proposed target:

- Increase number and support of community led urban greening initiatives

Baseline: 15 Friends Of and environmental groups, 5 community gardens, 7 public space plots, the Ecocentre and WestGate Biodiversity

How: Annually by the Parks team and Community Greening Officer

4.2. Principle 2: Resilient

We retain first, respecting established character, and adapt by adding more **resilient** plant species where they are most needed to reduce heat and flood vulnerabilities.

4.2.1. Tree diversity

The City of Port Phillip manages approximately 46,000 trees, 75% of which are street trees. Urban forests need good mixture of species, age classes, structural sizes, species suitability and functional diversity (eg. habitat, shade, flowering) for overall forest health. Diversity in the urban forest reduces risks from pests, diseases and climate change.

The US Forest Service provides a recommended rating system to distinguish between 'fair' and 'good' species diversity⁹:

- Fair diversity: No more than 10% of a single species, 20% of a single genus and 30% of a single family. (10/20/30).
- Good diversity: No more than 5% of a single species, 10% of a single genus and 15% of a single family. (5/10/15).

However many Councils have adapted the species mix to better suit Australian plant diversity range.

Figures 4-6 the public tree population of Port Phillip is assessed for diversity against the US Forest Service ratings of fair (10/20/30) and good (5/10/15)¹⁰.

Tree species

Fair (10/20/30)

- All species ≤ 10%

Good (5/10/15)

- Most planted tree is 9% (London Plane)
- All other species ≤ 5%

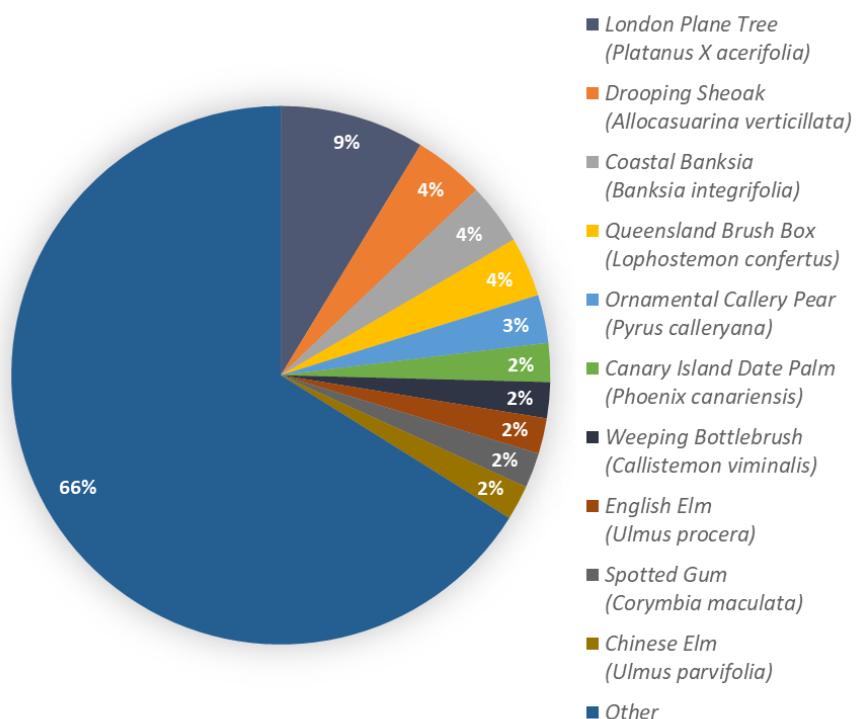


Figure 3. Tree species diversity in the City of Port Phillip 2022

⁹ US Forest Service (2016), [Sustainable Urban Forest Guide](https://www.itreetools.org/documents/175/Sustainable_Urban_Forest_Guide_14Nov2016.pdf), accessed at https://www.itreetools.org/documents/175/Sustainable_Urban_Forest_Guide_14Nov2016.pdf

