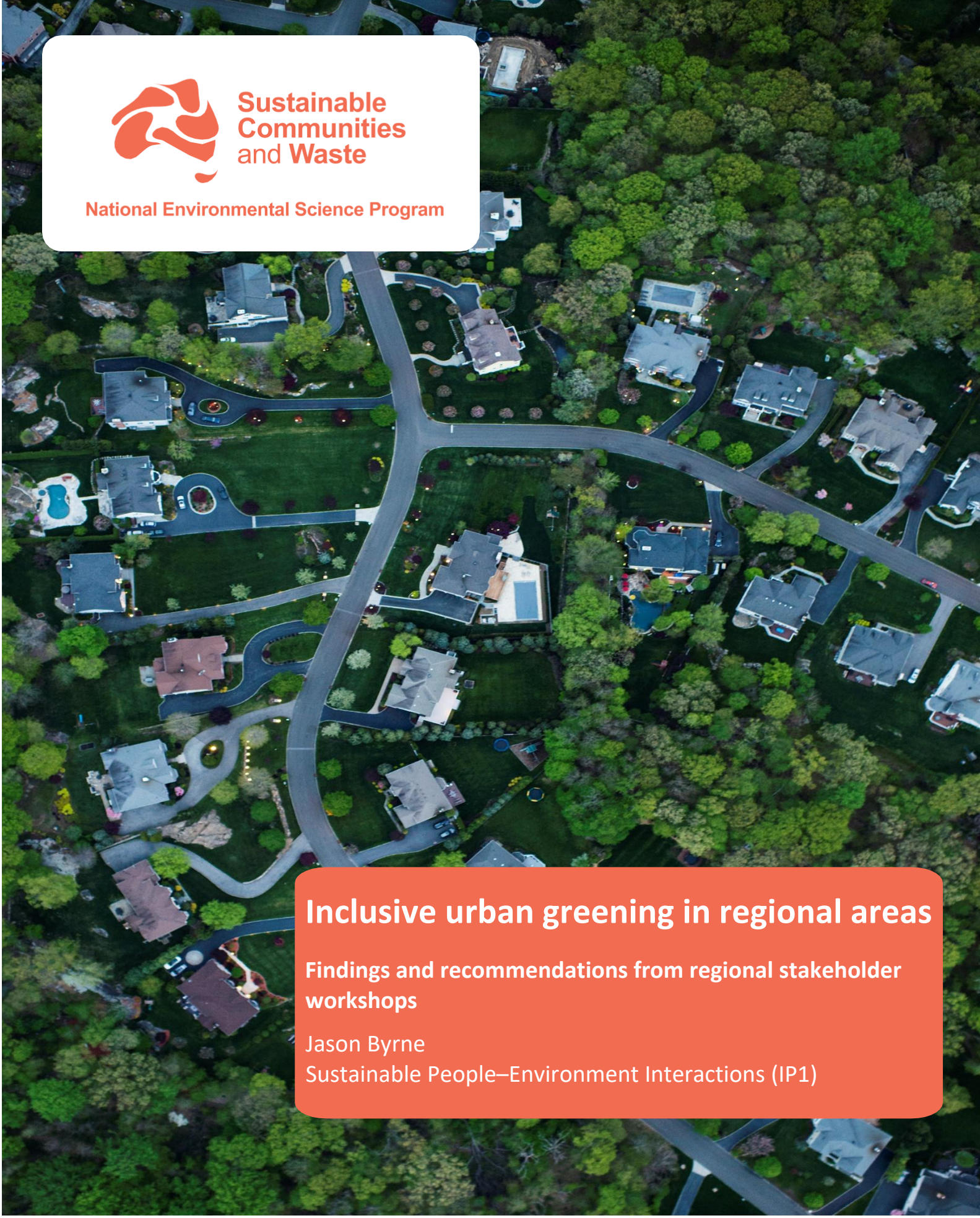
Sustainable Communities and Waste

National Environmental Science Program



Inclusive urban greening in regional areas

Findings and recommendations from regional stakeholder workshops

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Executive Summary

Urban greening is gathering pace across Australia's cities, suburbs, and towns, specifically as a policy response to climate change but also to improve liveability and quality of life. Research has found that across Australia's town and cities, access to greenspace and tree canopy cover is unevenly distributed. Places with high levels of tree canopy cover and excellent access to urban greenspace tend to be dominated by comparatively affluent residents. The inverse is also true, people who experience marginality and socio-economic disadvantage tend to live in places with less tree canopy cover and comparatively poor access to parks and greenspaces.

Urban greening is a process, whereby trees and vegetation are intentionally planted for environmental, social, and economic benefits. Urban greening seeks to increase people's access to urban green infrastructure – for cooling benefits, but also for health and wellbeing. Urban green infrastructure includes green roofs and walls, street tree planting, remnant vegetation and revegetated areas, and planting associated with water sensitive urban design (Australian Standard SA HB 214:2023). In Europe urban greening also refers to the provision of parks and greenspace, though in Australia this tends to be treated separately.

There is now a sizable literature on greening in metropolitan areas. Less research has been undertaken on greening in regional areas. A key knowledge gap is that much of the greening scholarly literature and policy reports to date have assumed a homogenous 'community' that is being planned for in urban greening efforts, masking the considerable diversity that exists in our cities, suburbs, and towns – and overlooking the agency and local knowledge of individuals and groups in urban greening. A second issue is that stakeholder engagement processes often seek to present a consensus view, instead of acknowledging that diverse perspectives exist and should be respected.

This report presents findings from a series of stakeholder workshops exploring perceptions of urban greening in Launceston, Tasmania. These workshops were undertaken in the lead-up to the preparation of Launceston's first urban greening strategy. The workshops sought to engage as diverse a constituency as possible within Councils tight budget and time constraints. These workshops uncovered new perspectives that have not been previously reported in the literature, as well as confirming established knowledge. Insights from these workshops could inform ongoing community engagement efforts by the City of Launceston and other local governments in Australia, in developing and implementing urban greening strategies.

Workshop objectives

The City of Launceston has been preparing an urban greening strategy to improve the city's tree canopy cover. Launceston previously had an urban tree strategy, but the new urban greening strategy extends the scope and ambition of the previous document. The term

urban forest includes all the trees and vegetation within the city – both native vegetation and introduced species.

Working with Tasmanian natural hazards consultancy - Geoneon, and the City of Launceston, the University of Tasmania (UTAS) ran the key stakeholder workshops. The objective of the workshops was to better understand issues, challenges and opportunities related to tree planting and urban greening in the City of Launceston, to inform the preparation of the new urban greening strategy.

Approach

In May and June 2022, The University of Tasmania (UTAS) held six workshops with community groups, residents, business, culturally and linguistically diverse residents, older people, and council staff and decision-makers. Participants were recruited though the City of Launceston's key contacts, the Migrant Resource Centre, and via City Prom and the Chamber of Commerce. Just over 60 people participated in the workshops.

The workshops were run as a type of focus group, where a trained moderator guided participants though set questions for discussion. Participants were also presented with preliminary findings of tree canopy mapping and vulnerability assessment undertaken by Geoneon, to solicit ideas and suggestions for how urban greening challenges might be managed. Workshops were recorded on digital audio recorders and transcribed. All attendees consented to participation in accordance with an ethics clearance granted by the UTAS Human Research Ethics Committee.

Key findings

Participants identified numerous issues or problems related to trees in the city, but also spoke with deep affection about the benefits of trees in Launceston. Identified problems and benefits were consistent with the national and international literature.

Tree problems included overshadowing and loss of access to sunlight, damage to pavements, pipes, and house foundations, concerns about safety, security, and vandalism, worries about slip and trip hazards due to fallen fruit, flowers and berries, and concerns about maintenance burdens and costs associated with managing trees and vegetation.

Tree benefits were also identified, including making the city more beautiful, providing shade in summer, attracting birds and wildlife into the city, providing fruit and seasonal colour, creating a sense of belonging, and improving people's health and wellbeing. Overall, workshop participants were supportive of efforts to increase tree canopy cover across the city, especially in those areas where residents face cost of living challenges and where tree canopy cover is currently very low.

The **Tasmanian Planning System** was singled out as **a potential barrier** to accommodating trees in the city. Participants discussed how smaller lots and confined road reserves containing many types of infrastructure, each with different asset owners, mean that tree planting is expensive and can be fraught. Participants also noted how the practice of

developers clearing land of all vegetation during subdivision is reducing the numbers of large trees in Launceston's outer suburbs, with attendant impacts to biodiversity. Urban infill is also characterised by the clearing of mature trees and the increase of non-permeable surfaces (e.g., concrete driveways). Participants noted that there are currently no provisions in the Tasmanian Planning Scheme to require the protection of urban vegetation or the planting of new trees and shrubs. This was seen as a very serious problem.

Participants identified **potential solutions**. These included investigating the feasibility of using carbon markets to fund future tree planting and tree management, providing incentives for the planting, retention and maintenance of trees and greenery on private property, being brave and bold in developing a vision for accommodating trees within the city, and involving schools, community groups and residents in growing trees and looking after trees on public land.

Other potential solutions include **developing by-laws for the protection of large trees** on private property, working with influential community members to pilot-test and set up **demonstration projects** to show the feasibility of greening the city, and establishing a policy for verge gardening, including the growing of food trees and plants where appropriate. The City of Launceston, it was suggested, should also investigate the feasibility of developing **guidelines for retrofitting buildings** with green roofs and green walls where appropriate.

Outcomes

A key outcome of the workshop was that the City of Launceston accepted many of the workshop findings and recommendations, including them in its draft Urban Greening Strategy, which is currently being finalised following public feedback.

Next steps

The next step is to produce a policy briefing note on tree costs and benefits in regional cities, to investigate the feasibility of using school grounds as catalysts for urban greening, and potentially incorporating greening into the syllabus. Another important next step could be the preparation of a template for local government for urban greening strategies in regional cities. And the method used for the stakeholder workshops could be employed by other regional cities, to advance more inclusive urban greening.