¹⁰ Data and analysis supplied by City of Port Phillip, June 2023

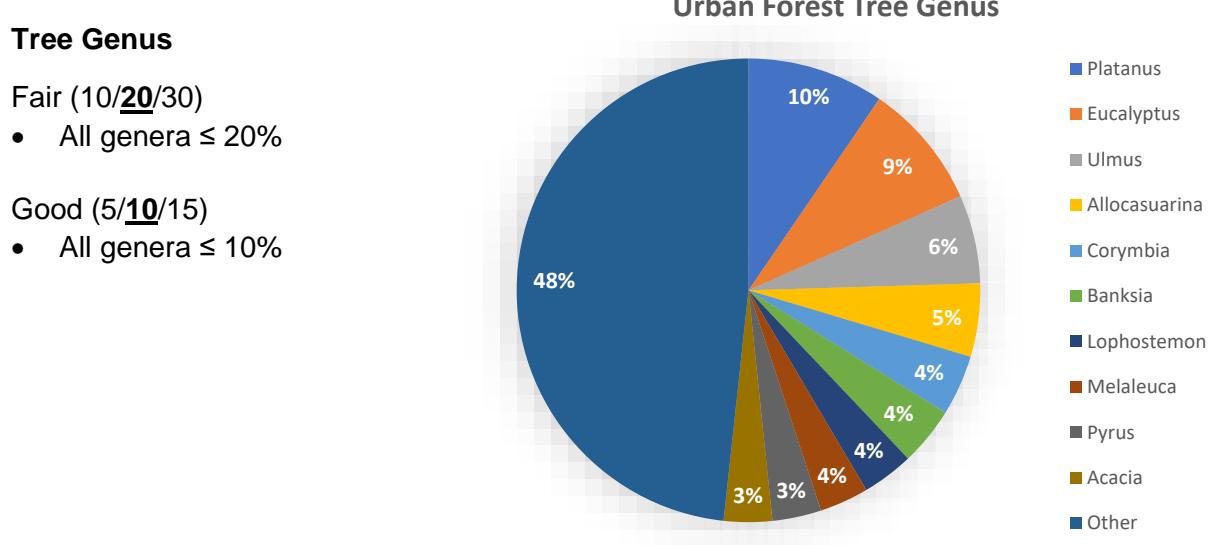


Figure 4. Tree genus diversity in the city of Port Phillip 2022

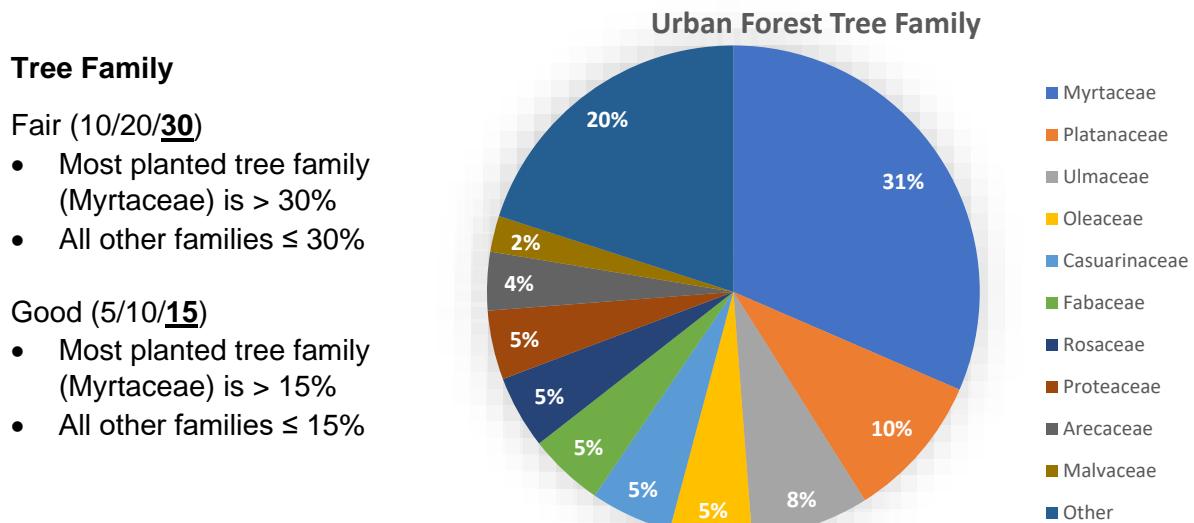


Figure 5. Tree family diversity in the City of Port Phillip 2022

High diversity is recommended to avoid the large loss of any species or close related group of trees due to pest or diseases, reduce the spread of pest and disease and limit the impact of any one species due to climate change.

Many urban streets, especially boulevards, are lined with single species, often all planted at the same time. These kinds of tree populations are most at risk, especially when the species is not suited to the changing climate.

Overall, current tree diversity in Port Phillip is good. Tree species diversity is generally good. Only one species, the London Plane, is above 5% of the total tree population (at 9%). Tree genera diversity is good, with all tree genera making up $\leq 10\%$ of the total tree population. The Myrtaceae family makes up 31% of trees, slightly above the fair rate of 30%. All other families are in the good range, making up less than 15% each of the tree population.

Tree species diversity

Tree species diversity is currently good, with all below 5% except for the London Plane which make up 9% of our tree population. These trees are not distributed evenly and plane trees provide 75% of the street canopy coverage in Elwood.

Plane trees are loved by many for their excellent canopy, shade and autumn colour, and equally unloved for their leaf drop and allergen properties. While plane trees are generally very hardy, they are susceptible to Anthracnose, a fungal disease.

Each year, up to 50% of our plane trees may have anthracnose. Plane trees are also susceptible to leaf drop in drought/heat waves. Successive stresses of disease and heat stress over several years will weaken trees and cause decline, and this is a major threat to our plane trees and overall urban forest, and of particular concern for Elwood. We monitor them carefully and treat them to reduce stress, because they are valuable and we don't want to lose them.

If we want to lessen the risk to canopy loss, particularly in Elwood, that could occur through disease and heat stress, we could slowly introduce other species that offer the characteristics of plane trees that we love. This could be done gradually (over decades) as existing trees need to be replaced and where there is space for additional trees within existing streets dominated by London plane. Replacement trees could be a variety of options, including those like the maple pictured below which has many similar attributes to the London Plane.

We could reasonably consider either of the following species diversity targets:

Species diversity target of 5%

Finding a way to slowly replace plane trees as they reach the end of their useful life expectancy with a more diverse species mix that provide the same highly valued canopy and colour.

Species diversity target of 10%

If we are prepared to continue to plant plane trees, cognizant of the risk, we may set a target to reflect our current species composition.

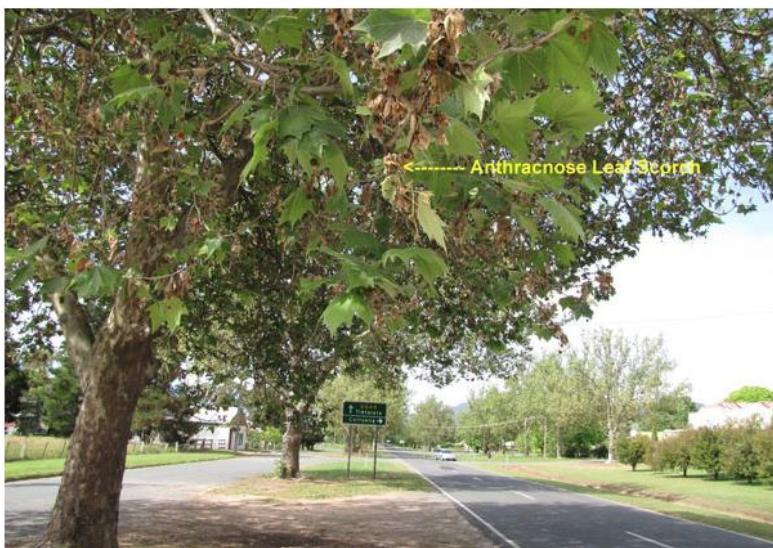


Image 3 Left: plane tree with anthracnose, Right: Maple (*Acer x freemanii Jeffersred*), grows to 13m high, 10m width

Tree genus diversity

Current diversity of genus is good and no improvement actions or considerations required.

Tree family diversity

Family diversity is currently good (less 15% each) for all families except for the Myrtaceae family which is 31%.

The standard 10/20/30 rule was developed in the United States. In Australia we have a different composition of native trees, with the myrtaceae family dominant.

The family has over 1,500 species, including eucalyptus, corymbia and angophora (gums), callistemon (bottlebrush), melaleuca (paperbarks and honey myrtles) and syzygium (lily-pillies).

Increasing native and indigenous tree planting will increase the percent of trees in the myrtaceae family we have and we need to be careful we don't have conflicting principles and targets.

Keeping track of tree diversity is important as it will allow us to determine if family diversity is within a healthy range, or if we have a potential risk in this area. A known risk for the myrtaceae family is myrtle rust, a fungal disease that is present in Melbourne. In warmer climates, myrtle rust is a major threat to biodiversity, causing significant mortality in young plants.

In setting a target for family diversity, we need to weigh up the threat of this risk, and the benefits to that increased native and indigenous plantings have. We propose a family diversity target of 35% would be suitable for Port Phillip, to reflect our existing diversity and the benefits of the myrtaceae family for biodiversity.