Useful resources

City of Launceston Draft Urban Greening Strategy (2023-2040):
https://www.tomorrowtogetherlaunceston.com.au/urban-greening-strategy

City of Bunbury Urban Greening Strategy:
https://communityconnect.bunbury.wa.gov.au/projects/download/11995/ProjectDocument

Tamworth Urban Street Tree Management Plan
https://hdp-au-prod-app-tam-yourvoice-files.s3.ap-southeast-2.amazonaws.com/6416/2579/1908/Urban_Street_Tree_Management_Plan_-_July_2021.pdf

City of Darwin Greening Darwin Strategy (2030)
https://www.darwin.nt.gov.au/sites/default/files/publications/attachments/1091987_CoD_GreeningDarwinStrategy_WEB.pdf

Wingecarribee Street Tree Master Plan (2016)
https://www.wsc.nsw.gov.au/council/strategies-plans/Street-Tree-Master-Plan

An Urban Greening Strategy for Metropolitan Adelaide
https://www.greenadelaide.sa.gov.au/projects/adelaide-greening-strategy

Designing for passively irrigated landscapes
https://watersensitivecities.org.au/content/designing-for-a-cool-city-guidelines-for-passively-irrigated-landscapes/

Principles for making green infrastructure socially inclusive:
https://sefari.scot/research/making-green-infrastructure-socially-inclusive-principles-and-challenges

The public participation spectrum: https://iap2.org.au/resources/spectrum/

Attendees

The ethics approval for this research prevents disclosure of participant names and the organisations they represent (UTAS HREC- 026905). Tasmania is a small state, and it is often possible to identify people by what they say, and how they say it, especially if an organisation is identified. All responses have been anonymised in accordance with the ethics approval.

Contents

Recommendations arising from the stakeholder workshops

Cities around the world are preparing for climate change[1]. This includes developing new strategies to guide planning and environmental management responses that can help residents and businesses cope with, and adapt to, expected impacts. Such impacts include higher temperatures, altered rainfall patterns, episodic flooding, extreme weather events, and heightened bushfire risk [2, 3].

The findings from the City of Launceston stakeholder workshops suggest that there are actions and initiatives that could be incorporated into the city's new urban greening strategy to improve its uptake and acceptance by the wider community and ensure that urban greening is more inclusive. These findings, and subsequent recommendations can equally help other regional local governments. There are twenty (20) recommendations across a range of issues.

Councils should recognise that **there will be a wide range of knowledge, beliefs, attitudes, values and motivations among residents, workers, business owners and asset managers**. To overcome conflict, a set of principles should be adopted early in the planning and design process to guide urban greening.

1. *It is recommended that the Urban Greening Strategy be guided by an agreed set of principles that can shape decision-making and help broker resolutions to complex problems.*

It can be hard to imagine what city greening might look like in the future. How tall might the trees grow? Will they block out views? Will sightlines be obstructed? Will some parking need to be replaced by trees? **Visualising different greening options and using scenarios can help stakeholders to reach agreement on preferred solutions**. There is an opportunity to explore different scenarios for urban greening with the community, business owners, and key stakeholders as urban greening progresses.

2. *Council is encouraged to work with stakeholder groups to develop a set of computer-generated 'before and after' images of different streets across the city – in higher density CBD locations and for suburban streets – showing how different types of vegetation (height, colour, shape, canopy spread etc.) could enhance the city, and to enable stakeholders to better articulate their concerns as well as areas of acceptance.*

Some members of the community will likely find it harder to read detailed reports, guidelines, plans, and strategies. Tasmania has lower levels of literacy than other states and climate change science and urban planning can be complex. **The use of infographics and diagrams and writing documents in plain language can make strategies and plans more accessible.** Translating documents into other languages and having versions for people with visual impairments is also important.

3. *Council should develop infographics that visually present the key facts about tree costs and benefits, as well as potential solutions to problems, helping the broader*

community to understand the rationales behind urban greening and generating a social license for action. These could also be used by schools for teaching and can boost communication with culturally and linguistically diverse groups.

Many people find an economic argument for urban greening to be more convincing than others, such as spiritual or aesthetic reasons. Rather than trees and vegetation being seen as a waste of rates and taxpayer money the positive benefits of trees needs to be emphasised. **'Hard data' supporting the value of trees can help to bring people along on the journey of greening a city**. An empirical basis for greening initiatives can also inform evidence-based policy.

4. *It is recommended that Council use software such as iTree Eco to calculate the existing and future economic value of Launceston's urban forest, showing how a healthy urban forest is vitally important for the city's long term economic prosperity and liveability, as well as social wellbeing and ecological integrity.*

Many workshop participants identified the loss of large trees from the city as a problem. People develop deep affinities for large trees. Such trees can also provide critically important nesting hollows and other habitat benefits. Currently there are no provisions in the Tasmanian Planning Scheme to protect urban vegetation and to require developers to revegetate lots at the time of sale. This is a serious oversight. Other Australian cities such as Perth and Melbourne have already introduced **planning provisions requiring the protection and management of trees on private property to combat urban heat islands.**

5. *Council should consider introducing a by-law to protect large trees in the city.*

When trees reach the end of their life and need to be replaced, and when weedy species must be removed, people can feel that an important resource is being wasted, and/or may experience a sense of loss and grief. **When a tree that people love is removed, they may feel better if it is repurposed for a use that benefits the city.**

6. *Council is encouraged to consider how old trees that are removed, large branches and other woody material might be fashioned into street furniture such as benches or fencing material, or even sculptures commemorating events, people, and special places. There is also an opportunity to set up a social enterprise for reusing green waste from urban forest management as part of a circular economy.*

Climate change will present some challenges for tree survival. Changing soil moisture levels, new diseases and pests and hotter temperatures will mean that some existing trees may no longer survive in the future. This will create problems for keeping the city cool and for maintaining people's attachment to greenspaces. **Other Australian cities are preparing lists of tree species that will survive under future climates.**

7. *Council is encouraged to sponsor research investigating which tree species will be better suited to Launceston's future climate, and to start trialling those trees in the city. This should include a program for the long-term monitoring of tree health, employing a combination of remote sensing and citizen science.*

The development industry plays a major role in shaping the future of a city. They have a stake in the development and implementation of urban greening strategies. **The development industry** has also been singled out by some participants for **creating hotter suburbs in the future, by creating small lots with big houses and little room for trees.**

8. *Council should consider new ways of accommodating trees in new subdivisions as well as retrofitting existing streetscapes. This could include repurposing some areas of road reserve for larger trees, and the common-trenching of infrastructure, so that generous street tree canopies can provide more shade and help future-proof the city from extreme heat events associated with climate change. Where it is impossible to plant in a verge, tree planting should occur down the centre of a road or by removing some car-parking.*
9. *It will also be important to educate tradespeople working around newly established trees to ensure they do not inadvertently damage or kill trees during site works. Council may wish to investigate the feasibility of using bonds to ensure that tree protection can be enforced during site works. Council might also consider co-designing short-courses for tradespeople, or as part of TAFE training, on the value of trees and how to look after newly planted trees in subdivisions during house construction. This could include accreditation.*

Urban greening is not a 'one size fits all' approach. **Cross sections of streets can show how a combination of different types of vegetation might suit different places, responding to local conditions, constraints, and opportunities.** Examples of such cross-sections already exist in some excellent regional urban tree masterplans such as the Wingecarribee Street Tree Master Plan (2016). Consciously **including water sensitive urban design** principles into urban greening strategies could **ensure that stormwater harvesting helps water trees** and vegetation, improving survival rates during extended dry spells.

10. *Council should develop cross-sections for a 'hierarchy' of different streets. These could show underground infrastructure, building setbacks, heritage elements, road reserves, areas for parking, overhead powerlines and water sensitive urban design elements that will promote tree survival. Cross sections of different planting designs can assist in determining what types of greening are best suited to different locations.*

Many of the participants in the workshops pointed to the need for **better knowledge and education strategies** about which trees and vegetation are best suited to different purposes and circumstances (e.g., shade vs habitat). Council is encouraged to develop planting guidelines, working with nurseries and the horticultural industry, to identify trees and vegetation that best suit people's needs and available space in their gardens, potentially **setting up demonstration gardens** that showcase what is possible.

11. *A 'greener Launceston' guide for planting, with endorsed tree and shrub species that have multiple benefits (e.g., shade, habitat, aesthetics, fire protection) could help residents, community groups, retailers and others become more comfortable with greening the city and with seeing more trees in people's yards. Council should work with businesses, the university and community groups to prepare planting guidelines. The guidelines should promote inclusive greening, such as sensory gardens, low*

maintenance trees and shrubs, plantings that celebrate Aboriginal and multicultural connections to place through trees and shrubs with spiritual or other values, and gardens designs for people with mobility challenges.

Change can be difficult, especially people who have lived in a place a long time and are used to things always being a certain way. **It is important to bring people on the journey to ensure there is a good level of support for urban greening initiatives.** This is especially the case for localities where there are currently few trees, where garden cultures may eschew trees, and where cost of living challenges present barriers to tree planting and maintenance on private property. Council will need to build a strong relationship with the community, learning from local knowledge. **People will feel better about adopting new ideas if they see others 'have a go' first and can learn from mistakes in a safe way.** Council may need to provide targeted assistance and advice, such as tree grants and financial incentives.

12. *Council should consider innovative outreach and change management opportunities. This might include, for example, working with community leaders such as sports coaches, religious leaders, and well-known personalities to showcase neighbourhood greening ideas and activities. Pilot programs or small demonstration sites could enable Council to explore different options to see how well they work, creating partnerships with housing providers, individual landowners, and even religious groups. Council should develop a program for tree grants and financial incentives for tree planting on private property.*
13. *Council should investigate the feasibility of verge gardens in the city, especially for the growing of food, where appropriate.*

The tree canopy mapping by Geoneon has shown that **many schools have low levels of tree canopy cover.** Hot classrooms create health problems. Students tend to learn better and have higher rates of attentiveness when they have views of greenery. And **when kids learn about the benefits of trees, they can take this knowledge home to share with their families**, building stronger nature connections and creating cultures that support urban trees.

14. *Council should work with local schools to see if an early adopter program could be developed to green schools with low tree canopy cover. There is an opportunity to explore how trees could be included in the science, history, geography, health, and other curricula. School students may be able to help collect seeds and grow trees – initially for the school greening and later for city greening. Students could learn about tree benefits and could help set up and test monitoring programs, such as taking photos and comparing changes over time, or pilot-testing apps that could be used for reporting tree health or tree problems.*

Some older residents may find it harder to look after their gardens as they age. Some older people may have to 'downsize', leaving behind treasured gardens to live in apartments with less greenspace. And some residents can feel isolated and lonely. Urban greening can boost feelings of social connection and can build social capital.

15. *Council should work with the City Mission and other non-government organisations to develop innovative programs that pair up people needing help with maintaining their gardens with those wanting more contact with nature and people with the time, inclination, and skills who may want, or need, to learn more about gardening. This might include social-work related initiatives, apprenticeships, community service, corrective services, catchment management, and the like.*

Neighbour disputes over trees was raised by participants as a source of conflict at several of the workshops. Some of these disputes could be easier to resolve if the City of Launceston had trained staff who could help to broker positive outcomes.

16. *Council is encouraged to establish a mediation process, perhaps working with team members who are arborists, to help neighbours reach solutions where trees can be saved from being cut down to stem the loss of trees across the city.*

There appears to be considerable support among key stakeholders for urban greening. Council already has a good relationship with the Chamber of Commerce, catchment management groups, Landcare Tasmania, training institutes and other organisations. These **relationships could be further developed to enhance urban greening** work associated with the Urban Greening Strategy.

17. *There is potential to set up a 'community of practice' for urban greening. This could include site visits, demonstration projects, field trials and potentially an annual urban greening conference to share ideas and learn from other small to mid-size regional cities.*
18. *Council is encouraged to use its ratepayer surveys to benchmark current attitudes to trees and vegetation across the city, and to develop a standardised set of questions that can monitor community sentiment over time.*
19. *Council is encouraged to establish a steering committee or community reference group that can meet regularly to help with the development and implementation of the Urban Greening Strategy.*

Finally, many participants commented that **an urban greening strategy should create opportunities and pathways for employment** in horticulture, arboriculture and urban greening and land care for younger people and people changing careers or seeking different employment opportunities.

20. *Council should investigate opportunities for youth and unemployed people to participate in growing and managing the urban forest – and to create pathways to employment in urban greening as part of the future Urban Greening Strategy*

Urban greening in regional cities

There is a dearth of literature on urban greening in regional cities, with just a handful of Australian studies [4-7]. Much of what is known about urban greening comes from research in larger cities and metropolitan areas. This means that there is a potential metropolitan bias in knowledge about how regional urban greening is undertaken [8]. For example, many local governments outside metropolian centres have lower rates bases, fewer staff, and staff may have different training, knowledge, and specialisations than their capital city counterparts. In smaller regional settlements, there are often deeper relationships between local government staff and the communities in which they are embedded; smaller places mean that people are more likely to know each other.

Governance dynamics in regional centres can have benefits, in terms of closer community ties, but also potential drawbacks – as local government staff may be cautious about contributing to potential conflict in their local communities [9]. Such differences could mean that regional settlements might be slower to adopt urban greening, could balk at initiatives seen to be politically fraught, or may have community engagement strategies characterised by either a reluctance to speak up, or conversely by assertiveness.

As part of the background for this report, urban greening strategies and plans were assessed for all significant urban areas outside the capital cities, with a population over 25,000 people, as defined in the Australian Bureau of Statistics 2021 census. There are 44 such settlements that meet these criteria (see figure 1). Appendix 1 lists the settlements by size, climate zone, and state. Just over half (55%) of these significant urban areas are covered by a local government with a tree management master plan or urban greening strategy.

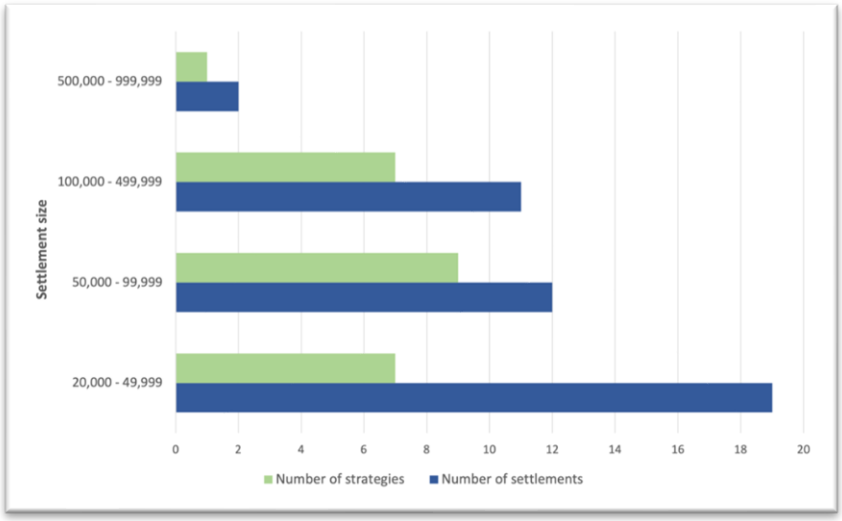

Figure 1: Significant non-capital city urban areas with an urban greening strategy

Many regional urban greening strategies and plans are being prepared in response to emerging climate change impacts. These strategies recognise that urban areas are increasingly exposed to extreme heat events and urban greening can lower temperatures, reduce hospital admissions and excess deaths, and improve liveability, among other benefits. It is useful to consider tree benefits and costs when developing a greening strategy.

Tree benefits

The benefits of urban greening are well documented in the international literature on urban forests and urban greening. The most common benefits are described below.

	**Shade and cooling**: Studies have found that leafy streets and parks can be up to 8℃ cooler than surrounding areas, and road surfaces up to 20℃ cooler [10-12]
	**Promoting physical activity**: Pleasant, leafy streets can make people more inclined to walk and cycle for transport and pleasure [13, 14]
	**Mental health**: Neighbourhoods with more trees have residents with lower stress levels, less mental fatigue, and better levels of focus [15]
	**Habitat**: Trees and shrubs can provide critical habitat. Creating linkages between areas of native vegetation can boost urban biodiversity [16, 17]
	**Food provision**: In cities around the world, urban trees provide food, such as fruit and nuts; studies have found this can improve food security [18, 19]
	**Financial returns**: In streets with more trees, houses have higher property values [20-23] and retail sales are higher in greener areas [24].
	**Making spaces attractive**: The seasonal change of leaves and flowers can make a city feel beautiful, benefiting residents and attracting tourists [25, 26]
	**Sense of belonging**: Studies show that street trees and green spaces can make residents feel better connected with each other [27, 28]
	**Reduced stormwater runoff**: Urban forests can intercept rainfall and evaporate it back into the atmosphere, reducing stormwater runoff [29-32]
	**Lowering wind speed:** Urban trees can lower wind speeds creating microclimates where it is more pleasant to be outside [33, 34]

Tree costs

While the benefits of urban greening are well recognised and are often foregrounded in regional greening plans and strategies, fewer greening strategies acknowledge that there are also disbenefits or costs associated with urban greening. Some issues relate to tree protection and management. Others concern perceived issues with safety and security. And some relate to ongoing maintenance costs.

	**Obstructing views**: Trees that grow too tall can block people's views or sightlines into shopfronts, leading to conflict [35-37]
	**Infrastructure damage**: Some tree species have highly invasive roots, that seek out cracks in water and sewerage pipes or uplift pavements [36, 38]
	**Slip-trip hazards**: Fruit, berries, flowers and even moss growing on pavements under trees can create slip hazards for people who are less mobile [39, 40]
	**Vandalism**: Trees can become targets for anti-social behaviour [41, 42]
	**Feeling unsafe**: Densely planted vegetation can reduce visibility and some people may feel less safe, although urban greening often reduces crime [43-45]
	**Green gentrification**: Higher property values from urban greening can benefit owners, but increased rent and rates can displace some residents [46, 47]
	**Reduced access to sunshine**: A common source of complaint between neighbours is when trees block out sunshine in adjoining properties [48]
	**Maintenance burdens**: Trees can be expensive to maintain. For some people this can become a physical and financial burden (e.g., blocked gutters) [36, 48, 49]
	**Property damage**: During storms some trees can lose branches or may fall onto cars, houses, and powerlines, injuring people and raising insurance costs [36]
	**Bushfire risk**: If the wrong trees are planted in the wrong place it can increase the likelihood of properties being damaged during a bushfire [50, 51]

Urban forest definition

Urban forests can be defined as all urban trees and vegetation, on both public and private land, including native and ornamental vegetation [52]. Urban forests are increasingly regarded as 'green infrastructure', because they provide essential services to cities, such as cooling air temperatures, reducing stormwater run-off, lowering wind speed, and providing habitat for insects, birds, and animals [53, 54]. Urban greening strategies are long term

planning documents that inform decision-making about trees and vegetation in a city with a view to increasing urban forest cover [55].

Rationale for Launceston's inclusive greening workshops

When the City of Launceston resolved to prepare an urban greening strategy to guide how trees are planted and managed into the future, it sought to be more inclusive in how it engaged key stakeholders. To be effective, urban greening strategies need community buy-in and support and must meet the needs of a diverse range of constituents. As with any essential urban infrastructure, urban forests are key assets. Trees need to be watered when they are small, pruned when they are larger, and removed and replaced when they reach the end of their life [44]. Unlike drains, powerlines, or roads however, residents can develop deep and lasting attachments to urban trees [48]. Residents can feel uplifted when they see urban wildlife or experience the seasonal changing of leaves. But they can also feel upset if a tree dies, is vandalised, or is too heavily pruned [56]. And some residents may be disadvantaged or harmed by some greening activities.

A poor track record of socially inclusive urban greening?

Of the 24 regional greening strategies and tree master plans that cover non-metropolitan significant urban areas (see Appendix 1), few explicitly address the notion of inclusive urban greening. A recent systematic literature review of the urban greening literature internationally found that diversity is poorly reflected in urban greening strategies and activities [52]. Few urban greening studies have investigated whether urban greening affects people based on differences including gender, ethno-racial background, disability, religious beliefs, indigeneity, and socio-economic status. Some scholars have suggested that urban greening can entrench inequities and can continue colonial impacts of dispossession on Aboriginal communities [57, 58]. A key question then, is how to make stakeholder engagement more inclusive.

What is inclusive urban greening?

In the United States and Europe, efforts are being made to better include social groups that have previously been excluded from greenspace planning into the planning process [59]. But the urban greening literature has, until recently, been lagging on steps that can taken to foster participation in the planning, design, implementation, and on-going management of urban greening [60].

Social exclusion in urban greening

More than three decades of urban greenspace research have shown that parks, community gardens, recreation areas, and reserves are unevenly distributed in cities [61]. Wealthier people typically have better access to greener areas whereas people experiencing socioeconomic disadvantage often live in areas with lower tree cover and fewer parks and greenspaces [58]. Moreover, the process of greening parts of cities with less vegetation cover can lead to increases in property values and rents. This can result in the displacement of people experiencing marginality or disadvantage [53]. This process of urban greening driving up property values has been termed 'green gentrification'. The situation of unintended

consequences arising from urban greening is known as the 'greenspace paradox' [62, 63]. Being attentive to histories, patterns, and processes of exclusion and embodied experiences of diversity can help limit negative impacts.

Diversity and urban greening

Researchers suggest that one way to counteract the greenspace paradox is to ensure decisive efforts are made to include diverse groups in community engagement processes when developing and implementing urban greening strategies. It important to remember that there are many different types of social diversity, and people can experience multiple forms of difference at the same time, a situation referred to as 'intersectional' differences. Some of the dimensions of diversity commonly recognised include age, sex, gender, (dis)ability, socio-economic status, ethno-racial background, indigeneity, sexual orientation, marital status, nationality, migrant status, education level, parental status, occupation, languages spoken, religious beliefs and physical and mental abilities [52]. Not all forms of difference lead to experiences of marginalisation and disadvantage. Research shows that groups experiencing marginalisation and disadvantage face numerous barriers to participation (e.g., time, financial resources, language, knowledge, awareness), and should be explicitly targeted for involvement in urban greening strategies, with steps taken to make their involvement possible [60].