Proposed target:

- **No more than (5% - 10%) of a single species, 10% of a single genus and 35% of a single family.**

Baseline: 9% of a single species, 10% of a single genus and 31% of a single family

How: Tree asset data analysis with existing resources annually.

4.3. Principle 3: Biodiversity

*We prioritise **biodiversity**, supporting healthy ecosystems and creating habitat.*

Biodiversity is complex, and difficult to capture in a single indicator. However, there are examples of cities using indicators based on flagship species or groups, like the number of birds, pollinators, native fauna species or native flora species present in the city. Other metrics could include species richness, number of unique ecosystems, and extent of key biodiversity areas.

In Port Phillip we have 20 native vegetation sites, including six remnant indigenous flora sites, marked with a *, including Coastal Dune Scrub and Grassy Woodland Plains ecosystems.

Foreshore sites:

- Sandridge Beach; *
- First Point;
- Princes Street Dunes;
- Pickle Street Dunes;
- Middle Park Dunes;
- Fraser Street Dunes;
- West Beach; *
- MO Moran Reserve;
- Point Ormond Reserve; *
- Elwood Teatree; *
- Elwood Foreshore and Reserve; *
- St Kilda Breakwater.

Hinterland sites:

- Lagoon Reserve;
- Canterbury Road Urban Forest; *
- HR Johnson Reserve; *
- Elwood Canal;
- Alma Park;
- Danks Street Medians;
- Port Melbourne Light Rail corridor;
- Bothwell Street Medians;
- St Kilda Botanical Gardens. *

The **Biodiversity Study in 2020** found that the biodiversity values remaining in the City are significant and require protection and enhancement for future generations. Please refer to the biodiversity study for more detail.

Foreshore and hinterland native vegetation sites are currently surveyed every 5 years. Other valuable native and indigenous vegetation sites in Port Phillip have undergone extensive revegetation efforts utilising a combination of locally native, Australian native, and introduced species. As a result, the remaining ecosystems are largely novel, characterised by unique species compositions and structures that differ from those observed prior to 1750, often representing distinct Ecological Vegetation Classes (EVCs).

With the biodiversity survey in 2020 and the regular surveys we conduct every 5 years of our foreshore and hinterland sites, we have good data to set a baseline for biodiversity, and for ongoing monitoring.

Proposed target:

- Net increase in ecologically diverse spaces across Port Phillip

Baseline: 20 native vegetation sites and 6 remnant indigenous flora sites

How: Every 5 years through existing monitoring actions.

4.4. Principle 4: Integrated

We invest in *thriving integrated* urban greening in streetscapes, buildings, parks and gardens.

Trees and plants in urban areas must work together with the hardscapes around them and the many functions such as transport routes and open space recreation. It needs a holistic design and consideration of greening in all projects.

To mitigate urban heat, greening and cooling should be prioritised in areas where it will address the key factors of surface temperature (heat exposure), more vulnerable members of society (vulnerability to heat), and areas with high pedestrian activity (behavioural exposure).

Social justice is a critical greening issue because higher levels of disadvantage are generally correlated with lower levels of greening and higher levels of urban heat. As tree canopy mapping has improved, Councils have increasingly been overlaying social vulnerability and urban heat data on canopy data to better understand the priority areas to target more greening. In Port Phillip, our hotspots are generally around our public and social housing estates. We can provide greater equity by focusing on key pedestrian areas and ensuring our parks are cool and shady.

For targets, we want to focus on streets and parks as they are the areas where Council has most control and improve greater equity by

- Focusing our tree canopy on key pedestrian areas so people can walk with comfort, particularly people who rely on public transport, who use community transport and for children along key school walking routes
- Ensuring our neighbourhoods have cool, shady areas in parks and reserves. With good management including tree and vegetation planting, irrigation, and access to drinking water, these areas have the potential to become cool refuges during hot weather.

4.4.1. Walking and Public Transport



Image 4 Pickles Street

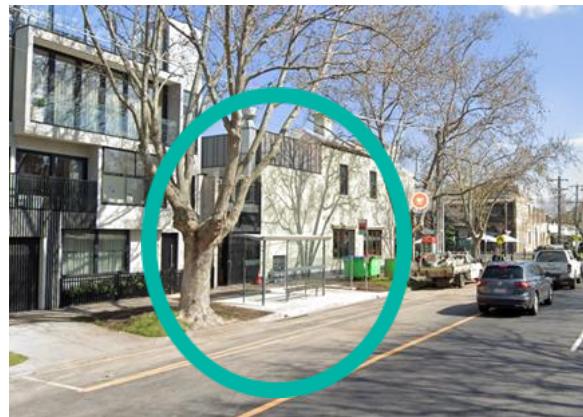


Image 5 Richardson Street

Images 4 and 5 (green circles) show examples of existing public transport stops with excellent canopy cover that provide good shade and shelter.