Diversity, social values, and inclusion/exclusion

Residents hold diverse sentiments, perceptions, values, preferences, and attitudes towards urban greening and green infrastructure. Some residents, for example, may have deep affinities with trees based on cultural values or childhood experiences; they may welcome more trees in their neighbourhoods. Aboriginal people may regard some trees as sacred or culturally significant; such trees must be protected. However, trees and vegetation can also negatively impact people. Older people and those with a disability, for example, can feel excluded from public spaces if urban greening limits their mobility. Tree roots and associated pavement uplift can create trip hazards [64]. Fallen fruit and flowers can make it easier to slip over. And densely planted areas can make some people feel unsafe. Some trees have pollen that can increase allergies and asthma [36]. Some plants may also hold negative cultural associations (e.g., associated with colonialism). Moreover, green spaces can be regarded as exclusively the preserve of one group, leading to perceived and actual social exclusion [65]. It is important then, to consider a wide range of perspectives, and to ensure people with diverse experiences ae involved in urban greening strategy preparation and implementation [38].

Steps to increase diversity and maximise inclusion in urban greening

Despite some of the above-mentioned challenges, there are steps that can be taken to increase diversity and promote social inclusion in urban greening [60]. Some researchers point to the IAP2 spectrum as a useful guide for identifying appropriate ways of including diverse groups in urban greening.

- **Step 1** – recognise existing issues and problems and acknowledge inequalities that exist in the broader community generally and in processes of planning, decision-making, design, and implementation specifically.
- **Step 2** – ensure processes are in place to explicitly include people with diverse backgrounds, different perspectives, and different needs, and make sure that people who experience different forms of marginalisation and disadvantage are given the opportunity to be involved.
- **Step 3** – include diverse groups in decision-making about design, planning, monitoring, evaluation, and implementation.
- **Step 4** – openly and transparently acknowledge where there are conflicting perspectives and name up points of difference.
- **Step 5** – shift from short term approaches such as informing and consulting to longer term approaches such as partnering, co-designing, and co-managing.

Exclusion can manifest in many ways, ranging from unequal access to resources and decision-making to barriers that prevent people from being involved in society. Understanding the mechanisms that can lead to social exclusion is important. These can be as varied as lack of awareness and knowledge, different cultural norms, entrenched inequalities (e.g., lack of access to education or public transport), and absence of trust in government. Resolving these issues will require diverse approaches such as information provision, education, training, financial support, skill-development, and even policy and legislation [66]. Internationally, approaches that have helped to promote inclusive urban greening include value mapping, collaborative planning, co-design, and co-management [59]. Specific tools include letterbox drops, public events, surveys, interviews, field days, public meetings, school-based activities, and workshops.

The City of Launceston's inclusive engagement workshops

This report presents the key findings from workshops held with key stakeholder groups in the City of Launceston from May 24 to June 9, 2022. A total of just over 60 participants attended the workshops. Participants were invited to attend the workshops based on their role in the community, their membership of key groups or organisations, their business interests or because they were an employee or elected representative of the City of Launceston. Stakeholder representatives were identified based on discussion with the City of Launceston.

The stakeholders present were older residents (recruited via the PCYC), multicultural people (recruited via MCOT), residents of Launceston's northern suburbs (recruited via the Northern Suburbs Community Centre), environmental and community groups (targeted via existing City of Launceston contacts), and local business representatives (recruited via the Chamber of Commerce and City Prom). Efforts were made to recruit participants from youth groups and the LGBTQIA+ community, as well as people with a disability, and people facing

hardship and disadvantage (e.g., homeless people), but these were unsuccessful. A decision was made to separately work with Aboriginal communities, to allow for sufficient time for discussion in a culturally safe space.

This report does not represent the views of the wider community. Rather, it offers insights from a cross section of people from diverse walks of life who interact with trees. The views discussed here are consistent with those reported in the broader scientific literature on urban forest management, including about stakeholder values, beliefs, perceptions, preferences, and concerns [44, 67].

Methods and Analysis

The stakeholder workshops were undertaken as a type of focus group. A focus group is a forum where 8-12 people come together to discuss topics of interest, guided by a set of questions, where a facilitator helps discussion. Some of the workshops were larger than others, including a workshop with the City of Launceston staff and elected representatives. A total of just over 60 people participated in the workshops.

The workshop format and questions were approved by the University of Tasmania's Human Subjects Research Ethics Committee (HREC-026905). Participants were provided with an information sheet prior to the workshop, and all participants signed an informed consent document, stating they were aware of the risks of participating and agreed to participate voluntarily and without payment. The workshops were run by a trained moderator.

Figure 2 – The workshops were run as a type of focus group

All workshops were recorded using digital audio recorders. Recordings were transcribed using professional transcription services. Transcripts were then analysed using Leximancer™ text analysis software, to identify key themes and concepts. The transcripts were further manually coded, to extract representative quotations. The identities of all participants have been anonymised, and every effort has been made to limit the chance that a participant could be identified. Affiliations of participants are not reported.

Workshop participants were asked a series of questions and were given time to discuss these with each other. Answers to the questions were diverse. There were varying levels of agreement with the views participants expressed. On occasion, some participants strongly, but respectfully, disagreed with each other.

Questions were designed to elicit participants' ideas about: (i) what makes a city liveable, their (ii) preferences for different types of trees, their (iii) awareness of tree benefits and

problems, their (iv) awareness of climate change impacts – with a focus on heatwaves, and their (v) suggestions for how trees might be used to help adapt the City of Launceston to climate change.

A copy of the workshop questions appears in Appendix 2.

Findings

"If I was god of Launceston, I'd take out every second carpark and replace it with a tree" (Workshop participant, 2022).

As can be seen in figure 1, the Leximancer concept map, the workshops generated insights related to trees and vegetation in the City of Launceston. Key themes were people, heat, climate change, risk, trees, and beauty – as well as tree characteristics and functions (e.g., look, grow, used, time). Warmer colours show the most important topics, and the size of bubble indicates the frequency of occurrence in the conversations (also see figure 2 - histogram) [68].

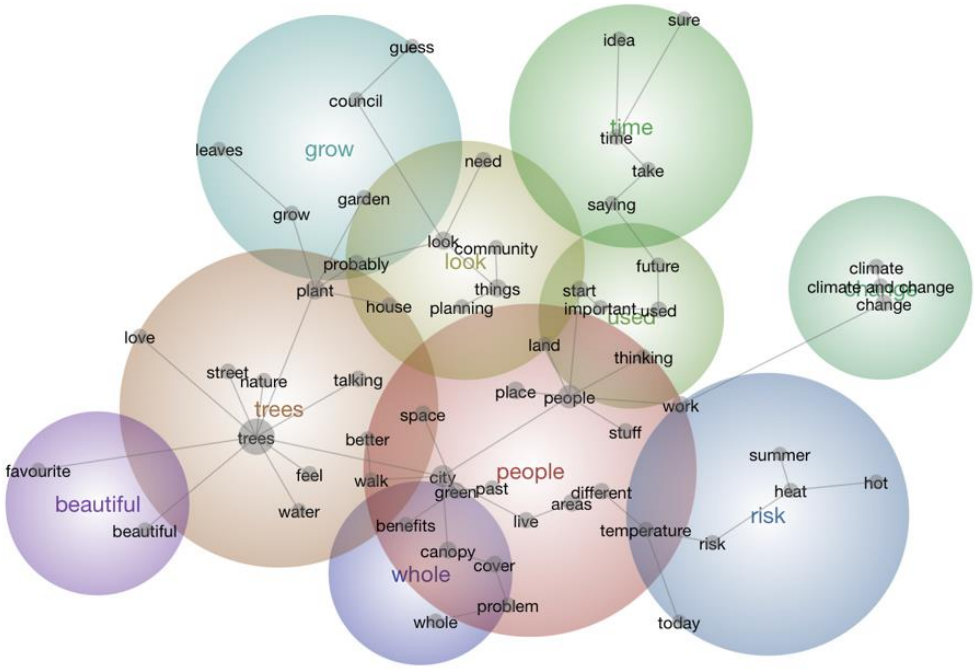

Figure 3: Concept map showing co-location and nesting of themes and concepts

While participants discussed many different topics, the interactions between people and trees were unsurprisingly the most common discussion points. Other frequently occurring topics included trees aesthetics, the uses and functions of trees and greenery and how trees and greenery change over time in positive and negative ways.

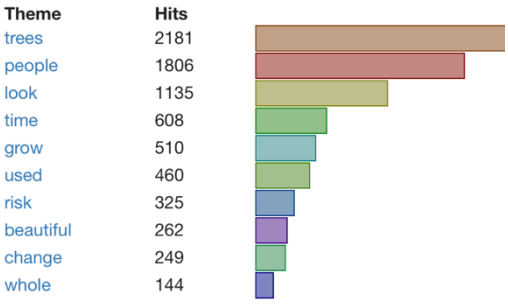

Figure 4: Histogram showing frequency of concepts

Attitudes towards trees

Workshop participants generally held positive attitudes towards trees. Many reported that trees, gardens, and greenery were essential parts of their lives. Across all the workshops, participants expressed the view that Launceston's trees were a key part of the city's character, especially how the city's trees change colours with the seasons, but also the flowering of trees and shrubs, and the scent and aromas of different plants.

Insight 1: Participants recognised their past experiences with trees shaped their attitudes

Participants at one workshop spoke of how the trees in the country where they grew up shaped their current attitudes towards trees. One spoke of loving big trees because "*from my culture, it's a tropical country. The banyan tree grows like a huge span, and is an important part of the society…when you go to a village, then that tree, in the shade of that tree will be like sometimes a worshipping place, a community gathering place, [kids] playing under the shade, lots of birds, [acting as] some form of temple, and it has holy status. When these trees are cut, the people really miss them a lot*". Another participant said "*I remember back in my country when it was the season…for mango, tamarind, we always eat from the trees…you don't have to pay for it, that was so good*".

Several participants spoke of the formative influence of childhood experiences "I feel like when I was going for walks, when I was a child, I used to go and pick up little things, throwing them to friends or whatever. It reminds me a lot about my childhood and good times". Another said "*I do remember going out to the forest, where densely planted, as soon as you walk in, just covers up the sky, and the smell that you get from the pine trees is just like a morning kind of sensation, it's very refreshing…and then you know, foraging for mushrooms and things*".

But not all the memories were positive. One participant recounted growing up with mango trees "*they are everywhere, they are so big, they are really, really, big. And the mangoes in [my home country] is not like here, they are big, so when they fall…they can be really dangerous. And sometimes they fall on top of houses or cars. When it's mango season, its mango everywhere, and they smell so bad when they are rotten*". Finally, one participant recounted how, when she was a little girl, "*my father didn't let me be on top of the tree or take off the leaves because he used to say it's a living thing, so it has feeling. If you do that, it's like I'm taking a hair from you…everyone should respect trees*".

At several workshops participants recounted stories from their childhood, sharing experiences with trees that shaped their attitudes in adult life. Some of these were positive stories about visiting culturally important places in people's homelands (e.g., tree shrines). Some responses were tinged with nostalgia and sadness, about the clear-felling of forests. Others were about unpleasant experiences in other cities, such as experiences of caterpillars dropping from plane trees in summer, to be squished underfoot, or the smell of rotting fruit littering the ground on a hot day. Such memories evoked strong emotions.

Tree problems and concerns

Participants identified a wide range of tree problems. Many were quick to point out that they liked trees, and that they did not feel that trees were bad, rather they felt that some trees were planted in the wrong places. Tree problems they identified included fallen fruit, flowers and nuts on pavements that created slip-trip hazards, roots uplifting pavements and damaging underground pipes and infrastructure, people pruning trees the wrong way, which weakened branches and increased the risk of trees shedding limbs or becoming diseased, trees dropping sap, fruit, and even large seedpods and nuts on pavements and vehicles, and trees growing too big and blocking winter sunshine and/or views.

Uncivil behaviour was singled out for discussion on multiple occasions. An older participant recounted a story of seeing children using fallen fruit as 'missiles' to throw at each other. A business workshop participant recounted seeing youths throw fallen fruit and nuts into shop entrances for fun. At several workshops, participants spoke of how tree vandalism is a problem in Launceston. Participants said vandalism left streets unsightly, especially where it took a long time for trees to be replaced. One participant reflected on an instance of tree vandalism in the Central Business District where a tree that had been snapped was removed, but the broken stump was left behind and was never replaced. They said that this reflected poorly on Council. Another recounted a story of seeing a tree ringbarked by a bored kid with a penknife, which they reported to police, but no action was subsequently taken.

Figure 5 - Tree problems can include root damage to infrastructure and obstructing signage

Across several workshops, participants said they felt sad when trees were damaged during pruning for powerline protection; they hated the look of trees with "V" shapes missing. Some participants also expressed the view that some people in the broader community saw little benefit from trees. For example, one participant said: "you'll get the odd boofheads… where they'll just be like fully against it, think it's going to ruin their world…in certain [demographic] areas, …you'll get vandalism for the sake of vandalism, all these bored children…".

Other participants reflected on strong negative attitudes towards trees saying that they may be due to some trees being planted in inappropriate places "Launceston's amazing, it's got such variety [but] I'm always gobsmacked at Bunya Pines because they're in the absolute wrong spot…there's massive ones all over this town, they've been here for over 130 years, but if you've ever seen a Bunya cone fall on a bonnet…they make a big impact".

Insight 2: Residents, business owners and staff are affected by tree vandalism

At one workshop, the participants stated that they were dismayed by tree vandalism, where newly planted trees had been attacked.

"*On Wellington Street…a lot of trees were planted…I think there's been a bit of pushback. I took a photograph this morning of one that [had] just been…hacked off at the base…one of the big ones actually got cut down. A couple of people with a chainsaw in the middle of the night*."

In another workshop, one of the people attending said "*people were backing cars into them…chopping them down*" and another responded "*like if you got a tree cut down…just a hundred odd dollar tree…it's probably worth about $10,000… once you put all the labour and material and whatever else into it…it's just money gone down the drain unfortunately…quite apart from the care and attention that goes into actually planting the trees in the first place, the actual…pain…you go through…actually getting it in*".

At another workshop, one of the attendees stated *"…if someone wants a tree and they plant it, they look after it, they water it, and all that sort of stuff. The tree thrives. The only time it doesn't is vandalism – kids walk past, break them. But if you get ownerships of the tree and the incentive, maybe cheaper rates for a year or something, …the tree will be looked after by the residents in the long term, maybe*". Another said "*people just aren't educated on the matter…they think it's their right, if they don't like it, just get rid of it…or poison it…people are chopping trees back because they don't have a view anymore*".

Finally, one participant at a workshop spoke of contractors cutting back trees near powerlines as an act of 'tree vandalism', saying trees "*have the shit chopped out of them by contractors…they look like a great tree and then all of a sudden they've got a big V cut out of them…we used to try and manage that…[the City's] guys used to do it a little bit better…[but now, contractors] completely massacre [them] because of powerlines…and it just makes me sad…its horrible. …I get emotionally attached if someone vandalises a tree. I take it sort of personally*."

Of interest, participants at several different workshops recounted stories of feeling that some trees made them feel unsafe. One participant mentioned hearing about Aboriginal people talking of spirits dwelling around casuarinas. Another said the whispering of the wind through some trees was held to be an omen by some cultures or was the sound of ghosts. Some older members of the community said they felt less safe around dense plantings of trees where visibility was reduced. And several participants in different workshops identified large trees as being potentially unsafe and posing a risk to property, although others said they specifically enjoyed living near large trees and were prepared to accept any risk they posed.

Figure 6 – Some participants reported feeling unsafe around some types of trees

Tree benefits

Many workshop participants spoke of the benefits that trees provide. Such benefits included fresh air, relaxation, social interaction, shade, play spaces for children and attracting wildlife. One participant spoke fondly of a childhood memory of a sugar glider that fell from a tree, which they nursed for nearly a week. Years later, they took their own children to see their childhood home and they were surprised and heartened to see the tree was still there. Participants said that trees gave them a sense of belonging, making a place feel like home.

At multiple workshops participants discussed the food provisioning benefits of trees and spoke of the joys of foraging for fruit and nuts in their yards and neighbourhoods. One participant even said that the nuisance of fallen fruit on a pavement outside their house had a positive outcome when they learned their chickens enjoyed eating the fruit, in turn providing them with fresh eggs. Another, at a different workshop said “there’s a point to be made for planting food, for food security. Where we live…there’s a case to be made for planting more fruit trees. …When I was young, we grew up in a densely populated area, impoverished area…we knew the place that had apple trees, so you sort of – your friend looked out for you while you hopped over the wall [to get some]”.

Although participants across the different workshops spoke of concerns about very large trees on urban streets, some participants highlighted the important benefits of big trees. At a residents' workshop, one participant said "…I love big trees…old trees. I feel like we should work around these trees. So, I'm really into holding onto the old trees and giving [them] the space they need to fulfil their potential. …I love to see a tree that's many hundreds of years old…they've provided homes for all of our wildlife, and I just think that they're a living, breathing [being]…its actually incredibly life affirming". Similarly, at a community group workshop, a participant said "I love tall trees. My soul dies without them".

Insight 3: Participants said they were prepared to trade-off tree costs for benefits

At several of the workshops, participants said that even though there were problems and costs associated with trees, on both public and private land, overall trade-offs could be made. Many suggested that tree benefits outweighed costs.

Speaking about the benefit of larger shade trees in the city, for example, one participant said *"…you know, the road doesn't get as hot, that saves the surface of the road a bit more*". Another participant spoke of growing native trees, despite some of their challenges "*I'm into natives…trouble is they have a limited life, they will fall over on you at some stage…they're just throwing gum nuts at me. It's a lovely tree…we do lose limbs from time to time*".

Maintenance challenges were a common theme. At one workshop a participant spoke of the benefits and problems of deciduous trees "*the colour change, I think that's good, but then I don't like it…when the leaves fall everywhere in the street…But you've got to allow light in for the winter in Launnie, it's so cold and damp, you can't just have a permanent canopy…"*.

One participant recounted the trade-offs of having a large tree outside their house "*I've got a huge gum tree that sits in front of my place. Lovely tree…but…it sheds a lot, does lose branches…I'm concerned about it…It's a great tree to have…with green Swift parrots or whatever that live in it… but its' not a great tree to live around. Yeah…it will fall on my house one day maybe, but it's just one of those things – the tree is great, but it's not in a great place*".

Several participants pointed to the challenges that can come as trees mature "*the maintenance side has always been a big factor…a tree in the ground is lovely and all that sort of stuff, but actually maintaining it in 20 years' time, that's when the hard part comes*", and "*I don't know if it's the type of tree or just because it's poorly maintained…it annoys me when you try and walk along a footpath and the tree's too low, and you're ducking and weaving…you get the acorns, you get the low hanging branches…where the roots go and lift up footpaths and crack curbs and lift up the road…but it's probably just the method of installation than the actual tree itself – I can't think of one I don't like physically or emotionally*".

Climate change impacts

Participants discussed a wide range of climate change impacts at the different stakeholder workshops, including flooding, storms, bushfires, and heatwaves. Several participants spoke of increases in "crazy shit weather", "rain bombs", "more extreme stuff", "more extreme temperatures" and "just more extreme stuff that we've been really lucky over the last few years to not [have here in Tasmania]". Some participants spoke of their fear of living in

heavily forested areas during bushfire season. But participants also said they enjoyed the forest and accepted the risks it posed.

When asked about experiences of living through heatwaves, several participants recounted harrowing stories of having to endure days of temperatures in the high thirties and low to mid-forties in other Australian cities, telling how it made them physically ill, limited their mobility and made them worry for the safety of this children and older friends and relatives "*It's inescapable, and if you've not got air conditioning or don't have any means of keeping cool…you've got to go to like a major shopping centre or something…with all the other hordes of people. People think they're safe because they've got air conditioning, they're* privileged enough to have it, but then it doesn't work because the power cuts out…I've collapsed from heat before, like in Melbourne, 40°C days".

Participants also noted that warmer weather can have negative impacts on quality of life if there are not enough places to seek respite from the heat "Tempers fray a little bit, yes. …people, they get snappy…they get hot and tired…you really notice people's attitude change…It affects your behaviour…people get in bad moods…society begins to decline…you'd notice it in the workplace…relationships deteriorate". Some spoke about the impacts on livestock and companion animals "often it's too hot to have your animals outside…if you're going to walk your dog…the street's too hot". Others said they "limit activity to earlier or later hours of the day". At one workshop, participants also spoke of tree pathogens as the climate changes "this slightly warmer climate we're getting actually allows a lot more pathogens to get worse on trees [with] a bigger effect on trees, for example myrtle rust".