Image 6 Danks Street



Image 7 Patterson Street

Images 6 & 7 show examples of exposed sites (orange circles) which will be reasonably simple to improve canopy.

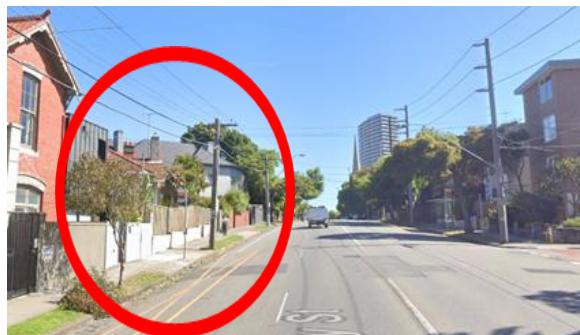


Image 8 Barkley Street



Image 9 Barkley Street



Image 10 Chapel Street



Image 11 Hotham Street

Images 8-11 (red circles) show examples of exposed sites that will be challenging for tree planting.

We need to do more analysis to work out how we can set targets for pedestrian and public transport routes, but a preliminary target has been developed.

Proposed target:

- Increase tree planting along key pedestrian routes and around public transport stops

Baseline: pending analysis of greening along public and active transport routes

How: Every 5 years by analysis the consistent canopy cover data collected.

4.4.2. Parks and reserves

Port Phillip has excellent canopy cover in many parks and reserves. While the overall canopy coverage of parks and reserves sits at 13.95%, that calculation includes sports fields and areas of open space that cannot be planted. When sports fields and other functional wide open spaces are taken into account (see Figure &7) many have over 40% canopy coverage.



Figure 6 Examples of current canopy cover in Parks and Reserves excluding sports fields.

More analysis is required before we can set a baseline for these targets, but there is potential to focus efforts and increase cover in parks and reserves without compromising sports field areas.

Proposed target:

- **50% canopy coverage in parks and reserves (non-sports field areas)**

Baseline: pending analysis of greening along parks and reserves (non-sports fields)

How: Every 5 years by analysis the consistent canopy cover data collected.

4.4.3. Gaps

There are some obvious gaps in this section around engineered integration of urban greening with asset renewal and new capital works. Also embracement and increase of more engineered urban greening elements such as vertical gardens, vines and roof top gardens.

This will be addressed through action development and action related key performance indicators. It could be a good area to reconsider for a high level target in future reviews of the Urban forest Strategy, particularly as data collection and baseline information becomes more available.

4.5. Principle 5: Quality

*We value the urban forest as a long-term asset that is critical to the health and wellbeing of our community and to our City's character and function, through **quality** design, construction and maintenance.*

Targets focused on how Council manages and maintains its urban greening assets should also be included. While any actions to increase and improve urban forest quantity and type are important, maintaining existing green assets are critical and should not be forgotten in target setting.

Tree health is a suitable indicator for overall quality of urban forest maintenance and management.

The health, structure and useful life expectancy of trees in our forest provides crucial information so we can best manage our urban forest. Technology to manage tree assets has developed rapidly in recent years and when we complete the current tree audit, we can utilise data to manage our tree population to ensure we can optimise the health and canopy potential of our trees.

The 46,000 Council owned trees are currently being audited, which makes setting a target without a confident baseline challenging. Previous data demonstrates we can expect poor health and short life expectancy in some of our trees, likely around 10-12%.

When the audit is complete, we can use the data to improve the health of our tree stock and replace poor performing trees to optimise our canopy.

Other delivery and management targets to ensure healthy tree populations could include:

- **New tree survival rate** (85% is a common target among CoPP's neighbouring Councils)
- **Proportion of healthy trees** (90%+ assessed as healthy in a tree audit is a common target among CoPP's neighbouring Councils).

Proposed target:

- **90% trees healthy by 2035**

Baseline: Pending updated tree health audit results in 2024

How: Annual tree audit, compliance of audit requirements.

This report summarises the information shared at community workshops in October 2023. The proposed targets suggested in this report are a draft and will be further developed with more feasibility analysis and with the feedback gained from the community workshops.