Figure 7 – Participants recognised the many benefits that trees provide (e.g., food & shade)

Planning for tree protection and management

Some participants expressed frustration at the way city planning processes appear to hinder efforts to make the city greener. Participants spoke of the difficulties in trying to

accommodate trees and utilities in the same spaces "…it's working out the right species of tree to get the canopy that we want without destroying all of the other [infrastructure]…trying to grow a 100 foot tall tree over a powerline".

At the Council workshop, employees with considerable expert knowledge and experience spoke of the difficulty and expense of trying to plant trees in street verges that were already crowded with infrastructure. They told of how a tree in a more suburban or peri-urban area might cost $40 to plant, whereas the same tree in a denser urban neighbourhood could cost $6,000 to $8,000 to plant, due to the need for tree planting cells to contain the root ball.

Insight 4: Participants pointed to the importance of good design in urban greening

Across the workshops participants said that they enjoyed Launceston's architecture. Many reported that the city's architectural heritage is a source of pride: "I think it is a beautiful city [with] incredible architecture". Many also said that trees and greenery make the city beautiful and liveable: "…urban canopy exists as a consequence of very thoughtful planning…that creates…and ambience that is attractive…people want to come and hang out". Citizens recognised the challenges of retrofitting greenery "*…you're in an older city…because a lot of it can't change…that's a challenge. I often think we don't spend enough time in Master Planning to get that right*". Speaking of Council's design efforts, a participant said "*they've got to be accessible…they have to be diverse…places for people to hang out for different purposes*". At several workshops participants noted that there seems to be an environmental inequality in who has access to trees and greenery in Launceston "*…it breaks my heart that our most impoverished suburbs are treeless. There's a great social inequity there…it says that if you're poor, somehow you're not entitled to a leafy street. I think that's shocking*".

Participants at the multicultural workshop and the senior citizens workshop expressed dismay that smaller lot subdivisions were being permitted where there was little room for tree planting and noted that these suburbs would likely become unbearably hot in the future (see figure 8). At several workshops participants expressed a desire to see more tree planting in the northern suburbs and in the city centre.

Many workshop attendees expressed the view that Tasmania's planning system was preventing good urban greening outcomes. Participants spoke of the concessions provided to developers, where green space allocations were just 5% of the developable area, and on occasions were waived altogether. This, they believed, produced bland and disinteresting suburbs that were unpleasant to live in – while affordable in the short term, this could have deleterious health and wellbeing consequences in the future. At one workshop, participants spoke of their grave concerns that tree protection overlays were being removed from planning schemes – or would not be allowed in the future. They were worried that reduced tree protection in planning instruments could have long term negative impacts on native vegetation and critically important habitat areas around the city, as well as street trees, and trees in people's gardens.

Participants at several workshops said they wanted faster action on climate change. They said that tree planting, and protecting trees on private land and in reserves, could make a difference. But, as noted by the participant quoted here, they felt that poor planning is getting in the way of good outcomes: "…I'm quite anxious about these issues…I want to say we can't do it quickly…if I hadn't done my job well enough…those acres of bush would have been felled within the next month – that's hard for me to live with. …what is the barrier for me acting quickly? The biggest barrier is…the state-wide planning scheme".

Tree preferences

Participants said they liked a wide variety of trees. Some spoke fondly of European and Asian trees "I really like…Ginko trees because they are a really bright buttery yellow [with] an unusual leaf" and "I love oaks and beech because of that English heritage, the big size and the history and magnificence of them". Older residents spoke of their love of trees such as magnolias, elms, and maples.

Insight 5: Participants said trees are key infrastructure requiring appropriate resourcing

Participants in many of the workshops said that trees needed to be considered just like any other Council asset. While they may appear to be resource-intensive, the many benefits they provide and avoided costs suggest that taking care of the urban forest is a good investment in the city's future.

At one workshop, a participant said "*…it all comes down to basically you've got to obviously choose a tree for that area. Of course, every tree grows to different sizes and things like that. So, that's something you really want to focus on…you're not going to plant underneath a powerline [a tree] that's going to get too big*". Participants said that what is needed are guidelines for tree selection *"…guiding principles for how [to choose a tree] appropriate for the location*". Recognising that trees can be an afterthought, and may struggle to compete with other infrastructure, one participant suggested "*you might then say, well rather than designing it around the infrastructure, you could actually just move the infrastructure to make room…so then allow for bigger trees*".

Participants noted that the bigger trees in the city were due to the foresight of past generations "*all the trees that we're experiencing and enjoying now are the ones that were planted a hundred odd years ago*". Echoing this sentiment, another participant said "*which does create significant maintenance challenges certainly, but I guess it's about resourcing the city to enable it to have the character and the atmosphere that it deserves*".

One innovative approach to financing was suggested by a participant who pointed to potentially using carbon credits to finance tree planting and urban forest management. They said *"…the world's changing currently, and this idea that carbon taxes and carbon offsetting, that potentially there's ways of paying for [tree planting and management], say even for a tax offset, to say if you plant a tree now, there are sensors where you can map and record how those trees are growing…So the City of Launceston might be able to even sell some of those carbon credits…make the rates cheaper*".

Participants at the multicultural workshop and northern suburbs workshop spoke of the joy of urban foraging and said that fruit and nut trees can work well in the urban landscape if planted in the right place and cared for properly. Other participants spoke equally fondly of Australian native trees and shrubs "I love the Tasmanian trees…natives because I love having wildlife that I want to come in…like birds" and "I think there's a lot to be said for native plants because obviously they're designed for the climate and for where we are in the environment", and "if we use natives it going to [attract] local animals and insects". Many participants were very pragmatic, saying "I also like trees where they're appropriate…I don't want to see something that's not in the right place" and "I'll always push natives in most places, but there are exotics that work really well".

Many participants expressed strong preferences for flowering shrubs and trees: "I love the tree…the blossom tree that, …when it changes, it's so stunning, lights up the street. It's like a cherry…or something, it's a monstrously incredible blossom and it just – the street just goes off. The autumn effect is…equally stunning on the other side". Another participant observed "you don't have to go completely native but it's nice because we have grevilleas and things and we watch the birds…you can have your oaks, as long as you've got a nice big park area" and similarly "I'm a big fan of the wattle tree".

At one workshop a participant told a story about loving acorns "there's something almost entertaining about watching acorns drop, you know. The sound of them either hitting bitumen or landing on someone's car, you know…wouldn't do any damage…just sound impressive". But at some workshops, participants noted that using the wrong trees in a location can create problems. For example, a participant observed "there are currently…trees in the mall that have a nut or fruit on them, and the kids just go ballistic with them, you know, they're thrown everywhere…When you've got a mall full of people and you've got ten kids there throwing them aimlessly everywhere and you've got elderly people getting hit, it's not good".

Another participant recounted a similar story "they have a flower that drops all these hundreds and thousands of these little pink petals…then they have a fruit on them...and that fruit…smells awful, it smells like a dead carcass, like road carrion…and that drops on the pavers in the mall and makes this very, almost apricot preserved jam…blob around each tree…that stains the paver…they're slippery…the kids throw them at each other or they'll throw them into a store…just for fun". However, participants also noted that in some parts of the city deciduous trees like these were essential "you get the sun in winter and the shade in summer and it's just perfect…Living with nature is living with nature…we can't be so woke that…you know…we can't even plant a tree because someone might, you know, take offence at the leaf".

Figure 8 – Suburban gardens with fewer trees point to specific 'garden cultures'

One of the underlying themes emerging from the workshops was about tree preferences, and preferences for specific landscapes and garden styles. Conversations with participants point to the complex relationships between tree preferences and the goal of maintaining and sustaining a healthy urban forest across the City of Launceston. Although there was a general sentiment among workshop attendees that 'trees are good', this does not necessarily reflect wider community perspectives and sentiments.

Further research, using surveys, will be necessary to establish the prevalence of different views, sentiments, attitudes and values regarding trees and greenspaces, including design and functions. This is important work because the garden styles in some parts of the city (see Figure 10) strongly suggest a preference for gardens with manicured shrubs and lawns but few trees. It is possible that some sections of the community hold more conservative attitudes about what a 'proper' or 'tidy' garden should look like, and that Australian native vegetation is potentially seen as untidy. Moreover, some residents may feel that larger trees do not belong in suburban gardens. This has implications for how the City of Launceston can acquire and maintain a social licence and community buy-in for urban greening.

Visions for a more liveable city

Participants were asked about their understanding of what makes a city liveable. Discussions were wide-ranging. Participants mentioned many different components of a liveability, including 'good planning and design', 'a pretty city', 'beautiful parks', 'clean streets, no litter', 'good coffee', 'old buildings', 'somewhere where you can unwind', 'places to linger', 'being able to walk everywhere', ' accessible and vibrant', 'diverse', 'places for people to want to spend time in', 'places where you can cycle safely', 'dog parks', and 'less traffic, more public transport and more public toilets'.

Across all the workshops, the most frequently mentioned aspect of a liveable city was greenery – both trees and greenspace. Participants variously described this as 'plenty of greenspace and open space', 'like Seattle…because of the trees…big trees, not little shrubs', 'definitely trees, trees, trees – the more the better – and not just in the CBD, in the suburbs too', 'natural bush', 'community gardens…and verge gardens', and 'interconnected…havens of green…include all biodiversity…'. One participant suggested an aspect of a city being liveable is if there are "fruit trees that could grow in the streets and could sort of be for feeding people, help themselves".

Many participants across different workshops said that biodiversity is a very important element of liveability. This is perhaps best captured in the following quote "My view of a liveable city is one that is interconnected [with]…corridors of green…birdlife, insects and flowers…we need to restructure our streets to include all biodiversity". This perspective was echoed by a participant at a workshop for multicultural residents "I think a beautiful and liveable city should be designed not only for people but also for …wildlife, …animals…and other creatures" and a participant at the business workshop said "nature connection…the whole mental health thing. If you're part of nature and you're closer to nature, people have a much more positive experience". This idea of a liveable city was also expressed at the staff workshop where a participant summed it up as "it needs to be balanced with the natural and living elements…".

Policy implications

City planning

Participants expressed frustration that the multiple benefits that trees provide are not sufficiently acknowledged in city planning and environmental management processes. At multiple workshops, participants said that better planning outcomes could be achieved if trees were treated in a similar way to other critical infrastructure. At one workshop, a participant suggested that the way the city handles development applications could be improved, to ensure that trees could be better integrated into new development. They said, "when [developers] provide their servicing plan and their road reserve and there's street trees, …what you could do is say…condition something to make sure that their utilities are under the footpath" so that the trees are not being constantly disturbed to service infrastructure. They continued "it's about early design…because we don't normally condition something saying you need to show us what trees and where they're located…I think that's probably not a bad place to start…so there's room for trees. …we'd probably want to say what they're going to be and where they're going to be planted".

Management practices

Participants at many of the workshops understood that managing trees was the responsibility of both Council and residents. At one workshop, a participant said "I would like to say that it's everyone's responsibility, but actually it needs to have that bottom line level of care that comes from local government …because unless you've got an arrangement with a men's shed or a horticultural society…there's a lot of things that can fall over and bad green is worse than having no green at all…It's unfortunate, because there's a lot of good will around, but I think that ultimately there has to be a base level of care that provided from Council…to ensure the investment…continues to be an asset to the city".

Figure 9 – Participants pointed to Melbourne and Canberra as cities that value their trees

At every workshop, participants said that Council faced some tough choices in how best to manage trees and greenery. For example, a participant said "I know councils don't like deciduous trees because they drop leaves and they have to pick them up". And another observed "…every day in Launceston…they leaf blow the city, every single day…two Council cleansing [sic] officers spend a couple of hours leaf blowing every street, footpath, shop, into the road for street sweepers to pick up leaf litter". One participant recounted a story of rapidly growing trees creating problems "the council put trees down…and unfortunately, they've grown quite quickly and they're overhanging the roads and it's quite a heavy bus route, so it…knocks the mirrors of the bus. …you know, it's [being] mindful about what's right for that specific spot…like there's so many that you can't plant near roads because of root damage".

At almost every workshop, participants identified the need for Council to allocate more resources to employ more qualified arborists on staff, rather than using contractors. Many recounted experiences of positive interactions with Council staff. Some joked that the arborists were almost performing counselling or psychological services, for people concerned about trees on neighbours' boundaries or who had a grievance with the ways trees were being managed.

Insight 6: Trees can give residents a 'sense of place' & boost property values and wellbeing

At several workshops, people attending said that trees gave Launceston a sense of character. From the way the leaves change colour in autumn to flowering trees in the spring. At several workshops the participants observed that trees are not evenly distributed across the city "*it's interesting, if you look at places like East Launceston, the places with the highest property prices are the places that have the biggest trees*". Another noted "*I've lived in a tree-lined street before, and it is a magic place to be…opposed to the one where it's just fully exposed to sunlight, the temperature difference is massive. But then in winter, the leaves come off and then you've got sunshine*". One participant described how in Canberra, different trees are used in different suburbs, building a sense of identity that is linked to wayfinding "…you actually move through the city streets [and] get a sense of where you are…they've got different street trees in different streets…you kind of get a sense of you know, where you are, because of the trees that you're amongst…there's something…quite nice about that". Another participant said "There's just something about seeing a big bunch of gum trees that makes you feel like you're…home…the smell too…the smell of the bush". In contrast, one participant at a multicultural stakeholder group said "*people choose different trees for their neighbourhood that they like better. For example, around here in Mowbray, I can see it's very diverse, lots of migrants live here, they plant things that they like from their culture, and then build connections in the process, you build community*". In response, another participant said "*yeah, it reminds me that when I visit a community garden in Riverside, I see some trees that only South Asian people use, as herbs. I know, oh, there must be some South Asian people here*".

Across workshops participants expressed feelings of shock, disbelief, or sympathy for the way that some residents blame Council for suboptimal tree management outcomes. For example, a participant said "I feel bad that…they're on the a back foot…when they're going

to take the next step". Recounting a story of a tree trial that had a poor outcome, the participant said "they did a few test cells, the feedback was very poor from the public, just saying not enough, wrong place, not appropriate…I thought that was very unfortunate. …And Council just seem to have sort of given up on it". Responding to this story, another participant in the same workshop stated "I think the Council demonstrated a great deal of foresight and courage. …It's uncommon here [tree planting] and people found it confusing and struggled to come to terms with it, but in my view, that didn't make it wrong…In fact, if I had any criticism, I'd say that Council didn't go anywhere near far enough…it's very difficult to be courageous…".

Resourcing tree planting and maintenance

Recognising that urban greening is not just the responsibility of the City of Launceston, some participants said that Council should consider incentives for people to plant more trees on their own properties. These ranged from tree give-aways and vouchers for nurseries to reduced rates or rates rebates based on increasing tree canopy cover. Several participants suggested that Council should investigate carbon markets to fund tree planting and maintenance. Many participants recognised that residents in the northern suburbs would already likely be struggling with the cost of living and that requiring them to plant and manage trees on their properties, without some form of assistance, would be unfair. One participant summed this up as follows: "Where's the money coming from to pay these people?...If we're finding that the trees and landscape are actually an asset, and making money, then this could work. …So if you're passionate about your gardening work, you'll take care of it…And if you're paid for it, that would be a win-win in my opinion…try to find a way to do that". Another participant suggested setting up a social enterprise for growing tree stock and for making products out of trees in the urban forest when they are pruned or removed at the end of their lifespan.

Figure 10 – New subdivisions provide little room for trees; cars are prioritised in the CBD

Participants at the business workshop identified the many benefits that trees provide for business owners when they were properly maintained, encouraging customers to linger, by creating an inviting atmosphere along streetscapes. But they also said that trees need to be planted so they will not obstruct shop signage "if they have a shopfront, the impact of having a tree on their shopfronts, that people can't see their merchandise when they're driving past…they're worried…worried about accessibility to their shop". Participants at this workshop reflected on efforts to enrol business owners and staff into caring for trees in the CBD but concluded that past efforts had not worked because staff and shop-owners and staff were too busy.

Education

At several workshops participants identified the need for better education of residents about tree benefits. Some thought that this could be embedded as part of a school curriculum, where children collected seed and grew trees for Council as part of their learning about the environment. Others thought that citizen-science initiatives might be possible, such as for the monitoring of tree health. One participant at a workshop said "I think tapping into primary schools is really important…people are less likely to object to something if their kid is doing it at school…if the kid's really excited about it or whatever. …You may not be able to change the minds of older generations…start with the kids". Another participant agreed, saying "I definitely think the children are the place to go…even sports clubs, just to educate them to want to do it and to want trees…It's getting kids to want trees…and to actually have a love of trees". In a different workshop, participants made similar observations "…one of the biggest barriers to solving any of these issues is people's ignorance…the schools have to teach it…because unless people understand, they won't willingly put a tree in their backyard. …The connection with nature is so important for our children to be able to want to care for it in the future".

Figure 11 – Water sensitive urban design and repurposing parking can boost urban greenery

Best management practices

Across multiple workshops participants pointed to examples where other cities had tree protection and management practices that seemed to be very effective, and which the City of Launceston might copy. Some pointed to Canberra, identifying tree give-aways as an option for getting people to plant more trees. Others noted how Canberra has common-trenching of infrastructure so that trees do not have to compete with water, power, sewerage, internet and other utilities. One participant said "probably a good idea to incorporate the asset owners themselves, as in TasWater, TasGas etc, in terms of looking at how infrastructure's implemented…designing new ways of implementing infrastructure into the ground …so you wouldn't be spending $8,000 on a cell every time you want to upgrade something". Other participants pointed to how street trees are planted in the middle of the street in some parts of Melbourne, potentially removing some sources of conflict "what I noticed, especially with Melbourne inner city, a lot of their trees are planted in the centre of the road, where there's probably no assets".

Finally, at one workshop a participant suggested that having a steering committee or reference group comprised of residents and business owners could help Council guide the community through difficult decision-making.

Lessons learned: towards more inclusive urban greening

"you know, [it's] the best of humanity, where we've kind of worked out how to use nature but create a civic space at the same time…for generations to come, it's a magnificent legacy that we leave to the future" (Workshop participant, 2022).

Residents, business owners, and Council staff who attended the workshops reported a strong affinity for trees and expressed positive attitudes towards urban greening. Recognising the need for the right tree in the right place, workshop attendees were aware of, and deeply concerned about climate change. They saw urban greening as an important way to adapt the city to future impacts. There was a wide level of support expressed for the City of Launceston's tree-planting, especially for Council's arborists and the important work they undertake, but also for parks staff and planners. As one participant stated "I just want to make a point about this social licence thing. It might take five years, but you'll need to – you know, with any issue about change like that, you've got to show people a better future. The better future is that we are going to have lots of trees…but it will take time".

The findings from the workshops suggest that Council has a social licence to undertake urban greening. But they also point to the complexity of managing trees. There appears to be strong support in many sectors of the community for further tree planting, and the participants we spoke with said that Council should pursue opportunities for co-design with the broader community, to ensure there is 'buy-in' for Council's vision and actions.

Figure 12 – It is important to develop and implement best practices for tree protection

It is important to note that these workshops were not intended to provide a representative or exhaustive overview of the perceptions, values and beliefs of residents and business

owners in the City of Launceston. Rather they offer targeted insights, that can help shape thinking about the Urban Greening Strategy generally, and the implementation plans more specifically.

Lesson 1 – Target people experiencing social exclusion

Not all stakeholders were able to attend the Launceston urban greening stakeholder workshops. Some could not attend due to time constraints. Others did not respond to invitations to attend. It is therefore important that efforts are made into the future during the implementation of the strategy to deepen engagement with a broader cross section of the community and stakeholders, especially with hard-to-reach groups.

- Different social groups and stakeholder representatives to be engaged in urban greening strategies should include tenants' associations, public housing providers, children and youth, LGBTQIA+ people, people with a disability, organisations representing people with physical and mental health and wellbeing challenges, and people experiencing homelessness, among others.

Lesson 2 – Allocate enough time, staff resources, and a sufficient budget

The time constraints and limited budget allocated to the project by the City of Launceston meant that resources were not available for extensive stakeholder consultation. It was not possible to engage with larger infrastructure providers who are key landholders and asset managers within set timeframes. Some organisations found it difficult to attend due to time and budget constraints, especially non-government organisations such as the City Mission.

- During project inception, it is essential that sufficient time be planned into strategy preparation for key stakeholder consultation, as recommended in the Australian Standard on urban green infrastructure (SA HB 214:2023). This may require several iterations and use of complementary strategies such as surveys, interviews, drop-in sessions, feedback forms and outreach.
- Efforts should also be made to engage with a wider range of government agencies and large institutional landholders, such as representatives from TasNetworks regarding tree planting under powerlines and TasWater regarding tree planting in road reserves where there are existing underground water and sewage pipes.
- More effort needs to be made to establish an ongoing dialogue with stakeholders who could not attend due to limited time, personnel, or budget. This should occur across the policy hierarchy, from policy, through strategy to master plans and implementation. It may be necessary to offer payment and provide childcare and catering to allow some people to attend.

Lesson 3 – Take time to respectfully work with Aboriginal groups

Aboriginal organisations and their representatives were not present in the stakeholder engagement workshops in Launceston. This was due to the complexity of obtaining an

ethics approval to work with Aboriginal people and due to the need to create culturally safe spaces and processes for engagement that avoid lateral violence (e.g., conflict between Aboriginal groups with differing perspectives).

- Ensure Aboriginal communities can participate in shaping Council's future strategies, to safeguard respect for cultural values and traditional knowledges and practices, and implementation plans arising from the urban greening strategy.
- Recognise that simply including an acknowledgment of country in a document can been seen as tokenistic if there is no genuine avenue for participation and ongoing engagement by Aboriginal people.
- Respect that Aboriginal people must not be expected to speak with one voice, so urban greening strategies, engagement processes, and implementation plans need to be able to accommodate a wide range of viewpoints.
- Accept that Aboriginal people may decline to participate due to being over-consulted or for other reasons.
- Allow sufficient time in project planning for ethics approval to be obtained when undertaking research with Aboriginal people. This can take many months.

Lesson 4 – Explicitly address diversity and inclusiveness

Few of the regional greening strategies we assessed have addressed diversity and inclusiveness in their preparation. Very few have undertaken comprehensive community and stakeholder engagement. There are, however, some notable exceptions.

The City of Wollongong strategy discussed Aboriginal cultural values in a historical context and the City of Toowoomba recognised the importance of Aboriginal cultural knowledge and values in its strategy. But this can still be seen as tokenistic.

- The City of Bunbury in Western Australia stands as an example of best practice. Bunbury explicitly designed its greening strategy in consultation with traditional custodians, taking time to work through issues and ensure the strategy was respectful of traditional knowledge, beliefs, cultural practices, and identity.
- The City of Darwin, a regional capital, directly worked with traditional owners in the preparation of its urban greening strategy and is another exemplar.

Lesson 5 – Make community engagement an ongoing process

Many of the greening strategies we assessed referred to community engagement either in the development of the strategy or plan, or in future implementation efforts. La Trobe made a firm commitment to engage more deeply, Mackay identified the need for better communication tools, Ballarat has a commitment for better engagement and education tools, and Shepparton committed to diverse community engagement in plan

implementation as did Wollongong. Many of these initiative, though commendable, are just small elements of the greening strategies and are insufficient.

- Two standout local governments are Mildura Rural City Council and Wingecarribee Shire Council. The latter undertook community surveys and workshops in the lead up to its Street Tree Master Plan. Mildura Council has arguably undertaken the deepest community engagement of the regional greening strategies assessed, running three rounds of community engagement before drafting its urban greening strategy.

There are some important lessons that can be learned from the experience of the City of Launceston stakeholder workshops and the other greening strategies assessed. **Effective community engagement takes time and should not be rushed. A wide range of engagement activities is needed**, including online surveys, community drop-in sessions, stakeholder workshops and hands-on visioning activities. Local government should not be seeking consensus, rather **the point is to seek out as wide a range of viewpoints from as broader cross section of the community as possible**. Establish a steering committee or reference group comprised of people from diverse backgrounds may be one way to ensure more inclusive greening.

Workshops should specifically target under-represented groups, and efforts need to be made to include people with a disability. Workshops times should be scheduled to consider people with families, carer responsibilities and people who work different hours – such as shift workers. And rather than a one-off consultation, the community engagement process should seek to open an ongoing dialogue. Growing an urban forest can take decades. Investment in urban greening must be accompanied by a concomitant investment in diversity and inclusion.

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Appendix 1

Significant urban area	Rank	State	Population (2021 Census)	Strategy
Greater Sydney	1	NSW	5,231,147	
Greater Melbourne	2	Vic	4,917,750	
Greater Brisbane	3	Qld	2,526,238	
Perth – Mandurah	4	WA	2,116,647	
Adelaide	5	SA	1,387,290	
Gold Coast – Tweed	6	Qld/NSW	693,596	Yes
Newcastle – Maitland	7	NSW	508,437	No
Canberra – Queanbeyan	8	ACT/NSW	490,517	
Sunshine Coast	9	Qld	382,903	Yes
Central Coast	10	NSW	343,180	Yes
Wollongong	11	NSW	305,691	Yes
Geelong	12	Vic	289,630	Yes
Greater Hobart	13	Tas	247,086	
Townsville	14	Qld	179,011	No
Cairns	15	Qld	153,425	No
Toowoomba	16	Qld	142,163	Yes
Darwin	17	NT	139,902	
Ballarat	18	Vic	111,973	Yes
Bendigo	19	Vic	103,034	Yes
Albury – Wodonga	20	NSW/Vic	97,793	Yes (Vic) No (NSW)
Launceston	21	Tas	90,953	Yes
Mackay	22	Qld	84,333	Yes
Rockhampton	23	Qld	79,293	No
Bunbury	24	WA	76,452	Yes
Melton	25	Vic	76,346	No
Coffs Harbour	26	NSW	74,195	No
Bundaberg	27	Qld	73,747	No
Hervey Bay	28	Qld	57,722	Yes (Fraser Coast)
Wagga Wagga	29	NSW	57,003	Yes
Shepparton – Mooroopna	30	Vic	53,841	Yes
Mildura – Buronga	31	Vic/NSW	53,620	In preparation
Port Macquarie	32	NSW	50,193	No
Gladstone	33	Qld	45,185	No
Tamworth	34	NSW	43,874	Yes
Traralgon – Morwell	35	Vic	43,252	Yes

Significant urban area	Rank	State	Population (2021 Census)	Strategy
Warragul – Drouin	36	Vic	42,827	No
Orange	37	NSW	41,920	Yes
Bowral – Mittagong	38	NSW	41,600	Yes
Dubbo	39	NSW	40,578	Yes
Busselton	40	WA	40,544	No
Nowra – Bomaderry	41	NSW	38,678	No
Geraldton	42	WA	38,595	No
Bathurst	43	NSW	37,396	Yes
Warrnambool	44	Vic	35,743	No
Albany	45	WA	35,053	Yes
Devonport	46	Tas	31,721	No
Mount Gambier	47	SA	29,446	No
Kalgoorlie – Boulder	48	WA	29,072	No
Lismore	49	NSW	28,816	No
Nelson Bay	50	NSW	28,418	No
Burnie-Somerset	51	Tas	27,826	No

Note: Metropolitan areas (denoted in grey) have been excluded from the analysis as the focus is on regional centres that have been under-represented in research to date

Appendix 2

Understanding community perceptions of, and preferences for, urban trees in Tasmania and their climate change adaptation benefits (HREC-026905)

Workshop run sheet and questions		
[Date] (120 - 180 mins – 2-3 hrs)		
Phase 1 - Welcome and introductions, ice-breaker and objectives		
Time	**Details**	**Notes**
10 mins	▪ **Participants to sign in & PICD forms upon entrance.** **Welcome** Good morning/afternoon/evening everyone. Thank you for attending this community workshop to discuss your experiences of urban trees. My name is Jason from the University of Tasmania and I'll be running our workshop today. [Go through Covid-safe practices and point out emergency procedures] Before we start our session, please feel free to go to the bathroom. **Acknowledgement of Country & Introduction**	
10 mins	Before we begin our session, I would like to acknowledge that we are meeting on the traditional country of the palawa peoples and pay respect to Elders past, present, and emerging and to the spirit of this land. We have invited you here because you are a member of the community who may be able to assist us with learning more about Launceston's urban trees, and because you live and/or work in the City of Launceston. For this workshop, we would like you to reflect on your physical and emotional experiences of trees and vegetation in your daily lives.	
30 mins	In this workshop we are seeking to understand whether you like trees, whether you recognise any tree-benefits, if you support tree-planting, whether there are some issues with trees in the City of Launceston that might need to be managed in the future, and whether you might like to be involved in growing and caring for the City of Launceston's urban forest in some way. We want you to share insights from your own personal experiences and please note that there are no right, or wrong answers. We encourage you to listen and consider other participants' views and engage in a respectful conversation with each other. The goal of this session is to investigate whether tree attitudes are related to people's tree experiences, beliefs and preferences. Ice breaker To get to know you a bit better, could you please introduce yourself by telling us: a) Your name	

	b) Describe for us what you imagine/think makes a beautiful and liveable city.	
Phase 2 – Workshop discussion (Part 1 – Involving Photo-elicitation techniques)		
50 mins	I will now show you a set of photographs of treed landscapes that you have submitted prior to this workshop, and will ask you to share your ideas and experiences about them. **1) Trees that they liked and aesthetically pleasing – 15 mins** - Why did you like these treed landscapes, find them comfortable, and find them aesthetically pleasing? - Have they impacted your daily lives physically and/or emotionally? How? - What are your physical and emotional experiences about urban trees? **2) Show photos that they did not like, made them feel uncomfortable**, and/or found aesthetically displeasing – **15 mins** - Why did you dislike these treed landscapes, find them uncomfortable, and/or displeasing and/or unsafe? - Have these trees impacted your daily lives physically and/or emotionally? How? - What sorts of problems have you experienced with urban trees, if any? **3) Ordinary trees (nothing special) – 15 mins** - What steps would you recommend could be taken to make these trees special and/or better? - Would you be prepared to pay for the cost of some of those changes? - Who do you think should be responsible to make those changes?	
Break		
10 mins	Toilet location Water station	
Phase 3 – Tree management discussion (Part 2)		
30 mins	**In this next part of the workshop, we are going to talk about climate change in the city of Launceston** ▪ Do you think climate change is happening? How can you tell this? ▪ What sort of impacts are happening now and what might happen in the future? ▪ Have you heard about heatwaves? And how they affect people in cities? ▪ If yes, can you tell us about an experience? And what did you do to stay cool? ▪ Did you ever get sick from the heat? How did it affect you? ▪ Did you ever have to change your outdoor activities because it was too hot? How? ▪ Do you think that planting trees could help us to reduce heatwave impacts? ▪ What sort of trees should we plant? And where? ▪ Would you be prepared to plant trees now in your home or neighbourhood even if this won't benefit you now, but will benefit people in the future? ▪ What potential problems could arise from large scale tree planting? ▪ What are three most important benefits from planting trees?	

Phase 4 – Discussion of Geoneon's findings (Part 3)		
40 min	**In this final part of the workshop, we are going to talk about the results of tree-canopy and heat mapping for the city of Launceston and to hear what you think about this** ▪ Report back on tree canopy mapping, showing the canopy layer and ask if this looks right. Anything missing the City should know about? ▪ Report back on heat mapping, showing the canopy layer and ask if this looks right. Anything missing? ▪ Actions participants think the City of Launceston should take as part of an urban forest strategy to make the city more walkable and liveable.	
Wrap up		
20 min	▪ Wrap up, acknowledgements. ▪ Thank you and closing remarks. ▪ Next steps	